



Illinois Environmental Protection Agency

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

RCRA FACILITY GROUNDWATER, LEACHATE AND GAS REPORTING FORM

This form must be used as a cover sheet for the notices and reports, identified below as required by: (1) a facility's RCRA interim status closure plan; (2) the RCRA interim status regulations; or (3) a facility's RCRA permit. All reports must be submitted to the Illinois EPA's Bureau of Land Permit Section. This form is for use by Hazardous Waste facilities only. Reporting for Solid Waste facilities should be submitted on a separate form. All reports submitted to the Illinois EPA's Bureau of Land Permit Section must contain an original, plus a minimum of two copies.

Note: This form is not to be used with permit or closure plan modification requests. The facility's approved permit or closure plan will state whether the document you are submitting is required as a report or a modification request.

Facility Name: Equilon Enterprises LLC dba Shell Oil Products US

Facility Address: 900 South Central Ave., Roxana, IL 62048

Site ID #: 1191150002 Fed ID #: ILD 080 012 305

Check the appropriate heading. Only one heading may be checked for each corresponding submittal. Check the appropriate sub-heading, where applicable. Attach the original and all copies behind this form.

LPC-160 Forms

Groundwater

Leachate

Quarterly - Enter: 1, 2, 3, or 4

Quarterly - Enter: 1, 2, 3, or 4

Semi-Annual

Semi-Annual

Annual

Annual

Biennial

Biennial

Groundwater Data (without LPC-160 Forms)

2 Quarterly - Enter: 1, 2, 3, or 4 Annual Semi-Annual Biennial

Well Construction Information

Well Construction Forms, Boring Logs and/or Abandonment Forms

Well Survey Data (e.g., Stick-up Elevation Data)

Notice of Statistically Significant Evidence of Groundwater Contamination
(35 Ill. Adm. Code 724.198)

Notice of Exceedence of Groundwater Concentration Limit (35 Ill. Adm. Code 724.199(h))

Notice of Alternate Source or Error in Sampling Analysis or Evaluation of Groundwater
(35 Ill. Adm. Code 724.199(i))

Gas Monitoring Reports

Other (identify)

Copies of this submittal sent separately directly to Amy Butler and Gina Search with IEPA.

July 3, 2018

Mr. Theodore J. Dragovich, PE
Acting Manager, Permit Section
Illinois Environmental Protection Agency
Bureau of Land
1021 North Grand Avenue East
Springfield, Illinois 62794

Groundwater Monitoring Report – 2nd Quarter 2018
Roxana, Illinois
1191150002 – Madison County
Equilon Enterprises LLC d/b/a Shell Oil Products US
Log No. B-43R-CA-21

Dear Mr. Dragovich:

On behalf of Shell Oil Products US (SOPUS), AECOM is submitting the enclosed referenced report and RCRA Facility Groundwater, Leachate and Gas Reporting Form for your review. This sampling was required by Condition 7 of the Agency's letter dated August 5, 2010.

Copies of this submittal are being sent separately directly to Amy Butler and Gina Search with Illinois Environmental Protection Agency (IEPA).

If you have any questions during your review, please contact Kevin Dyer, SOPUS Senior Principal Program Manager, at kevin.dyer@shell.com (618/288-7237), or Bob Billman at bob.billman@aecom.com (314/743-4108).

Sincerely,

AECOM, on behalf of Shell Oil Products US



Melissa Remiger
Environmental Scientist



Robert E. Mooshegian, CHMM
Senior Program Manager

Enclosures: 2nd Quarter 2018 Report, Roxana Interim Groundwater Monitoring Program
RCRA Facility Groundwater, Leachate and Gas Reporting Form
(Original plus 1 copy)

cc: Kevin Dyer, SOPUS
Eric Petersen, Phillips 66
Amy Butler, IEPA, Springfield
Gina Search, IEPA, Collinsville
Lori Littrell, Atlantic Richfield Company
Shannon Haney, Greensfelder, Hemker & Gale P.C.
Repositories –Roxana Public Library, website

2nd Quarter 2018 Report

Roxana Interim Groundwater Monitoring Program

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

Project Number: 60527968
July 2018

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1 Introduction

AECOM Technical Services, Inc. (AECOM) is submitting this report on behalf of Equilon Enterprises LLC d/b/a Shell Oil Products US (SOPUS) for the 2nd Quarter 2018 (2Q18) groundwater monitoring well gauging and sampling conducted in the Village of Roxana, Illinois (**Figure 1**). The study area within the Village of Roxana (Village) is generally bounded by the alley north of First Street, Illinois Route 111, the West Fenceline of the WRB Refining, LP (WRB) Wood River Refinery (WRR), and the Roxana Public Works Yard. Some groundwater monitoring wells within the WRR were also sampled as part of this event; this was conducted in cooperation with WRB/Phillips 66 (P66). For purposes of presentation in this report only, the combined area is collectively referred to as the “Investigation Area.”

In an August 5, 2010 letter from the Illinois Environmental Protection Agency (IEPA) to SOPUS (IEPA, 2010a), IEPA requested various site characterization and monitoring activities, along with initiation of the Interim Groundwater Monitoring Program. This program began in 4th Quarter 2010 (4Q10), and the first report was submitted on January 14, 2011. On March 3, 2011, a conference call was held among representatives of SOPUS, IEPA, and URS Corporation (URS) to discuss the groundwater monitoring program and IEPA’s general comments on the 4Q10 report. Subsequent modifications were incorporated during the 1st Quarter 2011 (1Q11) and 2nd Quarter 2011 (2Q11) Interim Groundwater Monitoring Program. Additional items and comments regarding the Interim Groundwater Monitoring Program were presented by IEPA in June 16, 2011 (IEPA, 2011a) and August 31, 2011 (IEPA, 2011b) letters. These items and comments were addressed in the 3rd Quarter 2011 (3Q11) and 4th Quarter 2011 (4Q11) reports.

In a March 14, 2012 letter (CA-24) from IEPA to SOPUS (IEPA, 2012a), IEPA requested groundwater piezometer ROST-3-PZ and groundwater monitoring well ROST-4-PZ(C) be added to the program. These monitoring locations were added to the program in 2nd Quarter 2012 (2Q12).

In a second letter (CA-25), dated March 14, 2012, from IEPA to SOPUS (IEPA, 2012b), IEPA requested that perched groundwater be evaluated at the following existing groundwater monitoring piezometers: P-60-12S, P-60-13S, ROST-5-PZ, ROST-7-PZ, ROST-10-PZ, and ROST-21-PZ. These perched groundwater monitoring piezometers were incorporated into the program beginning in 2Q12. In a letter dated August 16, 2013 (URS, 2013a), URS, on behalf of SOPUS, informed the IEPA of the determination that the perched groundwater monitoring piezometers are either dry, based on the criteria given in their March 14, 2012 letter, or not able to be sampled per the groundwater sampling standard operating procedure (SOP) due to slow recharge. The IEPA, during phone conversations, requested that certain piezometers remain in the program. In response to this request, a letter dated January 14, 2014 was submitted to IEPA (URS, 2014a), stating that these piezometers will remain in the program. A separate letter dated January 14, 2014 was submitted to the IEPA (URS, 2014b), requesting removal of ROST-5-PZ and ROST-10-PZ based on Condition 8(a) of the March 14, 2012 IEPA letter (CA-25), which states that ROST-5-PZ and ROST-10-PZ must remain within the program for one year before the determination is made that these wells are dry. IEPA responded to the August 16, 2013 and both January 14, 2014 letters in a correspondence dated July 27, 2016 (IEPA, 2016a). In the July 27, 2016 letter, IEPA approved the request to abandon perched wells P-60-12S, P-60-13S, ROST-5-PZ, ROST-7-PZ, ROST-10-PZ, and ROST-21-PZ and remove them from the program. Abandonment activities were conducted on September 15, 2016.

In the March 14, 2012 letter (CA-25), IEPA also requested the installation of groundwater monitoring wells in the Village to evaluate potential light non-aqueous phase liquid (LNAPL). These groundwater monitoring wells (MW-16 through MW-22 and MW-24) were installed during 4th Quarter 2012 (4Q12) and incorporated into the Interim Groundwater Monitoring Program beginning in 1st Quarter 2013 (1Q13).

On May 31, 2012, IEPA verbally requested the following be incorporated into the 2Q12 report:

- The ROST-4 series of groundwater monitoring wells and piezometers in the groundwater elevation contour maps;
- A groundwater contour map focusing on the West Fenceline area in the Village; and
- A Roxana site and WRR LNAPL map.

In an April 8, 2013 letter from IEPA to SOPUS (IEPA, 2013a), IEPA requested a discussion of irregular potentiometric contours in the ROST-4-PZ area and P-60 area wells. This response was submitted to the IEPA in a letter dated July 29, 2013 (URS, 2013b). In a letter dated July 27, 2016 (IEPA, 2016b), IEPA approved the July 29, 2013 letter with the following conditions and modifications:

- Address the potentiometric high in the northern portion of the Study Area, by submitting a proposal within 120 days, which at a minimum will include:
 - o A proposal to install nested wells that will track the area of the low-permeability zone.
 - o The nested wells must be adequate to verify groundwater quality, flow direction, and hydraulic gradient, and these wells should show that pumping overcomes potential radial flow.
- A text section must be added to the Interim Groundwater Monitoring Program quarterly reports to provide a detailed discussion of the potentiometric surface in this area.

AECOM responded to the July 27, 2016 letter in a letter dated October 14, 2016 (AECOM, 2016c). A response to this letter is pending as of the date of this report.

In a July 18, 2013 letter from IEPA to SOPUS (IEPA, 2013b), IEPA approved a change in gauging frequencies for wells in the Interim Groundwater Monitoring Program. The list of wells to be gauged on a weekly basis was reduced and a new list of wells to be gauged on a monthly basis was initiated. This letter also requested that any free-phase hydrocarbon (FPH) and photoionization detector (PID) data collected at the well heads be included in the quarterly groundwater monitoring reports. The modified gauging frequencies for wells began the week of July 22, 2013. The list of wells gauged during each routine event is reviewed on a regular basis and modified to meet the conditions requested by the IEPA. The additional reporting requirements were first incorporated in the 3rd Quarter 2013 (3Q13) report.

In a June 13, 2014 letter from IEPA to SOPUS (IEPA, 2014a), IEPA requested the installation of four groundwater monitoring wells in the Village to monitor the extent and effectiveness of corrective action efforts within the residential area. The access agreement with the Village was signed on August 12, 2014, and well installation began in September 2014 and was completed in October 2014. These groundwater monitoring wells (MW-25 through MW-28) were added to the Interim Groundwater Monitoring Program in 4th Quarter 2014 (4Q14).

In an October 9, 2014 letter from IEPA to SOPUS (IEPA, 2014b), IEPA approved the installation plan for a groundwater monitoring well located on BP property with certain conditions and modifications. Well MW-23 was installed during January 2015 and was added to the Interim Groundwater Monitoring Program in 1st Quarter 2015 (1Q15).

In a letter dated November 25, 2014 (IEPA, 2014c), IEPA approved the proposed plan for groundwater corrective action (submitted to IEPA on November 14, 2013 (URS, 2013c)), with the following conditions:

- The 1Q15 groundwater samples obtained from: (1) the current monitoring well network; (2) the four new wells required by the modified Resource Conservation and Recovery Act (RCRA) Hazardous Waste Management Post-Closure Permit (Permit) at the WRR, issued September 23, 2010 (modified June 13, 2014) (IEPA, 2010b); and (3) the new well required by the October 9, 2014, letter must be used in a demonstration to verify the extent of groundwater contamination has been delineated; or
- If SOPUS cannot define the extent of contamination, a proposal for additional investigation must be submitted.

On April 16, 2015, AECOM, on behalf of SOPUS, submitted a demonstration to verify the extent of groundwater contamination has been delineated (AECOM, 2015). The demonstration is based on monitoring data from wells in the Roxana Interim Groundwater Monitoring Program. Additional information was submitted to IEPA in a letter dated January 29, 2016 (AECOM, 2016a). In a letter dated February 23, 2016 (IEPA, 2016c), IEPA agreed with this determination and required a Groundwater Management Zone (GMZ) proposal be submitted within 90 days. The GMZ proposal was submitted by AECOM, on behalf of SOPUS, on May 19, 2016 (AECOM, 2016b). IEPA provided comments via email in October 2017; AECOM responded to IEPA comments on January 2, 2018 (AECOM, 2018). A meeting with SOPUS, AECOM and IEPA representatives was held on April 5, 2018 in order to provide additional information regarding the proposed GMZ.

On December 5, 2014, a letter was submitted to IEPA by URS (URS, 2014c), on behalf of SOPUS, requesting a reduction in the routine gauging performed as part of the Interim Groundwater Monitoring Program. In a letter dated August 2, 2017 (IEPA, 2017), IEPA approved the December 5, 2014 request to reduce the frequency of routine gauging from weekly/monthly to quarterly with the following condition:

- Groundwater monitoring wells ROST-4-PZ(E) and ROST-4-PZ(G) must be added to the list of wells sampled quarterly for groundwater quality. These monitoring wells were added to the sampling portion of the Interim Groundwater Monitoring Program in 4th Quarter 2017.

In a letter dated May 22, 2015, IEPA provided approval for the April 3, 2013, Groundwater Monitoring Well and Vapor Monitoring Point Installation Report (IEPA, 2015).

In a meeting on April 5, 2018, IEPA verbally requested that benzene concentration trend plots for selected monitoring wells be incorporated into Roxana Interim Groundwater Monitoring Program quarterly reports. This information is discussed in Section 3.

Groundwater samples were collected and analyzed during 2Q18 to meet the requirements of the Interim Groundwater Monitoring Program, as specified in the above guidances. **Figure 2** shows the groundwater monitoring wells that are part of the interim monitoring well network.

2 Groundwater Sampling and Analytical Procedures

The groundwater monitoring well gauging, sample collection, and analytical procedures are discussed in this section. Gauging and sampling procedures are based on the Interim Groundwater Monitoring Program, as outlined in the IEPA's letter dated August 5, 2010 (IEPA, 2010a), and as modified based on other correspondence described in **Section 1**.

2.1 Additional Activities or Modifications

The following additional work activities or modifications were conducted during 2Q18:

- Groundwater monitoring well P-93A was resampled for Method 8260 volatile organic compounds (VOCs) on May 22, 2018 due to an anomalous result from the initial sample. Both sets of data are included in this report.
- During 1st Quarter 2018 (1Q18), depth to bottom measurements were collected from the groundwater monitoring wells within the Interim Groundwater Monitoring Program. This information was compared to well construction information and it was determined that well MW-27 should be redeveloped. Redevelopment activities were performed on April 3, 2018, prior to 2Q18 groundwater sampling activities; the redevelopment data sheet for well MW-27 is included in **Appendix A**.

2.2 Groundwater Monitoring Well Gauging and Sampling

Groundwater Monitoring Well Gauging

The comprehensive quarterly groundwater monitoring well gauging event was conducted between April 2 and 4, 2018; re-gauging was conducted on April 9, 2018 and June 8, 2018, at P-114R and T-15 respectively, to confirm initial gauging results. The 2Q18 gauging activities were conducted in conjunction with the 2Q18 gauging event for the WRR to evaluate groundwater flow direction and identify possible LNAPL in the Investigation Area. Depth to LNAPL (if present) and depth to water were noted in electronic format using Panasonic Toughpad® technology (Toughpad®), or similar, and on groundwater field gauging sheets. Quarterly groundwater monitoring well gauging results can be found in **Table 1**. The groundwater gauging data table also includes well-head PID results.

Low-Flow Groundwater Purging and Sampling

Groundwater samples were collected from groundwater monitoring wells between April 5 and 12, 2018, and on May 22, 2018. Data are included in this report and discussed in **Section 3**.

Groundwater samples were collected via low-flow groundwater purging and sampling procedures. Prior to groundwater monitoring well sampling, the initial water level was measured and recorded in the Toughpad® and on low flow groundwater sampling data sheets.

Groundwater monitoring wells MW-1 through MW-14, MW-16, MW-22 through MW-28, P-54, P-56, P-57, P-59, P-66, P-74, P-93A, P-93C, P-114R, ROST-3-MW, ROST-4-PZ(C), ROST-4-PZ(E), ROST-4-PZ(G), and T-12 were purged and sampled using a Proactive™ Stainless Steel Monsoon Pump (Monsoon), low-flow controller, and designated¹ polyethylene tubing. The Monsoon and designated polyethylene tubing were slowly lowered into the groundwater monitoring well to be sampled and set with the Monsoon intake near the midpoint of the groundwater monitoring well screen.

¹ All designated tubing is stored in a sealed bag designated for a particular groundwater monitoring well between sampling events.

Groundwater monitoring wells P-93B and P-93D were purged and sampled using dedicated stainless steel QED Environmental Systems (QED) Well Wizard® groundwater sampling pumps (Well Wizard®) and dedicated bonded polyethylene tubing. The Well Wizards® typically have a length of 42 inches, an outside diameter of 1.5 inches, and a Teflon® bladder capacity of approximately 495 milliliters (mL). The Well Wizard® and associated bonded polyethylene tubing are dedicated to each well and remain in place between sampling events. The dedicated pump intake is positioned near the midpoint of the well screen and the pump is operated using a QED MP50 MicroPurge® Controller/Compressor.

For both sampling methods, the tubing from the sampling pump was connected to a flow-through cell, which discharged into a 5-gallon plastic container. Pumping was performed at a low flow rate (≤ 500 mL/minute) to minimize drawdown of the water level within the groundwater monitoring well. During groundwater purging, water quality parameters (pH, temperature, specific conductivity, turbidity, dissolved oxygen (DO), and oxidation-reduction potential (ORP)) were measured and recorded on the low flow groundwater sampling data sheets after every flow-through cell volume. Purging continued until a minimum of three flow-through cell volumes of water were removed and the groundwater quality parameters stabilized, or a maximum purge time of two hours was reached. The final water quality parameters were recorded in the Toughpad® and on low flow groundwater sampling data sheets. Once stabilization was achieved or a maximum purge time of two hours was reached, the groundwater flow was diverted from the flow-through cell and groundwater samples were collected for VOCs and semi-volatile organic compound (SVOC) analysis.

Groundwater monitoring wells located inside the WRR and designated for sampling in the Interim Groundwater Monitoring Program, P-55R and P-68, contained LNAPL and, therefore, were not sampled. Groundwater sampling field parameters can be found in **Table 2**, and low flow groundwater sampling data sheets are included in **Appendix B**.

2.3 Health & Safety, Decontamination, and Investigation-Derived Waste

Health & Safety

The quarterly sampling activities were performed in general accordance with the project-specific Health and Safety Plan (HASP), dated September 27, 2017 (AECOM, 2017).

Prior to beginning site work and at the start of work each day, a daily safety meeting was held. The purpose of this meeting was to discuss the day's planned activities and to address any potential health and safety concerns. As a part of the daily safety meeting, job hazard analyses (JHAs) were reviewed to address task specific safety concerns.

AECOM field personnel wore U.S. Environmental Protection Agency (USEPA) Level D personal protective equipment (PPE). In addition, work within the WRR was performed wearing flame retardant clothing (FRCs) per WRR requirements (in areas where required).

A PID with a 10.6 electron volt (eV) lamp, combustible gas indicator (CGI), and individual hydrogen sulfide gas detectors (for locations inside WRR) were used during the field activities to monitor air quality. A benzene gas monitor with a 9.8 eV lamp was available during field activities to monitor benzene levels, if necessary. Field instruments were calibrated prior to use each day in accordance with the manufacturers' specifications.

Decontamination

Field personnel and equipment underwent decontamination procedures to ensure the health and safety of those present, to maintain sample integrity, and to minimize cross contamination. Reusable sampling equipment (e.g., groundwater pump) was decontaminated after each sample location by spraying and/or wiping down with isopropyl alcohol, then washing with LiquiNox® and distilled water, and finishing with a distilled water rinse. The wash and rinse water were replaced periodically throughout the day, at least at mid-day. Interface probes were decontaminated by wiping down with LiquiNox® followed by a distilled water rinse. Personnel and small equipment decontamination were performed at the sample locations.

Investigation-Derived Waste

Investigation-derived waste (IDW), such as purge water and decontamination fluid generated during groundwater sampling activities, was collected, stored, and disposed in accordance with RCRA, Illinois and United States Department of Transportation (DOT) regulations. Expendable materials (e.g., disposable sampling equipment such as gloves and tubing) were decontaminated, if necessary, collected in trash bags, and disposed as municipal waste.

Decontamination fluid and purge water from groundwater monitoring wells MW-4, MW-7, MW-8, and MW-25 were initially collected in 5-gallon plastic containers, then transferred to a 30-gallon steel drum, which was staged at the Public Works Yard (satellite accumulation area), and removed by Heritage Environmental Services, LLC (Heritage) within 4 days of generation. This material is managed as hazardous waste based on prior characterization and was disposed at the Heritage facility in Indianapolis, Indiana.

Decontamination fluid and purge water from other groundwater monitoring wells in the Village were initially collected in 5-gallon plastic containers then transferred to 55-gallon steel drums located near the northeastern portion of the former Tannery Property (designated staging area). This material is managed as non-hazardous waste based on prior characterization and was disposed at the Heritage facility in Indianapolis, Indiana.

Decontamination fluid and purge water related to, or generated from, work within the WRR was collected and discharged through the WRR's National Pollutant Discharge Elimination System (NPDES)-permitted Wastewater Treatment Plant (WWTP).

2.4 Groundwater Sample Handling and Laboratory Testing

Samples were collected in pre-preserved laboratory-supplied containers and labeled in the field. Sample information was recorded on a chain of custody (COC) form at the time of collection. The sample ID format is "well ID-ROX-date". COCs are included with laboratory analytical reports in **Appendix C**.

Upon collection and labeling, sample containers were immediately placed inside an iced cooler and packed in such a way as to help prevent breakage and maintain sample temperature within 0-6°C without freezing. The samples were then delivered via overnight courier, under the proper COC documentation, to TestAmerica Laboratories, Inc. (TestAmerica) in Pensacola, Florida for analysis.

Samples were analyzed by TestAmerica for VOCs via USEPA Methods 8260B and 8011, for SVOCs via USEPA Method 8270D, and for Polycyclic Aromatic Hydrocarbons (PAHs) via USEPA Method 8270D Low Level (LL). USEPA Method 8011 was used for select VOCs (1,2-dibromoethane and 1,2-dibromo-3-chloropropane) in order to achieve lower reporting limits specified in the most recent version of the Permit. Per direction from IEPA, the Interim Groundwater Monitoring Program concentration limits need to be consistent with those in the Permit.

2.5 Data Quality Review and Data Management

Laboratory data were provided in electronic form and included data qualifiers on the basis of the laboratory's quality control or to indicate sample analysis information. The data were independently reviewed and qualified by AECOM. One hundred percent of the data were subjected to a data quality review. Evaluation of the data followed procedures outlined in the USEPA National Functional Guidelines for Superfund Organic Methods Data Review (USEPA, 2017). Data qualifiers were also added by AECOM, as appropriate, and are included on **Table 3** and in the laboratory results in **Appendix C**. The results of the data quality review are discussed in **Section 3.2**.

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

The following documentation was completed and supplements the COC records:

- Field logbooks;
- Equipment calibration forms;

- Groundwater field gauging sheets;
- Low Flow Groundwater Sampling Data Sheets;
- Field sample collection data via electronic Toughpad®; and
- Safety documentation.

3 Groundwater Sampling Results

This section presents the results of the 2Q18 groundwater gauging and sampling event.

3.1 Groundwater Monitoring Well Gauging Results

The comprehensive quarterly groundwater monitoring well gauging for the 2Q18 event was conducted between April 2 and 4, 2018; re-gauging was conducted on April 9, 2018 and June 8, 2018, at P-114R and T-15 respectively, to confirm initial gauging results. This groundwater monitoring well gauging was conducted in accordance with the Interim Groundwater Monitoring Program, and the results can be found in **Table 1**. Groundwater levels in most wells in the Investigation Area and in the WRR have fallen approximately 0.5 to 2 feet since 1Q18. Water levels are above the top of the screens in the majority of the wells gauged during the 2Q18 event. The potentiometric surface observed during the 2Q18 groundwater monitoring well gauging (**Figures 3a** and **3b**) illustrates groundwater flow toward the WRR groundwater production wells.

During the 2Q18 quarterly groundwater monitoring well gauging event, LNAPL was detected in two Interim Groundwater Monitoring Program groundwater monitoring wells. Both of these monitoring wells (P-55R and P-68) are located in the WRR (**Table 1**). In these wells, LNAPL thicknesses ranged from 0.05 to 2.05 feet. LNAPL was observed above the screened intervals at P-55R and P-68.

During quarterly gauging events, LNAPL was removed using bailers from groundwater monitoring wells located in the Village and on the WRR property if observed exceeding the minimum thickness for recovery (0.10 feet). LNAPL was placed in a double-walled lube cube, which is staged on WRR North Property, prior to being taken to the WRR oil-water separators for reprocessing. **Figures 4a** and **4b** illustrate the measured LNAPL thickness observed along the West Fenceline and inside the refinery, respectively, during the 2Q18 gauging event.

3.2 Data Quality Review Results

A total of nine sample delivery groups (SDGs) were prepared and sent to TestAmerica for the 2Q18 event. Fifty-four different groundwater sample sets were prepared and analyzed for VOCs and SVOCs (including PAHs); additionally well P-93A was resampled on May 22, 2018 for VOCs only (Sample ID: P93A-ROX-052218). The fifty-four samples included forty-two different investigative sample sets, six field duplicate sets, and three matrix spike/matrix spike duplicate (MS/MSD) sets. Resample results from P-93A were comparable with original results. Original results and resample results are included in SDGs 400-152204-1 and 400-154130-1, respectively. SDGs for 2Q18 are presented in **Appendix C**.

Trip blanks (TBs), equipment blanks (EBs), and laboratory method blanks were analyzed to evaluate for the existence and magnitude of any contamination resulting from field and laboratory activities. Seven different EB sets were collected for this quarter. A TB set was included in every cooler that contained samples for VOC analysis. A total of twelve TB sets were analyzed for groundwater VOCs. Laboratory method blanks were analyzed with every analytical batch.

Based on laboratory control sample (LCS), MS/MSD, surrogate, holding time, and field duplicate criteria, the groundwater analytical results reported were accepted for their intended use. Analytical results qualified by AECOM are specified in the data reviews presented in **Appendix C**.

3.3 Analytical Results and Discussion

Table 2 presents cumulative information on groundwater sampling field parameters for main aquifer wells. These results are consistent with those observed in the 1Q18 sampling event. The laboratory analytical results for the groundwater samples collected during this event are presented in **Table 3**.

Analytical detections were compared to the concentration limits as provided in Condition IV(E) of the Permit for the WRB Refining LP Wood River Refinery². These concentration limits include the Groundwater Quality Standards for Class I: Potable Resource Groundwater (35 IAC 620, Subpart D, Section 410) (Part 620) (IEPA, 2012c), the IEPA Tiered Approach to Corrective Action Objectives (TACO) Tier 1 Groundwater Remediation Objectives for the Groundwater Component of the Groundwater Ingestion Route (35 IAC 742, Appendix B, Table E) (IEPA, 2007), and the IEPA Toxicity Assessment Unit (Chemicals not in TACO, Tier 1 Tables). Where screening values were available from multiple sources from the ones mentioned above, screening values from Part 620 were used preferentially over the screening values found in TACO and Chemicals not in TACO sources. All three sources are checked on a quarterly basis to ensure the most current published screening values are being used. The results of this screening comparison are presented in **Table 3**.

Samples from sixteen groundwater monitoring wells in the Interim Groundwater Monitoring Program (six in the Village, ten in the WRR along the West Fenceline) exhibited exceedances of the groundwater screening criteria for one or more of the following constituents:

- Benzene
- Ethylbenzene
- 1,3,5-Trimethyl benzene
- Pentachlorophenol
- Bromomethane
- Naphthalene
- 2-Methylnaphthalene
- Phenol

Figure 5 presents concentrations of analytes that exceeded the indicated screening criteria for 2Q18. **Figure 6** presents a plan view depiction of benzene analytical results in groundwater across the site. **Figure 7** presents a cross-section along Chaffer Avenue with a vertical distribution of the benzene concentrations in groundwater superimposed. **Figure 8** presents a cross-section across the Roxana Public Works Yard with a vertical distribution of the benzene analytical results in groundwater superimposed.

Appendix D contains benzene concentration trend plots for selected monitoring wells³ to represent groundwater conditions in the 4th Street area and Public Works Yard area, respectively:

- 4th Street area – MW-22, ROST-4 PZ(C), P-59, and T-12
- Public Works Yard area – MW-7, MW-8, MW-25, and P-57

The data used to develop the plots are included in **Table D-1**.

AECOM conducted the 2Q18 Interim Groundwater Monitoring Program, and the following conclusions are based on the data and information collected as part of this program:

² IEPA requested that the Interim Groundwater Monitoring Program be consistent with the RCRA Part B Permit.

³ In a meeting with IEPA on April 5, 2018, the AECOM presentation included benzene concentration trend plots pertinent to GMZ discussion.

- During 2Q18, groundwater level data indicates groundwater flow from the Investigation Area is moving toward groundwater production wells at the WRR. Groundwater levels observed in most monitoring wells in the Investigation Area and in the WRR have fallen approximately 0.5 to 2 feet since the previous quarter.
- The analytical results from 2Q18 are generally similar to those from previous quarters. The benzene concentration in groundwater monitoring well P-93A increased this quarter but was still within the historical range observed at this location.

3.4 Limitations

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

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

4 References

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Tables

TABLE 1
QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS
MW-01											
3Q15	442.65	7/6/2015	NE	43.39	NA	NA	NA	399.26	393.85 - 383.85 (48.80 - 58.80)	0.0	*
4Q15		10/1/2015	NE	40.92	NA	NA	NA	401.73		0.1	*
1Q16		1/4/2016	NE	41.31	NA	NA	NA	401.34		0.0	*
2Q16		4/4/2016	NE	40.24	NA	NA	NA	402.41		0.0	*
3Q16		7/5/2016	NE	39.32	NA	NA	NA	403.33		0.8	*
4Q16		10/3/2016	NE	38.74	NA	NA	NA	403.91		0.6	*
1Q17		1/16/2017	NE	38.35	NA	NA	NA	404.30		2.7	*
2Q17		4/3/2017	NE	38.72	NA	NA	NA	403.93		0.0	*
3Q17		7/5/2017	NE	37.24	NA	NA	NA	405.41		11.3	*
4Q17		10/2/2017	NE	37.62	NA	NA	NA	405.03		0.1	*
1Q18		1/2/2018	NE	39.42	NA	NA	NA	403.23		2.6	*
2Q18		4/2/2018	NE	40.76	NA	NA	NA	401.89		0.0	*
MW-02											
3Q15	443.77	7/6/2015	NE	44.85	NA	NA	NA	398.92	393.90 - 383.90 (49.87 - 59.87)	124	*
4Q15		10/1/2015	NE	42.31	NA	NA	NA	401.46		12.3	*
1Q16		1/4/2016	NE	42.62	NA	NA	NA	401.15		160.7	*
2Q16		4/4/2016	NE	41.55	NA	NA	NA	402.22		199.1	*
3Q16		7/5/2016	NE	40.64	NA	NA	NA	403.13		123.0	*
4Q16		10/3/2016	NE	40.11	NA	NA	NA	403.66		177	*
1Q17		1/16/2017	NE	39.58	NA	NA	NA	404.19		117.9	*
2Q17		4/3/2017	NE	39.97	NA	NA	NA	403.80		181.4	*
3Q17		7/5/2017	NE	38.69	NA	NA	NA	405.08		365.2	*
4Q17		10/2/2017	NE	38.87	NA	NA	NA	404.90		15000	*
1Q18		1/2/2018	NE	41.27	NA	NA	NA	402.50		105.8	*
2Q18		4/3/2018	NE	41.84	NA	NA	NA	401.93		62.2	*
MW-03											
3Q15	430.08	7/6/2015	NE	30.15	NA	NA	NA	399.93	395.41 - 385.41 (34.67 - 44.67)	0.0	*
4Q15		10/1/2015	NE	27.88	NA	NA	NA	402.20		0.2	*
1Q16		1/5/2016	NE	28.13	NA	NA	NA	401.95		0.2	*
2Q16		4/4/2016	NE	27.31	NA	NA	NA	402.77		0.0	*
3Q16		7/5/2016	NE	26.46	NA	NA	NA	403.62		0.0	*
4Q16		10/3/2016	NE	25.71	NA	NA	NA	404.37		0.3	*
1Q17		1/16/2017	NE	25.65	NA	NA	NA	404.43		0.2	*
2Q17		4/3/2017	NE	26.10	NA	NA	NA	403.98		0.0	*
3Q17		7/5/2017	NE	24.17	NA	NA	NA	405.91		3.1	*
4Q17		10/2/2017	NE	24.98	NA	NA	NA	405.10		0.0	*
1Q18		1/2/2018	NE	27.17	NA	NA	NA	402.91		0.4	*
2Q18		4/2/2018	NE	28.03	NA	NA	NA	402.05		0.0	*
MW-04											
3Q15	441.14	7/6/2015	NE	41.25	NA	NA	NA	399.89	396.08 - 386.08 (45.06 - 55.06)	56.1	*
4Q15		10/1/2015	NE	39.28	NA	NA	NA	401.86		11.5	*
1Q16		1/5/2016	NE	39.53	NA	NA	NA	401.61		67.3	*
2Q16		4/4/2016	NE	38.61	NA	NA	NA	402.53		0.0	*
3Q16		7/5/2016	NE	37.87	NA	NA	NA	403.27		48.1	*
4Q16		10/3/2016	NE	37.13	NA	NA	NA	404.01		48.6	*
1Q17		1/16/2017	NE	36.84	NA	NA	NA	404.30		24.2	*
2Q17		4/3/2017	NE	37.17	NA	NA	NA	403.97		24.8	*
3Q17		7/5/2017	NE	35.65	NA	NA	NA	405.49		10.6	*
4Q17		10/2/2017	NE	36.20	NA	NA	NA	404.94		0.2	*
1Q18		1/2/2018	NE	38.46	NA	NA	NA	402.68		1.9	*
2Q18		4/2/2018	NE	39.26	NA	NA	NA	401.88		29.2	*

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WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS
MW-05											
3Q15	429.80	7/6/2015	NE	28.88	NA	NA	NA	400.92	395.83 - 385.83 (33.97 - 43.97)	0.3	*
4Q15		10/1/2015	NE	27.61	NA	NA	NA	402.19		0.4	*
1Q16		1/4/2016	NE	27.89	NA	NA	NA	401.91		0.5	*
2Q16		4/4/2016	NE	27.02	NA	NA	NA	402.78		0.0	*
3Q16		7/5/2016	NE	26.25	NA	NA	NA	403.55		3.3	*
4Q16		10/3/2016	NE	25.41	NA	NA	NA	404.39		0.4	*
1Q17		1/16/2017	NE	25.33	NA	NA	NA	404.47		2.0	*
2Q17		4/3/2017	NE	25.75	NA	NA	NA	404.05		3.5	*
3Q17		7/5/2017	NE	23.96	NA	NA	NA	405.84		0.3	*
4Q17		10/2/2017	NE	24.78	NA	NA	NA	405.02		0.0	*
1Q18		1/2/2018	NE	27.01	NA	NA	NA	402.79		0.1	*
2Q18		4/2/2018	NE	27.73	NA	NA	NA	402.07		0.0	*
MW-06A											
3Q15	432.14	7/6/2015	NE	31.98	NA	NA	NA	400.16	397.31 - 387.31 (34.83 - 44.83)	0.1	*
4Q15		10/1/2015	NE	29.72	NA	NA	NA	402.42		0.1	*
1Q16		1/4/2016	NE	29.94	NA	NA	NA	402.20		0.0	*
2Q16		4/4/2016	NE	29.17	NA	NA	NA	402.97		0.0	*
3Q16		7/7/2016	NE	28.40	NA	NA	NA	403.74		0.0	*
4Q16		10/3/2016	NE	27.51	NA	NA	NA	404.63		0.7	*
1Q17		1/16/2017	NE	27.43	NA	NA	NA	404.71		0.4	*
2Q17		4/3/2017	NE	27.78	NA	NA	NA	404.36		1.4	*
3Q17		7/5/2017	NE	26.11	NA	NA	NA	406.03		0.2	*
4Q17		10/2/2017	NE	26.98	NA	NA	NA	405.16		0.0	*
1Q18		1/2/2018	NE	29.18	NA	NA	NA	402.96		0.0	*
2Q18		4/2/2018	NE	29.82	NA	NA	NA	402.32	398.29 - 388.29 (33.85 - 43.85)	0.0	*
MW-06B											
3Q15	432.29	7/6/2015	NE	32.01	NA	NA	NA	400.28	368.24 - 363.24 (64.05 - 69.05)	0.2	*
4Q15		10/1/2015	NE	29.76	NA	NA	NA	402.53		0.4	*
1Q16		1/4/2016	NE	29.96	NA	NA	NA	402.33		0.0	*
2Q16		4/4/2016	NE	29.39	NA	NA	NA	402.90		82.8	*
3Q16		7/7/2016	NE	28.42	NA	NA	NA	403.87		0.0	*
4Q16		10/3/2016	NE	27.52	NA	NA	NA	404.77		0.6	*
1Q17		1/16/2017	NE	27.49	NA	NA	NA	404.80		0.4	*
2Q17		4/3/2017	NE	27.89	NA	NA	NA	404.40		0.0	*
3Q17		7/5/2017	NE	26.16	NA	NA	NA	406.13		37.6	*
4Q17		10/2/2017	NE	27.02	NA	NA	NA	405.27		0.0	*
1Q18		1/2/2018	NE	29.22	NA	NA	NA	403.07		0.0	*
2Q18		4/2/2018	NE	29.88	NA	NA	NA	402.41		0.0	*
MW-06C											
3Q15	432.11	7/6/2015	NE	31.79	NA	NA	NA	400.32	347.16 - 342.16 (84.95 - 89.95)	0.0	*
4Q15		10/1/2015	NE	29.55	NA	NA	NA	402.56		2.3	*
1Q16		1/4/2016	NE	29.75	NA	NA	NA	402.36		0.3	*
2Q16		4/4/2016	NE	28.99	NA	NA	NA	403.12		24.9	*
3Q16		7/7/2016	NE	28.24	NA	NA	NA	403.87		0.0	*
4Q16		10/3/2016	NE	27.33	NA	NA	NA	404.78		0.6	*
1Q17		1/16/2017	NE	27.26	NA	NA	NA	404.85		21.1	*
2Q17		4/3/2017	NE	27.61	NA	NA	NA	404.50		4.9	*
3Q17		7/5/2017	NE	25.96	NA	NA	NA	406.15		15.4	*
4Q17		10/2/2017	NE	26.81	NA	NA	NA	405.30		0.0	*
1Q18		1/2/2018	NE	29.01	NA	NA	NA	403.10		0.0	*
2Q18		4/2/2018	NE	29.68	NA	NA	NA	402.43		0.0	*

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WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS
MW-06D											
3Q15	431.99	7/6/2015	NE	31.83	NA	NA	NA	400.16	327.27 - 322.27 (104.72 - 109.72)	0.1	*
4Q15		10/1/2015	NE	29.40	NA	NA	NA	402.59		0.7	*
1Q16		1/4/2016	NE	29.59	NA	NA	NA	402.40		0.2	*
2Q16		4/4/2016	NE	28.84	NA	NA	NA	403.15		22.4	*
3Q16		7/7/2016	NE	28.09	NA	NA	NA	403.90		0.0	*
4Q16		10/3/2016	NE	27.16	NA	NA	NA	404.83		0.5	*
1Q17		1/16/2017	NE	27.14	NA	NA	NA	404.85		0.2	*
2Q17		4/3/2017	NE	27.47	NA	NA	NA	404.52		0.0	*
3Q17		7/5/2017	NE	25.83	NA	NA	NA	406.16		0.4	*
4Q17		10/2/2017	NE	26.68	NA	NA	NA	405.31		0.0	*
1Q18		1/2/2018	NE	28.87	NA	NA	NA	403.12		0.0	*
2Q18		4/2/2018	NE	29.53	NA	NA	NA	402.46		0.0	*
MW-07											
3Q15	443.10	7/6/2015	NE	43.90	NA	NA	NA	399.20	400.18 - 390.18 (42.92 - 52.92)	0.0	
4Q15		10/1/2015	NE	41.35	NA	NA	NA	401.75		384.0	*
1Q16		1/4/2016	NE	41.62	NA	NA	NA	401.48		6007	*
2Q16		4/4/2016	NE	40.71	NA	NA	NA	402.39		4292	*
3Q16		7/5/2016	NE	40.10	NA	NA	NA	403.00		885.6	*
4Q16		10/3/2016	NE	39.21	NA	NA	NA	403.89		3222	*
1Q17		1/16/2017	NE	38.90	NA	NA	NA	404.20		819.9	*
2Q17		4/3/2017	NE	39.09	NA	NA	NA	404.01		15000	*
3Q17		7/5/2017	NE	37.82	NA	NA	NA	405.28		138.5	*
4Q17		10/2/2017	NE	38.37	NA	NA	NA	404.73		15000	*
1Q18		1/4/2018	NE	40.57	NA	NA	NA	402.53		2840	* PID data from 1/2/2018
2Q18		4/2/2018	NE	41.32	NA	NA	NA	401.78		489.9	*
MW-08											
3Q15	434.11	7/7/2015	NE	34.51	NA	NA	NA	399.60	400.51 - 390.51 (33.60 - 43.60)	0.0	
4Q15		10/1/2015	NE	32.15	NA	NA	NA	401.96		663	*
1Q16		1/4/2016	NE	32.41	NA	NA	NA	401.70		13.0	*
2Q16		4/4/2016	NE	31.56	NA	NA	NA	402.55		247.6	*
3Q16		7/5/2016	NE	30.89	NA	NA	NA	403.22		296.0	*
4Q16		10/4/2016	NE	30.01	NA	NA	NA	404.10		6793	*
1Q17		1/16/2017	NE	29.79	NA	NA	NA	404.32		106.0	*
2Q17		4/3/2017	NE	30.15	NA	NA	NA	403.96		15000	*
3Q17		7/5/2017	NE	28.55	NA	NA	NA	405.56		369.8	*
4Q17		10/2/2017	NE	29.28	NA	NA	NA	404.83		15000	*
1Q18		1/2/2018	NE	31.53	NA	NA	NA	402.58		87.6	*
2Q18		4/2/2018	NE	32.24	NA	NA	NA	401.87		169.4	*
MW-09											
3Q15	445.20	7/6/2015	NE	44.83	NA	NA	NA	400.37	398.75 - 388.75 (46.45 - 56.45)	0.0	*
4Q15		10/1/2015	NE	42.75	NA	NA	NA	402.45		0.6	*
1Q16		1/4/2016	NE	43.03	NA	NA	NA	402.17		0.0	*
2Q16		4/4/2016	NE	41.87	NA	NA	NA	403.33		0.0	*
3Q16		7/6/2016	NE	40.96	NA	NA	NA	404.24		0.0	*
4Q16		10/3/2016	NE	40.44	NA	NA	NA	404.76		0.2	*
1Q17		1/16/2017	NE	40.06	NA	NA	NA	405.14		11.1	*
2Q17		4/3/2017	NE	40.56	NA	NA	NA	404.64		0.0	*
3Q17		7/5/2017	NE	38.89	NA	NA	NA	406.31		0.0	*
4Q17		10/2/2017	NE	39.22	NA	NA	NA	405.98		0.2	*
1Q18		1/2/2018	NE	41.08	NA	NA	NA	404.12		2.9	*
2Q18		4/3/2018	NE	42.12	NA	NA	NA	403.08		399.16 - 389.16 (46.04 - 56.04)	0.0

TABLE 1
QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS
MW-10											
3Q15	445.03	7/6/2015	NE	44.92	NA	NA	NA	400.11	400.60 - 390.60 (44.43 - 54.43)	169.6	
4Q15		10/1/2015	NE	42.85	NA	NA	NA	402.18		0.6	*
1Q16		1/4/2016	NE	43.07	NA	NA	NA	401.96		0.0	*
2Q16		4/4/2016	NE	41.98	NA	NA	NA	403.05		0.0	*
3Q16		7/5/2016	NE	41.00	NA	NA	NA	404.03		0.0	*
4Q16		10/3/2016	NE	40.42	NA	NA	NA	404.61		0.2	*
1Q17		1/16/2017	NE	39.88	NA	NA	NA	405.15		0.0	*
2Q17		4/3/2017	NE	40.32	NA	NA	NA	404.71		0.0	*
3Q17		7/5/2017	NE	38.95	NA	NA	NA	406.08		0.0	*
4Q17		10/2/2017	NE	39.06	NA	NA	NA	405.97		0.3	*
1Q18		1/2/2018	NE	40.94	NA	NA	NA	404.09		6.9	*
2Q18		4/2/2018	NE	42.10	NA	NA	NA	402.93		0.0	*
MW-11											
3Q15	442.33	7/6/2015	NE	42.52	NA	NA	NA	399.81	400.67 - 390.67 (41.66 - 51.66)	0.0	
4Q15		10/1/2015	NE	40.26	NA	NA	NA	402.07		0.2	*
1Q16		1/4/2016	NE	40.69	NA	NA	NA	401.64		0.0	*
2Q16		4/4/2016	NE	39.53	NA	NA	NA	402.80		0.0	*
3Q16		7/6/2016	NE	38.39	NA	NA	NA	403.94		0.0	*
4Q16		10/3/2016	NE	37.99	NA	NA	NA	404.34		0.5	*
1Q17		1/16/2017	NE	37.63	NA	NA	NA	404.70		0.0	*
2Q17		4/3/2017	NE	38.10	NA	NA	NA	404.23		0.0	*
3Q17		7/5/2017	NE	36.46	NA	NA	NA	405.87		0.0	*
4Q17		10/2/2017	NE	36.69	NA	NA	NA	405.64		0.0	*
1Q18		1/2/2018	NE	38.93	NA	NA	NA	403.40		0.6	*
2Q18		4/2/2018	NE	39.93	NA	NA	NA	402.40		0.0	*
MW-12											
3Q15	442.60	7/6/2015	NE	42.92	NA	NA	NA	399.68	400.68 - 390.68 (41.92 - 51.92)	0.0	
4Q15		10/1/2015	NE	40.60	NA	NA	NA	402.00		0.1	*
1Q16		1/5/2016	NE	40.98	NA	NA	NA	401.62		0.2	*
2Q16		4/4/2016	NE	39.88	NA	NA	NA	402.72		0.0	*
3Q16		7/6/2016	NE	38.87	NA	NA	NA	403.73		0.0	*
4Q16		10/3/2016	NE	38.43	NA	NA	NA	404.17		0.5	*
1Q17		1/16/2017	NE	38.11	NA	NA	NA	404.49		1.2	*
2Q17		4/3/2017	NE	38.56	NA	NA	NA	404.04		0.0	*
3Q17		7/5/2017	NE	36.84	NA	NA	NA	405.76		8.1	*
4Q17		10/2/2017	NE	37.24	NA	NA	NA	405.36		0.0	*
1Q18		1/2/2018	NE	39.55	NA	NA	NA	403.05		0.8	*
2Q18		4/3/2018	NE	40.38	NA	NA	NA	402.22		0.0	*
MW-13											
3Q15	430.27	7/8/2015	NE	29.16	NA	NA	NA	401.11	404.70 - 394.70 (25.57 - 35.57)	254.3	
4Q15		10/2/2015	NE	27.36	NA	NA	NA	402.91		90.2	
1Q16		1/5/2016	NE	27.33	NA	NA	NA	402.94		143.8	
2Q16		4/5/2016	NE	26.75	NA	NA	NA	403.52		71.4	
3Q16		7/8/2016	NE	26.16	NA	NA	NA	404.11		3.2	
4Q16		10/4/2016	NE	24.99	NA	NA	NA	405.28		86.6	*
1Q17		1/17/2017	NE	25.54	NA	NA	NA	404.73		20.6	*
2Q17		4/5/2017	NE	25.90	NA	NA	NA	404.37		98.7	
3Q17		7/6/2017	NE	23.67	NA	NA	NA	406.60		161.9	*
4Q17		10/2/2017	NE	24.95	NA	NA	NA	405.32		69.1	*
1Q18		1/3/2018	NE	26.97	NA	NA	NA	403.30		65.2	
2Q18		4/4/2018	NE	27.92	NA	NA	NA	402.35		0.0	

TABLE 1
QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS
MW-14											
3Q15	434.44	7/7/2015	NE	34.11	NA	NA	NA	400.33	401.02 - 391.02 (33.42 - 43.42)	207.7	
4Q15		10/2/2015	NE	31.88	NA	NA	NA	402.56		42.40	*
1Q16		1/6/2016	NE	31.75	NA	NA	NA	402.69		35.2	*
2Q16		4/5/2016	NE	31.35	NA	NA	NA	403.09		64.1	*
3Q16		7/8/2016	NE	30.72	NA	NA	NA	403.72		48.3	*
4Q16		10/4/2016	NE	29.60	NA	NA	NA	404.84		54.2	*
1Q17		1/17/2017	NE	29.61	NA	NA	NA	404.83		71	*
2Q17		4/4/2017	NE	29.91	NA	NA	NA	404.53		84.4	*
3Q17		7/6/2017	NE	28.34	NA	NA	NA	406.10		35.3	*
4Q17		10/3/2017	NE	29.24	NA	NA	NA	405.20		159.9	*
1Q18		1/4/2018	NE	31.23	NA	NA	NA	403.21		45.2	*
2Q18		4/4/2018	NE	32.17	NA	NA	NA	402.27		40.7	*
MW-16											
3Q15	443.39	7/6/2015	NE	44.31	NA	NA	NA	399.08	406.33 - 396.33 (37.06 - 47.06)	0.0	
4Q15		10/1/2015	NE	41.89	NA	NA	NA	401.50		0.1	
1Q16		1/5/2016	NE	42.32	NA	NA	NA	401.07		0.0	
2Q16		4/4/2016	NE	41.19	NA	NA	NA	402.20		0.0	
3Q16		7/6/2016	NE	39.94	NA	NA	NA	403.45		0.0	
4Q16		10/4/2016	NE	39.72	NA	NA	NA	403.67		0.0	
1Q17		1/16/2017	NE	39.15	NA	NA	NA	404.24		0.1	
2Q17		4/3/2017	NE	39.51	NA	NA	NA	403.88		0.0	
3Q17		7/5/2017	NE	38.18	NA	NA	NA	405.21		4.6	
4Q17		10/2/2017	NE	38.15	NA	NA	NA	405.24		0.0	
1Q18		1/2/2018	NE	40.68	NA	NA	NA	402.71		0.8	
2Q18		4/3/2018	NE	41.42	NA	NA	NA	401.97	405.89 - 395.89 (37.50 - 47.50)	0.0	
MW-17											
3Q15	441.57	7/6/2015	NE	42.73	NA	NA	NA	398.84	407.28 - 392.28 (34.29 - 49.29)	0.0	
4Q15		10/1/2015	NE	40.33	NA	NA	NA	401.24		0.1	
1Q16		1/4/2016	NE	41.00	NA	NA	NA	400.57		0.1	
2Q16		4/4/2016	NE	39.67	NA	NA	NA	401.90		0.0	
3Q16		7/5/2016	NE	38.12	NA	NA	NA	403.45		0.0	
4Q16		10/3/2016	NE	38.22	NA	NA	NA	403.35		0.4	
1Q17		1/16/2017	NE	37.42	NA	NA	NA	404.15		143.6	
2Q17		4/3/2017	NE	37.62	NA	NA	NA	403.95		0.0	
3Q17		7/5/2017	NE	36.74	NA	NA	NA	404.83		0.0	
4Q17		10/2/2017	NE	36.03	NA	NA	NA	405.54		0.0	
1Q18		1/3/2018	NE	38.79	NA	NA	NA	402.78		362.4	PID data from 1/2/2018
2Q18		4/2/2018	NE	39.67	NA	NA	NA	401.90	0.0		
MW-18											
3Q15	442.04	7/6/2015	NE	43.44	NA	NA	NA	398.60	407.12 - 392.12 (34.92 - 49.92)	0.0	
4Q15		10/1/2015	NE	40.97	NA	NA	NA	401.07		0.1	
1Q16		1/4/2016	NE	41.75	NA	NA	NA	400.29		0.0	
2Q16		4/4/2016	NE	40.45	NA	NA	NA	401.59		0.0	
3Q16		7/5/2016	NE	38.65	NA	NA	NA	403.39		0.0	
4Q16		10/3/2016	NE	38.91	NA	NA	NA	403.13		9.0	
1Q17		1/16/2017	NE	38.08	NA	NA	NA	403.96		2.5	
2Q17		4/3/2017	NE	38.19	NA	NA	NA	403.85		0.0	
3Q17		7/5/2017	NE	37.38	NA	NA	NA	404.66		0.0	
4Q17		10/2/2017	NE	36.62	NA	NA	NA	405.42		0.0	
1Q18		1/2/2018	NE	39.73	NA	NA	NA	402.31		3.2	
2Q18		4/2/2018	NE	40.34	NA	NA	NA	401.70		0.0	

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QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS
MW-19											
3Q15	442.77	7/6/2015	NE	43.99	NA	NA	NA	398.78	406.43 - 391.43 (36.34 - 51.34)	0.0	
4Q15		10/1/2015	NE	41.48	NA	NA	NA	401.29		0.2	
1Q16		1/4/2016	NE	42.14	NA	NA	NA	400.63		0.4	
2Q16		4/4/2016	NE	40.43	NA	NA	NA	402.34		0.0	
3Q16		7/5/2016	NE	39.42	NA	NA	NA	403.35		0.0	
4Q16		10/3/2016	NE	39.44	NA	NA	NA	403.33		0.5	
1Q17		1/16/2017	NE	38.72	NA	NA	NA	404.05		5.6	
2Q17		4/3/2017	NE	38.93	NA	NA	NA	403.84		0.0	
3Q17		7/5/2017	NE	37.93	NA	NA	NA	404.84		0.0	
4Q17		10/2/2017	NE	37.51	NA	NA	NA	405.26		0.0	
1Q18		1/4/2018	NE	40.32	NA	NA	NA	402.45		43.8	PID data from 1/2/2018
2Q18		4/3/2018	NE	40.90	NA	NA	NA	401.87		0.0	
MW-20											
3Q15	443.67	7/6/2015	NE	44.83	NA	NA	NA	398.84	407.79 - 392.79 (35.88 - 50.88)	0.0	
4Q15		10/1/2015	NE	42.33	NA	NA	NA	401.34		0.2	
1Q16		1/4/2016	NE	42.76	NA	NA	NA	400.91		0.5	
2Q16		4/4/2016	NE	41.64	NA	NA	NA	402.03		0.0	
3Q16		7/5/2016	NE	40.46	NA	NA	NA	403.21		0.0	
4Q16		10/3/2016	NE	40.19	NA	NA	NA	403.48		0.4	
1Q17		1/16/2017	NE	39.54	NA	NA	NA	404.13		0.1	
2Q17		4/3/2017	NE	39.93	NA	NA	NA	403.74		0.0	
3Q17		7/5/2017	NE	38.69	NA	NA	NA	404.98		38.69	
4Q17		10/2/2017	NE	38.64	NA	NA	NA	405.03		0.0	
1Q18		1/3/2018	NE	41.03	NA	NA	NA	402.64		27.0	PID data from 1/2/2018
2Q18		4/3/2018	NE	41.76	NA	NA	NA	401.91		0.0	
MW-21											
3Q15	443.81	7/6/2015	NE	44.96	NA	NA	NA	398.85	408.80 - 393.80 (35.01 - 50.01)	0.0	
4Q15		10/1/2015	NE	42.33	NA	NA	NA	401.48		0.1	
1Q16		1/4/2016	NE	42.53	NA	NA	NA	401.28		0.2	
2Q16		4/4/2016	NE	41.61	NA	NA	NA	402.20		0.0	
3Q16		7/5/2016	NE	40.89	NA	NA	NA	402.92		0.0	
4Q16		10/3/2016	NE	40.55	NA	NA	NA	403.26		0.3	
1Q17		1/16/2017	NE	39.68	NA	NA	NA	404.13		0.2	
2Q17		4/3/2017	NE	39.95	NA	NA	NA	403.86		0.0	
3Q17		7/5/2017	NE	38.74	NA	NA	NA	405.07		0.0	
4Q17		10/2/2017	NE	39.12	NA	NA	NA	404.69		0.0	
1Q18		1/2/2018	NE	41.44	NA	NA	NA	402.37		2.0	
2Q18		4/3/2018	NE	41.98	NA	NA	NA	401.83		0.1	
MW-22											
3Q15	442.16	7/6/2015	NE	42.94	NA	NA	NA	399.22	404.28 - 394.28 (37.88 - 47.88)	0.0	
4Q15		10/1/2015	NE	40.56	NA	NA	NA	401.60		0.1	
1Q16		1/4/2016	NE	41.12	NA	NA	NA	401.04		0.0	
2Q16		4/4/2016	NE	39.88	NA	NA	NA	402.28		0.0	
3Q16		7/6/2016	NE	38.56	NA	NA	NA	403.60		0.0	
4Q16		10/3/2016	NE	38.44	NA	NA	NA	403.72		1.2	
1Q17		1/16/2017	NE	37.80	NA	NA	NA	404.36		84.4	*
2Q17		4/3/2017	NE	38.20	NA	NA	NA	403.96		4.7	
3Q17		7/5/2017	NE	36.89	NA	NA	NA	405.27		16.5	*
4Q17		10/2/2017	NE	36.74	NA	NA	NA	405.42		8.1	*
1Q18		1/3/2018	NE	39.14	NA	NA	NA	403.02		10.1	PID data from 1/2/2018
2Q18		4/3/2018	NE	40.01	NA	NA	NA	402.15		0.0	

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WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS
MW-23											
3Q15	431.41	7/7/2015	NE	30.74	NA	NA	NA	400.67	402.39 - 392.39 (29.02 - 39.02)	8.3	
4Q15		10/1/2015	NE	28.80	NA	NA	NA	402.61		0.5	*
1Q16		1/5/2016	NE	29.05	NA	NA	NA	402.36		0.1	
2Q16		4/4/2016	NE	28.30	NA	NA	NA	403.11		0.0	*
3Q16		7/7/2016	NE	27.21	NA	NA	NA	404.20		0.7	*
4Q16		10/3/2016	NE	26.53	NA	NA	NA	404.88		1.0	*
1Q17		1/16/2017	NE	26.83	NA	NA	NA	404.58		0.7	*
2Q17		4/3/2017	NE	27.40	NA	NA	NA	404.01		0.2	*
3Q17		7/5/2017	NE	25.08	NA	NA	NA	406.33		0.5	*
4Q17		10/2/2017	NE	26.35	NA	NA	NA	405.06		0.0	*
1Q18		1/2/2018	NE	28.34	NA	NA	NA	403.07		0.6	*
2Q18		4/2/2018	NE	29.20	NA	NA	NA	402.21		36.4	
MW-24											
3Q15	443.42	7/6/2015	NE	43.76	NA	NA	NA	399.66	404.53 - 394.53 (38.89 - 48.89)	1.2	
4Q15		10/1/2015	NE	41.52	NA	NA	NA	401.90		0.1	
1Q16		1/4/2016	NE	41.94	NA	NA	NA	401.48		0.0	
2Q16		4/4/2016	NE	40.74	NA	NA	NA	402.68		0.0	
3Q16		7/6/2016	NE	39.68	NA	NA	NA	403.74		0.0	
4Q16		10/3/2016	NE	39.28	NA	NA	NA	404.14		117	
1Q17		1/16/2017	NE	38.97	NA	NA	NA	404.45		11.2	
2Q17		4/3/2017	NE	39.45	NA	NA	NA	403.97		0.8	
3Q17		7/5/2017	NE	37.75	NA	NA	NA	405.67		3.6	*
4Q17		10/2/2017	NE	38.03	NA	NA	NA	405.39		0.0	*
1Q18		1/3/2018	NE	40.22	NA	NA	NA	403.20		0.5	PID data from 1/2/2018
2Q18		4/3/2018	NE	41.17	NA	NA	NA	402.25		403.81 - 393.81 (39.61 - 49.61)	0.2
MW-25											
3Q15	438.35	7/6/2015	NE	38.84	NA	NA	NA	399.51	402.76 - 392.76 (35.59 - 45.59)	0.1	
4Q15		10/1/2015	NE	36.39	NA	NA	NA	401.96		0.5	
1Q16		1/4/2016	NE	36.68	NA	NA	NA	401.67		132	
2Q16		4/4/2016	NE	35.78	NA	NA	NA	402.57		0.0	
3Q16		7/6/2016	NE	35.02	NA	NA	NA	403.33		32.5	*
4Q16		10/3/2016	NE	34.23	NA	NA	NA	404.12		52.00	*
1Q17		1/16/2017	NE	34.00	NA	NA	NA	404.35		42.6	*
2Q17		4/3/2017	NE	34.33	NA	NA	NA	404.02		83.6	*
3Q17		7/5/2017	NE	32.77	NA	NA	NA	405.58		61.9	*
4Q17		10/2/2017	NE	33.40	NA	NA	NA	404.95		1999	*
1Q18		1/3/2018	NE	35.51	NA	NA	NA	402.84		69.2	*
2Q18		4/2/2018	NE	36.44	NA	NA	NA	401.91		110.3	
MW-26											
3Q15	441.02	7/6/2015	NE	41.77	NA	NA	NA	399.25	402.87 - 392.87 (38.15 - 48.15)	0.8	
4Q15		10/1/2015	NE	39.25	NA	NA	NA	401.77		0.6	
1Q16		1/5/2016	NE	39.55	NA	NA	NA	401.47		0.7	
2Q16		4/4/2016	NE	38.56	NA	NA	NA	402.46		0.0	
3Q16		7/5/2016	NE	37.76	NA	NA	NA	403.26		0.4	*
4Q16		10/3/2016	NE	37.10	NA	NA	NA	403.92		0.2	*
1Q17		1/16/2017	NE	36.74	NA	NA	NA	404.28		0.2	*
2Q17		4/3/2017	NE	37.09	NA	NA	NA	403.93		0.0	*
3Q17		7/5/2017	NE	35.60	NA	NA	NA	405.42		0.0	*
4Q17		10/2/2017	NE	36.05	NA	NA	NA	404.97		0.0	*
1Q18		1/2/2018	NE	38.33	NA	NA	NA	402.69		5.0	
2Q18		4/4/2018	NE	39.35	NA	NA	NA	401.67		0.0	

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WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS
MW-27											
3Q15	443.40	7/6/2015	NE	43.07	NA	NA	NA	400.33	403.61 - 393.61 (39.79 - 49.79)	0.0	
4Q15		10/1/2015	NE	40.50	NA	NA	NA	402.90		0.6	
1Q16		1/4/2016	NE	41.02	NA	NA	NA	402.38		0.0	
2Q16		4/4/2016	NE	39.67	NA	NA	NA	403.73		0.0	*
3Q16		7/6/2016	NE	38.95	NA	NA	NA	404.45		9.2	*
4Q16		10/3/2016	NE	38.60	NA	NA	NA	404.80		0.4	*
1Q17		1/16/2017	NE	38.05	NA	NA	NA	405.35		0.4	*
2Q17		4/3/2017	NE	38.58	NA	NA	NA	404.82		0.0	*
3Q17		7/5/2017	NE	37.35	NA	NA	NA	406.05		0.0	*
4Q17		10/3/2017	NE	37.25	NA	NA	NA	406.15		0.0	*
1Q18		1/2/2018	NE	38.78	NA	NA	NA	404.62		1.7	*
2Q18		4/3/2018	NE	40.19	NA	NA	NA	403.21		0.0	
MW-28											
3Q15	443.34	7/7/2015	NE	42.39	NA	NA	NA	400.95	409.73 - 399.73 (33.61 - 43.61)	0.0	
4Q15		10/1/2015	NE	40.23	NA	NA	NA	403.11		0.6	
1Q16		1/4/2016	NE	40.34	NA	NA	NA	403.00		0.0	
2Q16		4/4/2016	NE	39.18	NA	NA	NA	404.16		0.0	
3Q16		7/6/2016	NE	38.42	NA	NA	NA	404.92		0.0	
4Q16		10/3/2016	NE	37.81	NA	NA	NA	405.53		0.5	
1Q17		1/16/2017	NE	37.14	NA	NA	NA	406.20		7.2	
2Q17		4/3/2017	NE	37.78	NA	NA	NA	405.56		0.0	
3Q17		7/5/2017	NE	36.63	NA	NA	NA	406.71		0.0	
4Q17		10/2/2017	NE	36.61	NA	NA	NA	406.73		0.1	
1Q18		1/2/2018	NE	37.96	NA	NA	NA	405.38		0.9	
2Q18		4/3/2018	NE	39.39	NA	NA	NA	403.95		0.0	
P-01											
3Q15	442.73	7/6/2015	NE	31.98	NA	NA	NA	410.75	380.78 - 375.78 (61.95 - 66.95)	0.1	*
4Q15		10/1/2015	NE	32.22	NA	NA	NA	410.51		0.0	*
1Q16		1/5/2016	NE	31.14	NA	NA	NA	411.59		0.0	*
2Q16		4/4/2016	NE	30.93	NA	NA	NA	411.80		0.0	*
3Q16		7/7/2016	NM	NM	NA	NA	NA	NA		NM	Unsafe condition at well - Unable to access
4Q16		10/5/2016	NE	27.94	NA	NA	NA	414.79		0.2	*
1Q17		1/17/2017	NE	29.46	NA	NA	NA	413.27		0.0	*
2Q17		4/4/2017	NE	30.25	NA	NA	NA	412.48		0.0	*
3Q17		7/5/2017	NE	26.73	NA	NA	NA	416.00		0.0	*
4Q17		10/3/2017	NE	28.94	NA	NA	NA	413.79		0.0	*
1Q18		1/4/2018	NE	30.05	NA	NA	NA	412.68		0.0	*
2Q18		4/4/2018	NE	30.60	NA	NA	NA	412.13		0.0	*
P-4U											
3Q15	442.54	7/6/2015	NE	34.58	NA	NA	NA	407.96	361.39 - 359.39 (81.15 - 83.15)	0.2	*
4Q15		10/1/2015	NE	33.65	NA	NA	NA	408.89		0.0	*
1Q16		1/4/2016	NE	33.33	NA	NA	NA	409.21		0.0	*
2Q16		4/6/2016	NM	NM	NA	NA	NA	NA		NM	
3Q16		7/5/2016	NE	32.12	NA	NA	NA	410.42		0.1	*
4Q16		10/5/2016	NE	29.49	NA	NA	NA	413.05		NM	*
1Q17		1/17/2017	NE	30.53	NA	NA	NA	412.01		0.0	*
2Q17		4/4/2017	NE	31.39	NA	NA	NA	411.15		0.0	*
3Q17		7/5/2017	NE	28.12	NA	NA	NA	414.42		5.3	*
4Q17		10/3/2017	NE	30.04	NA	NA	NA	412.50		0.0	*
1Q18		1/4/2018	NE	31.25	NA	NA	NA	411.29		0.0	*
2Q18		4/4/2018	NE	32.40	NA	NA	NA	410.14		0.0	*

TABLE 1
QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS
P-5L											
3Q15	443.84	7/7/2015	NE	34.32	NA	NA	NA	409.52	303.44 - 301.44 (140.40 - 142.40)	0.0	*
4Q15		10/1/2015	NE	33.87	NA	NA	NA	409.97		0.0	*
1Q16		1/4/2016	NE	32.95	NA	NA	NA	410.89		0.2	*
2Q16		4/4/2016	NE	32.34	NA	NA	NA	411.50		0.0	*
3Q16		7/5/2016	NE	33.37	NA	NA	NA	410.47		0.8	*
4Q16		10/5/2016	NE	28.83	NA	NA	NA	415.01		0.0	*
1Q17		1/17/2017	NE	30.59	NA	NA	NA	413.25		0.0	*
2Q17		4/4/2017	NE	31.52	NA	NA	NA	412.32		0.0	*
3Q17		7/5/2017	NE	27.33	NA	NA	NA	416.51		2.1	*
4Q17		10/3/2017	NE	30.23	NA	NA	NA	413.61		0.0	*
1Q18		1/3/2018	NE	31.43	NA	NA	NA	412.41		0.0	*
2Q18		4/3/2018	NE	31.85	NA	NA	NA	411.99		0.0	*
P-5U											
3Q15	444.24	7/7/2015	NE	35.71	NA	NA	NA	408.53	313.61 - 311.61 (130.63 - 132.63)	0.0	*
4Q15		10/1/2015	NE	35.03	NA	NA	NA	409.21		0.0	*
1Q16		1/4/2016	NE	34.53	NA	NA	NA	409.71		0.0	*
2Q16		4/4/2016	NE	33.78	NA	NA	NA	410.46		0.0	*
3Q16		7/5/2016	NE	32.08	NA	NA	NA	412.16		0.8	*
4Q16		10/5/2016	NE	30.46	NA	NA	NA	413.78		0.1	*
1Q17		1/17/2017	NE	31.81	NA	NA	NA	412.43		0.0	*
2Q17		4/4/2017	NE	32.69	NA	NA	NA	411.55		0.0	*
3Q17		7/5/2017	NE	29.11	NA	NA	NA	415.13		0.0	*
4Q17		10/3/2017	NE	31.40	NA	NA	NA	412.84		0.0	*
1Q18		1/3/2018	NE	32.44	NA	NA	NA	411.80		0.1	*
2Q18		4/3/2018	NE	33.14	NA	NA	NA	411.10		0.0	*
P-6U											
3Q15	443.45	7/7/2015	NE	35.43	NA	NA	NA	408.02	362.95 - 360.95 (80.50 - 82.50)	0.0	*
4Q15		10/1/2015	NE	34.54	NA	NA	NA	408.91		0.0	*
1Q16		1/4/2016	NE	34.19	NA	NA	NA	409.26		0.0	*
2Q16		4/4/2016	NE	33.17	NA	NA	NA	410.28		0.0	*
3Q16		7/5/2016	NE	31.58	NA	NA	NA	411.87		0.1	*
4Q16		10/5/2016	NE	29.93	NA	NA	NA	413.52		0.0	*
1Q17		1/17/2017	NE	31.19	NA	NA	NA	412.26		0.0	*
2Q17		4/4/2017	NE	32.11	NA	NA	NA	411.34		0.0	*
3Q17		7/5/2017	NE	28.50	NA	NA	NA	414.95		0.6	*
4Q17		10/3/2017	NE	31.82	NA	NA	NA	411.63		0.0	*
1Q18		1/4/2018	NE	32.14	NA	NA	NA	411.31		0.0	*
2Q18		4/3/2018	NE	32.69	NA	NA	NA	410.76		0.0	*
P-7U											
3Q15	443.91	7/6/2015	NE	35.66	NA	NA	NA	408.25	382.83 - 380.83 (61.08 - 63.08)	0.1	*
4Q15		10/1/2015	NE	34.86	NA	NA	NA	409.05		0.0	*
1Q16		1/4/2016	NE	34.35	NA	NA	NA	409.56		0.0	*
2Q16		4/4/2016	NE	33.38	NA	NA	NA	410.53		0.0	*
3Q16		7/7/2016	NE	32.86	NA	NA	NA	411.05		0.9	*
4Q16		10/5/2016	NE	29.98	NA	NA	NA	413.93		0.0	*
1Q17		1/17/2017	NE	31.43	NA	NA	NA	412.48		0.0	*
2Q17		4/4/2017	NE	32.37	NA	NA	NA	411.54		0.1	*
3Q17		7/5/2017	NE	28.52	NA	NA	NA	415.39		5.3	*
4Q17		10/3/2017	NE	31.10	NA	NA	NA	412.81		0.0	*
1Q18		1/3/2018	NE	32.38	NA	NA	NA	411.53		0.0	*
2Q18		4/3/2018	NE	33.01	NA	NA	NA	410.90		0.0	*

TABLE 1
QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS
P-8U											
3Q15	441.85	7/6/2015	NE	36.24	NA	NA	NA	405.61	382.33 - 380.33 (59.52 - 61.52)	0.1	*
4Q15		10/1/2015	NE	34.97	NA	NA	NA	406.88		0.0	*
1Q16		1/4/2016	NE	34.99	NA	NA	NA	406.86		0.1	*
2Q16		4/5/2016	NE	33.41	NA	NA	NA	408.44		0.4	*
3Q16		7/5/2016	NE	33.18	NA	NA	NA	408.67		0.2	*
4Q16		10/4/2016	NE	30.74	NA	NA	NA	411.11		0.0	*
1Q17		1/17/2017	NE	31.42	NA	NA	NA	410.43		0.0	*
2Q17		4/3/2017	NE	31.88	NA	NA	NA	409.97		0.0	*
3Q17		7/6/2017	NE	29.86	NA	NA	NA	411.99		0.0	*
4Q17		10/3/2017	NE	30.85	NA	NA	NA	411.00		1.6	*
1Q18		1/4/2018	NE	32.20	NA	NA	NA	409.65		83.5	*
2Q18		4/3/2018	NE	33.13	NA	NA	NA	408.72		0.0	*
P-9U											
3Q15	445.04	7/6/2015	NE	40.70	NA	NA	NA	404.34	344.45 - 342.45 (100.59 - 102.59)	0.1	*
4Q15		10/1/2015	NE	39.69	NA	NA	NA	405.35		0.0	*
1Q16		1/5/2016	NE	39.77	NA	NA	NA	405.27		0.0	*
2Q16		4/4/2016	NE	37.84	NA	NA	NA	407.20		0.0	*
3Q16		7/5/2016	NE	37.92	NA	NA	NA	407.12		0.2	*
4Q16		10/4/2016	NE	35.83	NA	NA	NA	409.21		0.8	*
1Q17		1/17/2017	NE	35.97	NA	NA	NA	409.07		0.0	*
2Q17		4/3/2017	NE	36.30	NA	NA	NA	408.74		0.0	*
3Q17		7/6/2017	NE	34.22	NA	NA	NA	410.82		0.0	*
4Q17		10/3/2017	NE	35.39	NA	NA	NA	409.65		0.0	*
1Q18		1/4/2018	NE	36.60	NA	NA	NA	408.44		40.5	*
2Q18		4/4/2018	NM	NM	NA	NA	NA	NA		NM	Unsafe condition at well - Unable to access
P-11L											
3Q15	442.55	7/7/2015	NE	36.88	NA	NA	NA	405.67	332.34 - 330.34 (110.21 - 112.21)	0.0	*
4Q15		10/1/2015	NE	35.54	NA	NA	NA	407.01		0.0	*
1Q16		1/4/2016	NE	35.47	NA	NA	NA	407.08		0.0	*
2Q16		4/5/2016	NE	34.70	NA	NA	NA	407.85		0.6	*
3Q16		7/5/2016	NE	34.03	NA	NA	NA	408.52		0.2	*
4Q16		10/5/2016	NE	31.89	NA	NA	NA	410.66		0.2	*
1Q17		1/17/2017	NE	32.26	NA	NA	NA	410.29		0.0	*
2Q17		4/4/2017	NE	33.01	NA	NA	NA	409.54		0.0	*
3Q17		7/6/2017	NE	31.05	NA	NA	NA	411.50		0.0	*
4Q17		10/3/2017	NE	31.66	NA	NA	NA	410.89		0.0	*
1Q18		1/4/2018	NE	32.83	NA	NA	NA	409.72		0.0	*
2Q18		4/3/2018	NE	33.92	NA	NA	NA	408.63		0.0	*
P-11U											
3Q15	443.17	7/7/2015	NE	37.51	NA	NA	NA	405.66	343.25 - 341.25 (99.92 - 101.92)	0.1	*
4Q15		10/1/2015	NE	36.14	NA	NA	NA	407.03		0.0	*
1Q16		1/4/2016	NE	36.09	NA	NA	NA	407.08		0.0	*
2Q16		4/5/2016	NE	34.88	NA	NA	NA	408.29		1.9	*
3Q16		7/5/2016	NE	34.66	NA	NA	NA	408.51		0.2	*
4Q16		10/5/2016	NE	32.53	NA	NA	NA	410.64		0.2	*
1Q17		1/17/2017	NE	32.90	NA	NA	NA	410.27		0.0	*
2Q17		4/4/2017	NE	33.61	NA	NA	NA	409.56		0.7	*
3Q17		7/6/2017	NE	31.65	NA	NA	NA	411.52		0.0	*
4Q17		10/3/2017	NE	32.27	NA	NA	NA	410.90		0.0	*
1Q18		1/4/2018	NE	33.45	NA	NA	NA	409.72		3.8	*
2Q18		4/3/2018	NE	34.50	NA	NA	NA	408.67		0.0	*

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WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS
P-14											
3Q15	442.74	7/6/2015	NE	32.06	NA	NA	NA	410.68	395.41 - 385.41 (47.33 - 57.33)	0.2	*
4Q15		10/1/2015	NE	32.24	NA	NA	NA	410.50		0.0	*
1Q16		1/5/2016	NE	31.21	NA	NA	NA	411.53		0.0	*
2Q16		4/4/2016	NE	30.98	NA	NA	NA	411.76		0.0	*
3Q16		7/7/2016	NM	NM	NA	NA	NA	NA		NM	Unsafe condition at well - Unable to access
4Q16		10/5/2016	NE	28.03	NA	NA	NA	414.71		0.0	*
1Q17		1/17/2017	NE	29.55	NA	NA	NA	413.19		0.0	*
2Q17		4/4/2017	NE	30.33	NA	NA	NA	412.41		0.0	*
3Q17		7/5/2017	NE	26.80	NA	NA	NA	415.94		0.0	*
4Q17		10/3/2017	NE	29.00	NA	NA	NA	413.74		0.0	*
1Q18		1/4/2018	NE	30.12	NA	NA	NA	412.62		0.0	*
2Q18		4/4/2018	NE	30.69	NA	NA	NA	412.05		0.0	*
P-15											
3Q15	443.69	7/6/2015	NE	35.09	NA	NA	NA	408.60	398.24 - 388.24 (45.45 - 55.45)	1.8	*
4Q15		10/1/2015	NE	34.29	NA	NA	NA	409.40		0.0	*
1Q16		1/4/2016	NE	34.22	NA	NA	NA	409.47		0.0	*
2Q16		4/5/2016	NE	32.98	NA	NA	NA	410.71		0.0	*
3Q16		7/5/2016	NE	32.77	NA	NA	NA	410.92		0.1	*
4Q16		10/5/2016	NE	30.13	NA	NA	NA	413.56		0.0	*
1Q17		1/17/2017	NE	31.20	NA	NA	NA	412.49		0.0	*
2Q17		4/4/2017	NE	32.12	NA	NA	NA	411.57		0.0	*
3Q17		7/5/2017	NE	28.75	NA	NA	NA	414.94		1.6	*
4Q17		10/3/2017	NE	30.70	NA	NA	NA	412.99		0.0	*
1Q18		1/4/2018	NE	31.93	NA	NA	NA	411.76		0.0	*
2Q18		4/4/2018	NE	33.19	NA	NA	NA	410.50		0.0	*
P-16											
3Q15	442.68	7/7/2015	NE	33.98	NA	NA	NA	408.70	396.94 - 386.94 (45.74 - 55.74)	0.0	*
4Q15		10/1/2015	NE	33.54	NA	NA	NA	409.14		0.0	*
1Q16		1/4/2016	NE	33.11	NA	NA	NA	409.57		1.1	*
2Q16		4/4/2016	NE	31.78	NA	NA	NA	410.90		0.0	*
3Q16		7/5/2016	NE	32.71	NA	NA	NA	409.97		0.2	*
4Q16		10/5/2016	NE	28.75	NA	NA	NA	413.93		0.0	*
1Q17		1/17/2017	NE	30.08	NA	NA	NA	412.60		0.0	*
2Q17		4/4/2017	NE	30.99	NA	NA	NA	411.69		0.0	*
3Q17		7/5/2017	NE	27.40	NA	NA	NA	415.28		4.2	*
4Q17		10/3/2017	NE	29.75	NA	NA	NA	412.93		0.0	*
1Q18		1/4/2018	NE	31.07	NA	NA	NA	411.61		0.0	*
2Q18		4/3/2018	NE	31.66	NA	NA	NA	411.02		0.0	*
P-43											
3Q15	444.44	7/7/2015	NE	38.03	NA	NA	NA	406.41	380.88 - 370.88 (63.56 - 73.56)	0.1	*
4Q15		10/1/2015	NE	37.03	NA	NA	NA	407.41		1.0	*
1Q16		1/4/2016	NE	36.96	NA	NA	NA	407.48		0.0	*
2Q16		4/5/2016	NE	35.73	NA	NA	NA	408.71		0.0	*
3Q16		7/5/2016	NE	35.52	NA	NA	NA	408.92		0.7	*
4Q16		10/5/2016	NE	33.34	NA	NA	NA	411.10		0.2	*
1Q17		1/17/2017	NE	33.71	NA	NA	NA	410.73		0.0	*
2Q17		4/4/2017	NE	34.52	NA	NA	NA	409.92		0.0	*
3Q17		7/6/2017	NE	31.87	NA	NA	NA	412.57		0.0	*
4Q17		10/3/2017	NE	33.15	NA	NA	NA	411.29		0.0	*
1Q18		1/4/2018	NE	34.34	NA	NA	NA	410.10		0.0	*
2Q18		4/3/2018	NE	35.37	NA	NA	NA	409.07		0.0	*

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WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS	
P-53												
3Q15	446.41	7/7/2015	NE	44.16	NA	NA	NA	402.25	407.91 - 382.91 (38.50 - 63.50)	0.0		
4Q15		10/1/2015	NE	42.69	NA	NA	NA	403.72		0.1		
1Q16		1/6/2016	NE	42.55	NA	NA	NA	403.86		0.1		
2Q16		4/6/2016	NE	41.41	NA	NA	NA	405.00		0.0		
3Q16		7/5/2016	NE	40.94	NA	NA	NA	405.47		0.0		
4Q16		10/4/2016	NE	40.12	NA	NA	NA	406.29		0.0		
1Q17		1/16/2017	NE	39.63	NA	NA	NA	406.78		5.8		
2Q17		4/3/2017	NE	40.04	NA	NA	NA	406.37		0.0		
3Q17		7/5/2017	NE	38.70	NA	NA	NA	407.71		0.0		
4Q17		10/3/2017	NE	38.92	NA	NA	NA	407.49		0.0		
1Q18		1/2/2018	NE	40.11	NA	NA	NA	406.30		0.5		
2Q18		4/3/2018	NE	41.38	NA	NA	NA	405.03		0.0		
P-54												
3Q15	442.32	7/6/2015	NE	42.40	NA	NA	NA	399.92	404.32 - 379.32 (38.00 - 63.00)	0.0		
4Q15		10/1/2015	NE	40.21	NA	NA	NA	402.11		0.1		
1Q16		1/4/2016	NE	40.60	NA	NA	NA	401.72		1.6		
2Q16		4/4/2016	NE	39.43	NA	NA	NA	402.89		0.0		
3Q16		7/6/2016	NE	38.47	NA	NA	NA	403.85		0.0		
4Q16		10/3/2016	NE	37.96	NA	NA	NA	404.36		0.4	*	
1Q17		1/16/2017	NE	37.80	NA	NA	NA	404.52		0.2	*	
2Q17		4/3/2017	NE	38.28	NA	NA	NA	404.04		0.0		
3Q17		7/5/2017	NE	36.41	NA	NA	NA	405.91		0.0	*	
4Q17		10/2/2017	NE	36.88	NA	NA	NA	405.44		0.0	*	
1Q18		1/2/2018	NE	39.02	NA	NA	NA	403.30		0.4		
2Q18		4/3/2018	NE	39.94	NA	NA	NA	402.38		0.0		
P-55R												
3Q15	443.79	7/9/2015		44.16	44.27	399.52	399.63	0.11	399.61	403.36 - 393.36 (40.43 - 50.43)	0.3	
4Q15		10/1/2015		42.04	42.05	401.74	401.75	0.01	401.75		379	
1Q16		1/4/2016		42.26	42.36	401.43	401.53	0.10	401.51		38.4	
2Q16		4/4/2016		40.09	40.15	403.64	403.70	0.06	403.69		147.9	*
3Q16		7/5/2016		39.93	40.13	403.66	403.86	0.20	403.82		78.0	*
4Q16		10/3/2016		39.28	39.45	404.34	404.51	0.17	404.48		393.8	*
1Q17		1/16/2017		38.82	39.30	404.49	404.97	0.48	404.87		132.8	*
2Q17		4/3/2017		39.06	39.34	404.45	404.73	0.28	404.67		154.7	*
3Q17		7/5/2017		37.88	37.97	405.82	405.91	0.09	405.89		162.1	*
4Q17		10/2/2017		37.81	37.98	405.81	405.98	0.17	405.95		103.6	*
1Q18		1/2/2018		40.30	40.38	403.41	403.49	0.08	403.47		259.9	*
2Q18		4/2/2018		39.20	41.25	402.54	404.59	2.05	404.18		238.2	*
P-56												
3Q15	446.14	7/9/2015	NE	47.46	NA	NA	NA	398.68	405.32 - 380.32 (40.82 - 65.82)	0.0		
4Q15		10/1/2015	NE	44.89	NA	NA	NA	401.25		0.0		
1Q16		1/4/2016	NE	45.32	NA	NA	NA	400.82		0.0		
2Q16		4/4/2016	NE	44.15	NA	NA	NA	401.99		0.0		
3Q16		7/5/2016	NE	43.03	NA	NA	NA	403.11		0.2		
4Q16		10/3/2016	NE	42.72	NA	NA	NA	403.42		0.0		
1Q17		1/16/2017	NE	42.01	NA	NA	NA	404.13		180.0		
2Q17		4/3/2017	NE	42.43	NA	NA	NA	403.71		0.0		
3Q17		7/5/2017	NE	41.18	NA	NA	NA	404.96		0.2		
4Q17		10/2/2017	NE	41.05	NA	NA	NA	405.09		91.2		
1Q18		1/3/2018	NE	43.51	NA	NA	NA	402.63		208.8		
2Q18		4/3/2018	NE	44.24	NA	NA	NA	401.90		0.0		

TABLE 1
QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS	
P-57												
3Q15	446.96	7/9/2015	NE	48.22	NA	NA	NA	398.74	402.77 - 392.77 (44.19 - 54.19)	0.0		
4Q15		10/1/2015	NE	45.50	NA	NA	NA	401.46		0.1		
1Q16		1/4/2016	NE	45.75	NA	NA	NA	401.21		0.0		
2Q16		4/4/2016	NE	44.80	NA	NA	NA	402.16		0.4		
3Q16		7/5/2016	NE	44.20	NA	NA	NA	402.76		118.5		
4Q16		10/3/2016	NE	43.40	NA	NA	NA	403.56		140.5	*	
1Q17		1/16/2017	NE	42.89	NA	NA	NA	404.07		135.3	*	
2Q17		4/3/2017	NE	43.21	NA	NA	NA	403.75		140.1	*	
3Q17		7/5/2017	NE	41.92	NA	NA	NA	405.04		131.9	*	
4Q17		10/2/2017	NE	42.35	NA	NA	NA	404.61		47.2	*	
1Q18		1/2/2018	NE	44.59	NA	NA	NA	402.37		190.2		
2Q18		4/3/2018	NE	45.10	NA	NA	NA	401.86		1.3		
P-58												
3Q15	444.94	7/9/2015	NE	46.01	NA	NA	NA	398.93	404.73 - 379.73 (40.21 - 65.21)	0.0		
4Q15		10/1/2015	NE	43.27	NA	NA	NA	401.67		1.3		
1Q16		1/4/2016	NE	43.50	NA	NA	NA	401.44		0.0		
2Q16		4/4/2016	NE	42.75	NA	NA	NA	402.19		0.1		
3Q16		7/5/2016	NE	42.21	NA	NA	NA	402.73		0.1		
4Q16		10/3/2016	NE	41.25	NA	NA	NA	403.69		0.0		
1Q17		1/16/2017	NE	40.78	NA	NA	NA	404.16		135.1		
2Q17		4/3/2017	NE	40.91	NA	NA	NA	404.03		0.0		
3Q17		7/5/2017	NE	39.81	NA	NA	NA	405.13		11.4	*	
4Q17		10/2/2017	40.32	40.35	404.59	404.62	0.03	404.61		5.1		
1Q18		1/2/2018	42.53	42.55	402.39	402.41	0.02	402.41		179.6		
2Q18		4/2/2018	NE	43.19	NA	NA	NA	401.75		0.0		
P-59												
3Q15	446.86	7/9/2015	NE	46.50	NA	NA	NA	400.36	398.95 - 373.95 (47.91 - 72.91)	0.0	*Gauging results anomalous	
4Q15		10/1/2015	NE	45.81	NA	NA	NA	401.05		349	*	
1Q16		1/4/2016	NE	46.43	NA	NA	NA	400.43		135	*	
2Q16		4/4/2016	NE	45.22	NA	NA	NA	401.64		249.4	*	
3Q16		7/5/2016	NE	43.67	NA	NA	NA	403.19		239.0	*	
4Q16		10/3/2016	NE	43.65	NA	NA	NA	403.21		423.6	*	
1Q17		1/16/2017	NE	42.83	NA	NA	NA	404.03		220.9	*	
2Q17		4/3/2017	NE	43.06	NA	NA	NA	403.80		358.9	*	
3Q17		7/5/2017	NE	42.08	NA	NA	NA	404.78		321.7	*	
4Q17		10/2/2017	NE	41.57	NA	NA	NA	405.29		189.2	*	
1Q18		1/4/2018	NE	44.44	NA	NA	NA	402.42		311.9	*	
2Q18		4/3/2018	NE	44.99	NA	NA	NA	401.87		108.1	*	
P-60												
3Q15	446.69	7/9/2015		47.61	47.75	398.94	399.08	0.14	399.05	403.24 - 383.24 (43.45 - 63.45)	0.0	
4Q15		10/1/2015		45.28	45.35	401.34	401.41	0.07	401.40		362	
1Q16		1/4/2016		45.73	45.79	400.90	400.96	0.06	400.95		7.0	
2Q16		4/4/2016		44.45	44.50	402.19	402.24	0.05	402.23		6.8	
3Q16		7/5/2016		43.13	43.22	403.47	403.56	0.09	403.54		107.9	*
4Q16		10/3/2016		43.00	43.05	403.64	403.69	0.05	403.68		144.8	*
1Q17		1/16/2017		42.25	42.31	404.38	404.44	0.06	404.43		59.7	*
2Q17		4/3/2017		42.49	42.52	404.17	404.20	0.03	404.19		43.2	*
3Q17		7/5/2017		41.49	41.51	405.18	405.20	0.02	405.20		15.0	*
4Q17		10/2/2017		41.12	41.15	405.54	405.57	0.03	405.56		34.9	*
1Q18		1/2/2018		43.54	43.56	403.13	403.15	0.02	403.15		117.9	
2Q18		4/3/2018	NE	44.25	NA	NA	NA	NA	402.44		15.6	

TABLE 1
QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS	
P-60-11												
3Q15	446.26	7/8/2015	NE	46.16	NA	NA	NA	400.10	413.11 - 383.11 (33.15 - 63.15)	0.7		
4Q15		10/1/2015	NE	44.01	NA	NA	NA	402.25		0.0		
1Q16		1/4/2016	NE	44.51	NA	NA	NA	401.75		0.4		
2Q16		4/4/2016	NE	43.08	NA	NA	NA	403.18		0.0		
3Q16		7/5/2016	NE	42.21	NA	NA	NA	404.05		1.4		
4Q16		10/3/2016	NE	41.90	NA	NA	NA	404.36		27.9		
1Q17		1/16/2017	NE	41.22	NA	NA	NA	405.04		0.0		
2Q17		4/3/2017	NE	41.62	NA	NA	NA	404.64		0.0		
3Q17		7/5/2017	NE	41.75	NA	NA	NA	404.51		0.5		
4Q17		10/2/2017	NE	40.30	NA	NA	NA	405.96		0.0		
1Q18		1/2/2018	NE	42.22	NA	NA	NA	404.04		0.7		
2Q18		4/2/2018	NE	43.48	NA	NA	NA	402.78		0.0		
P-60-12												
3Q15	443.43	7/9/2015	NE	45.42	NA	NA	NA	398.01	383.43 - 373.43 (60.00 - 70.00)	0.0	*	
4Q15		10/1/2015	NE	42.10	NA	NA	NA	401.33		0.0	*	
1Q16		1/4/2016	NE	42.58	NA	NA	NA	400.85		0.3	*	
2Q16		4/4/2016	NE	41.31	NA	NA	NA	402.12		9.9	*	
3Q16		7/5/2016	NE	39.94	NA	NA	NA	403.49		36.2	*	
4Q16		10/3/2016	NE	39.77	NA	NA	NA	403.66		11.3	*	
1Q17		1/16/2017	NE	39.00	NA	NA	NA	404.43		23.4	*	
2Q17		4/3/2017	NE	39.21	NA	NA	NA	404.22		23.5	*	
3Q17		7/5/2017	NE	38.26	NA	NA	NA	405.17		2.1	*	
4Q17		10/2/2017	NE	37.80	NA	NA	NA	405.63		10.6	*	
1Q18		1/2/2018	NE	40.40	NA	NA	NA	403.03		26.6	*	
2Q18		4/2/2018	NE	41.34	NA	NA	NA	402.09		11.1	*	
P-60-13												
3Q15	442.92	7/9/2015	NE	41.20	NA	NA	NA	401.72	402.92 - 382.92 (40.00 - 60.00)	0.0		
4Q15		10/1/2015	NE	40.19	NA	NA	NA	402.73		8.5		
1Q16		1/4/2016	NE	40.65	NA	NA	NA	402.27		2.7		
2Q16		4/4/2016	NE	39.72	NA	NA	NA	403.20		0.2	*	
3Q16		7/5/2016	NE	39.06	NA	NA	NA	403.86		0.2	*	
4Q16		10/3/2016	NE	38.78	NA	NA	NA	404.14		0.0	*	
1Q17		1/16/2017	NE	38.18	NA	NA	NA	404.74		101.8	*	
2Q17		4/3/2017	NE	38.62	NA	NA	NA	404.30		0.0	*	
3Q17		7/5/2017	NE	37.70	NA	NA	NA	405.22		0.0	*	
4Q17		10/2/2017	NE	37.31	NA	NA	NA	405.61		0.0	*	
1Q18		1/2/2018	NE	39.04	NA	NA	NA	403.88		48.3	*	
2Q18		4/2/2018	NE	39.97	NA	NA	NA	402.95		0.0	*	
P-60-S												
3Q15	446.84	7/9/2015		46.84	46.90	399.94	400.00	0.06	399.99	410.36 - 395.36 (36.48 - 51.48)	0.0	
4Q15		10/1/2015	NE	44.76	NA	NA	NA	NA	402.08		0.0	
1Q16		1/4/2016	NE	45.25	NA	NA	NA	NA	401.59		0.1	
2Q16		4/4/2016	NE	43.78	NA	NA	NA	NA	403.06		0.0	
3Q16		7/5/2016	NE	42.84	NA	NA	NA	NA	404.00		0.1	
4Q16		10/3/2016	NE	42.82	NA	NA	NA	NA	404.02		0.3	
1Q17		1/16/2017	NE	41.91	NA	NA	NA	NA	404.93		38.7	
2Q17		4/3/2017	NE	42.50	NA	NA	NA	NA	404.34		0.0	
3Q17		7/5/2017	NE	41.47	NA	NA	NA	NA	405.37		0.1	
4Q17		10/2/2017	NE	41.07	NA	NA	NA	NA	405.77		0.7	
1Q18		1/2/2018	NE	42.82	NA	NA	NA	NA	404.02		1.5	
2Q18		4/3/2018		43.73	43.74	403.10	403.11	0.01	403.11		0.0	

TABLE 1
QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.')(ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS
P-61											
3Q15	444.47	7/9/2015	45.99	47.05	397.42	398.48	1.06	398.27	398.80 - 373.80 (45.68 - 70.68)	0.1	
4Q15		10/1/2015	43.27	43.93	400.54	401.20	0.66	401.07		20.7	*
1Q16		1/5/2016	43.91	43.95	400.52	400.56	0.04	400.55		1.3	*
2Q16		4/4/2016	42.77	42.82	401.65	401.70	0.05	401.69		40.4	*
3Q16		7/6/2016	NE	41.63	NA	NA	NA	402.84		27.3	*
4Q16		10/4/2016	NE	41.11	NA	NA	NA	403.36		17.7	*
1Q17		1/16/2017	NE	40.19	NA	NA	NA	404.28		113.1	*
2Q17		4/3/2017	40.50	40.61	403.86	403.97	0.11	403.95		8.2	*
3Q17		7/6/2017	39.60	39.71	404.76	404.87	0.11	404.85		935.1	*
4Q17		10/2/2017	39.43	39.61	404.86	405.04	0.18	405.00		20.1	*
1Q18		1/2/2018	41.78	41.84	402.63	402.69	0.06	402.68		312.6	*
2Q18		4/4/2018	NM	NM	NA	NA	NA	NA		NM	Unsafe condition at well - Unable to access
P-62											
3Q15	442.43	7/8/2015	43.49	44.42	398.01	398.94	0.93	398.75	400.96 - 375.96 (41.47 - 66.47)	0.3	
4Q15		10/2/2015	41.17	42.06	400.37	401.26	0.89	401.08		0.2	*
1Q16		1/5/2016	41.40	42.20	400.23	401.03	0.80	400.87		0.0	
2Q16		4/6/2016	NM	NM	NA	NA	NA	NA		NM	Unsafe condition at well - Unable to access
3Q16		7/6/2016	39.34	40.09	402.34	403.09	0.75	402.94		0.1	*
4Q16		10/4/2016	38.63	38.70	403.73	403.80	0.07	403.79		268.2	*
1Q17		1/16/2017	NE	37.81	NA	NA	NA	404.62		118.6	*
2Q17		4/3/2017	38.04	38.13	404.30	404.39	0.09	404.37		187.9	*
3Q17		7/5/2017	37.28	37.33	405.10	405.15	0.05	405.14		32.0	*
4Q17		10/3/2017	37.49	37.52	404.91	404.94	0.03	404.93		200.7	*
1Q18		1/3/2018	39.05	39.09	403.34	403.38	0.04	403.37		344.7	*
2Q18		4/2/2018	40.03	41.01	401.42	402.40	0.98	402.20		151.0	*
P-63											
3Q15	445.85	7/7/2015	47.18	47.54	398.31	398.67	0.36	398.60	398.56 - 373.56 (47.29 - 72.29)	13.8	*
4Q15		10/2/2015	45.26	45.31	400.54	400.59	0.05	400.58		52.8	*
1Q16		1/5/2016	45.06	45.09	400.76	400.79	0.03	400.78		261.3	*
2Q16		4/4/2016	43.83	43.86	401.99	402.02	0.03	402.01		12.1	*
3Q16		7/6/2016	NE	43.46	NA	NA	NA	402.39		5.3	*
4Q16		10/4/2016	42.14	42.17	403.68	403.71	0.03	403.70		6.0	*
1Q17		1/17/2017	41.58	41.62	404.23	404.27	0.04	404.26		52.7	*
2Q17		4/3/2017	41.66	41.69	404.16	404.19	0.03	404.18		105.7	*
3Q17		7/6/2017	40.97	41.01	404.84	404.88	0.04	404.87		207.5	*
4Q17		10/3/2017	41.32	41.35	404.50	404.53	0.03	404.52		113.3	*
1Q18		1/3/2018	42.27	42.29	403.56	403.58	0.02	403.58		33.8	*
2Q18		4/4/2018	44.09	44.11	401.74	401.76	0.02	401.76		36.5	*
P-64											
3Q15	446.89	7/7/2015	48.38	48.62	398.27	398.51	0.24	398.46	399.66 - 374.66 (47.23 - 72.23)	171.4	
4Q15		10/2/2015	46.50	46.85	400.04	400.39	0.35	400.32		59.2	*
1Q16		1/5/2016	46.39	46.43	400.46	400.50	0.04	400.49		204.5	*
2Q16		4/4/2016	44.96	45.00	401.89	401.93	0.04	401.92		55.5	*
3Q16		7/6/2016	44.78	44.86	402.03	402.11	0.08	402.09		13.4	*
4Q16		10/4/2016	43.21	43.29	403.60	403.68	0.08	403.66		16.0	*
1Q17		1/17/2017	NE	42.64	NA	NA	NA	404.25		398.5	*
2Q17		4/4/2017	43.10	43.18	403.71	403.79	0.08	403.77		71.8	*
3Q17		7/6/2017	42.09	42.16	404.73	404.80	0.07	404.79		331.6	*
4Q17		10/3/2017	NE	42.60	NA	NA	NA	404.29		214.7	*
1Q18		1/3/2018	43.20	43.23	403.66	403.69	0.03	403.68		278.0	*
2Q18		4/4/2018	45.14	45.19	401.70	401.75	0.05	401.74		183.6	*

TABLE 1
QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS	
P-65												
3Q15	444.60	7/7/2015	NE	46.08	NA	NA	NA	398.52	397.58 - 372.58 (47.02 - 72.02)	2.9	*	
4Q15		10/1/2015	43.83	43.84	400.76	400.77	0.01	400.77		35.8	*	
1Q16		1/5/2016	NE	43.78	43.78	NA	NA	NA		400.82	4.0	*
2Q16		4/4/2016	NE	42.26	42.26	NA	NA	NA		402.34	0.3	*
3Q16		7/7/2016	NE	42.05	42.05	NA	NA	NA		402.55	NM	*
4Q16		10/4/2016	40.75	40.78	403.82	403.85	0.03	403.84		17.1	*	
1Q17		1/16/2017	NE	40.08	40.08	NA	NA	NA		404.52	7.6	*
2Q17		4/3/2017	NE	40.08	40.08	NA	NA	NA		404.52	70.7	*
3Q17		7/6/2017	NE	39.89	39.89	NA	NA	NA		404.71	65.6	*
4Q17		10/3/2017	NE	40.14	40.14	NA	NA	NA		404.46	83.2	*
1Q18		1/3/2018	NE	41.10	41.10	NA	NA	NA		403.50	5.0	*
2Q18		4/4/2018	NE	43.02	43.02	NA	NA	NA		401.58	3.5	*
P-66												
3Q15	436.81	7/7/2015	NE	37.34	NA	NA	NA	399.47	402.09 - 377.09 (34.72 - 59.72)	0.2		
4Q15		10/2/2015	NE	34.83	NA	NA	NA	401.98		425		
1Q16		1/6/2016	NE	34.68	34.68	NA	NA	NA		402.13	320.9	*
2Q16		4/5/2016	NE	34.34	34.34	NA	NA	NA		402.47	10.3	*
3Q16		7/8/2016	NE	33.74	33.74	NA	NA	NA		403.07	76.2	*
4Q16		10/4/2016	NE	32.67	32.67	NA	NA	NA		404.14	68.1	*
1Q17		1/17/2017	NE	32.41	32.41	NA	NA	NA		404.40	88.1	*
2Q17		4/4/2017	NE	32.55	32.55	NA	NA	NA		404.26	112.3	*
3Q17		7/6/2017	NE	31.32	31.32	NA	NA	NA		405.49	29.9	*
4Q17		10/2/2017	NE	31.98	31.98	NA	NA	NA		404.85	869.9	*
1Q18		1/4/2018	NE	34.06	34.06	NA	NA	NA		402.75	68.7	*
2Q18		4/4/2018	NE	35.12	35.12	NA	NA	NA		401.69	3.7	
P-67												
3Q15	444.10	7/7/2015	NE	43.27	NA	NA	NA	400.83	402.12 - 377.12 (41.98 - 66.98)	0.0		
4Q15		10/2/2015	NE	41.09	NA	NA	NA	403.01		30.1	*	
1Q16		1/5/2016	NE	41.06	41.06	NA	NA	NA		403.04	0.4	*
2Q16		4/5/2016	NE	40.41	40.41	NA	NA	NA		403.69	42.1	*
3Q16		7/8/2016	NE	39.83	39.83	NA	NA	NA		404.27	9.9	*
4Q16		10/4/2016	NE	38.63	38.63	NA	NA	NA		405.47	13.1	*
1Q17		1/17/2017	NE	38.50	38.50	NA	NA	NA		405.60	35.6	*
2Q17		4/4/2017	NE	38.85	38.85	NA	NA	NA		405.25	4.3	*
3Q17		7/6/2017	NE	37.52	37.52	NA	NA	NA		406.58	4.9	*
4Q17		10/2/2017	NE	38.10	38.10	NA	NA	NA		406.00	365.7	*
1Q18		1/4/2018	39.98	39.99	404.11	404.12	0.01	404.12		36.7	*	
2Q18		4/4/2018	NE	41.04	41.04	NA	NA	NA		403.06	6.0	*
P-68												
3Q15	445.18	7/9/2015	46.33	46.41	398.77	398.85	0.08	398.83	399.92 - 374.92 (45.26 - 70.26)	6.9		
4Q15		10/1/2015	43.89	43.96	401.22	401.29	0.07	401.28		246	*	
1Q16		1/5/2016	44.35	44.40	400.78	400.83	0.05	400.82		70.0	*	
2Q16		4/4/2016	43.15	43.23	401.95	402.03	0.08	402.01		196.7	*	
3Q16		7/5/2016	40.80	41.86	403.32	404.38	1.06	404.17		196.9	*	
4Q16		10/4/2016	42.52	42.59	402.59	402.66	0.07	402.65		182.6	*	
1Q17		1/16/2017	40.70	40.71	404.47	404.48	0.01	404.48		100.9	*	
2Q17		4/3/2017	41.02	41.07	404.11	404.16	0.05	404.15		77.8	*	
3Q17		7/5/2017	40.10	40.12	405.06	405.08	0.02	405.08		180.8	*	
4Q17		10/2/2017	39.54	39.56	405.62	405.64	0.02	405.64		125.0	*	
1Q18		1/3/2018	42.05	42.07	403.11	403.13	0.02	403.13		137.4	*	
2Q18		4/3/2018	42.89	42.94	402.24	402.29	0.05	402.28		92.0	*	

TABLE 1
QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS	
P-69												
3Q15	443.40	7/9/2015	NE	45.08	NA	NA	NA	398.32	402.58 - 377.58 (40.82 - 65.82)	0.1		
4Q15		10/1/2015	NE	42.51	NA	NA	NA	400.89		2.2		
1Q16		1/6/2016	NM	NM	NA	NA	NA	NA		NM	Unsafe condition at well - Unable to access	
2Q16		4/4/2016	NE	41.84	NA	NA	NA	401.56		0.8		
3Q16		7/6/2016	NE	40.31	NA	NA	NA	403.09		237.9	*	
4Q16		10/4/2016	NE	40.22	NA	NA	NA	403.18		121.7	*	
1Q17		1/16/2017	NE	39.31	NA	NA	NA	404.09		337.3	*	
2Q17		4/3/2017	NE	39.55	NA	NA	NA	403.85		66.6	*	
3Q17		7/5/2017	NE	38.76	NA	NA	NA	404.64		142.0	*	
4Q17		10/2/2017	NE	38.04	NA	NA	NA	405.36		210.1	*	
1Q18		1/3/2018	NE	40.76	NA	NA	NA	402.64		119.9	*	
2Q18	4/4/2018	NE	42.00	NA	NA	NA	401.40	0.0				
P-70												
3Q15	442.95	7/7/2015		44.34	44.95	398.00	398.61	0.61	398.49	398.28 - 373.28 (44.67 - 69.67)	270.4	*
4Q15		10/1/2015		41.70	42.35	400.60	401.25	0.65	401.12		315.2	*
1Q16		1/5/2016		42.22	42.47	400.48	400.73	0.25	400.68		170.0	*
2Q16		4/4/2016		41.07	41.11	401.84	401.88	0.04	401.87		212.8	*
3Q16		7/6/2016	NE	39.92	NA	NA	NA	NA	403.03		388.8	*
4Q16		10/4/2016		39.40	39.45	403.50	403.55	0.05	403.54		345.3	*
1Q17		1/16/2017		38.52	38.57	404.38	404.43	0.05	404.42		289.1	*
2Q17		4/3/2017		38.81	38.84	404.11	404.14	0.03	404.13		131.7	*
3Q17		7/6/2017		38.00	38.03	404.92	404.95	0.03	404.94		2525	*
4Q17		10/2/2017		37.73	37.76	405.19	405.22	0.03	405.21		186.5	*
1Q18		1/2/2018		40.03	40.06	402.89	402.92	0.03	402.91		282.1	*
2Q18	4/2/2018		40.94	40.98	401.97	402.01	0.04	402.00	90.4	*		
P-71												
3Q15	444.94	7/7/2015	NE	45.02	NA	NA	NA	399.92	402.33 - 377.33 (42.61 - 67.61)	0.0	Gauging result anomalous	
4Q15		10/1/2015	NE	43.59	NA	NA	NA	401.35		2.5		
1Q16		1/6/2016	NE	43.06	NA	NA	NA	401.88		68.2		
2Q16		4/4/2016	NE	42.27	NA	NA	NA	402.67		19.4	*	
3Q16		7/7/2016	NE	41.75	NA	NA	NA	403.19		74.9	*	
4Q16		10/4/2016	NE	40.76	NA	NA	NA	404.18		78.0	*	
1Q17		1/16/2017	NE	40.05	NA	NA	NA	404.89		0.0	*	
2Q17		4/3/2017	NE	40.43	NA	NA	NA	404.51		32.3	*	
3Q17		7/6/2017	NE	39.66	NA	NA	NA	405.28		555.1	*	
4Q17		10/3/2017	NE	40.01	NA	NA	NA	404.93		82.3	*	
1Q18		1/3/2018	NE	41.42	NA	NA	NA	403.52		6.0	*	
2Q18	4/4/2018	NE	42.99	NA	NA	NA	401.95	50.4				
P-72												
3Q15	444.49	7/7/2015	NE	45.56	NA	NA	NA	398.93	398.72 - 373.72 (45.77 - 70.77)	1.6	*	
4Q15		10/1/2015		43.11	43.12	401.37	401.38	0.01		401.38	3.8	*
1Q16		1/6/2016	NE	42.67	NA	NA	NA	401.82		16.5	*	
2Q16		4/4/2016	NE	41.82	NA	NA	NA	402.67		1.8	*	
3Q16		7/6/2016	NE	41.55	NA	NA	NA	402.94		0.4	*	
4Q16		10/4/2016	NE	40.53	NA	NA	NA	403.96		0.6	*	
1Q17		1/16/2017	NE	39.55	NA	NA	NA	404.94		14.4	*	
2Q17		4/3/2017	NE	39.66	NA	NA	NA	404.83		11.3	*	
3Q17		7/6/2017	NE	39.27	NA	NA	NA	405.22		32.9	*	
4Q17		10/3/2017	NE	39.69	NA	NA	NA	404.80		6.9	*	
1Q18		1/3/2018	NE	40.84	NA	NA	NA	403.65		40.0	*	
2Q18	4/4/2018	NE	42.81	NA	NA	NA	401.68	2.6	*			

TABLE 1
QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS
P-73											
3Q15	443.86	7/9/2015	NE	46.16	NA	NA	NA	397.70	402.27 - 377.27 (41.59 - 66.59)	0.1	
4Q15		10/1/2015	NE	43.05	NA	NA	NA	400.81		0.4	
1Q16		1/6/2016	NE	42.55	NA	NA	NA	401.31		0.0	
2Q16		4/4/2016	NE	42.44	NA	NA	NA	401.42		0.0	
3Q16		7/7/2016	NE	41.83	NA	NA	NA	402.03		NM	
4Q16		10/4/2016	NE	40.81	NA	NA	NA	403.05		20.0	*
1Q17		1/16/2017	NE	40.00	NA	NA	NA	403.86		111.5	*
2Q17		4/3/2017	NE	39.55	NA	NA	NA	404.31		81.4	*
3Q17		7/6/2017	NE	39.59	NA	NA	NA	404.27		848.2	*
4Q17		10/3/2017	NE	40.25	NA	NA	NA	403.61		127.0	*
1Q18		1/3/2018	NE	41.93	NA	NA	NA	401.93		67.8	
2Q18		4/4/2018	NE	43.21	NA	NA	NA	400.65		0.0	
P-74											
3Q15	442.72	7/9/2015	NE	48.03	NA	NA	NA	394.69	398.29 - 373.29 (44.43 - 69.43)	0.1	Gauging result anomalous
4Q15		10/1/2015	NE	41.79	NA	NA	NA	400.93		0.0	*
1Q16		1/6/2016	NE	40.80	NA	NA	NA	401.92		0.4	*
2Q16		4/4/2016	NE	41.16	NA	NA	NA	401.56		0.3	*
3Q16		7/6/2016	NE	39.63	NA	NA	NA	403.09		0.0	*
4Q16		10/4/2016	NE	39.51	NA	NA	NA	403.21		9.7	*
1Q17		1/16/2017	NE	38.64	NA	NA	NA	404.08		0.0	*
2Q17		4/3/2017	NE	38.88	NA	NA	NA	403.84		0.0	*
3Q17		7/5/2017	NE	38.04	NA	NA	NA	404.68		0.0	*
4Q17		10/2/2017	NE	37.43	NA	NA	NA	405.29		0.0	*
1Q18		1/3/2018	NE	40.21	NA	NA	NA	402.51		1.6	*
2Q18		4/4/2018	NE	39.81	NA	NA	NA	402.91		0.0	*
P-75											
3Q15	446.42	7/7/2015	NE	47.44	NA	NA	NA	398.98	403.29 - 378.29 (43.13 - 68.13)	0.0	
4Q15		10/2/2015	NE	44.74	NA	NA	NA	401.68		0.0	
1Q16		1/5/2016	NE	44.70	NA	NA	NA	401.72		1.0	
2Q16		4/5/2016	NE	44.33	NA	NA	NA	402.09		0.2	
3Q16		7/8/2016	NE	43.81	NA	NA	NA	402.61		0.0	
4Q16		10/4/2016	NE	42.64	NA	NA	NA	403.78		9.9	*
1Q17		1/17/2017	NE	42.25	NA	NA	NA	404.17		33.6	*
2Q17		4/4/2017	NE	42.19	NA	NA	NA	404.23		30.9	*
3Q17		7/6/2017	NE	42.45	NA	NA	NA	403.97		12.4	*
4Q17		10/2/2017	NE	41.90	NA	NA	NA	404.52		57.8	*
1Q18		1/4/2018	NE	44.01	NA	NA	NA	402.41		3.0	
2Q18		4/4/2018	NE	45.06	NA	NA	NA	401.36		0.0	
P-82A											
3Q15	435.02	7/6/2015	NE	29.31	NA	NA	NA	405.71	401.81 - 386.81 (33.21 - 48.21)	0.3	*
4Q15		10/2/2015	NE	28.65	NA	NA	NA	406.37		0.2	*
1Q16		1/5/2016	NE	27.72	NA	NA	NA	407.30		0.0	*
2Q16		4/5/2016	NE	27.66	NA	NA	NA	407.36		0.0	*
3Q16		7/7/2016	NE	26.72	NA	NA	NA	408.30		0.0	*
4Q16		10/5/2016	NE	25.73	NA	NA	NA	409.29		0.0	*
1Q17		1/16/2017	NE	26.17	NA	NA	NA	408.85		0.0	*
2Q17		4/4/2017	NE	26.88	NA	NA	NA	408.14		0.0	*
3Q17		7/6/2017	NE	24.70	NA	NA	NA	410.32		0.0	*
4Q17		10/3/2017	NE	25.97	NA	NA	NA	409.05		0.0	*
1Q18		1/3/2018	NE	27.54	NA	NA	NA	407.48		0.0	*
2Q18		4/3/2018	NE	27.83	NA	NA	NA	407.19		0.0	*

TABLE 1
QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS
P-82B											
3Q15	434.48	7/6/2015	NE	29.60	NA	NA	NA	404.88	370.88 - 368.88 (63.6 - 65.6)	0.2	*
4Q15		10/2/2015	NE	28.40	NA	NA	NA	406.08		0.3	*
1Q16		1/5/2016	NE	27.41	NA	NA	NA	407.07		0.0	*
2Q16		4/5/2016	NE	27.39	NA	NA	NA	407.09		0.2	*
3Q16		7/7/2016	NE	26.49	NA	NA	NA	407.99		0.0	*
4Q16		10/5/2016	NE	25.46	NA	NA	NA	409.02		0.0	*
1Q17		1/16/2017	NE	25.88	NA	NA	NA	408.60		0.0	*
2Q17		4/4/2017	NE	26.61	NA	NA	NA	407.87		0.0	*
3Q17		7/6/2017	NE	24.42	NA	NA	NA	410.06		0.0	*
4Q17		10/3/2017	NE	25.70	NA	NA	NA	408.78		0.0	*
1Q18		1/3/2018	NE	27.26	NA	NA	NA	407.22	0.0	*	
2Q18		4/3/2018	NE	27.54	NA	NA	NA	406.94	371.68 - 369.68 (62.80 - 64.80)	0.0	*
P-82C											
3Q15	434.21	7/6/2015	NE	29.32	NA	NA	NA	404.89	351.44 - 349.44 (82.77 - 84.77)	0.2	*
4Q15		10/2/2015	NE	27.93	NA	NA	NA	406.28		0.1	*
1Q16		1/5/2016	NE	27.42	NA	NA	NA	406.79		0.0	*
2Q16		4/5/2016	NE	27.47	NA	NA	NA	406.74		0.0	*
3Q16		7/7/2016	NE	26.26	NA	NA	NA	407.95		0.0	*
4Q16		10/5/2016	NE	25.20	NA	NA	NA	409.01		0.0	*
1Q17		1/16/2017	NE	25.60	NA	NA	NA	408.61		0.0	*
2Q17		4/4/2017	NE	26.30	NA	NA	NA	407.91		0.0	*
3Q17		7/6/2017	NE	24.12	NA	NA	NA	410.09		0.0	*
4Q17		10/3/2017	NE	25.41	NA	NA	NA	408.80		0.0	*
1Q18		1/3/2018	NE	26.98	NA	NA	NA	407.23		0.0	*
2Q18		4/3/2018	NE	27.22	NA	NA	NA	406.99		0.0	*
P-82D											
3Q15	434.89	7/6/2015	NE	30.02	NA	NA	NA	404.87	323.47 - 321.47 (111.42 - 113.42)	0.2	*
4Q15		10/2/2015	NE	28.69	NA	NA	NA	406.20		0.3	*
1Q16		1/5/2016	NE	28.14	NA	NA	NA	406.75		0.0	*
2Q16		4/5/2016	NE	27.72	NA	NA	NA	407.17		0.0	*
3Q16		7/7/2016	NE	26.98	NA	NA	NA	407.91		0.0	*
4Q16		10/5/2016	NE	25.95	NA	NA	NA	408.94		0.0	*
1Q17		1/16/2017	NE	26.40	NA	NA	NA	408.49		0.0	*
2Q17		4/4/2017	NE	27.09	NA	NA	NA	407.80		0.0	*
3Q17		7/6/2017	NE	24.90	NA	NA	NA	409.99		0.0	*
4Q17		10/3/2017	NE	26.20	NA	NA	NA	408.69		0.0	*
1Q18		1/3/2018	NE	27.78	NA	NA	NA	407.11		0.0	*
2Q18		4/3/2018	NE	27.99	NA	NA	NA	406.90	323.35 - 321.35 (111.54 - 113.54)	0.0	*
P-83A											
3Q15	445.36	7/6/2015	NE	44.22	NA	NA	NA	401.14	398.71 - 383.71 (46.65 - 61.65)	0.7	*
4Q15		10/1/2015	NE	43.33	NA	NA	NA	402.03		0.1	*
1Q16		1/5/2016	NE	42.50	NA	NA	NA	402.86		0.1	*
2Q16		4/4/2016	NE	41.74	NA	NA	NA	403.62		0.0	*
3Q16		7/7/2016	NE	41.34	NA	NA	NA	404.02		1.3	*
4Q16		10/3/2016	NE	39.79	NA	NA	NA	405.57		0.0	*
1Q17		1/16/2017	NE	39.25	NA	NA	NA	406.11		0.0	*
2Q17		4/3/2017	NE	39.56	NA	NA	NA	405.80		0.0	*
3Q17		7/6/2017	NE	38.15	NA	NA	NA	407.21		0.0	*
4Q17		10/3/2017	NE	38.88	NA	NA	NA	406.48		0.0	*
1Q18		1/3/2018	NE	39.76	NA	NA	NA	405.60		0.0	*
2Q18		4/2/2018	NE	40.74	NA	NA	NA	404.62		0.0	*

TABLE 1
QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS
P-83B											
3Q15	445.55	7/6/2015	NE	44.48	NA	NA	NA	401.07	375.90 - 373.90 (69.65 - 71.65)	2.7	*
4Q15		10/1/2015	NE	43.58	NA	NA	NA	401.97		0.0	*
1Q16		1/5/2016	NE	42.81	NA	NA	NA	402.74		0.0	*
2Q16		4/4/2016	NE	42.03	NA	NA	NA	403.52		0.0	*
3Q16		7/7/2016	NE	41.76	NA	NA	NA	403.79		0.0	*
4Q16		10/3/2016	NE	40.23	NA	NA	NA	405.32		1.4	*
1Q17		1/16/2017	NE	39.48	NA	NA	NA	406.07		0.4	*
2Q17		4/3/2017	NE	39.83	NA	NA	NA	405.72		11.00	*
3Q17		7/6/2017	NE	38.71	NA	NA	NA	406.84		0.0	*
4Q17		10/3/2017	NE	39.13	NA	NA	NA	406.42		0.0	*
1Q18		1/3/2018	NE	40.01	NA	NA	NA	405.54		0.6	*
2Q18		4/2/2018	NE	41.01	NA	NA	NA	404.54		0.0	*
P-83C											
3Q15	445.78	7/6/2015	NE	44.93	NA	NA	NA	400.85	353.39 - 351.39 (92.39 - 94.39)	0.6	*
4Q15		10/1/2015	NE	43.70	NA	NA	NA	402.08		0.5	*
1Q16		1/5/2016	NE	42.93	NA	NA	NA	402.85		0.1	*
2Q16		4/4/2016	NE	42.50	NA	NA	NA	403.28		0.2	*
3Q16		7/7/2016	NE	47.76	NA	NA	NA	398.02		0.0	*
4Q16		10/3/2016	NE	40.19	NA	NA	NA	405.59		0.0	*
1Q17		1/16/2017	NE	39.63	NA	NA	NA	406.15		0.6	*
2Q17		4/3/2017	NE	39.96	NA	NA	NA	405.82		1.4	*
3Q17		7/6/2017	NE	38.56	NA	NA	NA	407.22		0.0	*
4Q17		10/3/2017	NE	39.27	NA	NA	NA	406.51		0.0	*
1Q18		1/3/2018	NE	40.16	NA	NA	NA	405.62		0.0	*
2Q18		4/2/2018	NE	41.15	NA	NA	NA	404.63		0.0	*
P-83D											
3Q15	445.70	7/6/2015	NE	44.88	NA	NA	NA	400.82	311.99 - 309.99 (133.71 - 135.71)	4.0	*
4Q15		10/1/2015	NE	43.66	NA	NA	NA	402.04		0.1	*
1Q16		1/5/2016	NE	42.91	NA	NA	NA	402.79		0.0	*
2Q16		4/4/2016	NE	42.43	NA	NA	NA	403.27		0.0	*
3Q16		7/7/2016	NE	41.72	NA	NA	NA	403.98		0.0	*
4Q16		10/3/2016	NE	40.15	NA	NA	NA	405.55		0.0	*
1Q17		1/16/2017	NE	39.59	NA	NA	NA	406.11		1.2	*
2Q17		4/3/2017	NE	39.94	NA	NA	NA	405.76		0.0	*
3Q17		7/6/2017	NE	38.51	NA	NA	NA	407.19		0.0	*
4Q17		10/3/2017	NE	39.25	NA	NA	NA	406.45		0.0	*
1Q18		1/3/2018	NE	40.11	NA	NA	NA	405.59		0.0	*
2Q18		4/2/2018	NE	41.13	NA	NA	NA	404.57		0.0	*
P-84A											
3Q15	446.49	7/7/2015	NE	45.11	NA	NA	NA	401.38	397.99 - 382.99 (48.50 - 63.50)	0.0	*
4Q15		10/1/2015	NE	43.91	NA	NA	NA	402.58		0.0	*
1Q16		1/5/2016	NE	43.45	NA	NA	NA	403.04		0.0	*
2Q16		4/5/2016	NE	42.37	NA	NA	NA	404.12		0.0	*
3Q16		7/6/2016	NE	41.86	NA	NA	NA	404.63		0.0	*
4Q16		10/5/2016	NE	40.91	NA	NA	NA	405.58		0.6	*
1Q17		1/17/2017	NE	40.34	NA	NA	NA	406.15		0.0	*
2Q17		4/4/2017	NE	40.80	NA	NA	NA	405.69		0.0	*
3Q17		7/5/2017	NM	NM	NA	NA	NA	NA		NM	Inaccessible due to construction
4Q17		10/3/2017	NE	39.69	NA	NA	NA	406.80		0.0	*
1Q18		1/3/2018	NE	40.84	NA	NA	NA	405.65		0.1	*
2Q18		4/4/2018	NE	42.22	NA	NA	NA	404.27		0.0	*

TABLE 1
QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS
P-84B											
3Q15	446.21	7/7/2015	NE	44.90	NA	NA	NA	401.31	372.71 - 370.71 (73.50 - 75.50)	0.0	*
4Q15		10/1/2015	NE	43.66	NA	NA	NA	402.55		0.0	*
1Q16		1/5/2016	NE	43.18	NA	NA	NA	403.03		0.6	*
2Q16		4/5/2016	NE	42.33	NA	NA	NA	403.88		0.0	*
3Q16		7/6/2016	NE	41.62	NA	NA	NA	404.59		0.0	*
4Q16		10/5/2016	NE	40.63	NA	NA	NA	405.58		0.0	*
1Q17		1/17/2017	NE	40.08	NA	NA	NA	406.13		0.0	*
2Q17		4/4/2017	NE	40.54	NA	NA	NA	405.67		0.0	*
3Q17		7/5/2017	NM	NM	NA	NA	NA	NA		NM	Inaccessible due to construction
4Q17		10/3/2017	NE	39.43	NA	NA	NA	406.78		0.0	*
1Q18		1/3/2018	NE	40.56	NA	NA	NA	405.65		0.1	*
2Q18		4/4/2018	NE	41.94	NA	NA	NA	404.27		0.0	*
P-84C											
3Q15	446.22	7/7/2015	NE	44.93	NA	NA	NA	401.29	352.17 - 350.17 (94.05 - 96.05)	0.0	*
4Q15		10/1/2015	NE	43.99	NA	NA	NA	402.23		0.0	*
1Q16		1/5/2016	NE	43.49	NA	NA	NA	402.73		0.0	*
2Q16		4/5/2016	NE	42.28	NA	NA	NA	403.94		0.0	*
3Q16		7/6/2016	NE	41.61	NA	NA	NA	404.61		0.0	*
4Q16		10/5/2016	NE	40.66	NA	NA	NA	405.56		7.5	*
1Q17		1/17/2017	NE	40.08	NA	NA	NA	406.14		0.0	*
2Q17		4/4/2017	NE	40.54	NA	NA	NA	405.68		0.0	*
3Q17		7/5/2017	NM	NM	NA	NA	NA	NA		NM	Inaccessible due to construction
4Q17		10/3/2017	NE	39.42	NA	NA	NA	406.80		0.0	*
1Q18		1/3/2018	NE	40.57	NA	NA	NA	405.65		0.0	*
2Q18		4/4/2018	NE	41.96	NA	NA	NA	404.26		0.0	*
P-84D											
3Q15	446.24	7/7/2015	NE	44.92	NA	NA	NA	401.32	325.09 - 323.09 (121.15 - 123.15)	0.0	*
4Q15		10/1/2015	NE	43.97	NA	NA	NA	402.27		0.0	*
1Q16		1/5/2016	NE	43.51	NA	NA	NA	402.73		0.6	*
2Q16		4/5/2016	NE	42.26	NA	NA	NA	403.98		0.0	*
3Q16		7/6/2016	NE	41.63	NA	NA	NA	404.61		0.0	*
4Q16		10/5/2016	NE	40.65	NA	NA	NA	405.59		6.0	*
1Q17		1/17/2017	NM	NM	NA	NA	NA	NA		0.0	*
2Q17		4/4/2017	NE	40.55	NA	NA	NA	405.69		0.0	*
3Q17		7/5/2017	NM	NM	NA	NA	NA	NA		NM	Inaccessible due to construction
4Q17		10/3/2017	NE	39.45	NA	NA	NA	406.79		0.0	*
1Q18		1/3/2018	NE	40.58	NA	NA	NA	405.66		0.1	*
2Q18		4/4/2018	NE	41.97	NA	NA	NA	404.27		0.0	*
P-88A											
3Q15	443.09	7/7/2015	NE	35.93	NA	NA	NA	407.16	404.69 - 389.69 (38.40 - 53.40)	0.0	*
4Q15		10/2/2015	NE	34.26	NA	NA	NA	408.83		0.2	*
1Q16		1/5/2016	NE	34.35	NA	NA	NA	408.74		0.0	*
2Q16		4/5/2016	NE	33.21	NA	NA	NA	409.88		0.2	*
3Q16		7/7/2016	NE	32.80	NA	NA	NA	410.29		0.0	*
4Q16		10/5/2016	NE	31.75	NA	NA	NA	411.34		0.0	*
1Q17		1/17/2017	NE	31.75	NA	NA	NA	411.34		0.0	*
2Q17		4/4/2017	NE	32.36	NA	NA	NA	410.73		0.0	*
3Q17		7/6/2017	NE	30.57	NA	NA	NA	412.52		0.0	*
4Q17		10/2/2017	NE	31.10	NA	NA	NA	411.99		0.0	*
1Q18		1/4/2018	NE	32.60	NA	NA	NA	410.49		0.0	*
2Q18		4/4/2018	NE	34.04	NA	NA	NA	409.05		0.0	*

TABLE 1
QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS
P-88B											
3Q15	443.16	7/7/2015	NE	35.94	NA	NA	NA	407.22	371.16 - 369.16 (72.00 - 74.00)	0.0	*
4Q15		10/2/2015	NE	34.50	NA	NA	NA	408.66		0.4	*
1Q16		1/5/2016	NE	34.41	NA	NA	NA	408.75		0.0	*
2Q16		4/5/2016	NE	33.43	NA	NA	NA	409.73		0.3	*
3Q16		7/7/2016	NE	32.92	NA	NA	NA	410.24		0.0	*
4Q16		10/5/2016	NE	31.82	NA	NA	NA	411.34		0.0	*
1Q17		1/17/2017	NE	31.81	NA	NA	NA	411.35		3.5	*
2Q17		4/4/2017	NE	32.43	NA	NA	NA	410.73		0.0	*
3Q17		7/6/2017	NE	30.64	NA	NA	NA	412.52		0.0	*
4Q17		10/2/2017	NE	31.15	NA	NA	NA	412.01		0.0	*
1Q18		1/4/2018	NE	32.67	NA	NA	NA	410.49		0.0	*
2Q18		4/4/2018	NE	34.09	NA	NA	NA	409.07	371.51 - 369.51 (71.65 - 73.65)	0.0	*
P-88C											
3Q15	443.13	7/7/2015	NE	36.21	NA	NA	NA	406.92	350.83 - 348.83 (92.30 - 94.30)	0.0	*
4Q15		10/2/2015	NE	34.28	NA	NA	NA	408.85		2.7	*
1Q16		1/5/2016	NE	34.39	NA	NA	NA	408.74		0.0	*
2Q16		4/5/2016	NE	33.20	NA	NA	NA	409.93		0.2	*
3Q16		7/7/2016	NE	32.87	NA	NA	NA	410.26		0.0	*
4Q16		10/5/2016	NE	31.75	NA	NA	NA	411.38		0.0	*
1Q17		1/17/2017	NE	31.77	NA	NA	NA	411.36		0.0	*
2Q17		4/4/2017	NE	32.38	NA	NA	NA	410.75		0.0	*
3Q17		7/6/2017	NE	30.60	NA	NA	NA	412.53		0.0	*
4Q17		10/2/2017	NE	31.10	NA	NA	NA	412.03		0.0	*
1Q18		1/4/2018	NE	32.62	NA	NA	NA	410.51		0.0	*
2Q18		4/4/2018	NE	34.05	NA	NA	NA	409.08	0.0	*	
P-88D											
3Q15	443.20	7/7/2015	NE	36.30	NA	NA	NA	406.90	329.50 - 327.50 (113.70 - 115.70)	0.0	*
4Q15		10/2/2015	NE	34.85	NA	NA	NA	408.35		1.4	*
1Q16		1/5/2016	NE	34.61	NA	NA	NA	408.59		0.2	*
2Q16		4/5/2016	NE	33.82	NA	NA	NA	409.38		0.0	*
3Q16		7/7/2016	NE	32.98	NA	NA	NA	410.22		0.0	*
4Q16		10/5/2016	NE	31.97	NA	NA	NA	411.23		0.0	*
1Q17		1/17/2017	NE	31.91	NA	NA	NA	411.29		0.0	*
2Q17		4/4/2017	NE	32.54	NA	NA	NA	410.66		0.0	*
3Q17		7/6/2017	NE	30.69	NA	NA	NA	412.51		0.0	*
4Q17		10/2/2017	NE	31.29	NA	NA	NA	411.91		0.0	*
1Q18		1/4/2018	NE	32.82	NA	NA	NA	410.38		0.0	*
2Q18		4/4/2018	NE	34.17	NA	NA	NA	409.03	331.03 - 329.03 (112.17 - 114.17)	0.0	*
P-89B											
3Q15	447.44	7/7/2015	NE	43.36	NA	NA	NA	404.08	370.08 - 368.08 (77.36 - 79.36)	0.0	*
4Q15		10/1/2015	NE	42.17	NA	NA	NA	405.27		0.0	*
1Q16		1/5/2016	NE	42.16	NA	NA	NA	405.28		0.0	*
2Q16		4/4/2016	NE	40.69	NA	NA	NA	406.75		0.0	*
3Q16		7/5/2016	NE	40.72	NA	NA	NA	406.72		0.1	*
4Q16		10/5/2016	NE	38.84	NA	NA	NA	408.60		0.2	*
1Q17		1/17/2017	NE	38.76	NA	NA	NA	408.68		0.0	*
2Q17		4/4/2017	NE	39.32	NA	NA	NA	408.12		0.0	*
3Q17		7/6/2017	NE	37.49	NA	NA	NA	409.95		0.0	*
4Q17		10/3/2017	NE	38.17	NA	NA	NA	409.27		0.0	*
1Q18		1/4/2018	NE	39.23	NA	NA	NA	408.21		0.0	*
2Q18		4/3/2018	NE	40.47	NA	NA	NA	406.97	0.0	*	

TABLE 1
QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS	
P-89C												
3Q15	447.76	7/7/2015	NE	43.73	NA	NA	NA	404.03	350.13 - 348.13 (97.63 - 99.63)	0.0	*	
4Q15		10/1/2015	NE	42.54	NA	NA	NA	405.22		0.1	*	
1Q16		1/5/2016	NE	42.52	NA	NA	NA	405.24		0.0	*	
2Q16		4/4/2016	NE	41.04	NA	NA	NA	406.72		0.0	*	
3Q16		7/5/2016	NE	41.05	NA	NA	NA	406.71		0.1	*	
4Q16		10/5/2016	NE	39.63	NA	NA	NA	408.13		0.2	*	
1Q17		1/17/2017	NE	39.11	NA	NA	NA	408.65		0.0	*	
2Q17		4/4/2017	NE	39.66	NA	NA	NA	408.10		0.0	*	
3Q17		7/6/2017	NE	37.85	NA	NA	NA	409.91		0.0	*	
4Q17		10/3/2017	NE	38.53	NA	NA	NA	409.23		0.0	*	
1Q18		1/4/2018	NE	39.65	NA	NA	NA	408.11		0.0	*	
2Q18		4/3/2018	NE	40.79	NA	NA	NA	406.97		0.0	*	
P-89D												
3Q15	447.63	7/7/2015	NE	43.73	NA	NA	NA	403.90	307.29 - 305.29 (140.34 - 142.34)	0.0	*	
4Q15		10/1/2015	NE	42.56	NA	NA	NA	405.07		0.1	*	
1Q16		1/5/2016	NE	42.56	NA	NA	NA	405.07		0.0	*	
2Q16		4/4/2016	NE	40.94	NA	NA	NA	406.69		0.1	*	
3Q16		7/5/2016	NE	41.08	NA	NA	NA	406.55		0.1	*	
4Q16		10/5/2016	NE	39.18	NA	NA	NA	408.45		0.2	*	
1Q17		1/17/2017	NE	39.03	NA	NA	NA	408.60		0.0	*	
2Q17		4/4/2017	NE	39.51	NA	NA	NA	408.12		0.0	*	
3Q17		7/6/2017	NE	37.84	NA	NA	NA	409.79		0.0	*	
4Q17		10/3/2017	NE	38.48	NA	NA	NA	409.15		0.0	*	
1Q18		1/4/2018	NE	39.48	NA	NA	NA	408.15		2.0	*	
2Q18		4/3/2018	NE	40.95	NA	NA	NA	406.68		0.0	*	
P-91A												
3Q15	447.24	7/7/2015		49.55	49.59	397.65	397.69	0.04	397.68	395.72 - 380.72 (51.51 - 66.51)	17.6	*
4Q15		10/2/2015		47.95	47.97	399.27	399.29	0.02	399.29		28.2	*
1Q16		1/5/2016		47.78	47.82	399.42	399.46	0.04	399.45		42.3	*
2Q16		4/4/2016		46.49	46.53	400.71	400.75	0.04	400.74		4.1	*
3Q16		7/7/2016	NE		44.12	NA	NA	NA	403.12		13.1	*
4Q16		10/4/2016		44.59	44.61	402.63	402.65	0.02	402.65		4.7	*
1Q17		1/16/2017	NE		43.81	NA	NA	NA	403.43		139.4	*
2Q17		4/4/2017		44.61	44.64	402.60	402.63	0.03	402.62		43.8	*
3Q17		7/6/2017		43.18	43.21	404.03	404.06	0.03	404.05		303.5	*
4Q17		10/3/2017		43.79	43.80	403.44	403.45	0.01	403.45		105.7	*
1Q18		1/2/2018		44.43	44.45	402.79	402.81	0.02	402.81		25.8	*
2Q18		4/3/2018	NE		45.39	NA	NA	NA	401.85		43.1	*
P-91B												
3Q15	447.28	7/7/2015	NE	49.62	NA	NA	NA	397.66	372.59 - 370.59 (74.69 - 76.69)	2.2	*	
4Q15		10/2/2015	NE	48.03	NA	NA	NA	399.25		10.1	*	
1Q16		1/5/2016	NE	47.88	NA	NA	NA	399.40		21.9	*	
2Q16		4/4/2016	NE	46.67	NA	NA	NA	400.61		1.2	*	
3Q16		7/7/2016	NE	46.56	NA	NA	NA	400.72		0.2	*	
4Q16		10/4/2016	NE	44.72	NA	NA	NA	402.56		0.7	*	
1Q17		1/16/2017	NE	43.93	NA	NA	NA	403.35		2.0	*	
2Q17		4/4/2017	NE	44.74	NA	NA	NA	402.54		6.7	*	
3Q17		7/6/2017	NE	43.26	NA	NA	NA	404.02		28.7	*	
4Q17		10/3/2017	NE	43.88	NA	NA	NA	403.40		8.4	*	
1Q18		1/2/2018	NE	44.23	NA	NA	NA	403.05		102.1	*	
2Q18		4/3/2018	NE	45.45	NA	NA	NA	401.83		0.5	*	

TABLE 1
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WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS
P-91C											
3Q15	447.07	7/7/2015	NE	49.39	NA	NA	NA	397.68	352.34 - 350.34 (94.73 - 96.73)	0.0	*
4Q15		10/2/2015	NE	47.79	NA	NA	NA	399.28		0.2	*
1Q16		1/5/2016	NE	47.63	NA	NA	NA	399.44		0.4	*
2Q16		4/4/2016	NE	46.39	NA	NA	NA	400.68		0.7	*
3Q16		7/7/2016	NE	46.32	NA	NA	NA	400.75		0.0	*
4Q16		10/4/2016	NE	44.47	NA	NA	NA	402.60		0.4	*
1Q17		1/16/2017	NE	43.62	NA	NA	NA	403.45		0.2	*
2Q17		4/4/2017	NE	44.51	NA	NA	NA	402.56		0.0	*
3Q17		7/6/2017	NE	43.03	NA	NA	NA	404.04		0.0	*
4Q17		10/3/2017	NE	43.66	NA	NA	NA	403.41		0.4	*
1Q18		1/2/2018	NE	44.00	NA	NA	NA	403.07		9.5	*
2Q18		4/3/2018	NE	45.21	NA	NA	NA	401.86		0.0	*
P-91D											
3Q15	447.06	7/7/2015	NE	49.39	NA	NA	NA	397.67	278.74 - 276.74 (168.32 - 170.32)	0.0	*
4Q15		10/2/2015	NE	47.78	NA	NA	NA	399.28		0.5	*
1Q16		1/5/2016	NE	47.64	NA	NA	NA	399.42		0.6	*
2Q16		4/4/2016	NE	44.01	NA	NA	NA	403.05		2.0	*
3Q16		7/7/2016	NE	46.31	NA	NA	NA	400.75		0.0	*
4Q16		10/4/2016	NE	44.46	NA	NA	NA	402.60		0.3	*
1Q17		1/16/2017	NE	43.67	NA	NA	NA	403.39		1.2	*
2Q17		4/4/2017	NE	44.50	NA	NA	NA	402.56		0.1	*
3Q17		7/6/2017	NE	43.02	NA	NA	NA	404.04		0.0	*
4Q17		10/3/2017	NE	43.64	NA	NA	NA	403.42		0.0	*
1Q18		1/2/2018	NE	43.98	NA	NA	NA	403.08		3.4	*
2Q18		4/3/2018	NE	45.20	NA	NA	NA	401.86		0.0	*
P-92A											
3Q15	446.24	7/7/2015	NE	48.05	NA	NA	NA	398.19	398.67 - 383.67 (47.57 - 62.57)	72.5	
4Q15		10/1/2015	45.90	45.91	400.33	400.34	0.01	400.34		63.4	*
1Q16		1/5/2016	45.91	45.93	400.31	400.33	0.02	400.33		77.1	*
2Q16		4/4/2016	44.17	44.21	402.03	402.07	0.04	402.06		72.9	*
3Q16		7/6/2016	NE	44.12	NA	NA	NA	402.12		16.0	*
4Q16		10/4/2016	42.63	42.71	403.53	403.61	0.08	403.59		11.5	*
1Q17		1/17/2017	42.19	42.22	404.02	404.05	0.03	404.04		42.0	*
2Q17		4/4/2017	42.38	42.40	403.84	403.86	0.02	403.86		55.5	*
3Q17		7/6/2017	41.87	41.89	404.35	404.37	0.02	404.37		215.3	*
4Q17		10/3/2017	42.12	42.15	404.09	404.12	0.03	404.11		83.7	*
1Q18		1/3/2018	42.91	42.94	403.30	403.33	0.03	403.32		118.8	*
2Q18		4/4/2018	44.83	44.84	401.40	401.41	0.01	401.41		31.5	*
P-92B											
3Q15	446.18	7/7/2015	NE	48.02	NA	NA	NA	398.16	372.53 - 370.53 (73.65 - 75.65)	0.5	*
4Q15		10/1/2015	NE	45.89	NA	NA	NA	400.29		0.6	*
1Q16		1/5/2016	NE	45.88	NA	NA	NA	400.30		0.0	*
2Q16		4/4/2016	NE	44.17	NA	NA	NA	402.01		0.3	*
3Q16		7/6/2016	NE	44.10	NA	NA	NA	402.08		0.1	*
4Q16		10/4/2016	NE	42.53	NA	NA	NA	403.65		0.0	*
1Q17		1/17/2017	NE	42.18	NA	NA	NA	404.00		0.0	*
2Q17		4/4/2017	NE	42.36	NA	NA	NA	403.82		0.0	*
3Q17		7/6/2017	NE	41.85	NA	NA	NA	404.33		1.3	*
4Q17		10/3/2017	NE	42.10	NA	NA	NA	404.08		0.0	*
1Q18		1/3/2018	NE	42.89	NA	NA	NA	403.29		0.2	*
2Q18		4/4/2018	NE	44.79	NA	NA	NA	401.39		0.0	*

TABLE 1
QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS
P-92C											
3Q15	446.17	7/7/2015	NE	48.02	NA	NA	NA	398.15	353.21 - 348.21 (92.96 - 97.96)	0.7	*
4Q15		10/1/2015	NE	45.90	NA	NA	NA	400.27		44	*
1Q16		1/5/2016	NE	45.88	NA	NA	NA	400.29		9.1	*
2Q16		4/4/2016	NE	44.15	NA	NA	NA	402.02		2.1	*
3Q16		7/6/2016	NE	44.10	NA	NA	NA	402.07		11.3	*
4Q16		10/4/2016	NE	42.52	NA	NA	NA	403.65		0.0	*
1Q17		1/17/2017	NE	42.16	NA	NA	NA	404.01		1.8	*
2Q17		4/4/2017	NE	42.35	NA	NA	NA	403.82		1.5	*
3Q17		7/6/2017	NE	41.85	NA	NA	NA	404.32		0.6	*
4Q17		10/3/2017	NE	42.10	NA	NA	NA	404.07		0.1	*
1Q18		1/3/2018	NE	42.88	NA	NA	NA	403.29		1.2	*
2Q18		4/4/2018	NE	44.76	NA	NA	NA	401.41		0.0	*
P-92D											
3Q15	446.00	7/7/2015	NE	47.88	NA	NA	NA	398.12	305.00 - 303.00 (141.00 - 143.00)	2.2	*
4Q15		10/1/2015	NE	45.78	NA	NA	NA	400.22		0.0	*
1Q16		1/5/2016	NE	45.77	NA	NA	NA	400.23		0.0	*
2Q16		4/4/2016	NE	44.01	NA	NA	NA	401.99		0.3	*
3Q16		7/6/2016	NE	43.99	NA	NA	NA	402.01		0.3	*
4Q16		10/4/2016	NE	42.38	NA	NA	NA	403.62		0.0	*
1Q17		1/17/2017	NE	42.04	NA	NA	NA	403.96		0.0	*
2Q17		4/4/2017	NE	42.19	NA	NA	NA	403.81		0.6	*
3Q17		7/6/2017	NE	41.73	NA	NA	NA	404.27		0.0	*
4Q17		10/3/2017	NE	41.97	NA	NA	NA	404.03		0.0	*
1Q18		1/3/2018	NE	42.70	NA	NA	NA	403.30		0.2	*
2Q18		4/4/2018	NE	44.61	NA	NA	NA	401.39		0.0	*
P-93A											
3Q15	445.12	7/9/2015	NE	46.39	NA	NA	NA	398.73	402.05 - 392.05 (43.07 - 53.07)	0.0	
4Q15		10/1/2015	NE	43.64	NA	NA	NA	401.48		0.0	
1Q16		1/4/2016	NE	43.94	NA	NA	NA	401.18		0.0	
2Q16		4/4/2016	NE	43.08	NA	NA	NA	402.04		1.0	
3Q16		7/5/2016	NE	42.42	NA	NA	NA	402.70		3.7	*
4Q16		10/3/2016	NE	41.58	NA	NA	NA	403.54		1.9	*
1Q17		1/16/2017	NE	41.04	NA	NA	NA	404.08		7.6	*
2Q17		4/3/2017	NE	41.16	NA	NA	NA	403.96		51.2	*
3Q17		7/5/2017	NE	40.10	NA	NA	NA	405.02		0.0	*
4Q17		10/2/2017	NE	40.53	NA	NA	NA	404.59		151.9	*
1Q18		1/4/2018	NE	42.79	NA	NA	NA	402.33		12.8	*
2Q18		4/2/2018	NE	43.58	NA	NA	NA	401.54		21.1	*
P-93B											
3Q15	446.52	7/9/2015	NE	47.76	NA	NA	NA	398.76	371.92 - 369.92 (74.60 - 76.60)	0.1	*
4Q15		10/1/2015	NE	45.18	NA	NA	NA	401.34		0.1	*
1Q16		1/4/2016	NE	45.30	NA	NA	NA	401.22		18.9	*
2Q16		4/4/2016	NE	44.54	NA	NA	NA	401.98		2.3	*
3Q16		7/5/2016	NE	43.75	NA	NA	NA	402.77		0.5	*
4Q16		10/3/2016	NE	42.93	NA	NA	NA	403.59		0.0	*
1Q17		1/16/2017	NE	42.41	NA	NA	NA	404.11		0.1	*
2Q17		4/3/2017	NE	42.51	NA	NA	NA	404.01		0.0	*
3Q17		7/5/2017	NE	41.45	NA	NA	NA	405.07		0.0	*
4Q17		10/2/2017	NE	41.88	NA	NA	NA	404.64		0.0	*
1Q18		1/3/2018	NE	44.25	NA	NA	NA	402.27		0.0	*
2Q18		4/2/2018	NE	44.94	NA	NA	NA	401.58		0.0	*

TABLE 1
QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS
P-93C											
3Q15	446.28	7/9/2015	NE	47.55	NA	NA	NA	398.73	353.81 - 348.81 (92.47 - 97.47)	0.1	*
4Q15		10/1/2015	NE	44.83	NA	NA	NA	401.45		64.3	*
1Q16		1/4/2016	NE	45.04	NA	NA	NA	401.24		0.1	*
2Q16		4/4/2016	NE	44.20	NA	NA	NA	402.08		0.2	*
3Q16		7/5/2016	NE	43.57	NA	NA	NA	402.71		0.6	*
4Q16		10/3/2016	NE	41.73	NA	NA	NA	404.55		0.0	*
1Q17		1/16/2017	NE	42.20	NA	NA	NA	404.08		12.6	*
2Q17		4/3/2017	NE	42.31	NA	NA	NA	403.97		0.0	*
3Q17		7/5/2017	NE	41.26	NA	NA	NA	405.02		0.0	*
4Q17		10/2/2017	NE	41.68	NA	NA	NA	404.60		0.0	*
1Q18		1/3/2018	NE	43.77	NA	NA	NA	402.51		0.3	*
2Q18		4/2/2018	NE	44.78	NA	NA	NA	401.50		0.0	*
P-93D											
3Q15	446.73	7/9/2015	NE	47.96	NA	NA	NA	398.77	320.98 - 318.98 (125.75 - 127.75)	0.0	*
4Q15		10/1/2015	NE	45.27	NA	NA	NA	401.46		0.1	*
1Q16		1/4/2016	NE	45.45	NA	NA	NA	401.28		0.0	*
2Q16		4/4/2016	NE	44.61	NA	NA	NA	402.12		0.0	*
3Q16		7/5/2016	NE	43.97	NA	NA	NA	402.76		1.1	*
4Q16		10/3/2016	NE	43.12	NA	NA	NA	403.61		0.0	*
1Q17		1/16/2017	NE	42.59	NA	NA	NA	404.14		0.0	*
2Q17		4/3/2017	NE	42.72	NA	NA	NA	404.01		0.0	*
3Q17		7/5/2017	NE	41.65	NA	NA	NA	405.08		0.0	*
4Q17		10/2/2017	NE	42.10	NA	NA	NA	404.63		0.0	*
1Q18		1/3/2018	NE	44.19	NA	NA	NA	402.54		0.0	*
2Q18		4/2/2018	NE	45.12	NA	NA	NA	401.61		0.0	*
P-94											
3Q15	445.14	7/6/2015	NE	39.97	NA	NA	NA	405.17	399.29 - 384.29 (45.85 - 60.85)	0.2	*
4Q15		10/1/2015	NE	39.08	NA	NA	NA	406.06		0.0	*
1Q16		1/5/2016	NE	38.98	NA	NA	NA	406.16		0.0	*
2Q16		4/4/2016	NE	37.14	NA	NA	NA	408.00		0.0	*
3Q16		7/6/2016	NE	37.06	NA	NA	NA	408.08		1.1	*
4Q16		10/3/2016	NE	34.80	NA	NA	NA	410.34		0.0	*
1Q17		1/16/2017	NE	35.04	NA	NA	NA	410.10		0.0	*
2Q17		4/3/2017	NE	35.64	NA	NA	NA	409.50		0.0	*
3Q17		7/6/2017	NE	33.00	NA	NA	NA	412.14		0.0	*
4Q17		10/3/2017	NE	34.60	NA	NA	NA	410.54		0.0	*
1Q18		1/3/2018	NE	35.80	NA	NA	NA	409.34		0.0	*
2Q18		4/2/2018	NE	37.09	NA	NA	NA	408.05		0.0	*
P-95											
3Q15	443.42	7/7/2015	NE	33.83	NA	NA	NA	409.59	406.90 - 391.90 (36.52 - 51.52)	0.0	*
4Q15		10/2/2015	NE	32.55	NA	NA	NA	410.87		0.3	*
1Q16		1/5/2016	NE	32.50	NA	NA	NA	410.92		0.2	*
2Q16		4/5/2016	NE	31.37	NA	NA	NA	412.05		0.0	*
3Q16		7/7/2016	NE	30.95	NA	NA	NA	412.47		0.0	*
4Q16		10/5/2016	NE	29.72	NA	NA	NA	413.70		0.1	*
1Q17		1/17/2017	NE	29.71	NA	NA	NA	413.71		6.8	*
2Q17		4/4/2017	NE	30.40	NA	NA	NA	413.02		0.0	*
3Q17		7/6/2017	NE	28.61	NA	NA	NA	414.81		0.0	*
4Q17		10/2/2017	NE	29.02	NA	NA	NA	414.40		0.0	*
1Q18		1/4/2018	NE	30.53	NA	NA	NA	412.89		0.0	*
2Q18		4/4/2018	NE	32.02	NA	NA	NA	411.40		0.0	*

TABLE 1
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WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS
P-102											
3Q15	444.97	7/7/2015	NE	37.02	NA	NA	NA	407.95	402.22 - 382.22 (42.75 - 62.75)	0.2	*
4Q15		10/2/2015	NE	35.85	NA	NA	NA	409.12		16.6	*
1Q16		1/5/2016	NE	35.79	NA	NA	NA	409.18		0.0	*
2Q16		4/5/2016	NE	34.74	NA	NA	NA	410.23		3.6	*
3Q16		7/8/2016	NE	34.54	NA	NA	NA	410.43		17.8	*
4Q16		10/5/2016	NE	33.01	NA	NA	NA	411.96		105.2	*
1Q17		1/17/2017	NE	33.00	NA	NA	NA	411.97		22.3	*
2Q17		4/4/2017	NE	33.68	NA	NA	NA	411.29		106.9	*
3Q17		7/6/2017	NE	31.80	NA	NA	NA	413.17		15.6	*
4Q17		10/2/2017	NE	32.19	NA	NA	NA	412.78		631.1	*
1Q18		1/4/2018	NE	33.41	NA	NA	NA	411.56		363.2	*
2Q18		4/4/2018	NE	35.06	NA	NA	NA	409.91		0.2	*
P-114R (P-114)											
3Q15	432.45	7/8/2015	NM	NM	NA	NA	NA	NA	399.78 - 379.78 (32.67 - 52.67)	NM	Well damaged
4Q15	429.26	10/2/2015	NE	28.15	NA	NA	NA	401.11	406.25 - 396.25 (23.01 - 33.01)	71.9	Replaced during 3Q15
1Q16		1/6/2016	NE	25.73	NA	NA	NA	403.53		41.7	
2Q16		4/5/2016	NE	25.64	NA	NA	NA	403.62		28.1	
3Q16		7/8/2016	NE	24.95	NA	NA	NA	404.31		0.0	
4Q16		10/4/2016	NE	23.74	NA	NA	NA	405.52		51	
1Q17		1/17/2017	NE	24.81	NA	NA	NA	404.45		1.9	
2Q17		4/5/2017	NE	24.93	NA	NA	NA	404.33		0.7	
3Q17		7/6/2017	NE	22.38	NA	NA	NA	406.88		43.7	*
4Q17		10/2/2017	NE	24.21	NA	NA	NA	405.05		0.0	
1Q18		1/3/2018	NE	26.16	NA	NA	NA	403.10		9.0	
2Q18		4/9/2018	NE	26.76	NA	NA	NA	402.50		0.1	
P-115											
3Q15	433.36	7/8/2015	NE	30.94	NA	NA	NA	402.42	401.06 - 381.06 (32.30 - 52.30)	4.8	*
4Q15		10/2/2015	NE	30.13	NA	NA	NA	403.23		0.6	*
1Q16		1/5/2016	NE	29.61	NA	NA	NA	403.75		0.0	*
2Q16		4/5/2016	NE	29.64	NA	NA	NA	403.72		0.0	*
3Q16		7/8/2016	NE	28.87	NA	NA	NA	404.49		0.0	*
4Q16		10/4/2016	NE	27.61	NA	NA	NA	405.75		0.2	*
1Q17		1/17/2017	NE	28.88	NA	NA	NA	404.48		1.9	*
2Q17		4/5/2017	NE	29.20	NA	NA	NA	404.16		0.0	*
3Q17		7/6/2017	NE	26.28	NA	NA	NA	407.08		0.0	*
4Q17		10/2/2017	NE	28.33	NA	NA	NA	405.03		0.0	*
1Q18		1/3/2018	NE	30.22	NA	NA	NA	403.14		0.0	*
2Q18		4/4/2018	NE	31.03	NA	NA	NA	402.33		0.0	*
P-116											
3Q15	436.63	7/8/2015	NE	34.11	NA	NA	NA	402.52	399.19 - 379.19 (37.44 - 57.44)	1.6	*
4Q15		10/2/2015	NE	33.45	NA	NA	NA	403.18		1.3	*
1Q16		1/5/2016	NE	32.85	NA	NA	NA	403.78		0.0	*
2Q16		4/5/2016	NE	33.01	NA	NA	NA	403.62		0.0	*
3Q16		7/8/2016	NE	32.23	NA	NA	NA	404.40		0.0	*
4Q16		10/4/2016	NE	30.96	NA	NA	NA	405.67		0.1	*
1Q17		1/17/2017	NE	32.37	NA	NA	NA	404.26		0.1	*
2Q17		4/5/2017	NE	32.66	NA	NA	NA	403.97		0.0	*
3Q17		7/6/2017	NE	29.61	NA	NA	NA	407.02		2.9	*
4Q17		10/2/2017	NE	32.17	NA	NA	NA	404.46		0.0	*
1Q18		1/3/2018	NE	33.69	NA	NA	NA	402.94		0.0	*
2Q18		4/4/2018	NE	34.47	NA	NA	NA	402.16		0.0	*

TABLE 1
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WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS
P-117											
3Q15	432.71	7/8/2015	NE	30.16	NA	NA	NA	402.55	399.78 - 379.78 (32.93 - 52.93)	1.6	*
4Q15		10/2/2015	NE	29.64	NA	NA	NA	403.07		4.7	*
1Q16		1/6/2016	NE	28.77	NA	NA	NA	403.94		0.0	*
2Q16		4/5/2016	NE	29.18	NA	NA	NA	403.53		0.0	*
3Q16		7/8/2016	NE	28.39	NA	NA	NA	404.32		0.0	*
4Q16		10/4/2016	NE	27.13	NA	NA	NA	405.58		0.1	*
1Q17		1/17/2017	NE	28.55	NA	NA	NA	404.16		0.0	*
2Q17		4/5/2017	NE	28.93	NA	NA	NA	403.78		0.0	*
3Q17		7/6/2017	NE	25.78	NA	NA	NA	406.93		0.0	*
4Q17		10/2/2017	NE	28.08	NA	NA	NA	404.63		0.0	*
1Q18		1/3/2018	NE	29.90	NA	NA	NA	402.81		0.0	*
2Q18		4/4/2018	NE	30.68	NA	NA	NA	402.03		0.0	*
P-118											
3Q15	431.31	7/8/2015	NE	28.19	NA	NA	NA	403.12	400.19 - 384.26 (31.12 - 47.05)	1.5	*
4Q15		10/2/2015	NE	28.59	NA	NA	NA	402.72		0.3	*
1Q16		1/5/2016	NE	27.15	NA	NA	NA	404.16		0.0	*
2Q16		4/5/2016	NE	28.17	NA	NA	NA	403.14		0.0	*
3Q16		7/8/2016	NE	27.12	NA	NA	NA	404.19		0.7	*
4Q16		10/4/2016	NE	25.78	NA	NA	NA	405.53		0.1	*
1Q17		1/17/2017	NE	27.61	NA	NA	NA	403.70		0.6	*
2Q17		4/5/2017	NE	27.92	NA	NA	NA	403.39		0.0	*
3Q17		7/6/2017	NE	24.45	NA	NA	NA	406.86		0.0	*
4Q17		10/2/2017	NE	27.19	NA	NA	NA	404.12		0.0	*
1Q18		1/3/2018	NE	28.99	NA	NA	NA	402.32		0.0	*
2Q18		4/4/2018	NE	29.57	NA	NA	NA	401.74		0.0	*
P-119											
3Q15	431.90	7/8/2015	NE	30.41	NA	NA	NA	401.49	401.23 - 385.30 (30.67 - 46.60)	0.2	*
4Q15		10/2/2015	NE	28.77	NA	NA	NA	403.13		0.0	*
1Q16		1/5/2016	NE	28.52	NA	NA	NA	403.38		0.0	*
2Q16		4/5/2016	NE	28.28	NA	NA	NA	403.62		0.0	*
3Q16		7/8/2016	NE	27.61	NA	NA	NA	404.29		0.0	*
4Q16		10/4/2016	NE	26.32	NA	NA	NA	405.58		0.1	*
1Q17		1/17/2017	NE	26.92	NA	NA	NA	404.98		0.0	*
2Q17		4/5/2017	NE	27.14	NA	NA	NA	404.76		0.0	*
3Q17		7/6/2017	NE	25.06	NA	NA	NA	406.84		1.5	*
4Q17		10/2/2017	NE	26.38	NA	NA	NA	405.52		0.0	*
1Q18		1/3/2018	NE	28.27	NA	NA	NA	403.63		0.0	*
2Q18		4/4/2018	NE	29.24	NA	NA	NA	402.66		0.0	*
P-120											
3Q15	432.82	7/8/2015	NE	29.79	NA	NA	NA	403.03	401.44 - 385.51 (31.38 - 47.31)	0.2	*
4Q15		10/2/2015	NE	28.85	NA	NA	NA	403.97		0.0	*
1Q16		1/5/2016	NE	28.19	NA	NA	NA	404.63		0.0	*
2Q16		4/5/2016	NE	28.30	NA	NA	NA	404.52		0.0	*
3Q16		7/8/2016	NE	27.59	NA	NA	NA	405.23		0.0	*
4Q16		10/4/2016	NE	26.24	NA	NA	NA	406.58		0.0	*
1Q17		1/17/2017	NE	27.37	NA	NA	NA	405.45		0.0	*
2Q17		4/5/2017	NE	27.55	NA	NA	NA	405.27		0.0	*
3Q17		7/6/2017	NE	25.10	NA	NA	NA	407.72		0.4	*
4Q17		10/2/2017	NE	26.84	NA	NA	NA	405.98		0.0	*
1Q18		1/3/2018	NE	28.69	NA	NA	NA	404.13		0.0	*
2Q18		4/4/2018	NE	29.48	NA	NA	NA	403.34		0.0	*

TABLE 1
QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS
P-129											
3Q15	432.43	7/8/2015	NE	27.81	NA	NA	NA	404.62	400.46 - 384.53 (31.97 - 47.9)	0.0	*
4Q15		10/2/2015	NE	30.38	NA	NA	NA	402.05		0.0	*
1Q16		1/6/2016	NE	26.90	NA	NA	NA	405.53		0.0	*
2Q16		4/5/2016	NE	30.18	NA	NA	NA	402.25		0.0	*
3Q16		7/8/2016	NE	28.77	NA	NA	NA	403.66		0.0	*
4Q16		10/4/2016	NE	27.31	NA	NA	NA	405.12		0.4	*
1Q17		1/17/2017	NE	30.09	NA	NA	NA	402.34		0.0	*
2Q17		4/5/2017	NE	30.17	NA	NA	NA	402.26		0.0	*
3Q17		7/6/2017	NE	26.09	NA	NA	NA	406.34		0.0	*
4Q17		10/2/2017	NE	29.86	NA	NA	NA	402.57		0.0	*
1Q18		1/3/2018	NE	31.67	NA	NA	NA	400.76		0.0	*
2Q18		4/4/2018	NE	31.58	NA	NA	NA	400.85		0.0	*
ROST-3-MW											
3Q15	442.29	7/6/2015	NE	42.69	NA	NA	NA	399.60	404.48 - 394.48 (37.81 - 47.81)	5.7	
4Q15		10/1/2015	NE	40.45	NA	NA	NA	401.84		0.1	
1Q16		1/4/2016	NE	40.84	NA	NA	NA	401.45		1.2	
2Q16		4/4/2016	NE	39.64	NA	NA	NA	402.65		0.0	
3Q16		7/6/2016	NE	38.51	NA	NA	NA	403.78		191.0	
4Q16		10/3/2016	NE	38.20	NA	NA	NA	404.09		320	
1Q17		1/11/2017	NE	37.67	NA	NA	NA	404.62		181.7	*
2Q17		4/3/2017	NE	38.13	NA	NA	NA	404.16		247.7	
3Q17		7/5/2017	NE	36.64	NA	NA	NA	405.65		211.8	*
4Q17		10/2/2017	NE	36.72	NA	NA	NA	405.57		1045	*
1Q18		1/3/2018	NE	38.80	NA	NA	NA	403.49		296.1	
2Q18		4/2/2018	NE	39.89	NA	NA	NA	402.40		1.3	
ROST-4-PZ											
3Q15	442.13	7/6/2015	NE	41.86	NA	NA	NA	400.27	407.20 - 397.20 (34.93 - 44.93)	0.0	
4Q15		10/1/2015	NE	39.70	NA	NA	NA	402.43		0.6	
1Q16		1/4/2016	NE	40.10	NA	NA	NA	402.03		0.0	
2Q16		4/4/2016	NE	38.75	NA	NA	NA	403.38		0.0	
3Q16		7/5/2016	NE	37.98	NA	NA	NA	404.15		0.1	
4Q16		10/3/2016	NE	37.67	NA	NA	NA	404.46		0.5	
1Q17		1/16/2017	NE	36.96	NA	NA	NA	405.17		8.2	
2Q17		4/3/2017	NE	37.35	NA	NA	NA	404.78		0.0	
3Q17		7/5/2017	NE	36.55	NA	NA	NA	405.58		0.0	
4Q17		10/2/2017	NE	36.12	NA	NA	NA	406.01		0.3	
1Q18		1/2/2018	NE	37.88	NA	NA	NA	404.25		60.7	
2Q18		4/2/2018	NE	39.15	NA	NA	NA	402.98		0.0	
ROST-4-PZ(A)											
3Q15	442.11	7/6/2015	NE	42.07	NA	NA	NA	400.04	407.34 - 397.34 (34.77 - 44.77)	0.0	
4Q15		10/1/2015	NE	39.82	NA	NA	NA	402.29		0.6	
1Q16		1/4/2016	NE	39.78	NA	NA	NA	402.33		0.0	
2Q16		4/4/2016	NE	38.18	NA	NA	NA	403.93		8.6	
3Q16		7/5/2016	NE	36.89	NA	NA	NA	405.22		0.0	
4Q16		10/3/2016	NE	36.52	NA	NA	NA	405.59		0.3	
1Q17		1/16/2017	NE	36.23	NA	NA	NA	405.88		0.3	
2Q17		4/3/2017	NE	36.80	NA	NA	NA	405.31		0.0	
3Q17		7/5/2017	NE	35.80	NA	NA	NA	406.31		0.0	
4Q17		10/2/2017	NE	35.42	NA	NA	NA	406.69		2.3	
1Q18		1/2/2018	NE	37.16	NA	NA	NA	404.95		1.3	
2Q18		4/2/2018	NE	38.53	NA	NA	NA	403.58		0.0	

TABLE 1
QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS
ROST-4-PZ(B)											
3Q15	442.38	7/6/2015	NE	41.84	NA	NA	NA	400.54	407.33 - 397.33 (35.05 - 45.05)	0.0	
4Q15		10/1/2015	NE	39.36	NA	NA	NA	403.02		0.6	
1Q16		1/4/2016	NE	40.06	NA	NA	NA	402.32		0.0	
2Q16		4/4/2016	NE	38.54	NA	NA	NA	403.84		0.7	
3Q16		7/5/2016	NE	37.89	NA	NA	NA	404.49		0.0	
4Q16		10/3/2016	NE	37.54	NA	NA	NA	404.84		0.5	
1Q17		1/16/2017	NE	36.96	NA	NA	NA	405.42		12.0	
2Q17		4/3/2017	NE	37.43	NA	NA	NA	404.95		0.0	
3Q17		7/5/2017	NE	36.53	NA	NA	NA	405.85		0.0	
4Q17		10/2/2017	NE	36.09	NA	NA	NA	406.29		0.7	
1Q18		1/2/2018	NE	37.85	NA	NA	NA	404.53		0.9	
2Q18		4/2/2018	NE	39.30	NA	NA	NA	403.08		0.0	
ROST-4-PZ(C)											
3Q15	442.66	7/6/2015	NE	42.78	NA	NA	NA	399.88	407.71 - 397.71 (34.95 - 44.95)	1.1	
4Q15		10/1/2015	NE	40.63	NA	NA	NA	402.03		0.6	
1Q16		1/4/2016	NE	41.11	NA	NA	NA	401.55		0.0	
2Q16		4/4/2016	NE	39.73	NA	NA	NA	402.93		0.0	
3Q16		7/6/2016	NE	38.77	NA	NA	NA	403.89		0.0	
4Q16		10/3/2016	NE	38.55	NA	NA	NA	404.11		2.8	
1Q17		1/16/2017	NE	37.88	NA	NA	NA	404.78		9.8	
2Q17		4/3/2017	NE	38.24	NA	NA	NA	404.42		0.0	
3Q17		7/5/2017	NE	37.23	NA	NA	NA	405.43		0.0	
4Q17		10/2/2017	NE	36.99	NA	NA	NA	405.67		0.2	
1Q18		1/2/2018	NE	38.75	NA	NA	NA	403.91		30.9	
2Q18		4/2/2018	NE	39.98	NA	NA	NA	402.68		0.0	
ROST-4-PZ(D)											
3Q15	442.98	7/6/2015	NE	42.65	NA	NA	NA	400.33	408.01 - 398.01 (34.97 - 44.97)	0.3	
4Q15		10/1/2015	NE	40.48	NA	NA	NA	402.50		0.6	
1Q16		1/4/2016	NE	40.95	NA	NA	NA	402.03		0.0	
2Q16		4/4/2016	NE	39.60	NA	NA	NA	403.38		0.0	
3Q16		7/6/2016	NE	38.67	NA	NA	NA	404.31		0.0	
4Q16		10/3/2016	NE	38.41	NA	NA	NA	404.57		14.1	
1Q17		1/16/2017	NE	37.68	NA	NA	NA	405.30		71.9	
2Q17		4/3/2017	NE	38.09	NA	NA	NA	404.89		0.0	
3Q17		7/5/2017	NE	37.17	NA	NA	NA	405.81		0.0	
4Q17		10/2/2017	NE	36.85	NA	NA	NA	406.13		0.1	
1Q18		1/2/2018	NE	38.63	NA	NA	NA	404.35		0.0	
2Q18		4/2/2018	NE	39.82	NA	NA	NA	403.16		0.0	
ROST-4-PZ(E)											
3Q15	441.96	7/6/2015		41.41	41.44	400.52	400.55	0.03	407.21 - 397.21 (34.75 - 44.75)	0.0	
4Q15		10/1/2015	NE	39.41	NA	NA	NA	402.55		0.6	
1Q16		1/4/2016	NE	39.68	NA	NA	NA	402.28		4.4	
2Q16		4/4/2016	NE	38.63	NA	NA	NA	403.33		0.0	
3Q16		7/5/2016	NE	37.86	NA	NA	NA	404.10		0.1	
4Q16		10/3/2016	NE	37.61	NA	NA	NA	404.35		0.8	
1Q17		1/16/2017	NE	36.94	NA	NA	NA	405.02		0.0	
2Q17		4/3/2017	NE	37.28	NA	NA	NA	404.68		0.0	
3Q17		7/5/2017	NE	36.48	NA	NA	NA	405.48		0.0	
4Q17		10/2/2017	NE	36.10	NA	NA	NA	405.86		0.3	
1Q18		1/2/2018	NE	37.85	NA	NA	NA	404.11		11.1	
2Q18		4/3/2018	NE	38.78	NA	NA	NA	403.18		0.0	

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QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS	
ROST-4-PZ(F)												
3Q15	442.12	7/6/2015	NE	40.81	NA	NA	NA	401.31	407.59 - 397.59 (34.53 - 44.53)	0.0		
4Q15		10/1/2015	NE	39.46	NA	NA	NA	402.66		0.5		
1Q16		1/4/2016	NE	39.77	NA	NA	NA	402.35		0.0		
2Q16		4/4/2016	NE	38.75	NA	NA	NA	403.37		0.0		
3Q16		7/5/2016	NE	38.10	NA	NA	NA	404.02		0.0		
4Q16		10/3/2016	NE	37.85	NA	NA	NA	404.27		1.6		
1Q17		1/16/2017	NE	37.20	NA	NA	NA	404.92		0.0		
2Q17		4/3/2017	NE	37.63	NA	NA	NA	404.49		0.0		
3Q17		7/5/2017	NE	36.67	NA	NA	NA	405.45		0.0		
4Q17		10/2/2017	NE	36.25	NA	NA	NA	405.87		0.0		
1Q18		1/2/2018	NE	38.07	NA	NA	NA	404.05		0.7		
2Q18		4/3/2018	NE	38.97	NA	NA	NA	403.15		0.0		
ROST-4-PZ(G)												
3Q15	442.13	7/6/2015	NE	42.80	NA	NA	NA	399.33	407.85 - 397.85 (34.28 - 44.28)	0.0		
4Q15		10/1/2015	NE	40.55	NA	NA	NA	401.58		0.1		
1Q16		1/4/2016	NE	41.02	NA	NA	NA	401.11		0.7		
2Q16		4/4/2016	NE	39.81	NA	NA	NA	402.32		0.0		
3Q16		7/6/2016	NE	38.34	NA	NA	NA	403.79		0.0		
4Q16		10/3/2016	NE	38.29	NA	NA	NA	403.84		0.4		
1Q17		1/16/2017	NE	37.57	NA	NA	NA	404.56		52.7		
2Q17		4/3/2017	NE	37.93	NA	NA	NA	404.20		0.4		
3Q17		7/5/2017	NE	36.77	NA	NA	NA	405.36		9.2		
4Q17		10/2/2017	NE	36.43	NA	NA	NA	405.70		271.8		
1Q18		1/2/2018	NE	38.97	NA	NA	NA	403.16		77.4		
2Q18		4/2/2018	NE	39.84	NA	NA	NA	402.29		0.2		
S-1												
3Q15	443.90	7/7/2015		45.37	45.68	398.22	398.53	0.31	398.47	Unknown	30.5	
4Q15		10/1/2015		42.82	42.90	401.00	401.08	0.08	401.06		138	
1Q16		1/5/2016		42.59	42.62	401.28	401.31	0.03	401.30		241.6	
2Q16		4/4/2016		41.66	41.98	401.92	402.24	0.32	402.18		156.2	
3Q16		7/6/2016	NE		39.12	NA	NA	NA	404.78		61.6	
4Q16		10/4/2016		40.22	40.26	403.64	403.68	0.04	403.67		97.1	
1Q17		1/16/2017		39.30	39.37	404.53	404.60	0.07	404.59		419.5	
2Q17		4/3/2017		39.35	39.41	404.49	404.55	0.06	404.54		356.0	
3Q17		7/6/2017		39.02	39.08	404.82	404.88	0.06	404.87		602.2	
4Q17		10/3/2017		39.45	39.61	404.29	404.45	0.16	404.42		163.2	
1Q18		1/3/2018		40.78	40.85	403.05	403.12	0.07	403.11		184.6	
2Q18		4/4/2018		42.44	42.50	401.40	401.46	0.06	401.45		191.3	
T-1												
3Q15	445.40	7/7/2015	NE	44.86	NA	NA	NA	400.54	398.40 - 388.40 (47.00 - 57.00)	0.0	*	
4Q15		10/1/2015	NE	42.89	NA	NA	NA	402.51		0.0	*	
1Q16		1/4/2016	NE	43.11	NA	NA	NA	402.29		0.0	*	
2Q16		4/4/2016	NE	42.04	NA	NA	NA	403.36		0.0	*	
3Q16		7/7/2016	NM	NM	NA	NA	NA	NA		NM	Unsafe condition at well - Unable to access	
4Q16		10/3/2016	NE	40.52	NA	NA	NA	404.88		4.2	*	
1Q17		1/16/2017	NE	40.05	NA	NA	NA	405.35		0.0	*	
2Q17		4/3/2017	NE	40.51	NA	NA	NA	404.89		0.0	*	
3Q17		7/5/2017	NE	39.11	NA	NA	NA	406.29		0.0	*	
4Q17		10/2/2017	NE	39.30	NA	NA	NA	406.10		2.3	*	
1Q18		1/2/2018	NE	41.16	NA	NA	NA	404.24		8.0	*	
2Q18		4/2/2018	NE	42.22	NA	NA	NA	403.18		0.0	*	

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WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS
T-2											
3Q15	443.21	7/7/2015	NE	43.32	NA	NA	NA	399.89	392.72 - 372.56 (50.49 - 70.64)	0.0	*
4Q15		10/1/2015	NE	41.55	NA	NA	NA	401.66		0.0	*
1Q16		1/5/2016	NE	41.40	NA	NA	NA	401.81		0.0	*
2Q16		4/4/2016	NE	40.28	NA	NA	NA	402.93		3.5	*
3Q16		7/5/2016	NE	39.67	NA	NA	NA	403.54		0.1	*
4Q16		10/3/2016	NE	38.69	NA	NA	NA	404.52		0.0	*
1Q17		1/16/2017	NE	37.95	NA	NA	NA	405.26		0.0	*
2Q17		4/3/2017	NE	38.30	NA	NA	NA	404.91		0.0	*
3Q17		7/5/2017	NE	37.21	NA	NA	NA	406.00		0.0	*
4Q17		10/3/2017	NE	37.54	NA	NA	NA	405.67		0.0	*
1Q18		1/2/2018	NE	38.82	NA	NA	NA	404.39		0.0	*
2Q18		4/2/2018	NE	40.07	NA	NA	NA	403.14		0.0	*
T-3											
3Q15	449.03	7/7/2015	NE	50.18	NA	NA	NA	398.85	403.81 - 388.81 (45.22 - 60.22)	0.0	
4Q15		10/2/2015	NE	48.64	NA	NA	NA	400.39		0.2	
1Q16		1/5/2016	NE	48.55	NA	NA	NA	400.48		0.1	
2Q16		4/4/2016	NE	47.07	NA	NA	NA	401.96		0.8	
3Q16		7/5/2016	NE	46.89	NA	NA	NA	402.14		0.2	
4Q16		10/4/2016	NE	45.41	NA	NA	NA	403.62		0.0	
1Q17		1/17/2017	NE	44.71	NA	NA	NA	404.32		0.0	*
2Q17		4/3/2017	NE	45.05	NA	NA	NA	403.98		0.0	*
3Q17		7/6/2017	NE	44.04	NA	NA	NA	404.99		0.0	*
4Q17		10/3/2017	NE	44.42	NA	NA	NA	404.61		0.0	*
1Q18		1/2/2018	45.43	45.44	403.59	403.60	0.01	403.60		7.6	
2Q18		4/4/2018	NE	46.94	NA	NA	NA	402.09		0.1	
T-4											
3Q15	446.63	7/7/2015	NE	48.26	NA	NA	NA	398.37	398.32 - 383.32 (48.31 - 63.31)	0.0	*
4Q15		10/2/2015	NE	46.91	NA	NA	NA	399.72		0.0	*
1Q16		1/5/2016	NE	46.73	NA	NA	NA	399.90		0.2	*
2Q16		4/4/2016	NE	44.77	NA	NA	NA	401.86		0.1	*
3Q16		7/7/2016	NE	45.04	NA	NA	NA	401.59		0.0	*
4Q16		10/4/2016	NE	42.80	NA	NA	NA	403.83		0.0	*
1Q17		1/17/2017	NE	42.50	NA	NA	NA	404.13		0.0	*
2Q17		4/4/2017	NE	42.98	NA	NA	NA	403.65		12.4	*
3Q17		7/6/2017	NE	41.92	NA	NA	NA	404.71		0.0	*
4Q17		10/3/2017	NE	42.65	NA	NA	NA	403.98		0.0	*
1Q18		1/4/2018	NE	43.21	NA	NA	NA	403.42		10.4	*
2Q18		4/4/2018	NE	45.12	NA	NA	NA	401.51		0.0	*
T-5											
3Q15	443.47	7/7/2015	NE	44.19	NA	NA	NA	399.28	395.14 - 378.59 (48.33 - 64.88)	20.0	*
4Q15		10/1/2015	NE	41.89	NA	NA	NA	401.58		5.9	*
1Q16		1/6/2016	NE	41.74	NA	NA	NA	401.73		6.9	*
2Q16		4/4/2016	NE	40.47	NA	NA	NA	403.00		0.3	*
3Q16		7/6/2016	NE	40.30	NA	NA	NA	403.17		4.3	*
4Q16		10/5/2016	NE	38.99	NA	NA	NA	404.48		28.5	*
1Q17		1/16/2017	NE	38.38	NA	NA	NA	405.09		2.6	*
2Q17		4/3/2017	NE	38.36	NA	NA	NA	405.11		0.0	*
3Q17		7/6/2017	NE	38.07	NA	NA	NA	405.40		9.4	*
4Q17		10/3/2017	NE	38.38	NA	NA	NA	405.09		40.9	*
1Q18		1/3/2018	NE	39.45	NA	NA	NA	404.02		3.0	*
2Q18		4/4/2018	NM	NM	NA	NA	NA	NA		NM	

TABLE 1
QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS
T-6											
3Q15	446.61	7/9/2015	NE	47.97	NA	NA	NA	398.64	394.85 - 380.60 (51.76 - 66.01)	0.3	*
4Q15		10/1/2015	NE	45.20	NA	NA	NA	401.41		0.2	*
1Q16		1/4/2016	NE	45.40	NA	NA	NA	401.21		0.3	*
2Q16		4/4/2016	NE	44.43	NA	NA	NA	402.18		0.3	*
3Q16		7/5/2016	NE	43.81	NA	NA	NA	402.80		0.3	*
4Q16		10/3/2016	NE	43.09	NA	NA	NA	403.52		4.0	*
1Q17		1/16/2017	NE	42.50	NA	NA	NA	404.11		5.6	*
2Q17		4/3/2017	NE	42.71	NA	NA	NA	403.90		2.3	*
3Q17		7/5/2017	NE	41.60	NA	NA	NA	405.01		0.1	*
4Q17		10/2/2017	NE	41.92	NA	NA	NA	404.69		0.2	*
1Q18		1/2/2018	NE	44.30	NA	NA	NA	402.31		2.0	*
2Q18		4/3/2018	NE	44.81	NA	NA	NA	401.80		0.7	*
T-7											
3Q15	444.04	7/7/2015	NE	43.24	NA	NA	NA	400.80	395.32 - 380.32 (48.72 - 63.72)	3.8	*
4Q15		10/2/2015	NE	41.09	NA	NA	NA	402.95		15.6	*
1Q16		1/5/2016	NE	41.02	NA	NA	NA	403.02		4.3	*
2Q16		4/5/2016	NE	40.38	NA	NA	NA	403.66		3.4	*
3Q16		7/8/2016	NE	39.84	NA	NA	NA	404.20		1.1	*
4Q16		10/4/2016	NE	38.65	NA	NA	NA	405.39		0.5	*
1Q17		1/17/2017	NE	38.52	NA	NA	NA	405.52		2.5	*
2Q17		4/4/2017	NE	38.84	NA	NA	NA	405.20		0.8	*
3Q17		7/6/2017	NE	37.53	NA	NA	NA	406.51		0.0	*
4Q17		10/2/2017	NE	38.09	NA	NA	NA	405.95		0.0	*
1Q18		1/4/2018	39.98	39.99	404.05	404.06	0.01	404.06		2.5	*
2Q18		4/4/2018	NE	41.13	NA	NA	NA	402.91		3.5	*
T-12											
3Q15	444.80	7/9/2015	NE	46.20	NA	NA	NA	398.60	397.97 - 371.97 (46.83 - 72.83)	4.4	*
4Q15		10/1/2015	NE	43.79	NA	NA	NA	401.01		3.1	*
1Q16		1/4/2016	NE	44.43	NA	NA	NA	400.37		0.2	*
2Q16		4/4/2016	NE	43.10	NA	NA	NA	401.70		0.7	*
3Q16		7/5/2016	NE	41.39	NA	NA	NA	403.41		16.1	*
4Q16		10/3/2016	NE	41.61	NA	NA	NA	403.19		7.8	*
1Q17		1/16/2017	NE	40.70	NA	NA	NA	404.10		1.7	*
2Q17		4/3/2017	NE	40.86	NA	NA	NA	403.94		0.9	*
3Q17		7/5/2017	NE	40.06	NA	NA	NA	404.74		0.7	*
4Q17		10/2/2017	NE	39.15	NA	NA	NA	405.65		0.3	*
1Q18		1/3/2018	NE	42.06	NA	NA	NA	402.74		6.1	*
2Q18		4/2/2018	NE	43.06	NA	NA	NA	401.74		3.8	*
T-13											
3Q15	443.96	7/8/2015	NE	42.90	NA	NA	NA	401.06	396.46 - 370.46 (47.50 - 73.50)	0.1	*
4Q15		10/1/2015	NE	41.15	NA	NA	NA	402.81		0.0	*
1Q16		1/4/2016	NE	41.04	NA	NA	NA	402.92		0.0	*
2Q16		4/4/2016	NE	40.04	NA	NA	NA	403.92		0.0	*
3Q16		7/5/2016	NE	39.25	NA	NA	NA	404.71		0.2	*
4Q16		10/3/2016	NE	38.56	NA	NA	NA	405.40		0.5	*
1Q17		1/16/2017	NE	38.06	NA	NA	NA	405.90		0.4	*
2Q17		4/3/2017	NE	38.50	NA	NA	NA	405.46		0.0	*
3Q17		7/5/2017	NE	37.10	NA	NA	NA	406.86		0.0	*
4Q17		10/3/2017	NE	37.38	NA	NA	NA	406.58		0.0	*
1Q18		1/2/2018	NE	38.96	NA	NA	NA	405.00		3.7	*
2Q18		4/2/2018	NE	39.93	NA	NA	NA	404.03		400.15 - 374.15 (43.81 - 69.81)	0.0

TABLE 1
QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS		
T-15													
3Q15	445.14	7/7/2015	NE	44.93	NA	NA	NA	400.21	397.10 - 371.10 (48.04 - 74.04)	0.0	*		
4Q15		10/2/2015	NE	43.54	NA	NA	NA	401.60		0.0	*		
1Q16		1/5/2016	NE	43.20	NA	NA	NA	401.94		0.0	*		
2Q16		4/4/2016	NE	42.13	NA	NA	NA	403.01		0.7	*		
3Q16		7/5/2016	NE	41.64	NA	NA	NA	403.50		2.1	*		
4Q16		10/3/2016	NE	40.44	NA	NA	NA	404.70		5.2	*		
1Q17		1/16/2017	NE	39.71	NA	NA	NA	405.43		0.0	*		
2Q17		4/3/2017	NE	40.08	NA	NA	NA	405.06		0.0	*		
3Q17		7/6/2017	NE	38.98	NA	NA	NA	406.16		0.0	*		
4Q17		10/3/2017	NE	39.39	NA	NA	NA	405.75		0.0	*		
1Q18		1/3/2018	NE	40.36	NA	NA	NA	404.78		0.0	*		
2Q18		4/2/2018		41.62	41.71	403.43	403.52	0.09		403.50	0.0	* Gauging result anomalous	
		6/8/2018	NE	42.98	NA	NA	NA	NA		402.16	0.0	*	
T-17													
3Q15	446.01	7/7/2015	NE	43.22	NA	NA	NA	402.79	401.91 - 375.91 (44.10 - 70.10)	0.0	*		
4Q15		10/2/2015	NE	42.29	NA	NA	NA	403.72		0.1	*		
1Q16		1/5/2016	NE	42.21	NA	NA	NA	403.80		0.1	*		
2Q16		4/4/2016	NE	40.37	NA	NA	NA	405.64		0.0	*		
3Q16		7/5/2016	NE	40.41	NA	NA	NA	405.60		0.2	*		
4Q16		10/3/2016	NE	38.45	NA	NA	NA	407.56		0.0	*		
1Q17		1/16/2017	NE	38.11	NA	NA	NA	407.90		0.0	*		
2Q17		4/3/2017	NE	38.42	NA	NA	NA	407.59		0.0	*		
3Q17		7/6/2017	NE	36.63	NA	NA	NA	409.38		2.6	*		
4Q17		10/3/2017	NE	37.78	NA	NA	NA	408.23		0.0	*		
1Q18		1/3/2018	NE	38.74	NA	NA	NA	407.27		0.8	*		
2Q18		4/3/2018	NE	40.01	NA	NA	NA	406.00		0.0	*		
T-19													
3Q15		446.79	7/7/2015	NE	48.40	NA	NA	NA		398.39	396.02 - 370.02 (50.77 - 76.77)	21.6	*
4Q15	10/2/2015		NE	46.97	NA	NA	NA	399.82	8.1	*			
1Q16	1/5/2016		NE	46.83	NA	NA	NA	399.96	8.5	*			
2Q16	4/4/2016		NE	44.80	NA	NA	NA	401.99	3.1	*			
3Q16	7/7/2016		NE	45.11	NA	NA	NA	401.68	16.3	*			
4Q16	10/4/2016		NE	42.40	NA	NA	NA	404.39	0.6	*			
1Q17	1/17/2017		NE	42.63	NA	NA	NA	404.16	3.1	*			
2Q17	4/4/2017		NE	43.04	NA	NA	NA	403.75	18.5	*			
3Q17	7/6/2017		NE	42.15	NA	NA	NA	404.64	92.6	*			
4Q17	10/3/2017		NE	42.74	NA	NA	NA	404.05	4.9	*			
1Q18	1/4/2018		NE	43.34	NA	NA	NA	403.45	235.6	*			
2Q18	4/4/2018		NE	45.19	NA	NA	NA	401.60	7.6	*			
T-21													
3Q15	443.99		7/7/2015	NE	33.88	NA	NA	NA	410.11	412.03 - 386.03 (31.96 - 57.96)		0.0	
4Q15		10/2/2015	NE	32.70	NA	NA	NA	411.29	0.9				
1Q16		1/5/2016	NE	32.70	NA	NA	NA	411.29	0.0				
2Q16		4/5/2016	NE	31.70	NA	NA	NA	412.29	0.0		*		
3Q16		7/7/2016	NE	31.08	NA	NA	NA	412.91	0.0		*		
4Q16		10/5/2016	NE	29.87	NA	NA	NA	414.12	0.0		*		
1Q17		1/17/2017	NE	29.97	NA	NA	NA	414.02	0.0		*		
2Q17		4/4/2017	NE	30.65	NA	NA	NA	413.34	0.0		*		
3Q17		7/6/2017	NE	28.80	NA	NA	NA	415.19	0.0		*		
4Q17		10/2/2017	NE	29.28	NA	NA	NA	414.71	0.0		*		
1Q18		1/4/2018	NE	30.74	NA	NA	NA	413.25	0.0		*		
2Q18		4/4/2018	NE	32.13	NA	NA	NA	411.86	0.0				

TABLE 1
QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS
T-22											
3Q15	442.19	7/7/2015	NE	35.51	NA	NA	NA	406.68	410.64 - 384.94 (31.55 - 57.25)	10.7	
4Q15		10/2/2015	NE	34.08	NA	NA	NA	408.11		0.0	
1Q16		1/5/2016	NE	33.86	NA	NA	NA	408.33		0.0	
2Q16		4/5/2016	NE	33.11	NA	NA	NA	409.08		0.0	
3Q16		7/7/2016	NE	32.47	NA	NA	NA	409.72		0.0	
4Q16		10/4/2016	NE	31.49	NA	NA	NA	410.70		0.1	*
1Q17		1/17/2017	NE	31.82	NA	NA	NA	410.37		0.0	
2Q17		4/4/2017	NE	32.43	NA	NA	NA	409.76		0.0	
3Q17		7/6/2017	NE	30.35	NA	NA	NA	411.84		0.0	*
4Q17		10/2/2017	NE	31.25	NA	NA	NA	410.94		0.0	*
1Q18		1/4/2018	NE	32.91	NA	NA	NA	409.28		1.0	
2Q18		4/4/2018	NE	33.96	NA	NA	NA	408.23		0.0	
T-23											
3Q15	432.69	7/6/2015	NE	27.93	NA	NA	NA	404.76	405.46 - 379.46 (27.23 - 53.23)	0.3	
4Q15		10/2/2015	NE	26.97	NA	NA	NA	405.72		1.0	*
1Q16		1/5/2016	NE	25.98	NA	NA	NA	406.71		0.0	*
2Q16		4/5/2016	NE	26.00	NA	NA	NA	406.69		0.0	*
3Q16		7/7/2016	NE	25.07	NA	NA	NA	407.62		0.0	*
4Q16		10/5/2016	NE	24.18	NA	NA	NA	408.51		0.0	*
1Q17		1/16/2017	NE	24.61	NA	NA	NA	408.08		0.0	*
2Q17		4/4/2017	NM	NM	NA	NA	NA	NA		NM	Unable to locate well due to landscaping
3Q17		7/6/2017	NE	23.15	NA	NA	NA	409.54		0.0	*
4Q17		10/3/2017	NE	24.50	NA	NA	NA	408.19		0.0	*
1Q18		1/3/2018	NE	26.07	NA	NA	NA	406.62		0.0	*
2Q18		4/4/2018	NM	NM	NA	NA	NA	NA		NM	Unable to locate well due to landscaping
T-24											
3Q15	443.81	7/8/2015	NM	NM	NA	NA	NA	NA	402.31 - 376.66 (41.50 - 67.15)	NM	Unsafe condition at well - Unable to access
4Q15		10/1/2015	42.51	42.63	401.18	401.30	0.12	401.28		1.4	
1Q16		1/5/2016	42.70	43.50	400.31	401.11	0.80	400.95		0.0	
2Q16		4/5/2016	41.61	42.16	401.65	402.20	0.55	402.09		2.6	
3Q16		7/6/2016	NE	40.54	NA	NA	NA	403.27		0.1	*
4Q16		10/4/2016	NE	39.88	NA	NA	NA	403.93		6.0	*
1Q17		1/16/2017	NE	39.11	NA	NA	NA	404.70		9.0	*
2Q17		4/3/2017	39.41	39.97	403.84	404.40	0.56	404.29		0.0	*
3Q17		7/5/2017	38.53	38.65	405.16	405.28	0.12	405.26		1.6	*
4Q17		10/2/2017	38.40	38.49	405.32	405.41	0.09	405.39		0.0	*
1Q18		1/2/2018	40.49	40.57	403.24	403.32	0.08	403.30		7.2	*
2Q18		4/2/2018	41.53	41.62	402.19	402.28	0.09	402.26		0.6	
T-28											
3Q15	444.43	7/8/2015	NM	NM	NA	NA	NA	NA	Unknown	NM	Unsafe condition at well - Unable to access
4Q15		10/1/2015	NE	42.23	NA	NA	NA	402.20		0.3	
1Q16		1/5/2016	NE	41.60	NA	NA	NA	402.83		0.0	
2Q16		4/4/2016	NE	40.39	NA	NA	NA	404.04		0.0	
3Q16		7/7/2016	NE	40.35	NA	NA	NA	404.08		0.0	
4Q16		10/3/2016	NE	38.60	NA	NA	NA	405.83		0.0	
1Q17		1/16/2017	NE	38.05	NA	NA	NA	406.38		0.0	
2Q17		4/3/2017	NE	38.42	NA	NA	NA	406.01		0.0	
3Q17		7/6/2017	NE	36.85	NA	NA	NA	407.58		0.0	
4Q17		10/3/2017	NE	37.73	NA	NA	NA	406.70		0.0	
1Q18		1/3/2018	NE	38.57	NA	NA	NA	405.86		0.0	
2Q18		4/2/2018	NE	39.84	NA	NA	NA	404.59		0.0	

TABLE 1
QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS
T-37											
3Q15	447.25	7/7/2015	NE	43.21	NA	NA	NA	404.04	398.40 - 378.40 (48.85 - 68.85)	0.0	*
4Q15		10/1/2015	NE	42.03	NA	NA	NA	405.22		0.0	*
1Q16		1/5/2016	NE	42.01	NA	NA	NA	405.24		0.1	*
2Q16		4/4/2016	NE	40.54	NA	NA	NA	406.71		0.1	*
3Q16		7/5/2016	NE	40.55	NA	NA	NA	406.70		0.1	*
4Q16		10/5/2016	NE	38.67	NA	NA	NA	408.58		0.2	*
1Q17		1/17/2017	NE	38.58	NA	NA	NA	408.67		0.0	*
2Q17		4/4/2017	NE	39.15	NA	NA	NA	408.10		0.5	*
3Q17		7/6/2017	NE	37.34	NA	NA	NA	409.91		0.0	*
4Q17		10/3/2017	NE	38.02	NA	NA	NA	409.23		0.0	*
1Q18		1/4/2018	NE	39.08	NA	NA	NA	408.17		0.1	*
2Q18		4/3/2018	NE	40.33	NA	NA	NA	406.92		0.0	*
T-38											
3Q15	445.67	7/7/2015	NE	39.66	NA	NA	NA	406.01	396.53 - 376.53 (49.14 - 69.14)	0.0	*
4Q15		10/1/2015	NE	38.67	NA	NA	NA	407.00		0.0	*
1Q16		1/5/2016	NE	38.52	NA	NA	NA	407.15		0.0	*
2Q16		4/4/2016	NE	37.67	NA	NA	NA	408.00		0.0	*
3Q16		7/5/2016	NE	37.57	NA	NA	NA	408.10		0.1	*
4Q16		10/5/2016	NE	35.60	NA	NA	NA	410.07		0.2	*
1Q17		1/17/2017	NE	35.86	NA	NA	NA	409.81		0.0	*
2Q17		4/4/2017	NE	36.49	NA	NA	NA	409.18		0.0	*
3Q17		7/6/2017	NE	34.15	NA	NA	NA	411.52		0.0	*
4Q17		10/3/2017	NE	35.02	NA	NA	NA	410.65		0.0	*
1Q18		1/4/2018	NE	36.13	NA	NA	NA	409.54		22.5	*
2Q18		4/3/2018	NE	37.21	NA	NA	NA	408.46		0.0	*
T-62											
3Q15	431.99	7/8/2015	NE	29.43	NA	NA	NA	402.56	412.28 - 382.28 (19.71 - 49.71)	35.4	
4Q15		10/2/2015	NE	28.22	NA	NA	NA	403.77		0.0	
1Q16		1/5/2016	NE	27.87	NA	NA	NA	404.12		61.2	
2Q16		4/5/2016	NE	27.74	NA	NA	NA	404.25		0.1	
3Q16		7/8/2016	NE	27.04	NA	NA	NA	404.95		0.0	
4Q16		10/4/2016	NE	25.75	NA	NA	NA	406.24		0.3	
1Q17		1/17/2017	NE	26.70	NA	NA	NA	405.29		0.0	
2Q17		4/5/2017	NE	27.25	NA	NA	NA	404.74		0.0	
3Q17		7/6/2017	NE	24.51	NA	NA	NA	407.48		0.5	
4Q17		10/2/2017	NE	26.21	NA	NA	NA	405.78		0.0	
1Q18		1/3/2018	NE	28.34	NA	NA	NA	403.65		0.0	
2Q18		4/4/2018	NE	29.20	NA	NA	NA	402.79		0.0	
T-63											
3Q15	431.43	7/8/2015	NM	NM	NA	NA	NA	NA	411.45 - 381.45 (19.98 - 49.98)	NM	Unsafe condition at well - Unable to access
4Q15		10/2/2015	NE	27.78	NA	NA	NA	403.65		0.8	
1Q16		1/5/2016	NE	27.22	NA	NA	NA	404.21		0.3	
2Q16		4/5/2016	NE	27.33	NA	NA	NA	404.10		0.0	
3Q16		7/8/2016	NE	26.55	NA	NA	NA	404.88		0.0	
4Q16		10/4/2016	NE	25.42	NA	NA	NA	406.01		0.1	
1Q17		1/17/2017	NE	26.49	NA	NA	NA	404.94		0.0	
2Q17		4/5/2017	NE	27.02	NA	NA	NA	404.41		0.0	
3Q17		7/6/2017	NE	23.88	NA	NA	NA	407.55		0.0	
4Q17		10/2/2017	NE	25.98	NA	NA	NA	405.45		0.0	
1Q18		1/3/2018	NE	27.82	NA	NA	NA	403.61		0.0	
2Q18		4/4/2018	NE	28.86	NA	NA	NA	402.57		0.0	

TABLE 1
QUARTERLY GROUNDWATER MONITORING WELL GAUGING RESULTS

WELL ID & EVENT	TOP OF CASING (elev.')	DATE GAUGED	DEPTH TO PRODUCT (ft btoc)	DEPTH TO WATER (ft btoc)	WATER-PRODUCT INTERFACE (elev.')	PRODUCT (elev.')	PRODUCT THICKNESS (ft)	CORRECTED WATER LEVEL ² (elev.')	SCREENED INTERVAL (elev.')(ft btoc)	WELL HEAD PID ³ (ppm)	COMMENTS
T-64											
3Q15	428.93	7/8/2015	NE	25.37	NA	NA	NA	403.56	409.12 - 379.12 (19.81 - 49.81)	172.1	
4Q15		10/2/2015	NE	25.61	NA	NA	NA	403.32		1.2	
1Q16		1/5/2016	NM	NM	NA	NA	NA	NA		NM	Unsafe condition at well - Unable to access
2Q16		4/5/2016	NE	25.26	NA	NA	NA	403.67		0.0	
3Q16		7/8/2016	NE	24.24	NA	NA	NA	404.69		0.0	
4Q16		10/4/2016	NE	23.11	NA	NA	NA	405.82		153.3	
1Q17		1/17/2017	NE	24.91	NA	NA	NA	404.02		0.0	
2Q17		4/5/2017	NE	25.13	NA	NA	NA	403.80		0.0	
3Q17		7/6/2017	NE	21.57	NA	NA	NA	407.36		0.0	
4Q17		10/2/2017	NE	24.24	NA	NA	NA	404.69		0.0	
1Q18		1/3/2018	NE	26.04	NA	NA	NA	402.89		0.0	
2Q18		4/4/2018	NM	NM	NA	NA	NA	NA		NM	Unsafe condition at well - Unable to access

NOTES:

- 1) Elevations presented in this table are relative to the 1988 NAVD datum.
- 2) The corrected water level elevations presented in this table were corrected by a specific gravity of 0.80 for the wells in which LNAPL was identified.
- 3) PID values measured with a 10.6 electron volt (eV) lamp photoionization detector.
- 4) btoc = Below Top of Casing; ppm = parts per million; NA = Not Applicable; NE = Not Encountered; NM = Not Measured
- 5) * Indicates that the LNAPL and/or water level is above the top of the screened zone of the well.
- 6) Table includes comprehensive groundwater monitoring well gauging data for the last 12 quarters from the combined Village of Roxana Interim Groundwater Monitoring Program and the WRB Refining LP Wood River Refinery Program.
- 7) The screened interval for certain monitoring wells was adjusted based on an evaluation of the results of annual bottom depth gauging conducted in 1Q18.

**TABLE 2
SUMMARY OF GROUNDWATER MONITORING WELL FIELD PARAMETERS**

WELL ID & EVENT	pH	Temp (C)	Specific Cond (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	General Notes
MW-01							
3Q15	6.76	18.63	1.274	8.68	0.13	11.0	
4Q15	6.92	19.40	1.388	1.57	0.03	35.0	
1Q16	6.68	17.92	1.344	19.95	0.05	63.0	
2Q16	6.81	18.71	1.544	9.40	0.00	20.0	
3Q16	6.79	20.30	1.310	18.10	0.21	52.0	
4Q16	6.87	18.30	1.460	23.57	0.10	-30.0	
1Q17	6.77	17.43	1.106	13.19	0.03	208.0	
2Q17	6.85	18.34	1.420	16.81	0.00	-73.0	
3Q17	6.76	20.98	1.472	14.42	0.11	-15.0	
4Q17	6.78	19.33	1.331	6.10	0.10	23.0	
1Q18	6.73	18.20	1.197	0.00	0.45	146.6	
2Q18	6.73	17.20	1.263	22.20	0.05	8.9	
MW-02							
3Q15	6.77	21.71	1.317	13.95	0.01	-106.0	
4Q15	6.74	21.52	1.454	1.20	0.09	-116.0	
1Q16	6.84	19.51	1.590	21.92	0.00	-180.0	
2Q16	6.77	20.24	1.750	13.62	0.00	-314.0	
3Q16	6.88	21.14	1.293	21.62	0.06	-105.0	
4Q16	7.09	20.46	1.549	11.28	0.00	-236.0	
1Q17	7.09	18.30	1.294	14.73	0.03	-155.0	
2Q17	7.16	18.41	1.294	6.91	0.00	-195.0	
3Q17	7.03	21.53	1.717	33.97	0.00	-275.0	
4Q17	7.02	19.70	1.220	5.50	0.00	-156.0	
1Q18	7.02	18.80	1.537	14.10	0.22	-207.8	
2Q18	7.08	17.30	1.553	10.40	0.38	-116.1	
MW-03							
3Q15	7.02	19.81	1.348	3.45	0.04	-157.0	
4Q15	7.00	19.49	1.277	4.92	0.01	-148.0	
1Q16	6.94	18.29	1.302	13.88	0.07	-128.0	
2Q16	7.00	17.98	1.372	4.51	0.06	-156.0	
3Q16	7.18	20.71	1.304	16.82	0.05	-182.0	
4Q16	7.03	19.96	1.571	37.09	0.00	-145.0	
1Q17	6.85	17.98	1.049	49.63	0.02	-146.0	
2Q17	6.94	18.74	1.371	1.33	0.09	126.0	
3Q17	6.92	21.31	1.295	5.49	0.03	-143.0	
4Q17	7.16	20.00	1.380	28.70	0.02	-140.3	
1Q18	6.76	17.60	1.205	4.20	0.18	-45.0	
2Q18	6.94	17.60	1.601	7.80	0.47	-138.9	

SEE LAST PAGE OF TABLE FOR NOTES

**TABLE 2
SUMMARY OF GROUNDWATER MONITORING WELL FIELD PARAMETERS**

WELL ID & EVENT	pH	Temp (C)	Specific Cond (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	General Notes
MW-04							
3Q15	6.96	20.69	1.230	16.98	0 00	-0.1	
4Q15	6.75	19.08	1.481	1.79	0 06	-103.0	
1Q16	6.84	17.92	1.296	*	0 04	-101.0	
2Q16	6.87	18.76	1.524	4 21	0 01	-123.0	
3Q16	6.97	19.59	1.374	6.42	0 00	-124.0	
4Q16	6.94	19.30	1.428	20.61	0 06	-142.0	
1Q17	6.82	17.67	1.351	5 68	0 06	-115.0	
2Q17	6.87	18.33	1.362	4 35	0 06	4 0	
3Q17	6.88	20.41	1.281	8.49	0 00	-128.0	
4Q17	6.96	19.41	1.291	13.19	0 04	-121.0	
1Q18	6.98	17.50	1.106	8.70	0 23	-161.0	
2Q18	6.78	17.70	1.168	6 50	0 01	-58.4	
MW-05							
3Q15	6.76	21.54	1.552	8 31	0 02	-130.0	
4Q15	6.73	19.70	1.507	0 64	0 01	-119.0	
1Q16	6.70	17.10	1.503	21.55	0.11	-87.0	
2Q16	6.84	17.96	1.316	5 62	0 09	-131.0	
3Q16	6.90	20.29	1.384	8 69	0 06	-154.0	
4Q16	6.87	19.18	1.341	11.01	0 03	-143.0	
1Q17	6.87	15.78	0.807	6.10	0 07	-122.0	
2Q17	6.86	20.23	1.133	3 63	0 07	-153.0	
3Q17	6.78	21.17	1.076	12.94	0 02	-124.0	
4Q17	6.95	18.48	0.760	4.70	0 03	-136.0	
1Q18	6.68	18.60	1.316	8 80	0 26	-152.7	
2Q18	6.85	16.80	1.145	40.30	0 39	-116.0	
MW-06A							
3Q15	6.50	19.73	1.758	27.24	0 00	-99.0	
4Q15	6.74	19.47	1.486	5.18	0 03	-110.0	
1Q16	6.60	15.88	1.412	34.53	0 00	-76.0	
2Q16	6.72	18.75	1.383	10.75	0 00	-125.0	
3Q16	6.90	20.89	1.172	24.84	0.18	-267.0	
4Q16	6.87	19.44	1.147	7 93	0 08	-122.0	
1Q17	6.92	18.80	0.987	9.75	8.79	-94.0	
2Q17	6.81	20.33	1.013	3.18	0 02	179.0	
3Q17	6.72	21.82	1.167	45.38	0 01	-126.0	
4Q17	6.75	20.60	1.117	8 89	0 04	-114.0	
1Q18	6.26	18.10	1.120	5 20	0.15	11.0	
2Q18	6.41	18.10	1.177	45.50	0.49	-16.2	

TABLE 2
SUMMARY OF GROUNDWATER MONITORING WELL FIELD PARAMETERS

WELL ID & EVENT	pH	Temp (C)	Specific Cond (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	General Notes
MW-06B							
3Q15	6.91	20.80	1.266	4.64	0.00	-92.0	
4Q15	7.05	20.14	0.961	12.33	0.06	-77.0	
1Q16	6.78	17.51	1.064	1.19	0.03	-55.0	
2Q16	7.01	18.24	0.947	1.02	0.06	-114.0	
3Q16	7.08	20.48	0.869	5.50	0.19	-238.0	
4Q16	7.02	19.74	0.840	3.87	0.11	-111.0	
1Q17	7.19	18.73	0.753	4.10	8.78	-91.0	
2Q17	7.16	19.83	0.852	0.78	0.05	174.0	
3Q17	7.05	20.84	0.943	5.09	0.09	-120.0	
4Q17	7.07	20.27	0.905	2.95	0.07	-113.0	
1Q18	6.77	18.80	0.877	8.50	0.24	40.0	
2Q18	6.91	18.00	1.033	11.00	0.57	-102.8	
MW-06C							
3Q15	7.08	20.21	0.977	0.61	0.04	-126.0	
4Q15	6.99	19.17	1.040	0.00	0.14	-110.0	
1Q16	6.92	17.04	1.056	14.46	0.17	-78.0	
2Q16	7.03	18.16	1.032	1.57	0.00	-142.0	
3Q16	7.38	19.99	0.886	9.34	0.09	-278.0	
4Q16	7.15	20.17	1.008	1.97	0.10	-144.0	
1Q17	7.10	18.23	0.913	2.52	8.80	-105.0	
2Q17	7.12	18.60	0.983	0.30	0.07	166.0	
3Q17	7.00	20.44	1.076	10.73	0.10	-133.0	
4Q17	7.08	19.78	0.920	3.24	0.00	-139.0	
1Q18	6.65	17.40	0.973	0.60	0.20	45.6	
2Q18	6.74	17.40	1.183	3.20	0.36	-114.8	
MW-06D							
3Q15	7.03	19.07	1.308	36.17	0.00	-140.0	
4Q15	6.98	18.86	1.154	4.56	0.16	-118.0	
1Q16	6.94	17.29	1.129	40.73	0.09	-85.0	
2Q16	7.00	17.67	1.162	17.65	0.00	-150.0	
3Q16	7.30	19.71	1.029	10.15	0.13	-253.0	
4Q16	7.16	19.46	1.241	36.29	0.01	-151.0	
1Q17	6.94	17.80	1.078	12.57	*	-110.0	
2Q17	7.12	18.95	1.318	16.95	0.04	171.0	
3Q17	6.92	20.14	1.241	49.06	0.09	-139.0	
4Q17	7.22	20.30	1.392	18.30	0.20	-111.0	
1Q18	6.76	17.50	1.567	3.50	0.18	-16.3	
2Q18	6.92	17.70	1.708	39.10	0.54	-125.4	

TABLE 2
SUMMARY OF GROUNDWATER MONITORING WELL FIELD PARAMETERS

WELL ID & EVENT	pH	Temp (C)	Specific Cond (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	General Notes
MW-07							
3Q15	6.72	20.11	1.585	18.56	0.05	-94.0	
4Q15	6.66	20.01	1.570	17.35	0.08	-74.0	
1Q16	6.38	18.84	1.608	*	0.07	-66.0	
2Q16	6.71	19.24	1.551	27.73	0.09	-81.0	
3Q16	6.77	19.98	1.668	11.63	0.00	-83.0	
4Q16	6.78	20.75	1.422	24.73	0.13	-92.0	
1Q17	6.71	15.42	1.442	111.50	0.21	-83.0	
2Q17	6.68	18.26	1.454	3.28	0.13	38.0	
3Q17	6.59	21.25	1.553	9.56	0.06	-101.0	
4Q17	6.71	20.53	1.490	36.84	0.06	-76.0	
1Q18	6.69	17.10	1.479	27.20	0.38	-100.1	
2Q18	6.57	17.90	1.388	33.90	0.03	-30.4	
MW-08							
3Q15	6.62	20.88	1.485	13.30	0.00	-95.0	
4Q15	6.62	19.72	1.623	9.73	0.12	-74.0	
1Q16	6.21	18.80	1.472	*	0.08	-64.0	
2Q16	6.72	20.32	1.682	6.56	0.12	-84.0	
3Q16	6.80	21.34	1.693	8.41	0.00	-91.0	
4Q16	6.81	21.24	1.743	31.41	0.07	-107.0	
1Q17	6.74	18.78	1.635	11.08	0.12	-110.0	
2Q17	6.69	19.87	1.550	3.88	0.07	30.0	
3Q17	6.80	22.93	1.375	9.08	0.01	-105.0	
4Q17	6.79	20.62	1.573	7.62	0.03	-100.0	
1Q18	6.74	18.50	1.479	4.80	0.20	-132.2	
2Q18	6.58	18.60	1.509	0.30	0.00	-41.9	
MW-09							
3Q15	6.75	18.00	1.478	11.86	0.18	-76.0	
4Q15	6.67	20.06	1.635	0.47	0.27	-46.0	
1Q16	6.71	16.60	1.670	8.76	0.07	-28.0	
2Q16	6.68	17.49	1.514	5.13	0.00	-70.0	
3Q16	6.92	20.10	1.277	15.67	0.10	-95.0	
4Q16	6.79	17.62	1.455	14.71	0.11	-69.0	
1Q17	6.93	17.59	1.073	17.99	0.06	159.0	
2Q17	6.79	19.36	1.406	4.02	0.03	-65.0	
3Q17	6.68	19.35	1.517	20.76	0.02	-76.0	
4Q17	6.80	18.86	1.416	9.92	0.00	-68.0	
1Q18	6.75	17.10	1.311	26.90	0.24	-89.5	
2Q18	6.66	17.10	1.302	9.20	0.08	-34.3	

TABLE 2
SUMMARY OF GROUNDWATER MONITORING WELL FIELD PARAMETERS

WELL ID & EVENT	pH	Temp (C)	Specific Cond (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	General Notes
MW-10							
3Q15	6.81	18.67	1.971	13.36	0 09	-110.0	
4Q15	6.74	18.77	1.802	1.16	0.15	-105.0	
1Q16	6.97	17.41	1.527	13.37	0 05	-97.0	
2Q16	6.93	18.18	1.801	3.47	0 00	-118.0	
3Q16	7.15	20.73	1.168	45.23	0 01	-159.0	
4Q16	7.02	19.36	2.046	16.44	0 07	-125.0	
1Q17	7.04	17.38	1.644	27.80	0 01	162.0	
2Q17	6.92	19.40	2.082	47.49	0 00	-76.0	
3Q17	6.94	21.89	1.994	25.53	0 07	-133.0	
4Q17	7.09	20.16	1.651	5 97	0 00	-137.0	
1Q18	7.03	17.90	1.489	24.70	0 24	-126.2	
2Q18	7.02	18.10	1.932	17.00	0 06	-73.7	
MW-11							
3Q15	6.72	17.47	1.519	13.78	0.11	-82.0	
4Q15	6.70	18.95	1.534	0 00	0 31	-82.0	
1Q16	6.76	14.63	1.397	7 59	0.13	-43.0	
2Q16	6.75	16.36	1.436	7.73	0.16	-90.0	
3Q16	6.76	19.02	1.245	3 03	0 09	-103.0	
4Q16	6.82	17.79	1.534	6 21	0.11	-98.0	
1Q17	6.82	16.45	1.204	6.15	0 07	16.0	
2Q17	6.77	17.67	1.561	1.19	0 05	-77.0	
3Q17	6.74	21.17	1.516	14.91	0.15	-116.0	
4Q17	6.77	18.40	1.597	5 91	0 00	-99.0	
1Q18	6.66	16.90	1.652	40.30	0 27	-22.3	
2Q18	6.80	15.30	1.928	31.10	0 56	-40.5	
MW-12							
3Q15	6.90	18.65	0.959	46.10	1 63	161.0	
4Q15	6.75	19.59	1.230	0 96	1 62	224.0	
1Q16	6.87	17.51	1.335	47.05	0 21	79.0	
2Q16	6.83	18.02	1.602	8.72	0 21	91.0	
3Q16	6.83	19.63	1.240	7.49	0.12	140.0	
4Q16	6.95	19.17	1.295	5 98	0 08	87.0	
1Q17	6.73	16.81	1.061	3 98	0.13	147.0	
2Q17	7.42	20.12	1.564	17.22	0 20	116.0	
3Q17	6.88	21.01	1.048	16.55	0 05	-59.0	
4Q17	6.94	19.71	1.123	2.76	0 08	109.0	
1Q18	6.80	18.10	1.050	9 20	0 25	121.6	
2Q18	6.89	18.20	0.914	3.10	0.19	60.9	

TABLE 2
SUMMARY OF GROUNDWATER MONITORING WELL FIELD PARAMETERS

WELL ID & EVENT	pH	Temp (C)	Specific Cond (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	General Notes
MW-13							
3Q15	6.82	19.49	1.100	4.91	0.02	-0.1	
4Q15	6.64	20.13	1.393	2.61	0.04	-113.0	
1Q16	6.74	18.55	1.389	*	0.21	-103.0	
2Q16	6.69	19.00	1.731	10.77	0.19	-111.0	
3Q16	6.79	20.66	1.366	6.20	0.00	-264.0	
4Q16	6.81	20.22	1.441	26.44	0.12	-119.0	
1Q17	6.70	17.16	1.168	15.96	0.04	-125.0	
2Q17	6.74	20.84	1.389	2.78	0.00	-92.0	
3Q17	6.72	21.14	1.432	3.13	0.11	-146.0	
4Q17	6.62	20.10	1.388	25.92	0.04	-110.0	
1Q18	6.50	18.70	1.493	3.90	0.14	-3.3	
2Q18	6.45	19.30	1.466	13.60	0.09	-81.3	
MW-14							
3Q15	6.80	18.99	0.957	9.92	0.05	-0.1	
4Q15	6.58	19.70	1.768	18.19	0.08	-49.0	
1Q16	6.84	18.40	0.888	*	0.00	-97.0	
2Q16	6.68	19.91	1.319	10.63	0.00	-92.0	
3Q16	6.85	21.48	1.044	11.52	0.00	-204.0	
4Q16	6.79	17.71	1.118	13.86	0.00	-73.0	
1Q17	6.76	18.10	1.012	26.18	0.18	-89.0	
2Q17	6.82	20.68	1.650	0.00	0.04	-35.0	
3Q17	6.77	21.68	1.641	9.69	0.05	-73.0	
4Q17	6.84	21.29	0.989	1.97	0.06	-67.0	
1Q18	6.75	17.30	1.457	4.80	0.29	198.2	
2Q18	6.41	17.10	2.016	5.00	0.43	-57.3	
MW-16							
3Q15	6.64	19.49	1.749	8.67	0.14	-108.0	
4Q15	6.61	20.15	2.005	9.55	0.28	-41.0	
1Q16	6.76	17.39	1.980	*	0.01	-75.0	
2Q16	6.52	17.77	2.817	0.72	0.00	73.0	
3Q16	6.71	19.40	1.380	4.89	0.37	-25.0	
4Q16	6.83	19.49	1.540	10.15	0.18	-41.0	
1Q17	6.75	17.01	1.194	2.08	0.31	90.0	
2Q17	7.40	20.90	1.785	24.70	0.13	-58.0	
3Q17	6.77	22.58	1.475	86.56	0.27	-89.0	
4Q17	6.86	19.63	1.196	19.13	0.19	-54.0	
1Q18	6.85	17.90	1.078	31.30	0.49	-51.8	
2Q18	6.51	17.90	1.289	35.40	0.64	-33.6	

TABLE 2
SUMMARY OF GROUNDWATER MONITORING WELL FIELD PARAMETERS

WELL ID & EVENT	pH	Temp (C)	Specific Cond (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	General Notes
MW-22							
3Q15	6.65	23.12	1.030	15.64	0.15	-121.0	
4Q15	6.62	22.06	1.363	3.05	0.18	-90.0	
1Q16	6.58	19.24	1.378	14.96	0.00	-82.0	
2Q16	6.68	21.14	1.453	13.48	0.03	-135.0	
3Q16	6.81	22.19	1.280	9.21	0.09	-95.0	
4Q16	6.76	21.13	1.492	21.54	0.03	-91.0	
1Q17	7.03	19.09	1.183	3.78	0.02	162.0	
2Q17	6.91	20.47	1.193	2.48	0.06	-110.0	
3Q17	6.84	23.10	1.192	6.36	0.01	-83.0	
4Q17	6.91	20.20	1.218	12.49	0.11	-83.0	
1Q18	6.73	19.60	1.219	6.60	0.25	-125.1	
2Q18	6.64	18.90	1.462	9.90	0.43	-85.4	
MW-23							
3Q15	6.75	18.81	1.096	20.33	0.00	-115.0	
4Q15	6.62	19.04	1.211	0.47	0.05	-98.0	
1Q16	6.66	16.86	1.212	25.28	0.05	-94.0	
2Q16	6.65	17.54	1.201	19.93	0.05	-134.0	
3Q16	6.78	20.46	1.077	20.76	0.02	-113.0	
4Q16	6.65	19.14	1.265	34.01	0.03	-93.0	
1Q17	6.53	18.20	1.120	28.38	0.00	-50.0	
2Q17	6.42	17.76	1.260	45.01	0.02	177.0	
3Q17	7.31	20.08	1.062	63.73	0.00	-156.0	
4Q17	6.64	19.00	1.332	35.90	0.01	-66.6	
1Q18	6.28	16.40	1.272	39.50	0.15	61.3	
2Q18	6.27	16.90	1.064	49.60	0.00	-13.6	
MW-24							
3Q15	6.86	18.93	1.383	17.98	1.00	-107.0	
4Q15	6.83	22.02	1.398	0.00	4.73	134.0	
1Q16	6.78	16.61	1.538	5.06	0.82	109.0	
2Q16	6.84	17.98	1.793	11.30	1.92	102.0	
3Q16	6.98	19.99	1.164	5.73	0.53	97.0	
4Q16	6.92	20.22	1.313	10.10	0.30	103.0	
1Q17	6.98	17.09	1.324	5.77	0.26	17.1	
2Q17	7.00	18.97	1.611	7.19	0.16	34.0	
3Q17	6.83	21.41	1.491	88.10	0.05	-121.0	Field parameters are suspect.
4Q17	7.07	20.21	1.811	3.91	0.25	85.0	
1Q18	7.05	17.60	1.687	5.80	0.83	134.9	
2Q18	6.80	16.80	2.026	22.80	0.63	45.1	

TABLE 2
SUMMARY OF GROUNDWATER MONITORING WELL FIELD PARAMETERS

WELL ID & EVENT	pH	Temp (C)	Specific Cond (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	General Notes
MW-25							
3Q15	6.79	20.10	1.280	12.85	0 00	-0.1	
4Q15	6.79	19.39	1.337	12.26	0 02	-96.0	
1Q16	6.37	19.02	1.100	*	0 02	-89.0	
2Q16	6.93	20.48	1.299	10.24	0 04	-132.0	
3Q16	7.14	20.30	1.102	6 31	0 00	-135.0	
4Q16	6.96	21.08	1.219	6 03	0.10	-140.0	
1Q17	6.80	17.70	1.211	8 81	0 08	-119.0	
2Q17	6.87	18.58	1.282	0 54	0 01	33.0	
3Q17	6.95	23.17	1.248	7.70	0.13	-134.0	
4Q17	6.92	21.23	1.267	14.05	0 02	-127.0	
1Q18	6.94	17.90	1.287	20.40	0 24	-170.4	
2Q18	6.88	18.00	0.919	16.70	0 00	-27.9	
MW-26							
3Q15	6.84	18.46	0.947	4.19	0.19	184.0	
4Q15	7.00	21.58	0.914	0 34	0 84	294.0	
1Q16	6.82	17.87	1.305	25.15	0 29	63.0	
2Q16	6.88	17.83	1.162	5.78	0.17	70.0	
3Q16	6.83	20.95	1.155	31.29	0 28	200.0	
4Q16	6.88	19.74	1.340	14.49	0.11	-26.0	
1Q17	6.71	16.76	1.300	6 94	0.77	73.0	
2Q17	6.84	19.89	1.967	5 21	0.11	156.0	
3Q17	6.76	20.73	1.594	8.43	0 09	-41.0	
4Q17	6.87	20.40	1.814	3.12	0 20	53.8	
1Q18	6.77	18.40	1.630	18.80	0.43	165.4	
2Q18	6.72	18.80	1.832	14.10	0 09	90.4	
MW-27							
3Q15	6.82	19.25	1.144	26.42	1.49	11.0	
4Q15	6.70	19.13	1.085	2 26	0 60	34.0	
1Q16	6.84	17.44	1.105	11.90	0 66	-4 0	
2Q16	6.82	16.27	1.125	12.26	0.10	-38.0	
3Q16	6.91	18.99	0.933	21.55	1 57	-52.0	
4Q16	6.99	18.57	0.949	32.47	0 86	-24.0	
1Q17	7.01	15.97	0.812	17.30	0 34	349.0	
2Q17	6.93	18.70	1.021	1 65	0.79	-12.0	
3Q17	6.93	21.63	0.912	45.15	1 88	12.0	
4Q17	6.94	19.93	1.026	13.21	1 35	4 0	
1Q18	6.91	16.80	0.931	49.30	0 50	-43.8	
2Q18	6.90	15.80	1.436	30.70	0.72	-24.1	

**TABLE 2
SUMMARY OF GROUNDWATER MONITORING WELL FIELD PARAMETERS**

WELL ID & EVENT	pH	Temp (C)	Specific Cond (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	General Notes
MW-28							
3Q15	6.57	20.80	2.785	22.65	0 00	-91.0	
4Q15	6.62	19.68	2.308	0 00	0.12	69.0	
1Q16	6.71	18.64	2.592	8 98	0 03	0 0	
2Q16	6.70	17.97	2.266	5.11	0 02	34.0	
3Q16	6.65	19.51	1.892	19.22	0 00	137.0	
4Q16	6.75	18.43	1.855	10.58	0 00	-14.0	
1Q17	6.75	16.85	1.405	24.28	0 06	180.0	
2Q17	6.74	17.54	1.659	13.10	0 08	-44.0	
3Q17	6.65	21.61	1.783	41.11	0 05	-75.0	
4Q17	6.72	19.67	1.594	23.12	0 04	-17.0	
1Q18	6.70	17.90	1.343	22.10	0 26	-38.7	
2Q18	6.57	17.30	1.598	14.60	0.13	40.2	
P-54							
3Q15	6.87	18.33	1.256	10.69	4 84	135.0	
4Q15	6.81	17.71	1.193	1.45	3 89	111.0	
1Q16	6.92	14.29	1.250	7 21	4.72	77.0	
2Q16	6.81	16.52	1.229	7.40	5 39	233.0	
3Q16	7.03	18.86	1.080	11.23	5 69	116.0	
4Q16	6.82	18.16	1.180	5.41	4 98	194.0	
1Q17	6.87	16.33	0.958	10.33	2.70	167.0	
2Q17	6.86	17.13	1.332	9.18	2 51	191.0	
3Q17	6.71	21.77	1.359	21.24	0 68	35.0	
4Q17	6.85	19.45	1.283	21.53	0 96	126.0	
1Q18	6.75	17.40	1.441	13.40	1 64	161.0	
2Q18	6.90	15.90	1.999	26.20	1.72	90.0	
P-55R							
3Q15	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
4Q15	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
1Q16	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
2Q16	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
3Q16	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
4Q16	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
1Q17	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
2Q17	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
3Q17	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
4Q17	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
1Q18	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
2Q18	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.

TABLE 2
SUMMARY OF GROUNDWATER MONITORING WELL FIELD PARAMETERS

WELL ID & EVENT	pH	Temp (C)	Specific Cond (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	General Notes
P-56							
3Q15	6.79	24.25	1.709	6.80	0.05	-180.0	
4Q15	6.85	23.88	2.069	20.89	0.01	-121.0	
1Q16	6.81	18.90	1.641	38.50	0.00	-127.0	
2Q16	6.93	22.69	1.996	30.25	0.00	-145.0	
3Q16	7.08	22.75	1.874	7.47	0.00	-287.0	
4Q16	7.09	24.16	1.861	19.56	0.00	-144.0	
1Q17	7.02	18.76	1.819	13.42	0.00	-136.0	
2Q17	7.08	20.62	1.645	10.39	0.00	-80.0	
3Q17	7.12	29.55	1.228	35.04	0.00	-165.0	
4Q17	7.09	20.82	1.512	14.63	0.00	-157.0	
1Q18	6.91	19.90	1.466	19.50	0.13	-22.5	
2Q18	6.98	22.30	2.042	48.70	0.24	-131.4	
P-57							
3Q15	6.65	23.79	1.693	2.14	0.00	-0.1	
4Q15	6.52	25.05	1.810	4.08	0.15	-103.0	
1Q16	6.47	20.45	1.422	*	0.05	-106.0	
2Q16	6.76	24.03	1.608	6.43	0.01	-135.0	
3Q16	6.92	24.53	1.563	3.80	0.00	-159.0	
4Q16	6.88	23.87	1.511	6.36	0.05	-143.0	
1Q17	6.87	20.19	1.513	3.72	0.12	-129.0	
2Q17	6.86	22.38	1.480	0.98	0.03	-96.0	
3Q17	6.81	24.96	1.077	6.33	0.00	-137.0	
4Q17	6.88	23.41	1.439	2.36	0.00	-119.0	
1Q18	6.73	21.30	1.537	6.73	0.33	-151.2	
2Q18	6.69	20.80	1.689	9.40	0.37	-116.0	
P-58							
3Q15	6.52	26.26	1.719	3.29	0.00	-0.1	
4Q15	6.47	22.79	1.693	2.59	0.08	-91.0	
1Q16	6.38	19.13	1.281	*	0.03	-91.0	
2Q16	6.61	24.46	2.012	16.95	0.00	-110.0	
3Q16	6.63	24.94	2.160	10.60	0.00	-124.0	
4Q16	6.69	24.48	2.648	15.56	0.05	-123.0	
1Q17	6.72	21.85	2.345	28.06	0.00	-111.0	
2Q17	6.69	22.16	2.443	4.71	0.04	61.0	
3Q17	6.79	24.77	2.202	10.11	0.00	-123.0	
4Q17	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
1Q18	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
2Q18	6.57	22.70	3.147	14.70	0.32	-93.2	

**TABLE 2
SUMMARY OF GROUNDWATER MONITORING WELL FIELD PARAMETERS**

WELL ID & EVENT	pH	Temp (C)	Specific Cond (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	General Notes
P-59							
3Q15	6.71	29.00	1.723	17.21	0 00	-0.1	
4Q15	6.54	26.13	1.773	0 96	0 04	-114.0	
1Q16	6.50	21.82	1.350	*	0 06	-100.0	
2Q16	6.59	27.97	1.498	3.74	0 01	-134.0	
3Q16	6.67	29.15	1.878	10.43	0 00	-150.0	
4Q16	6.67	27.37	1.525	8.42	0 03	-121.0	
1Q17	6.60	23.06	1.837	6 23	0.10	-125.0	
2Q17	6.68	24.94	1.394	1 02	0 07	-78.0	
3Q17	6.59	28.96	1.588	10.14	0 00	-127.0	
4Q17	6.64	27.54	1.824	10.54	0 00	-133.0	
1Q18	6.46	24.40	1.784	10.60	0 20	10.0	
2Q18	7.36	27.70	1.344	11.30	0 38	-106.9	
P-66							
3Q15	6.50	19.84	0.979	5 92	0 07	-0.1	
4Q15	6.43	21.10	1.201	4 27	0.16	-83.0	
1Q16	6.45	18.92	1.035	*	0 00	-78.0	
2Q16	6.48	20.88	1.201	9.19	0 00	-106.0	
3Q16	6.59	24.88	1.283	8 94	0 01	-260.0	
4Q16	6.64	21.18	1.419	13.50	0 02	-111.0	
1Q17	6.65	20.64	1.191	13.13	0 08	-102.0	
2Q17	6.67	22.11	1.185	8.79	0 00	-69.0	
3Q17	6.55	25.65	1.269	24.34	0 07	-109.0	
4Q17	6.62	21.99	1.587	5 96	0 04	-111.0	
1Q18	6.46	18.90	1.580	7 20	0 33	162.5	
2Q18	6.50	18.80	1.965	5 60	0 35	-103.6	
P-68							
3Q15	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
4Q15	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
1Q16	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
2Q16	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
3Q16	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
4Q16	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
1Q17	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
2Q17	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
3Q17	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
4Q17	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
1Q18	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
2Q18	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.

TABLE 2
SUMMARY OF GROUNDWATER MONITORING WELL FIELD PARAMETERS

WELL ID & EVENT	pH	Temp (C)	Specific Cond (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	General Notes
P-74							
3Q15	7.02	22.91	0.145	26.68	7.56	0.1	
4Q15	6.37	20.62	0.374	0.00	0.15	-69.0	
1Q16	7.82	8.66	0.898	5.01	11.96	38.0	
2Q16	7.07	19.67	0.183	16.93	0.00	-51.0	
3Q16	6.94	21.04	0.171	8.45	0.01	-286.0	
4Q16	7.02	21.43	0.298	1.78	0.00	-185.0	
1Q17	6.62	14.73	0.232	4.84	0.25	-38.0	
2Q17	7.85	19.80	1.536	1.89	8.06	35.0	
3Q17	7.15	25.12	0.142	3.38	0.10	-107.0	
4Q17	6.56	20.98	0.384	6.95	0.00	-55.0	
1Q18	6.42	19.50	0.776	6.30	0.26	166.5	
2Q18	7.85	13.00	0.255	6.30	9.75	28.4	
P-93A							
3Q15	6.71	22.11	1.620	16.25	0.01	-0.1	
4Q15	6.68	20.18	1.677	16.30	0.17	-3.0	
1Q16	6.45	17.36	1.489	*	0.22	-21.0	
2Q16	6.68	20.38	1.733	4.87	0.20	-12.0	
3Q16	6.77	21.63	1.795	1.59	0.01	103.0	
4Q16	6.79	20.53	1.563	5.17	2.09	105.0	
1Q17	6.77	17.21	1.521	18.27	0.20	68.0	
2Q17	6.84	20.26	1.177	1.56	0.12	83.0	
3Q17	7.02	25.19	1.049	15.32	0.12	-14.0	
4Q17	6.88	22.07	1.047	1.97	0.40	117.0	
1Q18	6.99	22.40	1.173	6.10	0.36	142.1	
2Q18	6.83	24.00	1.514	12.60	0.51	-3.2	Initial sample
	6.72	23.60	0.965	6.20	0.34	206.0	Confirmation sample
P-93B							
3Q15	6.88	18.65	1.420	0.75	0.04	-0.1	
4Q15	6.93	19.48	1.397	91.70	0.37	-93.0	
1Q16	6.82	17.15	1.268	*	0.07	-110.0	
2Q16	6.89	18.15	1.553	10.49	1.31	-120.0	
3Q16	6.89	19.50	1.448	3.64	0.53	-114.0	
4Q16	6.94	18.70	1.357	8.97	0.88	-99.0	
1Q17	6.80	17.46	1.337	18.77	0.20	-121.0	
2Q17	6.85	17.81	1.171	8.61	4.05	-52.0	
3Q17	6.77	22.27	1.323	0.05	0.00	-125.0	
4Q17	6.68	19.00	1.669	12.80	1.20	-100.3	
1Q18	6.78	17.30	1.455	44.20	0.35	-125.7	
2Q18	7.07	18.20	1.364	8.80	0.76	-113.2	

TABLE 2
SUMMARY OF GROUNDWATER MONITORING WELL FIELD PARAMETERS

WELL ID & EVENT	pH	Temp (C)	Specific Cond (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	General Notes
P-93C							
3Q15	7.02	21.17	1.221	0.41	0 00	-0 2	
4Q15	6.87	20.38	1.262	0 69	0 20	-93.0	
1Q16	6.87	17.91	1.193	*	1 95	-93.0	
2Q16	7.06	19.69	1.115	12.53	0 00	-99.0	
3Q16	7.01	20.10	1.235	51.32	0 01	-241.0	
4Q16	6.93	19.28	1.278	7 37	0.15	-72.0	
1Q17	7.04	18.32	1.309	30.61	0.12	-91.0	
2Q17	6.96	18.36	1.104	0.43	0 00	-49.0	
3Q17	6.97	22.42	0.948	15.98	0.16	-87.0	
4Q17	6.90	19.44	1.165	41.17	0 00	-106.0	
1Q18	6.92	19.40	1.256	14.90	0 38	137.8	
2Q18	7.00	19.00	1.563	42.70	0.46	-81.6	
P-93D							
3Q15	7.04	18.98	1.405	0 60	0 20	-0 2	
4Q15	7.08	19.30	1.568	2.17	0 09	-194.0	
1Q16	6.87	16.45	1.403	*	0.18	-98.0	
2Q16	7.08	17.84	1.617	7 95	0.16	-224.0	
3Q16	7.21	18.93	1.455	3 07	0 01	-142.0	
4Q16	7.12	20.21	1.478	28.86	2 05	-125.0	
1Q17	6.51	15.16	1.447	15.58	4.10	-77.0	
2Q17	7.09	17.80	1.192	0.77	0.17	-50.0	
3Q17	7.12	19.92	1.278	1.49	0 00	-166.0	
4Q17	6.98	17.80	1.598	1.12	0.15	-140.1	
1Q18	6.96	17.80	1.513	12.30	0 26	-157.9	
2Q18	7.42	19.00	1.367	10.30	0 83	-106.5	
P-114R (P-114)							
3Q15	7.31	19.52	1.177	33.39	2.40	-0.1	
4Q15	6.81	21.19	1.256	4 26	0 03	-146.0	Well replaced during 3Q15
1Q16	6.86	19.48	0.842	*	0 02	-129.0	
2Q16	6.68	19.47	1.527	7.43	0 00	-145.0	
3Q16	6.82	22.88	1.115	8 81	0 00	-295.0	
4Q16	6.83	21.50	1.094	16.25	0 03	-127.0	
1Q17	6.80	16.52	0.803	29.92	0 22	-76.0	
2Q17	6.85	21.22	0.907	32.88	0 00	-113.0	
3Q17	6.48	22.74	0.651	38.57	0 00	-94.0	
4Q17	6.46	21.45	0.721	49.42	0 05	-84.0	
1Q18	6.64	20.60	0.990	45.60	0.16	-49.8	
2Q18	6.30	19.60	0.879	33.40	0.12	-60.0	

TABLE 2
SUMMARY OF GROUNDWATER MONITORING WELL FIELD PARAMETERS

WELL ID & EVENT	pH	Temp (C)	Specific Cond (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	General Notes
ROST-3-MW							
3Q15	6.95	18.83	1.373	12.56	0 00	-130.0	
4Q15	6.77	18.58	1.219	2 22	0 07	-118.0	
1Q16	6.90	17.72	1.239	7 09	0 00	-100.0	
2Q16	6.68	17.29	1.711	11.39	0 00	-93.0	
3Q16	6.75	19.03	1.406	8 68	0.13	-103.0	
4Q16	7.01	17.52	1.283	8 93	0 00	-152.0	
1Q17	6.82	17.39	1.354	12.89	0 05	48.0	
2Q17	6.86	18.77	1.538	0 88	0 00	-299.0	
3Q17	6.89	19.81	1.614	16.13	0 04	-123.0	
4Q17	6.53	17.64	1.660	12.28	0 05	-108.0	Initial sample
	6.45	17.44	1.534	36.05	0 09	-192.0	Confirmation sample
1Q18	6.15	15.20	1.776	15.00	0 37	239.6	Initial sample
	6.48	18.40	1.631	14.00	0 29	-10.9	Confirmation sample
2Q18	6.56	17.10	1.704	25.10	0 02	-36.0	
ROST-4-PZ(C)							
3Q15	6.87	19.64	2.232	11.48	0 00	-125.0	
4Q15	6.90	19.49	2.211	2.41	0 02	-113.0	
1Q16	7.02	17.91	1.971	9 64	0 00	-155.0	
2Q16	7.14	18.50	1.907	19.38	0 03	-178.0	
3Q16	7.12	20.30	1.553	6 54	0.10	-174.0	
4Q16	7.31	18.20	1.575	8 38	0 00	-241.0	
1Q17	7.38	16.15	1.351	12.10	0.15	68.0	
2Q17	7.30	17.89	1.492	4 89	0 09	-134.0	
3Q17	7.24	20.56	1.460	23.29	0 01	-178.0	
4Q17	7.16	18.31	1.466	5.75	0 00	-142.0	
1Q18	6.71	16.20	2.188	44.00	0 27	-107.6	
2Q18	6.66	16.90	2.033	15.20	0 39	-84.2	
ROST-4-PZ(E)							
4Q17	7.02	19.45	1.753	18.10	0 02	-147.0	Added to Interim GW Monitoring Program 4Q17
1Q18	6.99	16.60	2.311	19.70	0 39	-32.4	
2Q18	6.91	18.00	2.416	15.20	0 58	16.8	
ROST-4-PZ(G)							
4Q17	6.82	18.77	1.525	11.54	0 00	-138.0	Added to Interim GW Monitoring Program 4Q17
1Q18	6.70	18.50	1.416	7 80	0 24	-119.1	
2Q18	6.38	17.90	2.255	10.40	0 37	-88.8	

SEE LAST PAGE OF TABLE FOR NOTES

**TABLE 2
SUMMARY OF GROUNDWATER MONITORING WELL FIELD PARAMETERS**

WELL ID & EVENT	pH	Temp (C)	Specific Cond (mS/cm)	Turbidity (NTUs)	DO (mg/L)	ORP (mV)	General Notes
T-12							
3Q15	6.75	22.31	0.943	1.77	0.04	-0.1	
4Q15	6.64	23.19	1.232	0.91	0.09	-125.0	
1Q16	6.47	19.69	0.995	*	0.13	-101.0	
2Q16	6.82	24.20	1.227	4.24	0.00	-147.0	
3Q16	6.90	26.05	1.206	7.74	0.00	-280.0	
4Q16	6.91	26.26	1.268	12.90	0.04	-135.0	
1Q17	6.90	20.47	1.213	4.88	0.11	-125.0	
2Q17	6.98	21.85	1.096	4.41	0.12	-98.0	
3Q17	6.86	25.07	1.243	6.64	0.00	-151.0	
4Q17	6.98	23.48	1.165	5.31	0.00	-157.0	
1Q18	6.72	22.40	1.372	6.40	0.18	-37.9	
2Q18	7.95	21.80	1.335	20.60	0.34	-115.8	

NOTES:

- 1) Beginning in 1Q18, field parameters were collected using a YSI ProDSS. Prior results were reported using an In-Situ Troll 9500.
- 2) NM = Not Measured.
- 3) * = Equipment malfunction. Results are suspect.
- 4) Negative parameter readings for Turbidity and DO are recorded as zero.

TABLE 3
SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL DETECTIONS AND EXCEEDANCES

Screening Values (mg/L)						VOCs																	
						Acetone	Benzene	Bromomethane	2-Butanone	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Carbon disulfide	Chlorobenzene	Chloroform	Chloromethane	Cymene (p-sopropyltoluene)	1,2-Dibromo-3-chloropropane (DBCP)	1,2-Dibromoethane	1,2-Dichloroethane	cis-1,2-Dichloroethene	1,2-Dichloropropane	
						6.3 ¹	0.005 ¹	0.0098 ²	4.2 ¹	0.35 ³	0.7 ³	0.7 ³	0.7 ¹	0.100 ¹	0.07 ¹			0.0002 ¹	0.00005 ¹	0.005 ²	0.07 ¹	0.005 ²	
Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	Analytical Results (mg/L)																	
ROST-4-PZ(E)	ROST-4-PZ(E)-ROX-101317	10/13/2017	34.75 - 44.75	35.98	NE	<0.13 UJ	0.2	<0.005	<0.13 UJ	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.000098	<0.00002	<0.005	<0.005	<0.005	
	ROST4PZE-ROX-011518	1/15/2018		38.07	NE	<0.05	0.079	<0.002	0.023 J	0.0017 J	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.00029	<0.00019	<0.002	<0.002	<0.002
	ROST4PZE-ROX-040918	4/9/2018	34.75 - 44.75	38.93	NE	0.053	0.014	<0.001	0.039	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.000041 p	<0.00002	<0.001	<0.001	<0.001	
ROST-4-PZ(G)	ROST4PZG-ROX-101217	10/12/2017	34.28 - 44.28	36.58	NE	0.044	0.0015	<0.001	0.01 J	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.000031	<0.00002	<0.001	<0.001	<0.001	
	ROST4PZG-ROX-011118	1/11/2018		38.95	NE	<0.025	0.00082 J	<0.001	0.0027 J	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.00003	<0.00002	<0.001	<0.001	<0.001	
	ROST4PZG-ROX-040918	4/9/2018	34.28 - 44.28	40.07	NE	<0.025	<0.001	<0.001	<0.025	<0.001	<0.001	<0.001	0.00053 J	<0.001	<0.001	<0.001	<0.001	<0.000029	<0.00002	<0.001	<0.001	<0.001	
T-12	T12-ROX-071015	7/10/2015	46.83 - 72.83	46.09	NE	<0.1	2.3	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.02	<0.05	<0.000014	<0.000014	<0.01	<0.01	<0.02	
	T12-ROX-101515	10/15/2015		43.72	NE	<0.25	2.5	<0.01	<0.25	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.000029	<0.000019	<0.01	<0.01	<0.01	
	T12-ROX-011216	1/12/2016		44.13	NE	<0.25	1.5	<0.01	<0.25	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.00003	<0.00002	<0.01	<0.01	<0.01	
	T12-ROX-041516	4/15/2016		42.07	NE	<0.13	1.4	<0.005	<0.13	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.00003	<0.00002	<0.005	<0.005	<0.005	
	T12-ROX-071216	7/12/2016		41.50	NE	<0.25	1.6	<0.01	<0.25	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.000029	<0.00002	<0.01	<0.01	<0.01	
	T12-ROX-101716	10/17/2016		41.19	NE	<0.25	1.7	<0.01	<0.25	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.0065 J	<0.01	<0.01	<0.000031	<0.00002	<0.01	<0.01	<0.01
	T12-ROX-011217	1/12/2017		40.70	NE	<0.25	1.5	<0.01	<0.25	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.000031	<0.000021	<0.01	<0.01	<0.01	
	T12-ROX-040617	4/6/2017		41.18	NE	<0.25	1.4	<0.01	<0.25	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.00003 UJ	<0.00002 UJ	<0.01	<0.01	<0.01
	T12-ROX-071317	7/13/2017		40.10	NE	<0.25	1.2	<0.01	<0.25	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.00003	<0.00002	<0.01	<0.01	<0.01
	T12-ROX-101317	10/13/2017		39.48	NE	<0.25	1.4	<0.01	<0.25	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.00003	<0.00002	<0.01	<0.01	<0.01
	T12-ROX-011018	1/10/2018	42.14	NE	<0.25	2	<0.01	0.029 J	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.00003	<0.00002	<0.01	<0.01	<0.01	
T12-ROX-041218	4/12/2018	46.83 - 72.83	43.03	NE	<0.25	1.7	0.012	<0.25	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.000028	<0.000019	<0.01	<0.01	<0.01		

TABLE 3
SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL DETECTIONS AND EXCEEDANCES

Screening Values (mg/L)						VOCs																	
Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	Ethylbenzene	Ethyl methacrylate	Isopropylbenzene (Cumene)	4-Methyl-2-pentanone Methyl Isobutyl Ketone)	Methyl tert-Butyl Ether (MTBE)	Naphthalene	n-Propylbenzene	1,1,2,2-Tetrachloroethane	Tetrachloroethene	Toluene	1,2,3-Trichlorobenzene	Trichloroethene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Vinyl acetate	m,p-Xylenes	o-Xylenes	Xylenes (total)
						0.7 ¹		0.7 ¹	0.56 ³	0.07 ¹	0.14 ¹	0.7 ³	0.00043 ³	0.005 ¹	1.0 ¹	0.0056 ³	0.005 ¹		0.07 ³	7.0 ²	10 ¹		10 ¹
						Analytical Results (mg/L)																	
ROST-4-PZ(E)	ROST-4-PZ(E)-ROX-101317	10/13/2017	34.75 - 44.75	35.98	NE	0.27	<0.005	0.0084	<0.13	<0.005	0.091	0.017	<0.005	<0.005	0.041	<0.005	<0.005	0.1	0.022	<0.13	0.41	0.067	0.47
	ROST4PZE-ROX-011518	1/15/2018		38.07	NE	0.043	<0.002	0.0096	<0.05	<0.002	0.098	0.009	<0.002	<0.002	0.022	<0.002	<0.002	0.12	0.027	<0.05	0.29	0.063	0.35
	ROST4PZE-ROX-040918	4/9/2018	34.75 - 44.75	38.93	NE	0.0025	<0.001	0.0018	<0.025	<0.001	0.023	0.001	<0.001	<0.001	0.0027	<0.001	<0.001	0.032	0.0087	<0.025	0.041	0.015	0.056
ROST-4-PZ(G)	ROST4PZG-ROX-101217	10/12/2017	34.28 - 44.28	36.58	NE	0.0024	<0.001	0.0014	0.0064 J	<0.001	<0.001	0.0013	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.025	0.0018 J	<0.005	0.0021 J
	ROST4PZG-ROX-011118	1/11/2018		38.95	NE	0.0005 J	<0.001	<0.001	<0.025	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.025	<0.005	<0.005	<0.01
	ROST4PZG-ROX-040918	4/9/2018	34.28 - 44.28	40.07	NE	<0.001	<0.001	<0.001	<0.025	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.025	<0.005	<0.005	<0.005	<0.01
T-12	T12-ROX-071015	7/10/2015	46.83 - 72.83	46.09	NE	0.197	<0.05	0.0222 J	<0.05	<0.01	0.0798	0.0455 J	<0.005	<0.01	0.0782	<0.05	<0.01	0.185	0.0173 J	<0.05	0.594	0.0097 J	0.603
	T12-ROX-101515	10/15/2015		43.72	NE	0.2	<0.01	0.034	<0.25	<0.01	0.081	0.055	<0.01	<0.01	0.096	<0.01	<0.01	0.15	0.016	<0.25	0.55	0.008 J	0.56
	T12-ROX-011216	1/12/2016		44.13	NE	0.098	<0.01	0.015	<0.25	0.037	0.1	0.019	<0.01	<0.01	0.084	<0.01	<0.01	0.13	0.014	<0.25	0.45	0.0074 J	0.46
	T12-ROX-041516	4/15/2016		42.07	NE	0.023	<0.005	0.015	<0.13	<0.005	0.064	0.021	<0.005	<0.005	0.053	<0.005	<0.005	0.053	0.0094	<0.13	0.21	0.0045 J	0.22
	T12-ROX-071216	7/12/2016		41.50	NE	0.15	<0.01	0.026	<0.25	<0.01	0.058	0.04	<0.01	<0.01	0.064	<0.01	<0.01	0.051	0.011	<0.25	0.16	0.0079 J	0.16
	T12-ROX-101716	10/17/2016		41.19	NE	0.12	<0.01	0.014	<0.25	0.023	0.09	0.022	<0.01	<0.01	0.15	<0.01	<0.01	0.063	0.0073 J	<0.25	0.37	0.0082 J	0.38
	T12-ROX-011217	1/12/2017		40.70	NE	0.051	<0.01	0.012	<0.25	0.041	0.054	0.02	<0.01	<0.01	0.065	<0.01	<0.01	0.046	0.009 J	<0.25	0.22	0.008 J	0.23
	T12-ROX-040617	4/6/2017		41.18	NE	0.02	<0.01	0.0072 J	<0.25	0.029	0.016	0.012	<0.01	<0.01	0.032	<0.01	<0.01	0.015	<0.01	<0.25	0.066	<0.05	0.069 J
	T12-ROX-071317	7/13/2017		40.10	NE	0.053	<0.01	0.0064 J	<0.25	0.024	0.061	0.0091 J	<0.01	<0.01	0.08	<0.01	<0.01	0.033	<0.01	<0.25	0.2	<0.05	0.21
	T12-ROX-101317	10/13/2017		39.48	NE	0.025	<0.01	0.012	<0.25	0.023	0.05	0.023	<0.01	<0.01	0.055	<0.01	<0.01	0.012	0.01	<0.25	0.099	0.0089 J	0.11
	T12-ROX-011018	1/10/2018		42.14	NE	0.054	<0.01	0.012	<0.25	0.029	0.084	0.012	<0.01	<0.01	0.085	<0.01	<0.01	0.041	0.011	<0.25	0.34	0.008 J	0.35
	T12-ROX-041218	4/12/2018		46.83 - 72.83	43.03	NE	0.095	<0.01	0.018	<0.25	0.016	0.087	0.022	<0.01	<0.01	0.085	<0.01	<0.01	0.047	0.0074 J	<0.25	0.34	0.011 J

TABLE 3
SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL DETECTIONS AND EXCEEDANCES

Table with columns for Location, Sample ID, Sample Date, Screened Interval, Depth to Water, Product Thickness, and 18 SVOCs (Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(e)pyrene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, Benzolc Acid, Benzyl alcohol, bis(2-Chloroethoxy)methane, bis(2-Chloroethyl)ether, bis(2-Ethylhexyl)phthalate, Butyl benzyl phthalate, Chrysene (1,2-Benzophenanthracene), Dibenzo(a,h)anthracene, Dibenzofuran, Diethyl phthalate, 2,4-Dimethylpheno).

TABLE 3
SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL DETECTIONS AND EXCEEDANCES

Table with columns for Screening Values (mg/L), Location, Sample ID, Sample Date, Screened Interval (ft btoc), Depth to Water (ft btoc), Product Thickness (ft), and SVOCs (Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(e)pyrene, Benzo(k)fluoranthene, Benzo(g,h,i)perylene, Benzo(i)fluoranthene, Benzofuran, Benzyl alcohol, bis(2-Chloroethoxy)methane, bis(2-Chloroethoxy)ether, bis(2-Ethylhexyl)phthalate, Butyl benzyl phthalate, Chrysene (1,2-Benzophenanthracene), Dibenz(a,h)anthracene, Dibenzofuran, Diethyl phthalate, 2,4-Dimethylphenol). It includes data for wells MW-28, P-54, P-56, and P-57.

TABLE 3
SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL DETECTIONS AND EXCEEDANCES

Table with columns for Location, Sample ID, Sample Date, Screened Interval, Depth to Water, Product Thickness, and SVOCs (Acenaphthene, Acenaphthylene, Anthracene, Benzo(a)anthracene, Benzo(e)pyrene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, Benzol Acid, Benzyl alcohol, bis(2-Chloroethoxy)methane, bis(2-Chloroethoxy)ether, bis(2-Ethylhexyl)phthalate, Butyl benzyl phthalate, Chrysene (1,2-Benzophenanthracene), Dibenz(a,h)anthracene, Dibenzofuran, Diethyl phthalate, 2,4-Dimethylpheno). It lists screening values and analytical results for various samples across different monitoring wells.

TABLE 3
SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL DETECTIONS AND EXCEEDANCES

Screening Values (mg/L)						SVOCs																			
						Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(e)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzic Acid	Benzyl alcohol	bis(2-Chloroethoxy)methane	bis(2-Chloroethoxy)ether	bis(2-Ethylhexyl)phthalate	Butyl benzyl phthalate	Chrysene (1,2-Benzophenanthracene)	Dibenzo(a,h)anthracene	Dibenzofuran	Diethyl phthalate	2,4-Dimethylphenol	
Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	Analytical Results (mg/L)																			
						0.42 ¹	0.21 ³	2.1 ¹	0.00013 ¹	0.0002 ¹	0.00018 ¹	0.21 ³	0.00017 ¹	28 ¹	0.7 ³		0.01 ²	0.006 ²	1.4 ²	0.012 ¹	0.0003 ¹	0.007 ³	5.6 ¹	0.14 ²	
ROST-4-PZ(E)	ROST-4-PZ(E)-ROX-101317	10/13/2017	34.75 - 44.75	35.98	NE	0.0017	<0.0002	0.00061	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.03 UJ	<0.0099	<0.0099	<0.0099	<0.0099	<0.0099	<0.0002	<0.0002	0.00066 J	<0.0099	<0.0099	
	ROST4PZE-ROX-011518	1/15/2018		38.07	NE	0.0016	<0.00019	0.00041	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.029	<0.0095	<0.0095 UJ	<0.0095 UJ	<0.0095	<0.0095	<0.00019	<0.00019	0.00072 J	<0.0095	<0.0095
	ROST4PZE-ROX-040918	4/9/2018	34.75 - 44.75	38.93	NE	<0.0002	<0.0002	0.00066	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.0002	<0.0002	<0.01 UJ	<0.01	<0.01	
ROST-4-PZ(G)	ROST4PZG-ROX-101217	10/12/2017	34.28 - 44.28	36.58	NE	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.029 UJ	<0.0097	<0.0097	<0.0097	<0.0097	<0.0097	<0.00019	<0.00019	<0.0097	<0.0097	<0.0097	
	ROST4PZG-ROX-011118	1/11/2018		38.95	NE	0.000019 J	0.000027 J	0.000038 J	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.028	<0.0095	<0.0095 UJ	<0.0095 UJ	<0.0095	<0.0095	<0.00019	<0.00019	<0.0095	<0.0095	<0.0095
	ROST4PZG-ROX-040918	4/9/2018	34.28 - 44.28	40.07	NE	<0.0002	<0.0002	0.000057 J	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.029	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0002	<0.0002	<0.0098 UJ	<0.0098	<0.0098	
T-12	T12-ROX-071015	7/10/2015	46.83 - 72.83	46.09	NE	0.00034	<0.00011	0.00015	<0.000054	<0.00011	<0.000054	<0.00011	<0.00011	<0.011	<0.011	<0.0054	<0.0054	<0.0022	<0.0054	<0.00011	<0.00011	<0.0022	<0.0054	0.0041 J	
	T12-ROX-101515	10/15/2015		43.72	NE	0.00022	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.0002	<0.0002	<0.01	<0.01	0.004 J
	T12-ROX-011216	1/12/2016		44.13	NE	0.00042	<0.0004	0.00015 J	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.0004	<0.03	<0.01	<0.01	<0.01	<0.01	<0.0004	<0.0004	<0.01	<0.01	<0.01	
	T12-ROX-041516	4/15/2016		42.07	NE	0.00037	0.000062 J	0.000074 J	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.0002	<0.0002	<0.01	<0.01	0.0037 J
	T12-ROX-071216	7/12/2016		41.50	NE	0.00035	0.000053 J	0.000083 J	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.03	<0.01	<0.01	<0.01	<0.01	<0.01	<0.0002	<0.0002	<0.01	<0.01	<0.01
	T12-ROX-101716	10/17/2016		41.19	NE	0.00038	0.000067 J	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.029	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0002	<0.0002	<0.0098	<0.0098	0.02
	T12-ROX-011217	1/12/2017		40.70	NE	0.00046	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.029	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0002	<0.0002	<0.0098	<0.0098	0.0047 J
	T12-ROX-040617	4/6/2017		41.18	NE	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.029	<0.0096	<0.0096	<0.0096	<0.0096	<0.0096	<0.00019	<0.00019	<0.0096	<0.0096	<0.0096
	T12-ROX-071317	7/13/2017		40.10	NE	0.00046	<0.00019	0.00014 J	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.029 UJ	<0.0095	<0.0095	<0.0095	<0.0095	<0.0095	<0.00019	<0.00019	<0.0095	<0.0095	<0.0095
	T12-ROX-101317	10/13/2017		39.48	NE	0.0005	0.000067 J	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.029 UJ	<0.0098	<0.0098	<0.0098	<0.0098	<0.0098	<0.0002	<0.0002	<0.0098	<0.0098	<0.0098
	T12-ROX-011018	1/10/2018		42.14	NE	0.00035	<0.00019	0.000092 J	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.00019	<0.029	<0.0096	<0.0096	<0.0096	<0.0096	<0.0096	<0.00019	<0.00019	<0.0096	<0.0096	<0.0096
	T12-ROX-041218	4/12/2018		46.83 - 72.83	43.03	NE	0.00026	<0.0002	0.00015 J	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.03	<0.0099	<0.0099	<0.0099	<0.0099	<0.0099	<0.0002	<0.0002	<0.0099	<0.0099	<0.0099

TABLE 3
SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL DETECTIONS AND EXCEEDANCES

Table with columns for Screening Values (mg/L), Location, Sample ID, Sample Date, Screened Interval (ft btoc), Depth to Water (ft btoc), Product Thickness (ft), and Analytical Results (mg/L) for various SVOCs including phthalates, dioxane, fluoranthene, fluorene, indene, indeno(1,2,3-cd)pyrene, isophorone, 1-methylnaphthalene, 2-methylnaphthalene, 2-methylphenol, 3 & 4-methylphenol, 2-nitrophenol, 4-nitrophenol, pentachlorophenol, phenanthrene, phenol, pyrene, and pyridine.

TABLE 3 SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL DETECTIONS AND EXCEEDANCES

Table with columns for Screening Values (mg/L), Location, Sample ID, Sample Date, Screened Interval (ft btoc), Depth to Water (ft btoc), Product Thickness (ft), and SVOCs. SVOCs include Di-n-butyl phthalate, Di-n-octyl phthalate, 2,4-Dinitrophenol, 1,4-Dioxane, Fluoranthene, Fluorene, Indene, Indeno(1,2,3-cd)pyrene, Isophorone (3,5,5-trimethyl-2-cyclohexene-1-one), 1-Methylnaphthalene, 2-Methylnaphthalene, 2-Methylphenol (o-Cresol), 3 & 4-Methylphenol (m & p-Cresol), 2-Nitrophenol, 4-Nitrophenol, Pentachlorophenol, Phenanthrene, Phenol, Pyrene, and Pyridine.

TABLE 3 SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL DETECTIONS AND EXCEEDANCES

Table with columns for Screening Values (mg/L), Location, Sample ID, Sample Date, Screened Interval (ft btoc), Depth to Water (ft btoc), Product Thickness (ft), and SVOCs (Di-n-butyl phthalate, Di-n-octyl phthalate, 2,4-Dinitrophenol, 1,4-Dioxane, Fluoranthene, Fluorene, Indene, Indeno(1,2,3-cd)pyrene, Isophorone (3,5,5-trimethyl-2-cyclohexene-1-one), 1-Methylnaphthalene, 2-Methylnaphthalene, 2-Methylphenol (o-Cresol), 3 & 4-Methylphenol (m & p-Cresol), 2-Nitrophenol, 4-Nitrophenol, Pentachlorophenol, Phenanthrene, Phenol, Pyrene, Pyridine). Rows are grouped by well: P-93D, P-114, P-114R, ROST-3-MW, ROST-4-PZ(C).

TABLE 3
SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL DETECTIONS AND EXCEEDANCES

Screening Values (mg/L)						SVOCs																				
						Di-n-butyl phthalate	Di-n-octyl phthalate	2,4-Dinitrophenol	1,4-Dioxane	Fluoranthene	Fluorene	Indene	Indeno(1,2,3-cd)pyrene	Isophorone (3,5,5-trimethyl-2-cyclohexene-1-one)	1-Methylnaphthalene	2-Methylnaphthalene	2-Methylphenol (o-Cresol)	3 & 4-Methylphenol (m & p-Cresol)	2-Nitrophenol	4-Nitrophenol	Pentachlorophenol	Phenanthrene	Phenol	Pyrene	Pyridine	
Location	Sample ID	Sample Date	Screened Interval (ft btoc)	Depth to Water (ft btoc)	Product Thickness (ft)	Analytical Results (mg/L)																				
						0.7 ¹	0.14 ²	0.014 ²	0.0077 ¹	0.28 ¹	0.28 ¹		0.00043 ¹	1.4 ²	0.49 ³	0.028 ¹	0.35 ¹	0.35 ³			0.001 ¹	0.21 ³	0.1 ¹	0.21 ¹	0.007 ³	
ROST-4-PZ(E)	ROST-4-PZ(E)-ROX-101317	10/13/2017	34.75 - 44.75	35.98	NE	<0.0099	<0.0099	<0.03	<0.0099	0.00012 J	0.0014	0.004 J	<0.0002	<0.0099	0.033	0.036	<0.0099	0.0014 J	<0.0099	<0.0099	<0.02	0.0041	0.0065 J	0.0002	<0.0099	
	ROST4PZE-ROX-011518	1/15/2018		38.07	NE	<0.0095	<0.0095	<0.029	<0.0095 UJ	0.000066 J	0.0012	0.003 J	<0.00019	<0.0095 UJ	0.046 B	0.045 B	<0.0095	<0.019	<0.0095	<0.0095	<0.019	0.0032	<0.0095	0.00019	<0.0095 UJ	
	ROST4PZE-ROX-040918	4/9/2018	34.75 - 44.75	38.93	NE	<0.01	<0.01	<0.03	<0.01	0.00011 J	<0.0002	<0.01	<0.0002	<0.01 UJ	0.024	0.019	<0.01	<0.02	<0.01	<0.01	<0.02	0.0021	<0.01	0.00045	<0.01 UJ	
ROST-4-PZ(G)	ROST4PZG-ROX-101217	10/12/2017	34.28 - 44.28	36.58	NE	<0.0097	<0.0097	<0.029	<0.0097	<0.00019	<0.00019	<0.0097	<0.00019	<0.0097	0.00019	0.00012 J	<0.0097	<0.019	<0.0097	<0.019	<0.0097	<0.019	<0.00019	<0.0097	<0.00019	<0.0097
	ROST4PZG-ROX-011118	1/11/2018		38.95	NE	<0.0095	<0.0095	<0.028	<0.0095 UJ	<0.00019	0.000038 J	<0.0095	<0.00019	<0.0095 UJ	0.00009 J	0.00011 J	<0.0095	<0.019	<0.0095	<0.0095	<0.019	0.00012 J	<0.0095	<0.00019	<0.0095 UJ	
	ROST4PZG-ROX-040918	4/9/2018	34.28 - 44.28	40.07	NE	<0.0098	<0.0098 UJ	<0.029	<0.0098	0.000026 J	<0.0002	<0.0098	<0.0002	<0.0098 UJ	<0.0002	<0.0002	<0.0098	<0.02	<0.0098	<0.0098	<0.02	0.0001 J	<0.0098	0.000032 J	<0.0098 UJ	
T-12	T12-ROX-071015	7/10/2015	46.83 - 72.83	46.09	NE	<0.0054	<0.0054	<0.022	<0.25	0.000027 J	0.00029		<0.00011	<0.0054	0.0178	0.0301	<0.011	<0.011	<0.011	<0.022	<0.011	0.00083	0.0221	0.000053 J	<0.011	
	T12-ROX-101515	10/15/2015		43.72	NE	<0.01	<0.01	<0.03	<0.01	<0.0002	<0.0002	<0.01	<0.0002	<0.01	0.017	0.024	<0.01	<0.02	<0.01	<0.01	<0.02	0.0005	0.054	0.000038 J	<0.01 UJ	
	T12-ROX-011216	1/12/2016		44.13	NE	<0.01	<0.01	<0.03	<0.01	<0.0004	0.00033 J	<0.01	<0.0004	<0.01	0.021	0.031	<0.01	<0.02	<0.01	<0.01	<0.02	0.00088	0.064	<0.0004	<0.01	
	T12-ROX-041516	4/15/2016		42.07	NE	<0.01	<0.01	<0.03	<0.01	0.000027 J	0.0003	<0.01	<0.0002	<0.01	0.017	0.024	<0.01	<0.02	<0.01	<0.01	<0.02	0.00049	0.098	0.000034 J	<0.01	
	T12-ROX-071216	7/12/2016		41.50	NE	<0.01	0.00076 J J	<0.03	<0.01	<0.0002	0.00022	<0.01	<0.0002	<0.01	0.0072	0.002	<0.01	<0.02	<0.01	<0.01	<0.02	<0.0002	0.038	0.000048 J	<0.01 UJ	
	T12-ROX-101716	10/17/2016		41.19	NE	<0.0098	<0.0098	<0.029	<0.0098	<0.0002	0.00028	<0.0098	<0.0002	<0.0098	0.017	0.021	<0.0098	<0.02	<0.0098	<0.0098	<0.02	0.0006	0.073	<0.0002	<0.0098	
	T12-ROX-011217	1/12/2017		40.70	NE	<0.0098	0.00053 J B	<0.029	<0.0098	<0.0002	0.0002	0.0018 J	<0.0002	<0.0098	0.0039	0.00028	<0.0098	0.001 J	<0.0098	<0.0098	<0.02	<0.0002	0.13	0.00007 J	<0.0098	
	T12-ROX-040617	4/6/2017		41.18	NE	0.0038 J	<0.0096 UJ	<0.029	<0.0096	<0.00019	<0.00019	0.0044 J	<0.00019	<0.0096	<0.00019	<0.00019	<0.0096	<0.019	<0.0096	<0.0096	<0.019	<0.00019	0.021	<0.00019	<0.0096	
	T12-ROX-071317	7/13/2017		40.10	NE	0.0035 J	<0.0095	<0.029 UJ	<0.0095	0.000041 J	0.00027	0.0014 J	<0.00019	<0.0095	0.018	0.026	<0.0095	<0.019	<0.0095	<0.0095	<0.019 UJ	0.00053	0.028	0.000072 J	<0.0095	
	T12-ROX-101317	10/13/2017		39.48	NE	<0.0098	<0.0098	<0.029	<0.0098	<0.0002	0.00045	0.0017 J	<0.0002	<0.0098	0.03	0.033	<0.0098	<0.02	<0.0098	<0.0098	<0.02	0.00084	0.052	0.000061 J	<0.0098	
	T12-ROX-011018	1/10/2018		42.14	NE	<0.0096	<0.0096	<0.029	<0.0096	0.00002 J	0.00029	<0.0096	<0.00019	<0.0096	0.021	0.033	<0.0096	<0.019	<0.0096	<0.0096	<0.019	0.00062	0.08	0.000038 J	<0.0096	
	T12-ROX-041218	4/12/2018		46.83 - 72.83	43.03	NE	<0.0099	<0.0099	<0.03	<0.0099	<0.0002	0.00031	<0.0099 UJ	<0.0002	<0.0099	0.033	0.036	<0.0099	<0.02	<0.0099	<0.0099	<0.02	0.0008	0.037	<0.0002	<0.0099

Notes

- 1 Denotes screening criteria source from 35 I.A.C. 620, Subpart D.
- 2 Denotes screening criteria source from 35 I.A.C. 742 (TACO), Appendix B, Table E.
- 3 Denotes screening criteria source from IL EPA Toxicity Assessment Unit (Chemicals not in TACO, Tier 1 Tables).
- Prior to 4Q15, the laboratory had been requested to perform a library search in all samples for butane, hexane, isopentane, 1,2,3-trimethylbenzene, and indene, which were reported as Tentatively Identified Compounds (TICs), when identified.
- Beginning in 4Q15, 1,4-Dioxane was analyzed via 8270 SVOC. Prior historical results were reported by VOC analysis.
- Groundwater monitoring wells designated for sampling in the Interim Groundwater Monitoring Program, P-55R and P-68, contained LNAPL and, therefore, were not sampled.
- The screened interval for certain monitoring wells was adjusted based on an evaluation of the results of annual bottom depth gauging conducted in 1Q18.

	Indicates a historical exceedance of screening criteria.
	Indicates a current exceedance of screening criteria.
	Empty shaded cell without a value indicates previous quarter analyte result was rejected, the analyte was not analyzed, or the TIC was not identified.
	Empty cell without a value indicates current quarter analyte result was rejected or the analyte was not analyzed.

LABORATORY QUALIFIERS

- B = Target analyte was identified in the method blank, indicating possible lab contamination.
- J = The analyte was detected below the reporting limit. Result is estimated.
- E = The value exceeds calibration range.
- JN = Estimated value for tentatively identified compound (library search).
- H = Analyzed or extracted out of holding time criteria.
- F1 = Indicates MS and/or MSD recovery is outside acceptance limit.
- * = Indicates LCS and/or LCSD and/or LCS/LCSD RPD is outside acceptance limit, and/or internal standard recovery is outside acceptance limit.
- # ## Indicates the analyte was not detected above the given reporting limit.

AECOM QUALIFIERS

- J = The result is estimated.
- UJ = Estimated non-detect.
- U = Result is non-detect.

Figures

The following EVS Descriptions and Assumptions apply to **Figure 6**. C Tech Development Corporation's Environmental Visualization System PRO, Version 9.89 (EVS-PRO) was used to model the estimated distribution of benzene in the groundwater.

EVS Descriptions and Assumptions:

Plan View Model Output – The data input for the plan view model was not limited by depth and was modeled in two dimensions (2D). Regardless of sample depth, benzene concentrations were modeled on a flat horizontal plane.

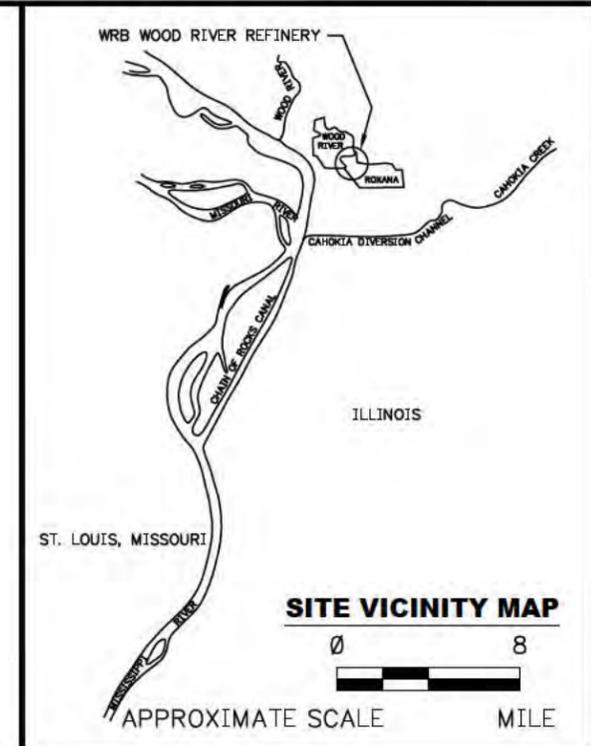
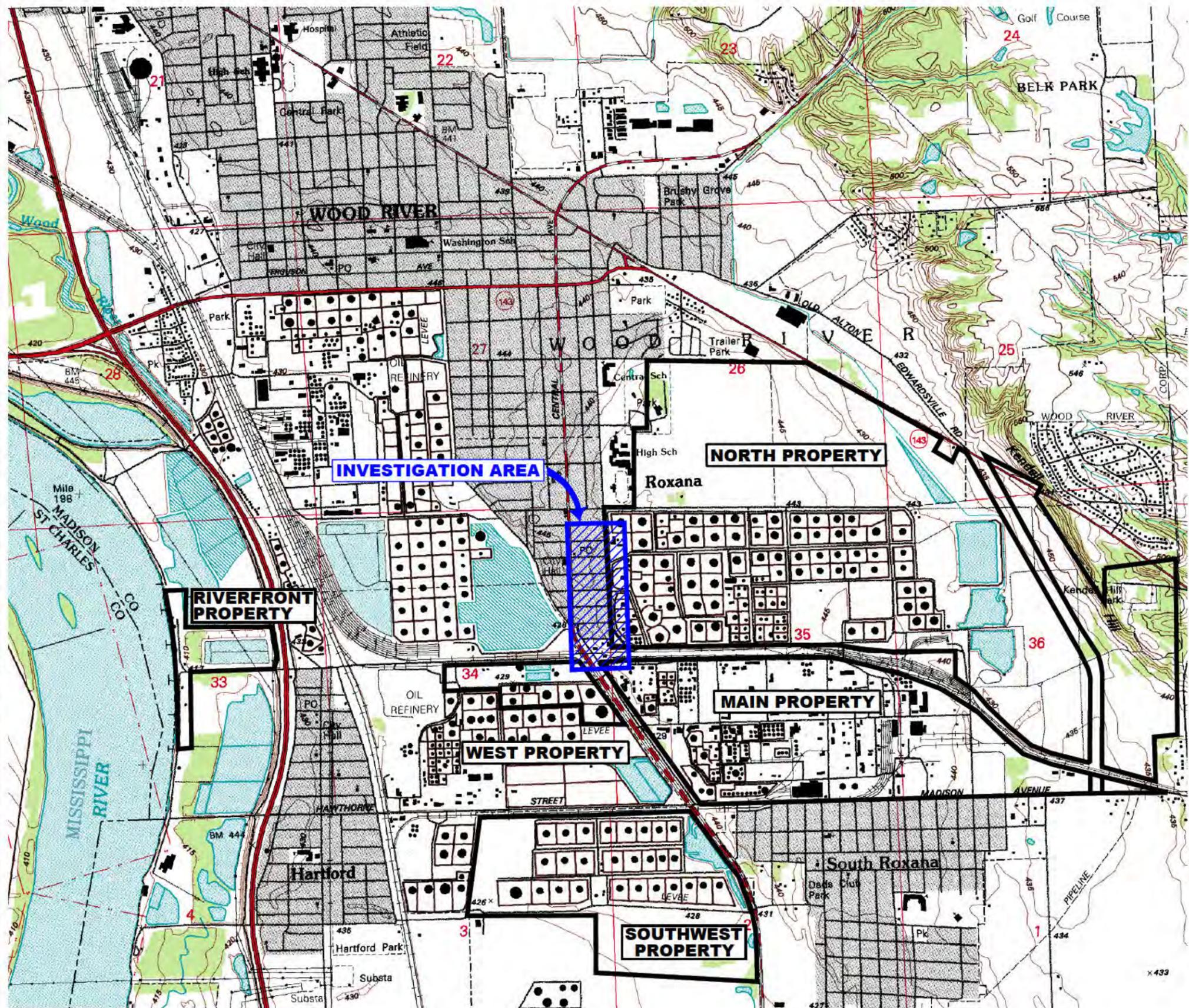
Inward Kriging / Boundary Cut-off – This method of Kriging limits the horizontal extent of data modeling to the extent of the data on the x/y plane in a convex hull.

More simplified, if each sampling location were represented by a tack pushed into the model's surface and a rubber band stretched around them, the model would be represented by the space inside the rubber band.

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

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

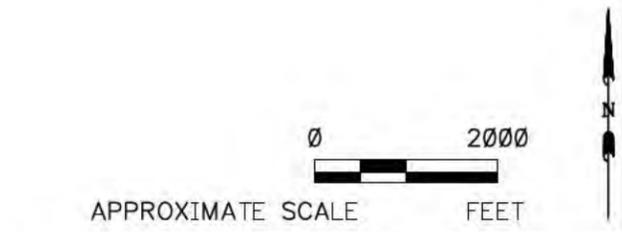
File: G:\ST.LOUIS\DCS\PROJECTS\ROXANA\2018\000\DELIVERABLES\DELIV\QUARTERLY\GM\2018\URM\FIGURES\FIGURE 1 INVESTIGATION AREA LOCATION MAP.DWG Last edited: 06/29/18 @ 1:05 p.m. © WCC-ST.LOUIS



LEGEND

- WOOD RIVER REFINERY PROPERTY BOUNDARY
- INVESTIGATION AREA

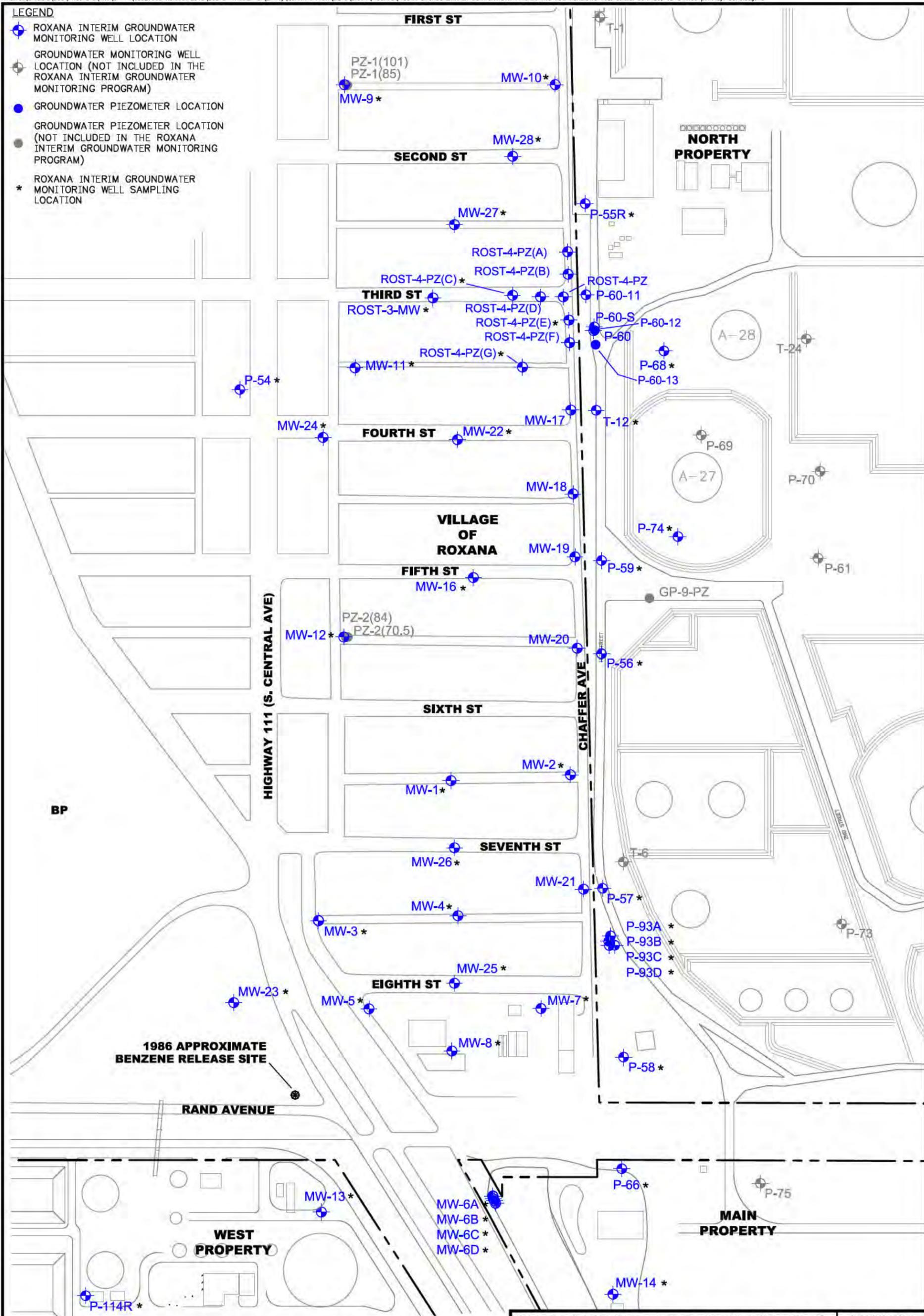
SOURCE: ELECTRONIC USGS DIGITAL RASTER GRAPHIC 7.5 MINUTE TOPOGRAPHIC MAP OF WOOD RIVER, IL-MO REVISED 1994.



EQUILON ENTERPRISES LLC dba SHELL OIL PRODUCTS US INTERIM GROUNDWATER MONITORING PROGRAM ROXANA, ILLINOIS	PROJECT NO. 60527968
DRN. BY: July 2018 DSGN. BY: djd CHKD. BY: b3	Investigation Area Location Map
FIG. NO. 1	

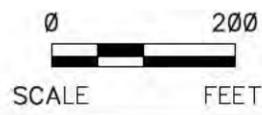
LEGEND

-  ROXANA INTERIM GROUNDWATER MONITORING WELL LOCATION
-  GROUNDWATER MONITORING WELL LOCATION (NOT INCLUDED IN THE ROXANA INTERIM GROUNDWATER MONITORING PROGRAM)
-  GROUNDWATER PIEZOMETER LOCATION
-  GROUNDWATER PIEZOMETER LOCATION (NOT INCLUDED IN THE ROXANA INTERIM GROUNDWATER MONITORING PROGRAM)
-  ROXANA INTERIM GROUNDWATER MONITORING WELL SAMPLING LOCATION



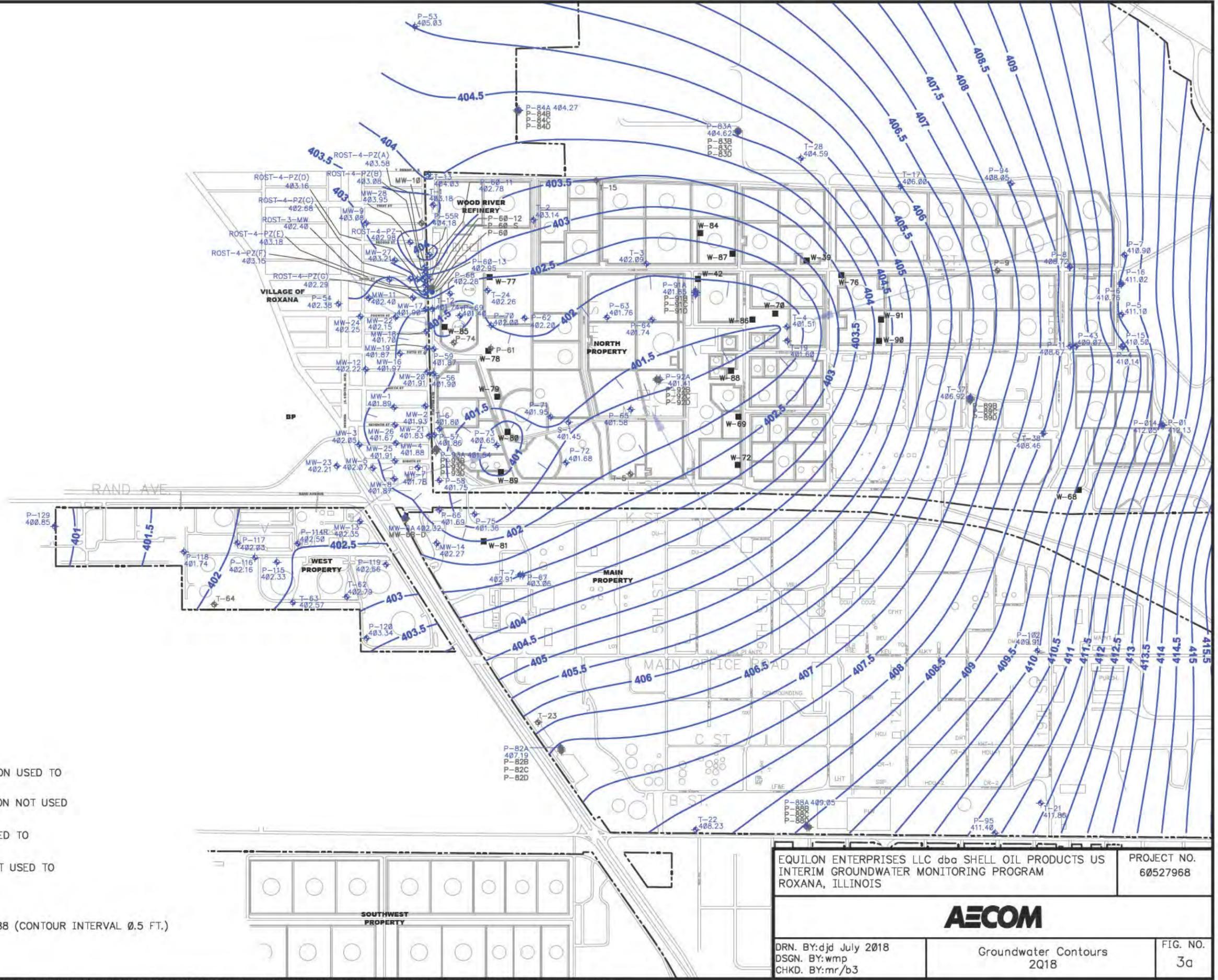
1986 APPROXIMATE BENZENE RELEASE SITE

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DRN. BY:djd July 2018 DSGN. BY:mr CHKD. BY:mr/b3	Roxana Interim Groundwater Monitoring Well Locations	FIG. NO. 2
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- NOTES:
1. CONTOUR LINES PRIMARILY GENERATED BY SURFER VERSION 14 MODELING OF GROUNDWATER ELEVATIONS. SOME INTERPRETATION WAS DONE UTILIZING PROFESSIONAL JUDGMENT AND CONTOUR LINES WERE MODIFIED BY HAND.
 2. ELEVATIONS ARE RELATIVE TO NAVD 88.
 3. COMPREHENSIVE GROUNDWATER ELEVATIONS WERE MEASURED APRIL, 2-4, 2018. GROUNDWATER ELEVATION AT P-114R WAS GAUGED ON APRIL 9, 2018.
 4. BASED ON HISTORICAL GAUGING RESULTS, INITIAL T-15 DATA WAS DEEMED ANOMALOUS AND WAS NOT USED.



LEGEND

- ◆ GROUNDWATER MONITORING WELL LOCATION USED TO GENERATE GROUNDWATER CONTOURS
- ⊕ GROUNDWATER MONITORING WELL LOCATION NOT USED TO GENERATE GROUNDWATER CONTOURS
- GROUNDWATER PIEZOMETER LOCATION USED TO GENERATE GROUNDWATER CONTOURS
- GROUNDWATER PIEZOMETER LOCATION NOT USED TO GENERATE GROUNDWATER CONTOURS
- WRR GROUNDWATER PRODUCTION WELL
- 407— GROUNDWATER SURFACE CONTOUR NAVD 88 (CONTOUR INTERVAL 0.5 FT.)
- GROUNDWATER GRADIENT

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 INTERIM GROUNDWATER MONITORING PROGRAM
 ROXANA, ILLINOIS

PROJECT NO.
 60527968



DRN. BY:djd July 2018
 DSGN. BY:wmp
 CHKD. BY:mr/b3

Groundwater Contours
 2Q18

FIG. NO.
 3a

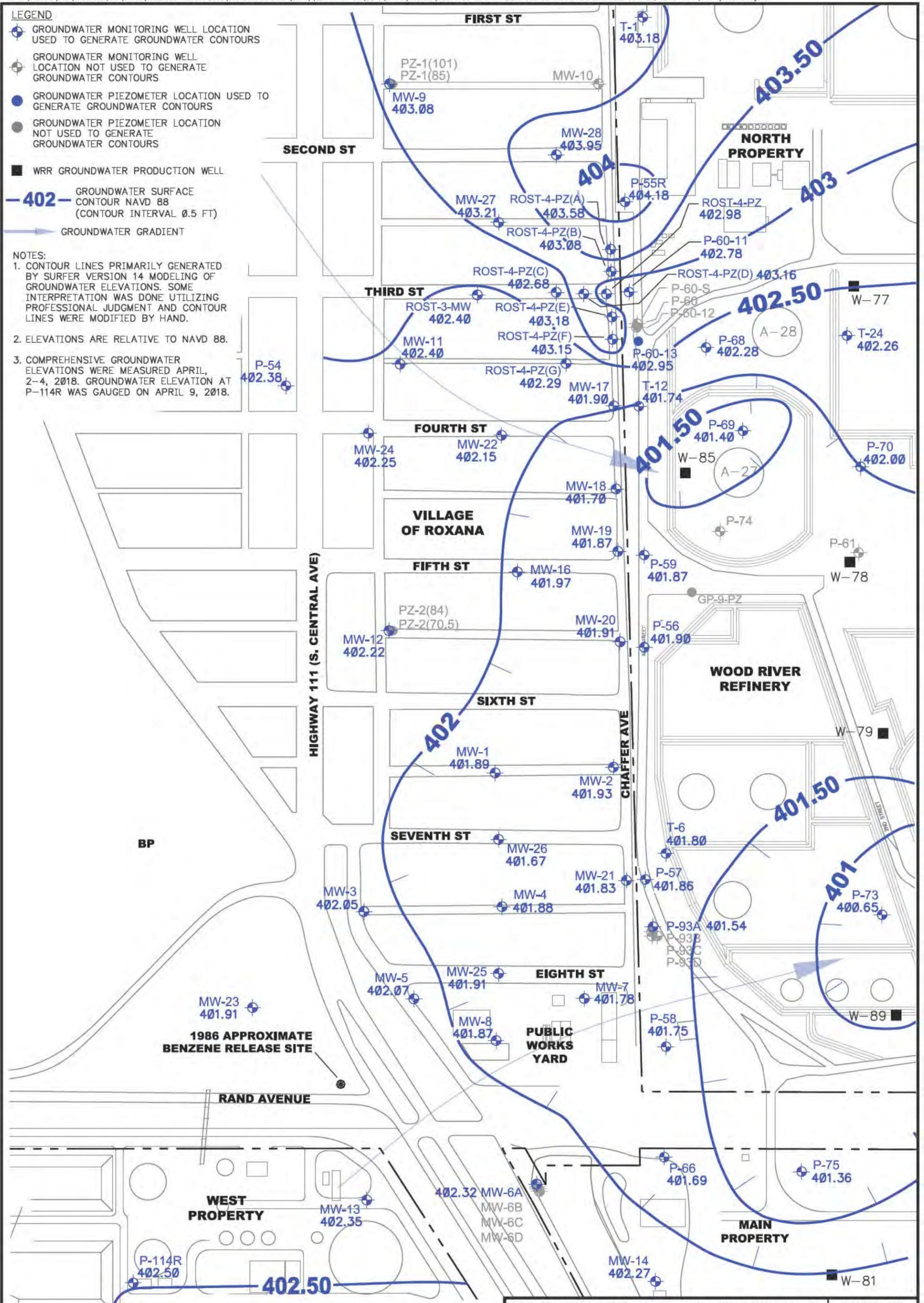
LEGEND

- GROUNDWATER MONITORING WELL LOCATION USED TO GENERATE GROUNDWATER CONTOURS
- GROUNDWATER MONITORING WELL LOCATION NOT USED TO GENERATE GROUNDWATER CONTOURS
- GROUNDWATER PIEZOMETER LOCATION USED TO GENERATE GROUNDWATER CONTOURS
- GROUNDWATER PIEZOMETER LOCATION NOT USED TO GENERATE GROUNDWATER CONTOURS

- WRR GROUNDWATER PRODUCTION WELL
- 402** GROUNDWATER SURFACE CONTOUR NAVD 88 (CONTOUR INTERVAL 0.5 FT)
- GROUNDWATER GRADIENT

NOTES:

1. CONTOUR LINES PRIMARILY GENERATED BY SURFER VERSION 14 MODELING OF GROUNDWATER ELEVATIONS. SOME INTERPRETATION WAS DONE UTILIZING PROFESSIONAL JUDGMENT AND CONTOUR LINES WERE MODIFIED BY HAND.
2. ELEVATIONS ARE RELATIVE TO NAVD 88.
3. COMPREHENSIVE GROUNDWATER ELEVATIONS WERE MEASURED APRIL, 2-4, 2018. GROUNDWATER ELEVATION AT P-114R WAS GAUGED ON APRIL 9, 2018.



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 ROXANA, ILLINOIS

PROJECT NO.
 60527968



DRN. BY: djd July 2018
 DSGN. BY: wmp
 CHKD. BY: mr/b3

Groundwater Contours 2Q18-
 West Fenceline

FIG. NO.
 3b

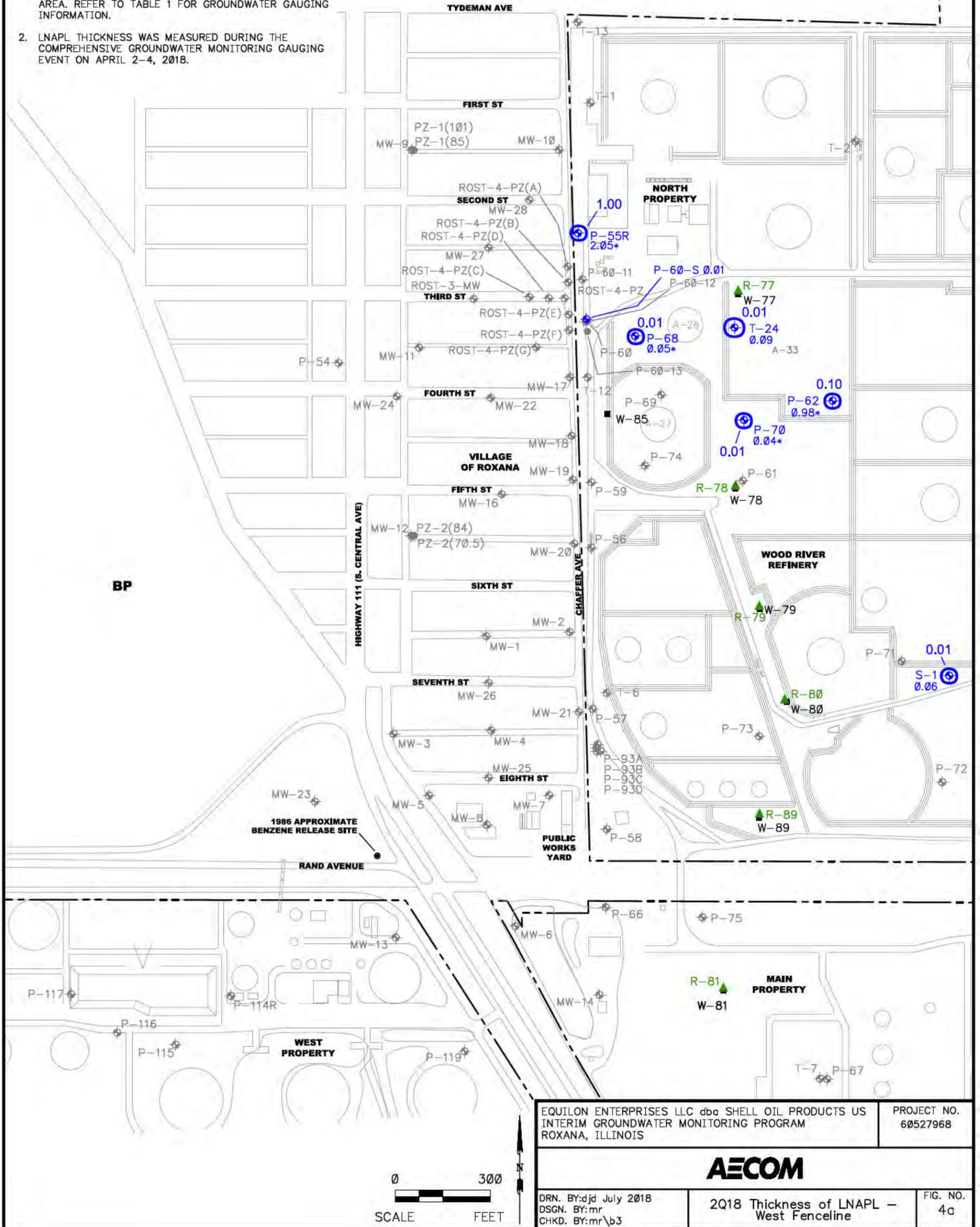


LEGEND

- GROUNDWATER MONITORING WELL LOCATION GAUGED, LNAPL THICKNESS IN FEET
- GROUNDWATER MONITORING WELL LOCATION (NO LNAPL OBSERVED UNLESS OTHERWISE NOTED)
- GROUNDWATER PIEZOMETER LOCATION (NO LNAPL OBSERVED UNLESS OTHERWISE NOTED)
- OIL RECOVERY WELL
- WATER PRODUCTION WELL
- LNAPL THICKNESS (FEET)
- * INDICATES THAT THE LNAPL AND/OR WATER LEVEL IS ABOVE THE TOP OF WELL SCREEN

NOTE:

1. THIS MAP DEPICTS THE ESTIMATED EXTENT AND THICKNESS OF LNAPL BENEATH THE WEST FENCELINE AREA. REFER TO TABLE 1 FOR GROUNDWATER GAUGING INFORMATION.
2. LNAPL THICKNESS WAS MEASURED DURING THE COMPREHENSIVE GROUNDWATER MONITORING GAUGING EVENT ON APRIL 2-4, 2018.



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AECOM		
DRN. BY:djd July 2018 DSGN. BY:mr CHKD. BY:mr\b3	2Q18 Thickness of LNAPL – West Fenceline	FIG. NO. 4a

LEGEND

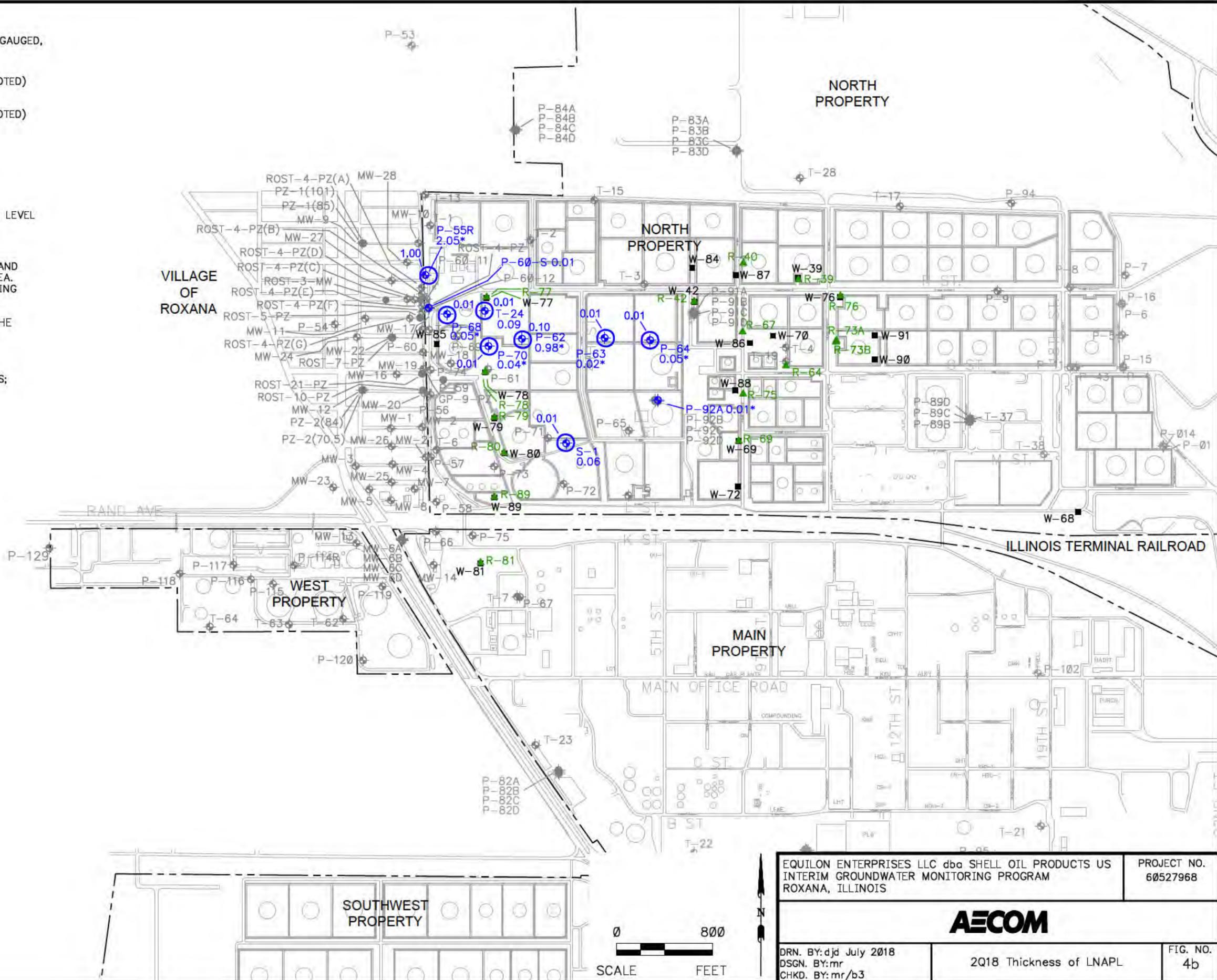
- ⊕ GROUNDWATER MONITORING WELL LOCATION GAUGED, LNAPL THICKNESS IN FEET
- ⊙ GROUNDWATER MONITORING WELL LOCATION (NO LNAPL OBSERVED UNLESS OTHERWISE NOTED)
- GROUNDWATER PIEZOMETER LOCATION (NO LNAPL OBSERVED UNLESS OTHERWISE NOTED)
- ▲ OIL RECOVERY WELL
- WATER PRODUCTION WELL

— LNAPL THICKNESS (FEET)

* INDICATES THAT THE LNAPL AND/OR WATER LEVEL IS ABOVE THE TOP OF WELL SCREEN

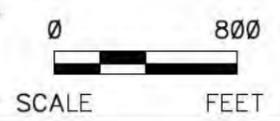
NOTES:

1. THIS MAP DEPICTS THE ESTIMATED EXTENT AND THICKNESS OF LNAPL BENEATH THE WRR AREA. REFER TO TABLE 1 FOR GROUNDWATER GAUGING INFORMATION.
2. LNAPL THICKNESS WAS MEASURED DURING THE COMPREHENSIVE GROUNDWATER MONITORING GAUGING EVENT ON APRIL 2-4, 2018.
3. BASED ON HISTORICAL GAUGING RESULTS, INITIAL T-15 DATA WAS DEEMED ANOMALOUS; REGAUGING DATA AT T-15 COLLECTED ON JUNE 8, 2018 WAS USED.



FILE: G:\ST.LOUIS\DCS\PROJECTS\ENV\SHELL\60527968 - ROXANA 2018\500 DELIVERABLES (DELIV)\QUARTERLY GW 2018\DRAMA\FIGURES\FIGURE 4B THICKNESS OF LNAPL (REFINERY)\DWG.Lam; edited: JUN. 29. 18. 1:16 p.m. BY: david.deguire

EQUILON ENTERPRISES LLC dba SHELL OIL PRODUCTS US INTERIM GROUNDWATER MONITORING PROGRAM ROXANA, ILLINOIS		PROJECT NO. 60527968	
AECOM			
DRN. BY: djd July 2018 DSGN. BY: mr CHKD. BY: mr/b3		2018 Thickness of LNAPL	
			FIG. NO. 4b



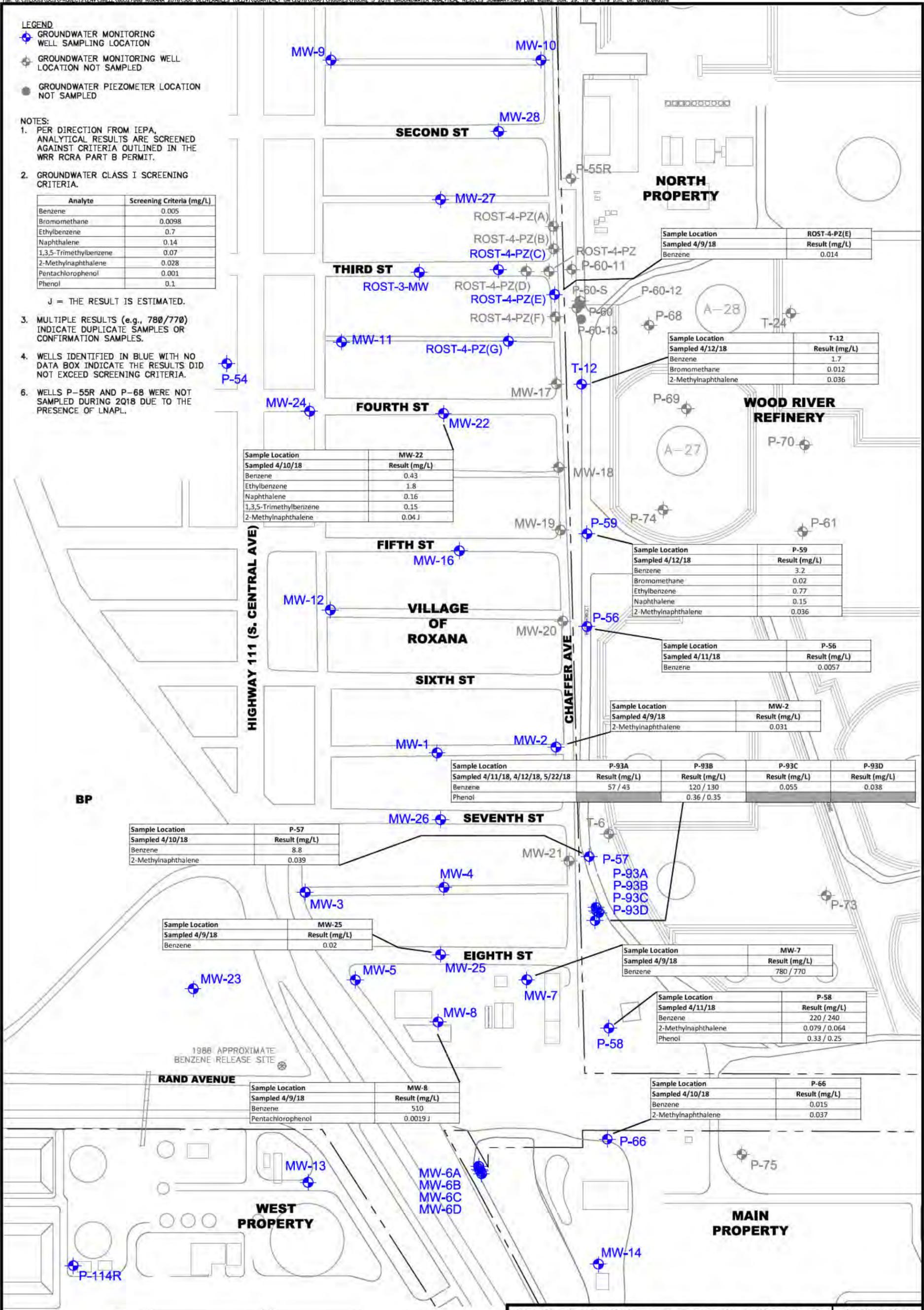
- LEGEND**
- ◆ GROUNDWATER MONITORING WELL SAMPLING LOCATION
 - ⊕ GROUNDWATER MONITORING WELL LOCATION NOT SAMPLED
 - GROUNDWATER PIEZOMETER LOCATION NOT SAMPLED

- NOTES:**
1. PER DIRECTION FROM IEPA, ANALYTICAL RESULTS ARE SCREENED AGAINST CRITERIA OUTLINED IN THE WRR RCRA PART B PERMIT.
 2. GROUNDWATER CLASS I SCREENING CRITERIA.

Analyte	Screening Criteria (mg/L)
Benzene	0.005
Bromomethane	0.0098
Ethylbenzene	0.7
Naphthalene	0.14
1,3,5-Trimethylbenzene	0.07
2-Methylnaphthalene	0.028
Pentachlorophenol	0.001
Phenol	0.1

J = THE RESULT IS ESTIMATED.

3. MULTIPLE RESULTS (e.g., 780/770) INDICATE DUPLICATE SAMPLES OR CONFIRMATION SAMPLES.
4. WELLS IDENTIFIED IN BLUE WITH NO DATA BOX INDICATE THE RESULTS DID NOT EXCEED SCREENING CRITERIA.
6. WELLS P-55R AND P-68 WERE NOT SAMPLED DURING 2Q18 DUE TO THE PRESENCE OF LNAPL.



Sample Location	MW-22
Sampled 4/10/18	Result (mg/L)
Benzene	0.43
Ethylbenzene	1.8
Naphthalene	0.16
1,3,5-Trimethylbenzene	0.15
2-Methylnaphthalene	0.04 J

Sample Location	ROST-4-PZ(E)
Sampled 4/9/18	Result (mg/L)
Benzene	0.014

Sample Location	T-12
Sampled 4/12/18	Result (mg/L)
Benzene	1.7
Bromomethane	0.012
2-Methylnaphthalene	0.036

Sample Location	P-59
Sampled 4/12/18	Result (mg/L)
Benzene	3.2
Bromomethane	0.02
Ethylbenzene	0.77
Naphthalene	0.15
2-Methylnaphthalene	0.036

Sample Location	P-56
Sampled 4/11/18	Result (mg/L)
Benzene	0.0057

Sample Location	MW-2
Sampled 4/9/18	Result (mg/L)
2-Methylnaphthalene	0.031

Sample Location	P-93A	P-93B	P-93C	P-93D
Sampled 4/11/18, 4/12/18, 5/22/18	Result (mg/L)	Result (mg/L)	Result (mg/L)	Result (mg/L)
Benzene	57 / 43	120 / 130	0.055	0.038
Phenol	0.36 / 0.35			

Sample Location	P-57
Sampled 4/10/18	Result (mg/L)
Benzene	8.8
2-Methylnaphthalene	0.039

Sample Location	MW-25
Sampled 4/9/18	Result (mg/L)
Benzene	0.02

Sample Location	MW-7
Sampled 4/9/18	Result (mg/L)
Benzene	780 / 770

Sample Location	P-58
Sampled 4/11/18	Result (mg/L)
Benzene	220 / 240
2-Methylnaphthalene	0.079 / 0.064
Phenol	0.33 / 0.25

Sample Location	MW-8
Sampled 4/9/18	Result (mg/L)
Benzene	510
Pentachlorophenol	0.0019 J

Sample Location	P-66
Sampled 4/10/18	Result (mg/L)
Benzene	0.015
2-Methylnaphthalene	0.037

BP

1986 APPROXIMATE BENZENE RELEASE SITE

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 ROXANA, ILLINOIS

PROJECT NO.
 60527968

AECOM

DRN. BY:djd July 2018
 DSGN. BY:mr
 CHKD. BY:mr/b3

2Q18
 Groundwater Monitoring Well
 Analytical Exceedances

FIG. NO.
 5

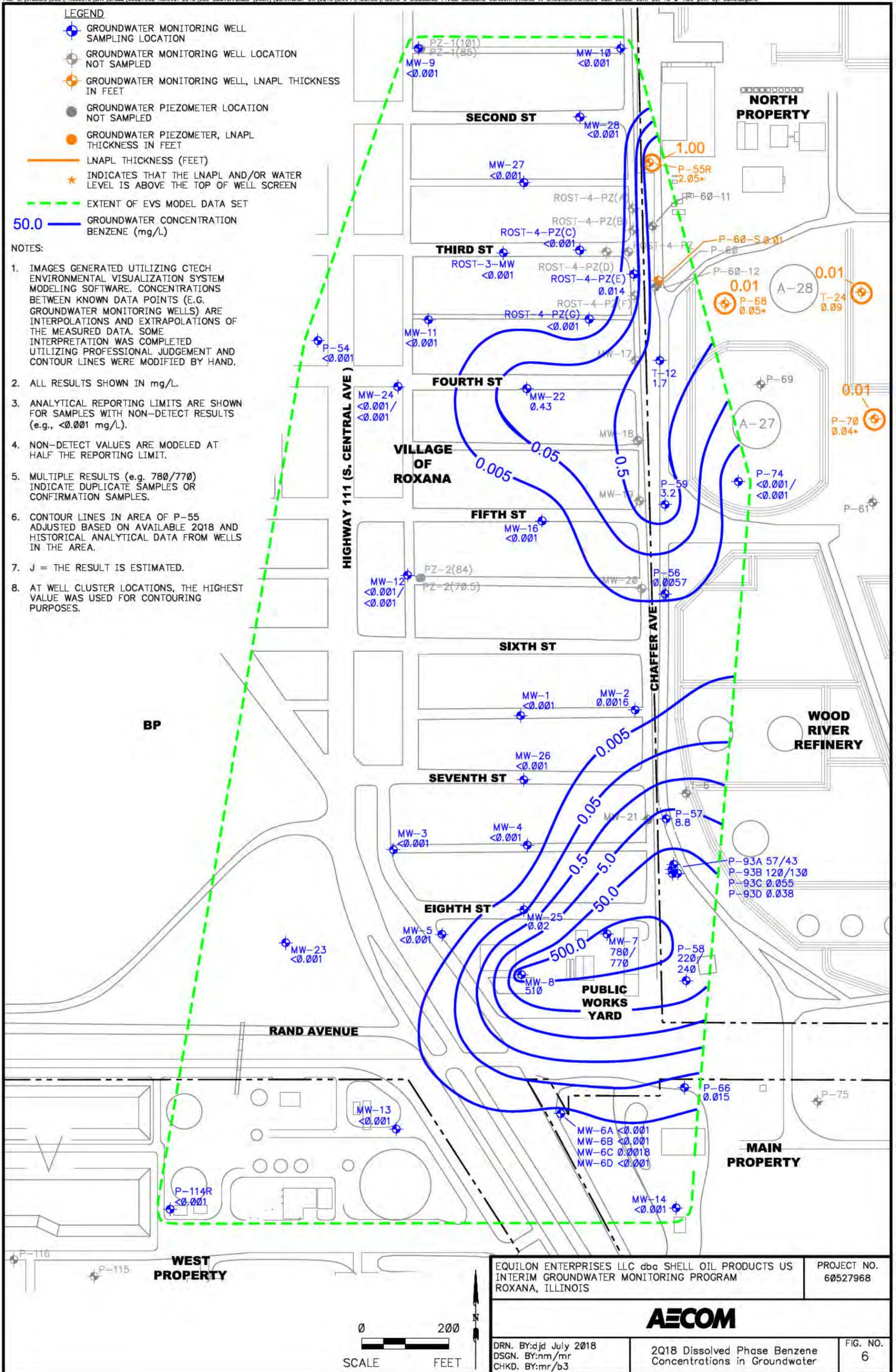


LEGEND

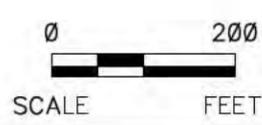
- GROUNDWATER MONITORING WELL SAMPLING LOCATION
- GROUNDWATER MONITORING WELL LOCATION NOT SAMPLED
- GROUNDWATER MONITORING WELL, LNAPL THICKNESS IN FEET
- GROUNDWATER PIEZOMETER LOCATION NOT SAMPLED
- GROUNDWATER PIEZOMETER, LNAPL THICKNESS IN FEET
- LNAPL THICKNESS (FEET)
- INDICATES THAT THE LNAPL AND/OR WATER LEVEL IS ABOVE THE TOP OF WELL SCREEN
- EXTENT OF EVS MODEL DATA SET
- 50.0 — GROUNDWATER CONCENTRATION BENZENE (mg/L)

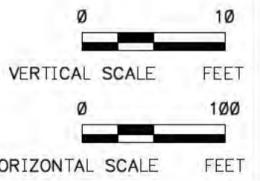
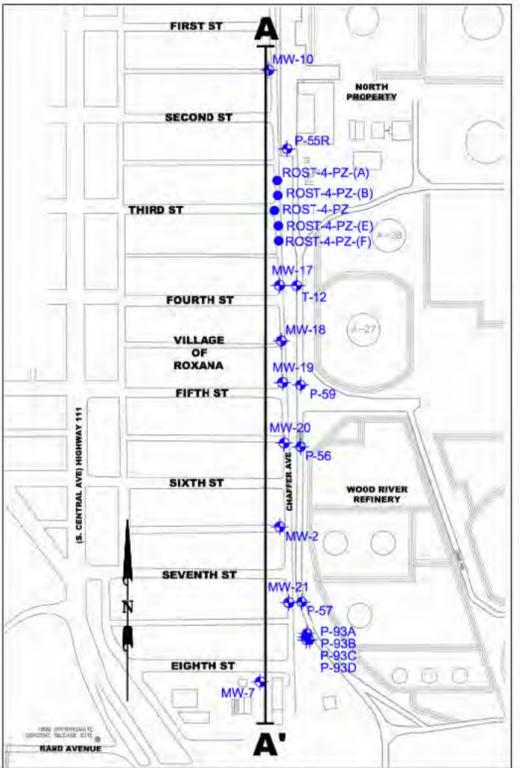
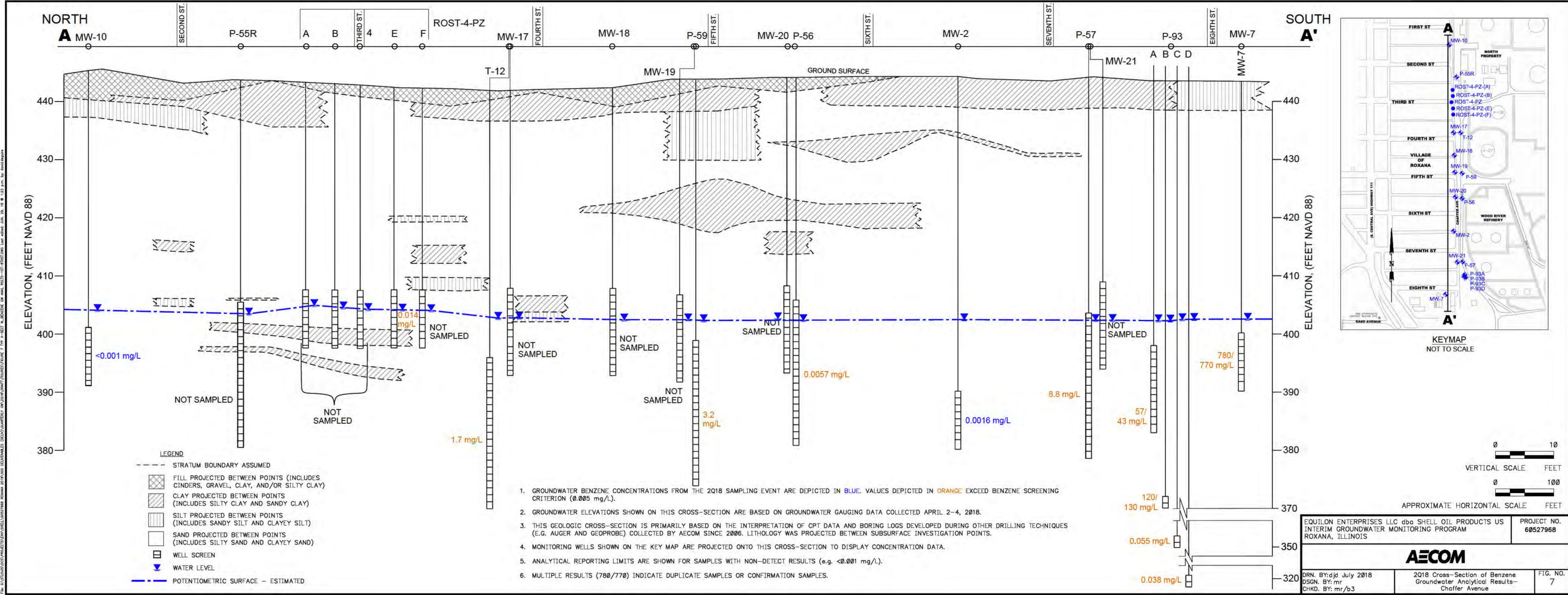
NOTES:

1. IMAGES GENERATED UTILIZING CTECH ENVIRONMENTAL VISUALIZATION SYSTEM MODELING SOFTWARE. CONCENTRATIONS BETWEEN KNOWN DATA POINTS (E.G. GROUNDWATER MONITORING WELLS) ARE INTERPOLATIONS AND EXTRAPOLATIONS OF THE MEASURED DATA. SOME INTERPRETATION WAS COMPLETED UTILIZING PROFESSIONAL JUDGEMENT AND CONTOUR LINES WERE MODIFIED BY HAND.
2. ALL RESULTS SHOWN IN mg/L.
3. ANALYTICAL REPORTING LIMITS ARE SHOWN FOR SAMPLES WITH NON-DETECT RESULTS (e.g., <0.001 mg/L).
4. NON-DETECT VALUES ARE MODELED AT HALF THE REPORTING LIMIT.
5. MULTIPLE RESULTS (e.g. 780/770) INDICATE DUPLICATE SAMPLES OR CONFIRMATION SAMPLES.
6. CONTOUR LINES IN AREA OF P-55 ADJUSTED BASED ON AVAILABLE 2Q18 AND HISTORICAL ANALYTICAL DATA FROM WELLS IN THE AREA.
7. J = THE RESULT IS ESTIMATED.
8. AT WELL CLUSTER LOCATIONS, THE HIGHEST VALUE WAS USED FOR CONTOURING PURPOSES.



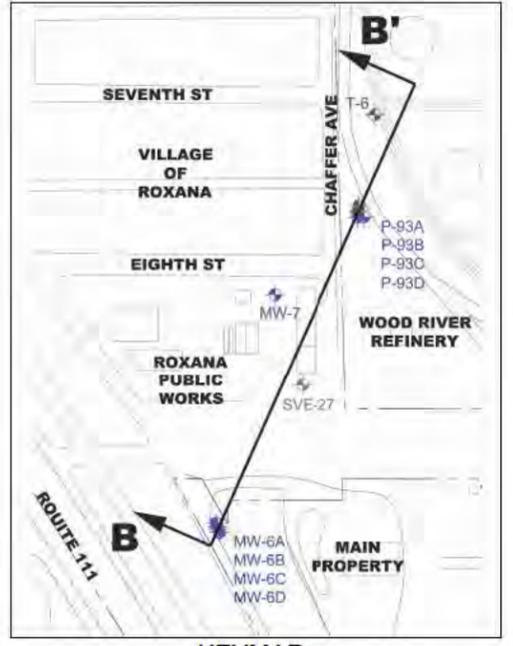
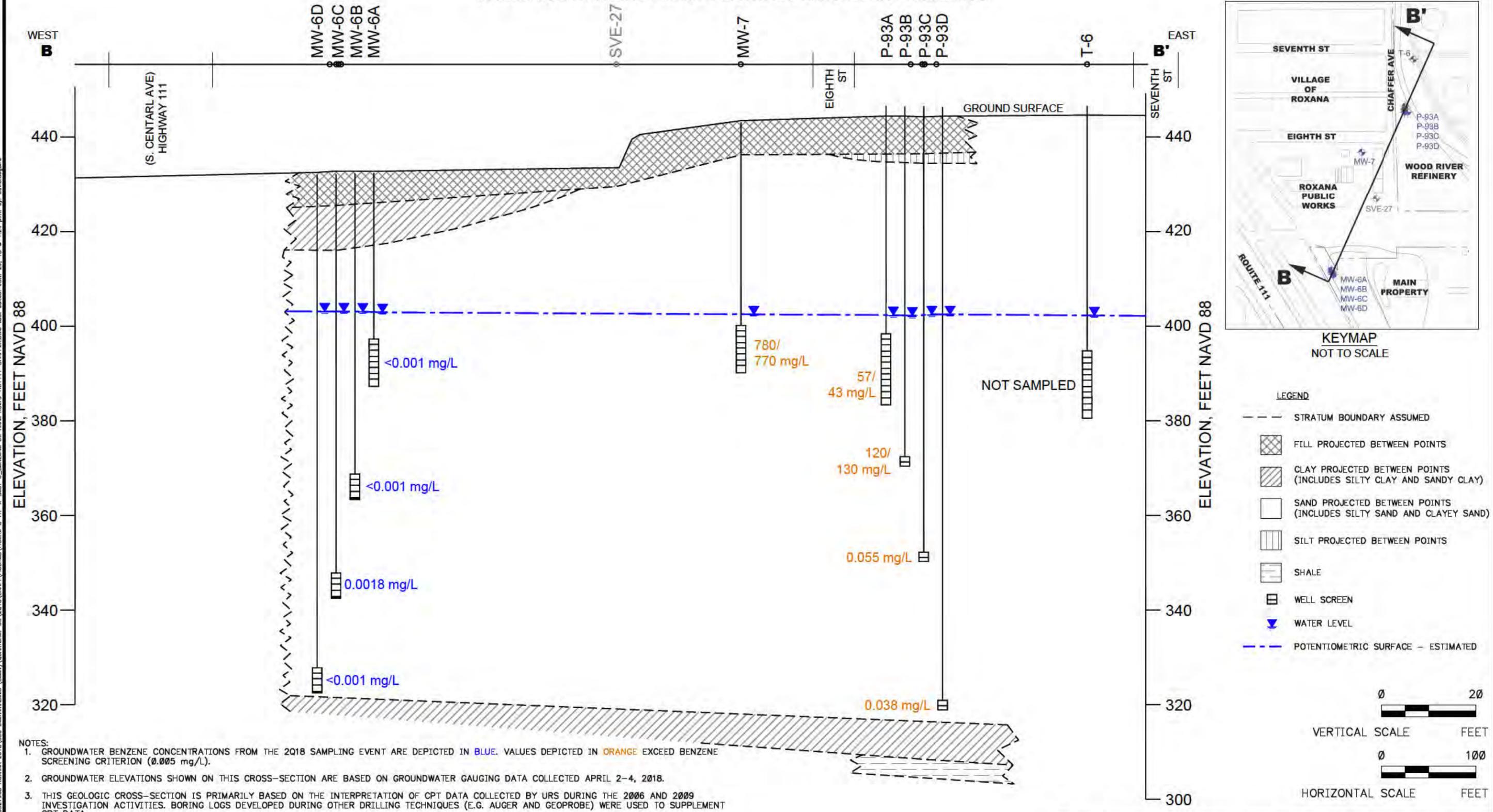
EQUILON ENTERPRISES LLC dba SHELL OIL PRODUCTS US INTERIM GROUNDWATER MONITORING PROGRAM ROXANA, ILLINOIS		PROJECT NO. 60527968
AECOM		
DRN. BY:djd July 2018 DSGN. BY:nm/mr CHKD. BY:mr/b3	2Q18 Dissolved Phase Benzene Concentrations in Groundwater	FIG. NO. 6



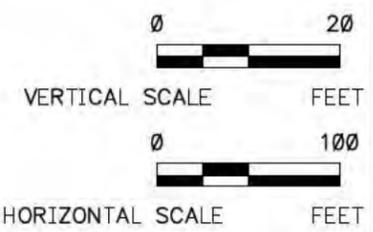


EQUILON ENTERPRISES LLC dba SHELL OIL PRODUCTS US INTERIM GROUNDWATER MONITORING PROGRAM ROXANA, ILLINOIS		PROJECT NO. 60527968
AECOM		
DRN. BY: djd July 2018 DSGN. BY: mr CHKD. BY: mr/b3	2018 Cross-Section of Benzene Groundwater Analytical Results- Chaffer Avenue	FIG. NO. 7

CROSS SECTION LINE - SOME FEATURES HAVE BEEN PROJECTED



- LEGEND**
- STRATUM BOUNDARY ASSUMED
 - [Cross-hatch] FILL PROJECTED BETWEEN POINTS
 - [Diagonal lines] CLAY PROJECTED BETWEEN POINTS (INCLUDES SILTY CLAY AND SANDY CLAY)
 - [Horizontal lines] SAND PROJECTED BETWEEN POINTS (INCLUDES SILTY SAND AND CLAYEY SAND)
 - [Vertical lines] SILT PROJECTED BETWEEN POINTS
 - [Wavy lines] SHALE
 - [Rectangle] WELL SCREEN
 - [Inverted triangle] WATER LEVEL
 - [Dashed blue line] POTENTIOMETRIC SURFACE - ESTIMATED



- NOTES:**
1. GROUNDWATER BENZENE CONCENTRATIONS FROM THE 2018 SAMPLING EVENT ARE DEPICTED IN BLUE. VALUES DEPICTED IN ORANGE EXCEED BENZENE SCREENING CRITERION (0.005 mg/L).
 2. GROUNDWATER ELEVATIONS SHOWN ON THIS CROSS-SECTION ARE BASED ON GROUNDWATER GAUGING DATA COLLECTED APRIL 2-4, 2018.
 3. THIS GEOLOGIC CROSS-SECTION IS PRIMARILY BASED ON THE INTERPRETATION OF CPT DATA COLLECTED BY URS DURING THE 2006 AND 2009 INVESTIGATION ACTIVITIES. BORING LOGS DEVELOPED DURING OTHER DRILLING TECHNIQUES (E.G. AUGER AND GEOPROBE) WERE USED TO SUPPLEMENT CPT DATA.
 4. THE DEPTH AND THICKNESS OF INDIVIDUAL STRATA DEPICTED MAY BE BASED ON CPT LOGS GENERATED AT NEARBY LOCATIONS. THEREFORE, WELL SCREENS MAY APPEAR TO BE PARTIALLY WITHIN CLAY LAYERS OR SHALLOWER/DEEPER WITHIN A PERMEABLE STRATUM THAN ACTUAL CONDITIONS DUE TO MAP PROJECTIONS.
 5. LITHOLOGICAL INFORMATION FROM SVE-27 WAS OBTAINED FROM BORING LOG TO SUPPLEMENT SITE GEOLOGY ONLY.
 6. HISTORIC BORING LOG IS NOT AVAILABLE FOR T-6.
 7. ANALYTICAL REPORTING LIMITS ARE SHOWN FOR SAMPLES WITH NON-DETECT RESULTS (e.g. <math><0.001\text{ mg/L}</math>).
 8. MULTIPLE RESULTS (780/770) INDICATE DUPLICATE SAMPLES OR CONFIRMATION SAMPLES.

EQUILON ENTERPRISES LLC dba SHELL OIL PRODUCTS US PROJECT NO. 60527968
 INTERIM GROUNDWATER MONITORING PROGRAM
 ROXANA, ILLINOIS



DRN. BY:djd April 2018
 DSGN. BY:mr
 CHKD. BY:mr/b3

2Q18 Cross-Section of Benzene Groundwater Analytical Results- Roxana Public Works Yard

FIG. NO. 8

FIG. 8: G:\STLOUIS\DCS\PROJECTS\ENVA\SHELL\60527968 ROXANA 2018\500 DELIVERABLES (DELIV)\QUARTERLY GW\2018\ORAF\FIGURES\FIGURE 8 TYP X--SECT W_BENZENE GW ANAL RESULTS--HWY111--CHAFFER.DWG Last edited: JUN. 29, 18 @ 1:24 p.m. by: david.deguire

Appendix A

Groundwater Redevelopment Data Sheet – MW-27

GROUNDWATER REDEVELOPMENT DATA SHEET

PROJECT NAME: Roxana Interim GW Monitoring Program

PROJECT NUMBER: 60527968.01.03.001/2-MD

DATE: 01/03/18

WEATHER: Rainy, Cloudy 50°F

FIELD PERSONNEL: Tina Liu/Megan Karnick

MONITORING WELL ID: MW-27

INITIAL DATA

Well Diameter: 2 in.
 Total Depth of Well: 50.04 ft btoc
 Depth to Water: 40.19 ft btoc
 Height of Water Column: 9.85 ft
 (0.163 gallons/ft for 2 inch well, 1.468 gallons/ft for 6-inch well)

Gallons/Lin.Ft: 0.163
 Vol. Of Water Column: 1.606 gallons
 Min. Purge Volume: 4.82 gallons (3 volumes)
 Depth to Top of Screen: 39.79 ft btoc

Water Added during Drilling/Installation: _____ gallons
 Total Water to be Removed: _____ gallons (3-volumes)
 Ambient PID/FID Reading: 0.0 ppm
 Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Purge Method: pump

Purge Volume (gals)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. (µmhos/cm)	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
PARAMETERS NOT COLLECTED PER SOP										

Start Time: 1114
 Average Purge Rate (gallons/min): 1.2

Purge Stop Time: 1124
 Well Volumes Purged: 7.5

Elapsed Time: 10 min
 Water Quality Meter ID: N/A

Total Volume Purged: 12 gallons
 Calibrated on: N/A

SAMPLING DATA

Sampling Method: _____
 Sample Date: N/A Sample Time: N/A Analysis: N/A

COMMENTS:

DTB = 48.45 ft btoc prior to development
 DTB = 50.10 ft btoc after development

Is the purgewater visually sediment free? YES NO

Appendix B

Low Flow Groundwater Sampling Data Sheets

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: ROXANA ZQ18 GW PROJECT NUMBER: 60527968-01.03.002 FIELD PERSONNEL: J. PETERS, B. HOWELL

DATE: 4/6/18 WEATHER: CLOUDY 48°

MONITORING WELL ID: MW-1 SAMPLE ID: MW1-ROX-040618

INITIAL DATA

Well Diameter: 2 in
 Total Well Depth (btoc): 59.13 ft
 Depth to Water (btoc): 40.82 ft
 Depth to LNAPL/DNAPL (btoc): NE ft
 Depth to Top of Screen (btoc): 48.80 ft
 Screen Length: 10 ft
 Water Column Height (not including NAPL): 18.31 ft

IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN: 53.8 ft btoc
 IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: N/A ft btoc
 IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHICHEVER IS DEEPER): N/A ft btoc
 IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: N/A ft btoc
 IF SCREEN AND/OR WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT: N/A ft btoc

Volume of Flow Through Cell: 320* mL
 Minimum Purge Volume = (3 x Flow Cell Volume): 960 mL
 Ambient PID/FID Reading: 0.0 ppm
 Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: (over 3 readings) Monitor Temp. +0.2 mg/L or +10% +5% or +2 uS/cm +0.2 mg/L +20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	1435	40.82	CLEAR	SLIGHT	16.6	0.79	1.280 mS/cm uS/cm	6.86	8.7	9.9
300	1436	40.85	"	"	16.8	0.48	1.275 mS/cm uS/cm	6.80	8.3	12.2
600	1437	40.85	"	"	16.9	0.24	1.272 mS/cm uS/cm	6.76	8.1	15.5
900	1438	40.85	"	"	17.1	0.10	1.262 mS/cm uS/cm	6.74	8.5	20.5
1200	1439	40.85	"	"	17.2	0.05	1.263 mS/cm uS/cm	6.73	8.9	22.2
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
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Start Time: 1435 Elapsed Time (min): 4 MIN Water Quality Meter ID & SN: YSI ProDSS - 041061
 Stop Time: 1439 Average Purge Rate (mL/min): 300 Date Calibrated: 4/6/18

SAMPLING DATA

Sample Date: 4/6/18 Sample Time: 1445 Lab Analysis: VOC, SVOC, PAH
 Sample Method: Monsoon Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: N/A
 VOA Vials, No Headspace Initials: JP

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW PROJECT NUMBER: 60527968 - 01.03.002 FIELD PERSONNEL: B. Howell M. Kamick

DATE: 04 09 18 WEATHER: Cloudy 45°F

MONITORING WELL ID: MW-2 SAMPLE ID: MW2-ROX-040918

INITIAL DATA

Well Diameter): <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN:	Volume of Flow Through Cell : <u>320*</u> mL
Total Well Depth (btoc): <u>60.20</u> ft	<u>54.84</u> ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>42.10</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	Ambient PID/FID Reading: <u>0.5</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>NE</u> ft	ft btoc	Wellbore PID/FID Reading: <u>76.8 f</u> ppm
Depth to Top of Screen (btoc): <u>49.87</u> ft	IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHICHEVER IS DEEPER):	ft btoc
Screen Length: <u>10</u> ft	ft btoc	
Water Column Height (not including NAPL): <u>18.10</u> ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	ft btoc
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT:	ft btoc

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: (over 3 readings) Monitor Temp. +/-10% +/-0.2 mg/L or +5% or +2 uS/cm +/-0.2 mg/L +/-20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	1248	42.12	Clear	Moderate	17.0	0.55	1.531 mS/cm uS/cm	7.17	-103.5	5.5
300	1249	42.13			17.0	0.48	1.546 mS/cm uS/cm	7.12	-107.6	6.1
600	1250	42.13			17.2	0.44	1.546 mS/cm uS/cm	7.10	-110.4	7.0
900	1251	42.13			17.3	0.41	1.549 mS/cm uS/cm	7.09	-112.8	8.2
1200	1252	42.13			17.3	0.38	1.553 mS/cm uS/cm	7.08	-116.1	10.4
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
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							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			

Start Time: 1248 Elapsed Time (min): 4 Water Quality Meter ID & SN: YSI ProDSS - 026589
 Stop Time: 1252 Average Purge Rate (mL/min): 300 Date Calibrated: 04 09 18

SAMPLING DATA

Sample Date: 4/09/18 Sample Time: 1255 Lab Analysis: VOC, SVOC, PAH
 Sample Method: Monsoon Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: NA
 VOA Vials, No Headspace Initials: BH

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW PROJECT NUMBER: 60527968 - 01.03.002 FIELD PERSONNEL: M. KARRICK, K. NIENHAUS

DATE: 4/5/18 WEATHER: 56°F sunny, SSE wind 12 mph

MONITORING WELL ID: MW-3 SAMPLE ID: MW3-RAX-040518

INITIAL DATA

Table with 4 columns: Parameter, Value, Unit, and Notes. Includes Well Diameter (2 in), Total Well Depth (45.00 ft), Depth to Water (27.98 ft), Screen Length (10 ft), and various Pump Intake criteria based on screen and water column heights.

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: (over 3 readings) Monitor Temp. +/-0.2 mg/L or +/-10% +/-5% or +/-2 uS/cm +/-0.2 mg/L +/-20 mV Monitor Turb Readings (<50)

Table with 11 columns: Purge Volume (mL), Time, Depth to Water (ft), Color, Odor, Temp (°C), DO (mg/L), Spec. Cond. (mS/cm), pH, ORP (mV), Turb (NTU). Contains 5 rows of data showing increasing purge volume from 0 to 1200 mL over time, with color changing from 'Moderate' to 'Clear' and various parameters recorded.

Start Time: 1545 Elapsed Time (min): 4 Water Quality Meter ID & SN: YSI ProDSS - 026599
Stop Time: 1549 Average Purge Rate (mL/min): 300 Date Calibrated: 4/5/18

SAMPLING DATA

Sample Date: 4/5/18 Sample Time: 1555 Lab Analysis: VOC, SVOC, PAH
Sample Method: Monsoon Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: none
VOA Vials, No Headspace [checked] Initials: MK

COMMENTS: * Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW PROJECT NUMBER: 60527968 - 01.03.002 FIELD PERSONNEL: L. PETERS, T. JONES

DATE: 4/9/18 WEATHER: CLOUDY 37°

MONITORING WELL ID: MW-4 SAMPLE ID: ML14-ROX-040918

INITIAL DATA

Well Diameter): <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN:	Volume of Flow Through Cell : <u>320*</u> mL
Total Well Depth (btoc): <u>55.39</u> ft	<u>50.06'</u> ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>39.32</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	Ambient PID/FID Reading: <u>0.0</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>NE</u> ft	<u>N/A</u> ft btoc	Wellbore PID/FID Reading: <u>14.3</u> ppm
Depth to Top of Screen (btoc): <u>45.06</u> ft	IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHIEVER IS DEEPER):	
Screen Length: <u>10</u> ft	<u>N/A</u> ft btoc	
Water Column Height (not including NAPL): <u>16.07</u> ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	<u>N/A</u> ft btoc
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT:	<u>N/A</u> ft btoc

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: (over 3 readings) Monitor Temp. +/-10% +/-5% or +/2 uS/cm +/-0.2 mg/L or +/20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	1021	39.32	CLEAR	SLIGHT	17.0	0.165	1.260	6.70	-20.9	8.5
300	1022	39.33	"	"	17.3	0.41	1.254	6.71	-29.8	8.3
600	1023	39.33	"	"	17.4	0.25	1.234	6.73	-38.0	7.6
900	1024	39.33	"	"	17.5	0.14	1.214	6.74	-45.0	8.7
1200	1025	39.33	"	"	17.6	0.08	1.188	6.76	-51.3	8.9
1500	1026	39.33	"	"	17.7	0.01	1.168	6.78	-58.4	6.5

Start Time: 1021 Elapsed Time (min): 5 MIN Water Quality Meter ID & SN: YSI ProDSS -041061
 Stop Time: 1026 Average Purge Rate (mL/min): 300 Date Calibrated: 4/9/18

SAMPLING DATA

Sample Date: 4/9/18 Sample Time: 1030 Lab Analysis: VOC, SVOC, PAH
 Sample Method: Monsoon Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: N/A
 VOA Vials, No Headspace Initials: JP

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1500 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW PROJECT NUMBER: 60527968 - 01.03.002 FIELD PERSONNEL: M. KARRICK, K. NIENHAUS

DATE: 4/5/18 WEATHER: 54° sunny, SSE wind 14 mph

MONITORING WELL ID: MW-6A SAMPLE ID: MW6A-ROX-040518

INITIAL DATA

Well Diameter): <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN:	Volume of Flow Through Cell : <u>320*</u> mL
Total Well Depth (btoc): <u>44.18</u> ft	<u>39.83</u> ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>29.83</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	Ambient PID/FID Reading: <u>0.0</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>NE</u> ft	_____ ft btoc	Wellbore PID/FID Reading: <u>0.1</u> ppm
Depth to Top of Screen (btoc): <u>34.83</u> ft	IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHICHEVER IS DEEPER):	_____ ft btoc
Screen Length: <u>10</u> ft	_____ ft btoc	
Water Column Height (not including NAPL): <u>14.35</u> ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	_____ ft btoc
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT:	_____ ft btoc

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: (over 3 readings) Monitor Temp. +/-0.2 mg/L or +/-10% +/-5% or +/-2 uS/cm +/-0.2 mg/L +/-20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	1321	29.82	cloudy	none	18.3	0.58	1.138	6.40	-4.7	141.0
300	1322	29.82			18.1	0.56	1.144	6.39	-6.5	110.9
600	1323	29.82			18.0	0.56	1.145	6.40	-7.1	105.2
900	1324	29.82			18.0	0.55	1.147	6.40	-7.8	99.5
1200	1325	29.83			17.9	0.55	1.150	6.40	-9.0	75.6
1500	1326	29.83			18.2	0.53	1.152	6.40	-10.7	76.4
1800	1327	29.83			18.4	0.51	1.160	6.40	-12.4	73.0
2100	1328	29.83			18.2	0.51	1.170	6.41	-14.2	60.6
2400	1329	29.83			18.1	0.50	1.174	6.41	-15.4	55.7
2700	1330	29.83			18.1	0.49	1.177	6.41	-16.2	45.5
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			

Start Time: 1321 Elapsed Time (min): 9 Water Quality Meter ID & SN: YSI ProDSS - 026599
 Stop Time: 1330 Average Purge Rate (mL/min): 300 Date Calibrated: 4/5/18

SAMPLING DATA

Sample Date: 4/5/18 Sample Time: 1335 Lab Analysis: VOC, SVOC, PAH
 Sample Method: Monsoon Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QCSamples: MS/MSD
 VOA Vials, No Headspace Initials: MK

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 2700 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW PROJECT NUMBER: 60527968 - 01.03.002 FIELD PERSONNEL: M. KARRICK, K. Nienhaus

DATE: 4/5/18 WEATHER: 50° sunny, SE Wind 11 mph

MONITORING WELL ID: MW-6B SAMPLE ID: MW6B-RDX-040518

INITIAL DATA

Well Diameter): <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN: <u>66.55</u> ft btoc	Volume of Flow Through Cell : <u>320*</u> mL
Total Well Depth (btoc): <u>69.38</u> ft		Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>29.95</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: <u> </u> ft btoc	Ambient PID/FID Reading: <u>0.0</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>NE</u> ft		Wellbore PID/FID Reading: <u>0.0</u> ppm
Depth to Top of Screen (btoc): <u>64.05</u> ft	IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHICHEVER IS DEEPER): <u> </u> ft btoc	
Screen Length: <u>5</u> ft		
Water Column Height (not including NAPL): <u>39.43</u> ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: <u> </u> ft btoc	
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT: <u> </u> ft btoc	

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: (over 3 readings) Monitor Temp: +/-0.2 mg/L or +/-10% +/-5% or +/-2 uS/cm +/-0.2 mg/L +/-20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	1232	29.91	CLEAR	NONE	17.6	1.26	1.021	6.98	-82.3	14.5
300	1233	29.91	↓	↓	17.7	0.91	1.030	6.93	-90.4	14.2
600	1234	29.91	↓	↓	17.8	0.75	1.033	6.92	-96.2	12.8
900	1235	29.91	↓	↓	18.0	0.63	1.032	6.91	-100.7	11.3
1200	1236	29.91	↓	↓	18.0	0.57	1.033	6.91	-102.8	11.0
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
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							mS/cm uS/cm			

Start Time: 1232 Elapsed Time (min): 4 Water Quality Meter ID & SN: YSI ProDSS - 0246599
Stop Time: 1236 Average Purge Rate (mL/min): 300 Date Calibrated: 4/5/18

SAMPLING DATA

Sample Date: 4/5/18 Sample Time: 1240 Lab Analysis: VOC, SVOC, PAH
Sample Method: Monsoon Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: none
VOA Vials, No Headspace Initials: MK

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: ROXANA 2Q18 GW PROJECT NUMBER: 60529968-01.03.002 FIELD PERSONNEL: M. KARRICK, K. NIENHANS

DATE: 4/5/18 WEATHER: 46°F Sunny, SE wind 12 mph

MONITORING WELL ID: MW-6C SAMPLE ID: MW6C-ROX-040518

INITIAL DATA

Well Diameter: 2 in
 Total Well Depth (btoc): 90.28 ft
 Depth to Water (btoc): 29.74 ft
 Depth to LNAPL/DNAPL (btoc): NE ft
 Depth to Top of Screen (btoc): 87.45 ft
 Screen Length: 5 ft
 Water Column Height (not including NAPL): 60.54 ft

IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN: 87.45 ft btoc
 IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: _____ ft btoc
 IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHICHEVER IS DEEPER): _____ ft btoc
 IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: _____ ft btoc
 IF SCREEN AND/OR WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT: _____ ft btoc

Volume of Flow Through Cell: 320 mL
 Minimum Purge Volume = (3 x Flow Cell Volume): 960 mL
 Ambient PID/FID Reading: 0.0 ppm
 Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: (over 3 readings) Monitor Temp. +0.2 mg/L or +10% +5% or +2 uS/cm +0.2 mg/L +20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	1051	29.74	clear	None	16.3	1.11	1.176 (mS/cm) uS/cm	6.62	-63.8	5.1
300	1052	29.74	↓	↓	16.2	0.93	1.191 (mS/cm) uS/cm	6.61	-78.2	5.3
600	1053	29.74	↓	↓	16.2	0.85	1.192 (mS/cm) uS/cm	6.62	-84.8	4.3
900	1054	29.74	↓	↓	16.2	0.83	1.192 (mS/cm) uS/cm	6.65	-95.0	4.9
1200	1055	29.74	↓	↓	16.6	0.59	1.180 (mS/cm) uS/cm	6.68	-103.1	4.9
1500	1056	29.74	↓	↓	17.2	0.40	1.181 (mS/cm) uS/cm	6.72	-110.8	3.5
1800	1057	29.74	↓	↓	17.4	0.37	1.181 (mS/cm) uS/cm	6.72	-112.4	4.0
2100	1058	29.74	↓	↓	17.4	0.36	1.183 (mS/cm) uS/cm	6.74	-114.6	3.2
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			

Start Time: 1051 Elapsed Time (min): 7 Water Quality Meter ID & SN: YSI ProDSS -- 026599
 Stop Time: 1058 Average Purge Rate (mL/min): 300 Date Calibrated: 4/5/18

SAMPLING DATA

Sample Date: 4/5/18 Sample Time: 1105 Lab Analysis: VOC, SVOC, PAH
 Sample Method: Monsoon Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: EB
 VOA Vials, No Headspace Initials: KJ

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 2100 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW PROJECT NUMBER: 60527968 - 01.03.002 FIELD PERSONNEL: M. KARRICK, K. NIENHAUS

DATE: 4/5/18 WEATHER: 57°F Sunny, SSE wind 15 mph

MONITORING WELL ID: MW-6D SAMPLE ID: MW6D-RDX-040518

INITIAL DATA

Well Diameter): <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN: <u>107.22</u> ft btoc	Volume of Flow Through Cell : <u>320*</u> mL
Total Well Depth (btoc): <u>110.05</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: _____ ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>29.52</u> ft	IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHIEVER IS DEEPER): _____ ft btoc	Ambient PID/FID Reading: <u>0.0</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>NE</u> ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: _____ ft btoc	Wellbore PID/FID Reading: <u>0.1</u> ppm
Depth to Top of Screen (btoc): <u>104.72</u> ft	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT: _____ ft btoc	
Screen Length: <u>5</u> ft		
Water Column Height (not including NAPL): <u>80.53</u> ft		

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: (over 3 readings) Monitor Temp. ± 0.2 mg/L or $\pm 10\%$ $\pm 5\%$ or ± 2 uS/cm ± 0.2 mg/L ± 20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	1439	29.53	clear	none	17.6	1.11	1.691	6.93	-116.4	75.9
300	1440	29.53	↓	↓	17.6	0.81	1.698	6.91	-119.8	67.6
600	1441	29.53	↓	↓	17.7	0.76	1.700	6.91	-121.1	59.1
900	1442	29.54	↓	↓	17.6	0.64	1.700	6.91	-123.0	63.5
1200	1443	29.54	↓	↓	17.7	0.59	1.703	6.91	-124.3	46.3
1500	1444	29.54	↓	↓	17.7	0.54	1.708	6.92	-125.4	39.1

Start Time: 1439 Elapsed Time (min): 5 Water Quality Meter ID & SN: YSI ProDSS - 026599
 Stop Time: 1444 Average Purge Rate (mL/min): 300 Date Calibrated: 4/5/18

SAMPLING DATA

Sample Date: _____ Sample Time: 1450 Lab Analysis: VOC, SVOC, PAH
 Sample Method: Monsoon Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: none
 VOA Vials, No Headspace Initials: MK

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1500 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW PROJECT NUMBER: 60527968 - 01.03.002 FIELD PERSONNEL: J. PETERS, T. JONES

DATE: 4/9/18 WEATHER: CLOUDY 45°

MONITORING WELL ID: MW-7 SAMPLE ID: MW7-ROX-040918

INITIAL DATA

Well Diameter): <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN: <u>47.92'</u> ft btoc	Volume of Flow Through Cell : <u>320*</u> mL
Total Well Depth (btoc): <u>52.92</u> ft		Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>41.38</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: <u>N/A</u> ft btoc	Ambient PID/FID Reading: <u>0.5</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>N/A</u> ft		Wellbore PID/FID Reading: <u>2,000 (MAX)</u> ppm
Depth to Top of Screen (btoc): <u>42.92</u> ft	IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHICHEVER IS DEEPER): <u>N/A</u> ft btoc	
Screen Length: <u>10</u> ft		
Water Column Height (not including NAPL): <u>11.54</u> ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: <u>N/A</u> ft btoc	
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT: <u>N/A</u> ft btoc	

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: (over 3 readings) Monitor Temp. +/-0.2 mg/L or +/-10% +/-5% or +/-2 uS/cm +/-0.2 mg/L +/-20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	1353	41.38	CLEAR	MODERATE	16.6	0.42	1.375 mS/cm uS/cm	6.64	-10.3	13.9
300	1354	41.41	"	"	17.5	0.19	1.385 mS/cm uS/cm	6.61	-18.7	22.1
600	1355	41.41	"	"	17.6	0.13	1.386 mS/cm uS/cm	6.59	-22.3	22.2
900	1356	41.41	"	"	17.8	0.06	1.387 mS/cm uS/cm	6.58	-27.3	31.0
1200	1357	41.41	"	"	17.9	0.03	1.388 mS/cm uS/cm	6.57	-30.4	33.9
							mS/cm uS/cm			
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Start Time: 1353 Elapsed Time (min): 4 MIN Water Quality Meter ID & SN: YSI ProDSS - 041061
 Stop Time: 1357 Average Purge Rate (mL/min): 300 Date Calibrated: 4/9/18

SAMPLING DATA

Sample Date: 4/9/18 Sample Time: 1405 Lab Analysis: VOC, SVOC, PAH
 Sample Method: Monsoon Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: NUP
 VOA Vials, No Headspace Initials: JP

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW PROJECT NUMBER: 60527968 - 01.03.002 FIELD PERSONNEL: J. PETERS, T. JONES

DATE: 4/9/18 WEATHER: CLOUDY 43°

MONITORING WELL ID: MW-8 SAMPLE ID: ML18-ROX-040918

INITIAL DATA

Well Diameter): <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN: <u>38.6'</u> ft btoc	Volume of Flow Through Cell : <u>320*</u> mL
Total Well Depth (btoc): <u>43.60</u> ft		Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>32.27</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: <u>N/A</u> ft btoc	Ambient PID/FID Reading: <u>0.1</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>NE</u> ft		Wellbore PID/FID Reading: <u>227.5</u> ppm
Depth to Top of Screen (btoc): <u>33.60</u> ft	IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHICHEVER IS DEEPER): <u>N/A</u> ft btoc	
Screen Length: <u>10</u> ft		
Water Column Height (not including NAPL): <u>11.33</u> ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: <u>N/A</u> ft btoc	
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT: <u>N/A</u> ft btoc	

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: (over 3 readings) Monitor Temp. +/-10% +/-5% or +/2 uS/cm +/-0.2 mg/L or +/20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	1241	32.27	CLEAR	STRONG	18.0	0.24	1.527	6.59	-11.4	-0.6
300	1242	32.28	U	U	18.3	0.13	1.526	6.58	-21.3	-0.5
600	1243	32.28	U	U	18.5	0.07	1.524	6.58	-27.7	-0.3
900	1244	32.28	U	U	18.5	0.02	1.520	6.58	-35.8	-0.1
1200	1245	32.28	U	U	18.6	-0.02	1.509	6.58	-41.9	0.3

Start Time: 1241 Elapsed Time (min): 4 MIN Water Quality Meter ID & SN: YSI ProDSS -- 041061
 Stop Time: 1245 Average Purge Rate (mL/min): 300 Date Calibrated: 4/9/18

SAMPLING DATA

Sample Date: 4/9/18 Sample Time: 1250 Lab Analysis: VOC, SVOC, PAH
 Sample Method: Monsoon Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QCSamples: N/A
 VOA Vials, No Headspace Initials: JP

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW PROJECT NUMBER: 60527968 - 01.03.002 FIELD PERSONNEL: J. PETERS, B. HOWELL

DATE: 4/6/18 WEATHER: SUNNY 50°

MONITORING WELL ID: MW-9 SAMPLE ID: MW9-ROX-040618

INITIAL DATA

Well Diameter): <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN:	Volume of Flow Through Cell : <u>320*</u> mL
Total Well Depth (btoc): <u>56.37</u> ft	<u>JP 51.45 51.45'</u> ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>42.29</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	Ambient PID/FID Reading: <u>0.0</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>NE</u> ft	<u>JP 49.32 49.32'</u> ft btoc	Wellbore PID/FID Reading: <u>0.0</u> ppm
Depth to Top of Screen (btoc): <u>46.45</u> ft	IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHICHEVER IS DEEPER): <u>N/A</u> ft btoc	Wellbore PID/FID Reading: <u>0.0</u> ppm
Screen Length: <u>10</u> ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: <u>N/A</u> ft btoc	
Water Column Height (not including NAPL): <u>14.08</u> ft	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT: <u>N/A</u> ft btoc	

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: (over 3 readings) Monitor Temp. +/-0.2 mg/L or +/-10% +/-5% or +/-2 uS/cm +/-0.2 mg/L +/-20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	1138	42.29	CLEAR	SLIGHT	16.4	1.00	1.286	6.81	-13.0	28.2
300	1139	42.32	H	H	16.8	0.131	1.299	6.69	-24.6	17.4
600	1140	42.32	H	H	16.9	0.21	1.301	6.68	-27.6	13.4
900	1141	42.32	H	H	17.0	0.11	1.302	6.66	-31.9	10.2
1200	1142	42.32	H	H	17.1	0.08	1.302	6.66	-34.3	9.2

Start Time: 1138 Elapsed Time (min): 4 MIN Water Quality Meter ID & SN: YSI ProDSS - 041061
 Stop Time: 1142 Average Purge Rate (mL/min): 300 Date Calibrated: 4/6/18

SAMPLING DATA

Sample Date: 4/6/18 Sample Time: 1150 Lab Analysis: VOC, SVOC, PAH
 Sample Method: Monsoon Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: MS, MSD
 VOA Vials, No Headspace Initials: JP

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW PROJECT NUMBER: 60527968 - 01.03.002 FIELD PERSONNEL: J. PETERS, B. HOWELL

DATE: 4/5/18 WEATHER: SUNNY 55°

MONITORING WELL ID: MW-10 SAMPLE ID: MW10-ROX-040518

INITIAL DATA		
Well Diameter): <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN:	Volume of Flow Through Cell : <u>320*</u> mL
Total Well Depth (btoc): <u>54.76</u> ft	<u>49'</u> ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>41.94</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	Ambient PID/FID Reading: <u>0.0</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>N/A</u> ft	<u>N/A</u> ft btoc	Wellbore PID/FID Reading: <u>0.0</u> ppm
Depth to Top of Screen (btoc): <u>44.43</u> ft	IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHICHEVER IS DEEPER):	
Screen Length: <u>10</u> ft	<u>N/A</u> ft btoc	
Water Column Height (not including NAPL): <u>12.82</u> ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	
	<u>N/A</u> ft btoc	
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT:	
	<u>N/A</u> ft btoc	

PURGE DATA Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: (over 3 readings) Monitor Temp. +/-10% +/-5% or +2 uS/cm +/-0.2 mg/L +/-20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	1530	41.94	CLEAR	SLIGHT	17.7	0.76	1.871 mS/cm uS/cm	7.08	-48.2	33.6
300	1531	41.96	"	"	17.7	0.38	1.902 mS/cm uS/cm	7.05	-57.6	26.6
600	1532	41.96	"	"	17.7	0.26	1.916 mS/cm uS/cm	7.04	-61.4	24.2
900	1533	41.96	"	"	17.9	0.15	1.928 mS/cm uS/cm	7.03	-66.9	20.8
1200	1534	41.96	"	"	18.0	0.08	1.933 mS/cm uS/cm	7.03	-70.3	19.0
1500	1535	41.96	"	"	18.1	0.06	1.932 mS/cm uS/cm	7.02	-73.7	17.0
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
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Start Time: 1530 Elapsed Time (min): 5 min Water Quality Meter ID & SN: YSI ProDSS - 041061
Stop Time: 1535 Average Purge Rate (mL/min): 300 Date Calibrated: 4/5/18

SAMPLING DATA Sample Date: 4/5/18 Sample Time: 1540 Lab Analysis: VOC, SVOC, PAH
Sample Method: Monsoon Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: N/A
VOA Vials, No Headspace Initials: JP

COMMENTS: * Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1500 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW PROJECT NUMBER: 60527968 - 01.03.002 FIELD PERSONNEL: M. KARRICK, K. NIENHAUS

DATE: 4/6/18 WEATHER: 49°F cloudy, N wind 15 mph

MONITORING WELL ID: MW-11 SAMPLE ID: MW11-RDX-040618

INITIAL DATA

Well Diameter): <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN:	Volume of Flow Through Cell : <u>320*</u> mL
Total Well Depth (btoc): <u>51.99</u> ft	<u>46.66</u> ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>39.98</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	Ambient PID/FID Reading: <u>0.0</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>NE</u> ft	<u> </u> ft btoc	Wellbore PID/FID Reading: <u>0.0</u> ppm
Depth to Top of Screen (btoc): <u>41.66</u> ft	IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHICHEVER IS DEEPER):	
Screen Length: <u>10</u> ft	<u> </u> ft btoc	
Water Column Height (not including NAPL): <u>12.01</u> ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	<u> </u> ft btoc
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT:	<u> </u> ft btoc

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: Monitor Temp. Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	1335	40.00	clear	mild	14.2	1.78	1.876 mS/cm	7.18	4.4	41.2
300	1336	40.00	↓	↓	14.6	0.91	1.895 mS/cm	7.02	-16.0	36.1
600	1337	40.00	↓	↓	14.8	0.73	1.915 mS/cm	6.92	-26.2	37.0
900	1338	40.00	↓	↓	15.1	0.62	1.927 mS/cm	6.84	-35.9	34.0
1200	1339	40.01	↓	↓	15.3	0.56	1.928 mS/cm	6.80	-40.5	31.1
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
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Start Time: 1335 Elapsed Time (min): 4 Water Quality Meter ID & SN: YSI ProDSS - 026599
 Stop Time: 1339 Average Purge Rate (mL/min): 300 Date Calibrated: 4/6/18

SAMPLING DATA

Sample Date: 4/6/18 Sample Time: 1345 Lab Analysis: VOC, SVOC, PAH
 Sample Method: Monsoon Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: none
 VOA Vials, No Headspace Initials: KTJ

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW PROJECT NUMBER: 60527968 - 01.03.002 FIELD PERSONNEL: J. PETERS, B. HOWELL

DATE: 4/5/18 WEATHER: SUNNY 52°

MONITORING WELL ID: MW-12 SAMPLE ID: MW12-ROX-040518

INITIAL DATA

Well Diameter): <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN:	Volume of Flow Through Cell : <u>320*</u> mL
Total Well Depth (btoc): <u>52.25</u> ft	<u>N/A</u> ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>40.50</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	Ambient PID/FID Reading: <u>0.0</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>NE</u> ft	<u>47'</u> ft btoc	Wellbore PID/FID Reading: <u>0.0</u> ppm
Depth to Top of Screen (btoc): <u>41.92</u> ft	IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHIEVER IS DEEPER):	Wellbore PID/FID Reading: <u>0.0</u> ppm
Screen Length: <u>10</u> ft	<u>N/A</u> ft btoc	
Water Column Height (not including NAPL): <u>11.75</u> ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	<u>N/A</u> ft btoc
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT:	<u>N/A</u> ft btoc

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: (over 3 readings) Monitor Temp. +0.2 mg/L or +10% +5% or +2 uS/cm +0.2 mg/L +20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	<u>1319</u>	<u>40.50</u>	<u>CLEAR</u>	<u>NONE</u>	<u>18.0</u>	<u>0.44</u>	<u>0.915</u> mS/cm uS/cm	<u>6.95</u>	<u>56.8</u>	<u>4.8</u>
300	<u>1320</u>	<u>40.52</u>	<u>"</u>	<u>"</u>	<u>18.1</u>	<u>0.38</u>	<u>0.916</u> mS/cm uS/cm	<u>6.94</u>	<u>57.2</u>	<u>3.8</u>
600	<u>1321</u>	<u>40.52</u>	<u>"</u>	<u>"</u>	<u>18.2</u>	<u>0.27</u>	<u>0.918</u> mS/cm uS/cm	<u>6.91</u>	<u>58.9</u>	<u>4.7</u>
900	<u>1322</u>	<u>40.52</u>	<u>"</u>	<u>"</u>	<u>18.2</u>	<u>0.22</u>	<u>0.915</u> mS/cm uS/cm	<u>6.90</u>	<u>60.0</u>	<u>3.4</u>
1200	<u>1323</u>	<u>40.52</u>	<u>"</u>	<u>"</u>	<u>18.2</u>	<u>0.19</u>	<u>0.914</u> mS/cm uS/cm	<u>6.89</u>	<u>60.9</u>	<u>3.1</u>
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
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Start Time: 1319 Elapsed Time (min): 4 MIN Water Quality Meter ID & SN: YSI ProDSS - 041061
 Stop Time: 1323 Average Purge Rate (mL/min): 300 Date Calibrated: 4/5/18

SAMPLING DATA

Sample Date: 4/5/18 Sample Time: 1330 Lab Analysis: VOC, SVOC, PAH
 Sample Method: Monsoon Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: DUP
 VOA Vials, No Headspace Initials: JP

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW PROJECT NUMBER: 60527968 - 01.03.002 FIELD PERSONNEL: J. PETERS, B. HOWELL

DATE: 4/6/18 WEATHER: SUNNY 45°

MONITORING WELL ID: MW-13 SAMPLE ID: MW13-ROX-040618

INITIAL DATA

Well Diameter): <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN - PUMP INTAKE AT MIDPOINT OF SCREEN:	Volume of Flow Through Cell : <u>320*</u> mL
Total Well Depth (btoc): <u>35.05</u> ft	<u>N/A</u> ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>27.71</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN - PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	Ambient PID/FID Reading: <u>0.0</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>NE</u> ft	<u>31.38'</u> ft btoc	Wellbore PID/FID Reading: <u>3.4</u> ppm
Depth to Top of Screen (btoc): <u>25.57</u> ft	IF SCREEN & WATER COLUMN >10 FT - PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHICHEVER IS DEEPER):	
Screen Length: <u>10</u> ft	<u>N/A</u> ft btoc	
Water Column Height (not including NAPL): <u>7.34</u> ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT - PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	<u>N/A</u> ft btoc
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT - PUMP INTAKE AT TOTAL WELL DEPTH -2 FT:	<u>N/A</u> ft btoc

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: (over 3 readings) Monitor Temp. +/-0.2 mg/L or +/-10% +/-5% or +/-2 uS/cm +/-0.2 mg/L +/-20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	1025	27.71	CLEAR	SLIGHT	18.2	1.42	1.455 mS/cm uS/cm	6.46	-57.6	6.4
300	1026	27.73	"	"	18.7	0.79	1.459 mS/cm uS/cm	6.45	-64.7	10.2
600	1027	27.73	"	"	19.1	0.41	1.465 mS/cm uS/cm	6.44	-70.1	14.4
900	1028	27.73	"	"	19.1	0.28	1.464 mS/cm uS/cm	6.44	-73.8	16.8
1200	1029	27.73	"	"	19.2	0.16	1.466 mS/cm uS/cm	6.44	-78.5	16.1
1500	1030	27.73	"	"	19.3	0.09	1.466 mS/cm uS/cm	6.45	-81.3	13.6
							mS/cm uS/cm			
							mS/cm uS/cm			
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Start Time: 1025 Elapsed Time (min): 5 MIN Water Quality Meter ID & SN: YSI ProDSS - 041061
 Stop Time: 1030 Average Purge Rate (mL/min): 300 Date Calibrated: 4/6/18

SAMPLING DATA

Sample Date: 4/6/18 Sample Time: 1035 Lab Analysis: VOC, SVOC, PAH
 Sample Method: Monsoon Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: N/A
 VOA Vials, No Headspace Initials: JP

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1500 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW PROJECT NUMBER: 60527968 - 01.03.002 FIELD PERSONNEL: M. Kerrick, B. Howell

DATE: 4/10/18 WEATHER: Sunny 50°

MONITORING WELL ID: MW-14 SAMPLE ID: MW14-RDX-041018

INITIAL DATA

Well Diameter): 2 in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN: <u>38.42</u> ft btoc	Volume of Flow Through Cell: 320* mL
Total Well Depth (btoc): 44.00 ft		Minimum Purge Volume = (3 x Flow Cell Volume): 960 mL
Depth to Water (btoc): <u>31.96</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: _____ ft btoc	Ambient PID/FID Reading: <u>0.0</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>NE</u> ft		Wellbore PID/FID Reading: <u>30.9</u> ppm
Depth to Top of Screen (btoc): 33.42 ft	IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHIEVER IS DEEPER): _____ ft btoc	
Screen Length: 10 ft		
Water Column Height (not including NAPL): <u>31.96</u> ft <u>12.04</u>	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: _____ ft btoc	
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT: _____ ft btoc	

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: (over 3 readings) Monitor Temp. +/-0.2 mg/L or +/-10% +/-5% or +/-2 uS/cm +/-0.2 mg/L +/-20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	1029	31.97	clear	Moderate	16.6	0.66	2.028 mS/cm uS/cm	6.30	-9.8	4.3
300	1030	31.97	↓	↓	16.7	0.60	2.027 mS/cm uS/cm	6.33	-23.6	4.3
600	1031	31.97	↓	↓	17.0	0.48	2.025 mS/cm uS/cm	6.37	-44.6	4.8
900	1032	31.97	↓	↓	17.2	0.45	2.019 mS/cm uS/cm	6.40	-51.2	4.7
1200	1033	31.97	↓	↓	17.1	0.43	2.016 mS/cm uS/cm	6.41	-57.3	5.0
							mS/cm uS/cm			
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Start Time: 1029 Elapsed Time (min): 4 Water Quality Meter ID & SN: YSI ProDSS - 26599
 Stop Time: 1033 Average Purge Rate (mL/min): 300 Date Calibrated: 4/10/18

SAMPLING DATA

Sample Date: 4/10/18 Sample Time: 1040 Lab Analysis: VOC, SVOC, PAH
 Sample Method: Monsoon Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QCSamples: NA
 VOA Vials, No Headspace Initials: MK, BH

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL
 Total Purge Volume: 1200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: roxana 2018 GW PROJECT NUMBER: _____ FIELD PERSONNEL: M. KARRICK, K. NIENHAUS

DATE: 4/6/18 WEATHER: 48° PARTLY CLOUDY, N wind 15 mph

MONITORING WELL ID: MW-16 SAMPLE ID: MW16-RDX-040618

INITIAL DATA

Well Diameter: 2 in
 Total Well Depth (btoc): 47.75 ft
 Depth to Water (btoc): 41.54 ft
 Depth to LNAPL/DNAPL (btoc): NE ft
 Depth to Top of Screen (btoc): 37.06 ft
 Screen Length: 10 ft
 Water Column Height (not including NAPL): 6.21 ft

IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN - PUMP INTAKE AT MIDPOINT OF SCREEN: _____ ft btoc
 IF SCREEN ≤10 FT & WATER WITHIN SCREEN - PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: 44.65 ft btoc
 IF SCREEN & WATER COLUMN >10 FT - PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHICHEVER IS DEEPER): _____ ft btoc
 IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT - PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: _____ ft btoc
 IF SCREEN AND/OR WATER COLUMN HEIGHT <10 FT - PUMP INTAKE AT TOTAL WELL DEPTH -2 FT: _____ ft btoc

Volume of Flow Through Cell: 320* mL
 Minimum Purge Volume = (3 x Flow Cell Volume): 960 mL
 Ambient PID/FID Reading: 0.0 ppm
 Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: (over 3 readings) Monitor Temp. +/-0.2 mg/L or +/-10% +/-5% or +/-2 uS/cm +/-0.2 mg/L +/-20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	1010	41.56	clear	None	16.1	0.82	1.276 (mS/cm) uS/cm	6.43	6.0	69.6
300	1011	41.56	↓	↓	17.0	0.68	1.277 (mS/cm) uS/cm	6.44	-6.0	65.4
600	1012	41.56	↓	↓	17.3	0.59	1.289 (mS/cm) uS/cm	6.46	-17.6	56.9
900	1013	41.56	↓	↓	17.5	0.57	1.287 (mS/cm) uS/cm	6.47	-24.5	50.0
1200	1014	41.56	↓	↓	17.6	0.55	1.288 (mS/cm) uS/cm	6.48	-28.7	43.0
1500	1015	41.56	↓	↓	17.9	0.64	1.289 (mS/cm) uS/cm	6.51	-33.6	35.4
							mS/cm uS/cm			
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Start Time: 1010 Elapsed Time (min): 5 Water Quality Meter ID & SN: YSI ProDSS -- 026599
 Stop Time: 1015 Average Purge Rate (mL/min): 300 Date Calibrated: 4/6/18

SAMPLING DATA

Sample Date: 4/6/18 Sample Time: 1015^{PM} 1020 Lab Analysis: VOC, SVOC, PAH
 Sample Method: Monsoon Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: none
 VOA Vials, No Headspace Initials: KJ

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1500 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW

PROJECT NUMBER: 60527968 - 01.03.002

FIELD PERSONNEL: B. Howell M. Kameth

DATE: 4/10/18

WEATHER: Sunny 50°F

MONITORING WELL ID: MW-22

SAMPLE ID: MWZZ-Rox-041018

INITIAL DATA

Well Diameter): <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN:	Volume of Flow Through Cell : <u>320*</u> mL
Total Well Depth (btoc): <u>48.48</u> ft	ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>40.27</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	Ambient PID/FID Reading: <u>0.0</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>NE</u> ft	ft btoc	Wellbore PID/FID Reading: <u>0.0</u> ppm
Depth to Top of Screen (btoc): <u>37.88</u> ft	IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER	
Screen Length: <u>10</u> ft	(WHIEVER IS DEEPER):	
Water Column Height (not including NAPL): <u>8.21</u> ft <u>4.1</u>	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT:	

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: (over 3 readings) Monitor Temp. +/-0.2 mg/L or +/-10% +/-5% or +/-2 uS/cm +/-0.2 mg/L +/-20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	1555	40.28	Clear	None	18.3	0.71	1.416 mS/cm uS/cm	6.67	-78.3	9.9
300	1556	40.28			18.7	0.56	1.434 mS/cm uS/cm	6.62	-76.4	9.8
600	1557	40.28			18.6	0.48	1.478 mS/cm uS/cm	6.63	-80.7	9.5
900	1558	40.28			18.7	0.45	1.453 mS/cm uS/cm	6.63	-82.9	8.7
1200	1558	40.28			18.9	0.43	1.462 mS/cm uS/cm	6.64	-85.4	9.9
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
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							mS/cm uS/cm			

Start Time: 1555
 Stop Time: 1559

Elapsed Time (min): 4
 Average Purge Rate (mL/min): 300

Water Quality Meter ID & SN: YSI ProDSS -216599
 Date Calibrated: 4/10/18

SAMPLING DATA

Sample Date: 4/10/18
 Sample Method: Monsoon Pump / Low Flow
 VOA Vials, No Headspace Initials: BH

Sample Time: 1605
 Sample Flow Rate (mL/min): 300

Lab Analysis: VOC, SVOC, PAH
 QA/QC Samples: NA

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW PROJECT NUMBER: 60527968 - 01.03.002 FIELD PERSONNEL: J. PETERS, T. JONES

DATE: 4/9/18 WEATHER: CLOUDY 32°

MONITORING WELL ID: MW-23 SAMPLE ID: MW23-ROX-040918-BP-1P

INITIAL DATA

Well Diameter): <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN - PUMP INTAKE AT MIDPOINT OF SCREEN:	Volume of Flow Through Cell : <u>320</u> mL
Total Well Depth (btoc): <u>39.27</u> ft	<u>N/A</u> ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>29.24</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN - PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	Ambient PID/FID Reading: <u>0.2</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>NE</u> ft	<u>34.25</u> ft btoc	Wellbore PID/FID Reading: <u>4.9</u> ppm
Depth to Top of Screen (btoc): <u>29.02</u> ft	IF SCREEN & WATER COLUMN >10 FT - PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHICHEVER IS DEEPER):	Water Column Height (not including NAPL): <u>10.03</u> ft
Screen Length: <u>10</u> ft	<u>N/A</u> ft btoc	
Water Column Height (not including NAPL): <u>10.03</u> ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT - PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	
	<u>N/A</u> ft btoc	
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT - PUMP INTAKE AT TOTAL WELL DEPTH -2 FT:	
	<u>N/A</u> ft btoc	

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: (over 3 readings) Monitor Temp. +/-0.2 mg/L or +/-10% +/-5% or +/-2 uS/cm +/-0.2 mg/L +/-20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	0909	29.24	CLEAR	SLIGHT	15.7	0.162	1.040	6.10	57.7	89.6
300	0910	29.26	"	"	16.5	0.130	1.056	6.14	37.6	93.7
600	0911	29.26	"	"	16.7	0.11	1.061	6.19	21.5	88.3
900	0912	29.26	"	"	16.7	0.103	1.063	6.22	10.5	77.6
1200	0913	29.26	"	"	16.8	-0.104	1.063	6.24	-0.09	64.0
1500	0914	29.26	"	"	16.8	-0.106	1.065	6.26	-8.5	59.3
1800	0915	29.26	"	"	16.9	-0.108	1.064	6.27	-13.6	49.6

Start Time: 0909 Elapsed Time (min): 6 MIN Water Quality Meter ID & SN: YSI ProDSS - 041061
 Stop Time: 0915 Average Purge Rate (mL/min): 300 Date Calibrated: 4/9/18

SAMPLING DATA

Sample Date: 4/9/18 Sample Time: 0920 Lab Analysis: VOC, SVOC, PAH
 Sample Method: Monsoon Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: N/A
 VOA Vials, No Headspace Initials: JP

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1800 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW PROJECT NUMBER: 60527968 - 01.03.002 FIELD PERSONNEL: M. KARRICK, K. NIENHAUS

DATE: 4/6/18 WEATHER: 51°F sunny, N wind 16 mph

MONITORING WELL ID: MW-24 SAMPLE ID: MW24-RDX-040618

INITIAL DATA

Well Diameter): <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN:	Volume of Flow Through Cell : <u>320*</u> mL
Total Well Depth (btoc): <u>49.86</u> ft	ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>41.28</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	Ambient PID/FID Reading: <u>0.0</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>NE</u> ft	<u>45.57</u> <u>43.18</u> ft btoc	Wellbore PID/FID Reading: <u>0.0</u> ppm
Depth to Top of Screen (btoc): <u>38.89</u> ft	IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHIEVER IS DEEPER):	
Screen Length: <u>10</u> ft	ft btoc	
Water Column Height (not including NAPL): <u>9.58</u> ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	
	ft btoc	
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT:	
	ft btoc	

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: (over 3 readings) Monitor Temp. +/-0.2 mg/L or +/-10% +/-5% or +/-2 uS/cm +/-0.2 mg/L +/-20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	1110	41.29	CLEAR	NONE	17.0	0.87	2.018 (mS/cm) uS/cm	6.95	39.0	28.6
300	1111	41.29	↓	↓	16.9	0.79	2.019 (mS/cm) uS/cm	6.88	39.8	26.4
600	1112	41.29	↓	↓	16.8	0.73	2.021 (mS/cm) uS/cm	6.85	41.1	26.0
900	1113	41.29	↓	↓	16.9	0.69	2.020 (mS/cm) uS/cm	6.83	42.7	22.9
1200	1114	41.29	↓	↓	16.8	0.63	2.026 (mS/cm) uS/cm	6.80	45.1	22.8
							mS/cm uS/cm			
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Kayla P. [Signature]

Start Time: 1110 Elapsed Time (min): 4 Water Quality Meter ID & SN: YSI ProDSS -- 026599
 Stop Time: 1114 Average Purge Rate (mL/min): 300 Date Calibrated: 4/6/18

SAMPLING DATA

Sample Date: 4/6/18 Sample Time: 1120 Lab Analysis: VOC, SVOC, PAH
 Sample Method: Monsoon Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: DUP
 VOA Vials, No Headspace Initials: MK

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW PROJECT NUMBER: 60527968 - 01.03.002 FIELD PERSONNEL: J. PETERS

DATE: 4/9/18 WEATHER: CLOUDY 38°

MONITORING WELL ID: MW-25 SAMPLE ID: MW25-ROX-040918

INITIAL DATA

Well Diameter: <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN - PUMP INTAKE AT MIDPOINT OF SCREEN: _____ ft btoc	Volume of Flow Through Cell : <u>320</u> mL
Total Well Depth (btoc): <u>45.84</u> ft		Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>36.49</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN - PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: _____ ft btoc	Ambient PID/FID Reading: <u>0.0</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>NE</u> ft		Wellbore PID/FID Reading: <u>1.6</u> ppm
Depth to Top of Screen (btoc): <u>35.59</u> ft	IF SCREEN & WATER COLUMN >10 FT - PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHICHEVER IS DEEPER): _____ ft btoc	
Screen Length: <u>10</u> ft		
Water Column Height (not including NAPL): <u>9.35</u> ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT - PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: _____ ft btoc	
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT - PUMP INTAKE AT TOTAL WELL DEPTH -2 FT: _____ ft btoc	

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: (over 3 readings) Monitor Temp. +0.2 mg/L or +10% +5% or +2 uS/cm +0.2 mg/L +20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	1110	36.49	CLEAR	SLIGHT	17.3	0.28	0.985 mS/cm uS/cm	6.86	-5.4	21.1
300	1111	36.51			17.6	0.15	0.974 mS/cm uS/cm	6.86	-9.7	22.2
600	1112	36.51			17.8	0.08	0.957 mS/cm uS/cm	6.86	-15.1	23.3
900	1113	36.51			17.9	0.00	0.936 mS/cm uS/cm	6.87	-22.5	19.3
1200	1114	36.51			18.0	-0.04	0.919 mS/cm uS/cm	6.88	-27.9	16.7
							mS/cm uS/cm			
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Start Time: 1110 Elapsed Time (min): 4 MIN Water Quality Meter ID & SN: YSI ProDSS - 041061
 Stop Time: 1114 Average Purge Rate (mL/min): 300 Date Calibrated: 4/9/18

SAMPLING DATA

Sample Date: 4/9/18 Sample Time: 1120 Lab Analysis: VOC, SVOC, PAH
 Sample Method: Monsoon Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: N/A
 VOA Vials, No Headspace Initials: JP

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW PROJECT NUMBER: 60527968 - 01.03.002 FIELD PERSONNEL: J. PETERS, B. HOWELL

DATE: 4/5/18 WEATHER: SUNNY 54°

MONITORING WELL ID: MW-26 SAMPLE ID: ML126-ROX-040518

INITIAL DATA

Well Diameter: <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN: <u>N/A</u> ft btoc	Volume of Flow Through Cell : <u>320*</u> mL
Total Well Depth (btoc): <u>48.40</u> ft		Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>39.22</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: <u>44'</u> ft btoc	Ambient PID/FID Reading: <u>0.0</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>N/A</u> ft		Wellbore PID/FID Reading: <u>0.0</u> ppm
Depth to Top of Screen (btoc): <u>38.15</u> ft	IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHICHEVER IS DEEPER): <u>N/A</u> ft btoc	
Screen Length: <u>10</u> ft		
Water Column Height (not including NAPL): <u>9.18</u> ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: <u>N/A</u> ft btoc	
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT: <u>N/A</u> ft btoc	

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: (over 3 readings) Monitor Temp. +/-0.2 mg/L or +/-10% +/-5% or +/-2 uS/cm +/-0.2 mg/L +/-20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
<u>0</u>	<u>1440</u>	<u>39.22</u>	<u>CLEAR</u>	<u>NONE</u>	<u>18.5</u>	<u>0.34</u>	<u>1.822</u> mS/cm uS/cm	<u>6.78</u>	<u>90.3</u>	<u>22.9</u>
<u>300</u>	<u>1441</u>	<u>39.23</u>	<u> </u>	<u> </u>	<u>18.5</u>	<u>0.26</u>	<u>1.822</u> mS/cm uS/cm	<u>6.76</u>	<u>90.2</u>	<u>22.4</u>
<u>600</u>	<u>1442</u>	<u>39.23</u>	<u> </u>	<u> </u>	<u>18.6</u>	<u>0.17</u>	<u>1.823</u> mS/cm uS/cm	<u>6.74</u>	<u>90.1</u>	<u>19.6</u>
<u>900</u>	<u>1443</u>	<u>39.23</u>	<u> </u>	<u> </u>	<u>18.7</u>	<u>0.12</u>	<u>1.827</u> mS/cm uS/cm	<u>6.73</u>	<u>90.3</u>	<u>15.8</u>
<u>1200</u>	<u>1444</u>	<u>39.23</u>	<u> </u>	<u> </u>	<u>18.8</u>	<u>0.09</u>	<u>1.832</u> mS/cm uS/cm	<u>6.72</u>	<u>90.4</u>	<u>14.1</u>
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			

Start Time: 1440 Elapsed Time (min): 4 MIN. Water Quality Meter ID & SN: YSI ProDSS - 041061
 Stop Time: 1444 Average Purge Rate (mL/min): 300 Date Calibrated: 4/5/18

SAMPLING DATA

Sample Date: 4/5/18 Sample Time: 1450 Lab Analysis: VOC, SVOC, PAH
 Sample Method: Monsoon Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: N/A
 VOA Vials, No Headspace Initials: JP

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW PROJECT NUMBER: 60527968 - 01.03.002 FIELD PERSONNEL: M. Karnick, K. Nienhans

DATE: 4/6/18 WEATHER: 47° cloudy, NNW 15 mph

MONITORING WELL ID: MW-27 SAMPLE ID: MW27-ROX-040618

INITIAL DATA

Well Diameter): 2 in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN:	Volume of Flow Through Cell : 320* mL
Total Well Depth (btoc): 50.04 ft	ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): 960 mL
Depth to Water (btoc): 40.34 ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	Ambient PID/FID Reading: 0.0 ppm
Depth to LNAPL/DNAPL (btoc): NE ft	45.19 ft btoc	Wellbore PID/FID Reading: 0.0 ppm
Depth to Top of Screen (btoc): 39.79 ft	IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHICHEVER IS DEEPER):	ft btoc
Screen Length: 10 ft	ft btoc	
Water Column Height (not including NAPL): 9.7 ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	ft btoc
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT:	ft btoc

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: +0.2 mg/L or +5% or Monitor Temp. -10% +2 uS/cm +0.2 mg/L +20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	1451	40.44	slightly cloudy	mild	15.1	1.20	1.473 mS/cm	7.29	-19.3	41.1
300	1452	40.44			15.3	0.92	1.470 mS/cm	7.11	-23.9	34.7
600	1453	40.44			15.5	0.77	1.458 mS/cm	6.98	-25.3	31.6
900	1454	40.44			15.8	0.73	1.441 mS/cm	6.93	-24.4	31.4
1200	1455	40.49			15.8	0.72	1.436 mS/cm	6.90	-24.1	30.7
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
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							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			

Start Time: 1451 Elapsed Time (min): 4 Water Quality Meter ID & SN: YSI ProDSS - 026599
 Stop Time: 1455 Average Purge Rate (mL/min): 300 Date Calibrated: 4/6/18

SAMPLING DATA

Sample Date: 4/6/18 Sample Time: 1500 Lab Analysis: VOC, SVOC, PAH
 Sample Method: Monsoon Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QCSamples: none
 VOA Vials, No Headspace Initials: MS

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW PROJECT NUMBER: 60527968 - 01.03.002 FIELD PERSONNEL: J. PETERS, B. HOWELL

DATE: 4/6/18 WEATHER: CLOUDY 46°

MONITORING WELL ID: MW-28 SAMPLE ID: MW28-ROX-040618

INITIAL DATA

Well Diameter): <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN:	Volume of Flow Through Cell : <u>320*</u> mL
Total Well Depth (btoc): <u>43.86</u> ft	<u>N/A</u> ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>39.25</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	Ambient PID/FID Reading: <u>0.0</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>NE</u> ft	<u>41.55</u> ft btoc	Wellbore PID/FID Reading: <u>0.0</u> ppm
Depth to Top of Screen (btoc): <u>33.61</u> ft	IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHICHEVER IS DEEPER):	
Screen Length: <u>10</u> ft	<u>N/A</u> ft btoc	
Water Column Height (not including NAPL): <u>4.61</u> ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	
	<u>N/A</u> ft btoc	
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT:	
	<u>N/A</u> ft btoc	

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: (over 3 readings) Monitor Temp. +/-10% +/-5% or +2 uS/cm +/-0.2 mg/L or +20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	1531	39.25	CLOUDY	SLIGHT	16.5	0.61	1.575	6.67	48.6	48.3
300	1532	39.30	"	"	16.8	0.37	1.581	6.62	45.6	36.1
600	1533	39.30	"	"	17.1	0.23	1.588	6.60	43.5	25.3
900	1534	39.30	"	"	17.2	0.18	1.594	6.58	42.0	19.5
1200	1535	39.30	"	"	17.3	0.13	1.598	6.57	40.2	14.6

Start Time: 1531 Elapsed Time (min): 1540 Water Quality Meter ID & SN: YSI ProDSS - 041061
 Stop Time: 1535 Average Purge Rate (mL/min): 300 Date Calibrated: 4/6/18

SAMPLING DATA

Sample Date: 4/6/18 Sample Time: 4 MIN Lab Analysis: VOC, SVOC, PAH
 Sample Method: Monsoon Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: N/A
 VOA Vials, No Headspace Initials: JP

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW PROJECT NUMBER: 60527968 - 01.03.002 FIELD PERSONNEL: M. Karrick, K. Nienhaus

DATE: 4/6/18 WEATHER: 51°F Partly Cloudy, NNW wind 16 mph

MONITORING WELL ID: P-54 SAMPLE ID: P54-RDX-040618

INITIAL DATA

Well Diameter): <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN:	Volume of Flow Through Cell : <u>320</u> mL
Total Well Depth (btoc): <u>63.00</u> ft	ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>40.05</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	Ambient PID/FID Reading: <u>0.0</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>NE</u> ft	ft btoc	Wellbore PID/FID Reading: <u>0.0</u> ppm
Depth to Top of Screen (btoc): <u>38.00</u> ft	IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHICHEVER IS DEEPER): <u>45.05</u> ft btoc	
Screen Length: <u>25</u> ft		
Water Column Height (not including NAPL): <u>22.95</u> ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	ft btoc
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT:	ft btoc

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: (over 3 readings) Monitor Temp. +/-0.2 mg/L or +/-10% +/-5% or +/-2 uS/cm +/-0.2 mg/L +/-20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
<u>0</u>	<u>1231</u>	<u>40.07</u>	<u>clear</u>	<u>none</u>	<u>15.0</u>	<u>2.16</u>	<u>1.983</u> mS/cm uS/cm	<u>7.35</u>	<u>82.5</u>	<u>35.5</u>
<u>300</u>	<u>1232</u>	<u>40.07</u>	<u>↓</u>	<u>↓</u>	<u>15.4</u>	<u>1.92</u>	<u>1.972</u> mS/cm uS/cm	<u>7.07</u>	<u>85.3</u>	<u>30.3</u>
<u>600</u>	<u>1233</u>	<u>40.07</u>	<u>↓</u>	<u>↓</u>	<u>15.5</u>	<u>1.86</u>	<u>1.984</u> mS/cm uS/cm	<u>7.02</u>	<u>86.5</u>	<u>28.1</u>
<u>900</u>	<u>1234</u>	<u>40.07</u>	<u>↓</u>	<u>↓</u>	<u>15.7</u>	<u>1.76</u>	<u>2.001</u> mS/cm uS/cm	<u>6.94</u>	<u>88.7</u>	<u>25.9</u>
<u>1200</u>	<u>1235</u>	<u>40.07</u>	<u>↓</u>	<u>↓</u>	<u>15.9</u>	<u>1.72</u>	<u>1.999</u> mS/cm uS/cm	<u>6.90</u>	<u>90.0</u>	<u>26.2</u>
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
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							mS/cm uS/cm			

Start Time: 1231 Elapsed Time (min): 4 Water Quality Meter ID & SN: YSI ProDSS - 026599
 Stop Time: 1235 Average Purge Rate (mL/min): 300 Date Calibrated: 4/6/18

SAMPLING DATA

Sample Date: 4/6/18 Sample Time: 1240 Lab Analysis: VOC, SVOC, PAH
 Sample Method: Monsoon Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: none
 VOA Vials, No Headspace Initials: MK

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW

PROJECT NUMBER: 60527968 - 01.03.002

FIELD PERSONNEL: B. Howell M. Karickhoff

DATE: 4/12/18

WEATHER: Sunny 70°F

MONITORING WELL ID: P-55R

SAMPLE ID: _____

INITIAL DATA

Well Diameter: <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN: _____ ft btoc	Volume of Flow Through Cell: <u>320*</u> mL
Total Well Depth (btoc): <u>450.68</u> ft		Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>41.25</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: _____ ft btoc	Ambient PID/FID Reading: <u>0.0</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>39.20</u> ft		Wellbore PID/FID Reading: <u>238.2</u> ppm
Depth to Top of Screen (btoc): <u>40.43</u> ft	IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHICHEVER IS DEEPER): _____ ft btoc	
Screen Length: <u>10</u> ft		
Water Column Height (not including NAPL): <u>9.43</u> ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: _____ ft btoc	
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT: _____ ft btoc	

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

STABLE: (over 3 readings) Monitor Temp. ±0.2 mg/L or ±10% ±5% or ±2 uS/cm ±0.2 mg/L ±20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
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							mS/cm uS/cm			

Start Time: _____ Elapsed Time (min): _____ Water Quality Meter ID & SN: YSI ProDSS --

Stop Time: _____ Average Purge Rate (mL/min): _____ Date Calibrated: _____

SAMPLING DATA

Sample Date: _____ Sample Time: _____ Lab Analysis: VOC, SVOC, PAH

Sample Method: Monsoon Pump / Low Flow Sample Flow Rate (mL/min): _____ QA/QCSamples: NA

VOA Vials, No Headspace Initials: _____

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL No Sample taken due to the presence of LNAPL

Total Purge Volume: _____ mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW PROJECT NUMBER: 60527968 - 01.03.002 FIELD PERSONNEL: Bo Howell M Kamick

DATE: 4 11 18 WEATHER: Sunny 70°F

MONITORING WELL ID: P56 SAMPLE ID: P56-Rox-041118 + P56-WRR-041118

INITIAL DATA

Well Diameter): <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN:	Volume of Flow Through Cell : <u>320</u> mL
Total Well Depth (btoc): <u>65.82</u> ft	ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>44.40</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	Ambient PID/FID Reading: <u>0.0</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>NE</u> ft	ft btoc	Wellbore PID/FID Reading: <u>58.3</u> ppm
Depth to Top of Screen (btoc): <u>40.82</u> ft	IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHICHEVER IS DEEPER): <u>49.40</u> ft btoc	
Screen Length: <u>25</u> ft		
Water Column Height (not including NAPL): <u>21.42</u> ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: _____ ft btoc	
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT: _____ ft btoc	

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: (over 3 readings) Monitor Temp. +/-0.2 mg/L or +/-10% +/-5% or +/-2 uS/cm +/-0.2 mg/L +/-20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	1515	44.45	Cloudy	Strong	21.7	0.29	2.043 mS/cm uS/cm	6.98	-105.3	38.3
300	1516	44.45	↓	↓	21.8	0.27	2.042 mS/cm uS/cm	6.97	-110.5	37.8
600	1517	44.45	↓	↓	21.8	0.27	2.040 mS/cm uS/cm	6.97	-116.9	39.7
900	1518	44.45	↓	↓	22.2	0.25	2.036 mS/cm uS/cm	6.97	-125.6	39.7
1200	1519	45.15	↓	↓	22.3	0.24	2.042 mS/cm uS/cm	6.98	-131.4	48.7
							mS/cm uS/cm			
							mS/cm uS/cm			
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							mS/cm uS/cm			

Start Time: 1515 Elapsed Time (min): 4 Water Quality Meter ID & SN: YSI ProDSS - 76597
 Stop Time: 1519 Average Purge Rate (mL/min): 300 Date Calibrated: 4 11 18

SAMPLING DATA

Sample Date: 4 11 18 Sample Time: 1525 Lab Analysis: VOC, SVOC, PAH
 Sample Method: Monsoon Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: SS
 VOA Vials, No Headspace Initials: BH

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW PROJECT NUMBER: 60527968 - 01.03.002 FIELD PERSONNEL: B. Howell M. Karick

DATE: 4/10/18 WEATHER: Sunny 45°F

MONITORING WELL ID: P-57 SAMPLE ID: PS7-ROX-041018

INITIAL DATA

Well Diameter): <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN: _____ ft btoc	Volume of Flow Through Cell : <u>320*</u> mL
Total Well Depth (btoc): <u>54.19</u> ft		Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>45.45</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: _____ ft btoc	Ambient PID/FID Reading: <u>0.0</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>NE</u> ft		Wellbore PID/FID Reading: <u>20.2</u> ppm
Depth to Top of Screen (btoc): <u>44.19</u> ft	IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHICHEVER IS DEEPER): _____ ft btoc	
Screen Length: <u>10</u> ft		
Water Column Height (not including NAPL): <u>8.74</u> ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: _____ ft btoc	
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT: _____ ft btoc	

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: STABLE Monitor Temp. STABLE +/-0.2 mg/L or +/-5% or +/-10% +/-2 uS/cm +/-0.2 mg/L +/-20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	1420	45.92	Clear	Moderate	21.3	0.52	1.699 mS/cm uS/cm	6.68	-104.4	9.9
300	1421	45.92	↓	↓	21.2	0.44	1.696 mS/cm uS/cm	6.68	-108.1	9.5
600	1422	45.91	↓	↓	21.0	0.40	1.690 mS/cm uS/cm	6.68	-112.1	9.3
900	1423	45.91	↓	↓	21.0	0.38	1.687 mS/cm uS/cm	6.68	-114.9	10.1
1200	1424	45.90	↓	↓	20.8	0.37	1.689 mS/cm uS/cm	6.69	-116.0	9.4
							mS/cm uS/cm			
							mS/cm uS/cm			
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Start Time: 1420 Elapsed Time (min): 4 Water Quality Meter ID & SN: YSI ProDSS -- 26599
 Stop Time: 1424 Average Purge Rate (mL/min): 300 Date Calibrated: 4/10/18

SAMPLING DATA

Sample Date: 4 10 18 Sample Time: 1430 Lab Analysis: VOC, SVOC, PAH
 Sample Method: Monsoon Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QCSamples: NA
 VOA Vials, No Headspace Initials: BH

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW

PROJECT NUMBER: 60527968 - 01.03.002

FIELD PERSONNEL: B. Howell M. Karick

DATE: 4/11/18

WEATHER: Sunny 45°F

MONITORING WELL ID: P-58

SAMPLE ID: PS8-ROX-04118

INITIAL DATA

Well Diameter: <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN: _____ ft btoc	Volume of Flow Through Cell: <u>320*</u> mL
Total Well Depth (btoc): <u>65.21</u> ft		Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>43.19</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: _____ ft btoc	Ambient PID/FID Reading: <u>0.0</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>NE</u> ft		Wellbore PID/FID Reading: <u>87.9</u> ppm
Depth to Top of Screen (btoc): <u>40.21</u> ft	IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHICHEVER IS DEEPER): <u>48.19</u> ft btoc	
Screen Length: <u>25</u> ft		
Water Column Height (not including NAPL): <u>7.02</u> ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: _____ ft btoc	
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT: _____ ft btoc	

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: STABLE +/-0.2 mg/L or +/-5% or Monitor Temp. Monitor Temp. +/-10% +/-2 uS/cm +/-0.2 mg/L +/-20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	1002	43.32	Cloudy	Slight	21.0	0.66	3.093	6.44	-24.6	19.2
300	1003	43.32			21.9	0.46	3.119	6.48	-58.2	18.0
600	1004	43.32			22.4	0.36	3.135	6.52	-76.0	17.7
900	1005	43.33			22.5	0.35	3.143	6.55	-87.1	15.8
1200	1006	43.33			22.7	0.32	3.147	6.57	-93.2	14.7

Start Time: 1002
Stop Time: 1006

Elapsed Time (min): 4
Average Purge Rate (mL/min): 300

Water Quality Meter ID & SN: YSI ProDSS - 26599
Date Calibrated: 04/11/18

SAMPLING DATA

Sample Date: 04/11/18
Sample Method: Monsoon Pump / Low Flow
VOA Vials, No Headspace Initials: BH

Sample Time: 1010
Sample Flow Rate (mL/min): 300

Lab Analysis: VOC, SVOC, PAH
QA/QC Samples: DUP

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW

PROJECT NUMBER: 60527968 - 01.03.002

FIELD PERSONNEL: B. Howell M. Karrick

DATE: 4 12 18

WEATHER: Sunny 78°F

MONITORING WELL ID: P-59

SAMPLE ID: P59-ROX-041218 & P59-WRR-041218

INITIAL DATA

Well Diameter): <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN: _____ ft btoc	Volume of Flow Through Cell : <u>320*</u> mL
Total Well Depth (btoc): <u>67.21</u> ft		Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>45.13</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: _____ ft btoc	Ambient PID/FID Reading: <u>0.9</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>NE</u> ft		Wellbore PID/FID Reading: <u>311.6</u> ppm
Depth to Top of Screen (btoc): <u>47.91</u> ft	IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHIEVER IS DEEPER): <u>52.91</u> ft btoc	
Screen Length: <u>25</u> ft 5		
Water Column Height (not including NAPL): <u>21.73</u> ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: _____ ft btoc	
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT: _____ ft btoc	

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: (over 3 readings) Monitor Temp. +/-0.2 mg/L or +/-10% +/-5% or +/-2 uS/cm +/-0.2 mg/L +/-20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	1701	45.14	clear	strong	27.6	0.70	1.344 mS/cm uS/cm	7.45	-88.3	11.6
300	1702	45.14	↓	↓	27.6	0.62	1.344 mS/cm uS/cm	7.47	-92.7	11.7
600	1703	45.15	↓	↓	27.5	0.55	1.343 mS/cm uS/cm	7.41	-96.6	11.5
900	1704	45.15	↓	↓	27.7	0.44	1.343 mS/cm uS/cm	7.36	-103.9	11.3
1200	1705	45.15	↓	↓	27.7	0.38	1.344 mS/cm uS/cm	7.36	-106.9	11.3
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
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							mS/cm uS/cm			
							mS/cm uS/cm			

Start Time: 1701
Stop Time: 1705

Elapsed Time (min): 4
Average Purge Rate (mL/min): 300

Water Quality Meter ID & SN: YSI ProDSS -26599
Date Calibrated: 4 12 18

SAMPLING DATA

Sample Date: 4 12 18
Sample Method: Monsoon Pump / Low Flow
VOA Vials, No Headspace Initials: BH

Sample Time: 1710
Sample Flow Rate (mL/min): 300

Lab Analysis: VOC, SVOC, PAH
QA/QCSamples: NA

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW

PROJECT NUMBER: 60527968 - 01.03.002

FIELD PERSONNEL: B. Howell M. Kamets

DATE: 04 10 18

WEATHER: Sunny

MONITORING WELL ID: P-66

SAMPLE ID: PG6-Rox-041018

INITIAL DATA

Well Diameter): <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN - PUMP INTAKE AT MIDPOINT OF SCREEN: _____ ft btoc	Volume of Flow Through Cell : <u>320</u> mL
Total Well Depth (btoc): <u>59.72</u> ft		Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>34.93</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN - PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: _____ ft btoc	Ambient PID/FID Reading: <u>0.0</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>NE</u> ft		Wellbore PID/FID Reading: <u>28.6</u> ppm
Depth to Top of Screen (btoc): <u>34.72</u> ft	IF SCREEN & WATER COLUMN >10 FT - PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHICHEVER IS DEEPER): <u>34.93</u> ft btoc	
Screen Length: <u>25</u> ft		
Water Column Height (not including NAPL): <u>24.79</u> ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT - PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: _____ ft btoc	
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT - PUMP INTAKE AT TOTAL WELL DEPTH -2 FT: _____ ft btoc	

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: (over 3 readings) Monitor Temp. ± 0.2 mg/L or $\pm 10\%$ $\pm 5\%$ or ± 2 uS/cm ± 0.2 mg/L ± 20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	1124	34.95	Clear	Strong	18.1	0.52	2.015 mS/cm uS/cm	6.56	-102.0	5.6
300	1125	34.95	↓	↓	17.8	0.49	1.989 mS/cm uS/cm	6.54	-102.2	5.3
600	1126	34.95	↓	↓	18.0	0.43	1.960 mS/cm uS/cm	6.52	-102.5	5.5
900	1127	34.95	↓	↓	18.5	0.39	1.969 mS/cm uS/cm	6.51	-103.0	5.9
1200	1128	34.95	↓	↓	18.8	0.35	1.965 mS/cm uS/cm	6.50	-103.6	5.6
							mS/cm uS/cm			
							mS/cm uS/cm			
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							mS/cm uS/cm			

Start Time: 1124

Elapsed Time (min): 4

Water Quality Meter ID & SN: YSI ProDSS -- 26597

Stop Time: 1128

Average Purge Rate (mL/min): 300

Date Calibrated: 4/10/18

SAMPLING DATA

Sample Date: 4/10/18

Sample Time: 1135

Lab Analysis: VOC, SVOC, PAH

Sample Method: Monsoon Pump / Low Flow

Sample Flow Rate (mL/min): 300

QA/QC Samples: NA

VOA Vials, No Headspace Initials: BH

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW

PROJECT NUMBER: 60527968 - 01.03.002

FIELD PERSONNEL: B. Howell M. Karnick

DATE: 4/2/18

WEATHER: Sunny 70° F

MONITORING WELL ID: P-68

SAMPLE ID: _____

INITIAL DATA

Well Diameter): <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN:	Volume of Flow Through Cell: <u>320*</u> mL
Total Well Depth (btoc): <u>68.76</u> ft	_____ ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>42.94</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	Ambient PID/FID Reading: <u>0.0</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>42.8</u> ft	_____ ft btoc	Wellbore PID/FID Reading: <u>92.0</u> ppm
Depth to Top of Screen (btoc): <u>45.26</u> ft	IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHIEVER IS DEEPER): _____ ft btoc	Water Column Height (not including NAPL): <u>.05</u> ft
Screen Length: <u>25</u> ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: _____ ft btoc	
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT: _____ ft btoc	

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: (over 3 readings) Monitor Temp. +/-0.2 mg/L or +/-10% +/-5% or +/-2 uS/cm +/-0.2 mg/L +/-20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
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							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			

Start Time: _____

Elapsed Time (min): _____

Water Quality Meter ID & SN: YSI ProDSS -

Stop Time: _____

Average Purge Rate (mL/min): _____

Date Calibrated: _____

SAMPLING DATA

Sample Date: _____

Sample Time: _____

Lab Analysis: VOC, SVOC, PAH

Sample Method: Monsoon Pump / Low Flow

Sample Flow Rate (mL/min): _____

QA/QC Samples: _____

VOA Vials, No Headspace Initials: _____

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

No sample collected due to the presence of LNAPL

Total Purge Volume: _____ mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW PROJECT NUMBER: 60527968 - 01.03.002 FIELD PERSONNEL: B. Howell M. Karrick

DATE: 4 10 18 WEATHER: Sunny 40°

MONITORING WELL ID: P-74 SAMPLE ID: P74-Rox-041018

INITIAL DATA

Well Diameter): <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN:	Volume of Flow Through Cell : <u>320*</u> mL
Total Well Depth (btoc): <u>68.83</u> ft	ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>40.69</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	Ambient PID/FID Reading: <u>0.0</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>28.14</u> ft	ft btoc	Wellbore PID/FID Reading: <u>0.0</u> ppm
Depth to Top of Screen (btoc): <u>44.43</u> ft	IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHICHEVER IS DEEPER): <u>44.43</u> ft btoc	
Screen Length: <u>25</u> ft		
Water Column Height (not including NAPL): <u>28.14</u> ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	ft btoc
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT:	ft btoc

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: (over 3 readings) Monitor Temp. +/-10% +/-5% or +2 uS/cm +/-0.2 mg/L or +20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
<u>300</u>	<u>1303</u>	<u>40.94</u>	<u>Clear</u>	<u>Slight</u>	<u>12.7</u>	<u>9.74</u>	<u>0.257</u> mS/cm uS/cm	<u>8.08</u>	<u>28.5</u>	<u>7.4</u>
<u>600</u>	<u>1304</u>	<u>41.01</u>	<u>↓</u>	<u>↓</u>	<u>13.0</u>	<u>9.73</u>	<u>0.256</u> mS/cm uS/cm	<u>7.98</u>	<u>28.2</u>	<u>7.2</u>
<u>900</u>	<u>1305</u>	<u>41.07</u>	<u>↓</u>	<u>↓</u>	<u>13.0</u>	<u>9.76</u>	<u>0.256</u> mS/cm uS/cm	<u>7.93</u>	<u>28.2</u>	<u>7.5</u>
<u>1200</u>	<u>1306</u>	<u>41.11</u>	<u>↓</u>	<u>↓</u>	<u>13.1</u>	<u>9.75</u>	<u>0.256</u> mS/cm uS/cm	<u>7.88</u>	<u>28.2</u>	<u>7.3</u>
	<u>1307</u>	<u>41.15</u>	<u>↓</u>	<u>↓</u>	<u>13.0</u>	<u>9.75</u>	<u>0.255</u> mS/cm uS/cm	<u>7.85</u>	<u>28.4</u>	<u>6.3</u>
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
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							mS/cm uS/cm			

Start Time: 1303 Elapsed Time (min): 4 Water Quality Meter ID & SN: YSI ProDSS -26599
 Stop Time: 1307 Average Purge Rate (mL/min): 300 Date Calibrated: 4 10 18

SAMPLING DATA

Sample Date: 4/10/18 Sample Time: 1315 Lab Analysis: VOC, SVOC, PAH
 Sample Method: Monsoon Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QCSamples: DWP
 VOA Vials, No Headspace Initials: BH

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW

PROJECT NUMBER: 60527968 - 01.03.002

FIELD PERSONNEL: B. Howell M. Karrick

DATE: 4/11/18

WEATHER: Sunny 55°F

MONITORING WELL ID: P-93A

SAMPLE ID: ~~P93A~~ P93A-ROX-041118 + P93A-WRR-041118

INITIAL DATA

Well Diameter): 2 in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN:	Volume of Flow Through Cell : 320* mL
Total Well Depth (btoc): 53.07 ft	ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): 960 mL
Depth to Water (btoc): 43.48 ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	Ambient PID/FID Reading: 0.0 ppm
Depth to LNAPL/DNAPL (btoc): NE ft	48.28 ft btoc	Wellbore PID/FID Reading: 35.10 ppm
Depth to Top of Screen (btoc): 43.07 ft	IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHICHEVER IS DEEPER):	
Screen Length: 10 ft	ft btoc	
Water Column Height (not including NAPL): 9.59 ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	
	ft btoc	
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT:	
	ft btoc	

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

STABLE: (over 3 readings) Monitor Temp. +/-0.2 mg/L or +/-10% +/-5% or +/-2 uS/cm +/-0.2 mg/L +/-20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	1409	43.66	Clear	None	24.0	0.84	1.529 (mS/cm) uS/cm	7.11	-5.3	9.2
300	1410	43.66			24.0	0.66	1.523 (mS/cm) uS/cm	6.96	-3.2	9.5
600	1411	43.65			24.0	0.57	1.517 (mS/cm) uS/cm	6.87	-3.2	11.9
900	1412	43.64			24.0	0.53	1.515 (mS/cm) uS/cm	6.85	-3.1	11.7
1200	1413	43.63			24.0	0.51	1.514 (mS/cm) uS/cm	6.83	-3.2	12.6
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
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							mS/cm uS/cm			
							mS/cm uS/cm			

Start Time: 1409

Elapsed Time (min): 4

Water Quality Meter ID & SN: YSI ProDSS -- 26599

Stop Time: 1413

Average Purge Rate (mL/min): 300

Date Calibrated: 4/11/18

SAMPLING DATA

Sample Date: 4/11/18

Sample Time: 1420

Lab Analysis: VOC, SVOC, PAH

Sample Method: Monsoon Pump / Low Flow

Sample Flow Rate (mL/min): 300

QA/QC Samples: ER @ 1140 JS

VOA Vials, No Headspace Initials: MK

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW

PROJECT NUMBER: 60527968 - 01.03.002

FIELD PERSONNEL: T. Jones B. Howell

DATE: 5-22-18

WEATHER: 75°F Sunny

MONITORING WELL ID: P-93A

SAMPLE ID: P-93A-Rox-052218

INITIAL DATA

Well Diameter): 2 in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN - PUMP INTAKE AT MIDPOINT OF SCREEN:	Volume of Flow Through Cell : 320* mL
Total Well Depth (btoc): 53.07 ft	ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): 960 mL
Depth to Water (btoc): 43.83 ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN - PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	Ambient PID/FID Reading: 0.0 ppm
Depth to LNAPL/DNAPL (btoc): NE ft	48.45 ft btoc	Wellbore PID/FID Reading: 0.0 ppm
Depth to Top of Screen (btoc): 43.07 ft	IF SCREEN & WATER COLUMN >10 FT - PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHICHEVER IS DEEPER):	
Screen Length: 10 ft	ft btoc	
Water Column Height (not including NAPL): 9.25 ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT - PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT - PUMP INTAKE AT TOTAL WELL DEPTH -2 FT:	
	ft btoc	

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump

STABLE: (over 3 readings) Monitor Temp. +/-0.2 mg/L or +/-10% +/-5% or +/-2 uS/cm +/-0.2 mg/L +/-20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	0953	44.04	Clear	NONE	23.8	0.51	0.970 mS/cm uS/cm	6.70	209.5	3.3
300	0954	44.04	↓	↓	23.7	0.47	0.969 mS/cm uS/cm	6.70	209.3	3.6
600	0955	44.04	↓	↓	23.7	0.40	0.967 mS/cm uS/cm	6.71	208.4	4.4
900	0956	44.05	↓	↓	23.7	0.37	0.966 mS/cm uS/cm	6.71	207.5	5.2
1200	0957	44.00	↓	↓	23.6	0.34	0.965 mS/cm uS/cm	6.72	206.0	6.2
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
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							mS/cm uS/cm			
							mS/cm uS/cm			

Start Time: 0953

Elapsed Time (min): 24

Water Quality Meter ID & SN: YSI ProDSS - 042083

Stop Time: 1000 0957

Average Purge Rate (mL/min): 300

Date Calibrated: 5-22-18

SAMPLING DATA

Sample Date: 5-22-18

Sample Time: 1000

Lab Analysis: VOC, SVOC, PAH

Sample Method: Monsoon Pump / Low Flow

Sample Flow Rate (mL/min): 300

QA/QCSamples: EB

VOA Vials, No Headspace Initials: TJ

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW

PROJECT NUMBER: 60527968 - 01.03.002

FIELD PERSONNEL: B. Howell M. Kamick

DATE: 4/12/18

WEATHER: Sunny 75°F

MONITORING WELL ID: P-93B

SAMPLE ID: P93B-ROX-041218 & P93B-WRR-041218

INITIAL DATA

Well Diameter: <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN:	Volume of Flow Through Cell: <u>320*</u> mL
Total Well Depth (btoc): <u>79.60</u> ft	ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>44.5</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	Ambient PID/FID Reading: <u>0.1</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>NE</u> ft	ft btoc	Wellbore PID/FID Reading: <u>0.1</u> ppm
Depth to Top of Screen (btoc): <u>125.79</u> ft	IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHIEVER IS DEEPER):	ft btoc
Screen Length: <u>2</u> ft <u>79.60</u>	ft btoc	
Water Column Height (not including NAPL): <u>32.13</u> ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	ft btoc
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT: <u>Well Wizard</u>	ft btoc

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump ^{mk} Well Wizard STABLE: (over 3 readings) Monitor Temp. +0.2 mg/L or +10% +/-5% or +2 uS/cm +0.2 mg/L +20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond	pH	ORP (mV)	Turb (NTU)
0	1413	Well Wizard	Clear	Mild	19.2	0.89	1.348 mS/cm uS/cm	7.60	-119.1	34.2
300	1414	↓	↓	↓	19.6	0.70	1.280 mS/cm uS/cm	7.29	-118.0	14.0
600	1415	↓	↓	↓	19.3	0.89	1.270 mS/cm uS/cm	7.29	-118.1	9.9
900	1416	↓	↓	↓	19.2	0.93	1.303 mS/cm uS/cm	7.17	-111.4	14.2
1200	1417	↓	↓	↓	18.2	0.86	1.364 mS/cm uS/cm	7.07	-113.2	8.8
							mS/cm uS/cm			
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							mS/cm uS/cm			

Start Time: 1413
Stop Time: 1417

Elapsed Time (min): 2 CPM 55/15 (4)
Average Purge Rate (mL/min): Compressor

Water Quality Meter ID & SN: YSI ProDSS -26599
Date Calibrated: 4/12/18

SAMPLING DATA

Sample Date: 4/12/18
Sample Method: Monsoon Pump Low Flow
VOA Vials, No Headspace Initials: BH

Sample Time: 1425
Sample Flow Rate (mL/min): Compressor

Lab Analysis: VOC, SVOC, PAH
QA/QC Samples: DWP

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1.59 gal

1405-1428

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW PROJECT NUMBER: 60527968 - 01.03.002 FIELD PERSONNEL: B. Howell M. Karick

DATE: 4/11/18 WEATHER: Sunny 50°F

MONITORING WELL ID: P-93C SAMPLE ID: P93C-ROX-041118 + P93-IRR-041118

INITIAL DATA

Well Diameter): <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN: _____ ft btoc	Volume of Flow Through Cell : <u>320*</u> mL
Total Well Depth (btoc): <u>97.88</u> ft		Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>44.69</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: _____ ft btoc	Ambient PID/FID Reading: <u>0.0</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>NE</u> ft		Wellbore PID/FID Reading: <u>0.0</u> ppm
Depth to Top of Screen (btoc): <u>92.47</u> ft	IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHIEVER IS DEEPER): _____ ft btoc	
Screen Length: <u>2</u> ft		
Water Column Height (not including NAPL): <u>53.19</u> ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: _____ ft btoc	
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT: <u>95.88</u> ft btoc	

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: (over 3 readings) Monitor Temp. +/-0.2 mg/L or +/-10% +/-5% or +/-2 uS/cm +/-0.2 mg/L +/-20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	1104	44.62	Clear	Odorless	18.8	0.61	1.554 (mS/cm) uS/cm	7.25	-72.8	43.2
300	1105	44.62	↓	↓	18.9	0.58	1.567 (mS/cm) uS/cm	7.17	-76.6	43.5
600	1106	44.62	↓	↓	19.0	0.54	1.589 (mS/cm) uS/cm	7.11	-77.8	42.3
900	1107	44.6	↓	↓	19.0	0.50	1.561 (mS/cm) uS/cm	7.05	-79.7	41.9
1200	1108	44.6	↓	↓	19.0	0.46	1.563 (mS/cm) uS/cm	7.00	-81.6	42.7
							mS/cm uS/cm			
							mS/cm uS/cm			
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Start Time: 1104 Elapsed Time (min): 4 Water Quality Meter ID & SN: YSI ProDSS .. 20599
 Stop Time: 1108 Average Purge Rate (mL/min): 300 Date Calibrated: 4/11/18

SAMPLING DATA

Sample Date: 4/11/18 Sample Time: 1110 Lab Analysis: VOC, SVOC, PAH
 Sample Method: Monsoon Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: SS
 VOA Vials, No Headspace Initials: RH

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW

PROJECT NUMBER: 60527968 - 01.03.002

FIELD PERSONNEL: B Howell M Karnick

DATE: 4/12/18

WEATHER: Sunny 75°F

MONITORING WELL ID: P-93D

SAMPLE ID: P93D-ROX-041218 & P93D-WRR-041218

INITIAL DATA

Well Diameter: <u>2 in 125</u>	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN:	Volume of Flow Through Cell: <u>320*</u> mL
Total Well Depth (btoc): <u>7.00</u> ft	ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>45.95</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	Ambient PID/FID Reading: <u>0.0</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>NE</u> ft	ft btoc	Wellbore PID/FID Reading: <u>0.0</u> ppm
Depth to Top of Screen (btoc): <u>7.00</u> ft	IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHICHEVER IS DEEPER):	ft btoc
Screen Length: <u>2</u> ft <u>125.75</u>	ft btoc	
Water Column Height (not including NAPL): <u>30.95</u> ft <u>83 ft</u>	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	ft btoc
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT: <u>Well Wizard</u>	ft btoc

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump MK Well Wizard

STABLE: Well Wizard Monitor Temp. STABLE +/-0.2 mg/L or +/-10% +/-5% or +/-20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	1255	Well Wizard	Cloudy	Mild	20.0	2.34	1.401 mS/cm	7.31	-99.6	11.2
300	1256				19.3	1.60	1.362 mS/cm	7.24	-101.7	21.8
600	1257				19.2	1.25	1.365 mS/cm	7.18	-102.4	9.66
900	1258				19.1	0.96	1.366 mS/cm	7.33	-104.2	10.66
1200	1259				19.0	0.99	1.366 mS/cm	7.43	-105.7	8.5
1500	1300				19.0	0.83	1.367 mS/cm	7.42	-106.5	10.3
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
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							mS/cm uS/cm			
							mS/cm uS/cm			

Start Time: 1255
 Stop Time: 1300

Elapsed Time (min): 5
 Average Purge Rate (mL/min): Compressor

Water Quality Meter ID & SN: YSI ProDSS - 26599
 Date Calibrated: 4/12/18

SAMPLING DATA

Sample Date: 4/12/18
 Sample Method: Monsoon Pump (Low Flow)
 VOA Vials, No Headspace Initials: BH

Sample Time: 1305
 Sample Flow Rate (mL/min): Compressor

Lab Analysis: VOC, SVOC, PAH
 QA/QC Samples: NA

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: > 1500 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW PROJECT NUMBER: 60527968 - 01.03.002 FIELD PERSONNEL: J. PETERS, B. HOWELL

DATE: 4/6/18 WEATHER: SUNNY 43°

MONITORING WELL ID: P-114R SAMPLE ID: P114R-ROX-040618

INITIAL DATA

Well Diameter): <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN:	Volume of Flow Through Cell : <u>320*</u> mL
Total Well Depth (btoc): <u>33.31</u> ft	<u>N/A</u> ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>26.77</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	Ambient PID/FID Reading: <u>0.1</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>N/A</u> ft	<u>30.04'</u> ft btoc	Wellbore PID/FID Reading: <u>15.6</u> ppm
Depth to Top of Screen (btoc): <u>23.01</u> ft	IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHICHEVER IS DEEPER):	
Screen Length: <u>10</u> ft	<u>N/A</u> ft btoc	
Water Column Height (not including NAPL): <u>6.54</u> ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	
	<u>N/A</u> ft btoc	
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT:	
	<u>N/A</u> ft btoc	

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: (over 3 readings) Monitor Temp. +/-0.2 mg/L or +/-10% +/-5% or +/-2 uS/cm +/-0.2 mg/L +/-20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	0933	26.77	CLOUDY	SLIGHT	19.4	1.23	0.862	6.05	6.8	50.2
300	0934	26.84	"	"	19.8	0.42	0.875	6.18	-23.1	43.3
600	0935	26.82	"	"	19.7	0.29	0.882	6.23	-40.1	41.7
900	0936	26.82	"	"	19.5	0.18	0.880	6.27	-53.4	36.1
1200	0937	26.82			19.6	0.12	0.879	6.30	-60.0	33.4

Start Time: 0933 Elapsed Time (min): 4 MIN Water Quality Meter ID & SN: YSI ProDSS -- 041061
 Stop Time: 0937 Average Purge Rate (mL/min): 300 Date Calibrated: 4/6/18

SAMPLING DATA

Sample Date: 4/6/18 Sample Time: 0940 Lab Analysis: VOC, SVOC, PAH
 Sample Method: Monsoon Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: EB
 VOA Vials, No Headspace Initials: JP

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: ROXANA 2Q18 GW PROJECT NUMBER: 60527968.01.03.002 FIELD PERSONNEL: J. PETERS, B. HOWELL

DATE: 4/6/18 WEATHER: CLOUDY 52°

MONITORING WELL ID: R05T-3-MW SAMPLE ID: R05T3MW-ROX-040618

INITIAL DATA

Well Diameter: 2 in
 Total Well Depth (btoc): 48.06 ft
 Depth to Water (btoc): 39.98 ft
 Depth to LNAPL/DNAPL (btoc): NE ft
 Depth to Top of Screen (btoc): 37.81 ft
 Screen Length: 10 ft
 Water Column Height (not including NAPL): 8.08 ft

IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN - PUMP INTAKE AT MIDPOINT OF SCREEN: N/A ft btoc
 IF SCREEN ≤10 FT & WATER WITHIN SCREEN - PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: 44.02 ft btoc
 IF SCREEN & WATER COLUMN >10 FT - PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHIEVER IS DEEPER): N/A ft btoc
 IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT - PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: N/A ft btoc
 IF SCREEN AND/OR WATER COLUMN HEIGHT <10 FT - PUMP INTAKE AT TOTAL WELL DEPTH -2 FT: N/A ft btoc

Volume of Flow Through Cell: 320* mL
 Minimum Purge Volume = (3 x Flow Cell Volume): 960 mL
 Ambient PID/FID Reading: 0.0 ppm
 Wellbore PID/FID Reading: 0.8 ppm

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: (over 3 readings) Monitor Temp. +0.2 mg/L or +10% +5% or +2 uS/cm +0.2 mg/L +20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	1340	39.98	CLOUDY	SLIGHT	16.2	0.68	1.696 mS/cm uS/cm	6.62	-10.3	54.3
300	1341	40.05	CLOUDY	"	16.5	0.32	1.699 mS/cm uS/cm	6.58	-21.4	50.7
600	1342	40.05	CLOUDY	"	16.7	0.20	1.701 mS/cm uS/cm	6.57	-26.4	42.9
900	1343	40.05	CLEAR	"	17.0	0.08	1.703 mS/cm uS/cm	6.56	-32.7	33.9
1200	1344	40.05	CLEAR	"	17.1	0.02	1.704 mS/cm uS/cm	6.56	-36.0	25.1
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
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Start Time: 1340 Elapsed Time (min): 4 MIN Water Quality Meter ID & SN: YSI ProDSS - 041061
 Stop Time: 1344 Average Purge Rate (mL/min): 300 Date Calibrated: 4/6/18

SAMPLING DATA

Sample Date: _____ Sample Time: 1350 Lab Analysis: VOC, SVOC
 Sample Method: Monsoon Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: N/A
 VOA Vials, No Headspace Initials: JP

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW

PROJECT NUMBER: 60527968 - 01.03.002

FIELD PERSONNEL: B. Howell M. Karrick

DATE: 04 09 18

WEATHER: Cloudy 35°F

MONITORING WELL ID: ROST-4-PZ(C)

SAMPLE ID: ROST4PZC-ROX-040918

INITIAL DATA

Well Diameter): <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN: _____ ft btoc	Volume of Flow Through Cell : <u>320*</u> mL
Total Well Depth (btoc): <u>45.20</u> ft		Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>40.13</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: <u>42.67</u> ft btoc	Ambient PID/FID Reading: <u>0.0</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>NE</u> ft		Wellbore PID/FID Reading: <u>0.0</u> ppm
Depth to Top of Screen (btoc): <u>34.95</u> ft	IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHIEVER IS DEEPER): _____ ft btoc	
Screen Length: <u>10</u> ft		
Water Column Height (not including NAPL): <u>5.07</u> ft <u>2.54</u>	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: _____ ft btoc	
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT: _____ ft btoc	

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: +/-0.2 mg/L or +/-5% or Monitor Temp. +/-10% +/-2 uS/cm +/-0.2 mg/L +/-20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	1014	40.86	Slightly cloudy	Slight odor	15.4	0.66	1.934	6.73	-67.9	20.1
300	1015	40.83	↓	↓	17.2	0.44	2.056	6.68	-75.6	13.8
600	1016	40.77	↓	↓	17.1	0.43	2.059	6.68	-77.4	13.6
900	1017	40.76	↓	↓	16.9	0.40	2.040	6.67	-82.4	12.3
1200	1018	40.75	↓	↓	16.9	0.39	2.033	6.66	-84.2	15.2

Start Time: 1014
 Stop Time: 1018

Elapsed Time (min): 4
 Average Purge Rate (mL/min): 300

Water Quality Meter ID & SN: YSI ProDSS - 026599
 Date Calibrated: 04 09 18

SAMPLING DATA

Sample Date: 04 09 18
 Sample Method: Monsoon Pump / Low Flow
 VOA Vials, No Headspace Initials: BH

Sample Time: 1020
 Sample Flow Rate (mL/min): 300

Lab Analysis: VOC, SVOC, PAH
 QA/QCSamples: NA

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW

PROJECT NUMBER: 60527968 - 01.03.002

FIELD PERSONNEL: B. Howell M. Kamick

DATE: 040918

WEATHER: Cloudy 46°F

MONITORING WELL ID: ROST-4-PZ(E)

SAMPLE ID: ROST4PZE-ROX-040918

INITIAL DATA

Well Diameter): <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN:	Volume of Flow Through Cell : <u>320*</u> mL
Total Well Depth (btoc): <u>45.00</u> ft	<u>Below top of screen</u> ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>38.93</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	Ambient PID/FID Reading: <u>0.0</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>NE</u> ft	<u>41.97</u> ft btoc	Wellbore PID/FID Reading: <u>0.0</u> ppm
Depth to Top of Screen (btoc): <u>34.75</u> ft	IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHICHEVER IS DEEPER):	
Screen Length: <u>10</u> ft	<u> </u> ft btoc	
Water Column Height (not including NAPL): <u>6.07</u> ft <u>3.04</u>	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	
	<u> </u> ft btoc	
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT:	
	<u> </u> ft btoc	

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: +/-0.2 mg/L or +/-5% or Monitor Temp. +/-10% +/-2 uS/cm +/-0.2 mg/L +/-20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	1351	39.46	Slightly Cloud	Slight Odor	17.9	0.93	2.324 mS/cm uS/cm	7.05	19.0	19.9
300	1352	39.43	↓	↓	18.0	0.67	2.400 mS/cm uS/cm	6.96	18.0	17.8
600	1352	39.41	↓	↓	18.2	0.64	2.408 mS/cm uS/cm	6.96	17.7	16.5
900	1353	39.40	↓	↓	18.0	0.61	2.419 mS/cm uS/cm	6.92	17.1	15.0
1200	1354	39.37	↓	↓	18.0	0.58	2.416 mS/cm uS/cm	6.97	16.8	15.2
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
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							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			

Start Time: 1351
Stop Time: 1354

Elapsed Time (min): 4
Average Purge Rate (mL/min): 300

Water Quality Meter ID & SN: YSI ProDSS -- 026599
Date Calibrated: 040918

SAMPLING DATA

Sample Date: 4/9/18
Sample Method: Monsoon Pump / Low Flow
VOA Vials, No Headspace Initials: BH

Sample Time: 1400
Sample Flow Rate (mL/min): 300

Lab Analysis: VOC, SVOC, PAH
QA/QCSamples: NA

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW

PROJECT NUMBER: 60527968 - 01.03.002

FIELD PERSONNEL: B. Howell M. Karick

DATE: 4/9/18

WEATHER: Cloudy 35°F

MONITORING WELL ID: ROST-4-PZ(G)

SAMPLE ID: ROST4PZG-ROX-040918

INITIAL DATA

Well Diameter): <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN:	Volume of Flow Through Cell : <u>320*</u> mL
Total Well Depth (btoc): <u>44.53</u> ft	ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>40.07</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	Ambient PID/FID Reading: <u>0.0</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>NC</u> ft	<u>42.30</u> ft btoc	Wellbore PID/FID Reading: <u>0.1</u> ppm
Depth to Top of Screen (btoc): <u>34.28</u> ft	IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHICHEVER IS DEEPER):	ft btoc
Screen Length: <u>10</u> ft	ft btoc	
Water Column Height (not including NAPL): <u>4.46</u> ft ; <u>2 = 2.23</u>	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	ft btoc
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT TOTAL WELL DEPTH -2 FT:	ft btoc

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: STABLE +/-0.2 mg/L or +/-5% or Monitor Temp. +/-10% +/-2 uS/cm +/-0.2 mg/L +/-20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
<u>0</u>	<u>0855</u>	<u>40.10</u>	<u>Clear</u>	<u>Slight</u>	<u>17.0</u>	<u>0.58</u>	<u>2.112</u> mS/cm uS/cm	<u>6.35</u>	<u>-74.5</u>	<u>16.4</u>
<u>300</u>	<u>0856</u>	<u>40.10</u>	<u>↓</u>	<u>↓</u>	<u>17.3</u>	<u>0.48</u>	<u>2.170</u> mS/cm uS/cm	<u>6.35</u>	<u>-80.7</u>	<u>12.6</u>
<u>600</u>	<u>0857</u>	<u>40.10</u>	<u>↓</u>	<u>↓</u>	<u>17.7</u>	<u>0.47</u>	<u>2.201</u> mS/cm uS/cm	<u>6.34</u>	<u>-83.3</u>	<u>13.1</u>
<u>900</u>	<u>0858</u>	<u>40.10</u>	<u>↓</u>	<u>↓</u>	<u>17.7</u>	<u>0.42</u>	<u>2.228</u> mS/cm uS/cm	<u>6.35</u>	<u>-84.8</u>	<u>11.3</u>
<u>1200</u>	<u>0859</u>	<u>40.10</u>	<u>↓</u>	<u>↓</u>	<u>17.9</u>	<u>0.37</u>	<u>2.255</u> mS/cm uS/cm	<u>6.38</u>	<u>-88.8</u>	<u>10.4</u>
							mS/cm uS/cm			
							mS/cm uS/cm			
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							mS/cm uS/cm			
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							mS/cm uS/cm			
							mS/cm uS/cm			

Start Time: 0855

Elapsed Time (min): 4

Water Quality Meter ID & SN: YSI ProDSS .. 026599

Stop Time: 0859

Average Purge Rate (mL/min): 300

Date Calibrated: 04/09/18

SAMPLING DATA

Sample Date: 04/09/18

Sample Time: 0910

Lab Analysis: VOC, SVOC, PAH

Sample Method: Monsoon Pump / Low Flow

Sample Flow Rate (mL/min): 300

QA/QCSamples: MS/MSD

VOA Vials, No Headspace Initials: BH

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1200 mL

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q18 GW

PROJECT NUMBER: 60527968 - 01.03.002

FIELD PERSONNEL: B. Howell M. Karnick

DATE: 4/12/18

WEATHER: Sunny 70°F

MONITORING WELL ID: T-12

SAMPLE ID: T12-ROX-041218 & T12-WRR-041218

INITIAL DATA

Well Diameter): <u>6</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN - PUMP INTAKE AT MIDPOINT OF SCREEN: _____ ft btoc	Volume of Flow Through Cell : <u>320*</u> mL
Total Well Depth (btoc): <u>72.83</u> ft		Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>43.03</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN - PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: _____ ft btoc	Ambient PID/FID Reading: <u>0.0</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>NE</u> ft		Wellbore PID/FID Reading: <u>3.0</u> ppm
Depth to Top of Screen (btoc): <u>46.83</u> ft	IF SCREEN & WATER COLUMN >10 FT - PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHICHEVER IS DEEPER): <u>5.83</u> ft btoc	
Screen Length: <u>26</u> ft		
Water Column Height (not including NAPL): <u>29.8</u> ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT - PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: _____ ft btoc	
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT - PUMP INTAKE AT TOTAL WELL DEPTH -2 FT: _____ ft btoc	

PURGE DATA

Pump Type: Monsoon Stainless Steel Submersible Pump STABLE: (over 3 readings) Monitor Temp. +0.2 mg/L or +10% +5% or +2 uS/cm +0.2 mg/L +20 mV Monitor Turb Readings (<50)

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	Temp (°C)	DO (mg/L)	Spec. Cond.	pH	ORP (mV)	Turb (NTU)
0	1547	43.00	Clear	Mild	21.8	0.55	1.348	7.93	-110.1	18.2
300	1548	43.00	↓	↓	21.8	0.43	1.348	7.91	-111.9	19.2
600	1549	43.00	↓	↓	21.8	0.33	1.339	7.90	-113.5	18.7
900	1550	43.00	↓	↓	21.8	0.33	1.337	7.92	-114.8	19.1
1200	1551	43.00	↓	↓	21.8	0.34	1.335	7.95	-115.8	20.6

Start Time: 1547

Elapsed Time (min): 4

Water Quality Meter ID & SN: YSI ProDSS - 26599

Stop Time: 1551

Average Purge Rate (mL/min): 300

Date Calibrated: 4/12/18

SAMPLING DATA

Sample Date: 4/12/18

Sample Time: 1600

Lab Analysis: VOC, SVOC, PAH

Sample Method: Monsoon Pump / Low Flow

Sample Flow Rate (mL/min): 300

QA/QC Samples: EB @ 1540 55

VOA Vials, No Headspace Initials: BH

COMMENTS:

* Flow through cell volume calculated as: Volume = cup (410 mL) - sonde (90 mL) = 320 mL

Total Purge Volume: 1200 mL

Appendix C

Data Review Forms and Laboratory Analytical Reports

Roxana Groundwater Quarterly – 2nd Quarter 2018 Data Review

Laboratory SDG: 400-151882-1-Rev.1

Data Reviewer: Melissa Remiger

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 5/13/2018

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-ROX-040518-8011-A	TB-ROX-040518-8260-A
MW6C-ROX-040518-EB	MW6C-ROX-040518
MW6B-ROX-040518	MW6A-ROX-040518
MW6D-ROX-040518	MW3-ROX-040518
TB-ROX-040518-8011-B	TB-ROX-040518-8260-B
ROST3MW-ROX-040518-EB	MW12-ROX-040518
MW12-ROX-040518-Dup	MW26-ROX-040518
MW10-ROX-040518	

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes, however analysis of COC designated samples ROST3MW-ROX-040518 and MW1-ROX-040518 was cancelled on April 6, 2018 due to improper pump placement during sample collection. Samples ROST3MW-ROX-040618 and MW1-ROX-040618 were re-collected on April 6, 2018, and are reported in SDG 400-151906-1.

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated that the SVOC LCS/LCSD recoveries for benzenethiol were outside evaluation criteria. Several VOC and SVOC surrogate recoveries were outside criteria in several samples. Several VOC and SVOC MS/MSD recoveries were outside evaluation criteria in sample MW6A-ROX-040518. The continuing calibration verifications for several analytes were outside evaluation criteria, biased low. These issues are addressed further in the appropriate sections of this data review. Additionally, the laboratory report was revised on May 13, 2016 to correct continuing calibration verification language in the laboratory case narrative.

Three of 69 (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) 8260 VOCs are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

Although not indicated on the cooler receipt form, analysis of COC designated samples ROST3MW-ROX-040518 and MW1-ROX-040518 was cancelled on April 6, 2018 due to improper pump placement during sample collection. Samples ROST3MW-ROX-040618 and MW1-ROX-040618 were re-collected on April 6, 2018, and are reported in SDG 400-151906-1.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/ RPD Criteria
LCS/LCSD 400-393560/3-A/4-A	SVOCs	Benzenethiol	3/3	10	10-120/30

Analytical data that required qualification based on LCS/LCSD data are included in the table below. Professional judgment was used to qualify, however not reject, data associated with benzenethiol in LCS/LCSD 400-393560/3-A/4-A; benzenethiol has been identified as a poor performing analyte under Method 8270.

Sample ID	Parameter	Analyte	Qualification
MW6C-ROX-040518	SVOCs	Benzenethiol	UJ
MW6B-ROX-040518	SVOCs	Benzenethiol	UJ
MW6A-ROX-040518	SVOCs	Benzenethiol	UJ
MW6D-ROX-040518	SVOCs	Benzenethiol	UJ
MW3-ROX-040518	SVOCs	Benzenethiol	UJ
MW12-ROX-040518	SVOCs	Benzenethiol	UJ
MW12-ROX-040518-Dup	SVOCs	Benzenethiol	UJ
MW26-ROX-040518	SVOCs	Benzenethiol	UJ
MW10-ROX-040518	SVOCs	Benzenethiol	UJ

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
TB-ROX-040518-8260-A	VOCs	4-Bromofluorobenzene	121	78-118
MW6C-ROX-040518	SVOCs	Terphenyl-d ₁₄	49	53-125
MW6B-ROX-040518	SVOCs	Terphenyl-d ₁₄	35	53-125
MW6A-ROX-040518	SVOCs	Terphenyl-d ₁₄	46	53-125
MW6D-ROX-040518	SVOCs	Terphenyl-d ₁₄	52	53-125
MW12-ROX-040518	SVOCs	Terphenyl-d ₁₄	39	53-125

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
MW26-ROX-040518	SVOCs	Terphenyl-d ₁₄	45	53-125
MB 400-393560/1-A	SVOCs	Terphenyl-d ₁₄	52	53-125
MW6A-ROX-040518 MS	SVOCs	Terphenyl-d ₁₄	48	53-125
MW6A-ROX-040518 MSD	SVOCs	Terphenyl-d ₁₄	47	53-125

Qualifications due to surrogate recoveries were not required if only one of three base/neutral fraction surrogate recoveries were outside evaluation criteria in the associated SVOC samples. TB-ROX-040518-8260-A, MS/MSD MW6A-ROX-040518, and the SVOC method blank are quality control samples and do not require qualification. No qualification of data was required.

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

Yes, sample MW6A-ROX-040518 was spiked and duplicated for Method 8260 VOCs, Method 8011 VOCs, and Method 8270 SVOCs/PAHs.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
MW6A-ROX-040518	VOCs	2-Chloroethyl vinyl ether	0/0	NC	10-150/50
MW6A-ROX-040518	SVOCs	Dibenz[a,h]acridine	41/42	4	42-147/40
MW6A-ROX-040518	SVOCs	3,3'-Dichlorobenzidine	0/0	NC	10-172/58
MW6A-ROX-040518	SVOCs	4-Nitroaniline	21/35	53	10-162/50
MW6A-ROX-040518	SVOCs	Quinoline	27/58	72	10-180/40

Analytical data that required qualification based on MS/MSD data are included in the table below. Analytical data associated with RPD alone outside evaluation criteria did not require qualification.

Sample ID	Parameter	Analyte	Qualification
MW6A-ROX-040518	VOCs	2-Chloroethyl vinyl ether	UJ
MW6A-ROX-040518	SVOCs	Dibenz[a,h]acridine	UJ
MW6A-ROX-040518	SVOCs	3,3'-Dichlorobenzidine	UJ

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
MW12-ROX-040518	MW12-ROX-040518-Dup

Were field duplicates within evaluation criteria?

Yes

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; samples analyzed did not require dilution.

12.0 Additional Qualifications

Were additional qualifications applied?

Yes, the continuing calibration verifications for several analytes were below acceptance criteria and are qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
MW6C-ROX-040518	SVOCs	1,4-Dioxane	UJ
MW6C-ROX-040518	SVOCs	Hexachlorocyclopentadiene	UJ
MW6C-ROX-040518	SVOCs	N-Nitrosodimethylamine	UJ
MW6C-ROX-040518	SVOCs	Pyridine	UJ
MW6B-ROX-040518	SVOCs	1,4-Dioxane	UJ
MW6B-ROX-040518	SVOCs	Hexachlorocyclopentadiene	UJ
MW6B-ROX-040518	SVOCs	N-Nitrosodimethylamine	UJ
MW6B-ROX-040518	SVOCs	Pyridine	UJ
MW6A-ROX-040518	SVOCs	1,4-Dioxane	UJ
MW6A-ROX-040518	SVOCs	Hexachlorocyclopentadiene	UJ
MW6A-ROX-040518	SVOCs	N-Nitrosodimethylamine	UJ
MW6A-ROX-040518	SVOCs	Pyridine	UJ
MW6D-ROX-040518	SVOCs	1,4-Dioxane	UJ
MW6D-ROX-040518	SVOCs	Hexachlorocyclopentadiene	UJ
MW6D-ROX-040518	SVOCs	N-Nitrosodimethylamine	UJ
MW6D-ROX-040518	SVOCs	Pyridine	UJ
MW3-ROX-040518	SVOCs	1,4-Dioxane	UJ
MW3-ROX-040518	SVOCs	Hexachlorocyclopentadiene	UJ
MW3-ROX-040518	SVOCs	N-Nitrosodimethylamine	UJ
MW3-ROX-040518	SVOCs	Pyridine	UJ
MW12-ROX-040518	SVOCs	1,4-Dioxane	UJ
MW12-ROX-040518	SVOCs	Hexachlorocyclopentadiene	UJ
MW12-ROX-040518	SVOCs	N-Nitrosodimethylamine	UJ
MW12-ROX-040518	SVOCs	Pyridine	UJ
MW12-ROX-040518-Dup	SVOCs	1,4-Dioxane	UJ
MW12-ROX-040518-Dup	SVOCs	Hexachlorocyclopentadiene	UJ

Sample ID	Parameter	Analyte	Qualification
MW12-ROX-040518-Dup	SVOCs	N-Nitrosodimethylamine	UJ
MW12-ROX-040518-Dup	SVOCs	Pyridine	UJ
MW26-ROX-040518	SVOCs	1,4-Dioxane	UJ
MW26-ROX-040518	SVOCs	Hexachlorocyclopentadiene	UJ
MW26-ROX-040518	SVOCs	N-Nitrosodimethylamine	UJ
MW26-ROX-040518	SVOCs	Pyridine	UJ
MW10-ROX-040518	SVOCs	1,4-Dioxane	UJ
MW10-ROX-040518	SVOCs	Hexachlorocyclopentadiene	UJ
MW10-ROX-040518	SVOCs	N-Nitrosodimethylamine	UJ
MW10-ROX-040518	SVOCs	Pyridine	UJ

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

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TestAmerica Pensacola
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Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-151882-1
TestAmerica Sample Delivery Group: (2Q18)
Client Project/Site: ROXANA QUARTERLY GW
Revision: 1

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Job ID: 400-151882-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-151882-1

Comments

The report was revised on 5/13/18 to update the wording in the job narrative.

Receipt

The samples were received on 4/6/2018 9:29 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 1.0° C, 1.4° C, 1.7° C, 2.3° C and 2.7° C.

GC/MS VOA

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-ROX-040518-8260-A (400-151882-2), MW6C-ROX-040518-EB (400-151882-3), MW6C-ROX-040518 (400-151882-4), MW6B-ROX-040518 (400-151882-5), MW6A-ROX-040518 (400-151882-6), MW6D-ROX-040518 (400-151882-7), MW12-ROX-040518 (400-151882-8), TB-ROX-040518-8260-B (400-151882-10), ROST3MW-ROX-040518-EB (400-151882-11), MW12-ROX-040518 (400-151882-14), MW12-ROX-040518-DUP (400-151882-15), MW26-ROX-040518 (400-151882-16) and MW10-ROX-040518 (400-151882-17). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: Surrogate recovery for the following sample was outside the upper control limit: TB-ROX-040518-8260-A (400-151882-2). This sample did not contain any target analytes; therefore, re-analysis was not performed.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-393862 were outside control limits for 2-Chloroethyl vinyl ether due to the acidic nature of the parent sample.

Method(s) 8260B: The RPD for the matrix spike / matrix spike duplicate (MS/MSD) for 2-Chloroethyl vinyl ether was not calculable for analytical batch 400-393862 because the recoveries were below the reporting limit due to the acidic nature of the parent sample.

Method(s) 8260B: The matrix spike duplicate (MSD) recovery for 1,2,3-Trichloropropane associated with analytical batch 400-394050 was above control limits. This analyte was non-detect for the associated samples and the laboratory control sample (LCS) recovery was within acceptance limits; therefore, the data have been qualified and reported.

Method(s) 8260B: The matrix spike duplicate (MSD) precision for Naphthalene, 1,1,2,2-Tetrachloroethane and 1,2,3-Trichloropropane associated with analytical batch 400-394050 were outside control limits.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-394050 were outside control limits for 2-Chloroethyl vinyl ether due to the acidic nature of the parent sample.

Method(s) 8260B: The RPD for the matrix spike / matrix spike duplicate (MS/MSD) for 2-Chloroethyl vinyl ether was not calculable for analytical batch 400-394050 because the recoveries were below the reporting limit due to the acidic nature of the parent sample.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: MW6C-ROX-040518 (400-151882-4), MW6B-ROX-040518 (400-151882-5), MW6A-ROX-040518 (400-151882-6), MW6A-ROX-040518 (400-151882-6[MS]), MW6A-ROX-040518 (400-151882-6[MSD]), MW6D-ROX-040518 (400-151882-7), MW12-ROX-040518 (400-151882-14), MW26-ROX-040518 (400-151882-16) and (MB 400-393560/1-A). These results have been reported and qualified.

Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-393560 and analytical batch 400-394058 recovered outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Job ID: 400-151882-1 (Continued)

Laboratory: TestAmerica Pensacola (Continued)

Method(s) 8270D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 400-393560 and analytical batch 400-393852 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-393852 recovered outside acceptance criteria, low biased, for N-Nitrosodimethylamine, Hexachlorocyclopentadiene, 1,4-Dioxane and Pyridine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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Sample Summary

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
 SDG: (2Q18)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-151882-1	TB-ROX-040518-8011-A ✓	Water	04/05/18 00:00	04/06/18 09:29
400-151882-2	TB-ROX-040518-8260-A ✓	Water	04/05/18 00:00	04/06/18 09:29
400-151882-3	MW6C-ROX-040518-EB ✓	Water	04/05/18 10:10	04/06/18 09:29
400-151882-4	MW6C-ROX-040518 ✓	Water	04/05/18 11:05	04/06/18 09:29
400-151882-5	MW6B-ROX-040518 ✓	Water	04/05/18 12:40	04/06/18 09:29
400-151882-6	MW6A-ROX-040518 ✓	Water	04/05/18 13:35	04/06/18 09:29
400-151882-7	MW6D-ROX-040518 ✓	Water	04/05/18 14:50	04/06/18 09:29
400-151882-8	MW3-ROX-040518 ✓	Water	04/05/18 15:55	04/06/18 09:29
400-151882-9	TB-ROX-040518-8011-B ✓	Water	04/05/18 00:00	04/06/18 09:29
400-151882-10	TB-ROX-040518-8260-B ✓	Water	04/05/18 00:00	04/06/18 09:29
400-151882-11	ROST3MW-ROX-040518-EB ✓	Water	04/05/18 10:00	04/06/18 09:29
400-151882-14	MW12-ROX-040518 ✓	Water	04/05/18 13:30	04/06/18 09:29
400-151882-15	MW12-ROX-040518-DUP ✓	Water	04/05/18 13:30	04/06/18 09:29
400-151882-16	MW26-ROX-040518 ✓	Water	04/05/18 14:50	04/06/18 09:29
400-151882-17	MW10-ROX-040518 ✓	Water	04/05/18 15:40	04/06/18 09:29



Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: TB-ROX-040518-8011-A

Lab Sample ID: 400-151882-1

No Detections.

Client Sample ID: TB-ROX-040518-8260-A

Lab Sample ID: 400-151882-2

No Detections.

Client Sample ID: MW6C-ROX-040518-EB

Lab Sample ID: 400-151882-3

No Detections.

Client Sample ID: MW6C-ROX-040518

Lab Sample ID: 400-151882-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1.8		1.0	0.38	ug/L	1		8260B	Total/NA

Client Sample ID: MW6B-ROX-040518

Lab Sample ID: 400-151882-5

No Detections.

Client Sample ID: MW6A-ROX-040518

Lab Sample ID: 400-151882-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Pyrene	0.052	J	0.20	0.020	ug/L	1		8270D LL	Total/NA

Client Sample ID: MW6D-ROX-040518

Lab Sample ID: 400-151882-7

No Detections.

Client Sample ID: MW3-ROX-040518

Lab Sample ID: 400-151882-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	10	J	25	10	ug/L	1		8260B	Total/NA
Isopropylbenzene	2.8		1.0	0.53	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	2.7		1.0	0.74	ug/L	1		8260B	Total/NA
m-Xylene & p-Xylene	5.0		5.0	1.6	ug/L	1		8260B	Total/NA
N-Propylbenzene	8.2		1.0	0.69	ug/L	1		8260B	Total/NA
o-Xylene	0.81	J	5.0	0.60	ug/L	1		8260B	Total/NA
Toluene	0.95	J	1.0	0.70	ug/L	1		8260B	Total/NA
Xylenes, Total	5.8	J	10	1.6	ug/L	1		8260B	Total/NA
1-Methylnaphthalene	0.58		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.24		0.20	0.020	ug/L	1		8270D LL	Total/NA

Client Sample ID: TB-ROX-040518-8011-B

Lab Sample ID: 400-151882-9

No Detections.

Client Sample ID: TB-ROX-040518-8260-B

Lab Sample ID: 400-151882-10

No Detections.

Client Sample ID: ROST3MW-ROX-040518-EB

Lab Sample ID: 400-151882-11

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: MW12-ROX-040518

Lab Sample ID: 400-151882-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Fluoranthene	0.025	J	0.20	0.020	ug/L	1			8270D LL	Total/NA
Pyrene	0.031	J	0.20	0.020	ug/L	1			8270D LL	Total/NA

Client Sample ID: MW12-ROX-040518-DUP

Lab Sample ID: 400-151882-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Fluoranthene	0.023	J	0.20	0.020	ug/L	1			8270D LL	Total/NA
Pyrene	0.028	J	0.20	0.020	ug/L	1			8270D LL	Total/NA

Client Sample ID: MW26-ROX-040518

Lab Sample ID: 400-151882-16

No Detections.

Client Sample ID: MW10-ROX-040518

Lab Sample ID: 400-151882-17

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
 SDG: (2Q18)

Client Sample ID: TB-ROX-040518-8011-A

Lab Sample ID: 400-151882-1

Date Collected: 04/05/18 00:00

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.031	0.0057	ug/L		04/12/18 09:06	04/12/18 18:40	1
1,2-Dibromoethane	ND		0.021	0.0051	ug/L		04/12/18 09:06	04/12/18 18:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	112	p	51 - 149				04/12/18 09:06	04/12/18 18:40	1

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Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: TB-ROX-040518-8260-A

Lab Sample ID: 400-151882-2

Date Collected: 04/05/18 00:00

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/13/18 17:29	1
Acrolein	ND		20	10	ug/L			04/13/18 17:29	1
Acrylonitrile	ND		10	2.8	ug/L			04/13/18 17:29	1
Benzene	ND		1.0	0.38	ug/L			04/13/18 17:29	1
Bromobenzene	ND		1.0	0.54	ug/L			04/13/18 17:29	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/13/18 17:29	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/13/18 17:29	1
Bromoform	ND		5.0	0.71	ug/L			04/13/18 17:29	1
Bromomethane	ND		1.0	0.98	ug/L			04/13/18 17:29	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/13/18 17:29	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/13/18 17:29	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/13/18 17:29	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/13/18 17:29	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/13/18 17:29	1
Chloroethane	ND		1.0	0.76	ug/L			04/13/18 17:29	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/13/18 17:29	1
Chloroform	ND		1.0	0.60	ug/L			04/13/18 17:29	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/13/18 17:29	1
Chloromethane	ND		1.0	0.83	ug/L			04/13/18 17:29	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 17:29	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/13/18 17:29	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/13/18 17:29	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/13/18 17:29	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/13/18 17:29	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/13/18 17:29	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/13/18 17:29	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/13/18 17:29	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 17:29	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 17:29	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 17:29	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 17:29	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/13/18 17:29	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/13/18 17:29	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/13/18 17:29	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/13/18 17:29	1
2-Hexanone	ND		25	3.1	ug/L			04/13/18 17:29	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/13/18 17:29	1
Methylene bromide	ND		5.0	0.59	ug/L			04/13/18 17:29	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/13/18 17:29	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/13/18 17:29	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/13/18 17:29	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/13/18 17:29	1
Naphthalene	ND		1.0	1.0	ug/L			04/13/18 17:29	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/13/18 17:29	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/13/18 17:29	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/13/18 17:29	1
o-Xylene	ND		5.0	0.60	ug/L			04/13/18 17:29	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/13/18 17:29	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/13/18 17:29	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: TB-ROX-040518-8260-A

Lab Sample ID: 400-151882-2

Date Collected: 04/05/18 00:00

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/13/18 17:29	1
Styrene	ND		1.0	1.0	ug/L			04/13/18 17:29	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/13/18 17:29	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/13/18 17:29	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/13/18 17:29	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/13/18 17:29	1
Toluene	ND		1.0	0.70	ug/L			04/13/18 17:29	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 17:29	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/13/18 17:29	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/13/18 17:29	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/13/18 17:29	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/13/18 17:29	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/13/18 17:29	1
Trichloroethene	ND		1.0	0.50	ug/L			04/13/18 17:29	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/13/18 17:29	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/13/18 17:29	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/13/18 17:29	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/13/18 17:29	1
Vinyl acetate	ND		25	2.0	ug/L			04/13/18 17:29	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/13/18 17:29	1
Xylenes, Total	ND		10	1.6	ug/L			04/13/18 17:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	121		78 - 118					04/13/18 17:29	1
Dibromofluoromethane	108		81 - 121					04/13/18 17:29	1
Toluene-d8 (Surr)	107		80 - 120					04/13/18 17:29	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
 SDG: (2Q18)

Client Sample ID: MW6C-ROX-040518-EB

Lab Sample ID: 400-151882-3

Date Collected: 04/05/18 10:10

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/13/18 17:51	1
Acrolein	ND		20	10	ug/L			04/13/18 17:51	1
Acrylonitrile	ND		10	2.8	ug/L			04/13/18 17:51	1
Benzene	ND		1.0	0.38	ug/L			04/13/18 17:51	1
Bromobenzene	ND		1.0	0.54	ug/L			04/13/18 17:51	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/13/18 17:51	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/13/18 17:51	1
Bromoform	ND		5.0	0.71	ug/L			04/13/18 17:51	1
Bromomethane	ND		1.0	0.98	ug/L			04/13/18 17:51	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/13/18 17:51	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/13/18 17:51	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/13/18 17:51	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/13/18 17:51	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/13/18 17:51	1
Chloroethane	ND		1.0	0.76	ug/L			04/13/18 17:51	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/13/18 17:51	1
Chloroform	ND		1.0	0.60	ug/L			04/13/18 17:51	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/13/18 17:51	1
Chloromethane	ND		1.0	0.83	ug/L			04/13/18 17:51	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 17:51	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/13/18 17:51	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/13/18 17:51	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/13/18 17:51	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/13/18 17:51	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/13/18 17:51	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/13/18 17:51	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/13/18 17:51	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 17:51	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 17:51	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 17:51	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 17:51	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/13/18 17:51	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/13/18 17:51	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/13/18 17:51	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/13/18 17:51	1
2-Hexanone	ND		25	3.1	ug/L			04/13/18 17:51	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/13/18 17:51	1
Methylene bromide	ND		5.0	0.59	ug/L			04/13/18 17:51	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/13/18 17:51	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/13/18 17:51	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/13/18 17:51	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/13/18 17:51	1
Naphthalene	ND		1.0	1.0	ug/L			04/13/18 17:51	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/13/18 17:51	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/13/18 17:51	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/13/18 17:51	1
o-Xylene	ND		5.0	0.60	ug/L			04/13/18 17:51	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/13/18 17:51	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/13/18 17:51	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: MW6C-ROX-040518-EB

Lab Sample ID: 400-151882-3

Date Collected: 04/05/18 10:10

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/13/18 17:51	1
Styrene	ND		1.0	1.0	ug/L			04/13/18 17:51	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/13/18 17:51	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/13/18 17:51	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/13/18 17:51	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/13/18 17:51	1
Toluene	ND		1.0	0.70	ug/L			04/13/18 17:51	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 17:51	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/13/18 17:51	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/13/18 17:51	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/13/18 17:51	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/13/18 17:51	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/13/18 17:51	1
Trichloroethene	ND		1.0	0.50	ug/L			04/13/18 17:51	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/13/18 17:51	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/13/18 17:51	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/13/18 17:51	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/13/18 17:51	1
Vinyl acetate	ND		25	2.0	ug/L			04/13/18 17:51	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/13/18 17:51	1
Xylenes, Total	ND		10	1.6	ug/L			04/13/18 17:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	108		78 - 118					04/13/18 17:51	1
Dibromofluoromethane	100		81 - 121					04/13/18 17:51	1
Toluene-d8 (Surr)	100		80 - 120					04/13/18 17:51	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 15:52	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 15:52	1
Anthracene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 15:52	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 15:52	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 15:52	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 15:52	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 15:52	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 15:52	1
Chrysene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 15:52	1
Dibenz[a,h]anthracene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 15:52	1
Fluoranthene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 15:52	1
Fluorene	ND		0.20	0.021	ug/L		04/11/18 13:42	04/13/18 15:52	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 15:52	1
Phenanthrene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 15:52	1
Pyrene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 15:52	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 15:52	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 15:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	84		33 - 138				04/11/18 13:42	04/13/18 15:52	1
2-Fluorobiphenyl	82		15 - 122				04/11/18 13:42	04/13/18 15:52	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: MW6C-ROX-040518-EB

Lab Sample ID: 400-151882-3

Date Collected: 04/05/18 10:10

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	76		19 - 130	04/11/18 13:42	04/13/18 15:52	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.9	3.8	ug/L		04/11/18 13:42	04/13/18 18:12	1
Benzenethiol	ND	*	9.9	1.7	ug/L		04/11/18 13:42	04/13/18 18:12	1
Benzoic acid	ND		30	7.2	ug/L		04/11/18 13:42	04/13/18 18:12	1
Benzyl alcohol	ND		9.9	2.0	ug/L		04/11/18 13:42	04/13/18 18:12	1
Bis(2-chloroethoxy)methane	ND		9.9	0.68	ug/L		04/11/18 13:42	04/13/18 18:12	1
Bis(2-chloroethyl)ether	ND		9.9	0.73	ug/L		04/11/18 13:42	04/13/18 18:12	1
bis (2-chloroisopropyl) ether	ND		9.9	0.80	ug/L		04/11/18 13:42	04/13/18 18:12	1
Bis(2-ethylhexyl) phthalate	ND		9.9	2.2	ug/L		04/11/18 13:42	04/13/18 18:12	1
4-Bromophenyl phenyl ether	ND		9.9	0.32	ug/L		04/11/18 13:42	04/13/18 18:12	1
Butyl benzyl phthalate	ND		9.9	0.68	ug/L		04/11/18 13:42	04/13/18 18:12	1
4-Chloroaniline	ND		9.9	3.4	ug/L		04/11/18 13:42	04/13/18 18:12	1
4-Chloro-3-methylphenol	ND		9.9	3.8	ug/L		04/11/18 13:42	04/13/18 18:12	1
2-Chloronaphthalene	ND		9.9	0.52	ug/L		04/11/18 13:42	04/13/18 18:12	1
2-Chlorophenol	ND		9.9	2.2	ug/L		04/11/18 13:42	04/13/18 18:12	1
4-Chlorophenyl phenyl ether	ND		9.9	2.0	ug/L		04/11/18 13:42	04/13/18 18:12	1
Dibenz[a,h]acridine	ND		9.9	3.0	ug/L		04/11/18 13:42	04/13/18 18:12	1
Dibenzofuran	ND		9.9	0.52	ug/L		04/11/18 13:42	04/13/18 18:12	1
3,3'-Dichlorobenzidine	ND		9.9	2.6	ug/L		04/11/18 13:42	04/13/18 18:12	1
2,4-Dichlorophenol	ND		9.9	3.0	ug/L		04/11/18 13:42	04/13/18 18:12	1
Diethyl phthalate	ND		9.9	0.69	ug/L		04/11/18 13:42	04/13/18 18:12	1
2,4-Dimethylphenol	ND		9.9	3.5	ug/L		04/11/18 13:42	04/13/18 18:12	1
Dimethyl phthalate	ND		9.9	0.59	ug/L		04/11/18 13:42	04/13/18 18:12	1
Di-n-butyl phthalate	ND		9.9	2.7	ug/L		04/11/18 13:42	04/13/18 18:12	1
4,6-Dinitro-ortho-cresol	ND		9.9	2.0	ug/L		04/11/18 13:42	04/13/18 18:12	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/11/18 13:42	04/13/18 18:12	1
2,4-Dinitrotoluene	ND		9.9	1.9	ug/L		04/11/18 13:42	04/13/18 18:12	1
2,6-Dinitrotoluene	ND		9.9	1.9	ug/L		04/11/18 13:42	04/13/18 18:12	1
Di-n-octyl phthalate	ND		9.9	0.44	ug/L		04/11/18 13:42	04/13/18 18:12	1
1,4-Dioxane	ND		9.9	0.99	ug/L		04/11/18 13:42	04/13/18 18:12	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	0.99	ug/L		04/11/18 13:42	04/13/18 18:12	1
Hexachlorobenzene	ND		9.9	0.25	ug/L		04/11/18 13:42	04/13/18 18:12	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/11/18 13:42	04/13/18 18:12	1
Hexachloroethane	ND		9.9	4.2	ug/L		04/11/18 13:42	04/13/18 18:12	1
Indene	ND		9.9	0.99	ug/L		04/11/18 13:42	04/13/18 18:12	1
Isophorone	ND		9.9	0.56	ug/L		04/11/18 13:42	04/13/18 18:12	1
2-Methylphenol	ND		9.9	1.8	ug/L		04/11/18 13:42	04/13/18 18:12	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/11/18 13:42	04/13/18 18:12	1
2-Nitroaniline	ND		9.9	2.2	ug/L		04/11/18 13:42	04/13/18 18:12	1
3-Nitroaniline	ND		9.9	1.8	ug/L		04/11/18 13:42	04/13/18 18:12	1
4-Nitroaniline	ND		9.9	2.5	ug/L		04/11/18 13:42	04/13/18 18:12	1
Nitrobenzene	ND		9.9	0.54	ug/L		04/11/18 13:42	04/13/18 18:12	1
2-Nitrophenol	ND		9.9	0.64	ug/L		04/11/18 13:42	04/13/18 18:12	1
4-Nitrophenol	ND		9.9	2.1	ug/L		04/11/18 13:42	04/13/18 18:12	1
N-Nitrosodimethylamine	ND		9.9	3.5	ug/L		04/11/18 13:42	04/13/18 18:12	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
 SDG: (2Q18)

Client Sample ID: MW6C-ROX-040518-EB

Lab Sample ID: 400-151882-3

Date Collected: 04/05/18 10:10

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.9	3.3	ug/L		04/11/18 13:42	04/13/18 18:12	1
N-Nitrosodiphenylamine	ND		9.9	0.47	ug/L		04/11/18 13:42	04/13/18 18:12	1
Pentachlorophenol	ND		20	1.8	ug/L		04/11/18 13:42	04/13/18 18:12	1
Phenol	ND		9.9	2.6	ug/L		04/11/18 13:42	04/13/18 18:12	1
Pyridine	ND		9.9	3.2	ug/L		04/11/18 13:42	04/13/18 18:12	1
Quinoline	ND		9.9	5.9	ug/L		04/11/18 13:42	04/13/18 18:12	1
2,4,5-Trichlorophenol	ND		9.9	3.7	ug/L		04/11/18 13:42	04/13/18 18:12	1
2,4,6-Trichlorophenol	ND		9.9	3.5	ug/L		04/11/18 13:42	04/13/18 18:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	55		34 - 120				04/11/18 13:42	04/13/18 18:12	1
2-Fluorophenol	49		10 - 120				04/11/18 13:42	04/13/18 18:12	1
Nitrobenzene-d5	52		27 - 120				04/11/18 13:42	04/13/18 18:12	1
Phenol-d5	49		10 - 120				04/11/18 13:42	04/13/18 18:12	1
Terphenyl-d14	68		53 - 125				04/11/18 13:42	04/13/18 18:12	1
2,4,6-Tribromophenol	58		15 - 135				04/11/18 13:42	04/13/18 18:12	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.030	0.0055	ug/L		04/12/18 09:06	04/12/18 19:00	1
1,2-Dibromoethane	ND		0.020	0.0050	ug/L		04/12/18 09:06	04/12/18 19:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	106	p	51 - 149				04/12/18 09:06	04/12/18 19:00	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
 SDG: (2Q18)

Client Sample ID: MW6C-ROX-040518

Lab Sample ID: 400-151882-4

Date Collected: 04/05/18 11:05

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/13/18 18:57	1
Acrolein	ND		20	10	ug/L			04/13/18 18:57	1
Acrylonitrile	ND		10	2.8	ug/L			04/13/18 18:57	1
Benzene	1.8		1.0	0.38	ug/L			04/13/18 18:57	1
Bromobenzene	ND		1.0	0.54	ug/L			04/13/18 18:57	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/13/18 18:57	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/13/18 18:57	1
Bromoform	ND		5.0	0.71	ug/L			04/13/18 18:57	1
Bromomethane	ND		1.0	0.98	ug/L			04/13/18 18:57	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/13/18 18:57	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/13/18 18:57	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/13/18 18:57	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/13/18 18:57	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/13/18 18:57	1
Chloroethane	ND		1.0	0.76	ug/L			04/13/18 18:57	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/13/18 18:57	1
Chloroform	ND		1.0	0.60	ug/L			04/13/18 18:57	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/13/18 18:57	1
Chloromethane	ND		1.0	0.83	ug/L			04/13/18 18:57	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 18:57	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/13/18 18:57	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/13/18 18:57	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/13/18 18:57	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/13/18 18:57	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/13/18 18:57	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/13/18 18:57	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/13/18 18:57	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 18:57	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 18:57	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 18:57	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 18:57	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/13/18 18:57	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/13/18 18:57	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/13/18 18:57	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/13/18 18:57	1
2-Hexanone	ND		25	3.1	ug/L			04/13/18 18:57	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/13/18 18:57	1
Methylene bromide	ND		5.0	0.59	ug/L			04/13/18 18:57	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/13/18 18:57	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/13/18 18:57	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/13/18 18:57	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/13/18 18:57	1
Naphthalene	ND		1.0	1.0	ug/L			04/13/18 18:57	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/13/18 18:57	1
N-Propylbenzene	ND		1.0	0.89	ug/L			04/13/18 18:57	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/13/18 18:57	1
o-Xylene	ND		5.0	0.60	ug/L			04/13/18 18:57	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/13/18 18:57	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/13/18 18:57	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: MW6C-ROX-040518

Lab Sample ID: 400-151882-4

Date Collected: 04/05/18 11:05

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/13/18 18:57	1
Styrene	ND		1.0	1.0	ug/L			04/13/18 18:57	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/13/18 18:57	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/13/18 18:57	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/13/18 18:57	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/13/18 18:57	1
Toluene	ND		1.0	0.70	ug/L			04/13/18 18:57	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 18:57	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/13/18 18:57	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/13/18 18:57	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/13/18 18:57	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/13/18 18:57	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/13/18 18:57	1
Trichloroethene	ND		1.0	0.50	ug/L			04/13/18 18:57	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/13/18 18:57	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/13/18 18:57	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/13/18 18:57	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/13/18 18:57	1
Vinyl acetate	ND		25	2.0	ug/L			04/13/18 18:57	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/13/18 18:57	1
Xylenes, Total	ND		10	1.6	ug/L			04/13/18 18:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	110		78 - 118					04/13/18 18:57	1
Dibromofluoromethane	102		81 - 121					04/13/18 18:57	1
Toluene-d8 (Surr)	105		80 - 120					04/13/18 18:57	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 16:09	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 16:09	1
Anthracene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 16:09	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 16:09	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 16:09	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 16:09	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 16:09	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 16:09	1
Chrysene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 16:09	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 16:09	1
Fluoranthene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 16:09	1
Fluorene	ND		0.20	0.021	ug/L		04/11/18 13:42	04/13/18 16:09	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 16:09	1
Phenanthrene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 16:09	1
Pyrene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 16:09	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 16:09	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 16:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	74		33 - 138				04/11/18 13:42	04/13/18 16:09	1
2-Fluorobiphenyl	84		15 - 122				04/11/18 13:42	04/13/18 16:09	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
 SDG: (2Q18)

Client Sample ID: MW6C-ROX-040518

Lab Sample ID: 400-151882-4

Date Collected: 04/05/18 11:05

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	72		19 - 130	04/11/18 13:42	04/13/18 16:09	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		04/11/18 13:42	04/13/18 18:36	1
Benzenethiol	ND	UJ	10	1.7	ug/L		04/11/18 13:42	04/13/18 18:36	1
Benzoic acid	ND		30	7.3	ug/L		04/11/18 13:42	04/13/18 18:36	1
Benzyl alcohol	ND		10	2.0	ug/L		04/11/18 13:42	04/13/18 18:36	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		04/11/18 13:42	04/13/18 18:36	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		04/11/18 13:42	04/13/18 18:36	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		04/11/18 13:42	04/13/18 18:36	1
Bis(2-ethylhexyl) phthalate	ND		10	2.3	ug/L		04/11/18 13:42	04/13/18 18:36	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		04/11/18 13:42	04/13/18 18:36	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		04/11/18 13:42	04/13/18 18:36	1
4-Chloroaniline	ND		10	3.4	ug/L		04/11/18 13:42	04/13/18 18:36	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		04/11/18 13:42	04/13/18 18:36	1
2-Chloronaphthalene	ND		10	0.52	ug/L		04/11/18 13:42	04/13/18 18:36	1
2-Chlorophenol	ND		10	2.2	ug/L		04/11/18 13:42	04/13/18 18:36	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		04/11/18 13:42	04/13/18 18:36	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		04/11/18 13:42	04/13/18 18:36	1
Dibenzofuran	ND		10	0.52	ug/L		04/11/18 13:42	04/13/18 18:36	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		04/11/18 13:42	04/13/18 18:36	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		04/11/18 13:42	04/13/18 18:36	1
Diethyl phthalate	ND		10	0.70	ug/L		04/11/18 13:42	04/13/18 18:36	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		04/11/18 13:42	04/13/18 18:36	1
Dimethyl phthalate	ND		10	0.60	ug/L		04/11/18 13:42	04/13/18 18:36	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		04/11/18 13:42	04/13/18 18:36	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		04/11/18 13:42	04/13/18 18:36	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/11/18 13:42	04/13/18 18:36	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		04/11/18 13:42	04/13/18 18:36	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		04/11/18 13:42	04/13/18 18:36	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		04/11/18 13:42	04/13/18 18:36	1
1,4-Dioxane	ND	UJ	10	1.0	ug/L		04/11/18 13:42	04/13/18 18:36	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		04/11/18 13:42	04/13/18 18:36	1
Hexachlorobenzene	ND		10	0.25	ug/L		04/11/18 13:42	04/13/18 18:36	1
Hexachlorocyclopentadiene	ND	UJ	20	2.6	ug/L		04/11/18 13:42	04/13/18 18:36	1
Hexachloroethane	ND		10	4.2	ug/L		04/11/18 13:42	04/13/18 18:36	1
Indene	ND		10	1.0	ug/L		04/11/18 13:42	04/13/18 18:36	1
Isophorone	ND		10	0.57	ug/L		04/11/18 13:42	04/13/18 18:36	1
2-Methylphenol	ND		10	1.8	ug/L		04/11/18 13:42	04/13/18 18:36	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/11/18 13:42	04/13/18 18:36	1
2-Nitroaniline	ND		10	2.2	ug/L		04/11/18 13:42	04/13/18 18:36	1
3-Nitroaniline	ND		10	1.8	ug/L		04/11/18 13:42	04/13/18 18:36	1
4-Nitroaniline	ND		10	2.5	ug/L		04/11/18 13:42	04/13/18 18:36	1
Nitrobenzene	ND		10	0.55	ug/L		04/11/18 13:42	04/13/18 18:36	1
2-Nitrophenol	ND		10	0.65	ug/L		04/11/18 13:42	04/13/18 18:36	1
4-Nitrophenol	ND		10	2.1	ug/L		04/11/18 13:42	04/13/18 18:36	1
N-Nitrosodimethylamine	ND	UJ	10	3.5	ug/L		04/11/18 13:42	04/13/18 18:36	1

TestAmerica Pensacola

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Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: MW6C-ROX-040518

Lab Sample ID: 400-151882-4

Date Collected: 04/05/18 11:05

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		04/11/18 13:42	04/13/18 18:36	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		04/11/18 13:42	04/13/18 18:36	1
Pentachlorophenol	ND		20	1.8	ug/L		04/11/18 13:42	04/13/18 18:36	1
Phenol	ND		10	2.6	ug/L		04/11/18 13:42	04/13/18 18:36	1
Pyridine	ND	UJ	10	3.2	ug/L		04/11/18 13:42	04/13/18 18:36	1
Quinoline	ND		10	6.0	ug/L		04/11/18 13:42	04/13/18 18:36	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		04/11/18 13:42	04/13/18 18:36	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/11/18 13:42	04/13/18 18:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	45		34 - 120	04/11/18 13:42	04/13/18 18:36	1
2-Fluorophenol	39		10 - 120	04/11/18 13:42	04/13/18 18:36	1
Nitrobenzene-d5	41		27 - 120	04/11/18 13:42	04/13/18 18:36	1
Phenol-d5	41		10 - 120	04/11/18 13:42	04/13/18 18:36	1
Terphenyl-d14	49	X	53 - 125	04/11/18 13:42	04/13/18 18:36	1
2,4,6-Tribromophenol	58		15 - 135	04/11/18 13:42	04/13/18 18:36	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.029	0.0054	ug/L		04/12/18 09:06	04/12/18 19:20	1
1,2-Dibromoethane	ND		0.020	0.0049	ug/L		04/12/18 09:06	04/12/18 19:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	105	p	51 - 149	04/12/18 09:06	04/12/18 19:20	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
 SDG: (2Q18)

Client Sample ID: MW6B-ROX-040518

Lab Sample ID: 400-151882-5

Date Collected: 04/05/18 12:40

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/13/18 19:19	1
Acrolein	ND		20	10	ug/L			04/13/18 19:19	1
Acrylonitrile	ND		10	2.8	ug/L			04/13/18 19:19	1
Benzene	ND		1.0	0.38	ug/L			04/13/18 19:19	1
Bromobenzene	ND		1.0	0.54	ug/L			04/13/18 19:19	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/13/18 19:19	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/13/18 19:19	1
Bromoform	ND		5.0	0.71	ug/L			04/13/18 19:19	1
Bromomethane	ND		1.0	0.98	ug/L			04/13/18 19:19	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/13/18 19:19	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/13/18 19:19	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/13/18 19:19	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/13/18 19:19	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/13/18 19:19	1
Chloroethane	ND		1.0	0.76	ug/L			04/13/18 19:19	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/13/18 19:19	1
Chloroform	ND		1.0	0.60	ug/L			04/13/18 19:19	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/13/18 19:19	1
Chloromethane	ND		1.0	0.83	ug/L			04/13/18 19:19	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 19:19	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/13/18 19:19	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/13/18 19:19	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/13/18 19:19	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/13/18 19:19	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/13/18 19:19	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/13/18 19:19	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/13/18 19:19	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 19:19	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 19:19	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 19:19	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 19:19	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/13/18 19:19	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/13/18 19:19	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/13/18 19:19	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/13/18 19:19	1
2-Hexanone	ND		25	3.1	ug/L			04/13/18 19:19	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/13/18 19:19	1
Methylene bromide	ND		5.0	0.59	ug/L			04/13/18 19:19	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/13/18 19:19	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/13/18 19:19	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/13/18 19:19	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/13/18 19:19	1
Naphthalene	ND		1.0	1.0	ug/L			04/13/18 19:19	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/13/18 19:19	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/13/18 19:19	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/13/18 19:19	1
o-Xylene	ND		5.0	0.60	ug/L			04/13/18 19:19	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/13/18 19:19	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/13/18 19:19	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: MW6B-ROX-040518

Lab Sample ID: 400-151882-5

Date Collected: 04/05/18 12:40

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/13/18 19:19	1
Styrene	ND		1.0	1.0	ug/L			04/13/18 19:19	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/13/18 19:19	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/13/18 19:19	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/13/18 19:19	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/13/18 19:19	1
Toluene	ND		1.0	0.70	ug/L			04/13/18 19:19	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 19:19	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/13/18 19:19	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/13/18 19:19	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/13/18 19:19	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/13/18 19:19	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/13/18 19:19	1
Trichloroethene	ND		1.0	0.50	ug/L			04/13/18 19:19	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/13/18 19:19	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/13/18 19:19	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/13/18 19:19	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/13/18 19:19	1
Vinyl acetate	ND		25	2.0	ug/L			04/13/18 19:19	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/13/18 19:19	1
Xylenes, Total	ND		10	1.6	ug/L			04/13/18 19:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	105		78 - 118					04/13/18 19:19	1
Dibromofluoromethane	106		81 - 121					04/13/18 19:19	1
Toluene-d8 (Surr)	101		80 - 120					04/13/18 19:19	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 16:27	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 16:27	1
Anthracene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 16:27	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 16:27	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 16:27	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 16:27	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 16:27	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 16:27	1
Chrysene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 16:27	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 16:27	1
Fluoranthene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 16:27	1
Fluorene	ND		0.20	0.021	ug/L		04/11/18 13:42	04/13/18 16:27	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 16:27	1
Phenanthrene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 16:27	1
Pyrene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 16:27	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 16:27	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 16:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	52		33 - 138				04/11/18 13:42	04/13/18 16:27	1
2-Fluorobiphenyl	74		15 - 122				04/11/18 13:42	04/13/18 16:27	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: MW6B-ROX-040518

Lab Sample ID: 400-151882-5

Date Collected: 04/05/18 12:40

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	69		19 - 130	04/11/18 13:42	04/13/18 16:27	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.9	3.8	ug/L		04/11/18 13:42	04/13/18 19:01	1
Benzenethiol	ND	UJ	9.9	1.7	ug/L		04/11/18 13:42	04/13/18 19:01	1
Benzoic acid	ND		30	7.2	ug/L		04/11/18 13:42	04/13/18 19:01	1
Benzyl alcohol	ND		9.9	2.0	ug/L		04/11/18 13:42	04/13/18 19:01	1
Bis(2-chloroethoxy)methane	ND		9.9	0.68	ug/L		04/11/18 13:42	04/13/18 19:01	1
Bis(2-chloroethyl)ether	ND		9.9	0.73	ug/L		04/11/18 13:42	04/13/18 19:01	1
bis (2-chloroisopropyl) ether	ND		9.9	0.80	ug/L		04/11/18 13:42	04/13/18 19:01	1
Bis(2-ethylhexyl) phthalate	ND		9.9	2.2	ug/L		04/11/18 13:42	04/13/18 19:01	1
4-Bromophenyl phenyl ether	ND		9.9	0.32	ug/L		04/11/18 13:42	04/13/18 19:01	1
Butyl benzyl phthalate	ND		9.9	0.68	ug/L		04/11/18 13:42	04/13/18 19:01	1
4-Chloroaniline	ND		9.9	3.4	ug/L		04/11/18 13:42	04/13/18 19:01	1
4-Chloro-3-methylphenol	ND		9.9	3.8	ug/L		04/11/18 13:42	04/13/18 19:01	1
2-Chloronaphthalene	ND		9.9	0.51	ug/L		04/11/18 13:42	04/13/18 19:01	1
2-Chlorophenol	ND		9.9	2.2	ug/L		04/11/18 13:42	04/13/18 19:01	1
4-Chlorophenyl phenyl ether	ND		9.9	2.0	ug/L		04/11/18 13:42	04/13/18 19:01	1
Dibenz[a,h]acridine	ND		9.9	3.0	ug/L		04/11/18 13:42	04/13/18 19:01	1
Dibenzofuran	ND		9.9	0.51	ug/L		04/11/18 13:42	04/13/18 19:01	1
3,3'-Dichlorobenzidine	ND		9.9	2.6	ug/L		04/11/18 13:42	04/13/18 19:01	1
2,4-Dichlorophenol	ND		9.9	3.0	ug/L		04/11/18 13:42	04/13/18 19:01	1
Diethyl phthalate	ND		9.9	0.69	ug/L		04/11/18 13:42	04/13/18 19:01	1
2,4-Dimethylphenol	ND		9.9	3.5	ug/L		04/11/18 13:42	04/13/18 19:01	1
Dimethyl phthalate	ND		9.9	0.59	ug/L		04/11/18 13:42	04/13/18 19:01	1
Di-n-butyl phthalate	ND		9.9	2.7	ug/L		04/11/18 13:42	04/13/18 19:01	1
4,6-Dinitro-ortho-cresol	ND		9.9	2.0	ug/L		04/11/18 13:42	04/13/18 19:01	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/11/18 13:42	04/13/18 19:01	1
2,4-Dinitrotoluene	ND		9.9	1.9	ug/L		04/11/18 13:42	04/13/18 19:01	1
2,6-Dinitrotoluene	ND		9.9	1.9	ug/L		04/11/18 13:42	04/13/18 19:01	1
Di-n-octyl phthalate	ND		9.9	0.44	ug/L		04/11/18 13:42	04/13/18 19:01	1
1,4-Dioxane	ND	UJ	9.9	0.99	ug/L		04/11/18 13:42	04/13/18 19:01	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	0.99	ug/L		04/11/18 13:42	04/13/18 19:01	1
Hexachlorobenzene	ND		9.9	0.25	ug/L		04/11/18 13:42	04/13/18 19:01	1
Hexachlorocyclopentadiene	ND	UJ	20	2.6	ug/L		04/11/18 13:42	04/13/18 19:01	1
Hexachloroethane	ND		9.9	4.2	ug/L		04/11/18 13:42	04/13/18 19:01	1
Indene	ND		9.9	0.99	ug/L		04/11/18 13:42	04/13/18 19:01	1
Isophorone	ND		9.9	0.56	ug/L		04/11/18 13:42	04/13/18 19:01	1
2-Methylphenol	ND		9.9	1.8	ug/L		04/11/18 13:42	04/13/18 19:01	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/11/18 13:42	04/13/18 19:01	1
2-Nitroaniline	ND		9.9	2.2	ug/L		04/11/18 13:42	04/13/18 19:01	1
3-Nitroaniline	ND		9.9	1.8	ug/L		04/11/18 13:42	04/13/18 19:01	1
4-Nitroaniline	ND		9.9	2.5	ug/L		04/11/18 13:42	04/13/18 19:01	1
Nitrobenzene	ND		9.9	0.54	ug/L		04/11/18 13:42	04/13/18 19:01	1
2-Nitrophenol	ND		9.9	0.64	ug/L		04/11/18 13:42	04/13/18 19:01	1
4-Nitrophenol	ND		9.9	2.1	ug/L		04/11/18 13:42	04/13/18 19:01	1
N-Nitrosodimethylamine	ND	UJ	9.9	3.5	ug/L		04/11/18 13:42	04/13/18 19:01	1

TestAmerica Pensacola

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Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
 SDG: (2Q18)

Client Sample ID: MW6B-ROX-040518

Lab Sample ID: 400-151882-5

Date Collected: 04/05/18 12:40

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.9	3.3	ug/L		04/11/18 13:42	04/13/18 19:01	1
N-Nitrosodiphenylamine	ND		9.9	0.47	ug/L		04/11/18 13:42	04/13/18 19:01	1
Pentachlorophenol	ND		20	1.8	ug/L		04/11/18 13:42	04/13/18 19:01	1
Phenol	ND		9.9	2.6	ug/L		04/11/18 13:42	04/13/18 19:01	1
Pyridine	ND	UJ	9.9	3.2	ug/L		04/11/18 13:42	04/13/18 19:01	1
Quinoline	ND		9.9	5.9	ug/L		04/11/18 13:42	04/13/18 19:01	1
2,4,5-Trichlorophenol	ND		9.9	3.7	ug/L		04/11/18 13:42	04/13/18 19:01	1
2,4,6-Trichlorophenol	ND		9.9	3.5	ug/L		04/11/18 13:42	04/13/18 19:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	43		34 - 120	04/11/18 13:42	04/13/18 19:01	1
2-Fluorophenol	35		10 - 120	04/11/18 13:42	04/13/18 19:01	1
Nitrobenzene-d5	42		27 - 120	04/11/18 13:42	04/13/18 19:01	1
Phenol-d5	33		10 - 120	04/11/18 13:42	04/13/18 19:01	1
Terphenyl-d14	35 X		53 - 125	04/11/18 13:42	04/13/18 19:01	1
2,4,6-Tribromophenol	48		15 - 135	04/11/18 13:42	04/13/18 19:01	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.030	0.0054	ug/L		04/12/18 09:06	04/12/18 19:40	1
1,2-Dibromoethane	ND		0.020	0.0049	ug/L		04/12/18 09:06	04/12/18 19:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	110		51 - 149	04/12/18 09:06	04/12/18 19:40	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
 SDG: (2Q18)

Client Sample ID: MW6A-ROX-040518

Lab Sample ID: 400-151882-6

Date Collected: 04/05/18 13:35

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/13/18 16:01	1
Acrolein	ND		20	10	ug/L			04/13/18 16:01	1
Acrylonitrile	ND		10	2.8	ug/L			04/13/18 16:01	1
Benzene	ND		1.0	0.38	ug/L			04/13/18 16:01	1
Bromobenzene	ND		1.0	0.54	ug/L			04/13/18 16:01	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/13/18 16:01	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/13/18 16:01	1
Bromoform	ND		5.0	0.71	ug/L			04/13/18 16:01	1
Bromomethane	ND		1.0	0.98	ug/L			04/13/18 16:01	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/13/18 16:01	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/13/18 16:01	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/13/18 16:01	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/13/18 16:01	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/13/18 16:01	1
Chloroethane	ND		1.0	0.76	ug/L			04/13/18 16:01	1
2-Chloroethyl vinyl ether	ND	F1 UJ	5.0	2.0	ug/L			04/13/18 16:01	1
Chloroform	ND		1.0	0.60	ug/L			04/13/18 16:01	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/13/18 16:01	1
Chloromethane	ND		1.0	0.83	ug/L			04/13/18 16:01	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 16:01	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/13/18 16:01	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/13/18 16:01	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/13/18 16:01	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/13/18 16:01	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/13/18 16:01	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/13/18 16:01	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/13/18 16:01	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 16:01	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 16:01	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 16:01	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 16:01	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/13/18 16:01	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/13/18 16:01	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/13/18 16:01	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/13/18 16:01	1
2-Hexanone	ND		25	3.1	ug/L			04/13/18 16:01	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/13/18 16:01	1
Methylene bromide	ND		5.0	0.59	ug/L			04/13/18 16:01	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/13/18 16:01	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/13/18 16:01	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/13/18 16:01	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/13/18 16:01	1
Naphthalene	ND		1.0	1.0	ug/L			04/13/18 16:01	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/13/18 16:01	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/13/18 16:01	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/13/18 16:01	1
o-Xylene	ND		5.0	0.60	ug/L			04/13/18 16:01	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/13/18 16:01	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/13/18 16:01	1

TestAmerica Pensacola



Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: MW6A-ROX-040518

Lab Sample ID: 400-151882-6

Date Collected: 04/05/18 13:35

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/13/18 16:01	1
Styrene	ND		1.0	1.0	ug/L			04/13/18 16:01	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/13/18 16:01	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/13/18 16:01	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/13/18 16:01	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/13/18 16:01	1
Toluene	ND		1.0	0.70	ug/L			04/13/18 16:01	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 16:01	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/13/18 16:01	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/13/18 16:01	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/13/18 16:01	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/13/18 16:01	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/13/18 16:01	1
Trichloroethene	ND		1.0	0.50	ug/L			04/13/18 16:01	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/13/18 16:01	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/13/18 16:01	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/13/18 16:01	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/13/18 16:01	1
Vinyl acetate	ND		25	2.0	ug/L			04/13/18 16:01	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/13/18 16:01	1
Xylenes, Total	ND		10	1.6	ug/L			04/13/18 16:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		78 - 118		04/13/18 16:01	1
Dibromofluoromethane	104		81 - 121		04/13/18 16:01	1
Toluene-d8 (Surr)	104		80 - 120		04/13/18 16:01	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 15:35	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 15:35	1
Anthracene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 15:35	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 15:35	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 15:35	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 15:35	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 15:35	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 15:35	1
Chrysene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 15:35	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 15:35	1
Fluoranthene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 15:35	1
Fluorene	ND		0.20	0.021	ug/L		04/11/18 13:42	04/13/18 15:35	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 15:35	1
Phenanthrene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 15:35	1
Pyrene	0.052	J	0.20	0.020	ug/L		04/11/18 13:42	04/13/18 15:35	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 15:35	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 15:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	63		33 - 138	04/11/18 13:42	04/13/18 15:35	1
2-Fluorobiphenyl	74		15 - 122	04/11/18 13:42	04/13/18 15:35	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: MW6A-ROX-040518

Lab Sample ID: 400-151882-6

Date Collected: 04/05/18 13:35

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	78		19 - 130	04/11/18 13:42	04/13/18 15:35	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		04/11/18 13:42	04/13/18 17:48	1
Benzenethiol	ND	* UJ	10	1.7	ug/L		04/11/18 13:42	04/13/18 17:48	1
Benzoic acid	ND		30	7.3	ug/L		04/11/18 13:42	04/13/18 17:48	1
Benzyl alcohol	ND		10	2.0	ug/L		04/11/18 13:42	04/13/18 17:48	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		04/11/18 13:42	04/13/18 17:48	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		04/11/18 13:42	04/13/18 17:48	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		04/11/18 13:42	04/13/18 17:48	1
Bis(2-ethylhexyl) phthalate	ND		10	2.3	ug/L		04/11/18 13:42	04/13/18 17:48	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		04/11/18 13:42	04/13/18 17:48	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		04/11/18 13:42	04/13/18 17:48	1
4-Chloroaniline	ND		10	3.4	ug/L		04/11/18 13:42	04/13/18 17:48	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		04/11/18 13:42	04/13/18 17:48	1
2-Chloronaphthalene	ND		10	0.52	ug/L		04/11/18 13:42	04/13/18 17:48	1
2-Chlorophenol	ND		10	2.2	ug/L		04/11/18 13:42	04/13/18 17:48	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		04/11/18 13:42	04/13/18 17:48	1
Dibenz[a,h]acridine	ND	F1 UJ	10	3.0	ug/L		04/11/18 13:42	04/13/18 17:48	1
Dibenzofuran	ND		10	0.52	ug/L		04/11/18 13:42	04/13/18 17:48	1
3,3'-Dichlorobenzidine	ND	F1 UJ	10	2.6	ug/L		04/11/18 13:42	04/13/18 17:48	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		04/11/18 13:42	04/13/18 17:48	1
Diethyl phthalate	ND		10	0.70	ug/L		04/11/18 13:42	04/13/18 17:48	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		04/11/18 13:42	04/13/18 17:48	1
Dimethyl phthalate	ND		10	0.60	ug/L		04/11/18 13:42	04/13/18 17:48	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		04/11/18 13:42	04/13/18 17:48	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		04/11/18 13:42	04/13/18 17:48	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/11/18 13:42	04/13/18 17:48	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		04/11/18 13:42	04/13/18 17:48	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		04/11/18 13:42	04/13/18 17:48	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		04/11/18 13:42	04/13/18 17:48	1
1,4-Dioxane	ND	UJ	10	1.0	ug/L		04/11/18 13:42	04/13/18 17:48	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		04/11/18 13:42	04/13/18 17:48	1
Hexachlorobenzene	ND		10	0.25	ug/L		04/11/18 13:42	04/13/18 17:48	1
Hexachlorocyclopentadiene	ND	UJ	20	2.6	ug/L		04/11/18 13:42	04/13/18 17:48	1
Hexachloroethane	ND		10	4.2	ug/L		04/11/18 13:42	04/13/18 17:48	1
Indene	ND		10	1.0	ug/L		04/11/18 13:42	04/13/18 17:48	1
Isophorone	ND		10	0.57	ug/L		04/11/18 13:42	04/13/18 17:48	1
2-Methylphenol	ND		10	1.8	ug/L		04/11/18 13:42	04/13/18 17:48	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/11/18 13:42	04/13/18 17:48	1
2-Nitroaniline	ND		10	2.2	ug/L		04/11/18 13:42	04/13/18 17:48	1
3-Nitroaniline	ND		10	1.8	ug/L		04/11/18 13:42	04/13/18 17:48	1
4-Nitroaniline	ND	F2	10	2.5	ug/L		04/11/18 13:42	04/13/18 17:48	1
Nitrobenzene	ND		10	0.55	ug/L		04/11/18 13:42	04/13/18 17:48	1
2-Nitrophenol	ND		10	0.65	ug/L		04/11/18 13:42	04/13/18 17:48	1
4-Nitrophenol	ND		10	2.1	ug/L		04/11/18 13:42	04/13/18 17:48	1
N-Nitrosodimethylamine	ND	UJ	10	3.5	ug/L		04/11/18 13:42	04/13/18 17:48	1

TestAmerica Pensacola



Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
 SDG: (2Q18)

Client Sample ID: MW6A-ROX-040518

Lab Sample ID: 400-151882-6

Date Collected: 04/05/18 13:35

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		04/11/18 13:42	04/13/18 17:48	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		04/11/18 13:42	04/13/18 17:48	1
Pentachlorophenol	ND		20	1.8	ug/L		04/11/18 13:42	04/13/18 17:48	1
Phenol	ND		10	2.6	ug/L		04/11/18 13:42	04/13/18 17:48	1
Pyridine	ND	UJ	10	3.2	ug/L		04/11/18 13:42	04/13/18 17:48	1
Quinoline	ND	F2	10	6.0	ug/L		04/11/18 13:42	04/13/18 17:48	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		04/11/18 13:42	04/13/18 17:48	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/11/18 13:42	04/13/18 17:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	52		34 - 120	04/11/18 13:42	04/13/18 17:48	1
2-Fluorophenol	43		10 - 120	04/11/18 13:42	04/13/18 17:48	1
Nitrobenzene-d5	50		27 - 120	04/11/18 13:42	04/13/18 17:48	1
Phenol-d5	44		10 - 120	04/11/18 13:42	04/13/18 17:48	1
Terphenyl-d14	46 X		53 - 125	04/11/18 13:42	04/13/18 17:48	1
2,4,6-Tribromophenol	60		15 - 135	04/11/18 13:42	04/13/18 17:48	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.030	0.0056	ug/L		04/12/18 09:06	04/12/18 20:00	1
1,2-Dibromoethane	ND		0.020	0.0051	ug/L		04/12/18 09:06	04/12/18 20:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	115	p	51 - 149	04/12/18 09:06	04/12/18 20:00	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
 SDG: (2Q18)

Client Sample ID: MW6D-ROX-040518

Lab Sample ID: 400-151882-7

Date Collected: 04/05/18 14:50

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/13/18 19:41	1
Acrolein	ND		20	10	ug/L			04/13/18 19:41	1
Acrylonitrile	ND		10	2.8	ug/L			04/13/18 19:41	1
Benzene	ND		1.0	0.38	ug/L			04/13/18 19:41	1
Bromobenzene	ND		1.0	0.54	ug/L			04/13/18 19:41	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/13/18 19:41	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/13/18 19:41	1
Bromoform	ND		5.0	0.71	ug/L			04/13/18 19:41	1
Bromomethane	ND		1.0	0.98	ug/L			04/13/18 19:41	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/13/18 19:41	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/13/18 19:41	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/13/18 19:41	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/13/18 19:41	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/13/18 19:41	1
Chloroethane	ND		1.0	0.76	ug/L			04/13/18 19:41	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/13/18 19:41	1
Chloroform	ND		1.0	0.60	ug/L			04/13/18 19:41	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/13/18 19:41	1
Chloromethane	ND		1.0	0.83	ug/L			04/13/18 19:41	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 19:41	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/13/18 19:41	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/13/18 19:41	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/13/18 19:41	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/13/18 19:41	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/13/18 19:41	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/13/18 19:41	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/13/18 19:41	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 19:41	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 19:41	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 19:41	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 19:41	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/13/18 19:41	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/13/18 19:41	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/13/18 19:41	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/13/18 19:41	1
2-Hexanone	ND		25	3.1	ug/L			04/13/18 19:41	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/13/18 19:41	1
Methylene bromide	ND		5.0	0.59	ug/L			04/13/18 19:41	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/13/18 19:41	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/13/18 19:41	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/13/18 19:41	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/13/18 19:41	1
Naphthalene	ND		1.0	1.0	ug/L			04/13/18 19:41	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/13/18 19:41	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/13/18 19:41	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/13/18 19:41	1
o-Xylene	ND		5.0	0.60	ug/L			04/13/18 19:41	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/13/18 19:41	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/13/18 19:41	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: MW6D-ROX-040518

Lab Sample ID: 400-151882-7

Date Collected: 04/05/18 14:50

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/13/18 19:41	1
Styrene	ND		1.0	1.0	ug/L			04/13/18 19:41	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/13/18 19:41	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/13/18 19:41	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/13/18 19:41	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/13/18 19:41	1
Toluene	ND		1.0	0.70	ug/L			04/13/18 19:41	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 19:41	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/13/18 19:41	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/13/18 19:41	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/13/18 19:41	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/13/18 19:41	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/13/18 19:41	1
Trichloroethene	ND		1.0	0.50	ug/L			04/13/18 19:41	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/13/18 19:41	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/13/18 19:41	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/13/18 19:41	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/13/18 19:41	1
Vinyl acetate	ND		25	2.0	ug/L			04/13/18 19:41	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/13/18 19:41	1
Xylenes, Total	ND		10	1.6	ug/L			04/13/18 19:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	108		78 - 118		04/13/18 19:41	1
Dibromofluoromethane	104		81 - 121		04/13/18 19:41	1
Toluene-d8 (Surr)	105		80 - 120		04/13/18 19:41	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 16:44	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 16:44	1
Anthracene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 16:44	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 16:44	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 16:44	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 16:44	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 16:44	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 16:44	1
Chrysene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 16:44	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 16:44	1
Fluoranthene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 16:44	1
Fluorene	ND		0.20	0.021	ug/L		04/11/18 13:42	04/13/18 16:44	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 16:44	1
Phenanthrene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 16:44	1
Pyrene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 16:44	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 16:44	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 16:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	81		33 - 138	04/11/18 13:42	04/13/18 16:44	1
2-Fluorobiphenyl	89		15 - 122	04/11/18 13:42	04/13/18 16:44	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: MW6D-ROX-040518

Lab Sample ID: 400-151882-7

Date Collected: 04/05/18 14:50

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	79		19 - 130	04/11/18 13:42	04/13/18 16:44	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.9	3.8	ug/L		04/11/18 13:42	04/13/18 19:25	1
Benzenethiol	ND	UJ	9.9	1.7	ug/L		04/11/18 13:42	04/13/18 19:25	1
Benzoic acid	ND		30	7.3	ug/L		04/11/18 13:42	04/13/18 19:25	1
Benzyl alcohol	ND		9.9	2.0	ug/L		04/11/18 13:42	04/13/18 19:25	1
Bis(2-chloroethoxy)methane	ND		9.9	0.69	ug/L		04/11/18 13:42	04/13/18 19:25	1
Bis(2-chloroethyl)ether	ND		9.9	0.74	ug/L		04/11/18 13:42	04/13/18 19:25	1
bis (2-chloroisopropyl) ether	ND		9.9	0.81	ug/L		04/11/18 13:42	04/13/18 19:25	1
Bis(2-ethylhexyl) phthalate	ND		9.9	2.2	ug/L		04/11/18 13:42	04/13/18 19:25	1
4-Bromophenyl phenyl ether	ND		9.9	0.32	ug/L		04/11/18 13:42	04/13/18 19:25	1
Butyl benzyl phthalate	ND		9.9	0.69	ug/L		04/11/18 13:42	04/13/18 19:25	1
4-Chloroaniline	ND		9.9	3.4	ug/L		04/11/18 13:42	04/13/18 19:25	1
4-Chloro-3-methylphenol	ND		9.9	3.8	ug/L		04/11/18 13:42	04/13/18 19:25	1
2-Chloronaphthalene	ND		9.9	0.52	ug/L		04/11/18 13:42	04/13/18 19:25	1
2-Chlorophenol	ND		9.9	2.2	ug/L		04/11/18 13:42	04/13/18 19:25	1
4-Chlorophenyl phenyl ether	ND		9.9	2.0	ug/L		04/11/18 13:42	04/13/18 19:25	1
Dibenz[a,h]acridine	ND		9.9	3.0	ug/L		04/11/18 13:42	04/13/18 19:25	1
Dibenzofuran	ND		9.9	0.52	ug/L		04/11/18 13:42	04/13/18 19:25	1
3,3'-Dichlorobenzidine	ND		9.9	2.6	ug/L		04/11/18 13:42	04/13/18 19:25	1
2,4-Dichlorophenol	ND		9.9	3.0	ug/L		04/11/18 13:42	04/13/18 19:25	1
Diethyl phthalate	ND		9.9	0.70	ug/L		04/11/18 13:42	04/13/18 19:25	1
2,4-Dimethylphenol	ND		9.9	3.5	ug/L		04/11/18 13:42	04/13/18 19:25	1
Dimethyl phthalate	ND		9.9	0.60	ug/L		04/11/18 13:42	04/13/18 19:25	1
Di-n-butyl phthalate	ND		9.9	2.7	ug/L		04/11/18 13:42	04/13/18 19:25	1
4,6-Dinitro-ortho-cresol	ND		9.9	2.0	ug/L		04/11/18 13:42	04/13/18 19:25	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/11/18 13:42	04/13/18 19:25	1
2,4-Dinitrotoluene	ND		9.9	1.9	ug/L		04/11/18 13:42	04/13/18 19:25	1
2,6-Dinitrotoluene	ND		9.9	1.9	ug/L		04/11/18 13:42	04/13/18 19:25	1
Di-n-octyl phthalate	ND		9.9	0.44	ug/L		04/11/18 13:42	04/13/18 19:25	1
1,4-Dioxane	ND	UJ	9.9	0.99	ug/L		04/11/18 13:42	04/13/18 19:25	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	0.99	ug/L		04/11/18 13:42	04/13/18 19:25	1
Hexachlorobenzene	ND		9.9	0.25	ug/L		04/11/18 13:42	04/13/18 19:25	1
Hexachlorocyclopentadiene	ND	UJ	20	2.6	ug/L		04/11/18 13:42	04/13/18 19:25	1
Hexachloroethane	ND		9.9	4.2	ug/L		04/11/18 13:42	04/13/18 19:25	1
Indene	ND		9.9	0.99	ug/L		04/11/18 13:42	04/13/18 19:25	1
Isophorone	ND		9.9	0.57	ug/L		04/11/18 13:42	04/13/18 19:25	1
2-Methylphenol	ND		9.9	1.8	ug/L		04/11/18 13:42	04/13/18 19:25	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/11/18 13:42	04/13/18 19:25	1
2-Nitroaniline	ND		9.9	2.2	ug/L		04/11/18 13:42	04/13/18 19:25	1
3-Nitroaniline	ND		9.9	1.8	ug/L		04/11/18 13:42	04/13/18 19:25	1
4-Nitroaniline	ND		9.9	2.5	ug/L		04/11/18 13:42	04/13/18 19:25	1
Nitrobenzene	ND		9.9	0.55	ug/L		04/11/18 13:42	04/13/18 19:25	1
2-Nitrophenol	ND		9.9	0.65	ug/L		04/11/18 13:42	04/13/18 19:25	1
4-Nitrophenol	ND		9.9	2.1	ug/L		04/11/18 13:42	04/13/18 19:25	1
N-Nitrosodimethylamine	ND	UJ	9.9	3.5	ug/L		04/11/18 13:42	04/13/18 19:25	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
 SDG: (2Q18)

Client Sample ID: MW6D-ROX-040518

Lab Sample ID: 400-151882-7

Date Collected: 04/05/18 14:50

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.9	3.3	ug/L		04/11/18 13:42	04/13/18 19:25	1
N-Nitrosodiphenylamine	ND		9.9	0.47	ug/L		04/11/18 13:42	04/13/18 19:25	1
Pentachlorophenol	ND		20	1.8	ug/L		04/11/18 13:42	04/13/18 19:25	1
Phenol	ND		9.9	2.6	ug/L		04/11/18 13:42	04/13/18 19:25	1
Pyridine	ND	UJ	9.9	3.2	ug/L		04/11/18 13:42	04/13/18 19:25	1
Quinoline	ND		9.9	6.0	ug/L		04/11/18 13:42	04/13/18 19:25	1
2,4,5-Trichlorophenol	ND		9.9	3.7	ug/L		04/11/18 13:42	04/13/18 19:25	1
2,4,6-Trichlorophenol	ND		9.9	3.5	ug/L		04/11/18 13:42	04/13/18 19:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	49		34 - 120	04/11/18 13:42	04/13/18 19:25	1
2-Fluorophenol	44		10 - 120	04/11/18 13:42	04/13/18 19:25	1
Nitrobenzene-d5	46		27 - 120	04/11/18 13:42	04/13/18 19:25	1
Phenol-d5	45		10 - 120	04/11/18 13:42	04/13/18 19:25	1
Terphenyl-d14	52 X		53 - 125	04/11/18 13:42	04/13/18 19:25	1
2,4,6-Tribromophenol	56		15 - 135	04/11/18 13:42	04/13/18 19:25	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.030	0.0055	ug/L		04/12/18 09:06	04/12/18 21:20	1
1,2-Dibromoethane	ND		0.020	0.0050	ug/L		04/12/18 09:06	04/12/18 21:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	106		51 - 149	04/12/18 09:06	04/12/18 21:20	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: MW3-ROX-040518

Lab Sample ID: 400-151882-8

Date Collected: 04/05/18 15:55

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	J	25	10	ug/L			04/16/18 18:17	1
Acrolein	ND		20	10	ug/L			04/16/18 18:17	1
Acrylonitrile	ND		10	2.8	ug/L			04/16/18 18:17	1
Benzene	ND		1.0	0.38	ug/L			04/16/18 18:17	1
Bromobenzene	ND		1.0	0.54	ug/L			04/16/18 18:17	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/16/18 18:17	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/16/18 18:17	1
Bromoform	ND		5.0	0.71	ug/L			04/16/18 18:17	1
Bromomethane	ND		1.0	0.98	ug/L			04/16/18 18:17	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/16/18 18:17	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/16/18 18:17	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/16/18 18:17	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/16/18 18:17	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/16/18 18:17	1
Chloroethane	ND		1.0	0.76	ug/L			04/16/18 18:17	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/16/18 18:17	1
Chloroform	ND		1.0	0.60	ug/L			04/16/18 18:17	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/16/18 18:17	1
Chloromethane	ND		1.0	0.83	ug/L			04/16/18 18:17	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 18:17	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/18 18:17	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/16/18 18:17	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/16/18 18:17	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/16/18 18:17	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/16/18 18:17	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/16/18 18:17	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/16/18 18:17	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 18:17	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 18:17	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 18:17	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 18:17	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/16/18 18:17	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/16/18 18:17	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/16/18 18:17	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/16/18 18:17	1
2-Hexanone	ND		25	3.1	ug/L			04/16/18 18:17	1
Isopropylbenzene	2.8		1.0	0.53	ug/L			04/16/18 18:17	1
Methylene bromide	ND		5.0	0.59	ug/L			04/16/18 18:17	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/16/18 18:17	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/16/18 18:17	1
Methyl tert-butyl ether	2.7		1.0	0.74	ug/L			04/16/18 18:17	1
m-Xylene & p-Xylene	5.0		5.0	1.6	ug/L			04/16/18 18:17	1
Naphthalene	ND		1.0	1.0	ug/L			04/16/18 18:17	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/16/18 18:17	1
N-Propylbenzene	8.2		1.0	0.69	ug/L			04/16/18 18:17	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/16/18 18:17	1
o-Xylene	0.81	J	5.0	0.60	ug/L			04/16/18 18:17	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/16/18 18:17	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/16/18 18:17	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: MW3-ROX-040518

Lab Sample ID: 400-151882-8

Date Collected: 04/05/18 15:55

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/16/18 18:17	1
Styrene	ND		1.0	1.0	ug/L			04/16/18 18:17	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/16/18 18:17	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/16/18 18:17	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/16/18 18:17	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/16/18 18:17	1
Toluene	0.95	J	1.0	0.70	ug/L			04/16/18 18:17	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 18:17	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/18 18:17	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/16/18 18:17	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/16/18 18:17	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/16/18 18:17	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/16/18 18:17	1
Trichloroethene	ND		1.0	0.50	ug/L			04/16/18 18:17	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/16/18 18:17	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/16/18 18:17	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/16/18 18:17	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/16/18 18:17	1
Vinyl acetate	ND		25	2.0	ug/L			04/16/18 18:17	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/16/18 18:17	1
Xylenes, Total	5.8	J	10	1.6	ug/L			04/16/18 18:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	114		78 - 118		04/16/18 18:17	1
Dibromofluoromethane	109		81 - 121		04/16/18 18:17	1
Toluene-d8 (Surr)	100		80 - 120		04/16/18 18:17	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 17:01	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 17:01	1
Anthracene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 17:01	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		04/11/18 13:42	04/13/18 17:01	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		04/11/18 13:42	04/13/18 17:01	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		04/11/18 13:42	04/13/18 17:01	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		04/11/18 13:42	04/13/18 17:01	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		04/11/18 13:42	04/13/18 17:01	1
Chrysene	ND		0.20	0.039	ug/L		04/11/18 13:42	04/13/18 17:01	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		04/11/18 13:42	04/13/18 17:01	1
Fluoranthene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 17:01	1
Fluorene	ND		0.20	0.021	ug/L		04/11/18 13:42	04/13/18 17:01	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		04/11/18 13:42	04/13/18 17:01	1
Phenanthrene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 17:01	1
Pyrene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 17:01	1
1-Methylnaphthalene	0.58		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 17:01	1
2-Methylnaphthalene	0.24		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 17:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	63		33 - 138	04/11/18 13:42	04/13/18 17:01	1
2-Fluorobiphenyl	78		15 - 122	04/11/18 13:42	04/13/18 17:01	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: MW3-ROX-040518

Lab Sample ID: 400-151882-8

Date Collected: 04/05/18 15:55

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	72		19 - 130	04/11/18 13:42	04/13/18 17:01	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		04/11/18 13:42	04/13/18 19:48	1
Benzenethiol	ND	WJ	9.8	1.7	ug/L		04/11/18 13:42	04/13/18 19:48	1
Benzoic acid	ND		29	7.2	ug/L		04/11/18 13:42	04/13/18 19:48	1
Benzyl alcohol	ND		9.8	2.0	ug/L		04/11/18 13:42	04/13/18 19:48	1
Bis(2-chloroethoxy)methane	ND		9.8	0.68	ug/L		04/11/18 13:42	04/13/18 19:48	1
Bis(2-chloroethyl)ether	ND		9.8	0.73	ug/L		04/11/18 13:42	04/13/18 19:48	1
bis (2-chloroisopropyl) ether	ND		9.8	0.80	ug/L		04/11/18 13:42	04/13/18 19:48	1
Bis(2-ethylhexyl) phthalate	ND		9.8	2.2	ug/L		04/11/18 13:42	04/13/18 19:48	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		04/11/18 13:42	04/13/18 19:48	1
Butyl benzyl phthalate	ND		9.8	0.68	ug/L		04/11/18 13:42	04/13/18 19:48	1
4-Chloroaniline	ND		9.8	3.3	ug/L		04/11/18 13:42	04/13/18 19:48	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		04/11/18 13:42	04/13/18 19:48	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		04/11/18 13:42	04/13/18 19:48	1
2-Chlorophenol	ND		9.8	2.2	ug/L		04/11/18 13:42	04/13/18 19:48	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		04/11/18 13:42	04/13/18 19:48	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		04/11/18 13:42	04/13/18 19:48	1
Dibenzofuran	ND		9.8	0.51	ug/L		04/11/18 13:42	04/13/18 19:48	1
3,3'-Dichlorobenzidine	ND		9.8	2.6	ug/L		04/11/18 13:42	04/13/18 19:48	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		04/11/18 13:42	04/13/18 19:48	1
Diethyl phthalate	ND		9.8	0.69	ug/L		04/11/18 13:42	04/13/18 19:48	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		04/11/18 13:42	04/13/18 19:48	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		04/11/18 13:42	04/13/18 19:48	1
Di-n-butyl phthalate	ND		9.8	2.7	ug/L		04/11/18 13:42	04/13/18 19:48	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		04/11/18 13:42	04/13/18 19:48	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		04/11/18 13:42	04/13/18 19:48	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		04/11/18 13:42	04/13/18 19:48	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		04/11/18 13:42	04/13/18 19:48	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		04/11/18 13:42	04/13/18 19:48	1
1,4-Dioxane	ND	WJ	9.8	0.98	ug/L		04/11/18 13:42	04/13/18 19:48	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		04/11/18 13:42	04/13/18 19:48	1
Hexachlorobenzene	ND		9.8	0.25	ug/L		04/11/18 13:42	04/13/18 19:48	1
Hexachlorocyclopentadiene	ND	WJ	20	2.6	ug/L		04/11/18 13:42	04/13/18 19:48	1
Hexachloroethane	ND		9.8	4.1	ug/L		04/11/18 13:42	04/13/18 19:48	1
Indene	ND		9.8	0.98	ug/L		04/11/18 13:42	04/13/18 19:48	1
Isophorone	ND		9.8	0.56	ug/L		04/11/18 13:42	04/13/18 19:48	1
2-Methylphenol	ND		9.8	1.8	ug/L		04/11/18 13:42	04/13/18 19:48	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/11/18 13:42	04/13/18 19:48	1
2-Nitroaniline	ND		9.8	2.2	ug/L		04/11/18 13:42	04/13/18 19:48	1
3-Nitroaniline	ND		9.8	1.8	ug/L		04/11/18 13:42	04/13/18 19:48	1
4-Nitroaniline	ND		9.8	2.4	ug/L		04/11/18 13:42	04/13/18 19:48	1
Nitrobenzene	ND		9.8	0.54	ug/L		04/11/18 13:42	04/13/18 19:48	1
2-Nitrophenol	ND		9.8	0.64	ug/L		04/11/18 13:42	04/13/18 19:48	1
4-Nitrophenol	ND		9.8	2.1	ug/L		04/11/18 13:42	04/13/18 19:48	1
N-Nitrosodimethylamine	ND	WJ	9.8	3.4	ug/L		04/11/18 13:42	04/13/18 19:48	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: MW3-ROX-040518

Lab Sample ID: 400-151882-8

Date Collected: 04/05/18 15:55

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		04/11/18 13:42	04/13/18 19:48	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		04/11/18 13:42	04/13/18 19:48	1
Pentachlorophenol	ND		20	1.8	ug/L		04/11/18 13:42	04/13/18 19:48	1
Phenol	ND		9.8	2.6	ug/L		04/11/18 13:42	04/13/18 19:48	1
Pyridine	ND	UJ	9.8	3.1	ug/L		04/11/18 13:42	04/13/18 19:48	1
Quinoline	ND		9.8	5.9	ug/L		04/11/18 13:42	04/13/18 19:48	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		04/11/18 13:42	04/13/18 19:48	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		04/11/18 13:42	04/13/18 19:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	55		34 - 120	04/11/18 13:42	04/13/18 19:48	1
2-Fluorophenol	40		10 - 120	04/11/18 13:42	04/13/18 19:48	1
Nitrobenzene-d5	51		27 - 120	04/11/18 13:42	04/13/18 19:48	1
Phenol-d5	44		10 - 120	04/11/18 13:42	04/13/18 19:48	1
Terphenyl-d14	55		53 - 125	04/11/18 13:42	04/13/18 19:48	1
2,4,6-Tribromophenol	66		15 - 135	04/11/18 13:42	04/13/18 19:48	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.029	0.0053	ug/L		04/12/18 09:06	04/12/18 21:40	1
1,2-Dibromoethane	ND		0.019	0.0048	ug/L		04/12/18 09:06	04/12/18 21:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	105		51 - 149	04/12/18 09:06	04/12/18 21:40	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
 SDG: (2Q18)

Client Sample ID: TB-ROX-040518-8011-B

Lab Sample ID: 400-151882-9

Date Collected: 04/05/18 00:00

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.029	0.0053	ug/L		04/12/18 09:06	04/12/18 22:00	1
1,2-Dibromoethane	ND		0.019	0.0048	ug/L		04/12/18 09:06	04/12/18 22:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	106	p	51 - 149				04/12/18 09:06	04/12/18 22:00	1



Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
 SDG: (2Q18)

Client Sample ID: TB-ROX-040518-8260-B

Lab Sample ID: 400-151882-10

Date Collected: 04/05/18 00:00

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/13/18 18:13	1
Acrolein	ND		20	10	ug/L			04/13/18 18:13	1
Acrylonitrile	ND		10	2.8	ug/L			04/13/18 18:13	1
Benzene	ND		1.0	0.38	ug/L			04/13/18 18:13	1
Bromobenzene	ND		1.0	0.54	ug/L			04/13/18 18:13	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/13/18 18:13	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/13/18 18:13	1
Bromoform	ND		5.0	0.71	ug/L			04/13/18 18:13	1
Bromomethane	ND		1.0	0.98	ug/L			04/13/18 18:13	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/13/18 18:13	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/13/18 18:13	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/13/18 18:13	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/13/18 18:13	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/13/18 18:13	1
Chloroethane	ND		1.0	0.76	ug/L			04/13/18 18:13	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/13/18 18:13	1
Chloroform	ND		1.0	0.60	ug/L			04/13/18 18:13	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/13/18 18:13	1
Chloromethane	ND		1.0	0.83	ug/L			04/13/18 18:13	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 18:13	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/13/18 18:13	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/13/18 18:13	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/13/18 18:13	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/13/18 18:13	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/13/18 18:13	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/13/18 18:13	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/13/18 18:13	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 18:13	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 18:13	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 18:13	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 18:13	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/13/18 18:13	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/13/18 18:13	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/13/18 18:13	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/13/18 18:13	1
2-Hexanone	ND		25	3.1	ug/L			04/13/18 18:13	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/13/18 18:13	1
Methylene bromide	ND		5.0	0.59	ug/L			04/13/18 18:13	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/13/18 18:13	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/13/18 18:13	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/13/18 18:13	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/13/18 18:13	1
Naphthalene	ND		1.0	1.0	ug/L			04/13/18 18:13	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/13/18 18:13	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/13/18 18:13	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/13/18 18:13	1
o-Xylene	ND		5.0	0.60	ug/L			04/13/18 18:13	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/13/18 18:13	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/13/18 18:13	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
 SDG: (2Q18)

Client Sample ID: TB-ROX-040518-8260-B

Lab Sample ID: 400-151882-10

Date Collected: 04/05/18 00:00

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/13/18 18:13	1
Styrene	ND		1.0	1.0	ug/L			04/13/18 18:13	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/13/18 18:13	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/13/18 18:13	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/13/18 18:13	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/13/18 18:13	1
Toluene	ND		1.0	0.70	ug/L			04/13/18 18:13	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 18:13	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/13/18 18:13	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/13/18 18:13	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/13/18 18:13	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/13/18 18:13	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/13/18 18:13	1
Trichloroethene	ND		1.0	0.50	ug/L			04/13/18 18:13	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/13/18 18:13	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/13/18 18:13	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/13/18 18:13	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/13/18 18:13	1
Vinyl acetate	ND		25	2.0	ug/L			04/13/18 18:13	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/13/18 18:13	1
Xylenes, Total	ND		10	1.6	ug/L			04/13/18 18:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		78 - 118					04/13/18 18:13	1
Dibromofluoromethane	102		81 - 121					04/13/18 18:13	1
Toluene-d8 (Surr)	100		80 - 120					04/13/18 18:13	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
 SDG: (2Q18)

Client Sample ID: ROST3MW-ROX-040518-EB

Lab Sample ID: 400-151882-11

Date Collected: 04/05/18 10:00

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/13/18 18:35	1
Acrolein	ND		20	10	ug/L			04/13/18 18:35	1
Acrylonitrile	ND		10	2.8	ug/L			04/13/18 18:35	1
Benzene	ND		1.0	0.38	ug/L			04/13/18 18:35	1
Bromobenzene	ND		1.0	0.54	ug/L			04/13/18 18:35	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/13/18 18:35	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/13/18 18:35	1
Bromoform	ND		5.0	0.71	ug/L			04/13/18 18:35	1
Bromomethane	ND		1.0	0.98	ug/L			04/13/18 18:35	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/13/18 18:35	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/13/18 18:35	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/13/18 18:35	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/13/18 18:35	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/13/18 18:35	1
Chloroethane	ND		1.0	0.76	ug/L			04/13/18 18:35	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/13/18 18:35	1
Chloroform	ND		1.0	0.60	ug/L			04/13/18 18:35	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/13/18 18:35	1
Chloromethane	ND		1.0	0.83	ug/L			04/13/18 18:35	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 18:35	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/13/18 18:35	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/13/18 18:35	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/13/18 18:35	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/13/18 18:35	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/13/18 18:35	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/13/18 18:35	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/13/18 18:35	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 18:35	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 18:35	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 18:35	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 18:35	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/13/18 18:35	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/13/18 18:35	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/13/18 18:35	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/13/18 18:35	1
2-Hexanone	ND		25	3.1	ug/L			04/13/18 18:35	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/13/18 18:35	1
Methylene bromide	ND		5.0	0.59	ug/L			04/13/18 18:35	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/13/18 18:35	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/13/18 18:35	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/13/18 18:35	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/13/18 18:35	1
Naphthalene	ND		1.0	1.0	ug/L			04/13/18 18:35	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/13/18 18:35	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/13/18 18:35	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/13/18 18:35	1
o-Xylene	ND		5.0	0.60	ug/L			04/13/18 18:35	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/13/18 18:35	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/13/18 18:35	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: ROST3MW-ROX-040518-EB

Lab Sample ID: 400-151882-11

Date Collected: 04/05/18 10:00

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/13/18 18:35	1
Styrene	ND		1.0	1.0	ug/L			04/13/18 18:35	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/13/18 18:35	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/13/18 18:35	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/13/18 18:35	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/13/18 18:35	1
Toluene	ND		1.0	0.70	ug/L			04/13/18 18:35	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 18:35	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/13/18 18:35	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/13/18 18:35	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/13/18 18:35	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/13/18 18:35	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/13/18 18:35	1
Trichloroethene	ND		1.0	0.50	ug/L			04/13/18 18:35	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/13/18 18:35	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/13/18 18:35	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/13/18 18:35	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/13/18 18:35	1
Vinyl acetate	ND		25	2.0	ug/L			04/13/18 18:35	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/13/18 18:35	1
Xylenes, Total	ND		10	1.6	ug/L			04/13/18 18:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	106		78 - 118		04/13/18 18:35	1
Dibromofluoromethane	103		81 - 121		04/13/18 18:35	1
Toluene-d8 (Surr)	103		80 - 120		04/13/18 18:35	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 17:18	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 17:18	1
Anthracene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 17:18	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		04/11/18 13:42	04/13/18 17:18	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		04/11/18 13:42	04/13/18 17:18	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		04/11/18 13:42	04/13/18 17:18	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		04/11/18 13:42	04/13/18 17:18	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		04/11/18 13:42	04/13/18 17:18	1
Chrysene	ND		0.20	0.039	ug/L		04/11/18 13:42	04/13/18 17:18	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		04/11/18 13:42	04/13/18 17:18	1
Fluoranthene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 17:18	1
Fluorene	ND		0.20	0.021	ug/L		04/11/18 13:42	04/13/18 17:18	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		04/11/18 13:42	04/13/18 17:18	1
Phenanthrene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 17:18	1
Pyrene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 17:18	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 17:18	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 17:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	88		33 - 138	04/11/18 13:42	04/13/18 17:18	1
2-Fluorobiphenyl	84		15 - 122	04/11/18 13:42	04/13/18 17:18	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: ROST3MW-ROX-040518-EB

Lab Sample ID: 400-151882-11

Date Collected: 04/05/18 10:00

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	77		19 - 130	04/11/18 13:42	04/13/18 17:18	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		04/11/18 13:42	04/13/18 20:12	1
Benzenethiol	ND		9.8	1.7	ug/L		04/11/18 13:42	04/13/18 20:12	1
Benzoic acid	ND		29	7.2	ug/L		04/11/18 13:42	04/13/18 20:12	1
Benzyl alcohol	ND		9.8	2.0	ug/L		04/11/18 13:42	04/13/18 20:12	1
Bis(2-chloroethoxy)methane	ND		9.8	0.68	ug/L		04/11/18 13:42	04/13/18 20:12	1
Bis(2-chloroethyl)ether	ND		9.8	0.73	ug/L		04/11/18 13:42	04/13/18 20:12	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		04/11/18 13:42	04/13/18 20:12	1
Bis(2-ethylhexyl) phthalate	ND		9.8	2.2	ug/L		04/11/18 13:42	04/13/18 20:12	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		04/11/18 13:42	04/13/18 20:12	1
Butyl benzyl phthalate	ND		9.8	0.68	ug/L		04/11/18 13:42	04/13/18 20:12	1
4-Chloroaniline	ND		9.8	3.3	ug/L		04/11/18 13:42	04/13/18 20:12	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		04/11/18 13:42	04/13/18 20:12	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		04/11/18 13:42	04/13/18 20:12	1
2-Chlorophenol	ND		9.8	2.2	ug/L		04/11/18 13:42	04/13/18 20:12	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		04/11/18 13:42	04/13/18 20:12	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		04/11/18 13:42	04/13/18 20:12	1
Dibenzofuran	ND		9.8	0.51	ug/L		04/11/18 13:42	04/13/18 20:12	1
3,3'-Dichlorobenzidine	ND		9.8	2.5	ug/L		04/11/18 13:42	04/13/18 20:12	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		04/11/18 13:42	04/13/18 20:12	1
Diethyl phthalate	ND		9.8	0.69	ug/L		04/11/18 13:42	04/13/18 20:12	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		04/11/18 13:42	04/13/18 20:12	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		04/11/18 13:42	04/13/18 20:12	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		04/11/18 13:42	04/13/18 20:12	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		04/11/18 13:42	04/13/18 20:12	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		04/11/18 13:42	04/13/18 20:12	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		04/11/18 13:42	04/13/18 20:12	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		04/11/18 13:42	04/13/18 20:12	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		04/11/18 13:42	04/13/18 20:12	1
1,4-Dioxane	ND		9.8	0.98	ug/L		04/11/18 13:42	04/13/18 20:12	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		04/11/18 13:42	04/13/18 20:12	1
Hexachlorobenzene	ND		9.8	0.25	ug/L		04/11/18 13:42	04/13/18 20:12	1
Hexachlorocyclopentadiene	ND		20	2.5	ug/L		04/11/18 13:42	04/13/18 20:12	1
Hexachloroethane	ND		9.8	4.1	ug/L		04/11/18 13:42	04/13/18 20:12	1
Indene	ND		9.8	0.98	ug/L		04/11/18 13:42	04/13/18 20:12	1
Isophorone	ND		9.8	0.56	ug/L		04/11/18 13:42	04/13/18 20:12	1
2-Methylphenol	ND		9.8	1.8	ug/L		04/11/18 13:42	04/13/18 20:12	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/11/18 13:42	04/13/18 20:12	1
2-Nitroaniline	ND		9.8	2.2	ug/L		04/11/18 13:42	04/13/18 20:12	1
3-Nitroaniline	ND		9.8	1.8	ug/L		04/11/18 13:42	04/13/18 20:12	1
4-Nitroaniline	ND		9.8	2.4	ug/L		04/11/18 13:42	04/13/18 20:12	1
Nitrobenzene	ND		9.8	0.54	ug/L		04/11/18 13:42	04/13/18 20:12	1
2-Nitrophenol	ND		9.8	0.64	ug/L		04/11/18 13:42	04/13/18 20:12	1
4-Nitrophenol	ND		9.8	2.1	ug/L		04/11/18 13:42	04/13/18 20:12	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		04/11/18 13:42	04/13/18 20:12	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
 SDG: (2Q18)

Client Sample ID: ROST3MW-ROX-040518-EB

Lab Sample ID: 400-151882-11

Date Collected: 04/05/18 10:00

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		04/11/18 13:42	04/13/18 20:12	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		04/11/18 13:42	04/13/18 20:12	1
Pentachlorophenol	ND		20	1.8	ug/L		04/11/18 13:42	04/13/18 20:12	1
Phenol	ND		9.8	2.5	ug/L		04/11/18 13:42	04/13/18 20:12	1
Pyridine	ND		9.8	3.1	ug/L		04/11/18 13:42	04/13/18 20:12	1
Quinoline	ND		9.8	5.9	ug/L		04/11/18 13:42	04/13/18 20:12	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		04/11/18 13:42	04/13/18 20:12	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		04/11/18 13:42	04/13/18 20:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	55		34 - 120				04/11/18 13:42	04/13/18 20:12	1
2-Fluorophenol	47		10 - 120				04/11/18 13:42	04/13/18 20:12	1
Nitrobenzene-d5	51		27 - 120				04/11/18 13:42	04/13/18 20:12	1
Phenol-d5	48		10 - 120				04/11/18 13:42	04/13/18 20:12	1
Terphenyl-d14	65		53 - 125				04/11/18 13:42	04/13/18 20:12	1
2,4,6-Tribromophenol	59		15 - 135				04/11/18 13:42	04/13/18 20:12	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.029	0.0054	ug/L		04/12/18 09:06	04/12/18 22:20	1
1,2-Dibromoethane	ND		0.020	0.0049	ug/L		04/12/18 09:06	04/12/18 22:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	149	p	51 - 149				04/12/18 09:06	04/12/18 22:20	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
 SDG: (2Q18)

Client Sample ID: MW12-ROX-040518

Lab Sample ID: 400-151882-14

Date Collected: 04/05/18 13:30

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/13/18 20:24	1
Acrolein	ND		20	10	ug/L			04/13/18 20:24	1
Acrylonitrile	ND		10	2.8	ug/L			04/13/18 20:24	1
Benzene	ND		1.0	0.38	ug/L			04/13/18 20:24	1
Bromobenzene	ND		1.0	0.54	ug/L			04/13/18 20:24	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/13/18 20:24	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/13/18 20:24	1
Bromoform	ND		5.0	0.71	ug/L			04/13/18 20:24	1
Bromomethane	ND		1.0	0.98	ug/L			04/13/18 20:24	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/13/18 20:24	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/13/18 20:24	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/13/18 20:24	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/13/18 20:24	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/13/18 20:24	1
Chloroethane	ND		1.0	0.76	ug/L			04/13/18 20:24	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/13/18 20:24	1
Chloroform	ND		1.0	0.60	ug/L			04/13/18 20:24	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/13/18 20:24	1
Chloromethane	ND		1.0	0.83	ug/L			04/13/18 20:24	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 20:24	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/13/18 20:24	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/13/18 20:24	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/13/18 20:24	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/13/18 20:24	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/13/18 20:24	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/13/18 20:24	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/13/18 20:24	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 20:24	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 20:24	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 20:24	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 20:24	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/13/18 20:24	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/13/18 20:24	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/13/18 20:24	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/13/18 20:24	1
2-Hexanone	ND		25	3.1	ug/L			04/13/18 20:24	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/13/18 20:24	1
Methylene bromide	ND		5.0	0.59	ug/L			04/13/18 20:24	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/13/18 20:24	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/13/18 20:24	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/13/18 20:24	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/13/18 20:24	1
Naphthalene	ND		1.0	1.0	ug/L			04/13/18 20:24	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/13/18 20:24	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/13/18 20:24	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/13/18 20:24	1
o-Xylene	ND		5.0	0.60	ug/L			04/13/18 20:24	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/13/18 20:24	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/13/18 20:24	1

TestAmerica Pensacola



Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: MW12-ROX-040518

Lab Sample ID: 400-151882-14

Date Collected: 04/05/18 13:30

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/13/18 20:24	1
Styrene	ND		1.0	1.0	ug/L			04/13/18 20:24	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/13/18 20:24	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/13/18 20:24	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/13/18 20:24	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/13/18 20:24	1
Toluene	ND		1.0	0.70	ug/L			04/13/18 20:24	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 20:24	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/13/18 20:24	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/13/18 20:24	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/13/18 20:24	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/13/18 20:24	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/13/18 20:24	1
Trichloroethene	ND		1.0	0.50	ug/L			04/13/18 20:24	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/13/18 20:24	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/13/18 20:24	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/13/18 20:24	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/13/18 20:24	1
Vinyl acetate	ND		25	2.0	ug/L			04/13/18 20:24	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/13/18 20:24	1
Xylenes, Total	ND		10	1.6	ug/L			04/13/18 20:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	110		78 - 118		04/13/18 20:24	1
Dibromofluoromethane	101		81 - 121		04/13/18 20:24	1
Toluene-d8 (Surr)	103		80 - 120		04/13/18 20:24	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 17:36	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 17:36	1
Anthracene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 17:36	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		04/11/18 13:42	04/13/18 17:36	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		04/11/18 13:42	04/13/18 17:36	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		04/11/18 13:42	04/13/18 17:36	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		04/11/18 13:42	04/13/18 17:36	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		04/11/18 13:42	04/13/18 17:36	1
Chrysene	ND		0.20	0.039	ug/L		04/11/18 13:42	04/13/18 17:36	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		04/11/18 13:42	04/13/18 17:36	1
Fluoranthene	0.025	J	0.20	0.020	ug/L		04/11/18 13:42	04/13/18 17:36	1
Fluorene	ND		0.20	0.021	ug/L		04/11/18 13:42	04/13/18 17:36	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		04/11/18 13:42	04/13/18 17:36	1
Phenanthrene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 17:36	1
Pyrene	0.031	J	0.20	0.020	ug/L		04/11/18 13:42	04/13/18 17:36	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 17:36	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 17:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	63		33 - 138	04/11/18 13:42	04/13/18 17:36	1
2-Fluorobiphenyl	84		15 - 122	04/11/18 13:42	04/13/18 17:36	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: MW12-ROX-040518

Lab Sample ID: 400-151882-14

Date Collected: 04/05/18 13:30

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	76		19 - 130	04/11/18 13:42	04/13/18 17:36	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.9	3.7	ug/L		04/11/18 13:42	04/13/18 20:36	1
Benzenethiol	ND	* UJ	9.9	1.7	ug/L		04/11/18 13:42	04/13/18 20:36	1
Benzoic acid	ND		30	7.2	ug/L		04/11/18 13:42	04/13/18 20:36	1
Benzyl alcohol	ND		9.9	2.0	ug/L		04/11/18 13:42	04/13/18 20:36	1
Bis(2-chloroethoxy)methane	ND		9.9	0.68	ug/L		04/11/18 13:42	04/13/18 20:36	1
Bis(2-chloroethyl)ether	ND		9.9	0.73	ug/L		04/11/18 13:42	04/13/18 20:36	1
bis (2-chloroisopropyl) ether	ND		9.9	0.80	ug/L		04/11/18 13:42	04/13/18 20:36	1
Bis(2-ethylhexyl) phthalate	ND		9.9	2.2	ug/L		04/11/18 13:42	04/13/18 20:36	1
4-Bromophenyl phenyl ether	ND		9.9	0.32	ug/L		04/11/18 13:42	04/13/18 20:36	1
Butyl benzyl phthalate	ND		9.9	0.68	ug/L		04/11/18 13:42	04/13/18 20:36	1
4-Chloroaniline	ND		9.9	3.4	ug/L		04/11/18 13:42	04/13/18 20:36	1
4-Chloro-3-methylphenol	ND		9.9	3.7	ug/L		04/11/18 13:42	04/13/18 20:36	1
2-Chloronaphthalene	ND		9.9	0.51	ug/L		04/11/18 13:42	04/13/18 20:36	1
2-Chlorophenol	ND		9.9	2.2	ug/L		04/11/18 13:42	04/13/18 20:36	1
4-Chlorophenyl phenyl ether	ND		9.9	2.0	ug/L		04/11/18 13:42	04/13/18 20:36	1
Dibenz[a,h]acridine	ND		9.9	3.0	ug/L		04/11/18 13:42	04/13/18 20:36	1
Dibenzofuran	ND		9.9	0.51	ug/L		04/11/18 13:42	04/13/18 20:36	1
3,3'-Dichlorobenzidine	ND		9.9	2.6	ug/L		04/11/18 13:42	04/13/18 20:36	1
2,4-Dichlorophenol	ND		9.9	3.0	ug/L		04/11/18 13:42	04/13/18 20:36	1
Diethyl phthalate	ND		9.9	0.69	ug/L		04/11/18 13:42	04/13/18 20:36	1
2,4-Dimethylphenol	ND		9.9	3.5	ug/L		04/11/18 13:42	04/13/18 20:36	1
Dimethyl phthalate	ND		9.9	0.59	ug/L		04/11/18 13:42	04/13/18 20:36	1
Di-n-butyl phthalate	ND		9.9	2.7	ug/L		04/11/18 13:42	04/13/18 20:36	1
4,6-Dinitro-ortho-cresol	ND		9.9	2.0	ug/L		04/11/18 13:42	04/13/18 20:36	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/11/18 13:42	04/13/18 20:36	1
2,4-Dinitrotoluene	ND		9.9	1.9	ug/L		04/11/18 13:42	04/13/18 20:36	1
2,6-Dinitrotoluene	ND		9.9	1.9	ug/L		04/11/18 13:42	04/13/18 20:36	1
Di-n-octyl phthalate	ND		9.9	0.43	ug/L		04/11/18 13:42	04/13/18 20:36	1
1,4-Dioxane	ND	UJ	9.9	0.99	ug/L		04/11/18 13:42	04/13/18 20:36	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	0.99	ug/L		04/11/18 13:42	04/13/18 20:36	1
Hexachlorobenzene	ND		9.9	0.25	ug/L		04/11/18 13:42	04/13/18 20:36	1
Hexachlorocyclopentadiene	ND	UJ	20	2.6	ug/L		04/11/18 13:42	04/13/18 20:36	1
Hexachloroethane	ND		9.9	4.1	ug/L		04/11/18 13:42	04/13/18 20:36	1
Indene	ND		9.9	0.99	ug/L		04/11/18 13:42	04/13/18 20:36	1
Isophorone	ND		9.9	0.56	ug/L		04/11/18 13:42	04/13/18 20:36	1
2-Methylphenol	ND		9.9	1.8	ug/L		04/11/18 13:42	04/13/18 20:36	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/11/18 13:42	04/13/18 20:36	1
2-Nitroaniline	ND		9.9	2.2	ug/L		04/11/18 13:42	04/13/18 20:36	1
3-Nitroaniline	ND		9.9	1.8	ug/L		04/11/18 13:42	04/13/18 20:36	1
4-Nitroaniline	ND		9.9	2.4	ug/L		04/11/18 13:42	04/13/18 20:36	1
Nitrobenzene	ND		9.9	0.54	ug/L		04/11/18 13:42	04/13/18 20:36	1
2-Nitrophenol	ND		9.9	0.64	ug/L		04/11/18 13:42	04/13/18 20:36	1
4-Nitrophenol	ND		9.9	2.1	ug/L		04/11/18 13:42	04/13/18 20:36	1
N-Nitrosodimethylamine	ND	UJ	9.9	3.5	ug/L		04/11/18 13:42	04/13/18 20:36	1

TestAmerica Pensacola

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Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
 SDG: (2Q18)

Client Sample ID: MW12-ROX-040518

Lab Sample ID: 400-151882-14

Date Collected: 04/05/18 13:30

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.9	3.3	ug/L		04/11/18 13:42	04/13/18 20:36	1
N-Nitrosodiphenylamine	ND		9.9	0.46	ug/L		04/11/18 13:42	04/13/18 20:36	1
Pentachlorophenol	ND		20	1.8	ug/L		04/11/18 13:42	04/13/18 20:36	1
Phenol	ND		9.9	2.6	ug/L		04/11/18 13:42	04/13/18 20:36	1
Pyridine	ND	UJ	9.9	3.2	ug/L		04/11/18 13:42	04/13/18 20:36	1
Quinoline	ND		9.9	5.9	ug/L		04/11/18 13:42	04/13/18 20:36	1
2,4,5-Trichlorophenol	ND		9.9	3.7	ug/L		04/11/18 13:42	04/13/18 20:36	1
2,4,6-Trichlorophenol	ND		9.9	3.5	ug/L		04/11/18 13:42	04/13/18 20:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	47		34 - 120	04/11/18 13:42	04/13/18 20:36	1
2-Fluorophenol	37		10 - 120	04/11/18 13:42	04/13/18 20:36	1
Nitrobenzene-d5	47		27 - 120	04/11/18 13:42	04/13/18 20:36	1
Phenol-d5	34		10 - 120	04/11/18 13:42	04/13/18 20:36	1
Terphenyl-d14	39	X	53 - 125	04/11/18 13:42	04/13/18 20:36	1
2,4,6-Tribromophenol	37		15 - 135	04/11/18 13:42	04/13/18 20:36	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.030	0.0055	ug/L		04/12/18 09:06	04/12/18 22:40	1
1,2-Dibromoethane	ND		0.020	0.0050	ug/L		04/12/18 09:06	04/12/18 22:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	112	p	51 - 149	04/12/18 09:06	04/12/18 22:40	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
 SDG: (2Q18)

Client Sample ID: MW12-ROX-040518-DUP

Lab Sample ID: 400-151882-15

Date Collected: 04/05/18 13:30

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/13/18 20:46	1
Acrolein	ND		20	10	ug/L			04/13/18 20:46	1
Acrylonitrile	ND		10	2.8	ug/L			04/13/18 20:46	1
Benzene	ND		1.0	0.38	ug/L			04/13/18 20:46	1
Bromobenzene	ND		1.0	0.54	ug/L			04/13/18 20:46	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/13/18 20:46	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/13/18 20:46	1
Bromoform	ND		5.0	0.71	ug/L			04/13/18 20:46	1
Bromomethane	ND		1.0	0.98	ug/L			04/13/18 20:46	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/13/18 20:46	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/13/18 20:46	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/13/18 20:46	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/13/18 20:46	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/13/18 20:46	1
Chloroethane	ND		1.0	0.76	ug/L			04/13/18 20:46	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/13/18 20:46	1
Chloroform	ND		1.0	0.60	ug/L			04/13/18 20:46	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/13/18 20:46	1
Chloromethane	ND		1.0	0.83	ug/L			04/13/18 20:46	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 20:46	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/13/18 20:46	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/13/18 20:46	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/13/18 20:46	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/13/18 20:46	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/13/18 20:46	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/13/18 20:46	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/13/18 20:46	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 20:46	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 20:46	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 20:46	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 20:46	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/13/18 20:46	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/13/18 20:46	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/13/18 20:46	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/13/18 20:46	1
2-Hexanone	ND		25	3.1	ug/L			04/13/18 20:46	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/13/18 20:46	1
Methylene bromide	ND		5.0	0.59	ug/L			04/13/18 20:46	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/13/18 20:46	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/13/18 20:46	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/13/18 20:46	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/13/18 20:46	1
Naphthalene	ND		1.0	1.0	ug/L			04/13/18 20:46	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/13/18 20:46	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/13/18 20:46	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/13/18 20:46	1
o-Xylene	ND		5.0	0.60	ug/L			04/13/18 20:46	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/13/18 20:46	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/13/18 20:46	1

TestAmerica Pensacola



Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: MW12-ROX-040518-DUP

Lab Sample ID: 400-151882-15

Date Collected: 04/05/18 13:30

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/13/18 20:46	1
Styrene	ND		1.0	1.0	ug/L			04/13/18 20:46	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/13/18 20:46	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/13/18 20:46	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/13/18 20:46	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/13/18 20:46	1
Toluene	ND		1.0	0.70	ug/L			04/13/18 20:46	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 20:46	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/13/18 20:46	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/13/18 20:46	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/13/18 20:46	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/13/18 20:46	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/13/18 20:46	1
Trichloroethene	ND		1.0	0.50	ug/L			04/13/18 20:46	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/13/18 20:46	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/13/18 20:46	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/13/18 20:46	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/13/18 20:46	1
Vinyl acetate	ND		25	2.0	ug/L			04/13/18 20:46	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/13/18 20:46	1
Xylenes, Total	ND		10	1.6	ug/L			04/13/18 20:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	111		78 - 118		04/13/18 20:46	1
Dibromofluoromethane	101		81 - 121		04/13/18 20:46	1
Toluene-d8 (Surr)	100		80 - 120		04/13/18 20:46	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 17:53	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 17:53	1
Anthracene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 17:53	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 17:53	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 17:53	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 17:53	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 17:53	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 17:53	1
Chrysene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 17:53	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 17:53	1
Fluoranthene	0.023	J	0.20	0.020	ug/L		04/11/18 13:42	04/13/18 17:53	1
Fluorene	ND		0.20	0.021	ug/L		04/11/18 13:42	04/13/18 17:53	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 17:53	1
Phenanthrene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 17:53	1
Pyrene	0.028	J	0.20	0.020	ug/L		04/11/18 13:42	04/13/18 17:53	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 17:53	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 17:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	73		33 - 138	04/11/18 13:42	04/13/18 17:53	1
2-Fluorobiphenyl	86		15 - 122	04/11/18 13:42	04/13/18 17:53	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: MW12-ROX-040518-DUP

Lab Sample ID: 400-151882-15

Date Collected: 04/05/18 13:30

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	76		19 - 130	04/11/18 13:42	04/13/18 17:53	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.9	3.8	ug/L		04/11/18 13:42	04/13/18 21:00	1
Benzenethiol	ND	UJ	9.9	1.7	ug/L		04/11/18 13:42	04/13/18 21:00	1
Benzoic acid	ND		30	7.2	ug/L		04/11/18 13:42	04/13/18 21:00	1
Benzyl alcohol	ND		9.9	2.0	ug/L		04/11/18 13:42	04/13/18 21:00	1
Bis(2-chloroethoxy)methane	ND		9.9	0.68	ug/L		04/11/18 13:42	04/13/18 21:00	1
Bis(2-chloroethyl)ether	ND		9.9	0.73	ug/L		04/11/18 13:42	04/13/18 21:00	1
bis (2-chloroisopropyl) ether	ND		9.9	0.80	ug/L		04/11/18 13:42	04/13/18 21:00	1
Bis(2-ethylhexyl) phthalate	ND		9.9	2.2	ug/L		04/11/18 13:42	04/13/18 21:00	1
4-Bromophenyl phenyl ether	ND		9.9	0.32	ug/L		04/11/18 13:42	04/13/18 21:00	1
Butyl benzyl phthalate	ND		9.9	0.68	ug/L		04/11/18 13:42	04/13/18 21:00	1
4-Chloroaniline	ND		9.9	3.4	ug/L		04/11/18 13:42	04/13/18 21:00	1
4-Chloro-3-methylphenol	ND		9.9	3.8	ug/L		04/11/18 13:42	04/13/18 21:00	1
2-Chloronaphthalene	ND		9.9	0.52	ug/L		04/11/18 13:42	04/13/18 21:00	1
2-Chlorophenol	ND		9.9	2.2	ug/L		04/11/18 13:42	04/13/18 21:00	1
4-Chlorophenyl phenyl ether	ND		9.9	2.0	ug/L		04/11/18 13:42	04/13/18 21:00	1
Dibenz[a,h]acridine	ND		9.9	3.0	ug/L		04/11/18 13:42	04/13/18 21:00	1
Dibenzofuran	ND		9.9	0.52	ug/L		04/11/18 13:42	04/13/18 21:00	1
3,3'-Dichlorobenzidine	ND		9.9	2.6	ug/L		04/11/18 13:42	04/13/18 21:00	1
2,4-Dichlorophenol	ND		9.9	3.0	ug/L		04/11/18 13:42	04/13/18 21:00	1
Diethyl phthalate	ND		9.9	0.69	ug/L		04/11/18 13:42	04/13/18 21:00	1
2,4-Dimethylphenol	ND		9.9	3.5	ug/L		04/11/18 13:42	04/13/18 21:00	1
Dimethyl phthalate	ND		9.9	0.60	ug/L		04/11/18 13:42	04/13/18 21:00	1
Di-n-butyl phthalate	ND		9.9	2.7	ug/L		04/11/18 13:42	04/13/18 21:00	1
4,6-Dinitro-ortho-cresol	ND		9.9	2.0	ug/L		04/11/18 13:42	04/13/18 21:00	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/11/18 13:42	04/13/18 21:00	1
2,4-Dinitrotoluene	ND		9.9	1.9	ug/L		04/11/18 13:42	04/13/18 21:00	1
2,6-Dinitrotoluene	ND		9.9	1.9	ug/L		04/11/18 13:42	04/13/18 21:00	1
Di-n-octyl phthalate	ND		9.9	0.44	ug/L		04/11/18 13:42	04/13/18 21:00	1
1,4-Dioxane	ND	UJ	9.9	0.99	ug/L		04/11/18 13:42	04/13/18 21:00	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	0.99	ug/L		04/11/18 13:42	04/13/18 21:00	1
Hexachlorobenzene	ND		9.9	0.25	ug/L		04/11/18 13:42	04/13/18 21:00	1
Hexachlorocyclopentadiene	ND	UJ	20	2.6	ug/L		04/11/18 13:42	04/13/18 21:00	1
Hexachloroethane	ND		9.9	4.2	ug/L		04/11/18 13:42	04/13/18 21:00	1
Indene	ND		9.9	0.99	ug/L		04/11/18 13:42	04/13/18 21:00	1
Isophorone	ND		9.9	0.57	ug/L		04/11/18 13:42	04/13/18 21:00	1
2-Methylphenol	ND		9.9	1.8	ug/L		04/11/18 13:42	04/13/18 21:00	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/11/18 13:42	04/13/18 21:00	1
2-Nitroaniline	ND		9.9	2.2	ug/L		04/11/18 13:42	04/13/18 21:00	1
3-Nitroaniline	ND		9.9	1.8	ug/L		04/11/18 13:42	04/13/18 21:00	1
4-Nitroaniline	ND		9.9	2.5	ug/L		04/11/18 13:42	04/13/18 21:00	1
Nitrobenzene	ND		9.9	0.55	ug/L		04/11/18 13:42	04/13/18 21:00	1
2-Nitrophenol	ND		9.9	0.65	ug/L		04/11/18 13:42	04/13/18 21:00	1
4-Nitrophenol	ND		9.9	2.1	ug/L		04/11/18 13:42	04/13/18 21:00	1
N-Nitrosodimethylamine	ND	UJ	9.9	3.5	ug/L		04/11/18 13:42	04/13/18 21:00	1

TestAmerica Pensacola

LABORATORY

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Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: MW12-ROX-040518-DUP

Lab Sample ID: 400-151882-15

Date Collected: 04/05/18 13:30

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.9	3.3	ug/L		04/11/18 13:42	04/13/18 21:00	1
N-Nitrosodiphenylamine	ND		9.9	0.47	ug/L		04/11/18 13:42	04/13/18 21:00	1
Pentachlorophenol	ND		20	1.8	ug/L		04/11/18 13:42	04/13/18 21:00	1
Phenol	ND		9.9	2.6	ug/L		04/11/18 13:42	04/13/18 21:00	1
Pyridine	ND	UJ	9.9	3.2	ug/L		04/11/18 13:42	04/13/18 21:00	1
Quinoline	ND		9.9	6.0	ug/L		04/11/18 13:42	04/13/18 21:00	1
2,4,5-Trichlorophenol	ND		9.9	3.7	ug/L		04/11/18 13:42	04/13/18 21:00	1
2,4,6-Trichlorophenol	ND		9.9	3.5	ug/L		04/11/18 13:42	04/13/18 21:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	66		34 - 120	04/11/18 13:42	04/13/18 21:00	1
2-Fluorophenol	47		10 - 120	04/11/18 13:42	04/13/18 21:00	1
Nitrobenzene-d5	61		27 - 120	04/11/18 13:42	04/13/18 21:00	1
Phenol-d5	48		10 - 120	04/11/18 13:42	04/13/18 21:00	1
Terphenyl-d14	69		53 - 125	04/11/18 13:42	04/13/18 21:00	1
2,4,6-Tribromophenol	54		15 - 135	04/11/18 13:42	04/13/18 21:00	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.030	0.0055	ug/L		04/12/18 09:06	04/12/18 23:00	1
1,2-Dibromoethane	ND		0.020	0.0050	ug/L		04/12/18 09:06	04/12/18 23:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107	p	51 - 149	04/12/18 09:06	04/12/18 23:00	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: MW26-ROX-040518

Lab Sample ID: 400-151882-16

Date Collected: 04/05/18 14:50

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/13/18 21:08	1
Acrolein	ND		20	10	ug/L			04/13/18 21:08	1
Acrylonitrile	ND		10	2.8	ug/L			04/13/18 21:08	1
Benzene	ND		1.0	0.38	ug/L			04/13/18 21:08	1
Bromobenzene	ND		1.0	0.54	ug/L			04/13/18 21:08	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/13/18 21:08	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/13/18 21:08	1
Bromoform	ND		5.0	0.71	ug/L			04/13/18 21:08	1
Bromomethane	ND		1.0	0.98	ug/L			04/13/18 21:08	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/13/18 21:08	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/13/18 21:08	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/13/18 21:08	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/13/18 21:08	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/13/18 21:08	1
Chloroethane	ND		1.0	0.76	ug/L			04/13/18 21:08	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/13/18 21:08	1
Chloroform	ND		1.0	0.60	ug/L			04/13/18 21:08	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/13/18 21:08	1
Chloromethane	ND		1.0	0.83	ug/L			04/13/18 21:08	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 21:08	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/13/18 21:08	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/13/18 21:08	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/13/18 21:08	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/13/18 21:08	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/13/18 21:08	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/13/18 21:08	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/13/18 21:08	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 21:08	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 21:08	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 21:08	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 21:08	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/13/18 21:08	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/13/18 21:08	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/13/18 21:08	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/13/18 21:08	1
2-Hexanone	ND		25	3.1	ug/L			04/13/18 21:08	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/13/18 21:08	1
Methylene bromide	ND		5.0	0.59	ug/L			04/13/18 21:08	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/13/18 21:08	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/13/18 21:08	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/13/18 21:08	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/13/18 21:08	1
Naphthalene	ND		1.0	1.0	ug/L			04/13/18 21:08	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/13/18 21:08	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/13/18 21:08	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/13/18 21:08	1
o-Xylene	ND		5.0	0.60	ug/L			04/13/18 21:08	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/13/18 21:08	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/13/18 21:08	1

TestAmerica Pensacola



Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: MW26-ROX-040518

Lab Sample ID: 400-151882-16

Date Collected: 04/05/18 14:50

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/13/18 21:08	1
Styrene	ND		1.0	1.0	ug/L			04/13/18 21:08	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/13/18 21:08	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/13/18 21:08	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/13/18 21:08	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/13/18 21:08	1
Toluene	ND		1.0	0.70	ug/L			04/13/18 21:08	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 21:08	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/13/18 21:08	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/13/18 21:08	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/13/18 21:08	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/13/18 21:08	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/13/18 21:08	1
Trichloroethene	ND		1.0	0.50	ug/L			04/13/18 21:08	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/13/18 21:08	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/13/18 21:08	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/13/18 21:08	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/13/18 21:08	1
Vinyl acetate	ND		25	2.0	ug/L			04/13/18 21:08	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/13/18 21:08	1
Xylenes, Total	ND		10	1.6	ug/L			04/13/18 21:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	94		78 - 118		04/13/18 21:08	1
Dibromofluoromethane	101		81 - 121		04/13/18 21:08	1
Toluene-d8 (Surr)	99		80 - 120		04/13/18 21:08	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 18:10	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 18:10	1
Anthracene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 18:10	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		04/11/18 13:42	04/13/18 18:10	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		04/11/18 13:42	04/13/18 18:10	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		04/11/18 13:42	04/13/18 18:10	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		04/11/18 13:42	04/13/18 18:10	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		04/11/18 13:42	04/13/18 18:10	1
Chrysene	ND		0.20	0.039	ug/L		04/11/18 13:42	04/13/18 18:10	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		04/11/18 13:42	04/13/18 18:10	1
Fluoranthene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 18:10	1
Fluorene	ND		0.20	0.021	ug/L		04/11/18 13:42	04/13/18 18:10	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		04/11/18 13:42	04/13/18 18:10	1
Phenanthrene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 18:10	1
Pyrene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 18:10	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 18:10	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 18:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	55		33 - 138	04/11/18 13:42	04/13/18 18:10	1
2-Fluorobiphenyl	77		15 - 122	04/11/18 13:42	04/13/18 18:10	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: MW26-ROX-040518

Lab Sample ID: 400-151882-16

Date Collected: 04/05/18 14:50

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	67		19 - 130	04/11/18 13:42	04/13/18 18:10	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		04/11/18 13:42	04/13/18 21:24	1
Benzenethiol	ND	UJ	9.8	1.7	ug/L		04/11/18 13:42	04/13/18 21:24	1
Benzoic acid	ND		30	7.2	ug/L		04/11/18 13:42	04/13/18 21:24	1
Benzyl alcohol	ND		9.8	2.0	ug/L		04/11/18 13:42	04/13/18 21:24	1
Bis(2-chloroethoxy)methane	ND		9.8	0.68	ug/L		04/11/18 13:42	04/13/18 21:24	1
Bis(2-chloroethyl)ether	ND		9.8	0.73	ug/L		04/11/18 13:42	04/13/18 21:24	1
bis (2-chloroisopropyl) ether	ND		9.8	0.80	ug/L		04/11/18 13:42	04/13/18 21:24	1
Bis(2-ethylhexyl) phthalate	ND		9.8	2.2	ug/L		04/11/18 13:42	04/13/18 21:24	1
4-Bromophenyl phenyl ether	ND		9.8	0.32	ug/L		04/11/18 13:42	04/13/18 21:24	1
Butyl benzyl phthalate	ND		9.8	0.68	ug/L		04/11/18 13:42	04/13/18 21:24	1
4-Chloroaniline	ND		9.8	3.3	ug/L		04/11/18 13:42	04/13/18 21:24	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		04/11/18 13:42	04/13/18 21:24	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		04/11/18 13:42	04/13/18 21:24	1
2-Chlorophenol	ND		9.8	2.2	ug/L		04/11/18 13:42	04/13/18 21:24	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		04/11/18 13:42	04/13/18 21:24	1
Dibenz[a,h]acridine	ND		9.8	3.0	ug/L		04/11/18 13:42	04/13/18 21:24	1
Dibenzofuran	ND		9.8	0.51	ug/L		04/11/18 13:42	04/13/18 21:24	1
3,3'-Dichlorobenzidine	ND		9.8	2.6	ug/L		04/11/18 13:42	04/13/18 21:24	1
2,4-Dichlorophenol	ND		9.8	3.0	ug/L		04/11/18 13:42	04/13/18 21:24	1
Diethyl phthalate	ND		9.8	0.69	ug/L		04/11/18 13:42	04/13/18 21:24	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		04/11/18 13:42	04/13/18 21:24	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		04/11/18 13:42	04/13/18 21:24	1
Di-n-butyl phthalate	ND		9.8	2.7	ug/L		04/11/18 13:42	04/13/18 21:24	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		04/11/18 13:42	04/13/18 21:24	1
2,4-Dinitrophenol	ND		30	3.3	ug/L		04/11/18 13:42	04/13/18 21:24	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		04/11/18 13:42	04/13/18 21:24	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		04/11/18 13:42	04/13/18 21:24	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		04/11/18 13:42	04/13/18 21:24	1
1,4-Dioxane	ND	UJ	9.8	0.98	ug/L		04/11/18 13:42	04/13/18 21:24	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		04/11/18 13:42	04/13/18 21:24	1
Hexachlorobenzene	ND		9.8	0.25	ug/L		04/11/18 13:42	04/13/18 21:24	1
Hexachlorocyclopentadiene	ND	UJ	20	2.6	ug/L		04/11/18 13:42	04/13/18 21:24	1
Hexachloroethane	ND		9.8	4.1	ug/L		04/11/18 13:42	04/13/18 21:24	1
Indene	ND		9.8	0.98	ug/L		04/11/18 13:42	04/13/18 21:24	1
Isophorone	ND		9.8	0.56	ug/L		04/11/18 13:42	04/13/18 21:24	1
2-Methylphenol	ND		9.8	1.8	ug/L		04/11/18 13:42	04/13/18 21:24	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/11/18 13:42	04/13/18 21:24	1
2-Nitroaniline	ND		9.8	2.2	ug/L		04/11/18 13:42	04/13/18 21:24	1
3-Nitroaniline	ND		9.8	1.8	ug/L		04/11/18 13:42	04/13/18 21:24	1
4-Nitroaniline	ND		9.8	2.4	ug/L		04/11/18 13:42	04/13/18 21:24	1
Nitrobenzene	ND		9.8	0.54	ug/L		04/11/18 13:42	04/13/18 21:24	1
2-Nitrophenol	ND		9.8	0.64	ug/L		04/11/18 13:42	04/13/18 21:24	1
4-Nitrophenol	ND		9.8	2.1	ug/L		04/11/18 13:42	04/13/18 21:24	1
N-Nitrosodimethylamine	ND	UJ	9.8	3.4	ug/L		04/11/18 13:42	04/13/18 21:24	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
 SDG: (2Q18)

Client Sample ID: MW26-ROX-040518

Lab Sample ID: 400-151882-16

Date Collected: 04/05/18 14:50

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		04/11/18 13:42	04/13/18 21:24	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		04/11/18 13:42	04/13/18 21:24	1
Pentachlorophenol	ND		20	1.8	ug/L		04/11/18 13:42	04/13/18 21:24	1
Phenol	ND		9.8	2.6	ug/L		04/11/18 13:42	04/13/18 21:24	1
Pyridine	ND	UJ	9.8	3.2	ug/L		04/11/18 13:42	04/13/18 21:24	1
Quinoline	ND		9.8	5.9	ug/L		04/11/18 13:42	04/13/18 21:24	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		04/11/18 13:42	04/13/18 21:24	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		04/11/18 13:42	04/13/18 21:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	50		34 - 120	04/11/18 13:42	04/13/18 21:24	1
2-Fluorophenol	29		10 - 120	04/11/18 13:42	04/13/18 21:24	1
Nitrobenzene-d5	48		27 - 120	04/11/18 13:42	04/13/18 21:24	1
Phenol-d5	26		10 - 120	04/11/18 13:42	04/13/18 21:24	1
Terphenyl-d14	45 X		53 - 125	04/11/18 13:42	04/13/18 21:24	1
2,4,6-Tribromophenol	31		15 - 135	04/11/18 13:42	04/13/18 21:24	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.029	0.0053	ug/L		04/12/18 09:06	04/12/18 23:20	1
1,2-Dibromoethane	ND		0.019	0.0049	ug/L		04/12/18 09:06	04/12/18 23:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	111	p	51 - 149	04/12/18 09:06	04/12/18 23:20	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: MW10-ROX-040518

Lab Sample ID: 400-151882-17

Date Collected: 04/05/18 15:40

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/13/18 21:30	1
Acrolein	ND		20	10	ug/L			04/13/18 21:30	1
Acrylonitrile	ND		10	2.8	ug/L			04/13/18 21:30	1
Benzene	ND		1.0	0.38	ug/L			04/13/18 21:30	1
Bromobenzene	ND		1.0	0.54	ug/L			04/13/18 21:30	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/13/18 21:30	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/13/18 21:30	1
Bromoform	ND		5.0	0.71	ug/L			04/13/18 21:30	1
Bromomethane	ND		1.0	0.98	ug/L			04/13/18 21:30	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/13/18 21:30	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/13/18 21:30	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/13/18 21:30	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/13/18 21:30	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/13/18 21:30	1
Chloroethane	ND		1.0	0.76	ug/L			04/13/18 21:30	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/13/18 21:30	1
Chloroform	ND		1.0	0.60	ug/L			04/13/18 21:30	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/13/18 21:30	1
Chloromethane	ND		1.0	0.83	ug/L			04/13/18 21:30	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 21:30	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/13/18 21:30	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/13/18 21:30	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/13/18 21:30	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/13/18 21:30	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/13/18 21:30	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/13/18 21:30	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/13/18 21:30	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 21:30	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 21:30	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 21:30	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 21:30	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/13/18 21:30	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/13/18 21:30	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/13/18 21:30	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/13/18 21:30	1
2-Hexanone	ND		25	3.1	ug/L			04/13/18 21:30	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/13/18 21:30	1
Methylene bromide	ND		5.0	0.59	ug/L			04/13/18 21:30	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/13/18 21:30	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/13/18 21:30	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/13/18 21:30	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/13/18 21:30	1
Naphthalene	ND		1.0	1.0	ug/L			04/13/18 21:30	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/13/18 21:30	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/13/18 21:30	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/13/18 21:30	1
o-Xylene	ND		5.0	0.60	ug/L			04/13/18 21:30	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/13/18 21:30	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/13/18 21:30	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: MW10-ROX-040518

Lab Sample ID: 400-151882-17

Date Collected: 04/05/18 15:40

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/13/18 21:30	1
Styrene	ND		1.0	1.0	ug/L			04/13/18 21:30	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/13/18 21:30	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/13/18 21:30	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/13/18 21:30	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/13/18 21:30	1
Toluene	ND		1.0	0.70	ug/L			04/13/18 21:30	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 21:30	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/13/18 21:30	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/13/18 21:30	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/13/18 21:30	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/13/18 21:30	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/13/18 21:30	1
Trichloroethene	ND		1.0	0.50	ug/L			04/13/18 21:30	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/13/18 21:30	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/13/18 21:30	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/13/18 21:30	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/13/18 21:30	1
Vinyl acetate	ND		25	2.0	ug/L			04/13/18 21:30	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/13/18 21:30	1
Xylenes, Total	ND		10	1.6	ug/L			04/13/18 21:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		78 - 118		04/13/18 21:30	1
Dibromofluoromethane	101		81 - 121		04/13/18 21:30	1
Toluene-d8 (Surr)	106		80 - 120		04/13/18 21:30	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 18:27	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 18:27	1
Anthracene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 18:27	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 18:27	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 18:27	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 18:27	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 18:27	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 18:27	1
Chrysene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 18:27	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 18:27	1
Fluoranthene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 18:27	1
Fluorene	ND		0.20	0.021	ug/L		04/11/18 13:42	04/13/18 18:27	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 18:27	1
Phenanthrene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 18:27	1
Pyrene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 18:27	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 18:27	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 18:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	87		33 - 138	04/11/18 13:42	04/13/18 18:27	1
2-Fluorobiphenyl	94		15 - 122	04/11/18 13:42	04/13/18 18:27	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: MW10-ROX-040518

Lab Sample ID: 400-151882-17

Date Collected: 04/05/18 15:40

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	80		19 - 130	04/11/18 13:42	04/13/18 18:27	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		04/11/18 13:42	04/13/18 21:48	1
Benzenethiol	ND	UJ	10	1.7	ug/L		04/11/18 13:42	04/13/18 21:48	1
Benzoic acid	ND		30	7.3	ug/L		04/11/18 13:42	04/13/18 21:48	1
Benzyl alcohol	ND		10	2.0	ug/L		04/11/18 13:42	04/13/18 21:48	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		04/11/18 13:42	04/13/18 21:48	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		04/11/18 13:42	04/13/18 21:48	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		04/11/18 13:42	04/13/18 21:48	1
Bis(2-ethylhexyl) phthalate	ND		10	2.3	ug/L		04/11/18 13:42	04/13/18 21:48	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		04/11/18 13:42	04/13/18 21:48	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		04/11/18 13:42	04/13/18 21:48	1
4-Chloroaniline	ND		10	3.4	ug/L		04/11/18 13:42	04/13/18 21:48	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		04/11/18 13:42	04/13/18 21:48	1
2-Chloronaphthalene	ND		10	0.52	ug/L		04/11/18 13:42	04/13/18 21:48	1
2-Chlorophenol	ND		10	2.2	ug/L		04/11/18 13:42	04/13/18 21:48	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		04/11/18 13:42	04/13/18 21:48	1
Dibenz[a, h]acridine	ND		10	3.0	ug/L		04/11/18 13:42	04/13/18 21:48	1
Dibenzofuran	ND		10	0.52	ug/L		04/11/18 13:42	04/13/18 21:48	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		04/11/18 13:42	04/13/18 21:48	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		04/11/18 13:42	04/13/18 21:48	1
Diethyl phthalate	ND		10	0.70	ug/L		04/11/18 13:42	04/13/18 21:48	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		04/11/18 13:42	04/13/18 21:48	1
Dimethyl phthalate	ND		10	0.60	ug/L		04/11/18 13:42	04/13/18 21:48	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		04/11/18 13:42	04/13/18 21:48	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		04/11/18 13:42	04/13/18 21:48	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/11/18 13:42	04/13/18 21:48	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		04/11/18 13:42	04/13/18 21:48	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		04/11/18 13:42	04/13/18 21:48	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		04/11/18 13:42	04/13/18 21:48	1
1,4-Dioxane	ND	UJ	10	1.0	ug/L		04/11/18 13:42	04/13/18 21:48	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		04/11/18 13:42	04/13/18 21:48	1
Hexachlorobenzene	ND		10	0.25	ug/L		04/11/18 13:42	04/13/18 21:48	1
Hexachlorocyclopentadiene	ND	UJ	20	2.6	ug/L		04/11/18 13:42	04/13/18 21:48	1
Hexachloroethane	ND		10	4.2	ug/L		04/11/18 13:42	04/13/18 21:48	1
Indene	ND		10	1.0	ug/L		04/11/18 13:42	04/13/18 21:48	1
Isophorone	ND		10	0.57	ug/L		04/11/18 13:42	04/13/18 21:48	1
2-Methylphenol	ND		10	1.8	ug/L		04/11/18 13:42	04/13/18 21:48	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/11/18 13:42	04/13/18 21:48	1
2-Nitroaniline	ND		10	2.2	ug/L		04/11/18 13:42	04/13/18 21:48	1
3-Nitroaniline	ND		10	1.8	ug/L		04/11/18 13:42	04/13/18 21:48	1
4-Nitroaniline	ND		10	2.5	ug/L		04/11/18 13:42	04/13/18 21:48	1
Nitrobenzene	ND		10	0.55	ug/L		04/11/18 13:42	04/13/18 21:48	1
2-Nitrophenol	ND		10	0.65	ug/L		04/11/18 13:42	04/13/18 21:48	1
4-Nitrophenol	ND		10	2.1	ug/L		04/11/18 13:42	04/13/18 21:48	1
N-Nitrosodimethylamine	ND	UJ	10	3.5	ug/L		04/11/18 13:42	04/13/18 21:48	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: MW10-ROX-040518

Lab Sample ID: 400-151882-17

Date Collected: 04/05/18 15:40

Matrix: Water

Date Received: 04/06/18 09:29

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		04/11/18 13:42	04/13/18 21:48	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		04/11/18 13:42	04/13/18 21:48	1
Pentachlorophenol	ND		20	1.8	ug/L		04/11/18 13:42	04/13/18 21:48	1
Phenol	ND		10	2.6	ug/L		04/11/18 13:42	04/13/18 21:48	1
Pyridine	ND	UJ	10	3.2	ug/L		04/11/18 13:42	04/13/18 21:48	1
Quinoline	ND		10	6.0	ug/L		04/11/18 13:42	04/13/18 21:48	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		04/11/18 13:42	04/13/18 21:48	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/11/18 13:42	04/13/18 21:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	60		34 - 120	04/11/18 13:42	04/13/18 21:48	1
2-Fluorophenol	53		10 - 120	04/11/18 13:42	04/13/18 21:48	1
Nitrobenzene-d5	56		27 - 120	04/11/18 13:42	04/13/18 21:48	1
Phenol-d5	54		10 - 120	04/11/18 13:42	04/13/18 21:48	1
Terphenyl-d14	68		53 - 125	04/11/18 13:42	04/13/18 21:48	1
2,4,6-Tribromophenol	65		15 - 135	04/11/18 13:42	04/13/18 21:48	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.030	0.0055	ug/L		04/12/18 09:06	04/12/18 23:40	1
1,2-Dibromoethane	ND		0.020	0.0050	ug/L		04/12/18 09:06	04/12/18 23:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	127		51 - 149	04/12/18 09:06	04/12/18 23:40	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F2	MS/MSD RPD exceeds control limits

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits

GC Semi VOA

Qualifier	Qualifier Description
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (78-118)	DBFM (81-121)	TOL (80-120)
400-151882-2	TB-ROX-040518-8260-A	121 X	108	107
400-151882-3	MW6C-ROX-040518-EB	108	100	100
400-151882-4	MW6C-ROX-040518	110	102	105
400-151882-5	MW6B-ROX-040518	105	106	101
400-151882-6	MW6A-ROX-040518	102	104	104
400-151882-6 MS	MW6A-ROX-040518	99	103	96
400-151882-6 MSD	MW6A-ROX-040518	105	102	96
400-151882-7	MW6D-ROX-040518	108	104	105
400-151882-8	MW3-ROX-040518	114	109	100
400-151882-10	TB-ROX-040518-8260-B	102	102	100
400-151882-11	ROST3MW-ROX-040518-EB	106	103	103
400-151882-14	MW12-ROX-040518	110	101	103
400-151882-15	MW12-ROX-040518-DUP	111	101	100
400-151882-16	MW26-ROX-040518	94	101	99
400-151882-17	MW10-ROX-040518	102	101	106
400-151994-A-3 MS	Matrix Spike	108	101	97
400-151994-A-3 MSD	Matrix Spike Duplicate	112	110	96
LCS 400-393862/1002	Lab Control Sample	96	101	97
LCS 400-394050/26	Lab Control Sample	101	106	95
MB 400-393862/19	Method Blank	103	105	99
MB 400-394050/28	Method Blank	113	103	100

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (34-120)	2FP (10-120)	NBZ (27-120)	PHL (10-120)	TPHL (53-125)	TBP (15-135)
400-151882-3	MW6C-ROX-040518-EB	55	49	52	49	68	58
400-151882-4	MW6C-ROX-040518	45	39	41	41	49 X	58
400-151882-5	MW6B-ROX-040518	43	35	42	33	35 X	48
400-151882-6	MW6A-ROX-040518	52	43	50	44	46 X	60
400-151882-6 MS	MW6A-ROX-040518	49	41	44	46	48 X	62
400-151882-6 MSD	MW6A-ROX-040518	52	45	47	49	47 X	66
400-151882-7	MW6D-ROX-040518	49	44	46	45	52 X	56
400-151882-8	MW3-ROX-040518	55	40	51	44	55	66
400-151882-11	ROST3MW-ROX-040518-EB	55	47	51	48	65	59
400-151882-14	MW12-ROX-040518	47	37	47	34	39 X	37
400-151882-15	MW12-ROX-040518-DUP	66	47	61	48	69	54
400-151882-16	MW26-ROX-040518	50	29	48	26	45 X	31
400-151882-17	MW10-ROX-040518	60	53	56	54	68	65
LCS 400-393560/2-A	Lab Control Sample	75	68	70	69	87	92
LCS 400-393560/3-A	Lab Control Sample	88	79	78	78	102	94
LCSD 400-393560/4-A	Lab Control Sample Dup	78	69	69	73	96	83

TestAmerica Pensacola

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (34-120)	2FP (10-120)	NBZ (27-120)	PHL (10-120)	TPHL (53-125)	TBP (15-135)
MB 400-393560/1-A	Method Blank	45	39	43	42	52 X	43

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TPHL (33-138)	FBP (15-122)	NBZ (19-130)
400-151882-3	MW6C-ROX-040518-EB	84	82	76
400-151882-4	MW6C-ROX-040518	74	84	72
400-151882-5	MW6B-ROX-040518	52	74	69
400-151882-6	MW6A-ROX-040518	63	74	78
400-151882-6 MS	MW6A-ROX-040518	63	80	64
400-151882-6 MSD	MW6A-ROX-040518	61	89	72
400-151882-7	MW6D-ROX-040518	81	89	79
400-151882-8	MW3-ROX-040518	63	78	72
400-151882-11	ROST3MW-ROX-040518-EB	88	84	77
400-151882-14	MW12-ROX-040518	63	84	76
400-151882-15	MW12-ROX-040518-DUP	73	86	76
400-151882-16	MW26-ROX-040518	55	77	67
400-151882-17	MW10-ROX-040518	87	94	80
LCS 400-393560/2-A	Lab Control Sample	80	82	64
MB 400-393560/1-A	Method Blank	93	84	76

Surrogate Legend

TPHL = Terphenyl-d14
FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5

Method: 8011 - EDB and DBCP in Water by Microextraction

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		BFB2 (51-149)
400-151882-1	TB-ROX-040518-8011-A	112 p
400-151882-3	MW6C-ROX-040518-EB	106 p
400-151882-4	MW6C-ROX-040518	105 p
400-151882-5	MW6B-ROX-040518	110
400-151882-6	MW6A-ROX-040518	115 p
400-151882-6 MS	MW6A-ROX-040518	107
400-151882-6 MSD	MW6A-ROX-040518	109

TestAmerica Pensacola

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Method: 8011 - EDB and DBCP in Water by Microextraction (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB2 (51-149)
400-151882-7	MW6D-ROX-040518	106
400-151882-8	MW3-ROX-040518	105
400-151882-9	TB-ROX-040518-8011-B	106 p
400-151882-11	ROST3MW-ROX-040518-EB	149 p
400-151882-14	MW12-ROX-040518	112 p
400-151882-15	MW12-ROX-040518-DUP	107 p
400-151882-16	MW26-ROX-040518	111 p
400-151882-17	MW10-ROX-040518	127
LCS 400-393622/2-A	Lab Control Sample	103
LCSD 400-393622/3-A	Lab Control Sample Dup	105
MB 400-393622/1-A	Method Blank	96

Surrogate Legend

BFB = 4-Bromofluorobenzene

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
8011	EDB and DBCP in Water by Microextraction	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001



Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: TB-ROX-040518-8011-A

Date Collected: 04/05/18 00:00
Date Received: 04/06/18 09:29

Lab Sample ID: 400-151882-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			34 mL	35 mL	393622	04/12/18 09:06	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/12/18 18:40	DS	TAL PEN

Client Sample ID: TB-ROX-040518-8260-A

Date Collected: 04/05/18 00:00
Date Received: 04/06/18 09:29

Lab Sample ID: 400-151882-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393862	04/13/18 17:29	RS	TAL PEN

Client Sample ID: MW6C-ROX-040518-EB

Date Collected: 04/05/18 10:10
Date Received: 04/06/18 09:29

Lab Sample ID: 400-151882-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393862	04/13/18 17:51	RS	TAL PEN
Total/NA	Prep	3520C			1009.6 mL	1.0 mL	393560	04/11/18 13:42	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393852	04/13/18 18:12	VC1	TAL PEN
Total/NA	Prep	3520C			1009.6 mL	1.0 mL	393560	04/11/18 13:42	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			393837	04/13/18 15:52	RM	TAL PEN
Total/NA	Prep	8011			35.3 mL	35 mL	393622	04/12/18 09:06	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/12/18 19:00	DS	TAL PEN

Client Sample ID: MW6C-ROX-040518

Date Collected: 04/05/18 11:05
Date Received: 04/06/18 09:29

Lab Sample ID: 400-151882-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393862	04/13/18 18:57	RS	TAL PEN
Total/NA	Prep	3520C			996 mL	1.0 mL	393560	04/11/18 13:42	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393852	04/13/18 18:36	VC1	TAL PEN
Total/NA	Prep	3520C			996 mL	1.0 mL	393560	04/11/18 13:42	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			393837	04/13/18 16:09	RM	TAL PEN
Total/NA	Prep	8011			35.8 mL	35 mL	393622	04/12/18 09:06	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/12/18 19:20	DS	TAL PEN

Client Sample ID: MW6B-ROX-040518

Date Collected: 04/05/18 12:40
Date Received: 04/06/18 09:29

Lab Sample ID: 400-151882-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393862	04/13/18 19:19	RS	TAL PEN

TestAmerica Pensacola



Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: MW6B-ROX-040518

Lab Sample ID: 400-151882-5

Date Collected: 04/05/18 12:40

Matrix: Water

Date Received: 04/06/18 09:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1010 mL	1.0 mL	393560	04/11/18 13:42	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393852	04/13/18 19:01	VC1	TAL PEN
Total/NA	Prep	3520C			1010 mL	1.0 mL	393560	04/11/18 13:42	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			393837	04/13/18 16:27	RM	TAL PEN
Total/NA	Prep	8011			35.4 mL	35 mL	393622	04/12/18 09:06	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/12/18 19:40	DS	TAL PEN

Client Sample ID: MW6A-ROX-040518

Lab Sample ID: 400-151882-6

Date Collected: 04/05/18 13:35

Matrix: Water

Date Received: 04/06/18 09:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393862	04/13/18 16:01	RS	TAL PEN
Total/NA	Prep	3520C			1003.2 mL	1.0 mL	393560	04/11/18 13:42	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393852	04/13/18 17:48	VC1	TAL PEN
Total/NA	Prep	3520C			1003.2 mL	1.0 mL	393560	04/11/18 13:42	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			393837	04/13/18 15:35	RM	TAL PEN
Total/NA	Prep	8011			34.5 mL	35 mL	393622	04/12/18 09:06	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/12/18 20:00	DS	TAL PEN

Client Sample ID: MW6D-ROX-040518

Lab Sample ID: 400-151882-7

Date Collected: 04/05/18 14:50

Matrix: Water

Date Received: 04/06/18 09:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393862	04/13/18 19:41	RS	TAL PEN
Total/NA	Prep	3520C			1006.2 mL	1.0 mL	393560	04/11/18 13:42	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393852	04/13/18 19:25	VC1	TAL PEN
Total/NA	Prep	3520C			1006.2 mL	1.0 mL	393560	04/11/18 13:42	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			393837	04/13/18 16:44	RM	TAL PEN
Total/NA	Prep	8011			35.2 mL	35 mL	393622	04/12/18 09:06	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/12/18 21:20	DS	TAL PEN

Client Sample ID: MW3-ROX-040518

Lab Sample ID: 400-151882-8

Date Collected: 04/05/18 15:55

Matrix: Water

Date Received: 04/06/18 09:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394050	04/16/18 18:17	CAR	TAL PEN
Total/NA	Prep	3520C			1018.8 mL	1.0 mL	393560	04/11/18 13:42	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393852	04/13/18 19:48	VC1	TAL PEN
Total/NA	Prep	3520C			1018.8 mL	1.0 mL	393560	04/11/18 13:42	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			393837	04/13/18 17:01	RM	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: MW3-ROX-040518

Lab Sample ID: 400-151882-8

Date Collected: 04/05/18 15:55

Matrix: Water

Date Received: 04/06/18 09:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			36.4 mL	35 mL	393622	04/12/18 09:06	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/12/18 21:40	DS	TAL PEN

Client Sample ID: TB-ROX-040518-8011-B

Lab Sample ID: 400-151882-9

Date Collected: 04/05/18 00:00

Matrix: Water

Date Received: 04/06/18 09:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			36.5 mL	35 mL	393622	04/12/18 09:06	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/12/18 22:00	DS	TAL PEN

Client Sample ID: TB-ROX-040518-8260-B

Lab Sample ID: 400-151882-10

Date Collected: 04/05/18 00:00

Matrix: Water

Date Received: 04/06/18 09:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393862	04/13/18 18:13	RS	TAL PEN

Client Sample ID: ROST3MW-ROX-040518-EB

Lab Sample ID: 400-151882-11

Date Collected: 04/05/18 10:00

Matrix: Water

Date Received: 04/06/18 09:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393862	04/13/18 18:35	RS	TAL PEN
Total/NA	Prep	3520C			1020 mL	1.0 mL	393560	04/11/18 13:42	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393852	04/13/18 20:12	VC1	TAL PEN
Total/NA	Prep	3520C			1020 mL	1.0 mL	393560	04/11/18 13:42	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			393837	04/13/18 17:18	RM	TAL PEN
Total/NA	Prep	8011			35.6 mL	35 mL	393622	04/12/18 09:06	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/12/18 22:20	DS	TAL PEN

Client Sample ID: MW12-ROX-040518

Lab Sample ID: 400-151882-14

Date Collected: 04/05/18 13:30

Matrix: Water

Date Received: 04/06/18 09:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393862	04/13/18 20:24	RS	TAL PEN
Total/NA	Prep	3520C			1013.6 mL	1.0 mL	393560	04/11/18 13:42	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393852	04/13/18 20:36	VC1	TAL PEN
Total/NA	Prep	3520C			1013.6 mL	1.0 mL	393560	04/11/18 13:42	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			393837	04/13/18 17:36	RM	TAL PEN
Total/NA	Prep	8011			35.3 mL	35 mL	393622	04/12/18 09:06	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/12/18 22:40	DS	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: MW12-ROX-040518-DUP

Lab Sample ID: 400-151882-15

Date Collected: 04/05/18 13:30

Matrix: Water

Date Received: 04/06/18 09:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393862	04/13/18 20:46	RS	TAL PEN
Total/NA	Prep	3520C			1007.6 mL	1.0 mL	393560	04/11/18 13:42	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393852	04/13/18 21:00	VC1	TAL PEN
Total/NA	Prep	3520C			1007.6 mL	1.0 mL	393560	04/11/18 13:42	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			393837	04/13/18 17:53	RM	TAL PEN
Total/NA	Prep	8011			35.2 mL	35 mL	393622	04/12/18 09:06	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/12/18 23:00	DS	TAL PEN

Client Sample ID: MW26-ROX-040518

Lab Sample ID: 400-151882-16

Date Collected: 04/05/18 14:50

Matrix: Water

Date Received: 04/06/18 09:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393862	04/13/18 21:08	RS	TAL PEN
Total/NA	Prep	3520C			1015.6 mL	1.0 mL	393560	04/11/18 13:42	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393852	04/13/18 21:24	VC1	TAL PEN
Total/NA	Prep	3520C			1015.6 mL	1.0 mL	393560	04/11/18 13:42	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			393837	04/13/18 18:10	RM	TAL PEN
Total/NA	Prep	8011			36 mL	35 mL	393622	04/12/18 09:06	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/12/18 23:20	DS	TAL PEN

Client Sample ID: MW10-ROX-040518

Lab Sample ID: 400-151882-17

Date Collected: 04/05/18 15:40

Matrix: Water

Date Received: 04/06/18 09:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393862	04/13/18 21:30	RS	TAL PEN
Total/NA	Prep	3520C			1003.8 mL	1.0 mL	393560	04/11/18 13:42	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393852	04/13/18 21:48	VC1	TAL PEN
Total/NA	Prep	3520C			1003.8 mL	1.0 mL	393560	04/11/18 13:42	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			393837	04/13/18 18:27	RM	TAL PEN
Total/NA	Prep	8011			35.1 mL	35 mL	393622	04/12/18 09:06	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/12/18 23:40	DS	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-393560/1-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	393560	04/11/18 13:42	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393852	04/13/18 15:24	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	393560	04/11/18 13:42	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			393837	04/13/18 14:09	RM	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: Method Blank

Lab Sample ID: MB 400-393622/1-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35 mL	35 mL	393622	04/12/18 09:06	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/12/18 17:41	DS	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-393862/19

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393862	04/13/18 15:06	RS	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-394050/28

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394050	04/16/18 15:22	CAR	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-393560/2-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	393560	04/11/18 13:42	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394058	04/16/18 16:10	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	393560	04/11/18 13:42	JJA	TAL PEN
Total/NA	Analysis	8270D LL		5			393837	04/13/18 14:26	RM	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-393560/3-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	393560	04/11/18 13:42	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394058	04/16/18 16:34	VC1	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-393622/2-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35 mL	35 mL	393622	04/12/18 09:06	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/12/18 18:01	DS	TAL PEN

TestAmerica Pensacola



Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-393862/1002

Date Collected: N/A
Date Received: N/A

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393862	04/13/18 14:09	RS	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-394050/26

Date Collected: N/A
Date Received: N/A

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394050	04/16/18 14:18	CAR	TAL PEN

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-393560/4-A

Date Collected: N/A
Date Received: N/A

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	393560	04/11/18 13:42	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394058	04/16/18 16:59	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-393622/3-A

Date Collected: N/A
Date Received: N/A

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35 mL	35 mL	393622	04/12/18 09:06	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/12/18 18:20	DS	TAL PEN

Client Sample ID: MW6A-ROX-040518

Lab Sample ID: 400-151882-6 MS

Date Collected: 04/05/18 13:35
Date Received: 04/06/18 09:29

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393862	04/13/18 16:23	RS	TAL PEN
Total/NA	Prep	3520C			1014.4 mL	1.0 mL	393560	04/11/18 13:42	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393852	04/13/18 17:00	VC1	TAL PEN
Total/NA	Prep	3520C			1014.4 mL	1.0 mL	393560	04/11/18 13:42	JJA	TAL PEN
Total/NA	Analysis	8270D LL		5			393837	04/13/18 15:00	RM	TAL PEN
Total/NA	Prep	8011			35.3 mL	35 mL	393622	04/12/18 09:06	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/12/18 20:20	DS	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Client Sample ID: MW6A-ROX-040518

Lab Sample ID: 400-151882-6 MSD

Date Collected: 04/05/18 13:35

Matrix: Water

Date Received: 04/06/18 09:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393862	04/13/18 16:45	RS	TAL PEN
Total/NA	Prep	3520C			1020.4 mL	1.0 mL	393560	04/11/18 13:42	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393852	04/13/18 17:24	VC1	TAL PEN
Total/NA	Prep	3520C			1020.4 mL	1.0 mL	393560	04/11/18 13:42	JJA	TAL PEN
Total/NA	Analysis	8270D LL		5			393837	04/13/18 15:18	RM	TAL PEN
Total/NA	Prep	8011			36.4 mL	35 mL	393622	04/12/18 09:06	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/12/18 20:40	DS	TAL PEN

Client Sample ID: Matrix Spike

Lab Sample ID: 400-151994-A-3 MS

Date Collected: 04/09/18 09:10

Matrix: Water

Date Received: 04/10/18 09:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394050	04/16/18 16:05	CAR	TAL PEN

Client Sample ID: Matrix Spike Duplicate

Lab Sample ID: 400-151994-A-3 MSD

Date Collected: 04/09/18 09:10

Matrix: Water

Date Received: 04/10/18 09:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394050	04/16/18 16:27	CAR	TAL PEN

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

GC/MS VOA

Analysis Batch: 393862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151882-2	TB-ROX-040518-8260-A	Total/NA	Water	8260B	
400-151882-3	MW6C-ROX-040518-EB	Total/NA	Water	8260B	
400-151882-4	MW6C-ROX-040518	Total/NA	Water	8260B	
400-151882-5	MW6B-ROX-040518	Total/NA	Water	8260B	
400-151882-6	MW6A-ROX-040518	Total/NA	Water	8260B	
400-151882-7	MW6D-ROX-040518	Total/NA	Water	8260B	
400-151882-10	TB-ROX-040518-8260-B	Total/NA	Water	8260B	
400-151882-11	ROST3MW-ROX-040518-EB	Total/NA	Water	8260B	
400-151882-14	MW12-ROX-040518	Total/NA	Water	8260B	
400-151882-15	MW12-ROX-040518-DUP	Total/NA	Water	8260B	
400-151882-16	MW26-ROX-040518	Total/NA	Water	8260B	
400-151882-17	MW10-ROX-040518	Total/NA	Water	8260B	
MB 400-393862/19	Method Blank	Total/NA	Water	8260B	
LCS 400-393862/1002	Lab Control Sample	Total/NA	Water	8260B	
400-151882-6 MS	MW6A-ROX-040518	Total/NA	Water	8260B	
400-151882-6 MSD	MW6A-ROX-040518	Total/NA	Water	8260B	

Analysis Batch: 394050

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151882-8	MW3-ROX-040518	Total/NA	Water	8260B	
MB 400-394050/28	Method Blank	Total/NA	Water	8260B	
LCS 400-394050/26	Lab Control Sample	Total/NA	Water	8260B	
400-151994-A-3 MS	Matrix Spike	Total/NA	Water	8260B	
400-151994-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 393560

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151882-3	MW6C-ROX-040518-EB	Total/NA	Water	3520C	
400-151882-4	MW6C-ROX-040518	Total/NA	Water	3520C	
400-151882-5	MW6B-ROX-040518	Total/NA	Water	3520C	
400-151882-6	MW6A-ROX-040518	Total/NA	Water	3520C	
400-151882-7	MW6D-ROX-040518	Total/NA	Water	3520C	
400-151882-8	MW3-ROX-040518	Total/NA	Water	3520C	
400-151882-11	ROST3MW-ROX-040518-EB	Total/NA	Water	3520C	
400-151882-14	MW12-ROX-040518	Total/NA	Water	3520C	
400-151882-15	MW12-ROX-040518-DUP	Total/NA	Water	3520C	
400-151882-16	MW26-ROX-040518	Total/NA	Water	3520C	
400-151882-17	MW10-ROX-040518	Total/NA	Water	3520C	
MB 400-393560/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-393560/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-393560/3-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-393560/4-A	Lab Control Sample Dup	Total/NA	Water	3520C	
400-151882-6 MS	MW6A-ROX-040518	Total/NA	Water	3520C	
400-151882-6 MSD	MW6A-ROX-040518	Total/NA	Water	3520C	

Analysis Batch: 393837

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151882-3	MW6C-ROX-040518-EB	Total/NA	Water	8270D LL	393560

TestAmerica Pensacola



QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

GC/MS Semi VOA (Continued)

Analysis Batch: 393837 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151882-4	MW6C-ROX-040518	Total/NA	Water	8270D LL	393560
400-151882-5	MW6B-ROX-040518	Total/NA	Water	8270D LL	393560
400-151882-6	MW6A-ROX-040518	Total/NA	Water	8270D LL	393560
400-151882-7	MW6D-ROX-040518	Total/NA	Water	8270D LL	393560
400-151882-8	MW3-ROX-040518	Total/NA	Water	8270D LL	393560
400-151882-11	ROST3MW-ROX-040518-EB	Total/NA	Water	8270D LL	393560
400-151882-14	MW12-ROX-040518	Total/NA	Water	8270D LL	393560
400-151882-15	MW12-ROX-040518-DUP	Total/NA	Water	8270D LL	393560
400-151882-16	MW26-ROX-040518	Total/NA	Water	8270D LL	393560
400-151882-17	MW10-ROX-040518	Total/NA	Water	8270D LL	393560
MB 400-393560/1-A	Method Blank	Total/NA	Water	8270D LL	393560
LCS 400-393560/2-A	Lab Control Sample	Total/NA	Water	8270D LL	393560
400-151882-6 MS	MW6A-ROX-040518	Total/NA	Water	8270D LL	393560
400-151882-6 MSD	MW6A-ROX-040518	Total/NA	Water	8270D LL	393560

Analysis Batch: 393852

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151882-3	MW6C-ROX-040518-EB	Total/NA	Water	8270D	393560
400-151882-4	MW6C-ROX-040518	Total/NA	Water	8270D	393560
400-151882-5	MW6B-ROX-040518	Total/NA	Water	8270D	393560
400-151882-6	MW6A-ROX-040518	Total/NA	Water	8270D	393560
400-151882-7	MW6D-ROX-040518	Total/NA	Water	8270D	393560
400-151882-8	MW3-ROX-040518	Total/NA	Water	8270D	393560
400-151882-11	ROST3MW-ROX-040518-EB	Total/NA	Water	8270D	393560
400-151882-14	MW12-ROX-040518	Total/NA	Water	8270D	393560
400-151882-15	MW12-ROX-040518-DUP	Total/NA	Water	8270D	393560
400-151882-16	MW26-ROX-040518	Total/NA	Water	8270D	393560
400-151882-17	MW10-ROX-040518	Total/NA	Water	8270D	393560
MB 400-393560/1-A	Method Blank	Total/NA	Water	8270D	393560
400-151882-6 MS	MW6A-ROX-040518	Total/NA	Water	8270D	393560
400-151882-6 MSD	MW6A-ROX-040518	Total/NA	Water	8270D	393560

Analysis Batch: 394058

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-393560/2-A	Lab Control Sample	Total/NA	Water	8270D	393560
LCS 400-393560/3-A	Lab Control Sample	Total/NA	Water	8270D	393560
LCSD 400-393560/4-A	Lab Control Sample Dup	Total/NA	Water	8270D	393560

GC Semi VOA

Prep Batch: 393622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151882-1	TB-ROX-040518-8011-A	Total/NA	Water	8011	
400-151882-3	MW6C-ROX-040518-EB	Total/NA	Water	8011	
400-151882-4	MW6C-ROX-040518	Total/NA	Water	8011	
400-151882-5	MW6B-ROX-040518	Total/NA	Water	8011	
400-151882-6	MW6A-ROX-040518	Total/NA	Water	8011	
400-151882-7	MW6D-ROX-040518	Total/NA	Water	8011	
400-151882-8	MW3-ROX-040518	Total/NA	Water	8011	
400-151882-9	TB-ROX-040518-8011-B	Total/NA	Water	8011	

TestAmerica Pensacola



QC Association Summary

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
 SDG: (2Q18)

GC Semi VOA (Continued)

Prep Batch: 393622 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151882-11	ROST3MW-ROX-040518-EB	Total/NA	Water	8011	
400-151882-14	MW12-ROX-040518	Total/NA	Water	8011	
400-151882-15	MW12-ROX-040518-DUP	Total/NA	Water	8011	
400-151882-16	MW26-ROX-040518	Total/NA	Water	8011	
400-151882-17	MW10-ROX-040518	Total/NA	Water	8011	
MB 400-393622/1-A	Method Blank	Total/NA	Water	8011	
LCS 400-393622/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 400-393622/3-A	Lab Control Sample Dup	Total/NA	Water	8011	
400-151882-6 MS	MW6A-ROX-040518	Total/NA	Water	8011	
400-151882-6 MSD	MW6A-ROX-040518	Total/NA	Water	8011	

Analysis Batch: 393757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151882-1	TB-ROX-040518-8011-A	Total/NA	Water	8011	393622
400-151882-3	MW6C-ROX-040518-EB	Total/NA	Water	8011	393622
400-151882-4	MW6C-ROX-040518	Total/NA	Water	8011	393622
400-151882-5	MW6B-ROX-040518	Total/NA	Water	8011	393622
400-151882-6	MW6A-ROX-040518	Total/NA	Water	8011	393622
400-151882-7	MW6D-ROX-040518	Total/NA	Water	8011	393622
400-151882-8	MW3-ROX-040518	Total/NA	Water	8011	393622
400-151882-9	TB-ROX-040518-8011-B	Total/NA	Water	8011	393622
400-151882-11	ROST3MW-ROX-040518-EB	Total/NA	Water	8011	393622
400-151882-14	MW12-ROX-040518	Total/NA	Water	8011	393622
400-151882-15	MW12-ROX-040518-DUP	Total/NA	Water	8011	393622
400-151882-16	MW26-ROX-040518	Total/NA	Water	8011	393622
400-151882-17	MW10-ROX-040518	Total/NA	Water	8011	393622
MB 400-393622/1-A	Method Blank	Total/NA	Water	8011	393622
LCS 400-393622/2-A	Lab Control Sample	Total/NA	Water	8011	393622
LCSD 400-393622/3-A	Lab Control Sample Dup	Total/NA	Water	8011	393622
400-151882-6 MS	MW6A-ROX-040518	Total/NA	Water	8011	393622
400-151882-6 MSD	MW6A-ROX-040518	Total/NA	Water	8011	393622

QC Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
 SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-393862/19
 Matrix: Water
 Analysis Batch: 393862

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acetone	ND		25	10	ug/L			04/13/18 15:06	1
Acrolein	ND		20	10	ug/L			04/13/18 15:06	1
Acrylonitrile	ND		10	2.8	ug/L			04/13/18 15:06	1
Benzene	ND		1.0	0.38	ug/L			04/13/18 15:06	1
Bromobenzene	ND		1.0	0.54	ug/L			04/13/18 15:06	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/13/18 15:06	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/13/18 15:06	1
Bromoform	ND		5.0	0.71	ug/L			04/13/18 15:06	1
Bromomethane	ND		1.0	0.98	ug/L			04/13/18 15:06	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/13/18 15:06	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/13/18 15:06	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/13/18 15:06	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/13/18 15:06	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/13/18 15:06	1
Chloroethane	ND		1.0	0.76	ug/L			04/13/18 15:06	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/13/18 15:06	1
Chloroform	ND		1.0	0.60	ug/L			04/13/18 15:06	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/13/18 15:06	1
Chloromethane	ND		1.0	0.83	ug/L			04/13/18 15:06	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 15:06	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/13/18 15:06	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/13/18 15:06	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/13/18 15:06	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/13/18 15:06	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/13/18 15:06	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/13/18 15:06	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/13/18 15:06	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 15:06	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 15:06	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 15:06	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 15:06	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/13/18 15:06	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/13/18 15:06	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/13/18 15:06	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/13/18 15:06	1
2-Hexanone	ND		25	3.1	ug/L			04/13/18 15:06	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/13/18 15:06	1
Methylene bromide	ND		5.0	0.59	ug/L			04/13/18 15:06	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/13/18 15:06	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/13/18 15:06	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/13/18 15:06	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/13/18 15:06	1
Naphthalene	ND		1.0	1.0	ug/L			04/13/18 15:06	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/13/18 15:06	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/13/18 15:06	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/13/18 15:06	1
o-Xylene	ND		5.0	0.60	ug/L			04/13/18 15:06	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/13/18 15:06	1

TestAmerica Pensacola



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-393862/19
Matrix: Water
Analysis Batch: 393862

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/13/18 15:06	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/13/18 15:06	1
Styrene	ND		1.0	1.0	ug/L			04/13/18 15:06	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/13/18 15:06	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/13/18 15:06	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/13/18 15:06	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/13/18 15:06	1
Toluene	ND		1.0	0.70	ug/L			04/13/18 15:06	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 15:06	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/13/18 15:06	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/13/18 15:06	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/13/18 15:06	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/13/18 15:06	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/13/18 15:06	1
Trichloroethene	ND		1.0	0.50	ug/L			04/13/18 15:06	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/13/18 15:06	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/13/18 15:06	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/13/18 15:06	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/13/18 15:06	1
Vinyl acetate	ND		25	2.0	ug/L			04/13/18 15:06	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/13/18 15:06	1
Xylenes, Total	ND		10	1.6	ug/L			04/13/18 15:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	103		78 - 118		04/13/18 15:06	1
Dibromofluoromethane	105		81 - 121		04/13/18 15:06	1
Toluene-d8 (Surr)	99		80 - 120		04/13/18 15:06	1

Lab Sample ID: LCS 400-393862/1002
Matrix: Water
Analysis Batch: 393862

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	230		ug/L		115	43 - 160
Acrolein	500	561		ug/L		112	38 - 160
Acrylonitrile	500	574		ug/L		115	64 - 142
Benzene	50.0	48.8		ug/L		98	70 - 130
Bromobenzene	50.0	45.0		ug/L		90	70 - 132
Bromochloromethane	50.0	51.0		ug/L		102	70 - 130
Bromodichloromethane	50.0	50.0		ug/L		100	67 - 133
Bromoform	50.0	54.6		ug/L		109	57 - 140
Bromomethane	50.0	48.9		ug/L		98	10 - 160
2-Butanone (MEK)	200	250		ug/L		125	61 - 145
Carbon disulfide	50.0	53.9		ug/L		108	61 - 137
Carbon tetrachloride	50.0	54.1		ug/L		108	61 - 137
Chlorobenzene	50.0	45.0		ug/L		90	70 - 130
Dibromochloromethane	50.0	51.2		ug/L		102	67 - 135
Chloroethane	50.0	45.1		ug/L		90	55 - 141

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
 SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-393862/1002
 Matrix: Water
 Analysis Batch: 393862

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Chloroethyl vinyl ether	50.0	54.5		ug/L		109	10 - 160
Chloroform	50.0	47.7		ug/L		95	69 - 130
1-Chlorohexane	50.0	47.3		ug/L		95	69 - 130
Chloromethane	50.0	44.7		ug/L		89	58 - 137
cis-1,2-Dichloroethene	50.0	47.5		ug/L		95	68 - 130
cis-1,3-Dichloropropene	50.0	58.3		ug/L		117	69 - 132
1,2-Dichlorobenzene	50.0	45.2		ug/L		90	67 - 130
1,3-Dichlorobenzene	50.0	45.3		ug/L		91	70 - 130
1,4-Dichlorobenzene	50.0	44.2		ug/L		88	70 - 130
Dichlorodifluoromethane	50.0	46.2		ug/L		92	41 - 146
1,1-Dichloroethane	50.0	47.2		ug/L		94	70 - 130
1,2-Dichloroethane	50.0	48.5		ug/L		97	69 - 130
1,1-Dichloroethene	50.0	48.8		ug/L		98	63 - 134
1,2-Dichloropropane	50.0	47.0		ug/L		94	70 - 130
1,3-Dichloropropane	50.0	47.7		ug/L		95	70 - 130
2,2-Dichloropropane	50.0	52.3		ug/L		105	52 - 135
1,1-Dichloropropene	50.0	49.7		ug/L		99	70 - 130
Ethylbenzene	50.0	46.9		ug/L		94	70 - 130
Ethyl methacrylate	50.0	57.6		ug/L		115	68 - 130
Hexachlorobutadiene	50.0	46.6		ug/L		93	53 - 140
2-Hexanone	200	250		ug/L		125	65 - 137
Isopropylbenzene	50.0	48.5		ug/L		97	70 - 130
Methylene bromide	50.0	50.5		ug/L		101	70 - 130
Methylene Chloride	50.0	46.7		ug/L		93	66 - 135
4-Methyl-2-pentanone (MIBK)	200	261		ug/L		131	69 - 138
Methyl tert-butyl ether	50.0	51.6		ug/L		103	66 - 130
m-Xylene & p-Xylene	50.0	47.6		ug/L		95	70 - 130
Naphthalene	50.0	56.6		ug/L		113	47 - 149
n-Butylbenzene	50.0	46.2		ug/L		92	67 - 130
N-Propylbenzene	50.0	47.4		ug/L		95	70 - 130
o-Chlorotoluene	50.0	44.9		ug/L		90	70 - 130
o-Xylene	50.0	46.7		ug/L		93	70 - 130
p-Chlorotoluene	50.0	46.3		ug/L		93	70 - 130
p-Isopropyltoluene	50.0	49.0		ug/L		98	65 - 130
sec-Butylbenzene	50.0	47.2		ug/L		94	66 - 130
Styrene	50.0	49.3		ug/L		99	70 - 130
tert-Butylbenzene	50.0	46.3		ug/L		93	64 - 139
1,1,1,2-Tetrachloroethane	50.0	49.4		ug/L		99	67 - 131
1,1,2,2-Tetrachloroethane	50.0	49.7		ug/L		99	70 - 131
Tetrachloroethene	50.0	46.2		ug/L		92	65 - 130
Toluene	50.0	46.1		ug/L		92	70 - 130
trans-1,2-Dichloroethene	50.0	49.2		ug/L		98	70 - 130
trans-1,3-Dichloropropene	50.0	56.8		ug/L		114	63 - 130
1,2,3-Trichlorobenzene	50.0	48.0		ug/L		96	60 - 138
1,2,4-Trichlorobenzene	50.0	47.8		ug/L		96	60 - 140
1,1,1-Trichloroethane	50.0	52.1		ug/L		104	68 - 130
1,1,2-Trichloroethane	50.0	47.7		ug/L		95	70 - 130
Trichloroethene	50.0	48.8		ug/L		98	70 - 130

TestAmerica Pensacola



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-393862/1002
Matrix: Water
Analysis Batch: 393862

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	50.0	45.3		ug/L		91	65 - 138
1,2,3-Trichloropropane	50.0	52.3		ug/L		105	70 - 130
1,2,4-Trimethylbenzene	50.0	47.1		ug/L		94	70 - 130
1,3,5-Trimethylbenzene	50.0	46.3		ug/L		93	69 - 130
Vinyl acetate	100	114		ug/L		114	26 - 160
Vinyl chloride	50.0	46.7		ug/L		93	59 - 136
Xylenes, Total	100	94.3		ug/L		94	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	96		78 - 118
Dibromofluoromethane	101		81 - 121
Toluene-d8 (Surr)	97		80 - 120

Lab Sample ID: 400-151882-6 MS
Matrix: Water
Analysis Batch: 393862

Client Sample ID: MW6A-ROX-040518
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		200	252		ug/L		126	43 - 150
Acrolein	ND		500	509		ug/L		102	38 - 150
Acrylonitrile	ND		500	632		ug/L		126	62 - 149
Benzene	ND		50.0	59.1		ug/L		118	56 - 142
Bromobenzene	ND		50.0	55.4		ug/L		111	59 - 136
Bromochloromethane	ND		50.0	61.8		ug/L		124	64 - 140
Bromodichloromethane	ND		50.0	64.0		ug/L		128	59 - 143
Bromoform	ND		50.0	65.6		ug/L		131	50 - 140
Bromomethane	ND		50.0	49.4		ug/L		99	10 - 150
2-Butanone (MEK)	ND		200	266		ug/L		133	55 - 150
Carbon disulfide	ND		50.0	65.4		ug/L		131	48 - 150
Carbon tetrachloride	ND		50.0	65.7		ug/L		131	55 - 145
Chlorobenzene	ND		50.0	54.8		ug/L		110	64 - 130
Dibromochloromethane	ND		50.0	65.4		ug/L		131	56 - 143
Chloroethane	ND		50.0	47.1		ug/L		94	50 - 150
2-Chloroethyl vinyl ether	ND	F1	50.0	ND	F1	ug/L		0	10 - 150
Chloroform	ND		50.0	59.9		ug/L		120	60 - 141
1-Chlorohexane	ND		50.0	52.8		ug/L		106	56 - 136
Chloromethane	ND		50.0	46.1		ug/L		92	49 - 148
cis-1,2-Dichloroethene	ND		50.0	59.0		ug/L		118	59 - 143
cis-1,3-Dichloropropene	ND		50.0	70.1		ug/L		140	57 - 140
1,2-Dichlorobenzene	ND		50.0	52.4		ug/L		105	52 - 137
1,3-Dichlorobenzene	ND		50.0	52.7		ug/L		105	54 - 135
1,4-Dichlorobenzene	ND		50.0	51.1		ug/L		102	53 - 135
Dichlorodifluoromethane	ND		50.0	48.3		ug/L		97	16 - 150
1,1-Dichloroethane	ND		50.0	59.4		ug/L		119	61 - 144
1,2-Dichloroethane	ND		50.0	58.2		ug/L		116	60 - 141
1,1-Dichloroethene	ND		50.0	61.8		ug/L		124	54 - 147
1,2-Dichloropropane	ND		50.0	59.1		ug/L		118	66 - 137
1,3-Dichloropropane	ND		50.0	56.4		ug/L		113	66 - 133

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-151882-6 MS
Matrix: Water
Analysis Batch: 393862

Client Sample ID: MW6A-ROX-040518
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2,2-Dichloropropane	ND		50.0	66.2		ug/L		132	42 - 144
1,1-Dichloropropene	ND		50.0	58.6		ug/L		117	65 - 136
Ethylbenzene	ND		50.0	55.3		ug/L		111	58 - 131
Ethyl methacrylate	ND		50.0	63.6		ug/L		127	64 - 130
Hexachlorobutadiene	ND		50.0	48.1		ug/L		96	31 - 149
2-Hexanone	ND		200	256		ug/L		128	65 - 140
Isopropylbenzene	ND		50.0	55.9		ug/L		112	56 - 133
Methylene bromide	ND		50.0	60.5		ug/L		121	63 - 138
Methylene Chloride	ND		50.0	58.9		ug/L		118	60 - 146
4-Methyl-2-pentanone (MIBK)	ND		200	260		ug/L		130	63 - 146
Methyl tert-butyl ether	ND		50.0	63.3		ug/L		127	59 - 137
m-Xylene & p-Xylene	ND		50.0	56.0		ug/L		112	57 - 130
Naphthalene	ND		50.0	60.3		ug/L		121	25 - 150
n-Butylbenzene	ND		50.0	49.0		ug/L		98	41 - 142
N-Propylbenzene	ND		50.0	54.6		ug/L		109	51 - 138
o-Chlorotoluene	ND		50.0	51.4		ug/L		103	53 - 134
o-Xylene	ND		50.0	56.0		ug/L		112	61 - 130
p-Chlorotoluene	ND		50.0	53.2		ug/L		106	54 - 133
p-Isopropyltoluene	ND		50.0	54.8		ug/L		110	48 - 139
sec-Butylbenzene	ND		50.0	53.6		ug/L		107	50 - 138
Styrene	ND		50.0	58.4		ug/L		117	58 - 131
tert-Butylbenzene	ND		50.0	54.8		ug/L		110	54 - 146
1,1,1,2-Tetrachloroethane	ND		50.0	60.6		ug/L		121	59 - 137
1,1,2,2-Tetrachloroethane	ND		50.0	57.3		ug/L		115	66 - 135
Tetrachloroethene	ND		50.0	52.6		ug/L		105	52 - 133
Toluene	ND		50.0	54.3		ug/L		109	65 - 130
trans-1,2-Dichloroethene	ND		50.0	61.4		ug/L		123	61 - 143
trans-1,3-Dichloropropene	ND		50.0	66.1		ug/L		132	53 - 133
1,2,3-Trichlorobenzene	ND		50.0	52.2		ug/L		104	43 - 145
1,2,4-Trichlorobenzene	ND		50.0	51.7		ug/L		103	39 - 148
1,1,1-Trichloroethane	ND		50.0	63.7		ug/L		127	57 - 142
1,1,2-Trichloroethane	ND		50.0	57.4		ug/L		115	66 - 131
Trichloroethene	ND		50.0	58.8		ug/L		118	64 - 136
Trichlorofluoromethane	ND		50.0	48.6		ug/L		97	54 - 150
1,2,3-Trichloropropane	ND		50.0	58.6		ug/L		117	65 - 133
1,2,4-Trimethylbenzene	ND		50.0	54.4		ug/L		109	50 - 139
1,3,5-Trimethylbenzene	ND		50.0	54.9		ug/L		110	52 - 135
Vinyl acetate	ND		100	109		ug/L		109	26 - 150
Vinyl chloride	ND		50.0	48.8		ug/L		98	46 - 150
Xylenes, Total	ND		100	112		ug/L		112	59 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene	99		78 - 118
Dibromofluoromethane	103		81 - 121
Toluene-d8 (Surr)	96		80 - 120

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-151882-6 MSD

Client Sample ID: MW6A-ROX-040518

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 393862

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier		Result	Qualifier				Limits		Limit
Acetone	ND		200	218		ug/L		109	43 - 150	14	30
Acrolein	ND		500	535		ug/L		107	38 - 150	5	31
Acrylonitrile	ND		500	544		ug/L		109	62 - 149	15	30
Benzene	ND		50.0	49.5		ug/L		99	56 - 142	18	30
Bromobenzene	ND		50.0	49.4		ug/L		99	59 - 136	11	30
Bromochloromethane	ND		50.0	51.4		ug/L		103	64 - 140	18	30
Bromodichloromethane	ND		50.0	52.2		ug/L		104	59 - 143	20	30
Bromoform	ND		50.0	59.2		ug/L		118	50 - 140	10	30
Bromomethane	ND		50.0	49.9		ug/L		100	10 - 150	1	50
2-Butanone (MEK)	ND		200	229		ug/L		114	55 - 150	15	30
Carbon disulfide	ND		50.0	54.8		ug/L		110	48 - 150	18	30
Carbon tetrachloride	ND		50.0	55.4		ug/L		111	55 - 145	17	30
Chlorobenzene	ND		50.0	45.4		ug/L		91	64 - 130	19	30
Dibromochloromethane	ND		50.0	53.6		ug/L		107	56 - 143	20	30
Chloroethane	ND		50.0	47.9		ug/L		96	50 - 150	2	30
2-Chloroethyl vinyl ether	ND	F1	50.0	ND	F1	ug/L		0	10 - 150	NC	50
Chloroform	ND		50.0	50.0		ug/L		100	60 - 141	18	30
1-Chlorohexane	ND		50.0	43.6		ug/L		87	56 - 136	19	30
Chloromethane	ND		50.0	46.9		ug/L		94	49 - 148	2	31
cis-1,2-Dichloroethene	ND		50.0	49.6		ug/L		99	59 - 143	17	30
cis-1,3-Dichloropropene	ND		50.0	57.1		ug/L		114	57 - 140	21	30
1,2-Dichlorobenzene	ND		50.0	47.0		ug/L		94	52 - 137	11	30
1,3-Dichlorobenzene	ND		50.0	47.1		ug/L		94	54 - 135	11	30
1,4-Dichlorobenzene	ND		50.0	45.5		ug/L		91	53 - 135	11	30
Dichlorodifluoromethane	ND		50.0	49.4		ug/L		99	16 - 150	2	31
1,1-Dichloroethane	ND		50.0	50.7		ug/L		101	61 - 144	16	30
1,2-Dichloroethane	ND		50.0	49.3		ug/L		99	60 - 141	17	30
1,1-Dichloroethene	ND		50.0	52.9		ug/L		106	54 - 147	16	30
1,2-Dichloropropane	ND		50.0	49.1		ug/L		98	66 - 137	18	30
1,3-Dichloropropane	ND		50.0	47.4		ug/L		95	66 - 133	17	30
2,2-Dichloropropane	ND		50.0	55.3		ug/L		111	42 - 144	18	31
1,1-Dichloropropene	ND		50.0	50.7		ug/L		101	65 - 136	14	30
Ethylbenzene	ND		50.0	46.9		ug/L		94	58 - 131	17	30
Ethyl methacrylate	ND		50.0	54.4		ug/L		109	64 - 130	16	30
Hexachlorobutadiene	ND		50.0	42.2		ug/L		84	31 - 149	13	36
2-Hexanone	ND		200	215		ug/L		108	65 - 140	17	30
Isopropylbenzene	ND		50.0	46.9		ug/L		94	56 - 133	18	30
Methylene bromide	ND		50.0	51.5		ug/L		103	63 - 138	16	30
Methylene Chloride	ND		50.0	50.4		ug/L		101	60 - 146	16	32
4-Methyl-2-pentanone (MIBK)	ND		200	220		ug/L		110	63 - 146	17	30
Methyl tert-butyl ether	ND		50.0	54.4		ug/L		109	59 - 137	15	30
m-Xylene & p-Xylene	ND		50.0	46.4		ug/L		93	57 - 130	19	30
Naphthalene	ND		50.0	57.2		ug/L		114	25 - 150	5	30
n-Butylbenzene	ND		50.0	44.4		ug/L		89	41 - 142	10	31
N-Propylbenzene	ND		50.0	48.9		ug/L		98	51 - 138	11	30
o-Chlorotoluene	ND		50.0	47.8		ug/L		96	53 - 134	7	30
o-Xylene	ND		50.0	46.4		ug/L		93	61 - 130	19	30
p-Chlorotoluene	ND		50.0	47.2		ug/L		94	54 - 133	12	30

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-151882-6 MSD
Matrix: Water
Analysis Batch: 393862

Client Sample ID: MW6A-ROX-040518
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
p-Isopropyltoluene	ND		50.0	48.8		ug/L		98	48 - 139	12	30
sec-Butylbenzene	ND		50.0	48.4		ug/L		97	50 - 138	10	30
Styrene	ND		50.0	48.3		ug/L		97	58 - 131	19	30
tert-Butylbenzene	ND		50.0	49.6		ug/L		99	54 - 146	10	30
1,1,1,2-Tetrachloroethane	ND		50.0	50.1		ug/L		100	59 - 137	19	30
1,1,2,2-Tetrachloroethane	ND		50.0	53.5		ug/L		107	66 - 135	7	30
Tetrachloroethene	ND		50.0	43.8		ug/L		88	52 - 133	18	30
Toluene	ND		50.0	46.0		ug/L		92	65 - 130	16	30
trans-1,2-Dichloroethene	ND		50.0	51.6		ug/L		103	61 - 143	17	30
trans-1,3-Dichloropropene	ND		50.0	55.6		ug/L		111	53 - 133	17	30
1,2,3-Trichlorobenzene	ND		50.0	48.7		ug/L		97	43 - 145	7	30
1,2,4-Trichlorobenzene	ND		50.0	46.9		ug/L		94	39 - 148	10	30
1,1,1-Trichloroethane	ND		50.0	53.5		ug/L		107	57 - 142	17	30
1,1,2-Trichloroethane	ND		50.0	48.0		ug/L		96	66 - 131	18	30
Trichloroethene	ND		50.0	49.8		ug/L		100	64 - 136	16	30
Trichlorofluoromethane	ND		50.0	49.7		ug/L		99	54 - 150	2	30
1,2,3-Trichloropropane	ND		50.0	55.0		ug/L		110	65 - 133	6	30
1,2,4-Trimethylbenzene	ND		50.0	48.8		ug/L		98	50 - 139	11	30
1,3,5-Trimethylbenzene	ND		50.0	49.4		ug/L		99	52 - 135	11	30
Vinyl acetate	ND		100	115		ug/L		115	26 - 150	5	33
Vinyl chloride	ND		50.0	49.4		ug/L		99	46 - 150	1	30
Xylenes, Total	ND		100	92.8		ug/L		93	59 - 130	19	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene	105		78 - 118
Dibromofluoromethane	102		81 - 121
Toluene-d8 (Surr)	96		80 - 120

Lab Sample ID: MB 400-394050/28
Matrix: Water
Analysis Batch: 394050

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/16/18 15:22	1
Acrolein	ND		20	10	ug/L			04/16/18 15:22	1
Acrylonitrile	ND		10	2.8	ug/L			04/16/18 15:22	1
Benzene	ND		1.0	0.38	ug/L			04/16/18 15:22	1
Bromobenzene	ND		1.0	0.54	ug/L			04/16/18 15:22	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/16/18 15:22	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/16/18 15:22	1
Bromoform	ND		5.0	0.71	ug/L			04/16/18 15:22	1
Bromomethane	ND		1.0	0.98	ug/L			04/16/18 15:22	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/16/18 15:22	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/16/18 15:22	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/16/18 15:22	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/16/18 15:22	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/16/18 15:22	1
Chloroethane	ND		1.0	0.76	ug/L			04/16/18 15:22	1

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-394050/28
Matrix: Water
Analysis Batch: 394050

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/16/18 15:22	1
Chloroform	ND		1.0	0.60	ug/L			04/16/18 15:22	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/16/18 15:22	1
Chloromethane	ND		1.0	0.83	ug/L			04/16/18 15:22	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 15:22	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/18 15:22	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/16/18 15:22	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/16/18 15:22	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/16/18 15:22	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/16/18 15:22	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/16/18 15:22	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/16/18 15:22	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 15:22	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 15:22	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 15:22	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 15:22	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/16/18 15:22	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/16/18 15:22	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/16/18 15:22	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/16/18 15:22	1
2-Hexanone	ND		25	3.1	ug/L			04/16/18 15:22	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/16/18 15:22	1
Methylene bromide	ND		5.0	0.59	ug/L			04/16/18 15:22	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/16/18 15:22	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/16/18 15:22	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/16/18 15:22	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/16/18 15:22	1
Naphthalene	ND		1.0	1.0	ug/L			04/16/18 15:22	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/16/18 15:22	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/16/18 15:22	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/16/18 15:22	1
o-Xylene	ND		5.0	0.60	ug/L			04/16/18 15:22	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/16/18 15:22	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/16/18 15:22	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/16/18 15:22	1
Styrene	ND		1.0	1.0	ug/L			04/16/18 15:22	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/16/18 15:22	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/16/18 15:22	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/16/18 15:22	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/16/18 15:22	1
Toluene	ND		1.0	0.70	ug/L			04/16/18 15:22	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 15:22	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/18 15:22	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/16/18 15:22	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/16/18 15:22	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/16/18 15:22	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/16/18 15:22	1
Trichloroethene	ND		1.0	0.50	ug/L			04/16/18 15:22	1

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-394050/28
Matrix: Water
Analysis Batch: 394050

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/16/18 15:22	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/16/18 15:22	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/16/18 15:22	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/16/18 15:22	1
Vinyl acetate	ND		25	2.0	ug/L			04/16/18 15:22	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/16/18 15:22	1
Xylenes, Total	ND		10	1.6	ug/L			04/16/18 15:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	113		78 - 118		04/16/18 15:22	1
Dibromofluoromethane	103		81 - 121		04/16/18 15:22	1
Toluene-d8 (Surr)	100		80 - 120		04/16/18 15:22	1

Lab Sample ID: LCS 400-394050/26
Matrix: Water
Analysis Batch: 394050

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	196		ug/L		98	43 - 160
Acrolein	500	452		ug/L		90	38 - 160
Acrylonitrile	500	484		ug/L		97	64 - 142
Benzene	50.0	41.0		ug/L		82	70 - 130
Bromobenzene	50.0	39.5		ug/L		79	70 - 132
Bromochloromethane	50.0	41.3		ug/L		83	70 - 130
Bromodichloromethane	50.0	42.1		ug/L		84	67 - 133
Bromoform	50.0	46.1		ug/L		92	57 - 140
Bromomethane	50.0	42.0		ug/L		84	10 - 160
2-Butanone (MEK)	200	208		ug/L		104	61 - 145
Carbon disulfide	50.0	44.6		ug/L		89	61 - 137
Carbon tetrachloride	50.0	45.0		ug/L		90	61 - 137
Chlorobenzene	50.0	39.4		ug/L		79	70 - 130
Dibromochloromethane	50.0	42.5		ug/L		85	67 - 135
Chloroethane	50.0	35.6		ug/L		71	55 - 141
2-Chloroethyl vinyl ether	50.0	44.5		ug/L		89	10 - 160
Chloroform	50.0	40.5		ug/L		81	69 - 130
1-Chlorohexane	50.0	41.3		ug/L		83	69 - 130
Chloromethane	50.0	37.7		ug/L		75	58 - 137
cis-1,2-Dichloroethene	50.0	39.9		ug/L		80	68 - 130
cis-1,3-Dichloropropene	50.0	50.6		ug/L		101	69 - 132
1,2-Dichlorobenzene	50.0	39.7		ug/L		79	67 - 130
1,3-Dichlorobenzene	50.0	40.1		ug/L		80	70 - 130
1,4-Dichlorobenzene	50.0	39.1		ug/L		78	70 - 130
Dichlorodifluoromethane	50.0	36.9		ug/L		74	41 - 146
1,1-Dichloroethane	50.0	40.9		ug/L		82	70 - 130
1,2-Dichloroethane	50.0	41.1		ug/L		82	69 - 130
1,1-Dichloroethene	50.0	42.2		ug/L		84	63 - 134
1,2-Dichloropropane	50.0	40.4		ug/L		81	70 - 130
1,3-Dichloropropane	50.0	40.5		ug/L		81	70 - 130

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-394050/26
Matrix: Water
Analysis Batch: 394050

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,2-Dichloropropane	50.0	46.6		ug/L		93	52 - 135
1,1-Dichloropropene	50.0	42.1		ug/L		84	70 - 130
Ethylbenzene	50.0	40.1		ug/L		80	70 - 130
Ethyl methacrylate	50.0	48.5		ug/L		97	68 - 130
Hexachlorobutadiene	50.0	42.2		ug/L		84	53 - 140
2-Hexanone	200	210		ug/L		105	65 - 137
Isopropylbenzene	50.0	41.6		ug/L		83	70 - 130
Methylene bromide	50.0	43.1		ug/L		86	70 - 130
Methylene Chloride	50.0	39.8		ug/L		80	66 - 135
4-Methyl-2-pentanone (MIBK)	200	220		ug/L		110	69 - 138
Methyl tert-butyl ether	50.0	44.0		ug/L		88	66 - 130
m-Xylene & p-Xylene	50.0	40.7		ug/L		81	70 - 130
Naphthalene	50.0	49.2		ug/L		98	47 - 149
n-Butylbenzene	50.0	40.6		ug/L		81	67 - 130
N-Propylbenzene	50.0	41.4		ug/L		83	70 - 130
o-Chlorotoluene	50.0	40.0		ug/L		80	70 - 130
o-Xylene	50.0	41.1		ug/L		82	70 - 130
p-Chlorotoluene	50.0	41.0		ug/L		82	70 - 130
p-Isopropyltoluene	50.0	43.9		ug/L		88	65 - 130
sec-Butylbenzene	50.0	42.6		ug/L		85	66 - 130
Styrene	50.0	42.0		ug/L		84	70 - 130
tert-Butylbenzene	50.0	42.5		ug/L		85	64 - 139
1,1,1,2-Tetrachloroethane	50.0	41.0		ug/L		82	67 - 131
1,1,2,2-Tetrachloroethane	50.0	43.1		ug/L		86	70 - 131
Tetrachloroethene	50.0	38.5		ug/L		77	65 - 130
Toluene	50.0	38.4		ug/L		77	70 - 130
trans-1,2-Dichloroethene	50.0	41.8		ug/L		84	70 - 130
trans-1,3-Dichloropropene	50.0	47.2		ug/L		94	63 - 130
1,2,3-Trichlorobenzene	50.0	41.3		ug/L		83	60 - 138
1,2,4-Trichlorobenzene	50.0	41.8		ug/L		84	60 - 140
1,1,1-Trichloroethane	50.0	45.1		ug/L		90	68 - 130
1,1,2-Trichloroethane	50.0	40.4		ug/L		81	70 - 130
Trichloroethene	50.0	41.7		ug/L		83	70 - 130
Trichlorofluoromethane	50.0	37.9		ug/L		76	65 - 138
1,2,3-Trichloropropane	50.0	46.1		ug/L		92	70 - 130
1,2,4-Trimethylbenzene	50.0	42.1		ug/L		84	70 - 130
1,3,5-Trimethylbenzene	50.0	41.6		ug/L		83	69 - 130
Vinyl acetate	100	87.0		ug/L		87	26 - 160
Vinyl chloride	50.0	38.1		ug/L		76	59 - 136
Xylenes, Total	100	81.7		ug/L		82	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	101		78 - 118
Dibromofluoromethane	106		81 - 121
Toluene-d8 (Surr)	95		80 - 120

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-151994-A-3 MS

Matrix: Water

Analysis Batch: 394050

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
Acetone	ND		200	193		ug/L		97	43 - 150
Acrolein	ND		500	492		ug/L		98	38 - 150
Acrylonitrile	ND		500	473		ug/L		95	62 - 149
Benzene	ND		50.0	44.0		ug/L		88	56 - 142
Bromobenzene	ND		50.0	43.9		ug/L		88	59 - 136
Bromochloromethane	ND		50.0	46.0		ug/L		92	64 - 140
Bromodichloromethane	ND		50.0	46.4		ug/L		93	59 - 143
Bromoform	ND		50.0	51.1		ug/L		102	50 - 140
Bromomethane	ND		50.0	49.5		ug/L		99	10 - 150
2-Butanone (MEK)	ND		200	197		ug/L		99	55 - 150
Carbon disulfide	0.53	J	50.0	48.6		ug/L		96	48 - 150
Carbon tetrachloride	ND		50.0	47.7		ug/L		95	55 - 145
Chlorobenzene	ND		50.0	39.7		ug/L		79	64 - 130
Dibromochloromethane	ND		50.0	45.1		ug/L		90	56 - 143
Chloroethane	ND		50.0	43.2		ug/L		86	50 - 150
2-Chloroethyl vinyl ether	ND	F1	50.0	ND	F1	ug/L		0	10 - 150
Chloroform	ND		50.0	44.6		ug/L		89	60 - 141
1-Chlorohexane	ND		50.0	38.2		ug/L		76	56 - 136
Chloromethane	ND		50.0	42.2		ug/L		84	49 - 148
cis-1,2-Dichloroethene	ND		50.0	43.7		ug/L		87	59 - 143
cis-1,3-Dichloropropene	ND		50.0	53.5		ug/L		107	57 - 140
1,2-Dichlorobenzene	ND		50.0	43.3		ug/L		87	52 - 137
1,3-Dichlorobenzene	ND		50.0	42.6		ug/L		85	54 - 135
1,4-Dichlorobenzene	ND		50.0	41.3		ug/L		83	53 - 135
Dichlorodifluoromethane	ND		50.0	40.8		ug/L		82	16 - 150
1,1-Dichloroethane	ND		50.0	44.2		ug/L		88	61 - 144
1,2-Dichloroethane	ND		50.0	45.0		ug/L		90	60 - 141
1,1-Dichloroethene	ND		50.0	44.6		ug/L		89	54 - 147
1,2-Dichloropropane	ND		50.0	43.7		ug/L		87	66 - 137
1,3-Dichloropropane	ND		50.0	42.4		ug/L		85	66 - 133
2,2-Dichloropropane	ND		50.0	48.0		ug/L		96	42 - 144
1,1-Dichloropropene	ND		50.0	44.4		ug/L		89	65 - 136
Ethylbenzene	ND		50.0	39.3		ug/L		79	58 - 131
Ethyl methacrylate	ND		50.0	47.5		ug/L		95	64 - 130
Hexachlorobutadiene	ND		50.0	40.6		ug/L		81	31 - 149
2-Hexanone	ND		200	194		ug/L		97	65 - 140
Isopropylbenzene	ND		50.0	39.9		ug/L		80	56 - 133
Methylene bromide	ND		50.0	45.1		ug/L		90	63 - 138
Methylene Chloride	ND		50.0	45.4		ug/L		91	60 - 146
4-Methyl-2-pentanone (MIBK)	ND		200	215		ug/L		108	63 - 146
Methyl tert-butyl ether	ND		50.0	46.5		ug/L		93	59 - 137
m-Xylene & p-Xylene	ND		50.0	39.7		ug/L		79	57 - 130
Naphthalene	ND	F2	50.0	49.7		ug/L		99	25 - 150
n-Butylbenzene	ND		50.0	41.0		ug/L		82	41 - 142
N-Propylbenzene	ND		50.0	43.1		ug/L		86	51 - 138
o-Chlorotoluene	ND		50.0	42.9		ug/L		86	53 - 134
o-Xylene	ND		50.0	40.6		ug/L		81	61 - 130
p-Chlorotoluene	ND		50.0	43.1		ug/L		86	54 - 133

TestAmerica Pensacola



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-151994-A-3 MS
Matrix: Water
Analysis Batch: 394050

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits	
				Result	Qualifier					
p-Isopropyltoluene	ND		50.0	43.8		ug/L		88	48 - 139	
sec-Butylbenzene	ND		50.0	42.7		ug/L		85	50 - 138	
Styrene	ND		50.0	42.0		ug/L		84	58 - 131	
tert-Butylbenzene	ND		50.0	44.3		ug/L		89	54 - 146	
1,1,1,2-Tetrachloroethane	ND		50.0	43.5		ug/L		87	59 - 137	
1,1,2,2-Tetrachloroethane	ND	F2	50.0	46.2		ug/L		92	66 - 135	
Tetrachloroethene	ND		50.0	37.1		ug/L		74	52 - 133	
Toluene	ND		50.0	39.1		ug/L		78	65 - 130	
trans-1,2-Dichloroethene	ND		50.0	44.2		ug/L		88	61 - 143	
trans-1,3-Dichloropropene	ND		50.0	49.1		ug/L		98	53 - 133	
1,2,3-Trichlorobenzene	ND		50.0	44.4		ug/L		89	43 - 145	
1,2,4-Trichlorobenzene	ND		50.0	42.7		ug/L		85	39 - 148	
1,1,1-Trichloroethane	ND		50.0	47.3		ug/L		95	57 - 142	
1,1,2-Trichloroethane	ND		50.0	41.6		ug/L		83	66 - 131	
Trichloroethene	ND		50.0	43.5		ug/L		87	64 - 136	
Trichlorofluoromethane	ND		50.0	44.3		ug/L		89	54 - 150	
1,2,3-Trichloropropane	ND	F1 F2	50.0	48.1		ug/L		96	65 - 133	
1,2,4-Trimethylbenzene	ND		50.0	43.7		ug/L		87	50 - 139	
1,3,5-Trimethylbenzene	ND		50.0	43.5		ug/L		87	52 - 135	
Vinyl acetate	ND		100	106		ug/L		106	26 - 150	
Vinyl chloride	ND		50.0	43.3		ug/L		87	46 - 150	
Xylenes, Total	ND		100	80.3		ug/L		80	59 - 130	

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	108		78 - 118
Dibromofluoromethane	101		81 - 121
Toluene-d8 (Surr)	97		80 - 120

Lab Sample ID: 400-151994-A-3 MSD
Matrix: Water
Analysis Batch: 394050

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD MSD		Unit	D	%Rec	%Rec. Limits		RPD	
				Result	Qualifier						RPD	Limit
Acetone	ND		200	239		ug/L		120	43 - 150	21	30	
Acrolein	ND		500	585		ug/L		117	38 - 150	17	31	
Acrylonitrile	ND		500	580		ug/L		116	62 - 149	20	30	
Benzene	ND		50.0	51.7		ug/L		103	56 - 142	16	30	
Bromobenzene	ND		50.0	59.3		ug/L		119	59 - 136	30	30	
Bromochloromethane	ND		50.0	54.6		ug/L		109	64 - 140	17	30	
Bromodichloromethane	ND		50.0	56.3		ug/L		113	59 - 143	19	30	
Bromoform	ND		50.0	67.6		ug/L		135	50 - 140	28	30	
Bromomethane	ND		50.0	56.5		ug/L		113	10 - 150	13	50	
2-Butanone (MEK)	ND		200	247		ug/L		123	55 - 150	22	30	
Carbon disulfide	0.53	J	50.0	57.6		ug/L		114	48 - 150	17	30	
Carbon tetrachloride	ND		50.0	56.6		ug/L		113	55 - 145	17	30	
Chlorobenzene	ND		50.0	49.4		ug/L		99	64 - 130	22	30	
Dibromochloromethane	ND		50.0	57.4		ug/L		115	56 - 143	24	30	
Chloroethane	ND		50.0	52.2		ug/L		104	50 - 150	19	30	

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-151994-A-3 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 394050

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		
2-Chloroethyl vinyl ether	ND	F1	50.0	ND	F1	ug/L		0	10 - 150	NC	50
Chloroform	ND		50.0	52.2		ug/L		104	60 - 141	16	30
1-Chlorohexane	ND		50.0	47.6		ug/L		95	56 - 136	22	30
Chloromethane	ND		50.0	48.6		ug/L		97	49 - 148	14	31
cis-1,2-Dichloroethene	ND		50.0	51.0		ug/L		102	59 - 143	15	30
cis-1,3-Dichloropropene	ND		50.0	62.4		ug/L		125	57 - 140	15	30
1,2-Dichlorobenzene	ND		50.0	55.8		ug/L		112	52 - 137	25	30
1,3-Dichlorobenzene	ND		50.0	55.5		ug/L		111	54 - 135	26	30
1,4-Dichlorobenzene	ND		50.0	53.6		ug/L		107	53 - 135	26	30
Dichlorodifluoromethane	ND		50.0	48.7		ug/L		97	16 - 150	18	31
1,1-Dichloroethane	ND		50.0	52.4		ug/L		105	61 - 144	17	30
1,2-Dichloroethane	ND		50.0	53.3		ug/L		107	60 - 141	17	30
1,1-Dichloroethene	ND		50.0	53.5		ug/L		107	54 - 147	18	30
1,2-Dichloropropane	ND		50.0	52.7		ug/L		105	66 - 137	19	30
1,3-Dichloropropane	ND		50.0	53.6		ug/L		107	66 - 133	23	30
2,2-Dichloropropane	ND		50.0	57.9		ug/L		116	42 - 144	19	31
1,1-Dichloropropene	ND		50.0	51.9		ug/L		104	65 - 136	16	30
Ethylbenzene	ND		50.0	48.8		ug/L		98	58 - 131	21	30
Ethyl methacrylate	ND		50.0	62.0		ug/L		124	64 - 130	27	30
Hexachlorobutadiene	ND		50.0	49.8		ug/L		100	31 - 149	20	36
2-Hexanone	ND		200	255		ug/L		127	65 - 140	27	30
Isopropylbenzene	ND		50.0	49.1		ug/L		98	56 - 133	21	30
Methylene bromide	ND		50.0	54.9		ug/L		110	63 - 138	19	30
Methylene Chloride	ND		50.0	54.4		ug/L		109	60 - 146	18	32
4-Methyl-2-pentanone (MIBK)	ND		200	265		ug/L		133	63 - 146	21	30
Methyl tert-butyl ether	ND		50.0	57.3		ug/L		115	59 - 137	21	30
m-Xylene & p-Xylene	ND		50.0	49.7		ug/L		99	57 - 130	22	30
Naphthalene	ND	F2	50.0	67.6	F2	ug/L		135	25 - 150	31	30
n-Butylbenzene	ND		50.0	50.8		ug/L		102	41 - 142	21	31
N-Propylbenzene	ND		50.0	55.7		ug/L		111	51 - 138	26	30
o-Chlorotoluene	ND		50.0	55.9		ug/L		112	53 - 134	26	30
o-Xylene	ND		50.0	50.2		ug/L		100	61 - 130	21	30
p-Chlorotoluene	ND		50.0	55.7		ug/L		111	54 - 133	26	30
p-Isopropyltoluene	ND		50.0	55.6		ug/L		111	48 - 139	24	30
sec-Butylbenzene	ND		50.0	55.3		ug/L		111	50 - 138	26	30
Styrene	ND		50.0	51.7		ug/L		103	58 - 131	21	30
tert-Butylbenzene	ND		50.0	57.2		ug/L		114	54 - 146	26	30
1,1,1,2-Tetrachloroethane	ND		50.0	54.6		ug/L		109	59 - 137	23	30
1,1,2,2-Tetrachloroethane	ND	F2	50.0	65.1	F2	ug/L		130	66 - 135	34	30
Tetrachloroethene	ND		50.0	46.4		ug/L		93	52 - 133	22	30
Toluene	ND		50.0	49.2		ug/L		98	65 - 130	23	30
trans-1,2-Dichloroethene	ND		50.0	52.3		ug/L		105	61 - 143	17	30
trans-1,3-Dichloropropene	ND		50.0	62.6		ug/L		125	53 - 133	24	30
1,2,3-Trichlorobenzene	ND		50.0	58.2		ug/L		116	43 - 145	27	30
1,2,4-Trichlorobenzene	ND		50.0	56.1		ug/L		112	39 - 148	27	30
1,1,1-Trichloroethane	ND		50.0	55.4		ug/L		111	57 - 142	16	30
1,1,2-Trichloroethane	ND		50.0	54.0		ug/L		108	66 - 131	26	30
Trichloroethene	ND		50.0	50.8		ug/L		102	64 - 136	15	30

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-151994-A-3 MSD
Matrix: Water
Analysis Batch: 394050

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichlorofluoromethane	ND		50.0	52.0		ug/L		104	54 - 150	16	30
1,2,3-Trichloropropane	ND	F1 F2	50.0	66.8	F1 F2	ug/L		134	65 - 133	33	30
1,2,4-Trimethylbenzene	ND		50.0	57.4		ug/L		115	50 - 139	27	30
1,3,5-Trimethylbenzene	ND		50.0	56.5		ug/L		113	52 - 135	26	30
Vinyl acetate	ND		100	124		ug/L		124	26 - 150	16	33
Vinyl chloride	ND		50.0	51.8		ug/L		104	46 - 150	18	30
Xylenes, Total	ND		100	99.9		ug/L		100	59 - 130	22	30

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
4-Bromofluorobenzene	112		78 - 118
Dibromofluoromethane	110		81 - 121
Toluene-d8 (Surr)	96		80 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-393560/1-A
Matrix: Water
Analysis Batch: 393852

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 393560

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		04/11/18 13:42	04/13/18 15:24	1
Benzenethiol	ND		10	1.7	ug/L		04/11/18 13:42	04/13/18 15:24	1
Benzoic acid	ND		30	7.3	ug/L		04/11/18 13:42	04/13/18 15:24	1
Benzyl alcohol	ND		10	2.0	ug/L		04/11/18 13:42	04/13/18 15:24	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		04/11/18 13:42	04/13/18 15:24	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		04/11/18 13:42	04/13/18 15:24	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		04/11/18 13:42	04/13/18 15:24	1
Bis(2-ethylhexyl) phthalate	ND		10	2.3	ug/L		04/11/18 13:42	04/13/18 15:24	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		04/11/18 13:42	04/13/18 15:24	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		04/11/18 13:42	04/13/18 15:24	1
4-Chloroaniline	ND		10	3.4	ug/L		04/11/18 13:42	04/13/18 15:24	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		04/11/18 13:42	04/13/18 15:24	1
2-Chloronaphthalene	ND		10	0.52	ug/L		04/11/18 13:42	04/13/18 15:24	1
2-Chlorophenol	ND		10	2.2	ug/L		04/11/18 13:42	04/13/18 15:24	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		04/11/18 13:42	04/13/18 15:24	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		04/11/18 13:42	04/13/18 15:24	1
Dibenzofuran	ND		10	0.52	ug/L		04/11/18 13:42	04/13/18 15:24	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		04/11/18 13:42	04/13/18 15:24	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		04/11/18 13:42	04/13/18 15:24	1
Diethyl phthalate	ND		10	0.70	ug/L		04/11/18 13:42	04/13/18 15:24	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		04/11/18 13:42	04/13/18 15:24	1
Dimethyl phthalate	ND		10	0.60	ug/L		04/11/18 13:42	04/13/18 15:24	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		04/11/18 13:42	04/13/18 15:24	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		04/11/18 13:42	04/13/18 15:24	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/11/18 13:42	04/13/18 15:24	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		04/11/18 13:42	04/13/18 15:24	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		04/11/18 13:42	04/13/18 15:24	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		04/11/18 13:42	04/13/18 15:24	1

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-393560/1-A
Matrix: Water
Analysis Batch: 393852

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 393560

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		10	1.0	ug/L		04/11/18 13:42	04/13/18 15:24	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		04/11/18 13:42	04/13/18 15:24	1
Hexachlorobenzene	ND		10	0.25	ug/L		04/11/18 13:42	04/13/18 15:24	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/11/18 13:42	04/13/18 15:24	1
Hexachloroethane	ND		10	4.2	ug/L		04/11/18 13:42	04/13/18 15:24	1
Indene	ND		10	1.0	ug/L		04/11/18 13:42	04/13/18 15:24	1
Isophorone	ND		10	0.57	ug/L		04/11/18 13:42	04/13/18 15:24	1
2-Methylphenol	ND		10	1.8	ug/L		04/11/18 13:42	04/13/18 15:24	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/11/18 13:42	04/13/18 15:24	1
2-Nitroaniline	ND		10	2.2	ug/L		04/11/18 13:42	04/13/18 15:24	1
3-Nitroaniline	ND		10	1.8	ug/L		04/11/18 13:42	04/13/18 15:24	1
4-Nitroaniline	ND		10	2.5	ug/L		04/11/18 13:42	04/13/18 15:24	1
Nitrobenzene	ND		10	0.55	ug/L		04/11/18 13:42	04/13/18 15:24	1
2-Nitrophenol	ND		10	0.65	ug/L		04/11/18 13:42	04/13/18 15:24	1
4-Nitrophenol	ND		10	2.1	ug/L		04/11/18 13:42	04/13/18 15:24	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		04/11/18 13:42	04/13/18 15:24	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		04/11/18 13:42	04/13/18 15:24	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		04/11/18 13:42	04/13/18 15:24	1
Pentachlorophenol	ND		20	1.8	ug/L		04/11/18 13:42	04/13/18 15:24	1
Phenol	ND		10	2.6	ug/L		04/11/18 13:42	04/13/18 15:24	1
Pyridine	ND		10	3.2	ug/L		04/11/18 13:42	04/13/18 15:24	1
Quinoline	ND		10	6.0	ug/L		04/11/18 13:42	04/13/18 15:24	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		04/11/18 13:42	04/13/18 15:24	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/11/18 13:42	04/13/18 15:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	45		34 - 120	04/11/18 13:42	04/13/18 15:24	1
2-Fluorophenol	39		10 - 120	04/11/18 13:42	04/13/18 15:24	1
Nitrobenzene-d5	43		27 - 120	04/11/18 13:42	04/13/18 15:24	1
Phenol-d5	42		10 - 120	04/11/18 13:42	04/13/18 15:24	1
Terphenyl-d14	52 X		53 - 125	04/11/18 13:42	04/13/18 15:24	1
2,4,6-Tribromophenol	43		15 - 135	04/11/18 13:42	04/13/18 15:24	1

Lab Sample ID: LCS 400-393560/2-A
Matrix: Water
Analysis Batch: 394058

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 393560

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	17.2		ug/L		57	29 - 120
Benzoic acid	120	68.2		ug/L		57	10 - 150
Benzyl alcohol	30.0	22.7		ug/L		76	19 - 125
Bis(2-chloroethoxy)methane	30.0	20.6		ug/L		69	45 - 120
Bis(2-chloroethyl)ether	30.0	18.8		ug/L		63	48 - 120
bis (2-chloroisopropyl) ether	30.0	18.6		ug/L		62	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	23.4		ug/L		78	48 - 150
4-Bromophenyl phenyl ether	30.0	23.2		ug/L		77	55 - 122
Butyl benzyl phthalate	30.0	22.7		ug/L		76	46 - 145

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-393560/2-A
Matrix: Water
Analysis Batch: 394058

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 393560

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Chloroaniline	30.0	18.8		ug/L		63	30 - 120
4-Chloro-3-methylphenol	30.0	22.8		ug/L		76	39 - 140
2-Chloronaphthalene	30.0	20.9		ug/L		70	52 - 120
2-Chlorophenol	30.0	22.0		ug/L		73	34 - 120
4-Chlorophenyl phenyl ether	30.0	24.4		ug/L		81	58 - 124
Dibenz[a,h]acridine	30.0	27.1		ug/L		90	46 - 149
Dibenzofuran	30.0	23.7		ug/L		79	58 - 123
3,3'-Dichlorobenzidine	40.0	33.2		ug/L		83	39 - 135
2,4-Dichlorophenol	30.0	22.6		ug/L		75	39 - 128
Diethyl phthalate	30.0	24.9		ug/L		83	44 - 146
2,4-Dimethylphenol	30.0	23.8		ug/L		79	44 - 120
Dimethyl phthalate	30.0	27.8		ug/L		93	50 - 131
Di-n-butyl phthalate	30.0	25.3		ug/L		84	55 - 131
4,6-Dinitro-ortho-cresol	60.0	49.0		ug/L		82	10 - 150
2,4-Dinitrophenol	60.0	50.1		ug/L		84	10 - 150
2,4-Dinitrotoluene	30.0	26.4		ug/L		88	58 - 140
2,6-Dinitrotoluene	30.0	24.7		ug/L		82	57 - 130
Di-n-octyl phthalate	30.0	23.7		ug/L		79	50 - 150
1,4-Dioxane	30.0	14.9		ug/L		50	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	20.1		ug/L		67	47 - 123
Hexachlorobenzene	30.0	26.3		ug/L		88	52 - 131
Hexachlorocyclopentadiene	30.0	12.6	J	ug/L		42	10 - 129
Hexachloroethane	30.0	14.6		ug/L		49	41 - 120
Indene	30.0	22.8		ug/L		76	47 - 120
Isophorone	30.0	19.9		ug/L		66	49 - 120
2-Methylphenol	30.0	20.5		ug/L		68	39 - 123
3 & 4 Methylphenol	30.0	19.9	J	ug/L		66	38 - 121
2-Nitroaniline	30.0	21.6		ug/L		72	47 - 150
3-Nitroaniline	30.0	18.9		ug/L		63	34 - 132
4-Nitroaniline	30.0	24.0		ug/L		80	41 - 135
Nitrobenzene	30.0	19.6		ug/L		65	47 - 120
2-Nitrophenol	30.0	22.5		ug/L		75	28 - 136
4-Nitrophenol	60.0	50.3		ug/L		84	10 - 150
N-Nitrosodimethylamine	30.0	18.9		ug/L		63	22 - 148
N-Nitrosodi-n-propylamine	30.0	21.6		ug/L		72	44 - 120
N-Nitrosodiphenylamine	29.8	23.1		ug/L		78	56 - 120
Pentachlorophenol	60.0	53.4		ug/L		89	15 - 141
Phenol	30.0	19.6		ug/L		65	33 - 120
Pyridine	60.0	22.6		ug/L		38	26 - 120
Quinoline	30.0	24.3		ug/L		81	51 - 129
2,4,5-Trichlorophenol	30.0	24.8		ug/L		83	38 - 147
2,4,6-Trichlorophenol	30.0	24.9		ug/L		83	36 - 139

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	75		34 - 120
2-Fluorophenol	68		10 - 120
Nitrobenzene-d5	70		27 - 120

TestAmerica Pensacola



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-393560/2-A
Matrix: Water
Analysis Batch: 394058

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 393560

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Phenol-d5	69		10 - 120
Terphenyl-d14	87		53 - 125
2,4,6-Tribromophenol	92		15 - 135

Lab Sample ID: LCS 400-393560/3-A
Matrix: Water
Analysis Batch: 394058

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 393560

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Benzenethiol	30.0	ND	*	ug/L		3	10 - 120

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	88		34 - 120
2-Fluorophenol	79		10 - 120
Nitrobenzene-d5	78		27 - 120
Phenol-d5	78		10 - 120
Terphenyl-d14	102		53 - 125
2,4,6-Tribromophenol	94		15 - 135

Lab Sample ID: LCSD 400-393560/4-A
Matrix: Water
Analysis Batch: 394058

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 393560

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec. Limits	RPD	
		Result	Qualifier					RPD	Limit
Benzenethiol	30.0	ND	*	ug/L		3	10 - 120	10	30

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	78		34 - 120
2-Fluorophenol	69		10 - 120
Nitrobenzene-d5	69		27 - 120
Phenol-d5	73		10 - 120
Terphenyl-d14	96		53 - 125
2,4,6-Tribromophenol	83		15 - 135

Lab Sample ID: 400-151882-6 MS
Matrix: Water
Analysis Batch: 393852

Client Sample ID: MW6A-ROX-040518
Prep Type: Total/NA
Prep Batch: 393560

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
				Result	Qualifier				
Aniline	ND		29.6	10.8		ug/L		36	10 - 143
Benzoic acid	ND		119	62.3		ug/L		53	10 - 134
Benzyl alcohol	ND		29.6	13.8		ug/L		47	10 - 154
Bis(2-chloroethoxy)methane	ND		29.6	15.4		ug/L		52	14 - 147
Bis(2-chloroethyl)ether	ND		29.6	15.8		ug/L		53	28 - 130
bis (2-chloroisopropyl) ether	ND		29.6	13.3		ug/L		45	10 - 141
Bis(2-ethylhexyl) phthalate	ND		29.6	14.7		ug/L		50	43 - 160
4-Bromophenyl phenyl ether	ND		29.6	16.9		ug/L		57	26 - 159

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
 SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-151882-6 MS
 Matrix: Water
 Analysis Batch: 393852

Client Sample ID: MW6A-ROX-040518
 Prep Type: Total/NA
 Prep Batch: 393560

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
				Result	Qualifier				
Butyl benzyl phthalate	ND		29.6	15.1		ug/L		51	43 - 151
4-Chloroaniline	ND		29.6	7.37	J	ug/L		25	10 - 152
4-Chloro-3-methylphenol	ND		29.6	16.7		ug/L		56	17 - 156
2-Chloronaphthalene	ND		29.6	13.6		ug/L		46	10 - 155
2-Chlorophenol	ND		29.6	15.8		ug/L		54	19 - 130
4-Chlorophenyl phenyl ether	ND		29.6	17.3		ug/L		59	25 - 161
Dibenz[a,h]acridine	ND	F1	29.6	12.0	F1	ug/L		41	42 - 147
Dibenzofuran	ND		29.6	15.8		ug/L		53	18 - 157
3,3'-Dichlorobenzidine	ND	F1	39.4	ND	F1	ug/L		0	10 - 172
2,4-Dichlorophenol	ND		29.6	15.9		ug/L		54	16 - 147
Diethyl phthalate	ND		29.6	16.4		ug/L		55	23 - 160
2,4-Dimethylphenol	ND		29.6	16.7		ug/L		56	25 - 146
Dimethyl phthalate	ND		29.6	17.3		ug/L		58	11 - 158
Di-n-butyl phthalate	ND		29.6	17.6		ug/L		59	28 - 162
4,6-Dinitro-ortho-cresol	ND		59.1	33.9		ug/L		57	10 - 168
2,4-Dinitrophenol	ND		59.1	33.8		ug/L		57	10 - 166
2,4-Dinitrotoluene	ND		29.6	16.5		ug/L		56	26 - 158
2,6-Dinitrotoluene	ND		29.6	16.5		ug/L		56	19 - 157
Di-n-octyl phthalate	ND		29.6	14.7		ug/L		50	42 - 150
1,4-Dioxane	ND		29.6	9.38	J	ug/L		32	10 - 130
1,2-Diphenylhydrazine (as Azobenzene)	ND		29.6	14.5		ug/L		49	19 - 162
Hexachlorobenzene	ND		29.6	16.2		ug/L		55	45 - 145
Hexachlorocyclopentadiene	ND		29.6	10.9	J	ug/L		37	10 - 151
Hexachloroethane	ND		29.6	13.3		ug/L		45	29 - 130
Indene	ND		29.6	15.1		ug/L		51	22 - 130
Isophorone	ND		29.6	14.1		ug/L		48	24 - 144
2-Methylphenol	ND		29.6	16.4		ug/L		56	22 - 130
3 & 4 Methylphenol	ND		29.6	15.5	J	ug/L		52	31 - 130
2-Nitroaniline	ND		29.6	8.55	J	ug/L		29	10 - 162
3-Nitroaniline	ND		29.6	8.01	J	ug/L		27	10 - 163
4-Nitroaniline	ND	F2	29.6	6.07	J	ug/L		21	10 - 162
Nitrobenzene	ND		29.6	19.5		ug/L		66	34 - 135
2-Nitrophenol	ND		29.6	16.0		ug/L		54	27 - 134
4-Nitrophenol	ND		59.1	41.7		ug/L		71	10 - 175
N-Nitrosodimethylamine	ND		29.6	13.6		ug/L		46	10 - 139
N-Nitrosodi-n-propylamine	ND		29.6	15.1		ug/L		51	13 - 147
N-Nitrosodiphenylamine	ND		29.3	16.2		ug/L		55	31 - 150
Pentachlorophenol	ND		59.1	41.5		ug/L		70	10 - 180
Phenol	ND		29.6	15.9		ug/L		54	23 - 130
Pyridine	ND		59.1	20.6		ug/L		35	10 - 130
Quinoline	ND	F2	29.6	8.09	J	ug/L		27	10 - 180
2,4,5-Trichlorophenol	ND		29.6	17.4		ug/L		59	43 - 137
2,4,6-Trichlorophenol	ND		29.6	16.7		ug/L		57	42 - 135

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	49		34 - 120
2-Fluorophenol	41		10 - 120



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-151882-6 MS
Matrix: Water
Analysis Batch: 393852

Client Sample ID: MW6A-ROX-040518
Prep Type: Total/NA
Prep Batch: 393560

Surrogate	MS %Recovery	MS Qualifier	Limits
Nitrobenzene-d5	44		27 - 120
Phenol-d5	46		10 - 120
Terphenyl-d14	48 X		53 - 125
2,4,6-Tribromophenol	62		15 - 135

Lab Sample ID: 400-151882-6 MSD
Matrix: Water
Analysis Batch: 393852

Client Sample ID: MW6A-ROX-040518
Prep Type: Total/NA
Prep Batch: 393560

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec.		RPD	
									Limits	RPD	RPD	Limit
Aniline	ND		29.4	10.0		ug/L		34	10 - 143	7	63	
Benzoic acid	ND		118	67.0		ug/L		57	10 - 134	7	49	
Benzyl alcohol	ND		29.4	16.5		ug/L		56	10 - 154	17	37	
Bis(2-chloroethoxy)methane	ND		29.4	16.2		ug/L		55	14 - 147	5	70	
Bis(2-chloroethyl)ether	ND		29.4	17.9		ug/L		61	28 - 130	12	42	
bis (2-chloroisopropyl) ether	ND		29.4	14.2		ug/L		48	10 - 141	6	41	
Bis(2-ethylhexyl) phthalate	ND		29.4	13.9		ug/L		47	43 - 160	6	35	
4-Bromophenyl phenyl ether	ND		29.4	17.6		ug/L		60	26 - 159	4	30	
Butyl benzyl phthalate	ND		29.4	15.6		ug/L		53	43 - 151	3	32	
4-Chloroaniline	ND		29.4	7.47 J		ug/L		25	10 - 152	1	94	
4-Chloro-3-methylphenol	ND		29.4	17.4		ug/L		59	17 - 156	4	40	
2-Chloronaphthalene	ND		29.4	14.3		ug/L		49	10 - 155	5	29	
2-Chlorophenol	ND		29.4	17.2		ug/L		58	19 - 130	8	42	
4-Chlorophenyl phenyl ether	ND		29.4	18.1		ug/L		62	25 - 161	4	27	
Dibenz[a,h]acridine	ND	F1	29.4	12.5		ug/L		42	42 - 147	4	40	
Dibenzofuran	ND		29.4	16.8		ug/L		57	18 - 157	6	29	
3,3'-Dichlorobenzidine	ND	F1	39.2	ND	F1	ug/L		0	10 - 172	NC	58	
2,4-Dichlorophenol	ND		29.4	16.8		ug/L		57	16 - 147	5	43	
Diethyl phthalate	ND		29.4	17.1		ug/L		58	23 - 160	4	40	
2,4-Dimethylphenol	ND		29.4	17.5		ug/L		59	25 - 146	5	47	
Dimethyl phthalate	ND		29.4	17.9		ug/L		61	11 - 158	3	36	
Di-n-butyl phthalate	ND		29.4	17.8		ug/L		61	28 - 162	1	32	
4,6-Dinitro-ortho-cresol	ND		58.8	35.2		ug/L		60	10 - 168	4	42	
2,4-Dinitrophenol	ND		58.8	35.6		ug/L		61	10 - 166	5	36	
2,4-Dinitrotoluene	ND		29.4	17.3		ug/L		59	26 - 158	5	28	
2,6-Dinitrotoluene	ND		29.4	17.3		ug/L		59	19 - 157	4	28	
Di-n-octyl phthalate	ND		29.4	13.8		ug/L		47	42 - 150	6	35	
1,4-Dioxane	ND		29.4	10.1		ug/L		34	10 - 130	7	40	
1,2-Diphenylhydrazine (as Azobenzene)	ND		29.4	15.0		ug/L		51	19 - 162	3	40	
Hexachlorobenzene	ND		29.4	16.4		ug/L		56	45 - 145	1	33	
Hexachlorocyclopentadiene	ND		29.4	11.7 J		ug/L		40	10 - 151	7	50	
Hexachloroethane	ND		29.4	14.0		ug/L		48	29 - 130	5	41	
Indene	ND		29.4	16.3		ug/L		55	22 - 130	8	40	
Isophorone	ND		29.4	14.7		ug/L		50	24 - 144	4	33	
2-Methylphenol	ND		29.4	16.3		ug/L		56	22 - 130	1	47	
3 & 4 Methylphenol	ND		29.4	16.2 J		ug/L		55	31 - 130	5	47	
2-Nitroaniline	ND		29.4	10.0		ug/L		34	10 - 162	16	33	

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-151882-6 MSD
Matrix: Water
Analysis Batch: 393852

Client Sample ID: MW6A-ROX-040518
Prep Type: Total/NA
Prep Batch: 393560

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec. Limits	RPD	
				Result	Qualifier					RPD	Limit
3-Nitroaniline	ND		29.4	8.84	J	ug/L		30	10 - 163	10	39
4-Nitroaniline	ND	F2	29.4	10.4	F2	ug/L		35	10 - 162	53	50
Nitrobenzene	ND		29.4	18.9		ug/L		64	34 - 135	3	35
2-Nitrophenol	ND		29.4	16.7		ug/L		57	27 - 134	4	43
4-Nitrophenol	ND		58.8	42.7		ug/L		73	10 - 175	2	82
N-Nitrosodimethylamine	ND		29.4	14.4		ug/L		49	10 - 139	5	62
N-Nitrosodi-n-propylamine	ND		29.4	16.2		ug/L		55	13 - 147	7	36
N-Nitrosodiphenylamine	ND		29.2	16.8		ug/L		58	31 - 150	4	34
Pentachlorophenol	ND		58.8	42.0		ug/L		71	10 - 180	1	42
Phenol	ND		29.4	16.7		ug/L		57	23 - 130	5	52
Pyridine	ND		58.8	20.1		ug/L		34	10 - 130	3	55
Quinoline	ND	F2	29.4	17.2	F2	ug/L		58	10 - 180	72	40
2,4,5-Trichlorophenol	ND		29.4	17.9		ug/L		61	43 - 137	3	42
2,4,6-Trichlorophenol	ND		29.4	17.7		ug/L		60	42 - 135	6	44

Surrogate	MSD		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	52		34 - 120
2-Fluorophenol	45		10 - 120
Nitrobenzene-d5	47		27 - 120
Phenol-d5	49		10 - 120
Terphenyl-d14	47	X	53 - 125
2,4,6-Tribromophenol	66		15 - 135

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-393560/1-A
Matrix: Water
Analysis Batch: 393837

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 393560

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acenaphthene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 14:09	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 14:09	1
Anthracene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 14:09	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 14:09	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 14:09	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 14:09	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 14:09	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 14:09	1
Chrysene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 14:09	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 14:09	1
Fluoranthene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 14:09	1
Fluorene	ND		0.20	0.021	ug/L		04/11/18 13:42	04/13/18 14:09	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/11/18 13:42	04/13/18 14:09	1
Phenanthrene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 14:09	1
Pyrene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 14:09	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 14:09	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/11/18 13:42	04/13/18 14:09	1

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-393560/1-A
Matrix: Water
Analysis Batch: 393837

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 393560

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Terphenyl-d14	93		33 - 138	04/11/18 13:42	04/13/18 14:09	1
2-Fluorobiphenyl	84		15 - 122	04/11/18 13:42	04/13/18 14:09	1
Nitrobenzene-d5	76		19 - 130	04/11/18 13:42	04/13/18 14:09	1

Lab Sample ID: LCS 400-393560/2-A
Matrix: Water
Analysis Batch: 393837

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 393560

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.	
							Limits	
Acenaphthene	30.0	25.1		ug/L		84	41 - 120	
Acenaphthylene	30.0	23.5		ug/L		78	44 - 120	
Anthracene	30.0	26.0		ug/L		87	49 - 120	
Benzo[a]anthracene	30.0	24.8		ug/L		83	61 - 135	
Benzo[a]pyrene	30.0	25.0		ug/L		83	52 - 120	
Benzo[b]fluoranthene	30.0	26.8		ug/L		89	53 - 134	
Benzo[g,h,i]perylene	30.0	24.8		ug/L		83	47 - 133	
Benzo[k]fluoranthene	30.0	24.0		ug/L		80	57 - 134	
Chrysene	30.0	24.9		ug/L		83	55 - 122	
Dibenz(a,h)anthracene	30.0	23.5		ug/L		78	48 - 146	
Fluoranthene	30.0	27.1		ug/L		90	54 - 128	
Fluorene	30.0	27.9		ug/L		93	45 - 125	
Indeno[1,2,3-cd]pyrene	30.0	26.2		ug/L		87	43 - 142	
Phenanthrene	30.0	27.2		ug/L		91	48 - 120	
Pyrene	30.0	22.5		ug/L		75	48 - 132	
1-Methylnaphthalene	30.0	23.6		ug/L		79	41 - 120	
2-Methylnaphthalene	30.0	21.5		ug/L		72	32 - 124	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Terphenyl-d14	80		33 - 138
2-Fluorobiphenyl	82		15 - 122
Nitrobenzene-d5	64		19 - 130

Lab Sample ID: 400-151882-6 MS
Matrix: Water
Analysis Batch: 393837

Client Sample ID: MW6A-ROX-040518
Prep Type: Total/NA
Prep Batch: 393560

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec.	
				Result	Qualifier				Limits	
Acenaphthene	ND		29.6	25.9		ug/L		88	35 - 113	
Acenaphthylene	ND		29.6	24.0		ug/L		81	41 - 118	
Anthracene	ND		29.6	24.9		ug/L		84	45 - 122	
Benzo[a]anthracene	ND		29.6	22.4		ug/L		76	55 - 133	
Benzo[a]pyrene	ND		29.6	20.9		ug/L		71	50 - 108	
Benzo[b]fluoranthene	ND		29.6	23.6		ug/L		80	50 - 128	
Benzo[g,h,i]perylene	ND		29.6	22.3		ug/L		75	46 - 133	
Benzo[k]fluoranthene	ND		29.6	21.2		ug/L		72	52 - 128	
Chrysene	ND		29.6	22.6		ug/L		76	52 - 116	
Dibenz(a,h)anthracene	ND		29.6	20.7		ug/L		70	52 - 143	
Fluoranthene	ND		29.6	26.3		ug/L		89	32 - 150	

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: 400-151882-6 MS
Matrix: Water
Analysis Batch: 393837

Client Sample ID: MW6A-ROX-040518
Prep Type: Total/NA
Prep Batch: 393560

Analyte	Sample	Sample	Spike	MS		Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier		Result	Qualifier					
Fluorene	ND		29.6	28.0		ug/L		95	15 - 150	
Indeno[1,2,3-cd]pyrene	ND		29.6	23.5		ug/L		79	41 - 141	
Phenanthrene	ND		29.6	27.0		ug/L		91	36 - 125	
Pyrene	0.052	J	29.6	21.5		ug/L		73	41 - 127	
1-Methylnaphthalene	ND		29.6	26.2		ug/L		89	10 - 150	
2-Methylnaphthalene	ND		29.6	24.1		ug/L		82	10 - 150	
MS MS										
Surrogate	%Recovery		Qualifier	Limits						
Terphenyl-d14	63			33 - 138						
2-Fluorobiphenyl	80			15 - 122						
Nitrobenzene-d5	64			19 - 130						

Lab Sample ID: 400-151882-6 MSD
Matrix: Water
Analysis Batch: 393837

Client Sample ID: MW6A-ROX-040518
Prep Type: Total/NA
Prep Batch: 393560

Analyte	Sample	Sample	Spike	MSD		Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier		Result	Qualifier						
Acenaphthene	ND		29.4	28.0		ug/L		95	35 - 113	8	49
Acenaphthylene	ND		29.4	26.0		ug/L		88	41 - 118	8	48
Anthracene	ND		29.4	27.1		ug/L		92	45 - 122	9	56
Benzo[a]anthracene	ND		29.4	22.7		ug/L		77	55 - 133	1	57
Benzo[a]pyrene	ND		29.4	20.4		ug/L		69	50 - 108	2	59
Benzo[b]fluoranthene	ND		29.4	22.2		ug/L		75	50 - 128	6	62
Benzo[g,h,i]perylene	ND		29.4	20.3		ug/L		69	46 - 133	9	58
Benzo[k]fluoranthene	ND		29.4	21.0		ug/L		71	52 - 128	1	58
Chrysene	ND		29.4	22.5		ug/L		77	52 - 116	0	59
Dibenz(a,h)anthracene	ND		29.4	19.0		ug/L		65	52 - 143	8	60
Fluoranthene	ND		29.4	28.3		ug/L		96	32 - 150	7	59
Fluorene	ND		29.4	30.2		ug/L		103	15 - 150	8	49
Indeno[1,2,3-cd]pyrene	ND		29.4	21.4		ug/L		73	41 - 141	9	58
Phenanthrene	ND		29.4	29.1		ug/L		99	36 - 125	8	69
Pyrene	0.052	J	29.4	23.1		ug/L		78	41 - 127	7	58
1-Methylnaphthalene	ND		29.4	27.7		ug/L		94	10 - 150	6	66
2-Methylnaphthalene	ND		29.4	26.0		ug/L		89	10 - 150	8	66
MSD MSD											
Surrogate	%Recovery		Qualifier	Limits							
Terphenyl-d14	61			33 - 138							
2-Fluorobiphenyl	89			15 - 122							
Nitrobenzene-d5	72			19 - 130							

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Method: 8011 - EDB and DBCP in Water by Microextraction

Lab Sample ID: MB 400-393622/1-A
Matrix: Water
Analysis Batch: 393757

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 393622

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.030	0.0055	ug/L		04/12/18 09:06	04/12/18 17:41	1
1,2-Dibromoethane	ND		0.020	0.0050	ug/L		04/12/18 09:06	04/12/18 17:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	96		51 - 149	04/12/18 09:06	04/12/18 17:41	1

Lab Sample ID: LCS 400-393622/2-A
Matrix: Water
Analysis Batch: 393757

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 393622

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromo-3-Chloropropane	0.100	0.0983		ug/L		98	60 - 140
1,2-Dibromoethane	0.100	0.101		ug/L		101	60 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	103		51 - 149

Lab Sample ID: LCSD 400-393622/3-A
Matrix: Water
Analysis Batch: 393757

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 393622

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
1,2-Dibromo-3-Chloropropane	0.100	0.0992		ug/L		99	60 - 140	1	30
1,2-Dibromoethane	0.100	0.103		ug/L		103	60 - 140	1	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	105		51 - 149

Lab Sample ID: 400-151882-6 MS
Matrix: Water
Analysis Batch: 393757

Client Sample ID: MW6A-ROX-040518
Prep Type: Total/NA
Prep Batch: 393622

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromo-3-Chloropropane	ND		0.0992	0.104		ug/L		105	65 - 135
1,2-Dibromoethane	ND		0.0992	0.109		ug/L		110	65 - 135

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene	107		51 - 149

Lab Sample ID: 400-151882-6 MSD
Matrix: Water
Analysis Batch: 393757

Client Sample ID: MW6A-ROX-040518
Prep Type: Total/NA
Prep Batch: 393622

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
1,2-Dibromo-3-Chloropropane	ND		0.0962	0.104		ug/L		108	65 - 135	0	20
1,2-Dibromoethane	ND		0.0962	0.102		ug/L		106	65 - 135	7	20

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
SDG: (2Q18)

Method: 8011 - EDB and DBCP in Water by Microextraction (Continued)

Lab Sample ID: 400-151882-6 MSD
Matrix: Water
Analysis Batch: 393757

Client Sample ID: MW6A-ROX-040518
Prep Type: Total/NA
Prep Batch: 393622

Surrogate	MSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	109		51 - 149

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Shell Oil Products US Chain Of Custody Record



LAB (LOCATION)

LAB (LOCATION)
 ACQUITT ()
 CHEMISTRY ()
 TESTAMERICA (TestAmerica Pensacola; 3355 McClamore Dr. Pensacola, FL 32514 (850-474-1001))
 Other (Lab Vendor # 1324897 (TestAmerica))

PLANT/COMPANY
AECOM

ADDRESS
1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST LOUIS, MO 63110

PROJECT CONTACT (Priority or PCF Report to)
Elizabeth Kurkel, Bob Bilman, Wendy Pennington
TELEPHONE 314-429-0100 FAX 314-429-0462
mailto:ekurkel@aecom.com, elizabeth.kurkel@aecom.com, bob.bilman@aecom.com, wendy.pennington@aecom.com, mbilman@seco.com

TURNAROUND TIME (CALENDAR DAYS)
 STANDARD (14 DAY) 15 DAYS 3 DAYS 2 DAYS 24 HOURS RESULTS NEEDED OR WEEKEND

LAB USE ONLY
 LA - SWOOL REPORT FORMAT
 LEVEL 2 LEVEL 4 OTHER (SPECIFY) EDO
DELIVERABLES: Cooler #1 Cooler #2 Cooler #3
TEMPERATURE ON RECEIPT C°

SPECIAL INSTRUCTIONS OR NOTES:
 SHELL CONTRACT RATE APPLIES
 STATE REIMBURSEMENT RATE APPLIES
 EDO NOT NEEDED
 RECEIPT VERIFICATION REQUESTED
 PROVIDE LEDD DISK

PRINT/BILL TO CONTACT NAME: Print/Bill To Contact Name: Bob Bilman 2527B
PLANT SITE OR PROJECT ID: GSAP Project ID.
PO #: USPC00114/R02
STATE: IL
SITE ADDRESS: Street and City 80527888 - 01 03 002 01 03 0022
900 South Central Ave; ROXANA
(SEE DELIVERABLE TO NAME, COMPANY, ORDER LOCATION)
SAMPLER NAME(S) (P/N): M. KARTICK, K. NIKHAROUS
LAB USE ONLY: AECOM Project / Task Number: 60527968 - 01.03.002
Roxana Quarterly GW
60527968 - 01.03.002

UNIT COST: 60527968 - 01.03.0022
NON-UNIT COST: 60527968 - 01.03.002

FIELD NOTES:
TEMPERATURE ON RECEIPT C°
Container PID Readings or Laboratory Notes

REQUESTED ANALYSIS:

LAB USE ONLY	FIELD SAMPLE IDENTIFICATION	SAMPLING DATE	TIME	MATRIX	PRESERVATIVE	NO. OF CONT.
	TB-ROX-040518-8011-A	4/5	0000	water	X	2
	TB RO	4/5	0000	water	X	2
	MNWB-ROX-040518-EB	4/5		water	X	0
	M ROX	4/5	1105	water	X	0
	MNWB-ROX-040518	4/5	1240	water	X	0
	MNWA-ROX-040518	4/5	1335	water	X	0
	MNWA-ROX-040518-MIS	4/5	1335	water	X	0
	MNWB-ROX-040518	4/5	1335	water	X	0
	MNWB-ROX-040518	4/5	1450	water	X	0
		4/5	1555	water	X	0

ANALYSIS RESULTS:
VOC 8260 X
VOC 8270 X
PAH 8270L X
VOC 8011 X
VOC 8260 X
VOC 8270 X
SVOC 8270 X
400-151882 COC

DATE: 4/5/18
TIME: 1745

RECEIVED BY (SIGNATURE): Elizabeth Kurkel
RECEIVED BY (SIGNATURE): Bob Bilman





LAB (LOCATION) _____

ACCOUNT (_____) _____

CALSCIENCE (_____) _____

TESTAMERICA (TestAmerica Pensacola, 3355 McLemore Dr. Pensacola, FL 32514 (850-474-1001))

Other (_____) _____

LAB VENDOR (_____) _____

QUARTER COMPANY: AECOM

ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110

PROJECT CONTRACT (Priority or PO# if used) _____

Elizabeth Kunkel, Bob Billman, Wendy Pennington

PHONE: 314-429-0100 FAX: 314-429-0462

TURNDOWN TIME (CALENDAR DAYS): STANDARD (14 DAY) 5 DAYS 3 DAYS 2 DAYS 24 HOURS RESULTS NEEDED OR RETURNED

LAB REPORT FORMAT: LEVEL 1 LEVEL 2 OTHER (SPECIFY) EDO

DELIVERABLES: COOLER #1 COOLER #2 COOLER #3

TEMPERATURE ON RECEIPT C° _____

SPECIAL INSTRUCTIONS OR NOTES:
 * Please include "J" values on Reports.
 * Please provide sample receipt upon login.

Print (Bill) To: Contact Name: Bob Billman 25278
 PO # GSAP Project ID
 60527968 - 01.03.002 / 01.03.0022 USPC00114/R002
 SITE ADDRESS: Street and City 900 South Central Ave., ROXANA ILL. IL
 PHONE NO. 60527968 - 01.03.002 / 01.03.0022
 AECOM Project Task Number: Roxana Quarterly GW
 AECOM Order ID

LAB USE ONLY: J. PETERS, B. HOWELL

REQUESTED ANALYSIS: UNIT COST 60527968 - 01.03.0022 NON-UNIT COST 60527968 - 01.03.0022

LAB USE ONLY	Field Sample Identification		SAMPLING		MATRIX		PRESERVATIVE			NO. OF CONT.
	DATE	TIME	MCL	H2O2	H2SO4	NONE	OTHER			
	4/5	2000	X							2
	4/5	2000	X							2
	4/5	1000	X							6
	4/5	1100	X							6
	4/5	1228	X							6
	4/5	1330	X							6
	4/5	1330	X							6
	4/5	1450	X							6
	4/5	1540	X							6

RECEIVED BY (Signature): [Signature]

DATE: 4/5/18

TIME: 1745

RECEIVED BY (Signature): [Signature]

DATE: 4-6-18

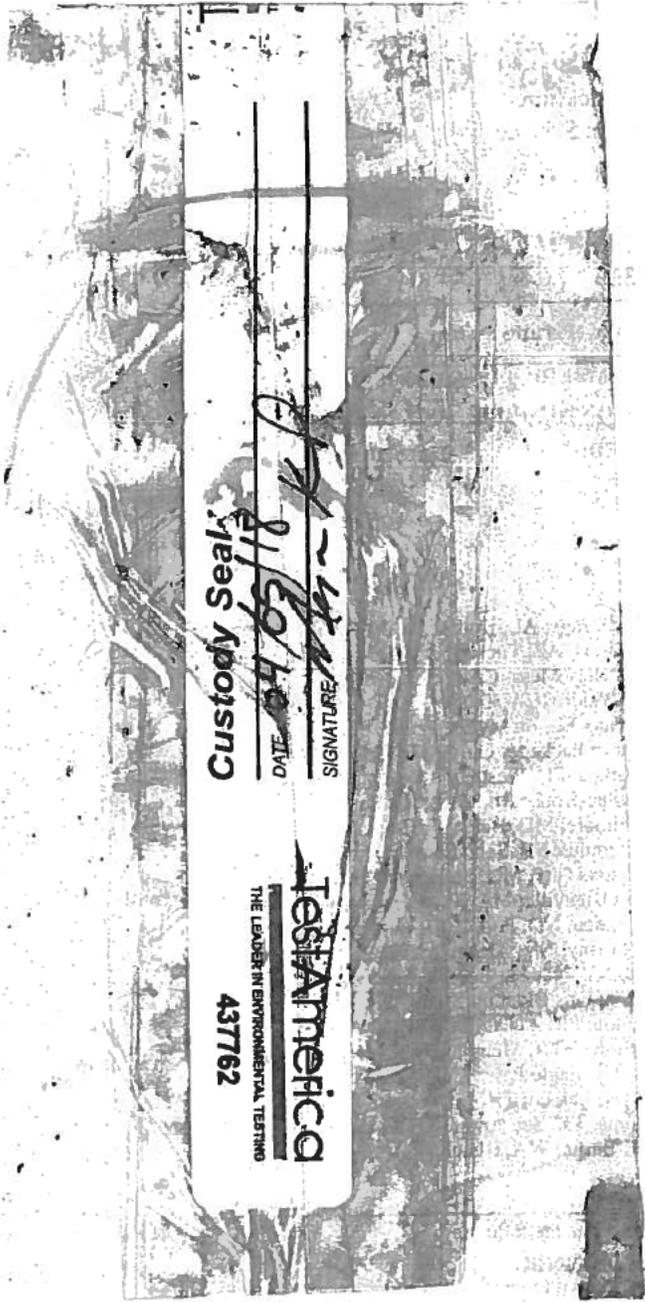
TIME: 929

RECEIVED BY (Signature): [Signature]

DATE: 1.706, 2.1706, 2.306, 1.006, 1.406

TIME: 12-7

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

437758

Custody Seal

DATE 04/03/18

SIGNATURE

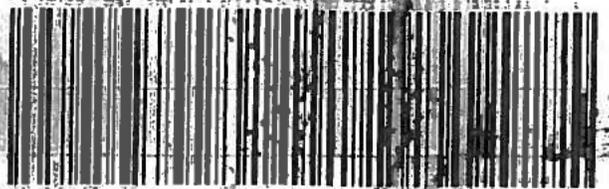
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica

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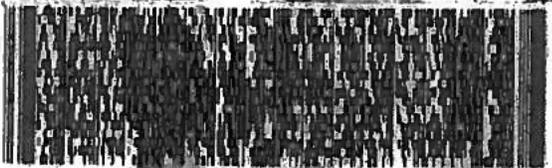
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EXP 01/79

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10 SHIPPING MANAGER
TEST AMERICA
3355 MIDEMORE
RETURNS
PENSACOLA FL 32514
(850) 474-1001

101
629

MS LINDSAY BATHOM
170 E. RAND AVE
HARTFORD, IL 62048
UNITED STATES US

SHIP DATE
ACT: 10
PH: 03580

RT 574
Z

SATURDAY DELIVERY
(Time & Temperature Sensitive Package)
Package Must Move Next Business Day (Saturday Not Necessary)
This Label Good for Every Day

Part # 159469-034 RT2 EXP 01/18

06/01/18
06/01/18

Seal
437757
TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

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FedEx

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Handwritten: 7013 8368 8781

Customize Seal

DATE 05 APR 2018

SIGNATURE

TestAmerica
437161



PENSACOLA FL 32514

RETURNS

3355 MCLEMORE

TEST AMERICA

SHIPPING MANAGER

HARTFORD, IL 62048

170 E. RAND AVE.

MS. LINDSAY RATHGOM

ORIGIN ID:PHSA (815) 281-4528

SHIP DATE: 06APR17
ACTING: 10.00 LB MEN
CAD: 0335906/CRF3011

SATURDAY DELIVERY
(Time & Temperature Sensitive Package)
Package Must Move Next Day
(Saturday if Necessary)
Part # 159460-0344 PLS EXP 0118
This Label Good for Every Day of the Week!

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XH PNSA

FRI - 06 APR 10:30A
PRIORITY OVERNIGHT

THX 0221
FedEx
7013 8368 8807



Handwritten: 704 JKL

TO SHIPPING MANAGER
TEST AMERICA
3355 MCLEMORE
RETURNS
PENSACOLA FL 32514
(904) - 3001

ORIGIN ID: PNSA (615) 261-4526
MS. LINDSAY RATHBON
170 E. RAND AVE.
HARTFORD, IL 62048
UNITED STATES US

This Label Good for Every Day of the Week!

SATURDAY DELIVERY
(If me & Temperature Sensitive Package)
Package Must Move Next Day
(Saturday if Necessary)
Part # 150468-434 RT2 EXP 6/1/11

1st Day Seal
ATUJGE
04/06/11
Handwritten: WJL

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
437765



Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-151882-1

SDG Number: (2Q18)

Login Number: 151882

List Source: TestAmerica Pensacola

List Number: 1

Creator: Johnson, Jeremy N

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.0°C IR7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151882-1
 SDG: (2Q18)

Laboratory: TestAmerica Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-18
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State Program	9	AZ0710	01-12-19
Arkansas DEQ	State Program	6	88-0689	09-01-18
California	ELAP	9	2510	03-31-18 *
Florida	NELAP	4	E81010	06-30-18
Georgia	State Program	4	N/A	06-30-18
Illinois	NELAP	5	200041	10-09-18
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-18
Kentucky (UST)	State Program	4	53	06-30-18
Kentucky (WW)	State Program	4	98030	12-31-18
Louisiana	NELAP	6	30976	06-30-18
Louisiana (DW)	NELAP	6	LA170005	12-31-18
Maryland	State Program	3	233	09-30-18
Massachusetts	State Program	1	M-FL094	06-30-18
Michigan	State Program	5	9912	06-30-18
New Jersey	NELAP	2	FL006	06-30-18
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-18
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
South Carolina	State Program	4	96026	06-30-18
Tennessee	State Program	4	TN02907	06-30-18
Texas	NELAP	6	T104704286-17-12	09-30-18
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-18
Washington	State Program	10	C915	05-15-18
West Virginia DEP	State Program	3	136	06-30-18

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



Roxana Groundwater Quarterly – 2nd Quarter 2018 Data Review

Laboratory SDG: 400-151906-1-Rev.1

Data Reviewer: Melissa Remiger

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 5/13/2018

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-ROX-040618-8011-A	TB-ROX-040618-8260-A
MW16-ROX-040618	MW24-ROX-040618
MW24-ROX-040618-Dup	P54-ROX-040618
MW11-ROX-040618	MW27-ROX-040618
TB-ROX-040618-8011-B	TB-ROX-040618-8260-B
P114R-ROX-040618-EB	P114R-ROX-040618
MW13-ROX-040618	MW9-ROX-040618
ROST3MW-ROX-040618	MW1-ROX-040618
MW28-ROX-040618	

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated that the SVOC LCS/LCSD recoveries for benzenethiol, and the VOC LCS/LCSD RPD for 1,2-dibromo-3-chloropropane were outside evaluation criteria. MS/MSD recoveries for 2-chloroethyl vinyl ether, and the MS/MSD RPD for quinoline were outside evaluation criteria in sample MW9-ROX-040618. The continuing calibration verifications for several analytes were outside evaluation criteria, biased low. These issues are addressed further in the appropriate sections of this data review. Additionally, the laboratory report was revised on May 13, 2016 to correct continuing calibration verification language in the laboratory case narrative.

Three of 69 (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) 8260 VOCs are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form indicated insufficient sample volume was received for MS/MSD analysis, however MS/MSD analysis was performed as requested (MW9-ROX-040618 MS/MSD); no qualification of data was required.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/ RPD Criteria
LCS/LCSD 400-393427/3-A/4-A	SVOCs	Benzenethiol	37/6	146	10-120/30
LCS/LCSD 400-393621/2-A/3-A	VOCs by 8011	1,2-Dibromo-3-chloropropane	110/109	36	60-140/30

Analytical data that required qualification based on LCS/LCSD data are included in the table below. Professional judgment was used to qualify, however not reject, data associated with benzenethiol in LCS/LCSD 400-393560/3-A/4-A; benzenethiol has been identified as a poor performing analyte under Method 8270. Analytical data associated with RPD alone outside evaluation criteria did not require qualification.

Sample ID	Parameter	Analyte	Qualification
MW24-ROX-040618	SVOCs	Benzenethiol	UJ
MW24-ROX-040618-Dup	SVOCs	Benzenethiol	UJ
P54-ROX-040618	SVOCs	Benzenethiol	UJ
MW11-ROX-040618	SVOCs	Benzenethiol	UJ
MW27-ROX-040618	SVOCs	Benzenethiol	UJ
P114R-ROX-040618	SVOCs	Benzenethiol	UJ
MW13-ROX-040618	SVOCs	Benzenethiol	UJ
MW9-ROX-040618	SVOCs	Benzenethiol	UJ
ROST3MW-ROX-040618	SVOCs	Benzenethiol	UJ
MW1-ROX-040618	SVOCs	Benzenethiol	UJ
MW28-ROX-040618	SVOCs	Benzenethiol	UJ

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

Yes, sample MW9-ROX-040618 was spiked and duplicated for Method 8260 VOCs, Method 8011 VOCs, and Method 8270 SVOCs/PAHs.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
MW9-ROX-040618	VOCs	2-Chloroethyl vinyl ether	0/0	NC	10-150/50
MW9-ROX-040618	SVOCs	Quinoline	35/72	70	10-180/40

Analytical data that required qualification based on MS/MSD data are included in the table below. Analytical data associated with RPD alone outside evaluation criteria did not require qualification.

Sample ID	Parameter	Analyte	Qualification
MW9-ROX-040618	VOCs	2-Chloroethyl vinyl ether	UJ

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
MW24-ROX-040618	MW24-ROX-040618-Dup

Were field duplicates within evaluation criteria?

Yes

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; samples analyzed did not require dilution.

12.0 Additional Qualifications

Were additional qualifications applied?

Yes, the continuing calibration verifications for several analytes were below acceptance criteria and are qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
MW16-ROX-040618	SVOCs	1,4-Dioxane	UJ
MW16-ROX-040618	SVOCs	Hexachlorocyclopentadiene	UJ
MW16-ROX-040618	SVOCs	N-Nitrosodimethylamine	UJ
MW16-ROX-040618	SVOCs	Pyridine	UJ
MW24-ROX-040618	PAHs	Dibenz(a,h)anthracene	UJ
MW24-ROX-040618	SVOCs	Aniline	UJ

Sample ID	Parameter	Analyte	Qualification
MW24-ROX-040618	SVOCs	N-Nitrosodimethylamine	UJ
MW24-ROX-040618-Dup	PAHs	Dibenz(a,h)anthracene	UJ
MW24-ROX-040618-Dup	SVOCs	Aniline	UJ
MW24-ROX-040618-Dup	SVOCs	N-Nitrosodimethylamine	UJ
P54-ROX-040618	PAHs	Dibenz(a,h)anthracene	UJ
P54-ROX-040618	SVOCs	Aniline	UJ
P54-ROX-040618	SVOCs	N-Nitrosodimethylamine	UJ
MW11-ROX-040618	PAHs	Dibenz(a,h)anthracene	UJ
MW11-ROX-040618	SVOCs	Aniline	UJ
MW11-ROX-040618	SVOCs	N-Nitrosodimethylamine	UJ
MW27-ROX-040618	PAHs	Dibenz(a,h)anthracene	UJ
MW27-ROX-040618	SVOCs	Aniline	UJ
MW27-ROX-040618	SVOCs	N-Nitrosodimethylamine	UJ
P114R-ROX-040618	PAHs	Dibenz(a,h)anthracene	UJ
P114R-ROX-040618	SVOCs	Aniline	UJ
P114R-ROX-040618	SVOCs	N-Nitrosodimethylamine	UJ
MW13-ROX-040618	PAHs	Dibenz(a,h)anthracene	UJ
MW13-ROX-040618	SVOCs	Aniline	UJ
MW13-ROX-040618	SVOCs	N-Nitrosodimethylamine	UJ
MW9-ROX-040618	PAHs	Dibenz(a,h)anthracene	UJ
MW9-ROX-040618	SVOCs	Aniline	UJ
MW9-ROX-040618	SVOCs	N-Nitrosodimethylamine	UJ
ROST3MW-ROX-040618	PAHs	Dibenz(a,h)anthracene	UJ
ROST3MW-ROX-040618	SVOCs	Aniline	UJ
ROST3MW-ROX-040618	SVOCs	N-Nitrosodimethylamine	UJ
MW1-ROX-040618	PAHs	Dibenz(a,h)anthracene	UJ
MW1-ROX-040618	SVOCs	Aniline	UJ
MW1-ROX-040618	SVOCs	N-Nitrosodimethylamine	UJ
MW28-ROX-040618	PAHs	Dibenz(a,h)anthracene	UJ
MW28-ROX-040618	SVOCs	Aniline	UJ
MW28-ROX-040618	SVOCs	N-Nitrosodimethylamine	UJ

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-151906-1

Client Project/Site: ROXANA QUARTERLY GW

Revision: 1

For:

AECOM Technical Services Inc.

100 N. Broadway

20th Floor

St. Louis, Missouri 63102

Attn: Mrs. Elizabeth Kunkel



Authorized for release by:

5/13/2018 7:37:20 PM

Cathy Upton, Project Manager I

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Reviewed 5/13/18
UR

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.





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Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Job ID: 400-151906-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-151906-1

Comments

The report was revised on 5/13/18 to update the wording in the job narrative.

Receipt

The samples were received on 4/7/2018 8:18 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 0.0° C, 0.4° C, 0.6° C, 2.7° C and 4.4° C.

GC/MS VOA

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-ROX-040618-8260-A (400-151906-2), MW16-ROX-040618 (400-151906-3), MW24-ROX-040618 (400-151906-4), MW24-ROX-040618-DUP (400-151906-5), P54-ROX-040618 (400-151906-6), MW11-ROX-040618 (400-151906-7), MW27-ROX-040618 (400-151906-8), TB-ROX-040618-8260-B (400-151906-10), P114R-ROX-040618-EB (400-151906-11), P114R-ROX-040618 (400-151906-12), MW13-ROX-040618 (400-151906-13), MW9-ROX-040618 (400-151906-14), ROST3MW-ROX-040618 (400-151906-15), MW1-ROX-040618 (400-151906-16) and MW28-ROX-040618 (400-151906-17). The requested target analyte list include 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-393553 were outside control limits for 2-Chloroethyl vinyl ether due to the acidic nature of the parent sample.

Method(s) 8260B: The RPD for the MS/MSD for 2-chloroethyl vinyl ether was not calculable for analytical batch 400-393553 because the recoveries were below the reporting limit due to the acidic nature of the parent sample.

Method(s) 8260B: The initial calibration verification (ICV) analyzed in batch 400-390144 was outside method criteria for the following analyte: Acrolein. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte is considered estimated.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

Method(s) 8270D: Surrogate Phenol-d5 and 2-Fluorophenol recoveries are outside control limits for the continuing calibration verification (CCVIS 400-393636/2). All associated sample and QC surrogates recovered within control limits; therefore, the data have been reported.

Method(s) 8270D: The laboratory control sample duplicate (LCSD) for preparation batch 400-393427 and analytical batch 400-393636 recovery and RPD were outside control limits for the following analyte(s): Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method(s) 8270D: The matrix spike / matrix spike duplicate (MS/MSD/) precision for preparation batch 400-393427 and analytical batch 400-393636 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample(LCS) precision was within acceptance limits.

Method(s) 8270D: The initial calibration verification (ICV) analyzed in batch 400-392940 was outside method criteria for the following analyte(s): 2,4-Dimethylphenol. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8270D: The initial calibration verification (ICV) analyzed in batch 400-389211 was outside method criteria for the following analyte(s): N-Nitrosodiphenylamine. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8270D: The initial calibration verification (ICV) analyzed in batch 400-392786 was outside method criteria for the following analyte(s): 2,4-Dimethylphenol. As indicated in the reference method, sample analysis may proceed; however, any detection for the

Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Job ID: 400-151906-1 (Continued)

Laboratory: TestAmerica Pensacola (Continued)

affected analyte(s) is considered estimated.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-393636 recovered above the upper control limit for Hexachlorocyclopentadiene and Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: MW24-ROX-040618 (400-151906-4), MW24-ROX-040618-DUP (400-151906-5), P54-ROX-040618 (400-151906-6), MW11-ROX-040618 (400-151906-7), MW27-ROX-040618 (400-151906-8), P114R-ROX-040618-EB (400-151906-11), P114R-ROX-040618 (400-151906-12), MW13-ROX-040618 (400-151906-13), MW9-ROX-040618 (400-151906-14), ROST3MW-ROX-040618 (400-151906-15), MW1-ROX-040618 (400-151906-16) and MW28-ROX-040618 (400-151906-17).

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-393636 recovered outside acceptance criteria, low biased, for N-Nitrosodimethylamine and Aniline. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for these analytes, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-393852 recovered outside acceptance criteria, low biased, for N-Nitrosodimethylamine, Hexachlorocyclopentadiene, 1,4-Dioxane and Pyridine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for these analytes, the data have been reported.

Method(s) 8270D LL: The continuing calibration verification (CCV) associated with batch 400-393627 recovered outside acceptance criteria, low biased, for Dibenz(a,h)anthracene. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

Method(s) 8011: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-393621 and analytical batch 400-393757 recovered outside control limits for the following analyte: 1,2-Dibromo-3-Chloropropane.

Method(s) 8011: The continuing calibration verification (CCV) associated with batch 400-393757 recovered above the upper control limit for 1,2-Dibromo-3-Chloropropane and 1,2-Dibromoethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: TB-ROX-040618-8011-A (400-151906-1), MW16-ROX-040618 (400-151906-3), MW24-ROX-040618 (400-151906-4), MW24-ROX-040618-DUP (400-151906-5), P54-ROX-040618 (400-151906-6), MW11-ROX-040618 (400-151906-7), MW27-ROX-040618 (400-151906-8), TB-ROX-040618-8011-B (400-151906-9), P114R-ROX-040618-EB (400-151906-11), P114R-ROX-040618 (400-151906-12), MW13-ROX-040618 (400-151906-13), MW9-ROX-040618 (400-151906-14), MW9-ROX-040618 (400-151906-14[MS]), MW9-ROX-040618 (400-151906-14[MSD]), ROST3MW-ROX-040618 (400-151906-15) and MW1-ROX-040618 (400-151906-16).

Method(s) 8011: The continuing calibration verification (CCV) associated with batch 400-394144 recovered above the upper control limit for 1,2-Dibromoethane. The samples associated with this CCV were non-detects for the affected analyte; therefore, the data have been reported. The following sample is impacted: MW28-ROX-040618 (400-151906-17).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

Method(s) 3520C, 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 400-393699.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-151906-1	TB-ROX-040618-8011-A ✓	Water	04/06/18 00:00	04/07/18 08:18
400-151906-2	TB-ROX-040618-8260-A ✓	Water	04/06/18 00:00	04/07/18 08:18
400-151906-3	MW16-ROX-040618 ✓	Water	04/06/18 10:20	04/07/18 08:18
400-151906-4	MW24-ROX-040618 ✓	Water	04/06/18 11:20	04/07/18 08:18
400-151906-5	MW24-ROX-040618-DUP ✓	Water	04/06/18 11:20	04/07/18 08:18
400-151906-6	P54-ROX-040618 ✓	Water	04/06/18 12:40	04/07/18 08:18
400-151906-7	MW11-ROX-040618 ✓	Water	04/06/18 13:45	04/07/18 08:18
400-151906-8	MW27-ROX-040618 ✓	Water	04/06/18 15:00	04/07/18 08:18
400-151906-9	TB-ROX-040618-8011-B ✓	Water	04/06/18 00:00	04/07/18 08:18
400-151906-10	TB-ROX-040618-8260-B ✓	Water	04/06/18 00:00	04/07/18 08:18
400-151906-11	P114R-ROX-040618-EB ✓	Water	04/06/18 09:20	04/07/18 08:18
400-151906-12	P114R-ROX-040618 ✓	Water	04/06/18 09:40	04/07/18 08:18
400-151906-13	MW13-ROX-040618 ✓	Water	04/06/18 10:35	04/07/18 08:18
400-151906-14	MW9-ROX-040618 ✓	Water	04/06/18 11:50	04/07/18 08:18
400-151906-15	ROST3MW-ROX-040618 ✓	Water	04/06/18 13:50	04/07/18 08:18
400-151906-16	MW1-ROX-040618 ✓	Water	04/06/18 14:45	04/07/18 08:18
400-151906-17	MW28-ROX-040618 ✓	Water	04/06/18 15:40	04/07/18 08:18

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Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: TB-ROX-040618-8011-A

Lab Sample ID: 400-151906-1

No Detections.

Client Sample ID: TB-ROX-040618-8260-A

Lab Sample ID: 400-151906-2

No Detections.

Client Sample ID: MW16-ROX-040618

Lab Sample ID: 400-151906-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoranthene	0.023	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Pyrene	0.033	J	0.20	0.020	ug/L	1		8270D LL	Total/NA

Client Sample ID: MW24-ROX-040618

Lab Sample ID: 400-151906-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Pyrene	0.027	J	0.20	0.020	ug/L	1		8270D LL	Total/NA

Client Sample ID: MW24-ROX-040618-DUP

Lab Sample ID: 400-151906-5

No Detections.

Client Sample ID: P54-ROX-040618

Lab Sample ID: 400-151906-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[g,h,i]perylene	0.040	J	0.20	0.040	ug/L	1		8270D LL	Total/NA
Fluoranthene	0.032	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Pyrene	0.033	J	0.20	0.020	ug/L	1		8270D LL	Total/NA

Client Sample ID: MW11-ROX-040618

Lab Sample ID: 400-151906-7

No Detections.

Client Sample ID: MW27-ROX-040618

Lab Sample ID: 400-151906-8

No Detections.

Client Sample ID: TB-ROX-040618-8011-B

Lab Sample ID: 400-151906-9

No Detections.

Client Sample ID: TB-ROX-040618-8260-B

Lab Sample ID: 400-151906-10

No Detections.

Client Sample ID: P114R-ROX-040618-EB

Lab Sample ID: 400-151906-11

No Detections.

Client Sample ID: P114R-ROX-040618

Lab Sample ID: 400-151906-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	2.1		1.0	0.74	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW13-ROX-040618

Lab Sample ID: 400-151906-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Methyl tert-butyl ether	4.0		1.0	0.74	ug/L	1			8260B	Total/NA

Client Sample ID: MW9-ROX-040618

Lab Sample ID: 400-151906-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Fluoranthene	0.024	J	0.20	0.020	ug/L	1			8270D LL	Total/NA
Pyrene	0.034	J	0.20	0.020	ug/L	1			8270D LL	Total/NA

Client Sample ID: ROST3MW-ROX-040618

Lab Sample ID: 400-151906-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Acenaphthene	0.28		0.20	0.020	ug/L	1			8270D LL	Total/NA
Fluorene	0.087	J	0.20	0.021	ug/L	1			8270D LL	Total/NA
Phenanthrene	0.067	J	0.20	0.020	ug/L	1			8270D LL	Total/NA

Client Sample ID: MW1-ROX-040618

Lab Sample ID: 400-151906-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
2-Methylnaphthalene	0.021	J	0.20	0.020	ug/L	1			8270D LL	Total/NA

Client Sample ID: MW28-ROX-040618

Lab Sample ID: 400-151906-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Methyl tert-butyl ether	4.1		1.0	0.74	ug/L	1			8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: TB-ROX-040618-8011-A

Lab Sample ID: 400-151906-1

Date Collected: 04/06/18 00:00

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND	*	0.029	0.0053	ug/L		04/12/18 09:00	04/13/18 02:18	1
1,2-Dibromoethane	ND		0.019	0.0048	ug/L		04/12/18 09:00	04/13/18 02:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	134	p	51 - 149				04/12/18 09:00	04/13/18 02:18	1

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Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: TB-ROX-040618-8260-A

Lab Sample ID: 400-151906-2

Date Collected: 04/06/18 00:00

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/11/18 17:56	1
Acrolein	ND		20	10	ug/L			04/11/18 17:56	1
Acrylonitrile	ND		10	2.8	ug/L			04/11/18 17:56	1
Benzene	ND		1.0	0.38	ug/L			04/11/18 17:56	1
Bromobenzene	ND		1.0	0.54	ug/L			04/11/18 17:56	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/11/18 17:56	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/11/18 17:56	1
Bromoform	ND		5.0	0.71	ug/L			04/11/18 17:56	1
Bromomethane	ND		1.0	0.98	ug/L			04/11/18 17:56	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/11/18 17:56	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/11/18 17:56	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/11/18 17:56	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/11/18 17:56	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/11/18 17:56	1
Chloroethane	ND		1.0	0.76	ug/L			04/11/18 17:56	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/11/18 17:56	1
Chloroform	ND		1.0	0.60	ug/L			04/11/18 17:56	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/11/18 17:56	1
Chloromethane	ND		1.0	0.83	ug/L			04/11/18 17:56	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 17:56	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/11/18 17:56	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/11/18 17:56	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/11/18 17:56	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/11/18 17:56	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/11/18 17:56	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/11/18 17:56	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/11/18 17:56	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 17:56	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 17:56	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 17:56	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 17:56	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/11/18 17:56	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/11/18 17:56	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/11/18 17:56	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/11/18 17:56	1
2-Hexanone	ND		25	3.1	ug/L			04/11/18 17:56	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/11/18 17:56	1
Methylene bromide	ND		5.0	0.59	ug/L			04/11/18 17:56	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/11/18 17:56	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/11/18 17:56	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/11/18 17:56	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/11/18 17:56	1
Naphthalene	ND		1.0	1.0	ug/L			04/11/18 17:56	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/11/18 17:56	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/11/18 17:56	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/11/18 17:56	1
o-Xylene	ND		5.0	0.60	ug/L			04/11/18 17:56	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/11/18 17:56	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/11/18 17:56	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: TB-ROX-040618-8260-A

Lab Sample ID: 400-151906-2

Date Collected: 04/06/18 00:00

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/11/18 17:56	1
Styrene	ND		1.0	1.0	ug/L			04/11/18 17:56	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/11/18 17:56	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/11/18 17:56	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/11/18 17:56	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/11/18 17:56	1
Toluene	ND		1.0	0.70	ug/L			04/11/18 17:56	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 17:56	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/11/18 17:56	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/11/18 17:56	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/11/18 17:56	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/11/18 17:56	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/11/18 17:56	1
Trichloroethene	ND		1.0	0.50	ug/L			04/11/18 17:56	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/11/18 17:56	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/11/18 17:56	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/11/18 17:56	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/11/18 17:56	1
Vinyl acetate	ND		25	2.0	ug/L			04/11/18 17:56	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/11/18 17:56	1
Xylenes, Total	ND		10	1.6	ug/L			04/11/18 17:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	110		78 - 118					04/11/18 17:56	1
Dibromofluoromethane	95		81 - 121					04/11/18 17:56	1
Toluene-d8 (Surr)	102		80 - 120					04/11/18 17:56	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW16-ROX-040618

Lab Sample ID: 400-151906-3

Date Collected: 04/06/18 10:20

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/11/18 19:23	1
Acrolein	ND		20	10	ug/L			04/11/18 19:23	1
Acrylonitrile	ND		10	2.8	ug/L			04/11/18 19:23	1
Benzene	ND		1.0	0.38	ug/L			04/11/18 19:23	1
Bromobenzene	ND		1.0	0.54	ug/L			04/11/18 19:23	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/11/18 19:23	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/11/18 19:23	1
Bromoform	ND		5.0	0.71	ug/L			04/11/18 19:23	1
Bromomethane	ND		1.0	0.98	ug/L			04/11/18 19:23	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/11/18 19:23	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/11/18 19:23	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/11/18 19:23	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/11/18 19:23	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/11/18 19:23	1
Chloroethane	ND		1.0	0.76	ug/L			04/11/18 19:23	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/11/18 19:23	1
Chloroform	ND		1.0	0.60	ug/L			04/11/18 19:23	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/11/18 19:23	1
Chloromethane	ND		1.0	0.83	ug/L			04/11/18 19:23	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 19:23	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/11/18 19:23	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/11/18 19:23	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/11/18 19:23	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/11/18 19:23	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/11/18 19:23	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/11/18 19:23	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/11/18 19:23	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 19:23	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 19:23	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 19:23	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 19:23	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/11/18 19:23	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/11/18 19:23	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/11/18 19:23	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/11/18 19:23	1
2-Hexanone	ND		25	3.1	ug/L			04/11/18 19:23	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/11/18 19:23	1
Methylene bromide	ND		5.0	0.59	ug/L			04/11/18 19:23	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/11/18 19:23	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/11/18 19:23	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/11/18 19:23	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/11/18 19:23	1
Naphthalene	ND		1.0	1.0	ug/L			04/11/18 19:23	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/11/18 19:23	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/11/18 19:23	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/11/18 19:23	1
o-Xylene	ND		5.0	0.60	ug/L			04/11/18 19:23	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/11/18 19:23	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/11/18 19:23	1

TestAmerica Pensacola



Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW16-ROX-040618

Lab Sample ID: 400-151906-3

Date Collected: 04/06/18 10:20

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/11/18 19:23	1
Styrene	ND		1.0	1.0	ug/L			04/11/18 19:23	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/11/18 19:23	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/11/18 19:23	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/11/18 19:23	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/11/18 19:23	1
Toluene	ND		1.0	0.70	ug/L			04/11/18 19:23	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 19:23	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/11/18 19:23	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/11/18 19:23	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/11/18 19:23	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/11/18 19:23	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/11/18 19:23	1
Trichloroethene	ND		1.0	0.50	ug/L			04/11/18 19:23	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/11/18 19:23	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/11/18 19:23	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/11/18 19:23	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/11/18 19:23	1
Vinyl acetate	ND		25	2.0	ug/L			04/11/18 19:23	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/11/18 19:23	1
Xylenes, Total	ND		10	1.6	ug/L			04/11/18 19:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	110		78 - 118		04/11/18 19:23	1
Dibromofluoromethane	96		81 - 121		04/11/18 19:23	1
Toluene-d8 (Surr)	101		80 - 120		04/11/18 19:23	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/12/18 13:37	04/13/18 19:36	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/12/18 13:37	04/13/18 19:36	1
Anthracene	ND		0.20	0.020	ug/L		04/12/18 13:37	04/13/18 19:36	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		04/12/18 13:37	04/13/18 19:36	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		04/12/18 13:37	04/13/18 19:36	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		04/12/18 13:37	04/13/18 19:36	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		04/12/18 13:37	04/13/18 19:36	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		04/12/18 13:37	04/13/18 19:36	1
Chrysene	ND		0.20	0.039	ug/L		04/12/18 13:37	04/13/18 19:36	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		04/12/18 13:37	04/13/18 19:36	1
Fluoranthene	0.023	J	0.20	0.020	ug/L		04/12/18 13:37	04/13/18 19:36	1
Fluorene	ND		0.20	0.021	ug/L		04/12/18 13:37	04/13/18 19:36	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		04/12/18 13:37	04/13/18 19:36	1
Phenanthrene	ND		0.20	0.020	ug/L		04/12/18 13:37	04/13/18 19:36	1
Pyrene	0.033	J	0.20	0.020	ug/L		04/12/18 13:37	04/13/18 19:36	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/12/18 13:37	04/13/18 19:36	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/12/18 13:37	04/13/18 19:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	77		33 - 138	04/12/18 13:37	04/13/18 19:36	1
2-Fluorobiphenyl	82		15 - 122	04/12/18 13:37	04/13/18 19:36	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW16-ROX-040618

Lab Sample ID: 400-151906-3

Date Collected: 04/06/18 10:20

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	63		19 - 130	04/12/18 13:37	04/13/18 19:36	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		04/12/18 13:37	04/14/18 00:13	1
Benzenethiol	ND		9.8	1.7	ug/L		04/12/18 13:37	04/14/18 00:13	1
Benzoic acid	ND		29	7.2	ug/L		04/12/18 13:37	04/14/18 00:13	1
Benzyl alcohol	ND		9.8	2.0	ug/L		04/12/18 13:37	04/14/18 00:13	1
Bis(2-chloroethoxy)methane	ND		9.8	0.68	ug/L		04/12/18 13:37	04/14/18 00:13	1
Bis(2-chloroethyl)ether	ND		9.8	0.73	ug/L		04/12/18 13:37	04/14/18 00:13	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		04/12/18 13:37	04/14/18 00:13	1
Bis(2-ethylhexyl) phthalate	ND		9.8	2.2	ug/L		04/12/18 13:37	04/14/18 00:13	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		04/12/18 13:37	04/14/18 00:13	1
Butyl benzyl phthalate	ND		9.8	0.68	ug/L		04/12/18 13:37	04/14/18 00:13	1
4-Chloroaniline	ND		9.8	3.3	ug/L		04/12/18 13:37	04/14/18 00:13	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		04/12/18 13:37	04/14/18 00:13	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		04/12/18 13:37	04/14/18 00:13	1
2-Chlorophenol	ND		9.8	2.2	ug/L		04/12/18 13:37	04/14/18 00:13	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		04/12/18 13:37	04/14/18 00:13	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		04/12/18 13:37	04/14/18 00:13	1
Dibenzofuran	ND		9.8	0.51	ug/L		04/12/18 13:37	04/14/18 00:13	1
3,3'-Dichlorobenzidine	ND		9.8	2.5	ug/L		04/12/18 13:37	04/14/18 00:13	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		04/12/18 13:37	04/14/18 00:13	1
Diethyl phthalate	ND		9.8	0.69	ug/L		04/12/18 13:37	04/14/18 00:13	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		04/12/18 13:37	04/14/18 00:13	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		04/12/18 13:37	04/14/18 00:13	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		04/12/18 13:37	04/14/18 00:13	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		04/12/18 13:37	04/14/18 00:13	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		04/12/18 13:37	04/14/18 00:13	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		04/12/18 13:37	04/14/18 00:13	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		04/12/18 13:37	04/14/18 00:13	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		04/12/18 13:37	04/14/18 00:13	1
1,4-Dioxane	ND		9.8	0.98	ug/L		04/12/18 13:37	04/14/18 00:13	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		04/12/18 13:37	04/14/18 00:13	1
Hexachlorobenzene	ND		9.8	0.25	ug/L		04/12/18 13:37	04/14/18 00:13	1
Hexachlorocyclopentadiene	ND		20	2.5	ug/L		04/12/18 13:37	04/14/18 00:13	1
Hexachloroethane	ND		9.8	4.1	ug/L		04/12/18 13:37	04/14/18 00:13	1
Indene	ND		9.8	0.98	ug/L		04/12/18 13:37	04/14/18 00:13	1
Isophorone	ND		9.8	0.56	ug/L		04/12/18 13:37	04/14/18 00:13	1
2-Methylphenol	ND		9.8	1.8	ug/L		04/12/18 13:37	04/14/18 00:13	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/12/18 13:37	04/14/18 00:13	1
2-Nitroaniline	ND		9.8	2.2	ug/L		04/12/18 13:37	04/14/18 00:13	1
3-Nitroaniline	ND		9.8	1.8	ug/L		04/12/18 13:37	04/14/18 00:13	1
4-Nitroaniline	ND		9.8	2.4	ug/L		04/12/18 13:37	04/14/18 00:13	1
Nitrobenzene	ND		9.8	0.54	ug/L		04/12/18 13:37	04/14/18 00:13	1
2-Nitrophenol	ND		9.8	0.64	ug/L		04/12/18 13:37	04/14/18 00:13	1
4-Nitrophenol	ND		9.8	2.1	ug/L		04/12/18 13:37	04/14/18 00:13	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		04/12/18 13:37	04/14/18 00:13	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW16-ROX-040618

Lab Sample ID: 400-151906-3

Date Collected: 04/06/18 10:20

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		04/12/18 13:37	04/14/18 00:13	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		04/12/18 13:37	04/14/18 00:13	1
Pentachlorophenol	ND		20	1.8	ug/L		04/12/18 13:37	04/14/18 00:13	1
Phenol	ND		9.8	2.5	ug/L		04/12/18 13:37	04/14/18 00:13	1
Pyridine	ND		9.8	3.1	ug/L		04/12/18 13:37	04/14/18 00:13	1
Quinoline	ND		9.8	5.9	ug/L		04/12/18 13:37	04/14/18 00:13	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		04/12/18 13:37	04/14/18 00:13	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		04/12/18 13:37	04/14/18 00:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	57		34 - 120	04/12/18 13:37	04/14/18 00:13	1
2-Fluorophenol	41		10 - 120	04/12/18 13:37	04/14/18 00:13	1
Nitrobenzene-d5	56		27 - 120	04/12/18 13:37	04/14/18 00:13	1
Phenol-d5	49		10 - 120	04/12/18 13:37	04/14/18 00:13	1
Terphenyl-d14	73		53 - 125	04/12/18 13:37	04/14/18 00:13	1
2,4,6-Tribromophenol	62		15 - 135	04/12/18 13:37	04/14/18 00:13	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.029	0.0054	ug/L		04/12/18 09:00	04/13/18 02:38	1
1,2-Dibromoethane	ND		0.020	0.0049	ug/L		04/12/18 09:00	04/13/18 02:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	131	p	51 - 149	04/12/18 09:00	04/13/18 02:38	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW24-ROX-040618

Lab Sample ID: 400-151906-4

Date Collected: 04/06/18 11:20

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/11/18 19:52	1
Acrolein	ND		20	10	ug/L			04/11/18 19:52	1
Acrylonitrile	ND		10	2.8	ug/L			04/11/18 19:52	1
Benzene	ND		1.0	0.38	ug/L			04/11/18 19:52	1
Bromobenzene	ND		1.0	0.54	ug/L			04/11/18 19:52	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/11/18 19:52	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/11/18 19:52	1
Bromoform	ND		5.0	0.71	ug/L			04/11/18 19:52	1
Bromomethane	ND		1.0	0.98	ug/L			04/11/18 19:52	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/11/18 19:52	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/11/18 19:52	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/11/18 19:52	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/11/18 19:52	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/11/18 19:52	1
Chloroethane	ND		1.0	0.76	ug/L			04/11/18 19:52	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/11/18 19:52	1
Chloroform	ND		1.0	0.60	ug/L			04/11/18 19:52	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/11/18 19:52	1
Chloromethane	ND		1.0	0.83	ug/L			04/11/18 19:52	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 19:52	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/11/18 19:52	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/11/18 19:52	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/11/18 19:52	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/11/18 19:52	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/11/18 19:52	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/11/18 19:52	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/11/18 19:52	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 19:52	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 19:52	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 19:52	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 19:52	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/11/18 19:52	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/11/18 19:52	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/11/18 19:52	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/11/18 19:52	1
2-Hexanone	ND		25	3.1	ug/L			04/11/18 19:52	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/11/18 19:52	1
Methylene bromide	ND		5.0	0.59	ug/L			04/11/18 19:52	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/11/18 19:52	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/11/18 19:52	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/11/18 19:52	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/11/18 19:52	1
Naphthalene	ND		1.0	1.0	ug/L			04/11/18 19:52	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/11/18 19:52	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/11/18 19:52	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/11/18 19:52	1
o-Xylene	ND		5.0	0.60	ug/L			04/11/18 19:52	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/11/18 19:52	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/11/18 19:52	1

TestAmerica Pensacola



Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW24-ROX-040618

Lab Sample ID: 400-151906-4

Date Collected: 04/06/18 11:20

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/11/18 19:52	1
Styrene	ND		1.0	1.0	ug/L			04/11/18 19:52	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/11/18 19:52	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/11/18 19:52	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/11/18 19:52	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/11/18 19:52	1
Toluene	ND		1.0	0.70	ug/L			04/11/18 19:52	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 19:52	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/11/18 19:52	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/11/18 19:52	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/11/18 19:52	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/11/18 19:52	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/11/18 19:52	1
Trichloroethene	ND		1.0	0.50	ug/L			04/11/18 19:52	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/11/18 19:52	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/11/18 19:52	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/11/18 19:52	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/11/18 19:52	1
Vinyl acetate	ND		25	2.0	ug/L			04/11/18 19:52	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/11/18 19:52	1
Xylenes, Total	ND		10	1.6	ug/L			04/11/18 19:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	114		78 - 118					04/11/18 19:52	1
Dibromofluoromethane	99		81 - 121					04/11/18 19:52	1
Toluene-d8 (Surr)	102		80 - 120					04/11/18 19:52	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 14:09	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 14:09	1
Anthracene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 14:09	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 14:09	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 14:09	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 14:09	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 14:09	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 14:09	1
Chrysene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 14:09	1
Dibenz(a,h)anthracene	ND	UJ	0.20	0.040	ug/L		04/10/18 14:14	04/12/18 14:09	1
Fluoranthene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 14:09	1
Fluorene	ND		0.20	0.021	ug/L		04/10/18 14:14	04/12/18 14:09	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 14:09	1
Phenanthrene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 14:09	1
Pyrene	0.027	J	0.20	0.020	ug/L		04/10/18 14:14	04/12/18 14:09	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 14:09	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 14:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	77		33 - 138				04/10/18 14:14	04/12/18 14:09	1
2-Fluorobiphenyl	85		15 - 122				04/10/18 14:14	04/12/18 14:09	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW24-ROX-040618

Lab Sample ID: 400-151906-4

Date Collected: 04/06/18 11:20

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	72		19 - 130	04/10/18 14:14	04/12/18 14:09	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	UJ	10	3.8	ug/L		04/10/18 14:14	04/12/18 15:19	1
Benzenethiol	ND	UJ	10	1.7	ug/L		04/10/18 14:14	04/12/18 15:19	1
Benzoic acid	ND		30	7.3	ug/L		04/10/18 14:14	04/12/18 15:19	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		04/10/18 14:14	04/12/18 15:19	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		04/10/18 14:14	04/12/18 15:19	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		04/10/18 14:14	04/12/18 15:19	1
Bis(2-ethylhexyl) phthalate	ND		10	2.3	ug/L		04/10/18 14:14	04/12/18 15:19	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		04/10/18 14:14	04/12/18 15:19	1
4-Chloroaniline	ND		10	3.4	ug/L		04/10/18 14:14	04/12/18 15:19	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		04/10/18 14:14	04/12/18 15:19	1
2-Chloronaphthalene	ND		10	0.52	ug/L		04/10/18 14:14	04/12/18 15:19	1
2-Chlorophenol	ND		10	2.2	ug/L		04/10/18 14:14	04/12/18 15:19	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		04/10/18 14:14	04/12/18 15:19	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		04/10/18 14:14	04/12/18 15:19	1
Dibenzofuran	ND		10	0.52	ug/L		04/10/18 14:14	04/12/18 15:19	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		04/10/18 14:14	04/12/18 15:19	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		04/10/18 14:14	04/12/18 15:19	1
Diethyl phthalate	ND		10	0.70	ug/L		04/10/18 14:14	04/12/18 15:19	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		04/10/18 14:14	04/12/18 15:19	1
Dimethyl phthalate	ND		10	0.60	ug/L		04/10/18 14:14	04/12/18 15:19	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		04/10/18 14:14	04/12/18 15:19	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		04/10/18 14:14	04/12/18 15:19	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/10/18 14:14	04/12/18 15:19	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		04/10/18 14:14	04/12/18 15:19	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		04/10/18 14:14	04/12/18 15:19	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		04/10/18 14:14	04/12/18 15:19	1
Hexachlorobenzene	ND		10	0.25	ug/L		04/10/18 14:14	04/12/18 15:19	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/10/18 14:14	04/12/18 15:19	1
Hexachloroethane	ND		10	4.2	ug/L		04/10/18 14:14	04/12/18 15:19	1
Indene	ND		10	1.0	ug/L		04/10/18 14:14	04/12/18 15:19	1
2-Methylphenol	ND		10	1.8	ug/L		04/10/18 14:14	04/12/18 15:19	1
2-Nitroaniline	ND		10	2.2	ug/L		04/10/18 14:14	04/12/18 15:19	1
3-Nitroaniline	ND		10	1.8	ug/L		04/10/18 14:14	04/12/18 15:19	1
4-Nitroaniline	ND		10	2.5	ug/L		04/10/18 14:14	04/12/18 15:19	1
Nitrobenzene	ND		10	0.55	ug/L		04/10/18 14:14	04/12/18 15:19	1
2-Nitrophenol	ND		10	0.65	ug/L		04/10/18 14:14	04/12/18 15:19	1
4-Nitrophenol	ND		10	2.1	ug/L		04/10/18 14:14	04/12/18 15:19	1
N-Nitrosodimethylamine	ND	UJ	10	3.5	ug/L		04/10/18 14:14	04/12/18 15:19	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		04/10/18 14:14	04/12/18 15:19	1
Pentachlorophenol	ND		20	1.8	ug/L		04/10/18 14:14	04/12/18 15:19	1
Quinoline	ND		10	6.0	ug/L		04/10/18 14:14	04/12/18 15:19	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		04/10/18 14:14	04/12/18 15:19	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/10/18 14:14	04/12/18 15:19	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW24-ROX-040618

Lab Sample ID: 400-151906-4

Date Collected: 04/06/18 11:20

Matrix: Water

Date Received: 04/07/18 08:18

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	71		34 - 120	04/10/18 14:14	04/12/18 15:19	1
2-Fluorophenol	49		10 - 120	04/10/18 14:14	04/12/18 15:19	1
Nitrobenzene-d5	67		27 - 120	04/10/18 14:14	04/12/18 15:19	1
Phenol-d5	54		10 - 120	04/10/18 14:14	04/12/18 15:19	1
Terphenyl-d14	89		53 - 125	04/10/18 14:14	04/12/18 15:19	1
2,4,6-Tribromophenol	52		15 - 135	04/10/18 14:14	04/12/18 15:19	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzyl alcohol	ND		10	2.0	ug/L		04/10/18 14:14	04/13/18 14:21	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		04/10/18 14:14	04/13/18 14:21	1
1,4-Dioxane	ND		10	1.0	ug/L		04/10/18 14:14	04/13/18 14:21	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		04/10/18 14:14	04/13/18 14:21	1
Isophorone	ND		10	0.57	ug/L		04/10/18 14:14	04/13/18 14:21	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/10/18 14:14	04/13/18 14:21	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		04/10/18 14:14	04/13/18 14:21	1
Phenol	ND		10	2.6	ug/L		04/10/18 14:14	04/13/18 14:21	1
Pyridine	ND		10	3.2	ug/L		04/10/18 14:14	04/13/18 14:21	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.029	0.0052	ug/L		04/12/18 09:00	04/13/18 02:58	1
1,2-Dibromoethane	ND		0.019	0.0048	ug/L		04/12/18 09:00	04/13/18 02:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	115	p	51 - 149	04/12/18 09:00	04/13/18 02:58	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW24-ROX-040618-DUP

Lab Sample ID: 400-151906-5

Date Collected: 04/06/18 11:20

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/11/18 20:21	1
Acrolein	ND		20	10	ug/L			04/11/18 20:21	1
Acrylonitrile	ND		10	2.8	ug/L			04/11/18 20:21	1
Benzene	ND		1.0	0.38	ug/L			04/11/18 20:21	1
Bromobenzene	ND		1.0	0.54	ug/L			04/11/18 20:21	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/11/18 20:21	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/11/18 20:21	1
Bromoform	ND		5.0	0.71	ug/L			04/11/18 20:21	1
Bromomethane	ND		1.0	0.98	ug/L			04/11/18 20:21	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/11/18 20:21	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/11/18 20:21	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/11/18 20:21	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/11/18 20:21	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/11/18 20:21	1
Chloroethane	ND		1.0	0.76	ug/L			04/11/18 20:21	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/11/18 20:21	1
Chloroform	ND		1.0	0.60	ug/L			04/11/18 20:21	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/11/18 20:21	1
Chloromethane	ND		1.0	0.83	ug/L			04/11/18 20:21	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 20:21	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/11/18 20:21	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/11/18 20:21	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/11/18 20:21	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/11/18 20:21	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/11/18 20:21	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/11/18 20:21	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/11/18 20:21	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 20:21	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 20:21	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 20:21	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 20:21	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/11/18 20:21	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/11/18 20:21	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/11/18 20:21	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/11/18 20:21	1
2-Hexanone	ND		25	3.1	ug/L			04/11/18 20:21	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/11/18 20:21	1
Methylene bromide	ND		5.0	0.59	ug/L			04/11/18 20:21	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/11/18 20:21	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/11/18 20:21	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/11/18 20:21	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/11/18 20:21	1
Naphthalene	ND		1.0	1.0	ug/L			04/11/18 20:21	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/11/18 20:21	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/11/18 20:21	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/11/18 20:21	1
o-Xylene	ND		5.0	0.60	ug/L			04/11/18 20:21	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/11/18 20:21	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/11/18 20:21	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW24-ROX-040618-DUP

Lab Sample ID: 400-151906-5

Date Collected: 04/06/18 11:20

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/11/18 20:21	1
Styrene	ND		1.0	1.0	ug/L			04/11/18 20:21	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/11/18 20:21	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/11/18 20:21	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/11/18 20:21	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/11/18 20:21	1
Toluene	ND		1.0	0.70	ug/L			04/11/18 20:21	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 20:21	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/11/18 20:21	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/11/18 20:21	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/11/18 20:21	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/11/18 20:21	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/11/18 20:21	1
Trichloroethene	ND		1.0	0.50	ug/L			04/11/18 20:21	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/11/18 20:21	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/11/18 20:21	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/11/18 20:21	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/11/18 20:21	1
Vinyl acetate	ND		25	2.0	ug/L			04/11/18 20:21	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/11/18 20:21	1
Xylenes, Total	ND		10	1.6	ug/L			04/11/18 20:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	109		78 - 118		04/11/18 20:21	1
Dibromofluoromethane	97		81 - 121		04/11/18 20:21	1
Toluene-d8 (Surr)	101		80 - 120		04/11/18 20:21	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 14:27	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 14:27	1
Anthracene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 14:27	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 14:27	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 14:27	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 14:27	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 14:27	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 14:27	1
Chrysene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 14:27	1
Dibenz(a,h)anthracene	ND	UJ	0.20	0.040	ug/L		04/10/18 14:14	04/12/18 14:27	1
Fluoranthene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 14:27	1
Fluorene	ND		0.20	0.021	ug/L		04/10/18 14:14	04/12/18 14:27	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 14:27	1
Phenanthrene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 14:27	1
Pyrene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 14:27	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 14:27	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 14:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	75		33 - 138	04/10/18 14:14	04/12/18 14:27	1
2-Fluorobiphenyl	81		15 - 122	04/10/18 14:14	04/12/18 14:27	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW24-ROX-040618-DUP

Lab Sample ID: 400-151906-5

Date Collected: 04/06/18 11:20

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	70		19 - 130	04/10/18 14:14	04/12/18 14:27	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	UJ	10	3.8	ug/L		04/10/18 14:14	04/12/18 15:44	1
Benzenethiol	ND	UJ	10	1.7	ug/L		04/10/18 14:14	04/12/18 15:44	1
Benzoic acid	ND		30	7.3	ug/L		04/10/18 14:14	04/12/18 15:44	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		04/10/18 14:14	04/12/18 15:44	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		04/10/18 14:14	04/12/18 15:44	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		04/10/18 14:14	04/12/18 15:44	1
Bis(2-ethylhexyl) phthalate	ND		10	2.2	ug/L		04/10/18 14:14	04/12/18 15:44	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		04/10/18 14:14	04/12/18 15:44	1
4-Chloroaniline	ND		10	3.4	ug/L		04/10/18 14:14	04/12/18 15:44	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		04/10/18 14:14	04/12/18 15:44	1
2-Chloronaphthalene	ND		10	0.52	ug/L		04/10/18 14:14	04/12/18 15:44	1
2-Chlorophenol	ND		10	2.2	ug/L		04/10/18 14:14	04/12/18 15:44	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		04/10/18 14:14	04/12/18 15:44	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		04/10/18 14:14	04/12/18 15:44	1
Dibenzofuran	ND		10	0.52	ug/L		04/10/18 14:14	04/12/18 15:44	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		04/10/18 14:14	04/12/18 15:44	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		04/10/18 14:14	04/12/18 15:44	1
Diethyl phthalate	ND		10	0.70	ug/L		04/10/18 14:14	04/12/18 15:44	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		04/10/18 14:14	04/12/18 15:44	1
Dimethyl phthalate	ND		10	0.60	ug/L		04/10/18 14:14	04/12/18 15:44	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		04/10/18 14:14	04/12/18 15:44	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		04/10/18 14:14	04/12/18 15:44	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/10/18 14:14	04/12/18 15:44	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		04/10/18 14:14	04/12/18 15:44	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		04/10/18 14:14	04/12/18 15:44	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		04/10/18 14:14	04/12/18 15:44	1
Hexachlorobenzene	ND		10	0.25	ug/L		04/10/18 14:14	04/12/18 15:44	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/10/18 14:14	04/12/18 15:44	1
Hexachloroethane	ND		10	4.2	ug/L		04/10/18 14:14	04/12/18 15:44	1
Indene	ND		10	1.0	ug/L		04/10/18 14:14	04/12/18 15:44	1
2-Methylphenol	ND		10	1.8	ug/L		04/10/18 14:14	04/12/18 15:44	1
2-Nitroaniline	ND		10	2.2	ug/L		04/10/18 14:14	04/12/18 15:44	1
3-Nitroaniline	ND		10	1.8	ug/L		04/10/18 14:14	04/12/18 15:44	1
4-Nitroaniline	ND		10	2.5	ug/L		04/10/18 14:14	04/12/18 15:44	1
Nitrobenzene	ND		10	0.55	ug/L		04/10/18 14:14	04/12/18 15:44	1
2-Nitrophenol	ND		10	0.65	ug/L		04/10/18 14:14	04/12/18 15:44	1
4-Nitrophenol	ND		10	2.1	ug/L		04/10/18 14:14	04/12/18 15:44	1
N-Nitrosodimethylamine	ND	UJ	10	3.5	ug/L		04/10/18 14:14	04/12/18 15:44	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		04/10/18 14:14	04/12/18 15:44	1
Pentachlorophenol	ND		20	1.8	ug/L		04/10/18 14:14	04/12/18 15:44	1
Quinoline	ND		10	6.0	ug/L		04/10/18 14:14	04/12/18 15:44	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		04/10/18 14:14	04/12/18 15:44	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/10/18 14:14	04/12/18 15:44	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW24-ROX-040618-DUP

Lab Sample ID: 400-151906-5

Date Collected: 04/06/18 11:20

Matrix: Water

Date Received: 04/07/18 08:18

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	77		34 - 120	04/10/18 14:14	04/12/18 15:44	1
2-Fluorophenol	52		10 - 120	04/10/18 14:14	04/12/18 15:44	1
Nitrobenzene-d5	71		27 - 120	04/10/18 14:14	04/12/18 15:44	1
Phenol-d5	57		10 - 120	04/10/18 14:14	04/12/18 15:44	1
Terphenyl-d14	97		53 - 125	04/10/18 14:14	04/12/18 15:44	1
2,4,6-Tribromophenol	56		15 - 135	04/10/18 14:14	04/12/18 15:44	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzyl alcohol	ND		10	2.0	ug/L		04/10/18 14:14	04/13/18 14:54	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		04/10/18 14:14	04/13/18 14:54	1
1,4-Dioxane	ND		10	1.0	ug/L		04/10/18 14:14	04/13/18 14:54	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		04/10/18 14:14	04/13/18 14:54	1
Isophorone	ND		10	0.57	ug/L		04/10/18 14:14	04/13/18 14:54	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/10/18 14:14	04/13/18 14:54	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		04/10/18 14:14	04/13/18 14:54	1
Phenol	ND		10	2.6	ug/L		04/10/18 14:14	04/13/18 14:54	1
Pyridine	ND		10	3.2	ug/L		04/10/18 14:14	04/13/18 14:54	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND	*	0.033	0.0060	ug/L		04/12/18 09:00	04/13/18 03:18	1
1,2-Dibromoethane	ND		0.022	0.0055	ug/L		04/12/18 09:00	04/13/18 03:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	119	p	51 - 149	04/12/18 09:00	04/13/18 03:18	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: P54-ROX-040618

Lab Sample ID: 400-151906-6

Date Collected: 04/06/18 12:40

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/11/18 20:50	1
Acrolein	ND		20	10	ug/L			04/11/18 20:50	1
Acrylonitrile	ND		10	2.8	ug/L			04/11/18 20:50	1
Benzene	ND		1.0	0.38	ug/L			04/11/18 20:50	1
Bromobenzene	ND		1.0	0.54	ug/L			04/11/18 20:50	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/11/18 20:50	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/11/18 20:50	1
Bromoform	ND		5.0	0.71	ug/L			04/11/18 20:50	1
Bromomethane	ND		1.0	0.98	ug/L			04/11/18 20:50	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/11/18 20:50	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/11/18 20:50	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/11/18 20:50	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/11/18 20:50	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/11/18 20:50	1
Chloroethane	ND		1.0	0.76	ug/L			04/11/18 20:50	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/11/18 20:50	1
Chloroform	ND		1.0	0.60	ug/L			04/11/18 20:50	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/11/18 20:50	1
Chloromethane	ND		1.0	0.83	ug/L			04/11/18 20:50	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 20:50	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/11/18 20:50	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/11/18 20:50	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/11/18 20:50	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/11/18 20:50	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/11/18 20:50	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/11/18 20:50	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/11/18 20:50	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 20:50	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 20:50	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 20:50	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 20:50	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/11/18 20:50	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/11/18 20:50	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/11/18 20:50	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/11/18 20:50	1
2-Hexanone	ND		25	3.1	ug/L			04/11/18 20:50	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/11/18 20:50	1
Methylene bromide	ND		5.0	0.59	ug/L			04/11/18 20:50	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/11/18 20:50	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/11/18 20:50	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/11/18 20:50	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/11/18 20:50	1
Naphthalene	ND		1.0	1.0	ug/L			04/11/18 20:50	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/11/18 20:50	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/11/18 20:50	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/11/18 20:50	1
o-Xylene	ND		5.0	0.60	ug/L			04/11/18 20:50	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/11/18 20:50	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/11/18 20:50	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: P54-ROX-040618

Lab Sample ID: 400-151906-6

Date Collected: 04/06/18 12:40

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/11/18 20:50	1
Styrene	ND		1.0	1.0	ug/L			04/11/18 20:50	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/11/18 20:50	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/11/18 20:50	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/11/18 20:50	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/11/18 20:50	1
Toluene	ND		1.0	0.70	ug/L			04/11/18 20:50	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 20:50	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/11/18 20:50	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/11/18 20:50	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/11/18 20:50	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/11/18 20:50	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/11/18 20:50	1
Trichloroethene	ND		1.0	0.50	ug/L			04/11/18 20:50	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/11/18 20:50	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/11/18 20:50	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/11/18 20:50	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/11/18 20:50	1
Vinyl acetate	ND		25	2.0	ug/L			04/11/18 20:50	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/11/18 20:50	1
Xylenes, Total	ND		10	1.6	ug/L			04/11/18 20:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	112		78 - 118		04/11/18 20:50	1
Dibromofluoromethane	96		81 - 121		04/11/18 20:50	1
Toluene-d8 (Surr)	101		80 - 120		04/11/18 20:50	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 14:44	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 14:44	1
Anthracene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 14:44	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 14:44	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 14:44	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 14:44	1
Benzo[g,h,i]perylene	0.040	J	0.20	0.040	ug/L		04/10/18 14:14	04/12/18 14:44	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 14:44	1
Chrysene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 14:44	1
Dibenz(a,h)anthracene	ND	UJ	0.20	0.040	ug/L		04/10/18 14:14	04/12/18 14:44	1
Fluoranthene	0.032	J	0.20	0.020	ug/L		04/10/18 14:14	04/12/18 14:44	1
Fluorene	ND		0.20	0.021	ug/L		04/10/18 14:14	04/12/18 14:44	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 14:44	1
Phenanthrene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 14:44	1
Pyrene	0.033	J	0.20	0.020	ug/L		04/10/18 14:14	04/12/18 14:44	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 14:44	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 14:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	69		33 - 138	04/10/18 14:14	04/12/18 14:44	1
2-Fluorobiphenyl	85		15 - 122	04/10/18 14:14	04/12/18 14:44	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: P54-ROX-040618

Lab Sample ID: 400-151906-6

Date Collected: 04/06/18 12:40

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	72		19 - 130	04/10/18 14:14	04/12/18 14:44	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	UJ	10	3.8	ug/L		04/10/18 14:14	04/12/18 16:08	1
Benzenethiol	ND	UJ	10	1.7	ug/L		04/10/18 14:14	04/12/18 16:08	1
Benzoic acid	ND		30	7.3	ug/L		04/10/18 14:14	04/12/18 16:08	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		04/10/18 14:14	04/12/18 16:08	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		04/10/18 14:14	04/12/18 16:08	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		04/10/18 14:14	04/12/18 16:08	1
Bis(2-ethylhexyl) phthalate	ND		10	2.3	ug/L		04/10/18 14:14	04/12/18 16:08	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		04/10/18 14:14	04/12/18 16:08	1
4-Chloroaniline	ND		10	3.4	ug/L		04/10/18 14:14	04/12/18 16:08	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		04/10/18 14:14	04/12/18 16:08	1
2-Chloronaphthalene	ND		10	0.52	ug/L		04/10/18 14:14	04/12/18 16:08	1
2-Chlorophenol	ND		10	2.2	ug/L		04/10/18 14:14	04/12/18 16:08	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		04/10/18 14:14	04/12/18 16:08	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		04/10/18 14:14	04/12/18 16:08	1
Dibenzofuran	ND		10	0.52	ug/L		04/10/18 14:14	04/12/18 16:08	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		04/10/18 14:14	04/12/18 16:08	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		04/10/18 14:14	04/12/18 16:08	1
Diethyl phthalate	ND		10	0.70	ug/L		04/10/18 14:14	04/12/18 16:08	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		04/10/18 14:14	04/12/18 16:08	1
Dimethyl phthalate	ND		10	0.60	ug/L		04/10/18 14:14	04/12/18 16:08	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		04/10/18 14:14	04/12/18 16:08	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		04/10/18 14:14	04/12/18 16:08	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/10/18 14:14	04/12/18 16:08	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		04/10/18 14:14	04/12/18 16:08	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		04/10/18 14:14	04/12/18 16:08	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		04/10/18 14:14	04/12/18 16:08	1
Hexachlorobenzene	ND		10	0.25	ug/L		04/10/18 14:14	04/12/18 16:08	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/10/18 14:14	04/12/18 16:08	1
Hexachloroethane	ND		10	4.2	ug/L		04/10/18 14:14	04/12/18 16:08	1
Indene	ND		10	1.0	ug/L		04/10/18 14:14	04/12/18 16:08	1
2-Methylphenol	ND		10	1.8	ug/L		04/10/18 14:14	04/12/18 16:08	1
2-Nitroaniline	ND		10	2.2	ug/L		04/10/18 14:14	04/12/18 16:08	1
3-Nitroaniline	ND		10	1.8	ug/L		04/10/18 14:14	04/12/18 16:08	1
4-Nitroaniline	ND		10	2.5	ug/L		04/10/18 14:14	04/12/18 16:08	1
Nitrobenzene	ND		10	0.55	ug/L		04/10/18 14:14	04/12/18 16:08	1
2-Nitrophenol	ND		10	0.65	ug/L		04/10/18 14:14	04/12/18 16:08	1
4-Nitrophenol	ND		10	2.1	ug/L		04/10/18 14:14	04/12/18 16:08	1
N-Nitrosodimethylamine	ND	UJ	10	3.5	ug/L		04/10/18 14:14	04/12/18 16:08	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		04/10/18 14:14	04/12/18 16:08	1
Pentachlorophenol	ND		20	1.8	ug/L		04/10/18 14:14	04/12/18 16:08	1
Quinoline	ND		10	6.0	ug/L		04/10/18 14:14	04/12/18 16:08	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		04/10/18 14:14	04/12/18 16:08	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/10/18 14:14	04/12/18 16:08	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: P54-ROX-040618

Lab Sample ID: 400-151906-6

Date Collected: 04/06/18 12:40

Matrix: Water

Date Received: 04/07/18 08:18

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	71		34 - 120	04/10/18 14:14	04/12/18 16:08	1
2-Fluorophenol	38		10 - 120	04/10/18 14:14	04/12/18 16:08	1
Nitrobenzene-d5	67		27 - 120	04/10/18 14:14	04/12/18 16:08	1
Phenol-d5	46		10 - 120	04/10/18 14:14	04/12/18 16:08	1
Terphenyl-d14	80		53 - 125	04/10/18 14:14	04/12/18 16:08	1
2,4,6-Tribromophenol	30		15 - 135	04/10/18 14:14	04/12/18 16:08	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzyl alcohol	ND		10	2.0	ug/L		04/10/18 14:14	04/13/18 15:27	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		04/10/18 14:14	04/13/18 15:27	1
1,4-Dioxane	ND		10	1.0	ug/L		04/10/18 14:14	04/13/18 15:27	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		04/10/18 14:14	04/13/18 15:27	1
Isophorone	ND		10	0.57	ug/L		04/10/18 14:14	04/13/18 15:27	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/10/18 14:14	04/13/18 15:27	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		04/10/18 14:14	04/13/18 15:27	1
Phenol	ND		10	2.6	ug/L		04/10/18 14:14	04/13/18 15:27	1
Pyridine	ND		10	3.2	ug/L		04/10/18 14:14	04/13/18 15:27	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND	*	0.030	0.0055	ug/L		04/12/18 09:00	04/13/18 03:37	1
1,2-Dibromoethane	ND		0.020	0.0050	ug/L		04/12/18 09:00	04/13/18 03:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	117	p	51 - 149	04/12/18 09:00	04/13/18 03:37	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW11-ROX-040618

Lab Sample ID: 400-151906-7

Date Collected: 04/06/18 13:45

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/11/18 21:19	1
Acrolein	ND		20	10	ug/L			04/11/18 21:19	1
Acrylonitrile	ND		10	2.8	ug/L			04/11/18 21:19	1
Benzene	ND		1.0	0.38	ug/L			04/11/18 21:19	1
Bromobenzene	ND		1.0	0.54	ug/L			04/11/18 21:19	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/11/18 21:19	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/11/18 21:19	1
Bromoform	ND		5.0	0.71	ug/L			04/11/18 21:19	1
Bromomethane	ND		1.0	0.98	ug/L			04/11/18 21:19	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/11/18 21:19	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/11/18 21:19	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/11/18 21:19	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/11/18 21:19	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/11/18 21:19	1
Chloroethane	ND		1.0	0.76	ug/L			04/11/18 21:19	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/11/18 21:19	1
Chloroform	ND		1.0	0.60	ug/L			04/11/18 21:19	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/11/18 21:19	1
Chloromethane	ND		1.0	0.83	ug/L			04/11/18 21:19	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 21:19	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/11/18 21:19	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/11/18 21:19	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/11/18 21:19	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/11/18 21:19	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/11/18 21:19	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/11/18 21:19	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/11/18 21:19	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 21:19	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 21:19	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 21:19	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 21:19	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/11/18 21:19	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/11/18 21:19	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/11/18 21:19	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/11/18 21:19	1
2-Hexanone	ND		25	3.1	ug/L			04/11/18 21:19	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/11/18 21:19	1
Methylene bromide	ND		5.0	0.59	ug/L			04/11/18 21:19	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/11/18 21:19	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/11/18 21:19	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/11/18 21:19	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/11/18 21:19	1
Naphthalene	ND		1.0	1.0	ug/L			04/11/18 21:19	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/11/18 21:19	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/11/18 21:19	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/11/18 21:19	1
o-Xylene	ND		5.0	0.60	ug/L			04/11/18 21:19	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/11/18 21:19	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/11/18 21:19	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW11-ROX-040618

Lab Sample ID: 400-151906-7

Date Collected: 04/06/18 13:45

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/11/18 21:19	1
Styrene	ND		1.0	1.0	ug/L			04/11/18 21:19	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/11/18 21:19	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/11/18 21:19	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/11/18 21:19	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/11/18 21:19	1
Toluene	ND		1.0	0.70	ug/L			04/11/18 21:19	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 21:19	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/11/18 21:19	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/11/18 21:19	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/11/18 21:19	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/11/18 21:19	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/11/18 21:19	1
Trichloroethene	ND		1.0	0.50	ug/L			04/11/18 21:19	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/11/18 21:19	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/11/18 21:19	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/11/18 21:19	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/11/18 21:19	1
Vinyl acetate	ND		25	2.0	ug/L			04/11/18 21:19	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/11/18 21:19	1
Xylenes, Total	ND		10	1.6	ug/L			04/11/18 21:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	113		78 - 118		04/11/18 21:19	1
Dibromofluoromethane	99		81 - 121		04/11/18 21:19	1
Toluene-d8 (Surr)	99		80 - 120		04/11/18 21:19	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 15:01	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 15:01	1
Anthracene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 15:01	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		04/10/18 14:14	04/12/18 15:01	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		04/10/18 14:14	04/12/18 15:01	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		04/10/18 14:14	04/12/18 15:01	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		04/10/18 14:14	04/12/18 15:01	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		04/10/18 14:14	04/12/18 15:01	1
Chrysene	ND		0.20	0.039	ug/L		04/10/18 14:14	04/12/18 15:01	1
Dibenz(a,h)anthracene	ND	UJ	0.20	0.039	ug/L		04/10/18 14:14	04/12/18 15:01	1
Fluoranthene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 15:01	1
Fluorene	ND		0.20	0.021	ug/L		04/10/18 14:14	04/12/18 15:01	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		04/10/18 14:14	04/12/18 15:01	1
Phenanthrene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 15:01	1
Pyrene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 15:01	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 15:01	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 15:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	68		33 - 138	04/10/18 14:14	04/12/18 15:01	1
2-Fluorobiphenyl	79		15 - 122	04/10/18 14:14	04/12/18 15:01	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW11-ROX-040618

Lab Sample ID: 400-151906-7

Date Collected: 04/06/18 13:45

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	67		19 - 130	04/10/18 14:14	04/12/18 15:01	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	UJ	9.8	3.7	ug/L		04/10/18 14:14	04/12/18 16:33	1
Benzenethiol	ND	UJ	9.8	1.7	ug/L		04/10/18 14:14	04/12/18 16:33	1
Benzoic acid	ND		30	7.2	ug/L		04/10/18 14:14	04/12/18 16:33	1
Bis(2-chloroethoxy)methane	ND		9.8	0.68	ug/L		04/10/18 14:14	04/12/18 16:33	1
Bis(2-chloroethyl)ether	ND		9.8	0.73	ug/L		04/10/18 14:14	04/12/18 16:33	1
bis (2-chloroisopropyl) ether	ND		9.8	0.80	ug/L		04/10/18 14:14	04/12/18 16:33	1
Bis(2-ethylhexyl) phthalate	ND		9.8	2.2	ug/L		04/10/18 14:14	04/12/18 16:33	1
4-Bromophenyl phenyl ether	ND		9.8	0.32	ug/L		04/10/18 14:14	04/12/18 16:33	1
4-Chloroaniline	ND		9.8	3.3	ug/L		04/10/18 14:14	04/12/18 16:33	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		04/10/18 14:14	04/12/18 16:33	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		04/10/18 14:14	04/12/18 16:33	1
2-Chlorophenol	ND		9.8	2.2	ug/L		04/10/18 14:14	04/12/18 16:33	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		04/10/18 14:14	04/12/18 16:33	1
Dibenz[a,h]acridine	ND		9.8	3.0	ug/L		04/10/18 14:14	04/12/18 16:33	1
Dibenzofuran	ND		9.8	0.51	ug/L		04/10/18 14:14	04/12/18 16:33	1
3,3'-Dichlorobenzidine	ND		9.8	2.6	ug/L		04/10/18 14:14	04/12/18 16:33	1
2,4-Dichlorophenol	ND		9.8	3.0	ug/L		04/10/18 14:14	04/12/18 16:33	1
Diethyl phthalate	ND		9.8	0.69	ug/L		04/10/18 14:14	04/12/18 16:33	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		04/10/18 14:14	04/12/18 16:33	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		04/10/18 14:14	04/12/18 16:33	1
Di-n-butyl phthalate	ND		9.8	2.7	ug/L		04/10/18 14:14	04/12/18 16:33	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		04/10/18 14:14	04/12/18 16:33	1
2,4-Dinitrophenol	ND		30	3.3	ug/L		04/10/18 14:14	04/12/18 16:33	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		04/10/18 14:14	04/12/18 16:33	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		04/10/18 14:14	04/12/18 16:33	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		04/10/18 14:14	04/12/18 16:33	1
Hexachlorobenzene	ND		9.8	0.25	ug/L		04/10/18 14:14	04/12/18 16:33	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/10/18 14:14	04/12/18 16:33	1
Hexachloroethane	ND		9.8	4.1	ug/L		04/10/18 14:14	04/12/18 16:33	1
Indene	ND		9.8	0.98	ug/L		04/10/18 14:14	04/12/18 16:33	1
2-Methylphenol	ND		9.8	1.8	ug/L		04/10/18 14:14	04/12/18 16:33	1
2-Nitroaniline	ND		9.8	2.2	ug/L		04/10/18 14:14	04/12/18 16:33	1
3-Nitroaniline	ND		9.8	1.8	ug/L		04/10/18 14:14	04/12/18 16:33	1
4-Nitroaniline	ND		9.8	2.4	ug/L		04/10/18 14:14	04/12/18 16:33	1
Nitrobenzene	ND		9.8	0.54	ug/L		04/10/18 14:14	04/12/18 16:33	1
2-Nitrophenol	ND		9.8	0.64	ug/L		04/10/18 14:14	04/12/18 16:33	1
4-Nitrophenol	ND		9.8	2.1	ug/L		04/10/18 14:14	04/12/18 16:33	1
N-Nitrosodimethylamine	ND	UJ	9.8	3.4	ug/L		04/10/18 14:14	04/12/18 16:33	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		04/10/18 14:14	04/12/18 16:33	1
Pentachlorophenol	ND		20	1.8	ug/L		04/10/18 14:14	04/12/18 16:33	1
Quinoline	ND		9.8	5.9	ug/L		04/10/18 14:14	04/12/18 16:33	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		04/10/18 14:14	04/12/18 16:33	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		04/10/18 14:14	04/12/18 16:33	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW11-ROX-040618

Lab Sample ID: 400-151906-7

Date Collected: 04/06/18 13:45

Matrix: Water

Date Received: 04/07/18 08:18

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	69		34 - 120	04/10/18 14:14	04/12/18 16:33	1
2-Fluorophenol	59		10 - 120	04/10/18 14:14	04/12/18 16:33	1
Nitrobenzene-d5	67		27 - 120	04/10/18 14:14	04/12/18 16:33	1
Phenol-d5	65		10 - 120	04/10/18 14:14	04/12/18 16:33	1
Terphenyl-d14	81		53 - 125	04/10/18 14:14	04/12/18 16:33	1
2,4,6-Tribromophenol	65		15 - 135	04/10/18 14:14	04/12/18 16:33	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzyl alcohol	ND		9.8	2.0	ug/L		04/10/18 14:14	04/13/18 16:01	1
Butyl benzyl phthalate	ND		9.8	0.68	ug/L		04/10/18 14:14	04/13/18 16:01	1
1,4-Dioxane	ND		9.8	0.98	ug/L		04/10/18 14:14	04/13/18 16:01	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		04/10/18 14:14	04/13/18 16:01	1
Isophorone	ND		9.8	0.56	ug/L		04/10/18 14:14	04/13/18 16:01	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/10/18 14:14	04/13/18 16:01	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		04/10/18 14:14	04/13/18 16:01	1
Phenol	ND		9.8	2.6	ug/L		04/10/18 14:14	04/13/18 16:01	1
Pyridine	ND		9.8	3.2	ug/L		04/10/18 14:14	04/13/18 16:01	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND	*	0.029	0.0053	ug/L		04/12/18 09:00	04/13/18 03:57	1
1,2-Dibromoethane	ND		0.019	0.0049	ug/L		04/12/18 09:00	04/13/18 03:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	119		51 - 149	04/12/18 09:00	04/13/18 03:57	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW27-ROX-040618

Lab Sample ID: 400-151906-8

Date Collected: 04/06/18 15:00

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/11/18 21:48	1
Acrolein	ND		20	10	ug/L			04/11/18 21:48	1
Acrylonitrile	ND		10	2.8	ug/L			04/11/18 21:48	1
Benzene	ND		1.0	0.38	ug/L			04/11/18 21:48	1
Bromobenzene	ND		1.0	0.54	ug/L			04/11/18 21:48	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/11/18 21:48	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/11/18 21:48	1
Bromoform	ND		5.0	0.71	ug/L			04/11/18 21:48	1
Bromomethane	ND		1.0	0.98	ug/L			04/11/18 21:48	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/11/18 21:48	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/11/18 21:48	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/11/18 21:48	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/11/18 21:48	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/11/18 21:48	1
Chloroethane	ND		1.0	0.76	ug/L			04/11/18 21:48	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/11/18 21:48	1
Chloroform	ND		1.0	0.60	ug/L			04/11/18 21:48	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/11/18 21:48	1
Chloromethane	ND		1.0	0.83	ug/L			04/11/18 21:48	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 21:48	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/11/18 21:48	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/11/18 21:48	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/11/18 21:48	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/11/18 21:48	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/11/18 21:48	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/11/18 21:48	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/11/18 21:48	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 21:48	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 21:48	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 21:48	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 21:48	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/11/18 21:48	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/11/18 21:48	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/11/18 21:48	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/11/18 21:48	1
2-Hexanone	ND		25	3.1	ug/L			04/11/18 21:48	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/11/18 21:48	1
Methylene bromide	ND		5.0	0.59	ug/L			04/11/18 21:48	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/11/18 21:48	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/11/18 21:48	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/11/18 21:48	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/11/18 21:48	1
Naphthalene	ND		1.0	1.0	ug/L			04/11/18 21:48	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/11/18 21:48	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/11/18 21:48	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/11/18 21:48	1
o-Xylene	ND		5.0	0.60	ug/L			04/11/18 21:48	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/11/18 21:48	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/11/18 21:48	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW27-ROX-040618

Lab Sample ID: 400-151906-8

Date Collected: 04/06/18 15:00

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/11/18 21:48	1
Styrene	ND		1.0	1.0	ug/L			04/11/18 21:48	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/11/18 21:48	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/11/18 21:48	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/11/18 21:48	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/11/18 21:48	1
Toluene	ND		1.0	0.70	ug/L			04/11/18 21:48	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 21:48	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/11/18 21:48	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/11/18 21:48	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/11/18 21:48	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/11/18 21:48	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/11/18 21:48	1
Trichloroethene	ND		1.0	0.50	ug/L			04/11/18 21:48	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/11/18 21:48	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/11/18 21:48	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/11/18 21:48	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/11/18 21:48	1
Vinyl acetate	ND		25	2.0	ug/L			04/11/18 21:48	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/11/18 21:48	1
Xylenes, Total	ND		10	1.6	ug/L			04/11/18 21:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	109		78 - 118		04/11/18 21:48	1
Dibromofluoromethane	98		81 - 121		04/11/18 21:48	1
Toluene-d8 (Surr)	100		80 - 120		04/11/18 21:48	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 15:18	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 15:18	1
Anthracene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 15:18	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		04/10/18 14:14	04/12/18 15:18	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		04/10/18 14:14	04/12/18 15:18	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		04/10/18 14:14	04/12/18 15:18	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		04/10/18 14:14	04/12/18 15:18	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		04/10/18 14:14	04/12/18 15:18	1
Chrysene	ND		0.20	0.039	ug/L		04/10/18 14:14	04/12/18 15:18	1
Dibenz(a,h)anthracene	ND	U5	0.20	0.039	ug/L		04/10/18 14:14	04/12/18 15:18	1
Fluoranthene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 15:18	1
Fluorene	ND		0.20	0.021	ug/L		04/10/18 14:14	04/12/18 15:18	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		04/10/18 14:14	04/12/18 15:18	1
Phenanthrene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 15:18	1
Pyrene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 15:18	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 15:18	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 15:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	53		33 - 138	04/10/18 14:14	04/12/18 15:18	1
2-Fluorobiphenyl	84		15 - 122	04/10/18 14:14	04/12/18 15:18	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW27-ROX-040618

Lab Sample ID: 400-151906-8

Date Collected: 04/06/18 15:00

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	71		19 - 130	04/10/18 14:14	04/12/18 15:18	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	UJ	9.8	3.7	ug/L		04/10/18 14:14	04/12/18 16:57	1
Benzenethiol	ND	UJ	9.8	1.7	ug/L		04/10/18 14:14	04/12/18 16:57	1
Benzoic acid	ND		30	7.2	ug/L		04/10/18 14:14	04/12/18 16:57	1
Bis(2-chloroethoxy)methane	ND		9.8	0.68	ug/L		04/10/18 14:14	04/12/18 16:57	1
Bis(2-chloroethyl)ether	ND		9.8	0.73	ug/L		04/10/18 14:14	04/12/18 16:57	1
bis (2-chloroisopropyl) ether	ND		9.8	0.80	ug/L		04/10/18 14:14	04/12/18 16:57	1
Bis(2-ethylhexyl) phthalate	ND		9.8	2.2	ug/L		04/10/18 14:14	04/12/18 16:57	1
4-Bromophenyl phenyl ether	ND		9.8	0.32	ug/L		04/10/18 14:14	04/12/18 16:57	1
4-Chloroaniline	ND		9.8	3.3	ug/L		04/10/18 14:14	04/12/18 16:57	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		04/10/18 14:14	04/12/18 16:57	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		04/10/18 14:14	04/12/18 16:57	1
2-Chlorophenol	ND		9.8	2.2	ug/L		04/10/18 14:14	04/12/18 16:57	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		04/10/18 14:14	04/12/18 16:57	1
Dibenz[a,h]acridine	ND		9.8	3.0	ug/L		04/10/18 14:14	04/12/18 16:57	1
Dibenzofuran	ND		9.8	0.51	ug/L		04/10/18 14:14	04/12/18 16:57	1
3,3'-Dichlorobenzidine	ND		9.8	2.6	ug/L		04/10/18 14:14	04/12/18 16:57	1
2,4-Dichlorophenol	ND		9.8	3.0	ug/L		04/10/18 14:14	04/12/18 16:57	1
Diethyl phthalate	ND		9.8	0.69	ug/L		04/10/18 14:14	04/12/18 16:57	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		04/10/18 14:14	04/12/18 16:57	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		04/10/18 14:14	04/12/18 16:57	1
Di-n-butyl phthalate	ND		9.8	2.7	ug/L		04/10/18 14:14	04/12/18 16:57	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		04/10/18 14:14	04/12/18 16:57	1
2,4-Dinitrophenol	ND		30	3.3	ug/L		04/10/18 14:14	04/12/18 16:57	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		04/10/18 14:14	04/12/18 16:57	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		04/10/18 14:14	04/12/18 16:57	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		04/10/18 14:14	04/12/18 16:57	1
Hexachlorobenzene	ND		9.8	0.25	ug/L		04/10/18 14:14	04/12/18 16:57	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/10/18 14:14	04/12/18 16:57	1
Hexachloroethane	ND		9.8	4.1	ug/L		04/10/18 14:14	04/12/18 16:57	1
Indene	ND		9.8	0.98	ug/L		04/10/18 14:14	04/12/18 16:57	1
2-Methylphenol	ND		9.8	1.8	ug/L		04/10/18 14:14	04/12/18 16:57	1
2-Nitroaniline	ND		9.8	2.2	ug/L		04/10/18 14:14	04/12/18 16:57	1
3-Nitroaniline	ND		9.8	1.8	ug/L		04/10/18 14:14	04/12/18 16:57	1
4-Nitroaniline	ND		9.8	2.4	ug/L		04/10/18 14:14	04/12/18 16:57	1
Nitrobenzene	ND		9.8	0.54	ug/L		04/10/18 14:14	04/12/18 16:57	1
2-Nitrophenol	ND		9.8	0.64	ug/L		04/10/18 14:14	04/12/18 16:57	1
4-Nitrophenol	ND		9.8	2.1	ug/L		04/10/18 14:14	04/12/18 16:57	1
N-Nitrosodimethylamine	ND	UJ	9.8	3.4	ug/L		04/10/18 14:14	04/12/18 16:57	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		04/10/18 14:14	04/12/18 16:57	1
Pentachlorophenol	ND		20	1.8	ug/L		04/10/18 14:14	04/12/18 16:57	1
Quinoline	ND		9.8	5.9	ug/L		04/10/18 14:14	04/12/18 16:57	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		04/10/18 14:14	04/12/18 16:57	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		04/10/18 14:14	04/12/18 16:57	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW27-ROX-040618

Lab Sample ID: 400-151906-8

Date Collected: 04/06/18 15:00

Matrix: Water

Date Received: 04/07/18 08:18

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	75		34 - 120	04/10/18 14:14	04/12/18 16:57	1
2-Fluorophenol	49		10 - 120	04/10/18 14:14	04/12/18 16:57	1
Nitrobenzene-d5	67		27 - 120	04/10/18 14:14	04/12/18 16:57	1
Phenol-d5	53		10 - 120	04/10/18 14:14	04/12/18 16:57	1
Terphenyl-d14	64		53 - 125	04/10/18 14:14	04/12/18 16:57	1
2,4,6-Tribromophenol	51		15 - 135	04/10/18 14:14	04/12/18 16:57	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzyl alcohol	ND		9.8	2.0	ug/L		04/10/18 14:14	04/13/18 16:34	1
Butyl benzyl phthalate	ND		9.8	0.68	ug/L		04/10/18 14:14	04/13/18 16:34	1
1,4-Dioxane	ND		9.8	0.98	ug/L		04/10/18 14:14	04/13/18 16:34	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		04/10/18 14:14	04/13/18 16:34	1
Isophorone	ND		9.8	0.56	ug/L		04/10/18 14:14	04/13/18 16:34	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/10/18 14:14	04/13/18 16:34	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		04/10/18 14:14	04/13/18 16:34	1
Phenol	ND		9.8	2.6	ug/L		04/10/18 14:14	04/13/18 16:34	1
Pyridine	ND		9.8	3.2	ug/L		04/10/18 14:14	04/13/18 16:34	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.029	0.0054	ug/L		04/12/18 09:00	04/13/18 04:37	1
1,2-Dibromoethane	ND		0.020	0.0049	ug/L		04/12/18 09:00	04/13/18 04:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	129	p	51 - 149	04/12/18 09:00	04/13/18 04:37	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: TB-ROX-040618-8011-B

Lab Sample ID: 400-151906-9

Date Collected: 04/06/18 00:00

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND	*	0.034	0.0063	ug/L		04/12/18 09:00	04/13/18 04:57	1
1,2-Dibromoethane	ND		0.023	0.0057	ug/L		04/12/18 09:00	04/13/18 04:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	127	p	51 - 149				04/12/18 09:00	04/13/18 04:57	1



Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: TB-ROX-040618-8260-B

Lab Sample ID: 400-151906-10

Date Collected: 04/06/18 00:00

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/12/18 19:28	1
Acrolein	ND		20	10	ug/L			04/12/18 19:28	1
Acrylonitrile	ND		10	2.8	ug/L			04/12/18 19:28	1
Benzene	ND		1.0	0.38	ug/L			04/12/18 19:28	1
Bromobenzene	ND		1.0	0.54	ug/L			04/12/18 19:28	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/12/18 19:28	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/12/18 19:28	1
Bromoform	ND		5.0	0.71	ug/L			04/12/18 19:28	1
Bromomethane	ND		1.0	0.98	ug/L			04/12/18 19:28	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/12/18 19:28	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/12/18 19:28	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/12/18 19:28	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/12/18 19:28	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/12/18 19:28	1
Chloroethane	ND		1.0	0.76	ug/L			04/12/18 19:28	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/12/18 19:28	1
Chloroform	ND		1.0	0.60	ug/L			04/12/18 19:28	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/12/18 19:28	1
Chloromethane	ND		1.0	0.83	ug/L			04/12/18 19:28	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/12/18 19:28	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/12/18 19:28	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/12/18 19:28	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/12/18 19:28	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/12/18 19:28	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/12/18 19:28	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/12/18 19:28	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/12/18 19:28	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/12/18 19:28	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/12/18 19:28	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/12/18 19:28	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/12/18 19:28	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/12/18 19:28	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/12/18 19:28	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/12/18 19:28	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/12/18 19:28	1
2-Hexanone	ND		25	3.1	ug/L			04/12/18 19:28	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/12/18 19:28	1
Methylene bromide	ND		5.0	0.59	ug/L			04/12/18 19:28	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/12/18 19:28	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/12/18 19:28	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/12/18 19:28	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/12/18 19:28	1
Naphthalene	ND		1.0	1.0	ug/L			04/12/18 19:28	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/12/18 19:28	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/12/18 19:28	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/12/18 19:28	1
o-Xylene	ND		5.0	0.60	ug/L			04/12/18 19:28	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/12/18 19:28	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/12/18 19:28	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: TB-ROX-040618-8260-B

Lab Sample ID: 400-151906-10

Date Collected: 04/06/18 00:00

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/12/18 19:28	1
Styrene	ND		1.0	1.0	ug/L			04/12/18 19:28	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/12/18 19:28	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/12/18 19:28	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/12/18 19:28	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/12/18 19:28	1
Toluene	ND		1.0	0.70	ug/L			04/12/18 19:28	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/12/18 19:28	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/12/18 19:28	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/12/18 19:28	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/12/18 19:28	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/12/18 19:28	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/12/18 19:28	1
Trichloroethene	ND		1.0	0.50	ug/L			04/12/18 19:28	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/12/18 19:28	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/12/18 19:28	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/12/18 19:28	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/12/18 19:28	1
Vinyl acetate	ND		25	2.0	ug/L			04/12/18 19:28	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/12/18 19:28	1
Xylenes, Total	ND		10	1.6	ug/L			04/12/18 19:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	110		78 - 118					04/12/18 19:28	1
Dibromofluoromethane	102		81 - 121					04/12/18 19:28	1
Toluene-d8 (Surr)	100		80 - 120					04/12/18 19:28	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: P114R-ROX-040618-EB

Lab Sample ID: 400-151906-11

Date Collected: 04/06/18 09:20

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/11/18 18:54	1
Acrolein	ND		20	10	ug/L			04/11/18 18:54	1
Acrylonitrile	ND		10	2.8	ug/L			04/11/18 18:54	1
Benzene	ND		1.0	0.38	ug/L			04/11/18 18:54	1
Bromobenzene	ND		1.0	0.54	ug/L			04/11/18 18:54	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/11/18 18:54	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/11/18 18:54	1
Bromoform	ND		5.0	0.71	ug/L			04/11/18 18:54	1
Bromomethane	ND		1.0	0.98	ug/L			04/11/18 18:54	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/11/18 18:54	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/11/18 18:54	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/11/18 18:54	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/11/18 18:54	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/11/18 18:54	1
Chloroethane	ND		1.0	0.76	ug/L			04/11/18 18:54	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/11/18 18:54	1
Chloroform	ND		1.0	0.60	ug/L			04/11/18 18:54	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/11/18 18:54	1
Chloromethane	ND		1.0	0.83	ug/L			04/11/18 18:54	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 18:54	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/11/18 18:54	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/11/18 18:54	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/11/18 18:54	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/11/18 18:54	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/11/18 18:54	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/11/18 18:54	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/11/18 18:54	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 18:54	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 18:54	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 18:54	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 18:54	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/11/18 18:54	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/11/18 18:54	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/11/18 18:54	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/11/18 18:54	1
2-Hexanone	ND		25	3.1	ug/L			04/11/18 18:54	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/11/18 18:54	1
Methylene bromide	ND		5.0	0.59	ug/L			04/11/18 18:54	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/11/18 18:54	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/11/18 18:54	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/11/18 18:54	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/11/18 18:54	1
Naphthalene	ND		1.0	1.0	ug/L			04/11/18 18:54	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/11/18 18:54	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/11/18 18:54	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/11/18 18:54	1
o-Xylene	ND		5.0	0.60	ug/L			04/11/18 18:54	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/11/18 18:54	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/11/18 18:54	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: P114R-ROX-040618-EB

Lab Sample ID: 400-151906-11

Date Collected: 04/06/18 09:20

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/11/18 18:54	1
Styrene	ND		1.0	1.0	ug/L			04/11/18 18:54	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/11/18 18:54	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/11/18 18:54	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/11/18 18:54	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/11/18 18:54	1
Toluene	ND		1.0	0.70	ug/L			04/11/18 18:54	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 18:54	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/11/18 18:54	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/11/18 18:54	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/11/18 18:54	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/11/18 18:54	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/11/18 18:54	1
Trichloroethene	ND		1.0	0.50	ug/L			04/11/18 18:54	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/11/18 18:54	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/11/18 18:54	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/11/18 18:54	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/11/18 18:54	1
Vinyl acetate	ND		25	2.0	ug/L			04/11/18 18:54	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/11/18 18:54	1
Xylenes, Total	ND		10	1.6	ug/L			04/11/18 18:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107		78 - 118		04/11/18 18:54	1
Dibromofluoromethane	99		81 - 121		04/11/18 18:54	1
Toluene-d8 (Surr)	101		80 - 120		04/11/18 18:54	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 15:36	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 15:36	1
Anthracene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 15:36	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 15:36	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 15:36	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 15:36	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 15:36	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 15:36	1
Chrysene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 15:36	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 15:36	1
Fluoranthene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 15:36	1
Fluorene	ND		0.20	0.021	ug/L		04/10/18 14:14	04/12/18 15:36	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 15:36	1
Phenanthrene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 15:36	1
Pyrene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 15:36	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 15:36	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 15:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	82		33 - 138	04/10/18 14:14	04/12/18 15:36	1
2-Fluorobiphenyl	95		15 - 122	04/10/18 14:14	04/12/18 15:36	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: P114R-ROX-040618-EB

Lab Sample ID: 400-151906-11

Date Collected: 04/06/18 09:20

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	76		19 - 130	04/10/18 14:14	04/12/18 15:36	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		04/10/18 14:14	04/12/18 17:22	1
Benzenethiol	ND	*	10	1.7	ug/L		04/10/18 14:14	04/12/18 17:22	1
Benzoic acid	ND		30	7.3	ug/L		04/10/18 14:14	04/12/18 17:22	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		04/10/18 14:14	04/12/18 17:22	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		04/10/18 14:14	04/12/18 17:22	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		04/10/18 14:14	04/12/18 17:22	1
Bis(2-ethylhexyl) phthalate	ND		10	2.3	ug/L		04/10/18 14:14	04/12/18 17:22	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		04/10/18 14:14	04/12/18 17:22	1
4-Chloroaniline	ND		10	3.4	ug/L		04/10/18 14:14	04/12/18 17:22	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		04/10/18 14:14	04/12/18 17:22	1
2-Chloronaphthalene	ND		10	0.52	ug/L		04/10/18 14:14	04/12/18 17:22	1
2-Chlorophenol	ND		10	2.2	ug/L		04/10/18 14:14	04/12/18 17:22	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		04/10/18 14:14	04/12/18 17:22	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		04/10/18 14:14	04/12/18 17:22	1
Dibenzofuran	ND		10	0.52	ug/L		04/10/18 14:14	04/12/18 17:22	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		04/10/18 14:14	04/12/18 17:22	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		04/10/18 14:14	04/12/18 17:22	1
Diethyl phthalate	ND		10	0.70	ug/L		04/10/18 14:14	04/12/18 17:22	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		04/10/18 14:14	04/12/18 17:22	1
Dimethyl phthalate	ND		10	0.60	ug/L		04/10/18 14:14	04/12/18 17:22	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		04/10/18 14:14	04/12/18 17:22	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		04/10/18 14:14	04/12/18 17:22	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/10/18 14:14	04/12/18 17:22	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		04/10/18 14:14	04/12/18 17:22	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		04/10/18 14:14	04/12/18 17:22	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		04/10/18 14:14	04/12/18 17:22	1
Hexachlorobenzene	ND		10	0.25	ug/L		04/10/18 14:14	04/12/18 17:22	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/10/18 14:14	04/12/18 17:22	1
Hexachloroethane	ND		10	4.2	ug/L		04/10/18 14:14	04/12/18 17:22	1
Indene	ND		10	1.0	ug/L		04/10/18 14:14	04/12/18 17:22	1
2-Methylphenol	ND		10	1.8	ug/L		04/10/18 14:14	04/12/18 17:22	1
2-Nitroaniline	ND		10	2.2	ug/L		04/10/18 14:14	04/12/18 17:22	1
3-Nitroaniline	ND		10	1.8	ug/L		04/10/18 14:14	04/12/18 17:22	1
4-Nitroaniline	ND		10	2.5	ug/L		04/10/18 14:14	04/12/18 17:22	1
Nitrobenzene	ND		10	0.55	ug/L		04/10/18 14:14	04/12/18 17:22	1
2-Nitrophenol	ND		10	0.65	ug/L		04/10/18 14:14	04/12/18 17:22	1
4-Nitrophenol	ND		10	2.1	ug/L		04/10/18 14:14	04/12/18 17:22	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		04/10/18 14:14	04/12/18 17:22	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		04/10/18 14:14	04/12/18 17:22	1
Pentachlorophenol	ND		20	1.8	ug/L		04/10/18 14:14	04/12/18 17:22	1
Quinoline	ND		10	6.0	ug/L		04/10/18 14:14	04/12/18 17:22	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		04/10/18 14:14	04/12/18 17:22	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/10/18 14:14	04/12/18 17:22	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: P114R-ROX-040618-EB

Lab Sample ID: 400-151906-11

Date Collected: 04/06/18 09:20

Matrix: Water

Date Received: 04/07/18 08:18

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	78		34 - 120	04/10/18 14:14	04/12/18 17:22	1
2-Fluorophenol	63		10 - 120	04/10/18 14:14	04/12/18 17:22	1
Nitrobenzene-d5	70		27 - 120	04/10/18 14:14	04/12/18 17:22	1
Phenol-d5	64		10 - 120	04/10/18 14:14	04/12/18 17:22	1
Terphenyl-d14	90		53 - 125	04/10/18 14:14	04/12/18 17:22	1
2,4,6-Tribromophenol	73		15 - 135	04/10/18 14:14	04/12/18 17:22	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzyl alcohol	ND		10	2.0	ug/L		04/10/18 14:14	04/13/18 17:07	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		04/10/18 14:14	04/13/18 17:07	1
1,4-Dioxane	ND		10	1.0	ug/L		04/10/18 14:14	04/13/18 17:07	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		04/10/18 14:14	04/13/18 17:07	1
Isophorone	ND		10	0.57	ug/L		04/10/18 14:14	04/13/18 17:07	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/10/18 14:14	04/13/18 17:07	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		04/10/18 14:14	04/13/18 17:07	1
Phenol	ND		10	2.6	ug/L		04/10/18 14:14	04/13/18 17:07	1
Pyridine	ND		10	3.2	ug/L		04/10/18 14:14	04/13/18 17:07	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND	*	0.030	0.0055	ug/L		04/12/18 09:00	04/13/18 05:17	1
1,2-Dibromoethane	ND		0.020	0.0050	ug/L		04/12/18 09:00	04/13/18 05:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	116	p	51 - 149	04/12/18 09:00	04/13/18 05:17	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: P114R-ROX-040618

Lab Sample ID: 400-151906-12

Date Collected: 04/06/18 09:40

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/11/18 22:17	1
Acrolein	ND		20	10	ug/L			04/11/18 22:17	1
Acrylonitrile	ND		10	2.8	ug/L			04/11/18 22:17	1
Benzene	ND		1.0	0.38	ug/L			04/11/18 22:17	1
Bromobenzene	ND		1.0	0.54	ug/L			04/11/18 22:17	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/11/18 22:17	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/11/18 22:17	1
Bromoform	ND		5.0	0.71	ug/L			04/11/18 22:17	1
Bromomethane	ND		1.0	0.98	ug/L			04/11/18 22:17	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/11/18 22:17	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/11/18 22:17	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/11/18 22:17	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/11/18 22:17	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/11/18 22:17	1
Chloroethane	ND		1.0	0.76	ug/L			04/11/18 22:17	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/11/18 22:17	1
Chloroform	ND		1.0	0.60	ug/L			04/11/18 22:17	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/11/18 22:17	1
Chloromethane	ND		1.0	0.83	ug/L			04/11/18 22:17	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 22:17	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/11/18 22:17	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/11/18 22:17	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/11/18 22:17	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/11/18 22:17	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/11/18 22:17	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/11/18 22:17	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/11/18 22:17	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 22:17	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 22:17	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 22:17	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 22:17	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/11/18 22:17	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/11/18 22:17	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/11/18 22:17	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/11/18 22:17	1
2-Hexanone	ND		25	3.1	ug/L			04/11/18 22:17	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/11/18 22:17	1
Methylene bromide	ND		5.0	0.59	ug/L			04/11/18 22:17	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/11/18 22:17	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/11/18 22:17	1
Methyl tert-butyl ether	2.1		1.0	0.74	ug/L			04/11/18 22:17	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/11/18 22:17	1
Naphthalene	ND		1.0	1.0	ug/L			04/11/18 22:17	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/11/18 22:17	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/11/18 22:17	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/11/18 22:17	1
o-Xylene	ND		5.0	0.60	ug/L			04/11/18 22:17	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/11/18 22:17	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/11/18 22:17	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: P114R-ROX-040618

Lab Sample ID: 400-151906-12

Date Collected: 04/06/18 09:40

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/11/18 22:17	1
Styrene	ND		1.0	1.0	ug/L			04/11/18 22:17	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/11/18 22:17	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/11/18 22:17	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/11/18 22:17	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/11/18 22:17	1
Toluene	ND		1.0	0.70	ug/L			04/11/18 22:17	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 22:17	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/11/18 22:17	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/11/18 22:17	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/11/18 22:17	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/11/18 22:17	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/11/18 22:17	1
Trichloroethene	ND		1.0	0.50	ug/L			04/11/18 22:17	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/11/18 22:17	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/11/18 22:17	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/11/18 22:17	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/11/18 22:17	1
Vinyl acetate	ND		25	2.0	ug/L			04/11/18 22:17	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/11/18 22:17	1
Xylenes, Total	ND		10	1.6	ug/L			04/11/18 22:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	110		78 - 118					04/11/18 22:17	1
Dibromofluoromethane	97		81 - 121					04/11/18 22:17	1
Toluene-d8 (Surr)	100		80 - 120					04/11/18 22:17	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 15:53	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 15:53	1
Anthracene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 15:53	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 15:53	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 15:53	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 15:53	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 15:53	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 15:53	1
Chrysene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 15:53	1
Dibenz(a,h)anthracene	ND	UJ	0.20	0.040	ug/L		04/10/18 14:14	04/12/18 15:53	1
Fluoranthene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 15:53	1
Fluorene	ND		0.20	0.021	ug/L		04/10/18 14:14	04/12/18 15:53	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 15:53	1
Phenanthrene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 15:53	1
Pyrene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 15:53	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 15:53	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 15:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	49		33 - 138				04/10/18 14:14	04/12/18 15:53	1
2-Fluorobiphenyl	87		15 - 122				04/10/18 14:14	04/12/18 15:53	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: P114R-ROX-040618

Lab Sample ID: 400-151906-12

Date Collected: 04/06/18 09:40

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	78		19 - 130	04/10/18 14:14	04/12/18 15:53	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	UJ	9.9	3.8	ug/L		04/10/18 14:14	04/12/18 17:47	1
Benzenethiol	ND	UJ	9.9	1.7	ug/L		04/10/18 14:14	04/12/18 17:47	1
Benzoic acid	ND		30	7.2	ug/L		04/10/18 14:14	04/12/18 17:47	1
Bis(2-chloroethoxy)methane	ND		9.9	0.68	ug/L		04/10/18 14:14	04/12/18 17:47	1
Bis(2-chloroethyl)ether	ND		9.9	0.73	ug/L		04/10/18 14:14	04/12/18 17:47	1
bis (2-chloroisopropyl) ether	ND		9.9	0.80	ug/L		04/10/18 14:14	04/12/18 17:47	1
Bis(2-ethylhexyl) phthalate	ND		9.9	2.2	ug/L		04/10/18 14:14	04/12/18 17:47	1
4-Bromophenyl phenyl ether	ND		9.9	0.32	ug/L		04/10/18 14:14	04/12/18 17:47	1
4-Chloroaniline	ND		9.9	3.4	ug/L		04/10/18 14:14	04/12/18 17:47	1
4-Chloro-3-methylphenol	ND		9.9	3.8	ug/L		04/10/18 14:14	04/12/18 17:47	1
2-Chloronaphthalene	ND		9.9	0.52	ug/L		04/10/18 14:14	04/12/18 17:47	1
2-Chlorophenol	ND		9.9	2.2	ug/L		04/10/18 14:14	04/12/18 17:47	1
4-Chlorophenyl phenyl ether	ND		9.9	2.0	ug/L		04/10/18 14:14	04/12/18 17:47	1
Dibenz[a,h]acridine	ND		9.9	3.0	ug/L		04/10/18 14:14	04/12/18 17:47	1
Dibenzofuran	ND		9.9	0.52	ug/L		04/10/18 14:14	04/12/18 17:47	1
3,3'-Dichlorobenzidine	ND		9.9	2.6	ug/L		04/10/18 14:14	04/12/18 17:47	1
2,4-Dichlorophenol	ND		9.9	3.0	ug/L		04/10/18 14:14	04/12/18 17:47	1
Diethyl phthalate	ND		9.9	0.69	ug/L		04/10/18 14:14	04/12/18 17:47	1
2,4-Dimethylphenol	ND		9.9	3.5	ug/L		04/10/18 14:14	04/12/18 17:47	1
Dimethyl phthalate	ND		9.9	0.60	ug/L		04/10/18 14:14	04/12/18 17:47	1
Di-n-butyl phthalate	ND		9.9	2.7	ug/L		04/10/18 14:14	04/12/18 17:47	1
4,6-Dinitro-ortho-cresol	ND		9.9	2.0	ug/L		04/10/18 14:14	04/12/18 17:47	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/10/18 14:14	04/12/18 17:47	1
2,4-Dinitrotoluene	ND		9.9	1.9	ug/L		04/10/18 14:14	04/12/18 17:47	1
2,6-Dinitrotoluene	ND		9.9	1.9	ug/L		04/10/18 14:14	04/12/18 17:47	1
Di-n-octyl phthalate	ND		9.9	0.44	ug/L		04/10/18 14:14	04/12/18 17:47	1
Hexachlorobenzene	ND		9.9	0.25	ug/L		04/10/18 14:14	04/12/18 17:47	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/10/18 14:14	04/12/18 17:47	1
Hexachloroethane	ND		9.9	4.2	ug/L		04/10/18 14:14	04/12/18 17:47	1
Indene	ND		9.9	0.99	ug/L		04/10/18 14:14	04/12/18 17:47	1
2-Methylphenol	ND		9.9	1.8	ug/L		04/10/18 14:14	04/12/18 17:47	1
2-Nitroaniline	ND		9.9	2.2	ug/L		04/10/18 14:14	04/12/18 17:47	1
3-Nitroaniline	ND		9.9	1.8	ug/L		04/10/18 14:14	04/12/18 17:47	1
4-Nitroaniline	ND		9.9	2.5	ug/L		04/10/18 14:14	04/12/18 17:47	1
Nitrobenzene	ND		9.9	0.55	ug/L		04/10/18 14:14	04/12/18 17:47	1
2-Nitrophenol	ND		9.9	0.65	ug/L		04/10/18 14:14	04/12/18 17:47	1
4-Nitrophenol	ND		9.9	2.1	ug/L		04/10/18 14:14	04/12/18 17:47	1
N-Nitrosodimethylamine	ND	UJ	9.9	3.5	ug/L		04/10/18 14:14	04/12/18 17:47	1
N-Nitrosodiphenylamine	ND		9.9	0.47	ug/L		04/10/18 14:14	04/12/18 17:47	1
Pentachlorophenol	ND		20	1.8	ug/L		04/10/18 14:14	04/12/18 17:47	1
Quinoline	ND		9.9	6.0	ug/L		04/10/18 14:14	04/12/18 17:47	1
2,4,5-Trichlorophenol	ND		9.9	3.7	ug/L		04/10/18 14:14	04/12/18 17:47	1
2,4,6-Trichlorophenol	ND		9.9	3.5	ug/L		04/10/18 14:14	04/12/18 17:47	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: P114R-ROX-040618

Lab Sample ID: 400-151906-12

Date Collected: 04/06/18 09:40

Matrix: Water

Date Received: 04/07/18 08:18

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	78		34 - 120	04/10/18 14:14	04/12/18 17:47	1
2-Fluorophenol	60		10 - 120	04/10/18 14:14	04/12/18 17:47	1
Nitrobenzene-d5	71		27 - 120	04/10/18 14:14	04/12/18 17:47	1
Phenol-d5	69		10 - 120	04/10/18 14:14	04/12/18 17:47	1
Terphenyl-d14	79		53 - 125	04/10/18 14:14	04/12/18 17:47	1
2,4,6-Tribromophenol	94		15 - 135	04/10/18 14:14	04/12/18 17:47	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzyl alcohol	ND		9.9	2.0	ug/L		04/10/18 14:14	04/13/18 17:41	1
Butyl benzyl phthalate	ND		9.9	0.68	ug/L		04/10/18 14:14	04/13/18 17:41	1
1,4-Dioxane	ND		9.9	0.99	ug/L		04/10/18 14:14	04/13/18 17:41	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	0.99	ug/L		04/10/18 14:14	04/13/18 17:41	1
Isophorone	ND		9.9	0.57	ug/L		04/10/18 14:14	04/13/18 17:41	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/10/18 14:14	04/13/18 17:41	1
N-Nitrosodi-n-propylamine	ND		9.9	3.3	ug/L		04/10/18 14:14	04/13/18 17:41	1
Phenol	ND		9.9	2.6	ug/L		04/10/18 14:14	04/13/18 17:41	1
Pyridine	ND		9.9	3.2	ug/L		04/10/18 14:14	04/13/18 17:41	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND	*	0.030	0.0055	ug/L		04/12/18 09:00	04/13/18 05:37	1
1,2-Dibromoethane	ND		0.020	0.0050	ug/L		04/12/18 09:00	04/13/18 05:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	114	p	51 - 149	04/12/18 09:00	04/13/18 05:37	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW13-ROX-040618

Lab Sample ID: 400-151906-13

Date Collected: 04/06/18 10:35

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/11/18 22:46	1
Acrolein	ND		20	10	ug/L			04/11/18 22:46	1
Acrylonitrile	ND		10	2.8	ug/L			04/11/18 22:46	1
Benzene	ND		1.0	0.38	ug/L			04/11/18 22:46	1
Bromobenzene	ND		1.0	0.54	ug/L			04/11/18 22:46	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/11/18 22:46	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/11/18 22:46	1
Bromoform	ND		5.0	0.71	ug/L			04/11/18 22:46	1
Bromomethane	ND		1.0	0.98	ug/L			04/11/18 22:46	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/11/18 22:46	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/11/18 22:46	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/11/18 22:46	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/11/18 22:46	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/11/18 22:46	1
Chloroethane	ND		1.0	0.76	ug/L			04/11/18 22:46	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/11/18 22:46	1
Chloroform	ND		1.0	0.60	ug/L			04/11/18 22:46	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/11/18 22:46	1
Chloromethane	ND		1.0	0.83	ug/L			04/11/18 22:46	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 22:46	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/11/18 22:46	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/11/18 22:46	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/11/18 22:46	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/11/18 22:46	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/11/18 22:46	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/11/18 22:46	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/11/18 22:46	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 22:46	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 22:46	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 22:46	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 22:46	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/11/18 22:46	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/11/18 22:46	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/11/18 22:46	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/11/18 22:46	1
2-Hexanone	ND		25	3.1	ug/L			04/11/18 22:46	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/11/18 22:46	1
Methylene bromide	ND		5.0	0.59	ug/L			04/11/18 22:46	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/11/18 22:46	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/11/18 22:46	1
Methyl tert-butyl ether	4.0		1.0	0.74	ug/L			04/11/18 22:46	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/11/18 22:46	1
Naphthalene	ND		1.0	1.0	ug/L			04/11/18 22:46	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/11/18 22:46	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/11/18 22:46	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/11/18 22:46	1
o-Xylene	ND		5.0	0.60	ug/L			04/11/18 22:46	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/11/18 22:46	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/11/18 22:46	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW13-ROX-040618

Lab Sample ID: 400-151906-13

Date Collected: 04/06/18 10:35

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/11/18 22:46	1
Styrene	ND		1.0	1.0	ug/L			04/11/18 22:46	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/11/18 22:46	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/11/18 22:46	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/11/18 22:46	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/11/18 22:46	1
Toluene	ND		1.0	0.70	ug/L			04/11/18 22:46	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 22:46	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/11/18 22:46	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/11/18 22:46	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/11/18 22:46	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/11/18 22:46	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/11/18 22:46	1
Trichloroethene	ND		1.0	0.50	ug/L			04/11/18 22:46	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/11/18 22:46	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/11/18 22:46	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/11/18 22:46	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/11/18 22:46	1
Vinyl acetate	ND		25	2.0	ug/L			04/11/18 22:46	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/11/18 22:46	1
Xylenes, Total	ND		10	1.6	ug/L			04/11/18 22:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	109		78 - 118		04/11/18 22:46	1
Dibromofluoromethane	99		81 - 121		04/11/18 22:46	1
Toluene-d8 (Surr)	101		80 - 120		04/11/18 22:46	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 16:10	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 16:10	1
Anthracene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 16:10	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		04/10/18 14:14	04/12/18 16:10	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		04/10/18 14:14	04/12/18 16:10	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		04/10/18 14:14	04/12/18 16:10	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		04/10/18 14:14	04/12/18 16:10	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		04/10/18 14:14	04/12/18 16:10	1
Chrysene	ND		0.20	0.039	ug/L		04/10/18 14:14	04/12/18 16:10	1
Dibenz(a,h)anthracene	ND	UJ	0.20	0.039	ug/L		04/10/18 14:14	04/12/18 16:10	1
Fluoranthene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 16:10	1
Fluorene	ND		0.20	0.021	ug/L		04/10/18 14:14	04/12/18 16:10	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		04/10/18 14:14	04/12/18 16:10	1
Phenanthrene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 16:10	1
Pyrene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 16:10	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 16:10	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 16:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	51		33 - 138	04/10/18 14:14	04/12/18 16:10	1
2-Fluorobiphenyl	98		15 - 122	04/10/18 14:14	04/12/18 16:10	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW13-ROX-040618

Lab Sample ID: 400-151906-13

Date Collected: 04/06/18 10:35

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	88		19 - 130	04/10/18 14:14	04/12/18 16:10	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	UJ	9.8	3.7	ug/L		04/10/18 14:14	04/12/18 18:11	1
Benzenethiol	ND	UJ	9.8	1.7	ug/L		04/10/18 14:14	04/12/18 18:11	1
Benzoic acid	ND		29	7.2	ug/L		04/10/18 14:14	04/12/18 18:11	1
Bis(2-chloroethoxy)methane	ND		9.8	0.68	ug/L		04/10/18 14:14	04/12/18 18:11	1
Bis(2-chloroethyl)ether	ND		9.8	0.73	ug/L		04/10/18 14:14	04/12/18 18:11	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		04/10/18 14:14	04/12/18 18:11	1
Bis(2-ethylhexyl) phthalate	ND		9.8	2.2	ug/L		04/10/18 14:14	04/12/18 18:11	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		04/10/18 14:14	04/12/18 18:11	1
4-Chloroaniline	ND		9.8	3.3	ug/L		04/10/18 14:14	04/12/18 18:11	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		04/10/18 14:14	04/12/18 18:11	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		04/10/18 14:14	04/12/18 18:11	1
2-Chlorophenol	ND		9.8	2.2	ug/L		04/10/18 14:14	04/12/18 18:11	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		04/10/18 14:14	04/12/18 18:11	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		04/10/18 14:14	04/12/18 18:11	1
Dibenzofuran	ND		9.8	0.51	ug/L		04/10/18 14:14	04/12/18 18:11	1
3,3'-Dichlorobenzidine	ND		9.8	2.6	ug/L		04/10/18 14:14	04/12/18 18:11	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		04/10/18 14:14	04/12/18 18:11	1
Diethyl phthalate	ND		9.8	0.69	ug/L		04/10/18 14:14	04/12/18 18:11	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		04/10/18 14:14	04/12/18 18:11	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		04/10/18 14:14	04/12/18 18:11	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		04/10/18 14:14	04/12/18 18:11	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		04/10/18 14:14	04/12/18 18:11	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		04/10/18 14:14	04/12/18 18:11	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		04/10/18 14:14	04/12/18 18:11	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		04/10/18 14:14	04/12/18 18:11	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		04/10/18 14:14	04/12/18 18:11	1
Hexachlorobenzene	ND		9.8	0.25	ug/L		04/10/18 14:14	04/12/18 18:11	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/10/18 14:14	04/12/18 18:11	1
Hexachloroethane	ND		9.8	4.1	ug/L		04/10/18 14:14	04/12/18 18:11	1
Indene	ND		9.8	0.98	ug/L		04/10/18 14:14	04/12/18 18:11	1
2-Methylphenol	ND		9.8	1.8	ug/L		04/10/18 14:14	04/12/18 18:11	1
2-Nitroaniline	ND		9.8	2.2	ug/L		04/10/18 14:14	04/12/18 18:11	1
3-Nitroaniline	ND		9.8	1.8	ug/L		04/10/18 14:14	04/12/18 18:11	1
4-Nitroaniline	ND		9.8	2.4	ug/L		04/10/18 14:14	04/12/18 18:11	1
Nitrobenzene	ND		9.8	0.54	ug/L		04/10/18 14:14	04/12/18 18:11	1
2-Nitrophenol	ND		9.8	0.64	ug/L		04/10/18 14:14	04/12/18 18:11	1
4-Nitrophenol	ND		9.8	2.1	ug/L		04/10/18 14:14	04/12/18 18:11	1
N-Nitrosodimethylamine	ND	UJ	9.8	3.4	ug/L		04/10/18 14:14	04/12/18 18:11	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		04/10/18 14:14	04/12/18 18:11	1
Pentachlorophenol	ND		20	1.8	ug/L		04/10/18 14:14	04/12/18 18:11	1
Quinoline	ND		9.8	5.9	ug/L		04/10/18 14:14	04/12/18 18:11	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		04/10/18 14:14	04/12/18 18:11	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		04/10/18 14:14	04/12/18 18:11	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW13-ROX-040618

Lab Sample ID: 400-151906-13

Date Collected: 04/06/18 10:35

Matrix: Water

Date Received: 04/07/18 08:18

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	63		34 - 120	04/10/18 14:14	04/12/18 18:11	1
2-Fluorophenol	52		10 - 120	04/10/18 14:14	04/12/18 18:11	1
Nitrobenzene-d5	56		27 - 120	04/10/18 14:14	04/12/18 18:11	1
Phenol-d5	58		10 - 120	04/10/18 14:14	04/12/18 18:11	1
Terphenyl-d14	59		53 - 125	04/10/18 14:14	04/12/18 18:11	1
2,4,6-Tribromophenol	65		15 - 135	04/10/18 14:14	04/12/18 18:11	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzyl alcohol	ND		9.8	2.0	ug/L		04/10/18 14:14	04/13/18 18:14	1
Butyl benzyl phthalate	ND		9.8	0.68	ug/L		04/10/18 14:14	04/13/18 18:14	1
1,4-Dioxane	ND		9.8	0.98	ug/L		04/10/18 14:14	04/13/18 18:14	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		04/10/18 14:14	04/13/18 18:14	1
Isophorone	ND		9.8	0.56	ug/L		04/10/18 14:14	04/13/18 18:14	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/10/18 14:14	04/13/18 18:14	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		04/10/18 14:14	04/13/18 18:14	1
Phenol	ND		9.8	2.6	ug/L		04/10/18 14:14	04/13/18 18:14	1
Pyridine	ND		9.8	3.1	ug/L		04/10/18 14:14	04/13/18 18:14	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND	*	0.029	0.0053	ug/L		04/12/18 09:00	04/13/18 05:56	1
1,2-Dibromoethane	ND		0.019	0.0048	ug/L		04/12/18 09:00	04/13/18 05:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	114	p	51 - 149	04/12/18 09:00	04/13/18 05:56	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW9-ROX-040618

Lab Sample ID: 400-151906-14

Date Collected: 04/06/18 11:50

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/11/18 16:00	1
Acrolein	ND		20	10	ug/L			04/11/18 16:00	1
Acrylonitrile	ND		10	2.8	ug/L			04/11/18 16:00	1
Benzene	ND		1.0	0.38	ug/L			04/11/18 16:00	1
Bromobenzene	ND		1.0	0.54	ug/L			04/11/18 16:00	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/11/18 16:00	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/11/18 16:00	1
Bromoform	ND		5.0	0.71	ug/L			04/11/18 16:00	1
Bromomethane	ND		1.0	0.98	ug/L			04/11/18 16:00	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/11/18 16:00	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/11/18 16:00	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/11/18 16:00	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/11/18 16:00	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/11/18 16:00	1
Chloroethane	ND		1.0	0.76	ug/L			04/11/18 16:00	1
2-Chloroethyl vinyl ether	ND	F1 U5	5.0	2.0	ug/L			04/11/18 16:00	1
Chloroform	ND		1.0	0.60	ug/L			04/11/18 16:00	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/11/18 16:00	1
Chloromethane	ND		1.0	0.83	ug/L			04/11/18 16:00	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 16:00	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/11/18 16:00	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/11/18 16:00	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/11/18 16:00	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/11/18 16:00	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/11/18 16:00	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/11/18 16:00	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/11/18 16:00	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 16:00	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 16:00	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 16:00	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 16:00	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/11/18 16:00	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/11/18 16:00	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/11/18 16:00	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/11/18 16:00	1
2-Hexanone	ND		25	3.1	ug/L			04/11/18 16:00	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/11/18 16:00	1
Methylene bromide	ND		5.0	0.59	ug/L			04/11/18 16:00	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/11/18 16:00	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/11/18 16:00	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/11/18 16:00	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/11/18 16:00	1
Naphthalene	ND		1.0	1.0	ug/L			04/11/18 16:00	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/11/18 16:00	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/11/18 16:00	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/11/18 16:00	1
o-Xylene	ND		5.0	0.60	ug/L			04/11/18 16:00	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/11/18 16:00	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/11/18 16:00	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW9-ROX-040618

Lab Sample ID: 400-151906-14

Date Collected: 04/06/18 11:50

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/11/18 16:00	1
Styrene	ND		1.0	1.0	ug/L			04/11/18 16:00	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/11/18 16:00	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/11/18 16:00	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/11/18 16:00	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/11/18 16:00	1
Toluene	ND		1.0	0.70	ug/L			04/11/18 16:00	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 16:00	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/11/18 16:00	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/11/18 16:00	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/11/18 16:00	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/11/18 16:00	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/11/18 16:00	1
Trichloroethene	ND		1.0	0.50	ug/L			04/11/18 16:00	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/11/18 16:00	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/11/18 16:00	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/11/18 16:00	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/11/18 16:00	1
Vinyl acetate	ND		25	2.0	ug/L			04/11/18 16:00	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/11/18 16:00	1
Xylenes, Total	ND		10	1.6	ug/L			04/11/18 16:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	110		78 - 118		04/11/18 16:00	1
Dibromofluoromethane	98		81 - 121		04/11/18 16:00	1
Toluene-d8 (Surr)	103		80 - 120		04/11/18 16:00	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 13:52	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 13:52	1
Anthracene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 13:52	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 13:52	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 13:52	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 13:52	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 13:52	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 13:52	1
Chrysene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 13:52	1
Dibenz(a,h)anthracene	ND	UJ	0.20	0.040	ug/L		04/10/18 14:14	04/12/18 13:52	1
Fluoranthene	0.024	J	0.20	0.020	ug/L		04/10/18 14:14	04/12/18 13:52	1
Fluorene	ND		0.20	0.021	ug/L		04/10/18 14:14	04/12/18 13:52	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 13:52	1
Phenanthrene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 13:52	1
Pyrene	0.034	J	0.20	0.020	ug/L		04/10/18 14:14	04/12/18 13:52	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 13:52	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 13:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	69		33 - 138	04/10/18 14:14	04/12/18 13:52	1
2-Fluorobiphenyl	76		15 - 122	04/10/18 14:14	04/12/18 13:52	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW9-ROX-040618

Lab Sample ID: 400-151906-14

Date Collected: 04/06/18 11:50

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	65		19 - 130	04/10/18 14:14	04/12/18 13:52	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	UJ	9.9	3.8	ug/L		04/10/18 14:14	04/12/18 14:55	1
Benzenethiol	ND	UJ	9.9	1.7	ug/L		04/10/18 14:14	04/12/18 14:55	1
Benzoic acid	ND		30	7.2	ug/L		04/10/18 14:14	04/12/18 14:55	1
Bis(2-chloroethoxy)methane	ND		9.9	0.68	ug/L		04/10/18 14:14	04/12/18 14:55	1
Bis(2-chloroethyl)ether	ND		9.9	0.73	ug/L		04/10/18 14:14	04/12/18 14:55	1
bis (2-chloroisopropyl) ether	ND		9.9	0.80	ug/L		04/10/18 14:14	04/12/18 14:55	1
Bis(2-ethylhexyl) phthalate	ND		9.9	2.2	ug/L		04/10/18 14:14	04/12/18 14:55	1
4-Bromophenyl phenyl ether	ND		9.9	0.32	ug/L		04/10/18 14:14	04/12/18 14:55	1
4-Chloroaniline	ND		9.9	3.4	ug/L		04/10/18 14:14	04/12/18 14:55	1
4-Chloro-3-methylphenol	ND		9.9	3.8	ug/L		04/10/18 14:14	04/12/18 14:55	1
2-Chloronaphthalene	ND		9.9	0.51	ug/L		04/10/18 14:14	04/12/18 14:55	1
2-Chlorophenol	ND		9.9	2.2	ug/L		04/10/18 14:14	04/12/18 14:55	1
4-Chlorophenyl phenyl ether	ND		9.9	2.0	ug/L		04/10/18 14:14	04/12/18 14:55	1
Dibenz[a,h]acridine	ND		9.9	3.0	ug/L		04/10/18 14:14	04/12/18 14:55	1
Dibenzofuran	ND		9.9	0.51	ug/L		04/10/18 14:14	04/12/18 14:55	1
3,3'-Dichlorobenzidine	ND		9.9	2.6	ug/L		04/10/18 14:14	04/12/18 14:55	1
2,4-Dichlorophenol	ND		9.9	3.0	ug/L		04/10/18 14:14	04/12/18 14:55	1
Diethyl phthalate	ND		9.9	0.69	ug/L		04/10/18 14:14	04/12/18 14:55	1
2,4-Dimethylphenol	ND		9.9	3.5	ug/L		04/10/18 14:14	04/12/18 14:55	1
Dimethyl phthalate	ND		9.9	0.59	ug/L		04/10/18 14:14	04/12/18 14:55	1
Di-n-butyl phthalate	ND		9.9	2.7	ug/L		04/10/18 14:14	04/12/18 14:55	1
4,6-Dinitro-ortho-cresol	ND		9.9	2.0	ug/L		04/10/18 14:14	04/12/18 14:55	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/10/18 14:14	04/12/18 14:55	1
2,4-Dinitrotoluene	ND		9.9	1.9	ug/L		04/10/18 14:14	04/12/18 14:55	1
2,6-Dinitrotoluene	ND		9.9	1.9	ug/L		04/10/18 14:14	04/12/18 14:55	1
Di-n-octyl phthalate	ND		9.9	0.43	ug/L		04/10/18 14:14	04/12/18 14:55	1
Hexachlorobenzene	ND		9.9	0.25	ug/L		04/10/18 14:14	04/12/18 14:55	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/10/18 14:14	04/12/18 14:55	1
Hexachloroethane	ND		9.9	4.1	ug/L		04/10/18 14:14	04/12/18 14:55	1
Indene	ND		9.9	0.99	ug/L		04/10/18 14:14	04/12/18 14:55	1
2-Methylphenol	ND		9.9	1.8	ug/L		04/10/18 14:14	04/12/18 14:55	1
2-Nitroaniline	ND		9.9	2.2	ug/L		04/10/18 14:14	04/12/18 14:55	1
3-Nitroaniline	ND		9.9	1.8	ug/L		04/10/18 14:14	04/12/18 14:55	1
4-Nitroaniline	ND		9.9	2.5	ug/L		04/10/18 14:14	04/12/18 14:55	1
Nitrobenzene	ND		9.9	0.54	ug/L		04/10/18 14:14	04/12/18 14:55	1
2-Nitrophenol	ND		9.9	0.64	ug/L		04/10/18 14:14	04/12/18 14:55	1
4-Nitrophenol	ND		9.9	2.1	ug/L		04/10/18 14:14	04/12/18 14:55	1
N-Nitrosodimethylamine	ND	UJ	9.9	3.5	ug/L		04/10/18 14:14	04/12/18 14:55	1
N-Nitrosodiphenylamine	ND		9.9	0.46	ug/L		04/10/18 14:14	04/12/18 14:55	1
Pentachlorophenol	ND		20	1.8	ug/L		04/10/18 14:14	04/12/18 14:55	1
Quinoline	ND	F2	9.9	5.9	ug/L		04/10/18 14:14	04/12/18 14:55	1
2,4,5-Trichlorophenol	ND		9.9	3.7	ug/L		04/10/18 14:14	04/12/18 14:55	1
2,4,6-Trichlorophenol	ND		9.9	3.5	ug/L		04/10/18 14:14	04/12/18 14:55	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW9-ROX-040618

Lab Sample ID: 400-151906-14

Date Collected: 04/06/18 11:50

Matrix: Water

Date Received: 04/07/18 08:18

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	61		34 - 120	04/10/18 14:14	04/12/18 14:55	1
2-Fluorophenol	51		10 - 120	04/10/18 14:14	04/12/18 14:55	1
Nitrobenzene-d5	56		27 - 120	04/10/18 14:14	04/12/18 14:55	1
Phenol-d5	58		10 - 120	04/10/18 14:14	04/12/18 14:55	1
Terphenyl-d14	71		53 - 125	04/10/18 14:14	04/12/18 14:55	1
2,4,6-Tribromophenol	57		15 - 135	04/10/18 14:14	04/12/18 14:55	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzyl alcohol	ND		9.9	2.0	ug/L		04/10/18 14:14	04/13/18 18:48	1
Butyl benzyl phthalate	ND		9.9	0.68	ug/L		04/10/18 14:14	04/13/18 18:48	1
1,4-Dioxane	ND		9.9	0.99	ug/L		04/10/18 14:14	04/13/18 18:48	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	0.99	ug/L		04/10/18 14:14	04/13/18 18:48	1
Isophorone	ND		9.9	0.56	ug/L		04/10/18 14:14	04/13/18 18:48	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/10/18 14:14	04/13/18 18:48	1
N-Nitrosodi-n-propylamine	ND		9.9	3.3	ug/L		04/10/18 14:14	04/13/18 18:48	1
Phenol	ND		9.9	2.6	ug/L		04/10/18 14:14	04/13/18 18:48	1
Pyridine	ND		9.9	3.2	ug/L		04/10/18 14:14	04/13/18 18:48	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND	*	0.029	0.0053	ug/L		04/12/18 09:00	04/13/18 06:16	1
1,2-Dibromoethane	ND		0.019	0.0048	ug/L		04/12/18 09:00	04/13/18 06:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	135		51 - 149	04/12/18 09:00	04/13/18 06:16	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: ROST3MW-ROX-040618

Lab Sample ID: 400-151906-15

Date Collected: 04/06/18 13:50

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/11/18 23:15	1
Acrolein	ND		20	10	ug/L			04/11/18 23:15	1
Acrylonitrile	ND		10	2.8	ug/L			04/11/18 23:15	1
Benzene	ND		1.0	0.38	ug/L			04/11/18 23:15	1
Bromobenzene	ND		1.0	0.54	ug/L			04/11/18 23:15	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/11/18 23:15	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/11/18 23:15	1
Bromoform	ND		5.0	0.71	ug/L			04/11/18 23:15	1
Bromomethane	ND		1.0	0.98	ug/L			04/11/18 23:15	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/11/18 23:15	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/11/18 23:15	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/11/18 23:15	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/11/18 23:15	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/11/18 23:15	1
Chloroethane	ND		1.0	0.76	ug/L			04/11/18 23:15	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/11/18 23:15	1
Chloroform	ND		1.0	0.60	ug/L			04/11/18 23:15	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/11/18 23:15	1
Chloromethane	ND		1.0	0.83	ug/L			04/11/18 23:15	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 23:15	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/11/18 23:15	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/11/18 23:15	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/11/18 23:15	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/11/18 23:15	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/11/18 23:15	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/11/18 23:15	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/11/18 23:15	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 23:15	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 23:15	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 23:15	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 23:15	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/11/18 23:15	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/11/18 23:15	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/11/18 23:15	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/11/18 23:15	1
2-Hexanone	ND		25	3.1	ug/L			04/11/18 23:15	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/11/18 23:15	1
Methylene bromide	ND		5.0	0.59	ug/L			04/11/18 23:15	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/11/18 23:15	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/11/18 23:15	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/11/18 23:15	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/11/18 23:15	1
Naphthalene	ND		1.0	1.0	ug/L			04/11/18 23:15	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/11/18 23:15	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/11/18 23:15	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/11/18 23:15	1
o-Xylene	ND		5.0	0.60	ug/L			04/11/18 23:15	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/11/18 23:15	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/11/18 23:15	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: ROST3MW-ROX-040618

Lab Sample ID: 400-151906-15

Date Collected: 04/06/18 13:50

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/11/18 23:15	1
Styrene	ND		1.0	1.0	ug/L			04/11/18 23:15	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/11/18 23:15	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/11/18 23:15	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/11/18 23:15	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/11/18 23:15	1
Toluene	ND		1.0	0.70	ug/L			04/11/18 23:15	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 23:15	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/11/18 23:15	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/11/18 23:15	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/11/18 23:15	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/11/18 23:15	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/11/18 23:15	1
Trichloroethene	ND		1.0	0.50	ug/L			04/11/18 23:15	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/11/18 23:15	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/11/18 23:15	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/11/18 23:15	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/11/18 23:15	1
Vinyl acetate	ND		25	2.0	ug/L			04/11/18 23:15	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/11/18 23:15	1
Xylenes, Total	ND		10	1.6	ug/L			04/11/18 23:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	113		78 - 118		04/11/18 23:15	1
Dibromofluoromethane	96		81 - 121		04/11/18 23:15	1
Toluene-d8 (Surr)	99		80 - 120		04/11/18 23:15	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.28		0.20	0.020	ug/L		04/10/18 14:17	04/12/18 16:27	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/10/18 14:17	04/12/18 16:27	1
Anthracene	ND		0.20	0.020	ug/L		04/10/18 14:17	04/12/18 16:27	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		04/10/18 14:17	04/12/18 16:27	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		04/10/18 14:17	04/12/18 16:27	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		04/10/18 14:17	04/12/18 16:27	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		04/10/18 14:17	04/12/18 16:27	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		04/10/18 14:17	04/12/18 16:27	1
Chrysene	ND		0.20	0.039	ug/L		04/10/18 14:17	04/12/18 16:27	1
Dibenz(a,h)anthracene	ND	UJ	0.20	0.039	ug/L		04/10/18 14:17	04/12/18 16:27	1
Fluoranthene	ND		0.20	0.020	ug/L		04/10/18 14:17	04/12/18 16:27	1
Fluorene	0.087	J	0.20	0.021	ug/L		04/10/18 14:17	04/12/18 16:27	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		04/10/18 14:17	04/12/18 16:27	1
Phenanthrene	0.067	J	0.20	0.020	ug/L		04/10/18 14:17	04/12/18 16:27	1
Pyrene	ND		0.20	0.020	ug/L		04/10/18 14:17	04/12/18 16:27	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/10/18 14:17	04/12/18 16:27	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/10/18 14:17	04/12/18 16:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	73		33 - 138	04/10/18 14:17	04/12/18 16:27	1
2-Fluorobiphenyl	92		15 - 122	04/10/18 14:17	04/12/18 16:27	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: ROST3MW-ROX-040618

Lab Sample ID: 400-151906-15

Date Collected: 04/06/18 13:50

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	83		19 - 130	04/10/18 14:17	04/12/18 16:27	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	UJ	9.8	3.7	ug/L		04/10/18 14:17	04/12/18 18:36	1
Benzenethiol	ND	UJ	9.8	1.7	ug/L		04/10/18 14:17	04/12/18 18:36	1
Benzoic acid	ND		29	7.2	ug/L		04/10/18 14:17	04/12/18 18:36	1
Bis(2-chloroethoxy)methane	ND		9.8	0.68	ug/L		04/10/18 14:17	04/12/18 18:36	1
Bis(2-chloroethyl)ether	ND		9.8	0.73	ug/L		04/10/18 14:17	04/12/18 18:36	1
bis (2-chloroisopropyl) ether	ND		9.8	0.80	ug/L		04/10/18 14:17	04/12/18 18:36	1
Bis(2-ethylhexyl) phthalate	ND		9.8	2.2	ug/L		04/10/18 14:17	04/12/18 18:36	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		04/10/18 14:17	04/12/18 18:36	1
4-Chloroaniline	ND		9.8	3.3	ug/L		04/10/18 14:17	04/12/18 18:36	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		04/10/18 14:17	04/12/18 18:36	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		04/10/18 14:17	04/12/18 18:36	1
2-Chlorophenol	ND		9.8	2.2	ug/L		04/10/18 14:17	04/12/18 18:36	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		04/10/18 14:17	04/12/18 18:36	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		04/10/18 14:17	04/12/18 18:36	1
Dibenzofuran	ND		9.8	0.51	ug/L		04/10/18 14:17	04/12/18 18:36	1
3,3'-Dichlorobenzidine	ND		9.8	2.6	ug/L		04/10/18 14:17	04/12/18 18:36	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		04/10/18 14:17	04/12/18 18:36	1
Diethyl phthalate	ND		9.8	0.69	ug/L		04/10/18 14:17	04/12/18 18:36	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		04/10/18 14:17	04/12/18 18:36	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		04/10/18 14:17	04/12/18 18:36	1
Di-n-butyl phthalate	ND		9.8	2.7	ug/L		04/10/18 14:17	04/12/18 18:36	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		04/10/18 14:17	04/12/18 18:36	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		04/10/18 14:17	04/12/18 18:36	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		04/10/18 14:17	04/12/18 18:36	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		04/10/18 14:17	04/12/18 18:36	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		04/10/18 14:17	04/12/18 18:36	1
Hexachlorobenzene	ND		9.8	0.25	ug/L		04/10/18 14:17	04/12/18 18:36	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/10/18 14:17	04/12/18 18:36	1
Hexachloroethane	ND		9.8	4.1	ug/L		04/10/18 14:17	04/12/18 18:36	1
Indene	ND		9.8	0.98	ug/L		04/10/18 14:17	04/12/18 18:36	1
2-Methylphenol	ND		9.8	1.8	ug/L		04/10/18 14:17	04/12/18 18:36	1
2-Nitroaniline	ND		9.8	2.2	ug/L		04/10/18 14:17	04/12/18 18:36	1
3-Nitroaniline	ND		9.8	1.8	ug/L		04/10/18 14:17	04/12/18 18:36	1
4-Nitroaniline	ND		9.8	2.4	ug/L		04/10/18 14:17	04/12/18 18:36	1
Nitrobenzene	ND		9.8	0.54	ug/L		04/10/18 14:17	04/12/18 18:36	1
2-Nitrophenol	ND		9.8	0.64	ug/L		04/10/18 14:17	04/12/18 18:36	1
4-Nitrophenol	ND		9.8	2.1	ug/L		04/10/18 14:17	04/12/18 18:36	1
N-Nitrosodimethylamine	ND	UJ	9.8	3.4	ug/L		04/10/18 14:17	04/12/18 18:36	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		04/10/18 14:17	04/12/18 18:36	1
Pentachlorophenol	ND		20	1.8	ug/L		04/10/18 14:17	04/12/18 18:36	1
Quinoline	ND		9.8	5.9	ug/L		04/10/18 14:17	04/12/18 18:36	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		04/10/18 14:17	04/12/18 18:36	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		04/10/18 14:17	04/12/18 18:36	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: ROST3MW-ROX-040618

Lab Sample ID: 400-151906-15

Date Collected: 04/06/18 13:50

Matrix: Water

Date Received: 04/07/18 08:18

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	74		34 - 120	04/10/18 14:17	04/12/18 18:36	1
2-Fluorophenol	62		10 - 120	04/10/18 14:17	04/12/18 18:36	1
Nitrobenzene-d5	76		27 - 120	04/10/18 14:17	04/12/18 18:36	1
Phenol-d5	68		10 - 120	04/10/18 14:17	04/12/18 18:36	1
Terphenyl-d14	83		53 - 125	04/10/18 14:17	04/12/18 18:36	1
2,4,6-Tribromophenol	65		15 - 135	04/10/18 14:17	04/12/18 18:36	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzyl alcohol	ND		9.8	2.0	ug/L		04/10/18 14:17	04/13/18 19:21	1
Butyl benzyl phthalate	ND		9.8	0.68	ug/L		04/10/18 14:17	04/13/18 19:21	1
1,4-Dioxane	ND		9.8	0.98	ug/L		04/10/18 14:17	04/13/18 19:21	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		04/10/18 14:17	04/13/18 19:21	1
Isophorone	ND		9.8	0.56	ug/L		04/10/18 14:17	04/13/18 19:21	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/10/18 14:17	04/13/18 19:21	1
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		04/10/18 14:17	04/13/18 19:21	1
Phenol	ND		9.8	2.6	ug/L		04/10/18 14:17	04/13/18 19:21	1
Pyridine	ND		9.8	3.1	ug/L		04/10/18 14:17	04/13/18 19:21	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND	*	0.032	0.0058	ug/L		04/12/18 09:00	04/13/18 07:15	1
1,2-Dibromoethane	ND		0.021	0.0053	ug/L		04/12/18 09:00	04/13/18 07:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	108		51 - 149	04/12/18 09:00	04/13/18 07:15	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW1-ROX-040618

Lab Sample ID: 400-151906-16

Date Collected: 04/06/18 14:45

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/11/18 23:43	1
Acrolein	ND		20	10	ug/L			04/11/18 23:43	1
Acrylonitrile	ND		10	2.8	ug/L			04/11/18 23:43	1
Benzene	ND		1.0	0.38	ug/L			04/11/18 23:43	1
Bromobenzene	ND		1.0	0.54	ug/L			04/11/18 23:43	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/11/18 23:43	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/11/18 23:43	1
Bromoform	ND		5.0	0.71	ug/L			04/11/18 23:43	1
Bromomethane	ND		1.0	0.98	ug/L			04/11/18 23:43	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/11/18 23:43	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/11/18 23:43	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/11/18 23:43	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/11/18 23:43	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/11/18 23:43	1
Chloroethane	ND		1.0	0.76	ug/L			04/11/18 23:43	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/11/18 23:43	1
Chloroform	ND		1.0	0.60	ug/L			04/11/18 23:43	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/11/18 23:43	1
Chloromethane	ND		1.0	0.83	ug/L			04/11/18 23:43	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 23:43	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/11/18 23:43	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/11/18 23:43	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/11/18 23:43	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/11/18 23:43	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/11/18 23:43	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/11/18 23:43	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/11/18 23:43	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 23:43	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 23:43	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 23:43	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 23:43	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/11/18 23:43	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/11/18 23:43	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/11/18 23:43	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/11/18 23:43	1
2-Hexanone	ND		25	3.1	ug/L			04/11/18 23:43	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/11/18 23:43	1
Methylene bromide	ND		5.0	0.59	ug/L			04/11/18 23:43	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/11/18 23:43	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/11/18 23:43	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/11/18 23:43	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/11/18 23:43	1
Naphthalene	ND		1.0	1.0	ug/L			04/11/18 23:43	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/11/18 23:43	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/11/18 23:43	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/11/18 23:43	1
o-Xylene	ND		5.0	0.60	ug/L			04/11/18 23:43	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/11/18 23:43	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/11/18 23:43	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW1-ROX-040618

Lab Sample ID: 400-151906-16

Date Collected: 04/06/18 14:45

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/11/18 23:43	1
Styrene	ND		1.0	1.0	ug/L			04/11/18 23:43	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/11/18 23:43	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/11/18 23:43	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/11/18 23:43	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/11/18 23:43	1
Toluene	ND		1.0	0.70	ug/L			04/11/18 23:43	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 23:43	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/11/18 23:43	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/11/18 23:43	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/11/18 23:43	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/11/18 23:43	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/11/18 23:43	1
Trichloroethene	ND		1.0	0.50	ug/L			04/11/18 23:43	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/11/18 23:43	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/11/18 23:43	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/11/18 23:43	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/11/18 23:43	1
Vinyl acetate	ND		25	2.0	ug/L			04/11/18 23:43	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/11/18 23:43	1
Xylenes, Total	ND		10	1.6	ug/L			04/11/18 23:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	110		78 - 118		04/11/18 23:43	1
Dibromofluoromethane	99		81 - 121		04/11/18 23:43	1
Toluene-d8 (Surr)	103		80 - 120		04/11/18 23:43	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/10/18 14:17	04/12/18 16:45	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/10/18 14:17	04/12/18 16:45	1
Anthracene	ND		0.20	0.020	ug/L		04/10/18 14:17	04/12/18 16:45	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/10/18 14:17	04/12/18 16:45	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/10/18 14:17	04/12/18 16:45	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/10/18 14:17	04/12/18 16:45	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/10/18 14:17	04/12/18 16:45	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/10/18 14:17	04/12/18 16:45	1
Chrysene	ND		0.20	0.040	ug/L		04/10/18 14:17	04/12/18 16:45	1
Dibenz(a,h)anthracene	ND	UJ	0.20	0.040	ug/L		04/10/18 14:17	04/12/18 16:45	1
Fluoranthene	ND		0.20	0.020	ug/L		04/10/18 14:17	04/12/18 16:45	1
Fluorene	ND		0.20	0.021	ug/L		04/10/18 14:17	04/12/18 16:45	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/10/18 14:17	04/12/18 16:45	1
Phenanthrene	ND		0.20	0.020	ug/L		04/10/18 14:17	04/12/18 16:45	1
Pyrene	ND		0.20	0.020	ug/L		04/10/18 14:17	04/12/18 16:45	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/10/18 14:17	04/12/18 16:45	1
2-Methylnaphthalene	0.021	J	0.20	0.020	ug/L		04/10/18 14:17	04/12/18 16:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	75		33 - 138	04/10/18 14:17	04/12/18 16:45	1
2-Fluorobiphenyl	86		15 - 122	04/10/18 14:17	04/12/18 16:45	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW1-ROX-040618

Lab Sample ID: 400-151906-16

Date Collected: 04/06/18 14:45

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	73		19 - 130	04/10/18 14:17	04/12/18 16:45	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	UJ	10	3.8	ug/L		04/10/18 14:17	04/12/18 19:00	1
Benzenethiol	ND	UJ	10	1.7	ug/L		04/10/18 14:17	04/12/18 19:00	1
Benzoic acid	ND		30	7.3	ug/L		04/10/18 14:17	04/12/18 19:00	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		04/10/18 14:17	04/12/18 19:00	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		04/10/18 14:17	04/12/18 19:00	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		04/10/18 14:17	04/12/18 19:00	1
Bis(2-ethylhexyl) phthalate	ND		10	2.3	ug/L		04/10/18 14:17	04/12/18 19:00	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		04/10/18 14:17	04/12/18 19:00	1
4-Chloroaniline	ND		10	3.4	ug/L		04/10/18 14:17	04/12/18 19:00	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		04/10/18 14:17	04/12/18 19:00	1
2-Chloronaphthalene	ND		10	0.52	ug/L		04/10/18 14:17	04/12/18 19:00	1
2-Chlorophenol	ND		10	2.2	ug/L		04/10/18 14:17	04/12/18 19:00	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		04/10/18 14:17	04/12/18 19:00	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		04/10/18 14:17	04/12/18 19:00	1
Dibenzofuran	ND		10	0.52	ug/L		04/10/18 14:17	04/12/18 19:00	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		04/10/18 14:17	04/12/18 19:00	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		04/10/18 14:17	04/12/18 19:00	1
Diethyl phthalate	ND		10	0.70	ug/L		04/10/18 14:17	04/12/18 19:00	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		04/10/18 14:17	04/12/18 19:00	1
Dimethyl phthalate	ND		10	0.60	ug/L		04/10/18 14:17	04/12/18 19:00	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		04/10/18 14:17	04/12/18 19:00	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		04/10/18 14:17	04/12/18 19:00	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/10/18 14:17	04/12/18 19:00	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		04/10/18 14:17	04/12/18 19:00	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		04/10/18 14:17	04/12/18 19:00	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		04/10/18 14:17	04/12/18 19:00	1
Hexachlorobenzene	ND		10	0.25	ug/L		04/10/18 14:17	04/12/18 19:00	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/10/18 14:17	04/12/18 19:00	1
Hexachloroethane	ND		10	4.2	ug/L		04/10/18 14:17	04/12/18 19:00	1
Indene	ND		10	1.0	ug/L		04/10/18 14:17	04/12/18 19:00	1
2-Methylphenol	ND		10	1.8	ug/L		04/10/18 14:17	04/12/18 19:00	1
2-Nitroaniline	ND		10	2.2	ug/L		04/10/18 14:17	04/12/18 19:00	1
3-Nitroaniline	ND		10	1.8	ug/L		04/10/18 14:17	04/12/18 19:00	1
4-Nitroaniline	ND		10	2.5	ug/L		04/10/18 14:17	04/12/18 19:00	1
Nitrobenzene	ND		10	0.55	ug/L		04/10/18 14:17	04/12/18 19:00	1
2-Nitrophenol	ND		10	0.65	ug/L		04/10/18 14:17	04/12/18 19:00	1
4-Nitrophenol	ND		10	2.1	ug/L		04/10/18 14:17	04/12/18 19:00	1
N-Nitrosodimethylamine	ND	UJ	10	3.5	ug/L		04/10/18 14:17	04/12/18 19:00	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		04/10/18 14:17	04/12/18 19:00	1
Pentachlorophenol	ND		20	1.8	ug/L		04/10/18 14:17	04/12/18 19:00	1
Quinoline	ND		10	6.0	ug/L		04/10/18 14:17	04/12/18 19:00	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		04/10/18 14:17	04/12/18 19:00	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/10/18 14:17	04/12/18 19:00	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW1-ROX-040618

Lab Sample ID: 400-151906-16

Date Collected: 04/06/18 14:45

Matrix: Water

Date Received: 04/07/18 08:18

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	73		34 - 120	04/10/18 14:17	04/12/18 19:00	1
2-Fluorophenol	57		10 - 120	04/10/18 14:17	04/12/18 19:00	1
Nitrobenzene-d5	63		27 - 120	04/10/18 14:17	04/12/18 19:00	1
Phenol-d5	62		10 - 120	04/10/18 14:17	04/12/18 19:00	1
Terphenyl-d14	90		53 - 125	04/10/18 14:17	04/12/18 19:00	1
2,4,6-Tribromophenol	79		15 - 135	04/10/18 14:17	04/12/18 19:00	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzyl alcohol	ND		10	2.0	ug/L		04/10/18 14:17	04/13/18 19:55	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		04/10/18 14:17	04/13/18 19:55	1
1,4-Dioxane	ND		10	1.0	ug/L		04/10/18 14:17	04/13/18 19:55	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		04/10/18 14:17	04/13/18 19:55	1
Isophorone	ND		10	0.57	ug/L		04/10/18 14:17	04/13/18 19:55	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/10/18 14:17	04/13/18 19:55	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		04/10/18 14:17	04/13/18 19:55	1
Phenol	ND		10	2.6	ug/L		04/10/18 14:17	04/13/18 19:55	1
Pyridine	ND		10	3.2	ug/L		04/10/18 14:17	04/13/18 19:55	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND	*	0.029	0.0053	ug/L		04/12/18 09:00	04/13/18 07:35	1
1,2-Dibromoethane	ND		0.019	0.0048	ug/L		04/12/18 09:00	04/13/18 07:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	131	p	51 - 149	04/12/18 09:00	04/13/18 07:35	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW28-ROX-040618

Lab Sample ID: 400-151906-17

Date Collected: 04/06/18 15:40

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/12/18 00:12	1
Acrolein	ND		20	10	ug/L			04/12/18 00:12	1
Acrylonitrile	ND		10	2.8	ug/L			04/12/18 00:12	1
Benzene	ND		1.0	0.38	ug/L			04/12/18 00:12	1
Bromobenzene	ND		1.0	0.54	ug/L			04/12/18 00:12	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/12/18 00:12	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/12/18 00:12	1
Bromoform	ND		5.0	0.71	ug/L			04/12/18 00:12	1
Bromomethane	ND		1.0	0.98	ug/L			04/12/18 00:12	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/12/18 00:12	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/12/18 00:12	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/12/18 00:12	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/12/18 00:12	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/12/18 00:12	1
Chloroethane	ND		1.0	0.76	ug/L			04/12/18 00:12	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/12/18 00:12	1
Chloroform	ND		1.0	0.60	ug/L			04/12/18 00:12	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/12/18 00:12	1
Chloromethane	ND		1.0	0.83	ug/L			04/12/18 00:12	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/12/18 00:12	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/12/18 00:12	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/12/18 00:12	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/12/18 00:12	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/12/18 00:12	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/12/18 00:12	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/12/18 00:12	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/12/18 00:12	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/12/18 00:12	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/12/18 00:12	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/12/18 00:12	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/12/18 00:12	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/12/18 00:12	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/12/18 00:12	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/12/18 00:12	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/12/18 00:12	1
2-Hexanone	ND		25	3.1	ug/L			04/12/18 00:12	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/12/18 00:12	1
Methylene bromide	ND		5.0	0.59	ug/L			04/12/18 00:12	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/12/18 00:12	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/12/18 00:12	1
Methyl tert-butyl ether	4.1		1.0	0.74	ug/L			04/12/18 00:12	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/12/18 00:12	1
Naphthalene	ND		1.0	1.0	ug/L			04/12/18 00:12	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/12/18 00:12	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/12/18 00:12	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/12/18 00:12	1
o-Xylene	ND		5.0	0.60	ug/L			04/12/18 00:12	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/12/18 00:12	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/12/18 00:12	1

TestAmerica Pensacola



Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW28-ROX-040618

Lab Sample ID: 400-151906-17

Date Collected: 04/06/18 15:40

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/12/18 00:12	1
Styrene	ND		1.0	1.0	ug/L			04/12/18 00:12	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/12/18 00:12	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/12/18 00:12	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/12/18 00:12	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/12/18 00:12	1
Toluene	ND		1.0	0.70	ug/L			04/12/18 00:12	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/12/18 00:12	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/12/18 00:12	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/12/18 00:12	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/12/18 00:12	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/12/18 00:12	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/12/18 00:12	1
Trichloroethene	ND		1.0	0.50	ug/L			04/12/18 00:12	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/12/18 00:12	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/12/18 00:12	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/12/18 00:12	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/12/18 00:12	1
Vinyl acetate	ND		25	2.0	ug/L			04/12/18 00:12	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/12/18 00:12	1
Xylenes, Total	ND		10	1.6	ug/L			04/12/18 00:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	111		78 - 118		04/12/18 00:12	1
Dibromofluoromethane	99		81 - 121		04/12/18 00:12	1
Toluene-d8 (Surr)	102		80 - 120		04/12/18 00:12	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/10/18 14:17	04/12/18 17:02	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/10/18 14:17	04/12/18 17:02	1
Anthracene	ND		0.20	0.020	ug/L		04/10/18 14:17	04/12/18 17:02	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/10/18 14:17	04/12/18 17:02	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/10/18 14:17	04/12/18 17:02	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/10/18 14:17	04/12/18 17:02	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/10/18 14:17	04/12/18 17:02	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/10/18 14:17	04/12/18 17:02	1
Chrysene	ND		0.20	0.040	ug/L		04/10/18 14:17	04/12/18 17:02	1
Dibenz(a,h)anthracene	ND	UJ	0.20	0.040	ug/L		04/10/18 14:17	04/12/18 17:02	1
Fluoranthene	ND		0.20	0.020	ug/L		04/10/18 14:17	04/12/18 17:02	1
Fluorene	ND		0.20	0.021	ug/L		04/10/18 14:17	04/12/18 17:02	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/10/18 14:17	04/12/18 17:02	1
Phenanthrene	ND		0.20	0.020	ug/L		04/10/18 14:17	04/12/18 17:02	1
Pyrene	ND		0.20	0.020	ug/L		04/10/18 14:17	04/12/18 17:02	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/10/18 14:17	04/12/18 17:02	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/10/18 14:17	04/12/18 17:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	82		33 - 138	04/10/18 14:17	04/12/18 17:02	1
2-Fluorobiphenyl	90		15 - 122	04/10/18 14:17	04/12/18 17:02	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW28-ROX-040618

Lab Sample ID: 400-151906-17

Date Collected: 04/06/18 15:40

Matrix: Water

Date Received: 04/07/18 08:18

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	78		19 - 130	04/10/18 14:17	04/12/18 17:02	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	UJ	10	3.8	ug/L		04/10/18 14:17	04/12/18 19:25	1
Benzenethiol	ND	UJ	10	1.7	ug/L		04/10/18 14:17	04/12/18 19:25	1
Benzoic acid	ND		30	7.3	ug/L		04/10/18 14:17	04/12/18 19:25	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		04/10/18 14:17	04/12/18 19:25	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		04/10/18 14:17	04/12/18 19:25	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		04/10/18 14:17	04/12/18 19:25	1
Bis(2-ethylhexyl) phthalate	ND		10	2.3	ug/L		04/10/18 14:17	04/12/18 19:25	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		04/10/18 14:17	04/12/18 19:25	1
4-Chloroaniline	ND		10	3.4	ug/L		04/10/18 14:17	04/12/18 19:25	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		04/10/18 14:17	04/12/18 19:25	1
2-Chloronaphthalene	ND		10	0.52	ug/L		04/10/18 14:17	04/12/18 19:25	1
2-Chlorophenol	ND		10	2.2	ug/L		04/10/18 14:17	04/12/18 19:25	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		04/10/18 14:17	04/12/18 19:25	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		04/10/18 14:17	04/12/18 19:25	1
Dibenzofuran	ND		10	0.52	ug/L		04/10/18 14:17	04/12/18 19:25	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		04/10/18 14:17	04/12/18 19:25	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		04/10/18 14:17	04/12/18 19:25	1
Diethyl phthalate	ND		10	0.70	ug/L		04/10/18 14:17	04/12/18 19:25	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		04/10/18 14:17	04/12/18 19:25	1
Dimethyl phthalate	ND		10	0.60	ug/L		04/10/18 14:17	04/12/18 19:25	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		04/10/18 14:17	04/12/18 19:25	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		04/10/18 14:17	04/12/18 19:25	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/10/18 14:17	04/12/18 19:25	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		04/10/18 14:17	04/12/18 19:25	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		04/10/18 14:17	04/12/18 19:25	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		04/10/18 14:17	04/12/18 19:25	1
Hexachlorobenzene	ND		10	0.25	ug/L		04/10/18 14:17	04/12/18 19:25	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/10/18 14:17	04/12/18 19:25	1
Hexachloroethane	ND		10	4.2	ug/L		04/10/18 14:17	04/12/18 19:25	1
Indene	ND		10	1.0	ug/L		04/10/18 14:17	04/12/18 19:25	1
2-Methylphenol	ND		10	1.8	ug/L		04/10/18 14:17	04/12/18 19:25	1
2-Nitroaniline	ND		10	2.2	ug/L		04/10/18 14:17	04/12/18 19:25	1
3-Nitroaniline	ND		10	1.8	ug/L		04/10/18 14:17	04/12/18 19:25	1
4-Nitroaniline	ND		10	2.5	ug/L		04/10/18 14:17	04/12/18 19:25	1
Nitrobenzene	ND		10	0.55	ug/L		04/10/18 14:17	04/12/18 19:25	1
2-Nitrophenol	ND		10	0.65	ug/L		04/10/18 14:17	04/12/18 19:25	1
4-Nitrophenol	ND		10	2.1	ug/L		04/10/18 14:17	04/12/18 19:25	1
N-Nitrosodimethylamine	ND	UJ	10	3.5	ug/L		04/10/18 14:17	04/12/18 19:25	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		04/10/18 14:17	04/12/18 19:25	1
Pentachlorophenol	ND		20	1.8	ug/L		04/10/18 14:17	04/12/18 19:25	1
Quinoline	ND		10	6.0	ug/L		04/10/18 14:17	04/12/18 19:25	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		04/10/18 14:17	04/12/18 19:25	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/10/18 14:17	04/12/18 19:25	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW28-ROX-040618

Lab Sample ID: 400-151906-17

Date Collected: 04/06/18 15:40

Matrix: Water

Date Received: 04/07/18 08:18

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	58		34 - 120	04/10/18 14:17	04/12/18 19:25	1
2-Fluorophenol	54		10 - 120	04/10/18 14:17	04/12/18 19:25	1
Nitrobenzene-d5	57		27 - 120	04/10/18 14:17	04/12/18 19:25	1
Phenol-d5	56		10 - 120	04/10/18 14:17	04/12/18 19:25	1
Terphenyl-d14	70		53 - 125	04/10/18 14:17	04/12/18 19:25	1
2,4,6-Tribromophenol	47		15 - 135	04/10/18 14:17	04/12/18 19:25	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzyl alcohol	ND		10	2.0	ug/L		04/10/18 14:17	04/13/18 20:28	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		04/10/18 14:17	04/13/18 20:28	1
1,4-Dioxane	ND		10	1.0	ug/L		04/10/18 14:17	04/13/18 20:28	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		04/10/18 14:17	04/13/18 20:28	1
Isophorone	ND		10	0.57	ug/L		04/10/18 14:17	04/13/18 20:28	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/10/18 14:17	04/13/18 20:28	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		04/10/18 14:17	04/13/18 20:28	1
Phenol	ND		10	2.6	ug/L		04/10/18 14:17	04/13/18 20:28	1
Pyridine	ND		10	3.2	ug/L		04/10/18 14:17	04/13/18 20:28	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND	*	0.031	0.0057	ug/L		04/12/18 09:00	04/17/18 11:21	1
1,2-Dibromoethane	ND		0.021	0.0052	ug/L		04/12/18 09:00	04/17/18 11:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	103	p	51 - 149	04/12/18 09:00	04/17/18 11:21	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F2	MS/MSD RPD exceeds control limits

GC Semi VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (78-118)	DBFM (81-121)	TOL (80-120)
400-151906-2	TB-ROX-040618-8260-A	110	95	102
400-151906-3	MW16-ROX-040618	110	96	101
400-151906-4	MW24-ROX-040618	114	99	102
400-151906-5	MW24-ROX-040618-DUP	109	97	101
400-151906-6	P54-ROX-040618	112	96	101
400-151906-7	MW11-ROX-040618	113	99	99
400-151906-8	MW27-ROX-040618	109	98	100
400-151906-10	TB-ROX-040618-8260-B	110	102	100
400-151906-11	P114R-ROX-040618-EB	107	99	101
400-151906-12	P114R-ROX-040618	110	97	100
400-151906-13	MW13-ROX-040618	109	99	101
400-151906-14	MW9-ROX-040618	110	98	103
400-151906-14 MS	MW9-ROX-040618	101	97	98
400-151906-14 MSD	MW9-ROX-040618	100	96	96
400-151906-15	ROST3MW-ROX-040618	113	96	99
400-151906-16	MW1-ROX-040618	110	99	103
400-151906-17	MW28-ROX-040618	111	99	102
400-151998-J-1 MS	Matrix Spike	102	101	96
400-151998-J-1 MSD	Matrix Spike Duplicate	108	99	97
LCS 400-393553/1002	Lab Control Sample	98	99	95
LCS 400-393673/1002	Lab Control Sample	98	97	96
MB 400-393553/27	Method Blank	109	96	101
MB 400-393673/4	Method Blank	109	100	100

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (34-120)	2FP (10-120)	NBZ (27-120)	PHL (10-120)	TPHL (53-125)	TBP (15-135)
400-151906-3	MW16-ROX-040618	57	41	56	49	73	62
400-151906-4	MW24-ROX-040618	71	49	67	54	89	52
400-151906-5	MW24-ROX-040618-DUP	77	52	71	57	97	56
400-151906-6	P54-ROX-040618	71	38	67	46	80	30
400-151906-7	MW11-ROX-040618	69	59	67	65	81	65
400-151906-8	MW27-ROX-040618	75	49	67	53	64	51
400-151906-11	P114R-ROX-040618-EB	78	63	70	64	90	73
400-151906-12	P114R-ROX-040618	78	60	71	69	79	94
400-151906-13	MW13-ROX-040618	63	52	56	58	59	65
400-151906-14	MW9-ROX-040618	61	51	56	58	71	57
400-151906-14 MS	MW9-ROX-040618	65	50	70	60	70	69
400-151906-14 MSD	MW9-ROX-040618	68	54	69	63	72	70
400-151906-15	ROST3MW-ROX-040618	74	62	76	68	83	65
400-151906-16	MW1-ROX-040618	73	57	63	62	90	79

TestAmerica Pensacola

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (34-120)	2FP (10-120)	NBZ (27-120)	PHL (10-120)	TPHL (53-125)	TBP (15-135)
400-151906-17	MW28-ROX-040618	58	54	57	56	70	47
LCS 400-393427/2-A	Lab Control Sample	76	67	75	76	88	80
LCS 400-393427/3-A	Lab Control Sample	83	48	81	67	96	71
LCS 400-393699/2-A	Lab Control Sample	64	60	57	64	78	82
LCS 400-393699/4-A	Lab Control Sample	71	67	66	64	92	73
LCSD 400-393427/4-A	Lab Control Sample Dup	85	51	74	71	98	74
LCSD 400-393699/3-A	Lab Control Sample Dup	64	62	57	64	75	79
LCSD 400-393699/5-A	Lab Control Sample Dup	68	64	64	61	88	69
MB 400-393427/1-A	Method Blank	70	51	54	60	76	62
MB 400-393699/1-A	Method Blank	46	40	45	42	56	45

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TPHL (33-138)	FBP (15-122)	NBZ (19-130)
400-151906-3	MW16-ROX-040618	77	82	63
400-151906-4	MW24-ROX-040618	77	85	72
400-151906-5	MW24-ROX-040618-DUP	75	81	70
400-151906-6	P54-ROX-040618	69	85	72
400-151906-7	MW11-ROX-040618	68	79	67
400-151906-8	MW27-ROX-040618	53	84	71
400-151906-11	P114R-ROX-040618-EB	82	95	76
400-151906-12	P114R-ROX-040618	49	87	78
400-151906-13	MW13-ROX-040618	51	98	88
400-151906-14	MW9-ROX-040618	69	76	65
400-151906-14 MS	MW9-ROX-040618	82	91	84
400-151906-14 MSD	MW9-ROX-040618	72	84	66
400-151906-15	ROST3MW-ROX-040618	73	92	83
400-151906-16	MW1-ROX-040618	75	86	73
400-151906-17	MW28-ROX-040618	82	90	78
LCS 400-393427/2-A	Lab Control Sample	81	87	81
LCS 400-393699/2-A	Lab Control Sample	77	78	66
LCSD 400-393699/3-A	Lab Control Sample Dup	79	82	67
MB 400-393427/1-A	Method Blank	76	82	71
MB 400-393699/1-A	Method Blank	76	71	66

Surrogate Legend

TPHL = Terphenyl-d14
FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5

TestAmerica Pensacola

Surrogate Summary

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Method: 8011 - EDB and DBCP in Water by Microextraction

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB2 (51-149)
400-151906-1	TB-ROX-040618-8011-A	134 p
400-151906-3	MW16-ROX-040618	131 p
400-151906-4	MW24-ROX-040618	115 p
400-151906-5	MW24-ROX-040618-DUP	119 p
400-151906-6	P54-ROX-040618	117 p
400-151906-7	MW11-ROX-040618	119
400-151906-8	MW27-ROX-040618	129 p
400-151906-9	TB-ROX-040618-8011-B	127 p
400-151906-11	P114R-ROX-040618-EB	116 p
400-151906-12	P114R-ROX-040618	114 p
400-151906-13	MW13-ROX-040618	114 p
400-151906-14	MW9-ROX-040618	135
400-151906-14 MS	MW9-ROX-040618	118
400-151906-14 MSD	MW9-ROX-040618	122
400-151906-15	ROST3MW-ROX-040618	108
400-151906-16	MW1-ROX-040618	131 p
400-151906-17	MW28-ROX-040618	103 p
LCS 400-393621/2-A	Lab Control Sample	119
LCSD 400-393621/3-A	Lab Control Sample Dup	111
MB 400-393621/1-A	Method Blank	117

Surrogate Legend

BFB = 4-Bromofluorobenzene



Method Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
8011	EDB and DBCP in Water by Microextraction	EPA	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

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Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: TB-ROX-040618-8011-A

Lab Sample ID: 400-151906-1

Date Collected: 04/06/18 00:00

Matrix: Water

Date Received: 04/07/18 08:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			36.5 mL	35 mL	393621	04/12/18 09:00	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/13/18 02:18	DS	TAL PEN

Client Sample ID: TB-ROX-040618-8260-A

Lab Sample ID: 400-151906-2

Date Collected: 04/06/18 00:00

Matrix: Water

Date Received: 04/07/18 08:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393553	04/11/18 17:56	S1K	TAL PEN

Client Sample ID: MW16-ROX-040618

Lab Sample ID: 400-151906-3

Date Collected: 04/06/18 10:20

Matrix: Water

Date Received: 04/07/18 08:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393553	04/11/18 19:23	S1K	TAL PEN
Total/NA	Prep	3520C			1020 mL	1.0 mL	393699	04/12/18 13:37	JJA	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	393852	04/14/18 00:13	VC1	TAL PEN
Total/NA	Prep	3520C			1020 mL	1.0 mL	393699	04/12/18 13:37	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			393837	04/13/18 19:36	RM	TAL PEN
Total/NA	Prep	8011			35.8 mL	35 mL	393621	04/12/18 09:00	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/13/18 02:38	DS	TAL PEN

Client Sample ID: MW24-ROX-040618

Lab Sample ID: 400-151906-4

Date Collected: 04/06/18 11:20

Matrix: Water

Date Received: 04/07/18 08:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393553	04/11/18 19:52	S1K	TAL PEN
Total/NA	Prep	3520C			997.2 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393636	04/12/18 15:19	VC1	TAL PEN
Total/NA	Prep	3520C	RA		997.2 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D	RA	1	0.4 mL	1.0 mL	393829	04/13/18 14:21	VC1	TAL PEN
Total/NA	Prep	3520C			997.2 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			393627	04/12/18 14:09	RM	TAL PEN
Total/NA	Prep	8011			36.7 mL	35 mL	393621	04/12/18 09:00	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/13/18 02:58	DS	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW24-ROX-040618-DUP

Lab Sample ID: 400-151906-5

Date Collected: 04/06/18 11:20

Matrix: Water

Date Received: 04/07/18 08:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393553	04/11/18 20:21	S1K	TAL PEN
Total/NA	Prep	3520C			1005 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393636	04/12/18 15:44	VC1	TAL PEN
Total/NA	Prep	3520C	RA		1005 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D	RA	1			393829	04/13/18 14:54	VC1	TAL PEN
Total/NA	Prep	3520C			1005 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			393627	04/12/18 14:27	RM	TAL PEN
Total/NA	Prep	8011			31.9 mL	35 mL	393621	04/12/18 09:00	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/13/18 03:18	DS	TAL PEN

Client Sample ID: P54-ROX-040618

Lab Sample ID: 400-151906-6

Date Collected: 04/06/18 12:40

Matrix: Water

Date Received: 04/07/18 08:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393553	04/11/18 20:50	S1K	TAL PEN
Total/NA	Prep	3520C			1003.8 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393636	04/12/18 16:08	VC1	TAL PEN
Total/NA	Prep	3520C	RA		1003.8 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D	RA	1			393829	04/13/18 15:27	VC1	TAL PEN
Total/NA	Prep	3520C			1003.8 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			393627	04/12/18 14:44	RM	TAL PEN
Total/NA	Prep	8011			35.1 mL	35 mL	393621	04/12/18 09:00	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/13/18 03:37	DS	TAL PEN

Client Sample ID: MW11-ROX-040618

Lab Sample ID: 400-151906-7

Date Collected: 04/06/18 13:45

Matrix: Water

Date Received: 04/07/18 08:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393553	04/11/18 21:19	S1K	TAL PEN
Total/NA	Prep	3520C			1015.6 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393636	04/12/18 16:33	VC1	TAL PEN
Total/NA	Prep	3520C	RA		1015.6 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D	RA	1			393829	04/13/18 16:01	VC1	TAL PEN
Total/NA	Prep	3520C			1015.6 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			393627	04/12/18 15:01	RM	TAL PEN
Total/NA	Prep	8011			36 mL	35 mL	393621	04/12/18 09:00	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/13/18 03:57	DS	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: MW27-ROX-040618

Lab Sample ID: 400-151906-8

Date Collected: 04/06/18 15:00

Matrix: Water

Date Received: 04/07/18 08:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393553	04/11/18 21:48	S1K	TAL PEN
Total/NA	Prep	3520C			1015.6 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393636	04/12/18 16:57	VC1	TAL PEN
Total/NA	Prep	3520C	RA		1015.6 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D	RA	1			393829	04/13/18 16:34	VC1	TAL PEN
Total/NA	Prep	3520C			1015.6 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			393627	04/12/18 15:18	RM	TAL PEN
Total/NA	Prep	8011			35.7 mL	35 mL	393621	04/12/18 09:00	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/13/18 04:37	DS	TAL PEN

Client Sample ID: TB-ROX-040618-8011-B

Lab Sample ID: 400-151906-9

Date Collected: 04/06/18 00:00

Matrix: Water

Date Received: 04/07/18 08:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			30.7 mL	35 mL	393621	04/12/18 09:00	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/13/18 04:57	DS	TAL PEN

Client Sample ID: TB-ROX-040618-8260-B

Lab Sample ID: 400-151906-10

Date Collected: 04/06/18 00:00

Matrix: Water

Date Received: 04/07/18 08:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393673	04/12/18 19:28	CAR	TAL PEN

Client Sample ID: P114R-ROX-040618-EB

Lab Sample ID: 400-151906-11

Date Collected: 04/06/18 09:20

Matrix: Water

Date Received: 04/07/18 08:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393553	04/11/18 18:54	S1K	TAL PEN
Total/NA	Prep	3520C			996 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393636	04/12/18 17:22	VC1	TAL PEN
Total/NA	Prep	3520C	RA		996 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D	RA	1			393829	04/13/18 17:07	VC1	TAL PEN
Total/NA	Prep	3520C			996 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			393627	04/12/18 15:36	RM	TAL PEN
Total/NA	Prep	8011			34.8 mL	35 mL	393621	04/12/18 09:00	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/13/18 05:17	DS	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: P114R-ROX-040618

Lab Sample ID: 400-151906-12

Date Collected: 04/06/18 09:40

Matrix: Water

Date Received: 04/07/18 08:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393553	04/11/18 22:17	S1K	TAL PEN
Total/NA	Prep	3520C			1007.4 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393636	04/12/18 17:47	VC1	TAL PEN
Total/NA	Prep	3520C	RA		1007.4 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D	RA	1			393829	04/13/18 17:41	VC1	TAL PEN
Total/NA	Prep	3520C			1007.4 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			393627	04/12/18 15:53	RM	TAL PEN
Total/NA	Prep	8011			34.8 mL	35 mL	393621	04/12/18 09:00	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/13/18 05:37	DS	TAL PEN

Client Sample ID: MW13-ROX-040618

Lab Sample ID: 400-151906-13

Date Collected: 04/06/18 10:35

Matrix: Water

Date Received: 04/07/18 08:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393553	04/11/18 22:46	S1K	TAL PEN
Total/NA	Prep	3520C			1019 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393636	04/12/18 18:11	VC1	TAL PEN
Total/NA	Prep	3520C	RA		1019 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D	RA	1			393829	04/13/18 18:14	VC1	TAL PEN
Total/NA	Prep	3520C			1019 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			393627	04/12/18 16:10	RM	TAL PEN
Total/NA	Prep	8011			36.1 mL	35 mL	393621	04/12/18 09:00	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/13/18 05:56	DS	TAL PEN

Client Sample ID: MW9-ROX-040618

Lab Sample ID: 400-151906-14

Date Collected: 04/06/18 11:50

Matrix: Water

Date Received: 04/07/18 08:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393553	04/11/18 16:00	S1K	TAL PEN
Total/NA	Prep	3520C			1012.2 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393636	04/12/18 14:55	VC1	TAL PEN
Total/NA	Prep	3520C	RA		1012.2 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D	RA	1			393829	04/13/18 18:48	VC1	TAL PEN
Total/NA	Prep	3520C			1012.2 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			393627	04/12/18 13:52	RM	TAL PEN
Total/NA	Prep	8011			36.5 mL	35 mL	393621	04/12/18 09:00	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/13/18 06:16	DS	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: ROST3MW-ROX-040618

Lab Sample ID: 400-151906-15

Date Collected: 04/06/18 13:50

Matrix: Water

Date Received: 04/07/18 08:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393553	04/11/18 23:15	S1K	TAL PEN
Total/NA	Prep	3520C			1018.6 mL	1.0 mL	393427	04/10/18 14:17	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393636	04/12/18 18:36	VC1	TAL PEN
Total/NA	Prep	3520C	RA		1018.6 mL	1.0 mL	393427	04/10/18 14:17	JJA	TAL PEN
Total/NA	Analysis	8270D	RA	1			393829	04/13/18 19:21	VC1	TAL PEN
Total/NA	Prep	3520C			1018.6 mL	1.0 mL	393427	04/10/18 14:17	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			393627	04/12/18 16:27	RM	TAL PEN
Total/NA	Prep	8011			33 mL	35 mL	393621	04/12/18 09:00	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/13/18 07:15	DS	TAL PEN

Client Sample ID: MW1-ROX-040618

Lab Sample ID: 400-151906-16

Date Collected: 04/06/18 14:45

Matrix: Water

Date Received: 04/07/18 08:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393553	04/11/18 23:43	S1K	TAL PEN
Total/NA	Prep	3520C			996.2 mL	1.0 mL	393427	04/10/18 14:17	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393636	04/12/18 19:00	VC1	TAL PEN
Total/NA	Prep	3520C	RA		996.2 mL	1.0 mL	393427	04/10/18 14:17	JJA	TAL PEN
Total/NA	Analysis	8270D	RA	1			393829	04/13/18 19:55	VC1	TAL PEN
Total/NA	Prep	3520C			996.2 mL	1.0 mL	393427	04/10/18 14:17	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			393627	04/12/18 16:45	RM	TAL PEN
Total/NA	Prep	8011			36.1 mL	35 mL	393621	04/12/18 09:00	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/13/18 07:35	DS	TAL PEN

Client Sample ID: MW28-ROX-040618

Lab Sample ID: 400-151906-17

Date Collected: 04/06/18 15:40

Matrix: Water

Date Received: 04/07/18 08:18

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393553	04/12/18 00:12	S1K	TAL PEN
Total/NA	Prep	3520C			997.2 mL	1.0 mL	393427	04/10/18 14:17	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393636	04/12/18 19:25	VC1	TAL PEN
Total/NA	Prep	3520C	RA		997.2 mL	1.0 mL	393427	04/10/18 14:17	JJA	TAL PEN
Total/NA	Analysis	8270D	RA	1			393829	04/13/18 20:28	VC1	TAL PEN
Total/NA	Prep	3520C			997.2 mL	1.0 mL	393427	04/10/18 14:17	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			393627	04/12/18 17:02	RM	TAL PEN
Total/NA	Prep	8011			33.6 mL	35 mL	393621	04/12/18 09:00	VC1	TAL PEN
Total/NA	Analysis	8011		1			394144	04/17/18 11:21	DS	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: Method Blank

Lab Sample ID: MB 400-393427/1-A

Date Collected: N/A
Date Received: N/A

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393636	04/12/18 12:28	VC1	TAL PEN
Total/NA	Prep	3520C	RA		1000 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D	RA	1			393829	04/13/18 11:34	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			393627	04/12/18 11:58	RM	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-393553/27

Date Collected: N/A
Date Received: N/A

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393553	04/11/18 15:31	S1K	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-393621/1-A

Date Collected: N/A
Date Received: N/A

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35 mL	35 mL	393621	04/12/18 09:00	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/13/18 01:19	DS	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-393673/4

Date Collected: N/A
Date Received: N/A

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393673	04/12/18 15:06	CAR	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-393699/1-A

Date Collected: N/A
Date Received: N/A

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	393699	04/12/18 13:37	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393852	04/13/18 22:12	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	393699	04/12/18 13:37	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			393837	04/13/18 18:44	RM	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-393427/2-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393636	04/12/18 12:53	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D LL		5			393627	04/12/18 13:00	RM	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-393427/3-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393636	04/12/18 13:17	VC1	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-393553/1002

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393553	04/11/18 14:17	S1K	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-393621/2-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35 mL	35 mL	393621	04/12/18 09:00	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/13/18 01:39	DS	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-393673/1002

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393673	04/12/18 14:04	CAR	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-393699/2-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	393699	04/12/18 13:37	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393852	04/13/18 22:36	VC1	TAL PEN

TestAmerica Pensacola



Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-393699/2-A

Date Collected: N/A
Date Received: N/A

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	393699	04/12/18 13:37	JJA	TAL PEN
Total/NA	Analysis	8270D LL		5			393837	04/13/18 19:02	RM	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-393699/4-A

Date Collected: N/A
Date Received: N/A

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	393699	04/12/18 13:37	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393852	04/13/18 23:25	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-393427/4-A

Date Collected: N/A
Date Received: N/A

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393636	04/12/18 13:41	VC1	TAL PEN

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-393621/3-A

Date Collected: N/A
Date Received: N/A

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35 mL	35 mL	393621	04/12/18 09:00	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/13/18 01:58	DS	TAL PEN

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-393699/3-A

Date Collected: N/A
Date Received: N/A

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	393699	04/12/18 13:37	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393852	04/13/18 23:00	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	393699	04/12/18 13:37	JJA	TAL PEN
Total/NA	Analysis	8270D LL		5			393837	04/13/18 19:19	RM	TAL PEN

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-393699/5-A

Date Collected: N/A
Date Received: N/A

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	393699	04/12/18 13:37	JJA	TAL PEN

TestAmerica Pensacola



Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-393699/5-A

Date Collected: N/A
Date Received: N/A

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8270D		1			393852	04/13/18 23:49	VC1	TAL PEN

Client Sample ID: MW9-ROX-040618

Lab Sample ID: 400-151906-14 MS

Date Collected: 04/06/18 11:50
Date Received: 04/07/18 08:18

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393553	04/11/18 16:29	S1K	TAL PEN
Total/NA	Prep	3520C			1017.2 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393636	04/12/18 14:06	VC1	TAL PEN
Total/NA	Prep	3520C			1017.2 mL	1.0 mL	393427	04/10/18 14:14	JJA	TAL PEN
Total/NA	Analysis	8270D LL		5			393627	04/12/18 13:18	RM	TAL PEN
Total/NA	Prep	8011			34.5 mL	35 mL	393621	04/12/18 09:00	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/13/18 06:36	DS	TAL PEN

Client Sample ID: MW9-ROX-040618

Lab Sample ID: 400-151906-14 MSD

Date Collected: 04/06/18 11:50
Date Received: 04/07/18 08:18

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393553	04/11/18 16:58	S1K	TAL PEN
Total/NA	Prep	3520C			1012.6 mL	1.0 mL	393427	04/10/18 14:17	JJA	TAL PEN
Total/NA	Analysis	8270D		1			393636	04/12/18 14:30	VC1	TAL PEN
Total/NA	Prep	3520C			1012.6 mL	1.0 mL	393427	04/10/18 14:17	JJA	TAL PEN
Total/NA	Analysis	8270D LL		5			393627	04/12/18 13:35	RM	TAL PEN
Total/NA	Prep	8011			37.2 mL	35 mL	393621	04/12/18 09:00	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/13/18 06:56	DS	TAL PEN

Client Sample ID: Matrix Spike

Lab Sample ID: 400-151998-J-1 MS

Date Collected: 04/10/18 08:34
Date Received: 04/11/18 09:31

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393673	04/12/18 18:01	CAR	TAL PEN

Client Sample ID: Matrix Spike Duplicate

Lab Sample ID: 400-151998-J-1 MSD

Date Collected: 04/10/18 08:34
Date Received: 04/11/18 09:31

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393673	04/12/18 18:30	CAR	TAL PEN

TestAmerica Pensacola



Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

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QC Association Summary

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

GC/MS VOA

Analysis Batch: 393553

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151906-2	TB-ROX-040618-8260-A	Total/NA	Water	8260B	
400-151906-3	MW16-ROX-040618	Total/NA	Water	8260B	
400-151906-4	MW24-ROX-040618	Total/NA	Water	8260B	
400-151906-5	MW24-ROX-040618-DUP	Total/NA	Water	8260B	
400-151906-6	P54-ROX-040618	Total/NA	Water	8260B	
400-151906-7	MW11-ROX-040618	Total/NA	Water	8260B	
400-151906-8	MW27-ROX-040618	Total/NA	Water	8260B	
400-151906-11	P114R-ROX-040618-EB	Total/NA	Water	8260B	
400-151906-12	P114R-ROX-040618	Total/NA	Water	8260B	
400-151906-13	MW13-ROX-040618	Total/NA	Water	8260B	
400-151906-14	MW9-ROX-040618	Total/NA	Water	8260B	
400-151906-15	ROST3MW-ROX-040618	Total/NA	Water	8260B	
400-151906-16	MW1-ROX-040618	Total/NA	Water	8260B	
400-151906-17	MW28-ROX-040618	Total/NA	Water	8260B	
MB 400-393553/27	Method Blank	Total/NA	Water	8260B	
LCS 400-393553/1002	Lab Control Sample	Total/NA	Water	8260B	
400-151906-14 MS	MW9-ROX-040618	Total/NA	Water	8260B	
400-151906-14 MSD	MW9-ROX-040618	Total/NA	Water	8260B	

Analysis Batch: 393673

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151906-10	TB-ROX-040618-8260-B	Total/NA	Water	8260B	
MB 400-393673/4	Method Blank	Total/NA	Water	8260B	
LCS 400-393673/1002	Lab Control Sample	Total/NA	Water	8260B	
400-151998-J-1 MS	Matrix Spike	Total/NA	Water	8260B	
400-151998-J-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 393427

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151906-4	MW24-ROX-040618	Total/NA	Water	3520C	
400-151906-4 - RA	MW24-ROX-040618	Total/NA	Water	3520C	
400-151906-5	MW24-ROX-040618-DUP	Total/NA	Water	3520C	
400-151906-5 - RA	MW24-ROX-040618-DUP	Total/NA	Water	3520C	
400-151906-6	P54-ROX-040618	Total/NA	Water	3520C	
400-151906-6 - RA	P54-ROX-040618	Total/NA	Water	3520C	
400-151906-7	MW11-ROX-040618	Total/NA	Water	3520C	
400-151906-7 - RA	MW11-ROX-040618	Total/NA	Water	3520C	
400-151906-8	MW27-ROX-040618	Total/NA	Water	3520C	
400-151906-8 - RA	MW27-ROX-040618	Total/NA	Water	3520C	
400-151906-11	P114R-ROX-040618-EB	Total/NA	Water	3520C	
400-151906-11 - RA	P114R-ROX-040618-EB	Total/NA	Water	3520C	
400-151906-12	P114R-ROX-040618	Total/NA	Water	3520C	
400-151906-12 - RA	P114R-ROX-040618	Total/NA	Water	3520C	
400-151906-13	MW13-ROX-040618	Total/NA	Water	3520C	
400-151906-13 - RA	MW13-ROX-040618	Total/NA	Water	3520C	
400-151906-14	MW9-ROX-040618	Total/NA	Water	3520C	
400-151906-14 - RA	MW9-ROX-040618	Total/NA	Water	3520C	
400-151906-15	ROST3MW-ROX-040618	Total/NA	Water	3520C	

TestAmerica Pensacola



QC Association Summary

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

GC/MS Semi VOA (Continued)

Prep Batch: 393427 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151906-15 - RA	ROST3MW-ROX-040618	Total/NA	Water	3520C	
400-151906-16	MW1-ROX-040618	Total/NA	Water	3520C	
400-151906-16 - RA	MW1-ROX-040618	Total/NA	Water	3520C	
400-151906-17	MW28-ROX-040618	Total/NA	Water	3520C	
400-151906-17 - RA	MW28-ROX-040618	Total/NA	Water	3520C	
MB 400-393427/1-A	Method Blank	Total/NA	Water	3520C	
MB 400-393427/1-A - RA	Method Blank	Total/NA	Water	3520C	
LCS 400-393427/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-393427/3-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-393427/4-A	Lab Control Sample Dup	Total/NA	Water	3520C	
400-151906-14 MS	MW9-ROX-040618	Total/NA	Water	3520C	
400-151906-14 MSD	MW9-ROX-040618	Total/NA	Water	3520C	

Analysis Batch: 393627

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151906-4	MW24-ROX-040618	Total/NA	Water	8270D LL	393427
400-151906-5	MW24-ROX-040618-DUP	Total/NA	Water	8270D LL	393427
400-151906-6	P54-ROX-040618	Total/NA	Water	8270D LL	393427
400-151906-7	MW11-ROX-040618	Total/NA	Water	8270D LL	393427
400-151906-8	MW27-ROX-040618	Total/NA	Water	8270D LL	393427
400-151906-11	P114R-ROX-040618-EB	Total/NA	Water	8270D LL	393427
400-151906-12	P114R-ROX-040618	Total/NA	Water	8270D LL	393427
400-151906-13	MW13-ROX-040618	Total/NA	Water	8270D LL	393427
400-151906-14	MW9-ROX-040618	Total/NA	Water	8270D LL	393427
400-151906-15	ROST3MW-ROX-040618	Total/NA	Water	8270D LL	393427
400-151906-16	MW1-ROX-040618	Total/NA	Water	8270D LL	393427
400-151906-17	MW28-ROX-040618	Total/NA	Water	8270D LL	393427
MB 400-393427/1-A	Method Blank	Total/NA	Water	8270D LL	393427
LCS 400-393427/2-A	Lab Control Sample	Total/NA	Water	8270D LL	393427
400-151906-14 MS	MW9-ROX-040618	Total/NA	Water	8270D LL	393427
400-151906-14 MSD	MW9-ROX-040618	Total/NA	Water	8270D LL	393427

Analysis Batch: 393636

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151906-4	MW24-ROX-040618	Total/NA	Water	8270D	393427
400-151906-5	MW24-ROX-040618-DUP	Total/NA	Water	8270D	393427
400-151906-6	P54-ROX-040618	Total/NA	Water	8270D	393427
400-151906-7	MW11-ROX-040618	Total/NA	Water	8270D	393427
400-151906-8	MW27-ROX-040618	Total/NA	Water	8270D	393427
400-151906-11	P114R-ROX-040618-EB	Total/NA	Water	8270D	393427
400-151906-12	P114R-ROX-040618	Total/NA	Water	8270D	393427
400-151906-13	MW13-ROX-040618	Total/NA	Water	8270D	393427
400-151906-14	MW9-ROX-040618	Total/NA	Water	8270D	393427
400-151906-15	ROST3MW-ROX-040618	Total/NA	Water	8270D	393427
400-151906-16	MW1-ROX-040618	Total/NA	Water	8270D	393427
400-151906-17	MW28-ROX-040618	Total/NA	Water	8270D	393427
MB 400-393427/1-A	Method Blank	Total/NA	Water	8270D	393427
LCS 400-393427/2-A	Lab Control Sample	Total/NA	Water	8270D	393427
LCS 400-393427/3-A	Lab Control Sample	Total/NA	Water	8270D	393427
LCSD 400-393427/4-A	Lab Control Sample Dup	Total/NA	Water	8270D	393427
400-151906-14 MS	MW9-ROX-040618	Total/NA	Water	8270D	393427

TestAmerica Pensacola



QC Association Summary

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

GC/MS Semi VOA (Continued)

Analysis Batch: 393636 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151906-14 MSD	MW9-ROX-040618	Total/NA	Water	8270D	393427

Prep Batch: 393699

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151906-3	MW16-ROX-040618	Total/NA	Water	3520C	
MB 400-393699/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-393699/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-393699/4-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-393699/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	
LCSD 400-393699/5-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 393829

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151906-4 - RA	MW24-ROX-040618	Total/NA	Water	8270D	393427
400-151906-5 - RA	MW24-ROX-040618-DUP	Total/NA	Water	8270D	393427
400-151906-6 - RA	P54-ROX-040618	Total/NA	Water	8270D	393427
400-151906-7 - RA	MW11-ROX-040618	Total/NA	Water	8270D	393427
400-151906-8 - RA	MW27-ROX-040618	Total/NA	Water	8270D	393427
400-151906-11 - RA	P114R-ROX-040618-EB	Total/NA	Water	8270D	393427
400-151906-12 - RA	P114R-ROX-040618	Total/NA	Water	8270D	393427
400-151906-13 - RA	MW13-ROX-040618	Total/NA	Water	8270D	393427
400-151906-14 - RA	MW9-ROX-040618	Total/NA	Water	8270D	393427
400-151906-15 - RA	ROST3MW-ROX-040618	Total/NA	Water	8270D	393427
400-151906-16 - RA	MW1-ROX-040618	Total/NA	Water	8270D	393427
400-151906-17 - RA	MW28-ROX-040618	Total/NA	Water	8270D	393427
MB 400-393427/1-A - RA	Method Blank	Total/NA	Water	8270D	393427

Analysis Batch: 393837

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151906-3	MW16-ROX-040618	Total/NA	Water	8270D LL	393699
MB 400-393699/1-A	Method Blank	Total/NA	Water	8270D LL	393699
LCS 400-393699/2-A	Lab Control Sample	Total/NA	Water	8270D LL	393699
LCSD 400-393699/3-A	Lab Control Sample Dup	Total/NA	Water	8270D LL	393699

Analysis Batch: 393852

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151906-3	MW16-ROX-040618	Total/NA	Water	8270D	393699
MB 400-393699/1-A	Method Blank	Total/NA	Water	8270D	393699
LCS 400-393699/2-A	Lab Control Sample	Total/NA	Water	8270D	393699
LCS 400-393699/4-A	Lab Control Sample	Total/NA	Water	8270D	393699
LCSD 400-393699/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	393699
LCSD 400-393699/5-A	Lab Control Sample Dup	Total/NA	Water	8270D	393699

GC Semi VOA

Prep Batch: 393621

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151906-1	TB-ROX-040618-8011-A	Total/NA	Water	8011	
400-151906-3	MW16-ROX-040618	Total/NA	Water	8011	
400-151906-4	MW24-ROX-040618	Total/NA	Water	8011	

TestAmerica Pensacola



QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

GC Semi VOA (Continued)

Prep Batch: 393621 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151906-5	MW24-ROX-040618-DUP	Total/NA	Water	8011	
400-151906-6	P54-ROX-040618	Total/NA	Water	8011	
400-151906-7	MW11-ROX-040618	Total/NA	Water	8011	
400-151906-8	MW27-ROX-040618	Total/NA	Water	8011	
400-151906-9	TB-ROX-040618-8011-B	Total/NA	Water	8011	
400-151906-11	P114R-ROX-040618-EB	Total/NA	Water	8011	
400-151906-12	P114R-ROX-040618	Total/NA	Water	8011	
400-151906-13	MW13-ROX-040618	Total/NA	Water	8011	
400-151906-14	MW9-ROX-040618	Total/NA	Water	8011	
400-151906-15	ROST3MW-ROX-040618	Total/NA	Water	8011	
400-151906-16	MW1-ROX-040618	Total/NA	Water	8011	
400-151906-17	MW28-ROX-040618	Total/NA	Water	8011	
MB 400-393621/1-A	Method Blank	Total/NA	Water	8011	
LCS 400-393621/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 400-393621/3-A	Lab Control Sample Dup	Total/NA	Water	8011	
400-151906-14 MS	MW9-ROX-040618	Total/NA	Water	8011	
400-151906-14 MSD	MW9-ROX-040618	Total/NA	Water	8011	

Analysis Batch: 393757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151906-1	TB-ROX-040618-8011-A	Total/NA	Water	8011	393621
400-151906-3	MW16-ROX-040618	Total/NA	Water	8011	393621
400-151906-4	MW24-ROX-040618	Total/NA	Water	8011	393621
400-151906-5	MW24-ROX-040618-DUP	Total/NA	Water	8011	393621
400-151906-6	P54-ROX-040618	Total/NA	Water	8011	393621
400-151906-7	MW11-ROX-040618	Total/NA	Water	8011	393621
400-151906-8	MW27-ROX-040618	Total/NA	Water	8011	393621
400-151906-9	TB-ROX-040618-8011-B	Total/NA	Water	8011	393621
400-151906-11	P114R-ROX-040618-EB	Total/NA	Water	8011	393621
400-151906-12	P114R-ROX-040618	Total/NA	Water	8011	393621
400-151906-13	MW13-ROX-040618	Total/NA	Water	8011	393621
400-151906-14	MW9-ROX-040618	Total/NA	Water	8011	393621
400-151906-15	ROST3MW-ROX-040618	Total/NA	Water	8011	393621
400-151906-16	MW1-ROX-040618	Total/NA	Water	8011	393621
MB 400-393621/1-A	Method Blank	Total/NA	Water	8011	393621
LCS 400-393621/2-A	Lab Control Sample	Total/NA	Water	8011	393621
LCSD 400-393621/3-A	Lab Control Sample Dup	Total/NA	Water	8011	393621
400-151906-14 MS	MW9-ROX-040618	Total/NA	Water	8011	393621
400-151906-14 MSD	MW9-ROX-040618	Total/NA	Water	8011	393621

Analysis Batch: 394144

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151906-17	MW28-ROX-040618	Total/NA	Water	8011	393621



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-393553/27

Matrix: Water

Analysis Batch: 393553

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acetone	ND		25	10	ug/L			04/11/18 15:31	1
Acrolein	ND		20	10	ug/L			04/11/18 15:31	1
Acrylonitrile	ND		10	2.8	ug/L			04/11/18 15:31	1
Benzene	ND		1.0	0.38	ug/L			04/11/18 15:31	1
Bromobenzene	ND		1.0	0.54	ug/L			04/11/18 15:31	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/11/18 15:31	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/11/18 15:31	1
Bromoform	ND		5.0	0.71	ug/L			04/11/18 15:31	1
Bromomethane	ND		1.0	0.98	ug/L			04/11/18 15:31	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/11/18 15:31	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/11/18 15:31	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/11/18 15:31	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/11/18 15:31	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/11/18 15:31	1
Chloroethane	ND		1.0	0.76	ug/L			04/11/18 15:31	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/11/18 15:31	1
Chloroform	ND		1.0	0.60	ug/L			04/11/18 15:31	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/11/18 15:31	1
Chloromethane	ND		1.0	0.83	ug/L			04/11/18 15:31	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 15:31	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/11/18 15:31	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/11/18 15:31	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/11/18 15:31	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/11/18 15:31	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/11/18 15:31	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/11/18 15:31	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/11/18 15:31	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 15:31	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 15:31	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 15:31	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/11/18 15:31	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/11/18 15:31	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/11/18 15:31	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/11/18 15:31	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/11/18 15:31	1
2-Hexanone	ND		25	3.1	ug/L			04/11/18 15:31	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/11/18 15:31	1
Methylene bromide	ND		5.0	0.59	ug/L			04/11/18 15:31	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/11/18 15:31	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/11/18 15:31	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/11/18 15:31	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/11/18 15:31	1
Naphthalene	ND		1.0	1.0	ug/L			04/11/18 15:31	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/11/18 15:31	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/11/18 15:31	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/11/18 15:31	1
o-Xylene	ND		5.0	0.60	ug/L			04/11/18 15:31	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/11/18 15:31	1

TestAmerica Pensacola



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-393553/27
Matrix: Water
Analysis Batch: 393553

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/11/18 15:31	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/11/18 15:31	1
Styrene	ND		1.0	1.0	ug/L			04/11/18 15:31	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/11/18 15:31	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/11/18 15:31	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/11/18 15:31	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/11/18 15:31	1
Toluene	ND		1.0	0.70	ug/L			04/11/18 15:31	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/11/18 15:31	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/11/18 15:31	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/11/18 15:31	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/11/18 15:31	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/11/18 15:31	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/11/18 15:31	1
Trichloroethene	ND		1.0	0.50	ug/L			04/11/18 15:31	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/11/18 15:31	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/11/18 15:31	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/11/18 15:31	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/11/18 15:31	1
Vinyl acetate	ND		25	2.0	ug/L			04/11/18 15:31	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/11/18 15:31	1
Xylenes, Total	ND		10	1.6	ug/L			04/11/18 15:31	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	109		78 - 118		04/11/18 15:31	1
Dibromofluoromethane	96		81 - 121		04/11/18 15:31	1
Toluene-d8 (Surr)	101		80 - 120		04/11/18 15:31	1

Lab Sample ID: LCS 400-393553/1002
Matrix: Water
Analysis Batch: 393553

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	190		ug/L		95	43 - 160
Acrolein	250	207		ug/L		83	38 - 160
Acrylonitrile	500	451		ug/L		90	64 - 142
Benzene	50.0	48.1		ug/L		96	70 - 130
Bromobenzene	50.0	47.2		ug/L		94	70 - 132
Bromochloromethane	50.0	49.8		ug/L		100	70 - 130
Bromodichloromethane	50.0	47.2		ug/L		94	67 - 133
Bromoform	50.0	39.6		ug/L		79	57 - 140
Bromomethane	25.0	32.6		ug/L		130	10 - 160
2-Butanone (MEK)	200	211		ug/L		105	61 - 145
Carbon disulfide	50.0	41.6		ug/L		83	61 - 137
Carbon tetrachloride	50.0	47.5		ug/L		95	61 - 137
Chlorobenzene	50.0	47.8		ug/L		96	70 - 130
Dibromochloromethane	50.0	43.0		ug/L		86	67 - 135
Chloroethane	25.0	30.1		ug/L		120	55 - 141

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-393553/1002

Matrix: Water

Analysis Batch: 393553

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Chloroethyl vinyl ether	25.0	18.9		ug/L		76	10 - 160
Chloroform	50.0	46.9		ug/L		94	69 - 130
1-Chlorohexane	50.0	44.9		ug/L		90	69 - 130
Chloromethane	25.0	26.5		ug/L		106	58 - 137
cis-1,2-Dichloroethene	50.0	53.8		ug/L		108	68 - 130
cis-1,3-Dichloropropene	50.0	47.2		ug/L		94	69 - 132
1,2-Dichlorobenzene	50.0	46.4		ug/L		93	67 - 130
1,3-Dichlorobenzene	50.0	47.4		ug/L		95	70 - 130
1,4-Dichlorobenzene	50.0	46.6		ug/L		93	70 - 130
Dichlorodifluoromethane	25.0	33.6		ug/L		134	41 - 146
1,1-Dichloroethane	50.0	43.5		ug/L		87	70 - 130
1,2-Dichloroethane	50.0	45.7		ug/L		91	69 - 130
1,1-Dichloroethene	50.0	43.5		ug/L		87	63 - 134
1,2-Dichloropropane	50.0	45.7		ug/L		91	70 - 130
1,3-Dichloropropane	50.0	45.6		ug/L		91	70 - 130
2,2-Dichloropropane	50.0	57.4		ug/L		115	52 - 135
1,1-Dichloropropene	50.0	48.0		ug/L		96	70 - 130
Ethylbenzene	50.0	46.6		ug/L		93	70 - 130
Ethyl methacrylate	50.0	45.2		ug/L		90	68 - 130
Hexachlorobutadiene	50.0	46.8		ug/L		94	53 - 140
2-Hexanone	200	171		ug/L		86	65 - 137
Isopropylbenzene	50.0	47.4		ug/L		95	70 - 130
Methylene bromide	50.0	48.4		ug/L		97	70 - 130
Methylene Chloride	50.0	43.3		ug/L		87	66 - 135
4-Methyl-2-pentanone (MIBK)	200	188		ug/L		94	69 - 138
Methyl tert-butyl ether	50.0	42.5		ug/L		85	66 - 130
m-Xylene & p-Xylene	50.0	46.2		ug/L		92	70 - 130
Naphthalene	50.0	44.9		ug/L		90	47 - 149
n-Butylbenzene	50.0	45.3		ug/L		91	67 - 130
N-Propylbenzene	50.0	45.8		ug/L		92	70 - 130
o-Chlorotoluene	50.0	43.7		ug/L		87	70 - 130
o-Xylene	50.0	46.0		ug/L		92	70 - 130
p-Chlorotoluene	50.0	45.9		ug/L		92	70 - 130
p-Isopropyltoluene	50.0	47.3		ug/L		95	65 - 130
sec-Butylbenzene	50.0	47.0		ug/L		94	66 - 130
Styrene	50.0	46.4		ug/L		93	70 - 130
tert-Butylbenzene	50.0	44.8		ug/L		90	64 - 139
1,1,1,2-Tetrachloroethane	50.0	43.3		ug/L		87	67 - 131
1,1,2,2-Tetrachloroethane	50.0	45.1		ug/L		90	70 - 131
Tetrachloroethene	50.0	47.2		ug/L		94	65 - 130
Toluene	50.0	44.0		ug/L		88	70 - 130
trans-1,2-Dichloroethene	50.0	44.9		ug/L		90	70 - 130
trans-1,3-Dichloropropene	50.0	41.8		ug/L		84	63 - 130
1,2,3-Trichlorobenzene	50.0	46.9		ug/L		94	60 - 138
1,2,4-Trichlorobenzene	50.0	46.7		ug/L		93	60 - 140
1,1,1-Trichloroethane	50.0	48.1		ug/L		96	68 - 130
1,1,2-Trichloroethane	50.0	47.9		ug/L		96	70 - 130
Trichloroethene	50.0	50.0		ug/L		100	70 - 130

TestAmerica Pensacola



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-393553/1002
Matrix: Water
Analysis Batch: 393553

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	25.0	27.8		ug/L		111	65 - 138
1,2,3-Trichloropropane	50.0	45.5		ug/L		91	70 - 130
1,2,4-Trimethylbenzene	50.0	45.5		ug/L		91	70 - 130
1,3,5-Trimethylbenzene	50.0	46.0		ug/L		92	69 - 130
Vinyl acetate	50.0	46.9		ug/L		94	26 - 160
Vinyl chloride	25.0	26.2		ug/L		105	59 - 136
Xylenes, Total	100	92.1		ug/L		92	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	98		78 - 118
Dibromofluoromethane	99		81 - 121
Toluene-d8 (Surr)	95		80 - 120

Lab Sample ID: 400-151906-14 MS
Matrix: Water
Analysis Batch: 393553

Client Sample ID: MW9-ROX-040618
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		200	199		ug/L		100	43 - 150
Acrolein	ND		500	241		ug/L		48	38 - 150
Acrylonitrile	ND		500	459		ug/L		92	62 - 149
Benzene	ND		50.0	48.3		ug/L		97	56 - 142
Bromobenzene	ND		50.0	44.2		ug/L		88	59 - 136
Bromochloromethane	ND		50.0	48.2		ug/L		96	64 - 140
Bromodichloromethane	ND		50.0	45.4		ug/L		91	59 - 143
Bromoform	ND		50.0	37.4		ug/L		75	50 - 140
Bromomethane	ND		50.0	37.0		ug/L		74	10 - 150
2-Butanone (MEK)	ND		200	200		ug/L		100	55 - 150
Carbon disulfide	ND		50.0	41.6		ug/L		83	48 - 150
Carbon tetrachloride	ND		50.0	43.3		ug/L		87	55 - 145
Chlorobenzene	ND		50.0	47.6		ug/L		95	64 - 130
Dibromochloromethane	ND		50.0	42.1		ug/L		84	56 - 143
Chloroethane	ND		50.0	35.0		ug/L		70	50 - 150
2-Chloroethyl vinyl ether	ND	F1	50.0	ND	F1	ug/L		0	10 - 150
Chloroform	ND		50.0	46.9		ug/L		94	60 - 141
1-Chlorohexane	ND		50.0	44.6		ug/L		89	56 - 136
Chloromethane	ND		50.0	29.7		ug/L		59	49 - 148
cis-1,2-Dichloroethene	ND		50.0	47.8		ug/L		96	59 - 143
cis-1,3-Dichloropropene	ND		50.0	45.9		ug/L		92	57 - 140
1,2-Dichlorobenzene	ND		50.0	45.4		ug/L		91	52 - 137
1,3-Dichlorobenzene	ND		50.0	44.4		ug/L		89	54 - 135
1,4-Dichlorobenzene	ND		50.0	43.5		ug/L		87	53 - 135
Dichlorodifluoromethane	ND		50.0	34.0		ug/L		68	16 - 150
1,1-Dichloroethane	ND		50.0	43.9		ug/L		88	61 - 144
1,2-Dichloroethane	ND		50.0	46.9		ug/L		94	60 - 141
1,1-Dichloroethene	ND		50.0	43.1		ug/L		86	54 - 147
1,2-Dichloropropane	ND		50.0	47.1		ug/L		94	66 - 137
1,3-Dichloropropane	ND		50.0	49.0		ug/L		98	66 - 133

TestAmerica Pensacola



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-151906-14 MS
Matrix: Water
Analysis Batch: 393553

Client Sample ID: MW9-ROX-040618
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
2,2-Dichloropropane	ND		50.0	45.2		ug/L		90	42 - 144
1,1-Dichloropropene	ND		50.0	47.9		ug/L		96	65 - 136
Ethylbenzene	ND		50.0	46.6		ug/L		93	58 - 131
Ethyl methacrylate	ND		50.0	47.2		ug/L		94	64 - 130
Hexachlorobutadiene	ND		50.0	38.0		ug/L		76	31 - 149
2-Hexanone	ND		200	182		ug/L		91	65 - 140
Isopropylbenzene	ND		50.0	46.2		ug/L		92	56 - 133
Methylene bromide	ND		50.0	47.9		ug/L		96	63 - 138
Methylene Chloride	ND		50.0	43.2		ug/L		86	60 - 146
4-Methyl-2-pentanone (MIBK)	ND		200	190		ug/L		95	63 - 146
Methyl tert-butyl ether	ND		50.0	42.9		ug/L		86	59 - 137
m-Xylene & p-Xylene	ND		50.0	45.0		ug/L		90	57 - 130
Naphthalene	ND		50.0	42.2		ug/L		84	25 - 150
n-Butylbenzene	ND		50.0	41.7		ug/L		83	41 - 142
N-Propylbenzene	ND		50.0	42.4		ug/L		85	51 - 138
o-Chlorotoluene	ND		50.0	42.3		ug/L		85	53 - 134
o-Xylene	ND		50.0	45.2		ug/L		90	61 - 130
p-Chlorotoluene	ND		50.0	44.5		ug/L		89	54 - 133
p-Isopropyltoluene	ND		50.0	43.5		ug/L		87	48 - 139
sec-Butylbenzene	ND		50.0	44.2		ug/L		88	50 - 138
Styrene	ND		50.0	45.7		ug/L		91	58 - 131
tert-Butylbenzene	ND		50.0	44.2		ug/L		88	54 - 146
1,1,1,2-Tetrachloroethane	ND		50.0	43.6		ug/L		87	59 - 137
1,1,2,2-Tetrachloroethane	ND		50.0	47.4		ug/L		95	66 - 135
Tetrachloroethene	ND		50.0	38.7		ug/L		77	52 - 133
Toluene	ND		50.0	45.9		ug/L		92	65 - 130
trans-1,2-Dichloroethene	ND		50.0	44.2		ug/L		88	61 - 143
trans-1,3-Dichloropropene	ND		50.0	43.4		ug/L		87	53 - 133
1,2,3-Trichlorobenzene	ND		50.0	41.6		ug/L		83	43 - 145
1,2,4-Trichlorobenzene	ND		50.0	41.0		ug/L		82	39 - 148
1,1,1-Trichloroethane	ND		50.0	45.7		ug/L		91	57 - 142
1,1,2-Trichloroethane	ND		50.0	49.2		ug/L		98	66 - 131
Trichloroethene	ND		50.0	46.5		ug/L		93	64 - 136
Trichlorofluoromethane	ND		50.0	31.8		ug/L		64	54 - 150
1,2,3-Trichloropropane	ND		50.0	46.3		ug/L		93	65 - 133
1,2,4-Trimethylbenzene	ND		50.0	43.5		ug/L		87	50 - 139
1,3,5-Trimethylbenzene	ND		50.0	44.4		ug/L		89	52 - 135
Vinyl acetate	ND		100	57.8		ug/L		58	26 - 150
Vinyl chloride	ND		50.0	29.7		ug/L		59	46 - 150
Xylenes, Total	ND		100	90.2		ug/L		90	59 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene	101		78 - 118
Dibromofluoromethane	97		81 - 121
Toluene-d8 (Surr)	98		80 - 120



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-151906-14 MSD

Matrix: Water

Analysis Batch: 393553

Client Sample ID: MW9-ROX-040618

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		200	203		ug/L		102	43 - 150	2	30
Acrolein	ND		500	258		ug/L		52	38 - 150	7	31
Acrylonitrile	ND		500	466		ug/L		93	62 - 149	1	30
Benzene	ND		50.0	46.9		ug/L		94	56 - 142	3	30
Bromobenzene	ND		50.0	43.0		ug/L		86	59 - 136	3	30
Bromochloromethane	ND		50.0	47.5		ug/L		95	64 - 140	2	30
Bromodichloromethane	ND		50.0	44.7		ug/L		89	59 - 143	2	30
Bromoform	ND		50.0	38.0		ug/L		76	50 - 140	2	30
Bromomethane	ND		50.0	30.8		ug/L		62	10 - 150	18	50
2-Butanone (MEK)	ND		200	213		ug/L		107	55 - 150	6	30
Carbon disulfide	ND		50.0	39.8		ug/L		80	48 - 150	4	30
Carbon tetrachloride	ND		50.0	42.5		ug/L		85	55 - 145	2	30
Chlorobenzene	ND		50.0	44.3		ug/L		89	64 - 130	7	30
Dibromochloromethane	ND		50.0	41.8		ug/L		84	56 - 143	1	30
Chloroethane	ND		50.0	34.6		ug/L		69	50 - 150	1	30
2-Chloroethyl vinyl ether	ND	F1	50.0	ND	F1	ug/L		0	10 - 150	NC	50
Chloroform	ND		50.0	46.0		ug/L		92	60 - 141	2	30
1-Chlorohexane	ND		50.0	39.3		ug/L		79	56 - 136	13	30
Chloromethane	ND		50.0	28.6		ug/L		57	49 - 148	4	31
cis-1,2-Dichloroethene	ND		50.0	48.4		ug/L		97	59 - 143	1	30
cis-1,3-Dichloropropene	ND		50.0	44.4		ug/L		89	57 - 140	3	30
1,2-Dichlorobenzene	ND		50.0	41.4		ug/L		83	52 - 137	9	30
1,3-Dichlorobenzene	ND		50.0	40.7		ug/L		81	54 - 135	9	30
1,4-Dichlorobenzene	ND		50.0	39.6		ug/L		79	53 - 135	9	30
Dichlorodifluoromethane	ND		50.0	36.2		ug/L		72	16 - 150	6	31
1,1-Dichloroethane	ND		50.0	42.6		ug/L		85	61 - 144	3	30
1,2-Dichloroethane	ND		50.0	46.2		ug/L		92	60 - 141	1	30
1,1-Dichloroethene	ND		50.0	42.7		ug/L		85	54 - 147	1	30
1,2-Dichloropropane	ND		50.0	44.8		ug/L		90	66 - 137	5	30
1,3-Dichloropropane	ND		50.0	46.5		ug/L		93	66 - 133	5	30
2,2-Dichloropropane	ND		50.0	47.8		ug/L		96	42 - 144	6	31
1,1-Dichloropropene	ND		50.0	46.4		ug/L		93	65 - 136	3	30
Ethylbenzene	ND		50.0	42.6		ug/L		85	58 - 131	9	30
Ethyl methacrylate	ND		50.0	46.4		ug/L		93	64 - 130	2	30
Hexachlorobutadiene	ND		50.0	32.2		ug/L		64	31 - 149	17	36
2-Hexanone	ND		200	185		ug/L		93	65 - 140	2	30
Isopropylbenzene	ND		50.0	41.9		ug/L		84	56 - 133	10	30
Methylene bromide	ND		50.0	48.2		ug/L		96	63 - 138	1	30
Methylene Chloride	ND		50.0	42.5		ug/L		85	60 - 146	2	32
4-Methyl-2-pentanone (MIBK)	ND		200	191		ug/L		96	63 - 146	1	30
Methyl tert-butyl ether	ND		50.0	43.4		ug/L		87	59 - 137	1	30
m-Xylene & p-Xylene	ND		50.0	41.4		ug/L		83	57 - 130	8	30
Naphthalene	ND		50.0	41.5		ug/L		83	25 - 150	2	30
n-Butylbenzene	ND		50.0	36.6		ug/L		73	41 - 142	13	31
N-Propylbenzene	ND		50.0	38.1		ug/L		76	51 - 138	11	30
o-Chlorotoluene	ND		50.0	44.4		ug/L		89	53 - 134	5	30
o-Xylene	ND		50.0	41.6		ug/L		83	61 - 130	8	30
p-Chlorotoluene	ND		50.0	40.8		ug/L		82	54 - 133	9	30

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-151906-14 MSD

Matrix: Water

Analysis Batch: 393553

Client Sample ID: MW9-ROX-040618

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
p-Isopropyltoluene	ND		50.0	37.8		ug/L		76	48 - 139	14	30
sec-Butylbenzene	ND		50.0	39.4		ug/L		79	50 - 138	12	30
Styrene	ND		50.0	42.2		ug/L		84	58 - 131	8	30
tert-Butylbenzene	ND		50.0	39.6		ug/L		79	54 - 146	11	30
1,1,1,2-Tetrachloroethane	ND		50.0	40.6		ug/L		81	59 - 137	7	30
1,1,2,2-Tetrachloroethane	ND		50.0	45.5		ug/L		91	66 - 135	4	30
Tetrachloroethene	ND		50.0	36.2		ug/L		72	52 - 133	7	30
Toluene	ND		50.0	42.1		ug/L		84	65 - 130	9	30
trans-1,2-Dichloroethene	ND		50.0	43.9		ug/L		88	61 - 143	0	30
trans-1,3-Dichloropropene	ND		50.0	40.8		ug/L		82	53 - 133	6	30
1,2,3-Trichlorobenzene	ND		50.0	38.1		ug/L		76	43 - 145	9	30
1,2,4-Trichlorobenzene	ND		50.0	36.6		ug/L		73	39 - 148	12	30
1,1,1-Trichloroethane	ND		50.0	44.9		ug/L		90	57 - 142	2	30
1,1,2-Trichloroethane	ND		50.0	47.7		ug/L		95	66 - 131	3	30
Trichloroethene	ND		50.0	43.9		ug/L		88	64 - 136	6	30
Trichlorofluoromethane	ND		50.0	31.8		ug/L		64	54 - 150	0	30
1,2,3-Trichloropropane	ND		50.0	47.3		ug/L		95	65 - 133	2	30
1,2,4-Trimethylbenzene	ND		50.0	39.8		ug/L		80	50 - 139	9	30
1,3,5-Trimethylbenzene	ND		50.0	40.0		ug/L		80	52 - 135	11	30
Vinyl acetate	ND		100	59.5		ug/L		59	26 - 150	3	33
Vinyl chloride	ND		50.0	29.6		ug/L		59	46 - 150	0	30
Xylenes, Total	ND		100	83.0		ug/L		83	59 - 130	8	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene	100		78 - 118
Dibromofluoromethane	96		81 - 121
Toluene-d8 (Surr)	96		80 - 120

Lab Sample ID: MB 400-393673/4

Matrix: Water

Analysis Batch: 393673

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/12/18 15:06	1
Acrolein	ND		20	10	ug/L			04/12/18 15:06	1
Acrylonitrile	ND		10	2.8	ug/L			04/12/18 15:06	1
Benzene	ND		1.0	0.38	ug/L			04/12/18 15:06	1
Bromobenzene	ND		1.0	0.54	ug/L			04/12/18 15:06	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/12/18 15:06	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/12/18 15:06	1
Bromoform	ND		5.0	0.71	ug/L			04/12/18 15:06	1
Bromomethane	ND		1.0	0.98	ug/L			04/12/18 15:06	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/12/18 15:06	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/12/18 15:06	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/12/18 15:06	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/12/18 15:06	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/12/18 15:06	1
Chloroethane	ND		1.0	0.76	ug/L			04/12/18 15:06	1

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-393673/4
 Matrix: Water
 Analysis Batch: 393673

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/12/18 15:06	1
Chloroform	ND		1.0	0.60	ug/L			04/12/18 15:06	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/12/18 15:06	1
Chloromethane	ND		1.0	0.83	ug/L			04/12/18 15:06	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/12/18 15:06	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/12/18 15:06	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/12/18 15:06	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/12/18 15:06	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/12/18 15:06	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/12/18 15:06	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/12/18 15:06	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/12/18 15:06	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/12/18 15:06	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/12/18 15:06	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/12/18 15:06	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/12/18 15:06	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/12/18 15:06	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/12/18 15:06	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/12/18 15:06	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/12/18 15:06	1
2-Hexanone	ND		25	3.1	ug/L			04/12/18 15:06	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/12/18 15:06	1
Methylene bromide	ND		5.0	0.59	ug/L			04/12/18 15:06	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/12/18 15:06	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/12/18 15:06	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/12/18 15:06	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/12/18 15:06	1
Naphthalene	ND		1.0	1.0	ug/L			04/12/18 15:06	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/12/18 15:06	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/12/18 15:06	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/12/18 15:06	1
o-Xylene	ND		5.0	0.60	ug/L			04/12/18 15:06	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/12/18 15:06	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/12/18 15:06	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/12/18 15:06	1
Styrene	ND		1.0	1.0	ug/L			04/12/18 15:06	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/12/18 15:06	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/12/18 15:06	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/12/18 15:06	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/12/18 15:06	1
Toluene	ND		1.0	0.70	ug/L			04/12/18 15:06	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/12/18 15:06	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/12/18 15:06	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/12/18 15:06	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/12/18 15:06	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/12/18 15:06	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/12/18 15:06	1
Trichloroethene	ND		1.0	0.50	ug/L			04/12/18 15:06	1

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-393673/4
Matrix: Water
Analysis Batch: 393673

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/12/18 15:06	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/12/18 15:06	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/12/18 15:06	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/12/18 15:06	1
Vinyl acetate	ND		25	2.0	ug/L			04/12/18 15:06	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/12/18 15:06	1
Xylenes, Total	ND		10	1.6	ug/L			04/12/18 15:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	109		78 - 118		04/12/18 15:06	1
Dibromofluoromethane	100		81 - 121		04/12/18 15:06	1
Toluene-d8 (Surr)	100		80 - 120		04/12/18 15:06	1

Lab Sample ID: LCS 400-393673/1002
Matrix: Water
Analysis Batch: 393673

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	188		ug/L		94	43 - 160
Acrolein	250	207		ug/L		83	38 - 160
Acrylonitrile	500	450		ug/L		90	64 - 142
Benzene	50.0	48.7		ug/L		97	70 - 130
Bromobenzene	50.0	47.5		ug/L		95	70 - 132
Bromochloromethane	50.0	49.5		ug/L		99	70 - 130
Bromodichloromethane	50.0	47.5		ug/L		95	67 - 133
Bromoform	50.0	40.2		ug/L		80	57 - 140
Bromomethane	25.0	25.8		ug/L		103	10 - 160
2-Butanone (MEK)	200	193		ug/L		96	61 - 145
Carbon disulfide	50.0	41.7		ug/L		83	61 - 137
Carbon tetrachloride	50.0	47.0		ug/L		94	61 - 137
Chlorobenzene	50.0	49.2		ug/L		98	70 - 130
Dibromochloromethane	50.0	43.8		ug/L		88	67 - 135
Chloroethane	25.0	30.6		ug/L		122	55 - 141
2-Chloroethyl vinyl ether	25.0	12.8		ug/L		51	10 - 160
Chloroform	50.0	46.6		ug/L		93	69 - 130
1-Chlorohexane	50.0	46.3		ug/L		93	69 - 130
Chloromethane	25.0	26.2		ug/L		105	58 - 137
cis-1,2-Dichloroethene	50.0	49.0		ug/L		98	68 - 130
cis-1,3-Dichloropropene	50.0	47.9		ug/L		96	69 - 132
1,2-Dichlorobenzene	50.0	47.6		ug/L		95	67 - 130
1,3-Dichlorobenzene	50.0	48.2		ug/L		96	70 - 130
1,4-Dichlorobenzene	50.0	47.8		ug/L		96	70 - 130
Dichlorodifluoromethane	25.0	30.0		ug/L		120	41 - 146
1,1-Dichloroethane	50.0	42.5		ug/L		85	70 - 130
1,2-Dichloroethane	50.0	46.7		ug/L		93	69 - 130
1,1-Dichloroethene	50.0	42.4		ug/L		85	63 - 134
1,2-Dichloropropane	50.0	46.6		ug/L		93	70 - 130
1,3-Dichloropropane	50.0	47.8		ug/L		96	70 - 130

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-393673/1002
Matrix: Water
Analysis Batch: 393673

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,2-Dichloropropane	50.0	45.7		ug/L		91	52 - 135
1,1-Dichloropropene	50.0	47.3		ug/L		95	70 - 130
Ethylbenzene	50.0	48.7		ug/L		97	70 - 130
Ethyl methacrylate	50.0	46.8		ug/L		94	68 - 130
Hexachlorobutadiene	50.0	47.1		ug/L		94	53 - 140
2-Hexanone	200	182		ug/L		91	65 - 137
Isopropylbenzene	50.0	49.3		ug/L		99	70 - 130
Methylene bromide	50.0	47.9		ug/L		96	70 - 130
Methylene Chloride	50.0	42.5		ug/L		85	66 - 135
4-Methyl-2-pentanone (MIBK)	200	188		ug/L		94	69 - 138
Methyl tert-butyl ether	50.0	42.1		ug/L		84	66 - 130
m-Xylene & p-Xylene	50.0	47.6		ug/L		95	70 - 130
Naphthalene	50.0	45.1		ug/L		90	47 - 149
n-Butylbenzene	50.0	47.4		ug/L		95	67 - 130
N-Propylbenzene	50.0	46.7		ug/L		93	70 - 130
o-Chlorotoluene	50.0	44.1		ug/L		88	70 - 130
o-Xylene	50.0	47.2		ug/L		94	70 - 130
p-Chlorotoluene	50.0	47.5		ug/L		95	70 - 130
p-Isopropyltoluene	50.0	48.4		ug/L		97	65 - 130
sec-Butylbenzene	50.0	48.3		ug/L		97	66 - 130
Styrene	50.0	48.0		ug/L		96	70 - 130
tert-Butylbenzene	50.0	45.6		ug/L		91	64 - 139
1,1,1,2-Tetrachloroethane	50.0	44.7		ug/L		89	67 - 131
1,1,2,2-Tetrachloroethane	50.0	46.8		ug/L		94	70 - 131
Tetrachloroethene	50.0	47.9		ug/L		96	65 - 130
Toluene	50.0	45.3		ug/L		91	70 - 130
trans-1,2-Dichloroethene	50.0	43.4		ug/L		87	70 - 130
trans-1,3-Dichloropropene	50.0	43.7		ug/L		87	63 - 130
1,2,3-Trichlorobenzene	50.0	45.6		ug/L		91	60 - 138
1,2,4-Trichlorobenzene	50.0	47.0		ug/L		94	60 - 140
1,1,1-Trichloroethane	50.0	47.1		ug/L		94	68 - 130
1,1,2-Trichloroethane	50.0	49.8		ug/L		100	70 - 130
Trichloroethene	50.0	48.9		ug/L		98	70 - 130
Trichlorofluoromethane	25.0	26.7		ug/L		107	65 - 138
1,2,3-Trichloropropane	50.0	47.2		ug/L		94	70 - 130
1,2,4-Trimethylbenzene	50.0	46.6		ug/L		93	70 - 130
1,3,5-Trimethylbenzene	50.0	47.0		ug/L		94	69 - 130
Vinyl acetate	50.0	45.3		ug/L		91	26 - 160
Vinyl chloride	25.0	25.5		ug/L		102	59 - 136
Xylenes, Total	100	94.7		ug/L		95	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	98		78 - 118
Dibromofluoromethane	97		81 - 121
Toluene-d8 (Surr)	96		80 - 120



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-151998-J-1 MS

Matrix: Water

Analysis Batch: 393673

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
Acetone	ND		200	198		ug/L		99	43 - 150
Acrolein	ND		250	227		ug/L		91	38 - 150
Acrylonitrile	ND		500	460		ug/L		92	62 - 149
Benzene	ND		50.0	47.1		ug/L		94	56 - 142
Bromobenzene	ND		50.0	45.0		ug/L		90	59 - 136
Bromochloromethane	ND		50.0	49.1		ug/L		98	64 - 140
Bromodichloromethane	ND		50.0	46.0		ug/L		92	59 - 143
Bromoform	ND		50.0	39.8		ug/L		80	50 - 140
Bromomethane	ND		25.0	31.3		ug/L		125	10 - 150
2-Butanone (MEK)	ND		200	198		ug/L		99	55 - 150
Carbon disulfide	ND		50.0	40.3		ug/L		81	48 - 150
Carbon tetrachloride	ND		50.0	44.3		ug/L		89	55 - 145
Chlorobenzene	ND		50.0	46.0		ug/L		92	64 - 130
Dibromochloromethane	ND		50.0	42.2		ug/L		84	56 - 143
Chloroethane	ND		25.0	31.8		ug/L		127	50 - 150
2-Chloroethyl vinyl ether	ND		25.0	21.0		ug/L		84	10 - 150
Chloroform	ND		50.0	45.6		ug/L		91	60 - 141
1-Chlorohexane	ND		50.0	43.6		ug/L		87	56 - 136
Chloromethane	ND		25.0	27.2		ug/L		109	49 - 148
cis-1,2-Dichloroethene	ND		50.0	46.3		ug/L		93	59 - 143
cis-1,3-Dichloropropene	ND		50.0	45.8		ug/L		92	57 - 140
1,2-Dichlorobenzene	ND		50.0	44.1		ug/L		88	52 - 137
1,3-Dichlorobenzene	ND		50.0	44.7		ug/L		89	54 - 135
1,4-Dichlorobenzene	ND		50.0	44.1		ug/L		88	53 - 135
Dichlorodifluoromethane	ND		25.0	31.5		ug/L		126	16 - 150
1,1-Dichloroethane	ND		50.0	42.3		ug/L		85	61 - 144
1,2-Dichloroethane	ND		50.0	46.8		ug/L		94	60 - 141
1,1-Dichloroethene	ND		50.0	42.3		ug/L		85	54 - 147
1,2-Dichloropropane	ND		50.0	44.4		ug/L		89	66 - 137
1,3-Dichloropropane	ND		50.0	47.7		ug/L		95	66 - 133
2,2-Dichloropropane	ND		50.0	43.1		ug/L		86	42 - 144
1,1-Dichloropropene	ND		50.0	46.8		ug/L		94	65 - 136
Ethylbenzene	ND		50.0	45.0		ug/L		90	58 - 131
Ethyl methacrylate	ND		50.0	45.7		ug/L		91	64 - 130
Hexachlorobutadiene	ND		50.0	40.0		ug/L		80	31 - 149
2-Hexanone	ND		200	181		ug/L		90	65 - 140
Isopropylbenzene	ND		50.0	45.0		ug/L		90	56 - 133
Methylene bromide	ND		50.0	47.7		ug/L		95	63 - 138
Methylene Chloride	ND		50.0	42.1		ug/L		84	60 - 146
4-Methyl-2-pentanone (MIBK)	ND		200	188		ug/L		94	63 - 146
Methyl tert-butyl ether	ND		50.0	41.9		ug/L		84	59 - 137
m-Xylene & p-Xylene	ND		50.0	44.4		ug/L		89	57 - 130
Naphthalene	ND		50.0	41.9		ug/L		84	25 - 150
n-Butylbenzene	ND		50.0	43.5		ug/L		87	41 - 142
N-Propylbenzene	ND		50.0	41.8		ug/L		84	51 - 138
o-Chlorotoluene	ND		50.0	46.6		ug/L		93	53 - 134
o-Xylene	ND		50.0	43.4		ug/L		87	61 - 130
p-Chlorotoluene	ND		50.0	44.3		ug/L		89	54 - 133

TestAmerica Pensacola



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-151998-J-1 MS

Matrix: Water

Analysis Batch: 393673

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
				Result	Qualifier				
p-Isopropyltoluene	ND		50.0	44.1		ug/L		88	48 - 139
sec-Butylbenzene	ND		50.0	44.9		ug/L		90	50 - 138
Styrene	ND		50.0	44.3		ug/L		89	58 - 131
tert-Butylbenzene	ND		50.0	45.1		ug/L		90	54 - 146
1,1,1,2-Tetrachloroethane	ND		50.0	42.1		ug/L		84	59 - 137
1,1,2,2-Tetrachloroethane	ND		50.0	47.7		ug/L		95	66 - 135
Tetrachloroethene	ND		50.0	39.5		ug/L		79	52 - 133
Toluene	ND		50.0	44.0		ug/L		88	65 - 130
trans-1,2-Dichloroethene	ND		50.0	43.4		ug/L		87	61 - 143
trans-1,3-Dichloropropene	ND		50.0	41.3		ug/L		83	53 - 133
1,2,3-Trichlorobenzene	ND		50.0	42.2		ug/L		84	43 - 145
1,2,4-Trichlorobenzene	ND		50.0	41.1		ug/L		82	39 - 148
1,1,1-Trichloroethane	ND		50.0	45.6		ug/L		91	57 - 142
1,1,2-Trichloroethane	ND		50.0	46.5		ug/L		93	66 - 131
Trichloroethene	ND		50.0	45.5		ug/L		91	64 - 136
Trichlorofluoromethane	ND		25.0	28.6		ug/L		114	54 - 150
1,2,3-Trichloropropane	ND		50.0	48.0		ug/L		96	65 - 133
1,2,4-Trimethylbenzene	ND		50.0	43.6		ug/L		87	50 - 139
1,3,5-Trimethylbenzene	ND		50.0	44.5		ug/L		89	52 - 135
Vinyl acetate	ND		50.0	52.0		ug/L		104	26 - 150
Vinyl chloride	ND		25.0	27.5		ug/L		110	46 - 150
Xylenes, Total	ND		100	87.9		ug/L		88	59 - 130

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	102		78 - 118
Dibromofluoromethane	101		81 - 121
Toluene-d8 (Surr)	96		80 - 120

Lab Sample ID: 400-151998-J-1 MSD

Matrix: Water

Analysis Batch: 393673

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD MSD		Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
				Result	Qualifier						
Acetone	ND		200	196		ug/L		98	43 - 150	1	30
Acrolein	ND		250	232		ug/L		93	38 - 150	2	31
Acrylonitrile	ND		500	456		ug/L		91	62 - 149	1	30
Benzene	ND		50.0	47.1		ug/L		94	56 - 142	0	30
Bromobenzene	ND		50.0	46.1		ug/L		92	59 - 136	2	30
Bromochloromethane	ND		50.0	47.5		ug/L		95	64 - 140	3	30
Bromodichloromethane	ND		50.0	45.8		ug/L		92	59 - 143	0	30
Bromoform	ND		50.0	41.6		ug/L		83	50 - 140	4	30
Bromomethane	ND		25.0	31.2		ug/L		125	10 - 150	0	50
2-Butanone (MEK)	ND		200	198		ug/L		99	55 - 150	0	30
Carbon disulfide	ND		50.0	39.5		ug/L		79	48 - 150	2	30
Carbon tetrachloride	ND		50.0	44.0		ug/L		88	55 - 145	1	30
Chlorobenzene	ND		50.0	44.3		ug/L		89	64 - 130	4	30
Dibromochloromethane	ND		50.0	41.1		ug/L		82	56 - 143	3	30
Chloroethane	ND		25.0	33.1		ug/L		133	50 - 150	4	30

TestAmerica Pensacola



QC Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-151998-J-1 MSD
 Matrix: Water
 Analysis Batch: 393673

Client Sample ID: Matrix Spike Duplicate
 Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
2-Chloroethyl vinyl ether	ND		25.0	25.2		ug/L		101	10 - 150	18	50
Chloroform	ND		50.0	45.9		ug/L		92	60 - 141	1	30
1-Chlorohexane	ND		50.0	39.5		ug/L		79	56 - 136	10	30
Chloromethane	ND		25.0	27.5		ug/L		110	49 - 148	1	31
cis-1,2-Dichloroethene	ND		50.0	46.0		ug/L		92	59 - 143	1	30
cis-1,3-Dichloropropene	ND		50.0	45.4		ug/L		91	57 - 140	1	30
1,2-Dichlorobenzene	ND		50.0	45.0		ug/L		90	52 - 137	2	30
1,3-Dichlorobenzene	ND		50.0	44.9		ug/L		90	54 - 135	0	30
1,4-Dichlorobenzene	ND		50.0	42.5		ug/L		85	53 - 135	4	30
Dichlorodifluoromethane	ND		25.0	32.3		ug/L		129	16 - 150	2	31
1,1-Dichloroethane	ND		50.0	42.3		ug/L		85	61 - 144	0	30
1,2-Dichloroethane	ND		50.0	45.4		ug/L		91	60 - 141	3	30
1,1-Dichloroethene	ND		50.0	42.4		ug/L		85	54 - 147	0	30
1,2-Dichloropropane	ND		50.0	45.7		ug/L		91	66 - 137	3	30
1,3-Dichloropropane	ND		50.0	45.1		ug/L		90	66 - 133	6	30
2,2-Dichloropropane	ND		50.0	43.0		ug/L		86	42 - 144	0	31
1,1-Dichloropropene	ND		50.0	45.0		ug/L		90	65 - 136	4	30
Ethylbenzene	ND		50.0	43.0		ug/L		86	58 - 131	5	30
Ethyl methacrylate	ND		50.0	45.1		ug/L		90	64 - 130	1	30
Hexachlorobutadiene	ND		50.0	37.3		ug/L		75	31 - 149	7	36
2-Hexanone	ND		200	177		ug/L		89	65 - 140	2	30
Isopropylbenzene	ND		50.0	42.5		ug/L		85	56 - 133	6	30
Methylene bromide	ND		50.0	46.1		ug/L		92	63 - 138	3	30
Methylene Chloride	ND		50.0	41.7		ug/L		83	60 - 146	1	32
4-Methyl-2-pentanone (MIBK)	ND		200	186		ug/L		93	63 - 146	1	30
Methyl tert-butyl ether	ND		50.0	42.5		ug/L		85	59 - 137	1	30
m-Xylene & p-Xylene	ND		50.0	42.0		ug/L		84	57 - 130	6	30
Naphthalene	ND		50.0	42.8		ug/L		86	25 - 150	2	30
n-Butylbenzene	ND		50.0	40.8		ug/L		82	41 - 142	6	31
N-Propylbenzene	ND		50.0	42.3		ug/L		85	51 - 138	1	30
o-Chlorotoluene	ND		50.0	51.7		ug/L		103	53 - 134	10	30
o-Xylene	ND		50.0	42.1		ug/L		84	61 - 130	3	30
p-Chlorotoluene	ND		50.0	42.9		ug/L		86	54 - 133	3	30
p-Isopropyltoluene	ND		50.0	41.9		ug/L		84	48 - 139	5	30
sec-Butylbenzene	ND		50.0	42.8		ug/L		86	50 - 138	5	30
Styrene	ND		50.0	41.9		ug/L		84	58 - 131	6	30
tert-Butylbenzene	ND		50.0	43.7		ug/L		87	54 - 146	3	30
1,1,1,2-Tetrachloroethane	ND		50.0	40.6		ug/L		81	59 - 137	4	30
1,1,2,2-Tetrachloroethane	ND		50.0	50.0		ug/L		100	66 - 135	5	30
Tetrachloroethene	ND		50.0	38.5		ug/L		77	52 - 133	3	30
Toluene	ND		50.0	42.8		ug/L		86	65 - 130	3	30
trans-1,2-Dichloroethene	ND		50.0	42.8		ug/L		86	61 - 143	1	30
trans-1,3-Dichloropropene	ND		50.0	41.4		ug/L		83	53 - 133	0	30
1,2,3-Trichlorobenzene	ND		50.0	41.8		ug/L		84	43 - 145	1	30
1,2,4-Trichlorobenzene	ND		50.0	40.3		ug/L		81	39 - 148	2	30
1,1,1-Trichloroethane	ND		50.0	46.4		ug/L		93	57 - 142	2	30
1,1,2-Trichloroethane	ND		50.0	47.2		ug/L		94	66 - 131	2	30
Trichloroethene	ND		50.0	44.6		ug/L		89	64 - 136	2	30

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-151998-J-1 MSD
Matrix: Water
Analysis Batch: 393673

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichlorofluoromethane	ND		25.0	29.6		ug/L		119	54 - 150	3	30
1,2,3-Trichloropropane	ND		50.0	51.6		ug/L		103	65 - 133	7	30
1,2,4-Trimethylbenzene	ND		50.0	43.3		ug/L		87	50 - 139	1	30
1,3,5-Trimethylbenzene	ND		50.0	43.6		ug/L		87	52 - 135	2	30
Vinyl acetate	ND		50.0	53.6		ug/L		107	26 - 150	3	33
Vinyl chloride	ND		25.0	28.7		ug/L		115	46 - 150	4	30
Xylenes, Total	ND		100	84.1		ug/L		84	59 - 130	4	30

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
4-Bromofluorobenzene	108		78 - 118
Dibromofluoromethane	99		81 - 121
Toluene-d8 (Surr)	97		80 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-393427/1-A
Matrix: Water
Analysis Batch: 393636

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 393427

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		04/10/18 14:14	04/12/18 12:28	1
Benzenethiol	ND		10	1.7	ug/L		04/10/18 14:14	04/12/18 12:28	1
Benzoic acid	ND		30	7.3	ug/L		04/10/18 14:14	04/12/18 12:28	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		04/10/18 14:14	04/12/18 12:28	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		04/10/18 14:14	04/12/18 12:28	1
bis(2-chloroisopropyl) ether	ND		10	0.81	ug/L		04/10/18 14:14	04/12/18 12:28	1
Bis(2-ethylhexyl) phthalate	ND		10	2.3	ug/L		04/10/18 14:14	04/12/18 12:28	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		04/10/18 14:14	04/12/18 12:28	1
4-Chloroaniline	ND		10	3.4	ug/L		04/10/18 14:14	04/12/18 12:28	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		04/10/18 14:14	04/12/18 12:28	1
2-Chloronaphthalene	ND		10	0.52	ug/L		04/10/18 14:14	04/12/18 12:28	1
2-Chlorophenol	ND		10	2.2	ug/L		04/10/18 14:14	04/12/18 12:28	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		04/10/18 14:14	04/12/18 12:28	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		04/10/18 14:14	04/12/18 12:28	1
Dibenzofuran	ND		10	0.52	ug/L		04/10/18 14:14	04/12/18 12:28	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		04/10/18 14:14	04/12/18 12:28	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		04/10/18 14:14	04/12/18 12:28	1
Diethyl phthalate	ND		10	0.70	ug/L		04/10/18 14:14	04/12/18 12:28	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		04/10/18 14:14	04/12/18 12:28	1
Dimethyl phthalate	ND		10	0.60	ug/L		04/10/18 14:14	04/12/18 12:28	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		04/10/18 14:14	04/12/18 12:28	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		04/10/18 14:14	04/12/18 12:28	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/10/18 14:14	04/12/18 12:28	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		04/10/18 14:14	04/12/18 12:28	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		04/10/18 14:14	04/12/18 12:28	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		04/10/18 14:14	04/12/18 12:28	1
Hexachlorobenzene	ND		10	0.25	ug/L		04/10/18 14:14	04/12/18 12:28	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/10/18 14:14	04/12/18 12:28	1

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-393427/1-A
Matrix: Water
Analysis Batch: 393636

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 393427

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Hexachloroethane	ND		10	4.2	ug/L		04/10/18 14:14	04/12/18 12:28	1
Indene	ND		10	1.0	ug/L		04/10/18 14:14	04/12/18 12:28	1
2-Methylphenol	ND		10	1.8	ug/L		04/10/18 14:14	04/12/18 12:28	1
2-Nitroaniline	ND		10	2.2	ug/L		04/10/18 14:14	04/12/18 12:28	1
3-Nitroaniline	ND		10	1.8	ug/L		04/10/18 14:14	04/12/18 12:28	1
4-Nitroaniline	ND		10	2.5	ug/L		04/10/18 14:14	04/12/18 12:28	1
Nitrobenzene	ND		10	0.55	ug/L		04/10/18 14:14	04/12/18 12:28	1
2-Nitrophenol	ND		10	0.65	ug/L		04/10/18 14:14	04/12/18 12:28	1
4-Nitrophenol	ND		10	2.1	ug/L		04/10/18 14:14	04/12/18 12:28	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		04/10/18 14:14	04/12/18 12:28	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		04/10/18 14:14	04/12/18 12:28	1
Pentachlorophenol	ND		20	1.8	ug/L		04/10/18 14:14	04/12/18 12:28	1
Quinoline	ND		10	6.0	ug/L		04/10/18 14:14	04/12/18 12:28	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		04/10/18 14:14	04/12/18 12:28	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/10/18 14:14	04/12/18 12:28	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2-Fluorobiphenyl	70		34 - 120	04/10/18 14:14	04/12/18 12:28	1
2-Fluorophenol	51		10 - 120	04/10/18 14:14	04/12/18 12:28	1
Nitrobenzene-d5	54		27 - 120	04/10/18 14:14	04/12/18 12:28	1
Phenol-d5	60		10 - 120	04/10/18 14:14	04/12/18 12:28	1
Terphenyl-d14	76		53 - 125	04/10/18 14:14	04/12/18 12:28	1
2,4,6-Tribromophenol	62		15 - 135	04/10/18 14:14	04/12/18 12:28	1

Lab Sample ID: LCS 400-393427/2-A
Matrix: Water
Analysis Batch: 393636

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 393427

Analyte	Spike Added	LCS LCS		Unit	D	%Rec.	
		Result	Qualifier			%Rec	Limits
Aniline	30.0	20.7		ug/L		69	29 - 120
Benzoic acid	120	77.7		ug/L		65	10 - 150
Benzyl alcohol	30.0	20.0		ug/L		67	19 - 125
Bis(2-chloroethoxy)methane	30.0	21.9		ug/L		73	45 - 120
Bis(2-chloroethyl)ether	30.0	22.2		ug/L		74	48 - 120
bis (2-chloroisopropyl) ether	30.0	19.8		ug/L		66	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	24.0		ug/L		80	48 - 150
4-Bromophenyl phenyl ether	30.0	23.7		ug/L		79	55 - 122
Butyl benzyl phthalate	30.0	23.7		ug/L		79	46 - 145
4-Chloroaniline	30.0	19.4		ug/L		65	30 - 120
4-Chloro-3-methylphenol	30.0	24.8		ug/L		83	39 - 140
2-Chloronaphthalene	30.0	22.1		ug/L		74	52 - 120
2-Chlorophenol	30.0	22.1		ug/L		74	34 - 120
4-Chlorophenyl phenyl ether	30.0	24.4		ug/L		81	58 - 124
Dibenz[a,h]acridine	30.0	27.8		ug/L		93	46 - 149
Dibenzofuran	30.0	23.8		ug/L		79	58 - 123
3,3'-Dichlorobenzidine	40.0	33.2		ug/L		83	39 - 135
2,4-Dichlorophenol	30.0	23.5		ug/L		78	39 - 128
Diethyl phthalate	30.0	24.9		ug/L		83	44 - 146

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-393427/2-A
Matrix: Water
Analysis Batch: 393636

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 393427

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,4-Dimethylphenol	30.0	25.1		ug/L		84	44 - 120
Dimethyl phthalate	30.0	26.7		ug/L		89	50 - 131
Di-n-butyl phthalate	30.0	24.0		ug/L		80	55 - 131
4,6-Dinitro-ortho-cresol	60.0	48.5		ug/L		81	10 - 150
2,4-Dinitrophenol	60.0	49.6		ug/L		83	10 - 150
2,4-Dinitrotoluene	30.0	25.6		ug/L		85	58 - 140
2,6-Dinitrotoluene	30.0	23.7		ug/L		79	57 - 130
Di-n-octyl phthalate	30.0	24.6		ug/L		82	50 - 150
1,4-Dioxane	30.0	17.5		ug/L		58	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	22.4		ug/L		75	47 - 123
Hexachlorobenzene	30.0	25.2		ug/L		84	52 - 131
Hexachlorocyclopentadiene	30.0	19.1	J	ug/L		64	10 - 129
Hexachloroethane	30.0	15.5		ug/L		52	41 - 120
Indene	30.0	22.4		ug/L		75	47 - 120
Isophorone	30.0	21.1		ug/L		70	49 - 120
2-Methylphenol	30.0	21.0		ug/L		70	39 - 123
3 & 4 Methylphenol	30.0	19.5	J	ug/L		65	38 - 121
2-Nitroaniline	30.0	22.3		ug/L		74	47 - 150
3-Nitroaniline	30.0	21.1		ug/L		70	34 - 132
4-Nitroaniline	30.0	25.5		ug/L		85	41 - 135
Nitrobenzene	30.0	21.3		ug/L		71	47 - 120
2-Nitrophenol	30.0	23.7		ug/L		79	28 - 136
4-Nitrophenol	60.0	50.8		ug/L		85	10 - 150
N-Nitrosodimethylamine	30.0	20.0		ug/L		67	22 - 148
N-Nitrosodi-n-propylamine	30.0	20.6		ug/L		69	44 - 120
N-Nitrosodiphenylamine	29.8	24.8		ug/L		83	56 - 120
Pentachlorophenol	60.0	50.0		ug/L		83	15 - 141
Phenol	30.0	21.9		ug/L		73	33 - 120
Pyridine	60.0	34.5		ug/L		57	26 - 120
Quinoline	30.0	29.6		ug/L		99	51 - 129
2,4,5-Trichlorophenol	30.0	23.3		ug/L		78	38 - 147
2,4,6-Trichlorophenol	30.0	23.2		ug/L		77	36 - 139

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	76		34 - 120
2-Fluorophenol	67		10 - 120
Nitrobenzene-d5	75		27 - 120
Phenol-d5	76		10 - 120
Terphenyl-d14	88		53 - 125
2,4,6-Tribromophenol	80		15 - 135

Lab Sample ID: LCS 400-393427/3-A
Matrix: Water
Analysis Batch: 393636

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 393427

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	30.0	11.1		ug/L		37	10 - 120

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-393427/3-A
Matrix: Water
Analysis Batch: 393636

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 393427

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	83		34 - 120
2-Fluorophenol	48		10 - 120
Nitrobenzene-d5	81		27 - 120
Phenol-d5	67		10 - 120
Terphenyl-d14	96		53 - 125
2,4,6-Tribromophenol	71		15 - 135

Lab Sample ID: LCSD 400-393427/4-A
Matrix: Water
Analysis Batch: 393636

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 393427

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	30.0	1.73	J *	ug/L		6	10 - 120	146	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	85		34 - 120
2-Fluorophenol	51		10 - 120
Nitrobenzene-d5	74		27 - 120
Phenol-d5	71		10 - 120
Terphenyl-d14	98		53 - 125
2,4,6-Tribromophenol	74		15 - 135

Lab Sample ID: 400-151906-14 MS
Matrix: Water
Analysis Batch: 393636

Client Sample ID: MW9-ROX-040618
Prep Type: Total/NA
Prep Batch: 393427

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	ND		29.5	17.9		ug/L		61	10 - 143
Benzoic acid	ND		118	85.5		ug/L		72	10 - 134
Benzyl alcohol	ND		29.5	18.1		ug/L		61	10 - 154
Bis(2-chloroethoxy)methane	ND		29.5	18.4		ug/L		62	14 - 147
Bis(2-chloroethyl)ether	ND		29.5	19.2		ug/L		65	28 - 130
bis (2-chloroisopropyl) ether	ND		29.5	18.9		ug/L		64	10 - 141
Bis(2-ethylhexyl) phthalate	ND		29.5	19.9		ug/L		68	43 - 160
4-Bromophenyl phenyl ether	ND		29.5	20.1		ug/L		68	26 - 159
Butyl benzyl phthalate	ND		29.5	20.0		ug/L		68	43 - 151
4-Chloroaniline	ND		29.5	16.2		ug/L		55	10 - 152
4-Chloro-3-methylphenol	ND		29.5	19.3		ug/L		66	17 - 156
2-Chloronaphthalene	ND		29.5	19.3		ug/L		65	10 - 155
2-Chlorophenol	ND		29.5	17.9		ug/L		61	19 - 130
4-Chlorophenyl phenyl ether	ND		29.5	20.1		ug/L		68	25 - 161
Dibenz[a,h]acridine	ND		29.5	22.3		ug/L		75	42 - 147
Dibenzofuran	ND		29.5	20.1		ug/L		68	18 - 157
3,3'-Dichlorobenzidine	ND		39.3	24.9		ug/L		63	10 - 172
2,4-Dichlorophenol	ND		29.5	19.0		ug/L		64	16 - 147
Diethyl phthalate	ND		29.5	20.9		ug/L		71	23 - 160
2,4-Dimethylphenol	ND		29.5	21.0		ug/L		71	25 - 146
Dimethyl phthalate	ND		29.5	22.5		ug/L		76	11 - 158

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-151906-14 MS

Matrix: Water

Analysis Batch: 393636

Client Sample ID: MW9-ROX-040618

Prep Type: Total/NA

Prep Batch: 393427

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Di-n-butyl phthalate	ND		29.5	20.5		ug/L		70	28 - 162
4,6-Dinitro-ortho-cresol	ND		59.0	42.7		ug/L		72	10 - 168
2,4-Dinitrophenol	ND		59.0	47.1		ug/L		80	10 - 166
2,4-Dinitrotoluene	ND		29.5	21.4		ug/L		73	26 - 158
2,6-Dinitrotoluene	ND		29.5	20.1		ug/L		68	19 - 157
Di-n-octyl phthalate	ND		29.5	19.6		ug/L		66	42 - 150
1,4-Dioxane	ND		29.5	13.4		ug/L		46	10 - 130
1,2-Diphenylhydrazine (as Azobenzene)	ND		29.5	19.8		ug/L		67	19 - 162
Hexachlorobenzene	ND		29.5	21.7		ug/L		74	45 - 145
Hexachlorocyclopentadiene	ND		29.5	19.7	J	ug/L		67	10 - 151
Hexachloroethane	ND		29.5	16.9		ug/L		57	29 - 130
Indene	ND		29.5	20.6		ug/L		70	22 - 130
Isophorone	ND		29.5	18.3		ug/L		62	24 - 144
2-Methylphenol	ND		29.5	18.5		ug/L		63	22 - 130
3 & 4 Methylphenol	ND		29.5	17.2	J	ug/L		58	31 - 130
2-Nitroaniline	ND		29.5	19.6		ug/L		66	10 - 162
3-Nitroaniline	ND		29.5	17.9		ug/L		61	10 - 163
4-Nitroaniline	ND		29.5	21.4		ug/L		73	10 - 162
Nitrobenzene	ND		29.5	18.5		ug/L		63	34 - 135
2-Nitrophenol	ND		29.5	19.1		ug/L		65	27 - 134
4-Nitrophenol	ND		59.0	41.9		ug/L		71	10 - 175
N-Nitrosodimethylamine	ND		29.5	18.2		ug/L		62	10 - 139
N-Nitrosodi-n-propylamine	ND		29.5	19.3		ug/L		65	13 - 147
N-Nitrosodiphenylamine	ND		29.3	20.9		ug/L		71	31 - 150
Pentachlorophenol	ND		59.0	45.6		ug/L		77	10 - 180
Phenol	ND		29.5	17.0		ug/L		58	23 - 130
Pyridine	ND		59.0	26.2		ug/L		44	10 - 130
Quinoline	ND	F2	29.5	10.2		ug/L		35	10 - 180
2,4,5-Trichlorophenol	ND		29.5	20.2		ug/L		69	43 - 137
2,4,6-Trichlorophenol	ND		29.5	19.3		ug/L		65	42 - 135

Surrogate	MS %Recovery	MS Qualifier	MS Limits
2-Fluorobiphenyl	65		34 - 120
2-Fluorophenol	50		10 - 120
Nitrobenzene-d5	70		27 - 120
Phenol-d5	60		10 - 120
Terphenyl-d14	70		53 - 125
2,4,6-Tribromophenol	69		15 - 135

Lab Sample ID: 400-151906-14 MSD

Matrix: Water

Analysis Batch: 393636

Client Sample ID: MW9-ROX-040618

Prep Type: Total/NA

Prep Batch: 393427

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Aniline	ND		29.6	16.9		ug/L		57	10 - 143	6	63
Benzoic acid	ND		119	87.4		ug/L		74	10 - 134	2	49
Benzyl alcohol	ND		29.6	19.3		ug/L		65	10 - 154	6	37

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-151906-14 MSD

Matrix: Water

Analysis Batch: 393636

Client Sample ID: MW9-ROX-040618

Prep Type: Total/NA

Prep Batch: 393427

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
Bis(2-chloroethoxy)methane	ND		29.6	19.8		ug/L		67	14 - 147	8	70
Bis(2-chloroethyl)ether	ND		29.6	19.7		ug/L		67	28 - 130	3	42
bis (2-chloroisopropyl) ether	ND		29.6	19.6		ug/L		66	10 - 141	3	41
Bis(2-ethylhexyl) phthalate	ND		29.6	19.2		ug/L		65	43 - 160	4	35
4-Bromophenyl phenyl ether	ND		29.6	20.4		ug/L		69	26 - 159	1	30
Butyl benzyl phthalate	ND		29.6	19.6		ug/L		66	43 - 151	2	32
4-Chloroaniline	ND		29.6	17.1		ug/L		58	10 - 152	5	94
4-Chloro-3-methylphenol	ND		29.6	20.6		ug/L		70	17 - 156	6	40
2-Chloronaphthalene	ND		29.6	19.0		ug/L		64	10 - 155	1	29
2-Chlorophenol	ND		29.6	19.4		ug/L		65	19 - 130	8	42
4-Chlorophenyl phenyl ether	ND		29.6	21.0		ug/L		71	25 - 161	4	27
Dibenz[a, h]acridine	ND		29.6	21.9		ug/L		74	42 - 147	1	40
Dibenzofuran	ND		29.6	21.6		ug/L		73	18 - 157	7	29
3,3'-Dichlorobenzidine	ND		39.5	25.8		ug/L		65	10 - 172	4	58
2,4-Dichlorophenol	ND		29.6	19.9		ug/L		67	16 - 147	5	43
Diethyl phthalate	ND		29.6	21.9		ug/L		74	23 - 160	5	40
2,4-Dimethylphenol	ND		29.6	22.1		ug/L		75	25 - 146	5	47
Dimethyl phthalate	ND		29.6	23.4		ug/L		79	11 - 158	4	36
Di-n-butyl phthalate	ND		29.6	20.6		ug/L		69	28 - 162	0	32
4,6-Dinitro-ortho-cresol	ND		59.3	45.2		ug/L		76	10 - 168	6	42
2,4-Dinitrophenol	ND		59.3	49.4		ug/L		83	10 - 166	5	36
2,4-Dinitrotoluene	ND		29.6	23.2		ug/L		78	26 - 158	8	28
2,6-Dinitrotoluene	ND		29.6	21.7		ug/L		73	19 - 157	8	28
Di-n-octyl phthalate	ND		29.6	20.5		ug/L		69	42 - 150	5	35
1,4-Dioxane	ND		29.6	14.5		ug/L		49	10 - 130	8	40
1,2-Diphenylhydrazine (as Azobenzene)	ND		29.6	20.3		ug/L		69	19 - 162	3	40
Hexachlorobenzene	ND		29.6	21.2		ug/L		72	45 - 145	2	33
Hexachlorocyclopentadiene	ND		29.6	19.3	J	ug/L		65	10 - 151	2	50
Hexachloroethane	ND		29.6	17.3		ug/L		58	29 - 130	2	41
Indene	ND		29.6	21.8		ug/L		74	22 - 130	6	40
Isophorone	ND		29.6	19.2		ug/L		65	24 - 144	4	33
2-Methylphenol	ND		29.6	19.2		ug/L		65	22 - 130	4	47
3 & 4 Methylphenol	ND		29.6	18.1	J	ug/L		61	31 - 130	5	47
2-Nitroaniline	ND		29.6	20.6		ug/L		70	10 - 162	5	33
3-Nitroaniline	ND		29.6	18.9		ug/L		64	10 - 163	6	39
4-Nitroaniline	ND		29.6	22.9		ug/L		77	10 - 162	7	50
Nitrobenzene	ND		29.6	19.3		ug/L		65	34 - 135	4	35
2-Nitrophenol	ND		29.6	20.6		ug/L		70	27 - 134	8	43
4-Nitrophenol	ND		59.3	42.3		ug/L		71	10 - 175	1	82
N-Nitrosodimethylamine	ND		29.6	18.5		ug/L		63	10 - 139	2	62
N-Nitrosodi-n-propylamine	ND		29.6	20.5		ug/L		69	13 - 147	6	36
N-Nitrosodiphenylamine	ND		29.4	21.5		ug/L		73	31 - 150	3	34
Pentachlorophenol	ND		59.3	46.5		ug/L		78	10 - 180	2	42
Phenol	ND		29.6	18.0		ug/L		61	23 - 130	6	52
Pyridine	ND		59.3	25.0		ug/L		42	10 - 130	5	55
Quinoline	ND	F2	29.6	21.4	F2	ug/L		72	10 - 180	70	40
2,4,5-Trichlorophenol	ND		29.6	21.0		ug/L		71	43 - 137	4	42

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-151906-14 MSD
Matrix: Water
Analysis Batch: 393636

Client Sample ID: MW9-ROX-040618
Prep Type: Total/NA
Prep Batch: 393427

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4,6-Trichlorophenol	ND		29.6	20.9		ug/L		71	42 - 135	8	44

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2-Fluorobiphenyl	68		34 - 120
2-Fluorophenol	54		10 - 120
Nitrobenzene-d5	69		27 - 120
Phenol-d5	63		10 - 120
Terphenyl-d14	72		53 - 125
2,4,6-Tribromophenol	70		15 - 135

Lab Sample ID: MB 400-393699/1-A
Matrix: Water
Analysis Batch: 393852

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 393699

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		04/12/18 13:37	04/13/18 22:12	1
Benzenethiol	ND		10	1.7	ug/L		04/12/18 13:37	04/13/18 22:12	1
Benzoic acid	ND		30	7.3	ug/L		04/12/18 13:37	04/13/18 22:12	1
Benzyl alcohol	ND		10	2.0	ug/L		04/12/18 13:37	04/13/18 22:12	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		04/12/18 13:37	04/13/18 22:12	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		04/12/18 13:37	04/13/18 22:12	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		04/12/18 13:37	04/13/18 22:12	1
Bis(2-ethylhexyl) phthalate	ND		10	2.3	ug/L		04/12/18 13:37	04/13/18 22:12	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		04/12/18 13:37	04/13/18 22:12	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		04/12/18 13:37	04/13/18 22:12	1
4-Chloroaniline	ND		10	3.4	ug/L		04/12/18 13:37	04/13/18 22:12	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		04/12/18 13:37	04/13/18 22:12	1
2-Chloronaphthalene	ND		10	0.52	ug/L		04/12/18 13:37	04/13/18 22:12	1
2-Chlorophenol	ND		10	2.2	ug/L		04/12/18 13:37	04/13/18 22:12	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		04/12/18 13:37	04/13/18 22:12	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		04/12/18 13:37	04/13/18 22:12	1
Dibenzofuran	ND		10	0.52	ug/L		04/12/18 13:37	04/13/18 22:12	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		04/12/18 13:37	04/13/18 22:12	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		04/12/18 13:37	04/13/18 22:12	1
Diethyl phthalate	ND		10	0.70	ug/L		04/12/18 13:37	04/13/18 22:12	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		04/12/18 13:37	04/13/18 22:12	1
Dimethyl phthalate	ND		10	0.60	ug/L		04/12/18 13:37	04/13/18 22:12	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		04/12/18 13:37	04/13/18 22:12	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		04/12/18 13:37	04/13/18 22:12	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/12/18 13:37	04/13/18 22:12	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		04/12/18 13:37	04/13/18 22:12	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		04/12/18 13:37	04/13/18 22:12	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		04/12/18 13:37	04/13/18 22:12	1
1,4-Dioxane	ND		10	1.0	ug/L		04/12/18 13:37	04/13/18 22:12	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		04/12/18 13:37	04/13/18 22:12	1
Hexachlorobenzene	ND		10	0.25	ug/L		04/12/18 13:37	04/13/18 22:12	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/12/18 13:37	04/13/18 22:12	1

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-393699/1-A
Matrix: Water
Analysis Batch: 393852

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 393699

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Hexachloroethane	ND		10	4.2	ug/L		04/12/18 13:37	04/13/18 22:12	1
Indene	ND		10	1.0	ug/L		04/12/18 13:37	04/13/18 22:12	1
Isophorone	ND		10	0.57	ug/L		04/12/18 13:37	04/13/18 22:12	1
2-Methylphenol	ND		10	1.8	ug/L		04/12/18 13:37	04/13/18 22:12	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/12/18 13:37	04/13/18 22:12	1
2-Nitroaniline	ND		10	2.2	ug/L		04/12/18 13:37	04/13/18 22:12	1
3-Nitroaniline	ND		10	1.8	ug/L		04/12/18 13:37	04/13/18 22:12	1
4-Nitroaniline	ND		10	2.5	ug/L		04/12/18 13:37	04/13/18 22:12	1
Nitrobenzene	ND		10	0.55	ug/L		04/12/18 13:37	04/13/18 22:12	1
2-Nitrophenol	ND		10	0.65	ug/L		04/12/18 13:37	04/13/18 22:12	1
4-Nitrophenol	ND		10	2.1	ug/L		04/12/18 13:37	04/13/18 22:12	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		04/12/18 13:37	04/13/18 22:12	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		04/12/18 13:37	04/13/18 22:12	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		04/12/18 13:37	04/13/18 22:12	1
Pentachlorophenol	ND		20	1.8	ug/L		04/12/18 13:37	04/13/18 22:12	1
Phenol	ND		10	2.6	ug/L		04/12/18 13:37	04/13/18 22:12	1
Pyridine	ND		10	3.2	ug/L		04/12/18 13:37	04/13/18 22:12	1
Quinoline	ND		10	6.0	ug/L		04/12/18 13:37	04/13/18 22:12	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		04/12/18 13:37	04/13/18 22:12	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/12/18 13:37	04/13/18 22:12	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2-Fluorobiphenyl	46		34 - 120	04/12/18 13:37	04/13/18 22:12	1
2-Fluorophenol	40		10 - 120	04/12/18 13:37	04/13/18 22:12	1
Nitrobenzene-d5	45		27 - 120	04/12/18 13:37	04/13/18 22:12	1
Phenol-d5	42		10 - 120	04/12/18 13:37	04/13/18 22:12	1
Terphenyl-d14	56		53 - 125	04/12/18 13:37	04/13/18 22:12	1
2,4,6-Tribromophenol	45		15 - 135	04/12/18 13:37	04/13/18 22:12	1

Lab Sample ID: LCS 400-393699/2-A
Matrix: Water
Analysis Batch: 393852

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 393699

Analyte	Spike Added	LCS LCS		Unit	D	%Rec.	
		Result	Qualifier			%Rec	Limits
Aniline	30.0	17.3		ug/L		58	29 - 120
Benzoic acid	120	17.8	J	ug/L		15	10 - 150
Benzyl alcohol	30.0	20.6		ug/L		69	19 - 125
Bis(2-chloroethoxy)methane	30.0	19.9		ug/L		66	45 - 120
Bis(2-chloroethyl)ether	30.0	18.2		ug/L		61	48 - 120
bis (2-chloroisopropyl) ether	30.0	17.4		ug/L		58	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	22.6		ug/L		75	48 - 150
4-Bromophenyl phenyl ether	30.0	22.0		ug/L		73	55 - 122
Butyl benzyl phthalate	30.0	21.2		ug/L		71	46 - 145
4-Chloroaniline	30.0	14.8		ug/L		49	30 - 120
4-Chloro-3-methylphenol	30.0	21.6		ug/L		72	39 - 140
2-Chloronaphthalene	30.0	17.4		ug/L		58	52 - 120
2-Chlorophenol	30.0	21.8		ug/L		73	34 - 120
4-Chlorophenyl phenyl ether	30.0	22.4		ug/L		75	58 - 124

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-393699/2-A
Matrix: Water
Analysis Batch: 393852

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 393699

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibenz[a,h]acridine	30.0	18.7		ug/L		62	46 - 149
Dibenzofuran	30.0	20.6		ug/L		69	58 - 123
3,3'-Dichlorobenzidine	40.0	25.5		ug/L		64	39 - 135
2,4-Dichlorophenol	30.0	20.4		ug/L		68	39 - 128
Diethyl phthalate	30.0	22.3		ug/L		74	44 - 146
2,4-Dimethylphenol	30.0	21.5		ug/L		72	44 - 120
Dimethyl phthalate	30.0	25.1		ug/L		84	50 - 131
Di-n-butyl phthalate	30.0	23.6		ug/L		79	55 - 131
4,6-Dinitro-ortho-cresol	60.0	40.2		ug/L		67	10 - 150
2,4-Dinitrophenol	60.0	30.7		ug/L		51	10 - 150
2,4-Dinitrotoluene	30.0	21.8		ug/L		73	58 - 140
2,6-Dinitrotoluene	30.0	21.1		ug/L		70	57 - 130
Di-n-octyl phthalate	30.0	22.9		ug/L		76	50 - 150
1,4-Dioxane	30.0	13.0		ug/L		43	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	19.3		ug/L		64	47 - 123
Hexachlorobenzene	30.0	21.4		ug/L		71	52 - 131
Hexachlorocyclopentadiene	30.0	6.02	J	ug/L		20	10 - 129
Hexachloroethane	30.0	12.7		ug/L		42	41 - 120
Indene	30.0	19.4		ug/L		65	47 - 120
Isophorone	30.0	17.7		ug/L		59	49 - 120
2-Methylphenol	30.0	19.6		ug/L		65	39 - 123
3 & 4 Methylphenol	30.0	18.6	J	ug/L		62	38 - 121
2-Nitroaniline	30.0	20.0		ug/L		67	47 - 150
3-Nitroaniline	30.0	20.5		ug/L		68	34 - 132
4-Nitroaniline	30.0	25.9		ug/L		86	41 - 135
Nitrobenzene	30.0	18.1		ug/L		60	47 - 120
2-Nitrophenol	30.0	20.5		ug/L		68	28 - 136
4-Nitrophenol	60.0	44.0		ug/L		73	10 - 150
N-Nitrosodimethylamine	30.0	18.8		ug/L		63	22 - 148
N-Nitrosodi-n-propylamine	30.0	20.5		ug/L		68	44 - 120
N-Nitrosodiphenylamine	29.8	22.2		ug/L		75	56 - 120
Pentachlorophenol	60.0	42.3		ug/L		71	15 - 141
Phenol	30.0	21.3		ug/L		71	33 - 120
Pyridine	60.0	25.9		ug/L		43	26 - 120
Quinoline	30.0	22.4		ug/L		75	51 - 129
2,4,5-Trichlorophenol	30.0	21.4		ug/L		71	38 - 147
2,4,6-Trichlorophenol	30.0	21.8		ug/L		73	36 - 139

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	64		34 - 120
2-Fluorophenol	60		10 - 120
Nitrobenzene-d5	57		27 - 120
Phenol-d5	64		10 - 120
Terphenyl-d14	78		53 - 125
2,4,6-Tribromophenol	82		15 - 135

TestAmerica Pensacola



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-393699/4-A
Matrix: Water
Analysis Batch: 393852

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 393699

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	30.0	7.54	J	ug/L		25	10 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	71		34 - 120
2-Fluorophenol	67		10 - 120
Nitrobenzene-d5	66		27 - 120
Phenol-d5	64		10 - 120
Terphenyl-d14	92		53 - 125
2,4,6-Tribromophenol	73		15 - 135

Lab Sample ID: LCSD 400-393699/3-A
Matrix: Water
Analysis Batch: 393852

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 393699

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	30.0	15.5		ug/L		52	29 - 120	11	30
Benzoic acid	120	22.6	J	ug/L		19	10 - 150	24	30
Benzyl alcohol	30.0	20.4		ug/L		68	19 - 125	1	30
Bis(2-chloroethoxy)methane	30.0	19.9		ug/L		66	45 - 120	0	30
Bis(2-chloroethyl)ether	30.0	19.5		ug/L		65	48 - 120	7	30
bis (2-chloroisopropyl) ether	30.0	17.6		ug/L		59	30 - 125	1	30
Bis(2-ethylhexyl) phthalate	30.0	22.0		ug/L		73	48 - 150	3	30
4-Bromophenyl phenyl ether	30.0	21.3		ug/L		71	55 - 122	3	30
Butyl benzyl phthalate	30.0	20.7		ug/L		69	46 - 145	2	30
4-Chloroaniline	30.0	14.4		ug/L		48	30 - 120	2	30
4-Chloro-3-methylphenol	30.0	21.2		ug/L		71	39 - 140	2	30
2-Chloronaphthalene	30.0	17.7		ug/L		59	52 - 120	2	30
2-Chlorophenol	30.0	22.2		ug/L		74	34 - 120	2	30
4-Chlorophenyl phenyl ether	30.0	22.1		ug/L		74	58 - 124	1	30
Dibenz[a,h]acridine	30.0	18.2		ug/L		61	46 - 149	3	30
Dibenzofuran	30.0	20.3		ug/L		68	58 - 123	2	30
3,3'-Dichlorobenzidine	40.0	25.3		ug/L		63	39 - 135	1	30
2,4-Dichlorophenol	30.0	20.4		ug/L		68	39 - 128	0	30
Diethyl phthalate	30.0	21.8		ug/L		73	44 - 146	2	30
2,4-Dimethylphenol	30.0	21.6		ug/L		72	44 - 120	0	30
Dimethyl phthalate	30.0	24.6		ug/L		82	50 - 131	2	30
Di-n-butyl phthalate	30.0	23.0		ug/L		77	55 - 131	2	30
4,6-Dinitro-ortho-cresol	60.0	40.5		ug/L		67	10 - 150	1	30
2,4-Dinitrophenol	60.0	29.0	J	ug/L		48	10 - 150	6	30
2,4-Dinitrotoluene	30.0	21.6		ug/L		72	58 - 140	1	30
2,6-Dinitrotoluene	30.0	20.8		ug/L		69	57 - 130	1	30
Di-n-octyl phthalate	30.0	22.4		ug/L		75	50 - 150	2	30
1,4-Dioxane	30.0	13.5		ug/L		45	25 - 120	4	30
1,2-Diphenylhydrazine (as Azobenzene)	30.0	19.0		ug/L		63	47 - 123	2	30
Hexachlorobenzene	30.0	20.8		ug/L		69	52 - 131	3	30
Hexachlorocyclopentadiene	30.0	5.23	J	ug/L		17	10 - 129	14	30
Hexachloroethane	30.0	13.4		ug/L		45	41 - 120	5	30

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-393699/3-A
 Matrix: Water
 Analysis Batch: 393852

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 393699

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	
								RPD	Limit
Indene	30.0	20.1		ug/L		67	47 - 120	3	30
Isophorone	30.0	17.7		ug/L		59	49 - 120	0	30
2-Methylphenol	30.0	19.9		ug/L		66	39 - 123	2	30
3 & 4 Methylphenol	30.0	18.4	J	ug/L		61	38 - 121	1	30
2-Nitroaniline	30.0	20.0		ug/L		67	47 - 150	0	30
3-Nitroaniline	30.0	20.3		ug/L		68	34 - 132	1	30
4-Nitroaniline	30.0	25.6		ug/L		85	41 - 135	1	30
Nitrobenzene	30.0	18.2		ug/L		61	47 - 120	0	30
2-Nitrophenol	30.0	20.4		ug/L		68	28 - 136	1	30
4-Nitrophenol	60.0	42.9		ug/L		71	10 - 150	3	30
N-Nitrosodimethylamine	30.0	19.0		ug/L		63	22 - 148	1	30
N-Nitrosodi-n-propylamine	30.0	20.9		ug/L		70	44 - 120	2	30
N-Nitrosodiphenylamine	29.8	21.5		ug/L		72	56 - 120	3	30
Pentachlorophenol	60.0	41.1		ug/L		68	15 - 141	3	30
Phenol	30.0	21.6		ug/L		72	33 - 120	1	30
Pyridine	60.0	24.4		ug/L		41	26 - 120	6	30
Quinoline	30.0	21.2		ug/L		71	51 - 129	5	30
2,4,5-Trichlorophenol	30.0	21.7		ug/L		72	38 - 147	1	30
2,4,6-Trichlorophenol	30.0	21.8		ug/L		73	36 - 139	0	30

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	64		34 - 120
2-Fluorophenol	62		10 - 120
Nitrobenzene-d5	57		27 - 120
Phenol-d5	64		10 - 120
Terphenyl-d14	75		53 - 125
2,4,6-Tribromophenol	79		15 - 135

Lab Sample ID: LCSD 400-393699/5-A
 Matrix: Water
 Analysis Batch: 393852

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 393699

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	
								RPD	Limit
Benzenethiol	30.0	6.05	J	ug/L		20	10 - 120	22	30

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	68		34 - 120
2-Fluorophenol	64		10 - 120
Nitrobenzene-d5	64		27 - 120
Phenol-d5	61		10 - 120
Terphenyl-d14	88		53 - 125
2,4,6-Tribromophenol	69		15 - 135

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA

Lab Sample ID: MB 400-393427/1-A
Matrix: Water
Analysis Batch: 393829

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 393427

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzyl alcohol - RA	ND		10	2.0	ug/L		04/10/18 14:14	04/13/18 11:34	1
Butyl benzyl phthalate - RA	ND		10	0.69	ug/L		04/10/18 14:14	04/13/18 11:34	1
1,4-Dioxane - RA	ND		10	1.0	ug/L		04/10/18 14:14	04/13/18 11:34	1
1,2-Diphenylhydrazine (as Azobenzene) - RA	ND		10	1.0	ug/L		04/10/18 14:14	04/13/18 11:34	1
Isophorone - RA	ND		10	0.57	ug/L		04/10/18 14:14	04/13/18 11:34	1
3 & 4 Methylphenol - RA	ND		20	1.0	ug/L		04/10/18 14:14	04/13/18 11:34	1
N-Nitrosodi-n-propylamine - RA	ND		10	3.3	ug/L		04/10/18 14:14	04/13/18 11:34	1
Phenol - RA	ND		10	2.6	ug/L		04/10/18 14:14	04/13/18 11:34	1
Pyridine - RA	ND		10	3.2	ug/L		04/10/18 14:14	04/13/18 11:34	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-393427/1-A
Matrix: Water
Analysis Batch: 393627

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 393427

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acenaphthene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 11:58	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 11:58	1
Anthracene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 11:58	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 11:58	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 11:58	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 11:58	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 11:58	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 11:58	1
Chrysene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 11:58	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 11:58	1
Fluoranthene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 11:58	1
Fluorene	ND		0.20	0.021	ug/L		04/10/18 14:14	04/12/18 11:58	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/10/18 14:14	04/12/18 11:58	1
Phenanthrene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 11:58	1
Pyrene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 11:58	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 11:58	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/10/18 14:14	04/12/18 11:58	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Terphenyl-d14	76		33 - 138	04/10/18 14:14	04/12/18 11:58	1
2-Fluorobiphenyl	82		15 - 122	04/10/18 14:14	04/12/18 11:58	1
Nitrobenzene-d5	71		19 - 130	04/10/18 14:14	04/12/18 11:58	1

Lab Sample ID: LCS 400-393427/2-A
Matrix: Water
Analysis Batch: 393627

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 393427

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthylene	30.0	24.5		ug/L		82	44 - 120

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-393427/2-A
Matrix: Water
Analysis Batch: 393627

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 393427

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Anthracene	30.0	25.4		ug/L		85	49 - 120
Benzo[a]anthracene	30.0	25.7		ug/L		86	61 - 135
Benzo[a]pyrene	30.0	24.8		ug/L		83	52 - 120
Benzo[b]fluoranthene	30.0	26.3		ug/L		88	53 - 134
Benzo[g,h,i]perylene	30.0	24.7		ug/L		82	47 - 133
Benzo[k]fluoranthene	30.0	24.8		ug/L		83	57 - 134
Chrysene	30.0	25.7		ug/L		86	55 - 122
Dibenz(a,h)anthracene	30.0	22.4		ug/L		75	48 - 146
Fluoranthene	30.0	27.9		ug/L		93	54 - 128
Fluorene	30.0	28.5		ug/L		95	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	25.3		ug/L		84	43 - 142
Phenanthrene	30.0	27.4		ug/L		91	48 - 120
Pyrene	30.0	23.0		ug/L		77	48 - 132
1-Methylnaphthalene	30.0	23.6		ug/L		79	41 - 120
2-Methylnaphthalene	30.0	23.3		ug/L		78	32 - 124

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Terphenyl-d14	81		33 - 138
2-Fluorobiphenyl	87		15 - 122
Nitrobenzene-d5	81		19 - 130

Lab Sample ID: 400-151906-14 MS
Matrix: Water
Analysis Batch: 393627

Client Sample ID: MW9-ROX-040618
Prep Type: Total/NA
Prep Batch: 393427

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
				Result	Qualifier				
Acenaphthene	ND		29.5	26.9		ug/L		91	35 - 113
Acenaphthylene	ND		29.5	25.0		ug/L		85	41 - 118
Anthracene	ND		29.5	26.6		ug/L		90	45 - 122
Benzo[a]anthracene	ND		29.5	26.0		ug/L		88	55 - 133
Benzo[a]pyrene	ND		29.5	25.7		ug/L		87	50 - 108
Benzo[b]fluoranthene	ND		29.5	25.8		ug/L		88	50 - 128
Benzo[g,h,i]perylene	ND		29.5	25.2		ug/L		85	46 - 133
Benzo[k]fluoranthene	ND		29.5	25.5		ug/L		86	52 - 128
Chrysene	ND		29.5	26.3		ug/L		89	52 - 116
Dibenz(a,h)anthracene	ND		29.5	23.1		ug/L		78	52 - 143
Fluoranthene	0.024	J	29.5	28.6		ug/L		97	32 - 150
Fluorene	ND		29.5	29.0		ug/L		98	15 - 150
Indeno[1,2,3-cd]pyrene	ND		29.5	26.1		ug/L		88	41 - 141
Phenanthrene	ND		29.5	28.2		ug/L		96	36 - 125
Pyrene	0.034	J	29.5	23.5		ug/L		79	41 - 127
1-Methylnaphthalene	ND		29.5	27.5		ug/L		93	10 - 150
2-Methylnaphthalene	ND		29.5	26.2		ug/L		89	10 - 150

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
Terphenyl-d14	82		33 - 138
2-Fluorobiphenyl	91		15 - 122

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: 400-151906-14 MS
Matrix: Water
Analysis Batch: 393627

Client Sample ID: MW9-ROX-040618
Prep Type: Total/NA
Prep Batch: 393427

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
Nitrobenzene-d5	84		19 - 130

Lab Sample ID: 400-151906-14 MSD
Matrix: Water
Analysis Batch: 393627

Client Sample ID: MW9-ROX-040618
Prep Type: Total/NA
Prep Batch: 393427

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD MSD		Unit	D	%Rec	%Rec.		RPD	
				Result	Qualifier				Limits	RPD	Limit	
Acenaphthene	ND		29.6	25.3		ug/L		85	35 - 113	6	49	
Acenaphthylene	ND		29.6	23.8		ug/L		80	41 - 118	5	48	
Anthracene	ND		29.6	25.1		ug/L		85	45 - 122	6	56	
Benzo[a]anthracene	ND		29.6	23.5		ug/L		79	55 - 133	10	57	
Benzo[a]pyrene	ND		29.6	22.7		ug/L		77	50 - 108	13	59	
Benzo[b]fluoranthene	ND		29.6	23.4		ug/L		79	50 - 128	10	62	
Benzo[g,h,i]perylene	ND		29.6	21.3		ug/L		72	46 - 133	17	58	
Benzo[k]fluoranthene	ND		29.6	22.8		ug/L		77	52 - 128	11	58	
Chrysene	ND		29.6	23.7		ug/L		80	52 - 116	11	59	
Dibenz(a,h)anthracene	ND		29.6	19.6		ug/L		66	52 - 143	17	60	
Fluoranthene	0.024	J	29.6	26.8		ug/L		90	32 - 150	6	59	
Fluorene	ND		29.6	27.4		ug/L		92	15 - 150	6	49	
Indeno[1,2,3-cd]pyrene	ND		29.6	22.1		ug/L		74	41 - 141	17	58	
Phenanthrene	ND		29.6	26.3		ug/L		89	36 - 125	7	69	
Pyrene	0.034	J	29.6	21.1		ug/L		71	41 - 127	11	58	
1-Methylnaphthalene	ND		29.6	26.4		ug/L		89	10 - 150	4	66	
2-Methylnaphthalene	ND		29.6	25.0		ug/L		84	10 - 150	5	66	

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
Terphenyl-d14	72		33 - 138
2-Fluorobiphenyl	84		15 - 122
Nitrobenzene-d5	66		19 - 130

Lab Sample ID: MB 400-393699/1-A
Matrix: Water
Analysis Batch: 393837

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 393699

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acenaphthene	ND		0.20	0.020	ug/L		04/12/18 13:37	04/13/18 18:44	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/12/18 13:37	04/13/18 18:44	1
Anthracene	ND		0.20	0.020	ug/L		04/12/18 13:37	04/13/18 18:44	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/12/18 13:37	04/13/18 18:44	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/12/18 13:37	04/13/18 18:44	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/12/18 13:37	04/13/18 18:44	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/12/18 13:37	04/13/18 18:44	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/12/18 13:37	04/13/18 18:44	1
Chrysene	ND		0.20	0.040	ug/L		04/12/18 13:37	04/13/18 18:44	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		04/12/18 13:37	04/13/18 18:44	1
Fluoranthene	ND		0.20	0.020	ug/L		04/12/18 13:37	04/13/18 18:44	1
Fluorene	ND		0.20	0.021	ug/L		04/12/18 13:37	04/13/18 18:44	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/12/18 13:37	04/13/18 18:44	1

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-393699/1-A
Matrix: Water
Analysis Batch: 393837

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 393699

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Phenanthrene	ND		0.20	0.020	ug/L		04/12/18 13:37	04/13/18 18:44	1
Pyrene	ND		0.20	0.020	ug/L		04/12/18 13:37	04/13/18 18:44	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/12/18 13:37	04/13/18 18:44	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/12/18 13:37	04/13/18 18:44	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Terphenyl-d14	76		33 - 138	04/12/18 13:37	04/13/18 18:44	1
2-Fluorobiphenyl	71		15 - 122	04/12/18 13:37	04/13/18 18:44	1
Nitrobenzene-d5	66		19 - 130	04/12/18 13:37	04/13/18 18:44	1

Lab Sample ID: LCS 400-393699/2-A
Matrix: Water
Analysis Batch: 393837

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 393699

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec.	
		Result	Qualifier				Limits	
Acenaphthene	30.0	23.8		ug/L		79	41 - 120	
Acenaphthylene	30.0	22.3		ug/L		74	44 - 120	
Anthracene	30.0	24.9		ug/L		83	49 - 120	
Benzo[a]anthracene	30.0	23.8		ug/L		79	61 - 135	
Benzo[a]pyrene	30.0	24.2		ug/L		81	52 - 120	
Benzo[b]fluoranthene	30.0	25.6		ug/L		85	53 - 134	
Benzo[g,h,i]perylene	30.0	22.8		ug/L		76	47 - 133	
Benzo[k]fluoranthene	30.0	23.8		ug/L		79	57 - 134	
Chrysene	30.0	23.8		ug/L		79	55 - 122	
Dibenz(a,h)anthracene	30.0	22.4		ug/L		75	48 - 146	
Fluoranthene	30.0	26.0		ug/L		87	54 - 128	
Fluorene	30.0	26.8		ug/L		89	45 - 125	
Indeno[1,2,3-cd]pyrene	30.0	24.9		ug/L		83	43 - 142	
Phenanthrene	30.0	25.9		ug/L		86	48 - 120	
Pyrene	30.0	21.3		ug/L		71	48 - 132	
1-Methylnaphthalene	30.0	22.4		ug/L		75	41 - 120	
2-Methylnaphthalene	30.0	20.7		ug/L		69	32 - 124	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Terphenyl-d14	77		33 - 138
2-Fluorobiphenyl	78		15 - 122
Nitrobenzene-d5	66		19 - 130

Lab Sample ID: LCSD 400-393699/3-A
Matrix: Water
Analysis Batch: 393837

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 393699

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec.		RPD	Limit
		Result	Qualifier				Limits			
Acenaphthene	30.0	24.8		ug/L		83	41 - 120	4	56	
Acenaphthylene	30.0	23.2		ug/L		77	44 - 120	4	56	
Anthracene	30.0	26.0		ug/L		87	49 - 120	4	51	
Benzo[a]anthracene	30.0	24.8		ug/L		83	61 - 135	4	49	
Benzo[a]pyrene	30.0	25.4		ug/L		85	52 - 120	5	50	

TestAmerica Pensacola

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QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCSD 400-393699/3-A
Matrix: Water
Analysis Batch: 393837

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 393699

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzo[b]fluoranthene	30.0	27.2		ug/L		91	53 - 134	6	54
Benzo[g,h,i]perylene	30.0	23.4		ug/L		78	47 - 133	3	50
Benzo[k]fluoranthene	30.0	24.6		ug/L		82	57 - 134	3	52
Chrysene	30.0	24.8		ug/L		83	55 - 122	4	50
Dibenz(a,h)anthracene	30.0	23.1		ug/L		77	48 - 146	3	50
Fluoranthene	30.0	27.3		ug/L		91	54 - 128	5	52
Fluorene	30.0	28.0		ug/L		93	45 - 125	4	56
Indeno[1,2,3-cd]pyrene	30.0	25.4		ug/L		85	43 - 142	2	51
Phenanthrene	30.0	27.1		ug/L		90	48 - 120	4	56
Pyrene	30.0	22.3		ug/L		74	48 - 132	5	52
1-Methylnaphthalene	30.0	23.3		ug/L		78	41 - 120	4	55
2-Methylnaphthalene	30.0	21.5		ug/L		72	32 - 124	4	57

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
Terphenyl-d14	79		33 - 138
2-Fluorobiphenyl	82		15 - 122
Nitrobenzene-d5	67		19 - 130

Method: 8011 - EDB and DBCP in Water by Microextraction

Lab Sample ID: MB 400-393621/1-A
Matrix: Water
Analysis Batch: 393757

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 393621

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2-Dibromo-3-Chloropropane	ND		0.030	0.0055	ug/L		04/12/18 09:00	04/13/18 01:19	1
1,2-Dibromoethane	ND		0.020	0.0050	ug/L		04/12/18 09:00	04/13/18 01:19	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene	117		51 - 149	04/12/18 09:00	04/13/18 01:19	1

Lab Sample ID: LCS 400-393621/2-A
Matrix: Water
Analysis Batch: 393757

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 393621

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromo-3-Chloropropane	0.100	0.110		ug/L		110	60 - 140
1,2-Dibromoethane	0.100	0.110		ug/L		110	60 - 140

Surrogate	LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	119		51 - 149

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Method: 8011 - EDB and DBCP in Water by Microextraction (Continued)

Lab Sample ID: LCSD 400-393621/3-A
 Matrix: Water
 Analysis Batch: 393757

Client Sample ID: Lab Control Sample Dup
 Prep Type: Total/NA
 Prep Batch: 393621

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
1,2-Dibromo-3-Chloropropane	0.100	0.109	*	ug/L		109	60 - 140	36	30
1,2-Dibromoethane	0.100	0.108		ug/L		108	60 - 140	2	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	111		51 - 149

Lab Sample ID: 400-151906-14 MS
 Matrix: Water
 Analysis Batch: 393757

Client Sample ID: MW9-ROX-040618
 Prep Type: Total/NA
 Prep Batch: 393621

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromo-3-Chloropropane	ND	*	0.101	0.120		ug/L		118	65 - 135
1,2-Dibromoethane	ND		0.101	0.116		ug/L		114	65 - 135

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene	118		51 - 149

Lab Sample ID: 400-151906-14 MSD
 Matrix: Water
 Analysis Batch: 393757

Client Sample ID: MW9-ROX-040618
 Prep Type: Total/NA
 Prep Batch: 393621

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
1,2-Dibromo-3-Chloropropane	ND	*	0.0941	0.111		ug/L		118	65 - 135	8	20
1,2-Dibromoethane	ND		0.0941	0.109		ug/L		116	65 - 135	6	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene	122		51 - 149

Shell Oil Products US Chain Of Custody Record



LAB (LOCATION) _____

ACQUIT () _____

CHEMICALS () TEST AMERICA (TestAmerica Pensacola, 3355 McLamore Dr, Pensacola, FL 32514 (850-474-1001))

OTHER () TEST AMERICA (TestAmerica)

PIPELINE () RETAIL

CONSULTANT () LUBES

TRANSPORTATION () OTHER ENV. SERVICES

Print Bill To Contact Name: **Bob Bliman** PO # **25278** PlateNet Site or Project ID: _____

60527988 - 01.03.002 01.03.0022 USPC001149R02 GSAP Project ID _____

900 South Central Ave, ROXANA, IL 60527988 - 01.03.002 / 01.03.0022 AECOM Project Task Number: _____

STATE: IL AECOM Other ID: _____

LAB USE ONLY

M. KAWTICK, K. NIEMENOWS

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE			NO. OF CONT.
		DATE	TIME		HCL	HNO3	H2SO4	
	TB-ROX-040618-8011-A	4/6	0030	WATER	Z			Z
	TB-ROX-040618-8260-A	4/6	0030	WATER	Z			Z
	MINI6-ROX-040618	4/6	1020	WATER	W			W
	W 1	4/6	1120	WATER	Z			Z
	W 0	4/6	1120	WATER	Z			Z
	PS4-ROX 4U 18	4/6	1240	WATER	W			W
	MW11 X 0 18	4/6	1345	WATER	Z			Z
	M RO 04 0 B	4/6	1500	WATER	W			W

PH 8270LL VOC 8011 VOC 8260 SVOC 8270

UNIT COST: 60527988 - 01.03.0022
NON-UNIT COST: 60527988 - 01.03.0022

TEMPERATURE ON RECEIPT: _____
FIELD NOTES: _____
TEMPERATURE ON RECEIPT: _____
Container PID Readings or Laboratory Notes: _____

RECEIVED BY (Signature): *Robert J. ...* Date: 4/6/18

RECEIVED BY (Signature): *...* Date: 4/7-18

Shell Oil Products US Chain Of Custody Record



LAB (LOCATION)

ACQUISIT ()
 CALSCIENCE ()
 TESTAMERICA (TESTAMERICA Pensacola, 3355 McLeMere Dr, Pensacola, FL 32514 (850-474-1001))
 Other ()

PIPELINE RETAIL
 CHEMICALS CONSULTANT LUBES
 TRANSPORTATION OTHER ENV. SERVICES

Print Bill To Contact Name: **Bob Billman** 25278
 P.O. # **GSAP Project ID**
 80527968 - 01.03.002 / 01.03.0022
 STATE **IL**

AECOM Project / Task Number: **60527968 - 01.03.002 / 01.03.0022**
 AECOM Cont. ID: **60527968 - 01.03.002**

1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110
 Elizabeth Kunkel, Bob Billman, Wendy Pennington
 314-428-0100 FAX: 314-428-0462
 TURNAROUND TIME (CALENDAR DAYS) 5 DAYS 2 DAYS 24 HOURS RESULTS NEEDED

SPECIAL INSTRUCTIONS OR NOTES:
 * Please include "J" values on Reports
 * Please provide sample receipt upon login

DELIVERABLES LEVEL 1 OTHER (SPECIFY) **EDD**
 TEMPERATURE ON RECEIPT C° Cooler #1 Cooler #2 Cooler #3

SPECIAL INSTRUCTIONS OR NOTES:
 SHELL CONTRACT RATE APPLIES
 STATE REIMBURSEMENT RATE APPLIES
 EDD NOT NEEDED
 RECEIPT VERIFICATION REQUESTED
 PROVIDE LEDD DISK

Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE			NO OF CONT	FIELD NOTES:
	DATE	TIME		HCL	HNO3	H2SO4		
ITS-BOX-040618-8211-B	4/16	0000	WATER	2			2	
TB-BOX-040618-8260-B	4/16	0000	WATER	2			2	
PIHR-BOX-040618-EB	4/16	0920	WATER	4			6	
PIHR-BOX-040618	4/16	0940	WATER	4			6	
MWJIS-BOX-040618	4/16	1035	WATER	4			6	
MWJ9-BOX-040618	4/16	1150	WATER	4			6	
MWJ9-BOX-040618-ME	4/16	1150	WATER	4			6	
MWJ9-BOX-040618-MSD	4/16	1150	WATER	4			6	
DNST3M11-BOX-040618	4/16	1350	WATER	4			6	
MWJ1-BOX-040618	4/16	1445	WATER	4			6	

UNIT COST: 60527968 - 01.03.0022
 NON-UNIT COST: 60527968 - 01.03.0022

REQUESTED ANALYSIS: VOC 8260, VOC 8270, PAH 8270LL, VOC 8011

ANALYST: J. PETERS, B. HOWELL

DATE: 4/16/18
 TIME: 1715

RECEIVED BY (Signature): *[Signature]*
 RECEIVED BY (Signature): *[Signature]*
 RECEIVED BY (Signature): *[Signature]*

DATE: 4-7-18
 TIME: 018

27°C, 0.0°C, 4.4°C, 0.6°C, 0.4°C, 12-8



LAB (LOCATION) _____
 ACCOUNT # _____
 CALSCIENCE ()
 TESTAMERICA (TestAmerica Pensacola; 3355 McLamore Dr.
 Pensacola, FL 32514 (850-374-1001))
 Other (Vendor # (TXAMERICA))

Print Bill To Contact Name: _____
 PlanNet Site or Project ID: _____
 Bob Billman 25278
 PO # _____ GSAP Project ID _____
 80527968 - 01.03.002 / 01.03.0022
 USPCJ00114R/02

State: _____
 AECOM Project Task Number: _____
 Roxana Quarterly GW
 60527968 - 01.03.002 / 01.03.0022
 AECOM Draw #3

PHONE NO: _____
 900 South Central Ave; ROXANA
 ILLINOIS 62451
 MAIL ROOM

CHECK IF NO INCIDENT APPLIES
 DATE: 4/6/18
 PAGE: 3 of 3

ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300; ST. LOUIS, MO 63110
 PROJECT CONTACT (Name) or PO# (Agent): _____
 Elizabeth Kunkel, Bob Billman, Wendy Pennington
 TEL: 314-429-0100 FAX: 314-429-0462
 E-MAIL: bob.billman@aecom.com, elizabeth.kunkel@aecom.com, wendy.pennington@aecom.com, melissa.rutledge@aecom.com

TURNAROUND TIME (CALENDAR DAYS):
 STANDARD (14 DAY) 5 DAYS 3 DAYS 2 DAYS 24 HOURS RESUME ON REQUEST

DELIVERABLES: LA-SWCCB-RECORD-OR-MAT
 LEVEL 2 LEVEL 1 OTHER (SPECIFY) _____
 COOLER #1 _____ COOLER #2 _____

SPECIAL INSTRUCTIONS OR NOTES:
 * Please include "J" values on Reports
 * Please provide sample receipt upon login

TEMPERATURE ON RECEIPT: C°
 COOLER #1 _____ COOLER #2 _____

CONTAINER PID Readings or Laboratory Notes

FIELD NOTES:

UNIT COST: 60527968 - 01.03.0022
 NON-UNIT COST: 60527968 - 01.03.0022

REQUESTED ANALYSIS

ANALYSIS	UNIT COST	NON-UNIT COST
VOC 8011	X	
PAH 8270L	X	
VOC 8260	X	
SVOC 8270	X	

SAMPLING

LAB USE DISK	FIELD SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	PRESERVATIVE	NO. OF CONT.
MW28-ROX-040618		4/6/18	15:10	WATER	HCL 4 HNO3 2 H2SO4 2 NONE 0 OTHER 0	6

RECEIVED BY (SIGNATURE): *[Signature]*
 RECEIVED BY (SIGNATURE): FEDEX
 RECEIVED BY (SIGNATURE): *[Signature]*

DATE: 4-7-18
 TIME: 8:18

DATE: 4/6/18
 TIME: 1715

2.706, 0.000, 4.400, 0.600, 0.400
 1R-8

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-151906-1

Login Number: 151906

List Source: TestAmerica Pensacola

List Number: 1

Creator: Johnson, Jeremy N

Question	Answer	Comment
Radioactivity wasn't checked or is \neq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.7°C,0.0°C,4.4°C,0.6°C,0.4°C IR7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	N/A	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151906-1

Laboratory: TestAmerica Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-18
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State Program	9	AZ0710	01-12-19
Arkansas DEQ	State Program	6	88-0689	09-01-18
California	ELAP	9	2510	03-31-18 *
Florida	NELAP	4	E81010	06-30-18
Georgia	State Program	4	N/A	06-30-18
Illinois	NELAP	5	200041	10-09-18
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-18
Kentucky (UST)	State Program	4	53	06-30-18
Kentucky (WW)	State Program	4	98030	12-31-18
Louisiana	NELAP	6	30976	06-30-18
Louisiana (DW)	NELAP	6	LA170005	12-31-18
Maryland	State Program	3	233	09-30-18
Massachusetts	State Program	1	M-FL094	06-30-18
Michigan	State Program	5	9912	06-30-18
New Jersey	NELAP	2	FL006	06-30-18
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-18
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
South Carolina	State Program	4	96026	06-30-18
Tennessee	State Program	4	TN02907	06-30-18
Texas	NELAP	6	T104704286-17-12	09-30-18
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-18
Washington	State Program	10	C915	05-15-18
West Virginia DEP	State Program	3	136	06-30-18

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



Roxana Groundwater Quarterly – 2nd Quarter 2018 Data Review

Laboratory SDG: 400-151994-1-Rev.1

Data Reviewer: Melissa Remiger

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 5/13/2018

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-ROX-040918-8260-A	TB-ROX-040918-8011-A
ROST4PZG-ROX-040918	ROST4PZC-ROX-040918
MW5-ROX-040918	MW2-ROX-040918
ROST4PZE-ROX-040918	TB-ROX-040918-8011-B
TB-ROX-040918-8260-B	MW4-ROX-040918
MW25-ROX-040918	MW8-ROX-040918
MW7-ROX-040918	MW7-ROX-040918-Dup

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated that several SVOC LCS/LCSD recoveries were outside evaluation criteria. Several SVOC surrogate recoveries were outside criteria in several samples. Several VOC and SVOC MS/MSD recoveries were outside evaluation criteria in sample ROST4PZG-ROX-040918. The difference in phenol results for the field duplicate pair MW7-ROX-040918/MW7-ROX-040918-Dup was greater than two times (2X) the reporting level; therefore results were qualified as estimated (J). The continuing calibration verifications for isophorone and pyridine were outside evaluation criteria, biased low. These issues are addressed further in the appropriate sections of this data review. Additionally, the laboratory report was revised on May 13, 2016 to correct continuing calibration verification language in the laboratory case narrative.

Three of 69 (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) 8260 VOCs are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/ RPD Criteria
LCS/LCSD 400-394010/2-A/3-A	SVOCs	Aniline	108/59	59	29-120/30
LCS/LCSD 400-394010/2-A/3-A	SVOCs	Benzoic acid	11/25	76	10-150/30
LCS/LCSD 400-394010/2-A/3-A	SVOCs	Bis(2-chloroethyl)ether	135/51	91	48-120/30
LCS/LCSD 400-394010/2-A/3-A	SVOCs	Dibenzofuran	70/56	22	58-123/30
LCS/LCSD 400-394010/2-A/3-A	SVOCs	Hexachloroethane	49/40	19	41-120/30
LCS/LCSD 400-394010/4-A/5-A	SVOCs	Benzenethiol	2/14	161	10-120/30

Analytical data that required qualification based on LCS/LCSD data are included in the table below. Professional judgment was used to qualify, however not reject, data associated with benzenethiol in LCS/LCSD 400-394010/4-A/5-A; benzenethiol has been identified as a poor performing analyte under Method 8270. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. Analytical data associated with RPD alone outside evaluation criteria did not require qualification.

Sample ID	Parameter	Analyte	Qualification
ROST4PZG-ROX-040918	SVOCs	Benzenethiol	UJ
ROST4PZG-ROX-040918	SVOCs	Dibenzofuran	UJ
ROST4PZG-ROX-040918	SVOCs	Hexachloroethane	UJ
ROST4PZC-ROX-040918	SVOCs	Benzenethiol	UJ
ROST4PZC-ROX-040918	SVOCs	Dibenzofuran	UJ
ROST4PZC-ROX-040918	SVOCs	Hexachloroethane	UJ
MW5-ROX-040918	SVOCs	Benzenethiol	UJ
MW5-ROX-040918	SVOCs	Dibenzofuran	UJ
MW5-ROX-040918	SVOCs	Hexachloroethane	UJ
MW2-ROX-040918	SVOCs	Benzenethiol	UJ
MW2-ROX-040918	SVOCs	Dibenzofuran	UJ
MW2-ROX-040918	SVOCs	Hexachloroethane	UJ
ROST4PZE-ROX-040918	SVOCs	Benzenethiol	UJ
ROST4PZE-ROX-040918	SVOCs	Dibenzofuran	UJ
ROST4PZE-ROX-040918	SVOCs	Hexachloroethane	UJ
MW4-ROX-040918	SVOCs	Benzenethiol	UJ
MW4-ROX-040918	SVOCs	Dibenzofuran	UJ
MW4-ROX-040918	SVOCs	Hexachloroethane	UJ
MW25-ROX-040918	SVOCs	Benzenethiol	UJ
MW25-ROX-040918	SVOCs	Dibenzofuran	UJ

Sample ID	Parameter	Analyte	Qualification
MW25-ROX-040918	SVOCs	Hexachloroethane	UJ
MW8-ROX-040918	SVOCs	Benzenethiol	UJ
MW8-ROX-040918	SVOCs	Dibenzofuran	UJ
MW8-ROX-040918	SVOCs	Hexachloroethane	UJ
MW7-ROX-040918	SVOCs	Benzenethiol	UJ
MW7-ROX-040918	SVOCs	Dibenzofuran	UJ
MW7-ROX-040918	SVOCs	Hexachloroethane	UJ
MW7-ROX-040918-Dup	SVOCs	Benzenethiol	UJ
MW7-ROX-040918-Dup	SVOCs	Dibenzofuran	UJ
MW7-ROX-040918-Dup	SVOCs	Hexachloroethane	UJ

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
ROST4PZC-ROX-040918	SVOCs	Terphenyl-d ₁₄	36	53-125
MW5-ROX-040918	SVOCs	Terphenyl-d ₁₄	46	53-125
MW2-ROX-040918	SVOCs	Terphenyl-d ₁₄	27	53-125
ROST4PZE-ROX-040918	SVOCs	Terphenyl-d ₁₄	48	53-125
MW25-ROX-040918	SVOCs	Terphenyl-d ₁₄	45	53-125
MW8-ROX-040918	SVOCs	Terphenyl-d ₁₄	35	53-125
MW7-ROX-040918	SVOCs	2-Fluorophenol	1	10-120
MW7-ROX-040918	SVOCs	Phenol-d ₅	4	10-120
MW7-ROX-040918	SVOCs	Terphenyl-d ₁₄	28	53-125
MW7-ROX-040918-Dup	SVOCs	Terphenyl-d ₁₄	34	53-125
ROST4PZG-ROX-040918 MS	SVOCs	Terphenyl-d ₁₄	35	53-125
ROST4PZG-ROX-040918 MSD	SVOCs	Terphenyl-d ₁₄	44	53-125

Analytical data that required qualification based on surrogate recovery outside evaluation criteria are included in the table below. Qualifications due to surrogate recoveries were not required if only one of three base/neutral fraction surrogate recoveries were outside evaluation criteria in the associated SVOC samples. ROST4PZG-ROX-040918 MS/MSD are quality control samples and do not require qualification.

Sample ID	Parameter	Analyte	Qualification
MW7-ROX-040918	SVOCs	Benzoic acid	UJ
MW7-ROX-040918	SVOCs	Benzyl alcohol	UJ
MW7-ROX-040918	SVOCs	4-Chloro-3-methylphenol	UJ
MW7-ROX-040918	SVOCs	2-Chlorophenol	UJ
MW7-ROX-040918	SVOCs	2,4-Dichlorophenol	UJ
MW7-ROX-040918	SVOCs	2,4-Dimethylphenol	UJ
MW7-ROX-040918	SVOCs	2,4-Dinitrophenol	UJ
MW7-ROX-040918	SVOCs	2-Methylphenol	UJ
MW7-ROX-040918	SVOCs	3&4-Methylphenol	UJ

Sample ID	Parameter	Analyte	Qualification
MW7-ROX-040918	SVOCs	2-Nitrophenol	UJ
MW7-ROX-040918	SVOCs	4-Nitrophenol	UJ
MW7-ROX-040918	SVOCs	Pentachlorophenol	UJ
MW7-ROX-040918	SVOCs	Phenol	J
MW7-ROX-040918	SVOCs	2,4,5-Trichlorophenol	UJ
MW7-ROX-040918	SVOCs	2,4,6-Trichlorophenol	UJ

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

Yes, sample ROST4PZG-ROX-040918 was spiked and duplicated for Method 8260 VOCs, Method 8011 VOCs, and Method 8270 SVOCs/PAHs.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
ROST4PZG-ROX-040918	VOCs	2-Chloroethyl vinyl ether	0/0	NC	10-150/50
ROST4PZG-ROX-040918	VOCs	Naphthlene	99/135	31	25-150/30
ROST4PZG-ROX-040918	VOCs	1,1,2,2-Tetrachloroethane	92/130	34	66-135/30
ROST4PZG-ROX-040918	VOCs	1,2,3-Trichloropropane	96/134	33	65-133/30
ROST4PZG-ROX-040918	SVOCs	Butyl benzyl phthalate	41/49	19	43-151/32
ROST4PZG-ROX-040918	SVOCs	Di-n-octyl phthalate	41/49	20	42-150/35
ROST4PZG-ROX-040918	VOCs by 8011	1,2-Dibromo-3-chloropropane	106/104	24	65-135/20

Analytical data that required qualification based on MS/MSD data are included in the table below. Analytical data associated with RPD alone outside evaluation criteria did not require qualification. Analytical data reported as non-detect and associated with MSMSD recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
ROST4PZG-ROX-040918	VOCs	2-Chloroethyl vinyl ether	UJ
ROST4PZG-ROX-040918	SVOCs	Butyl benzyl phthalate	UJ
ROST4PZG-ROX-040918	SVOCs	Di-n-octyl phthalate	UJ

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
MW7-ROX-040918	MW7-ROX-040918-Dup

Were field duplicates within evaluation criteria?

No

Field ID	Field Duplicate ID	Parameter	Analyte	RPD	Qualification
MW7-ROX-040918	MW7-ROX-040918-Dup	SVOCs	Phenol	> 2X RL	J/J

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; samples analyzed did not require dilution.

12.0 Additional Qualifications

Were additional qualifications applied?

Yes, the continuing calibration verifications for isophorone and pyridine were below acceptance criteria and are qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
ROST4PZG-ROX-040918	SVOCs	Isophorone	UJ
ROST4PZG-ROX-040918	SVOCs	Pyridine	UJ
ROST4PZC-ROX-040918	SVOCs	Isophorone	UJ
ROST4PZC-ROX-040918	SVOCs	Pyridine	UJ
MW5-ROX-040918	SVOCs	Isophorone	UJ
MW5-ROX-040918	SVOCs	Pyridine	UJ
MW2-ROX-040918	SVOCs	Isophorone	UJ
MW2-ROX-040918	SVOCs	Pyridine	UJ
ROST4PZE-ROX-040918	SVOCs	Isophorone	UJ
ROST4PZE-ROX-040918	SVOCs	Pyridine	UJ
MW4-ROX-040918	SVOCs	Isophorone	UJ
MW4-ROX-040918	SVOCs	Pyridine	UJ
MW25-ROX-040918	SVOCs	Isophorone	UJ
MW25-ROX-040918	SVOCs	Pyridine	UJ
MW8-ROX-040918	SVOCs	Isophorone	UJ
MW8-ROX-040918	SVOCs	Pyridine	UJ
MW7-ROX-040918	SVOCs	Isophorone	UJ

Sample ID	Parameter	Analyte	Qualification
MW7-ROX-040918	SVOCs	Pyridine	UJ
MW7-ROX-040918-Dup	SVOCs	Isophorone	UJ
MW7-ROX-040918-Dup	SVOCs	Pyridine	UJ

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-151994-1

TestAmerica Sample Delivery Group: (2Q18)

Client Project/Site: ROXANA QUARTERLY GW

Revision: 1

For:

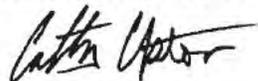
AECOM Technical Services Inc.

100 N. Broadway

20th Floor

St. Louis, Missouri 63102

Attn: Mrs. Elizabeth Kunkel



Authorized for release by:

5/13/2018 7:45:26 PM

Cathy Upton, Project Manager I

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Reviewed 5/13/18
UR

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.





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Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Job ID: 400-151994-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-151994-1

Comments

The report was revised on 5/13/18 to update the wording in the job narrative.

Receipt

The samples were received on 4/10/2018 9:24 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 0.0° C, 2.1° C, 2.2° C and 3.4° C.

GC/MS VOA

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-ROX-040918-8260-A (400-151994-1), ROST4PZG-ROX-040918 (400-151994-3), ROST4PZC-ROX-040918 (400-151994-4), MW5-ROX-040918 (400-151994-5), MW2-ROX-040918 (400-151994-6), ROST4PZE-ROX-040918 (400-151994-7), TB-ROX-040918-8260-B (400-151994-9), MW4-ROX-040918 (400-151994-10), MW25-ROX-040918 (400-151994-11), MW8-ROX-040918 (400-151994-12), MW7-ROX-040918 (400-151994-13) and MW7-ROX-040918-DUP (400-151994-14). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: The matrix spike duplicate (MSD) recoveries and precision for analytical batch 400-394050 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recovery for analytical batch 400-394050 was outside control limits for 2-Chloroethyl vinyl ether due to the acidic nature of the parent sample.

Method(s) 8260B: The RPD for the matrix spike / matrix spike duplicate (MS/MSD) for 2-Chloroethyl vinyl ether was not calculable for analytical batch 400-394050 because the recoveries were below the reporting limit due to the acidic nature of the parent sample.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recovery for analytical batch 400-394689 was outside control limits for 2-Chloroethyl vinyl ether due to the acidic nature of the parent sample.

Method(s) 8260B: The RPD for the MS/MSD for 2-chloroethyl vinyl ether was not calculable for analytical batch 400-394689 because the recoveries were below the reporting limit due to the acidic nature of the parent sample.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: ROST4PZG-ROX-040918 (400-151994-3[MS]), ROST4PZC-ROX-040918 (400-151994-4), MW5-ROX-040918 (400-151994-5), MW2-ROX-040918 (400-151994-6), ROST4PZE-ROX-040918 (400-151994-7), MW25-ROX-040918 (400-151994-11), MW8-ROX-040918 (400-151994-12) and MW7-ROX-040918-DUP (400-151994-14). These results have been reported and qualified.

Method(s) 8270D: Surrogate recovery for the following sample was outside control limits: MW7-ROX-040918 (400-151994-13). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8270D: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-394010 and analytical batch 400-394181 recovered outside control limits for the following analyte: Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method(s) 8270D: The following analytes recovered outside control limits for the LCSD associated with preparation batch 400-394010 and analytical batch 400-394181: Hexachloroethane and Dibenzofuran. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Job ID: 400-151994-1 (Continued)

Laboratory: TestAmerica Pensacola (Continued)

Method(s) 8270D: The RPD of the laboratory control sample duplicate (LCSD) for batch preparation batch 400-394010 and analytical batch 400-394181 recovered outside control limits for the following analytes: Benzenethiol, Benzoic acid, Bis(2-chloroethyl)ether and Aniline.

Method(s) 8270D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-394010 and analytical batch 400-394181 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected.

Method(s) 8270D: The initial calibration verification (ICV) analyzed in batch 400-392786 was outside method criteria for the following analyte(s): 2,4-Dimethylphenol. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-394181 recovered outside acceptance criteria, low biased, for Pyridine and Isophorone. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for these analytes, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

Method(s) 8011: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 400-394550 and analytical batch 400-394577 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
 SDG: (2Q18)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-151994-1	TB-ROX-040918-8260-A ✓	Water	04/09/18 00:00	04/10/18 09:24
400-151994-2	TB-ROX-040918-8011-A ✓	Water	04/09/18 00:00	04/10/18 09:24
400-151994-3	ROST4PZG-ROX-040918 ✓	Water	04/09/18 09:10	04/10/18 09:24
400-151994-4	ROST4PZC-ROX-040918 ✓	Water	04/09/18 10:20	04/10/18 09:24
400-151994-5	MW5-ROX-040918 ✓	Water	04/09/18 11:20	04/10/18 09:24
400-151994-6	MW2-ROX-040918 ✓	Water	04/09/18 12:55	04/10/18 09:24
400-151994-7	ROST4PZE-ROX-040918 ✓	Water	04/09/18 14:00	04/10/18 09:24
400-151994-8	TB-ROX-040918-8011-B ✓	Water	04/09/18 00:00	04/10/18 09:24
400-151994-9	TB-ROX-040918-8260-B ✓	Water	04/09/18 00:00	04/10/18 09:24
400-151994-10	MW4-ROX-040918 ✓	Water	04/09/18 10:30	04/10/18 09:24
400-151994-11	MW25-ROX-040918 ✓	Water	04/09/18 11:20	04/10/18 09:24
400-151994-12	MW8-ROX-040918 ✓	Water	04/09/18 12:50	04/10/18 09:24
400-151994-13	MW7-ROX-040918 ✓	Water	04/09/18 14:05	04/10/18 09:24
400-151994-14	MW7-ROX-040918-DUP ✓	Water	04/09/18 14:05	04/10/18 09:24



Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Client Sample ID: TB-ROX-040918-8260-A

Lab Sample ID: 400-151994-1

No Detections.

Client Sample ID: TB-ROX-040918-8011-A

Lab Sample ID: 400-151994-2

No Detections.

Client Sample ID: ROST4PZG-ROX-040918

Lab Sample ID: 400-151994-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Carbon disulfide	0.53	J	1.0	0.50	ug/L	1		8260B	Total/NA
Anthracene	0.057	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Fluoranthene	0.026	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.10	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Pyrene	0.032	J	0.20	0.020	ug/L	1		8270D LL	Total/NA

Client Sample ID: ROST4PZC-ROX-040918

Lab Sample ID: 400-151994-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
N-Propylbenzene	0.80	J	1.0	0.69	ug/L	1		8260B	Total/NA
Acenaphthene	0.24		0.20	0.020	ug/L	1		8270D LL	Total/NA
Anthracene	0.10	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Fluorene	0.20		0.20	0.021	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.68		0.20	0.020	ug/L	1		8270D LL	Total/NA
Pyrene	0.060	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	4.3		0.20	0.020	ug/L	1		8270D LL	Total/NA

Client Sample ID: MW5-ROX-040918

Lab Sample ID: 400-151994-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	1.1		1.0	0.74	ug/L	1		8260B	Total/NA
tert-Butylbenzene	1.2		1.0	0.63	ug/L	1		8260B	Total/NA

Client Sample ID: MW2-ROX-040918

Lab Sample ID: 400-151994-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	29		25	10	ug/L	1		8260B	Total/NA
Benzene	1.6		1.0	0.38	ug/L	1		8260B	Total/NA
2-Butanone (MEK)	19	J	25	2.6	ug/L	1		8260B	Total/NA
Chloroform	2.1		1.0	0.60	ug/L	1		8260B	Total/NA
Ethylbenzene	220		1.0	0.50	ug/L	1		8260B	Total/NA
Isopropylbenzene	26		1.0	0.53	ug/L	1		8260B	Total/NA
m-Xylene & p-Xylene	120		5.0	1.6	ug/L	1		8260B	Total/NA
Naphthalene	36		1.0	1.0	ug/L	1		8260B	Total/NA
n-Butylbenzene	2.9		1.0	0.76	ug/L	1		8260B	Total/NA
N-Propylbenzene	33		1.0	0.69	ug/L	1		8260B	Total/NA
o-Xylene	9.4		5.0	0.60	ug/L	1		8260B	Total/NA
p-Isopropyltoluene	1.8		1.0	0.71	ug/L	1		8260B	Total/NA
sec-Butylbenzene	1.7		1.0	0.70	ug/L	1		8260B	Total/NA
Toluene	6.0		1.0	0.70	ug/L	1		8260B	Total/NA
1,2,4-Trimethylbenzene	46		1.0	0.82	ug/L	1		8260B	Total/NA
1,3,5-Trimethylbenzene	38		1.0	0.56	ug/L	1		8260B	Total/NA
Xylenes, Total	130		10	1.6	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Client Sample ID: MW2-ROX-040918 (Continued)

Lab Sample ID: 400-151994-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
1-Methylnaphthalene	15		0.20	0.020	ug/L	1			8270D LL	Total/NA
2-Methylnaphthalene	31		0.20	0.020	ug/L	1			8270D LL	Total/NA
2,4-Dimethylphenol	13		10	3.5	ug/L	1			8270D	Total/NA

Client Sample ID: ROST4PZE-ROX-040918

Lab Sample ID: 400-151994-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Acetone	53		25	10	ug/L	1			8260B	Total/NA
Benzene	14		1.0	0.38	ug/L	1			8260B	Total/NA
2-Butanone (MEK)	39		25	2.6	ug/L	1			8260B	Total/NA
Ethylbenzene	2.5		1.0	0.50	ug/L	1			8260B	Total/NA
Isopropylbenzene	1.8		1.0	0.53	ug/L	1			8260B	Total/NA
m-Xylene & p-Xylene	41		5.0	1.6	ug/L	1			8260B	Total/NA
Naphthalene	23		1.0	1.0	ug/L	1			8260B	Total/NA
N-Propylbenzene	1.0		1.0	0.69	ug/L	1			8260B	Total/NA
o-Xylene	15		5.0	0.60	ug/L	1			8260B	Total/NA
Toluene	2.7		1.0	0.70	ug/L	1			8260B	Total/NA
1,2,4-Trimethylbenzene	32		1.0	0.82	ug/L	1			8260B	Total/NA
1,3,5-Trimethylbenzene	8.7		1.0	0.56	ug/L	1			8260B	Total/NA
Xylenes, Total	56		10	1.6	ug/L	1			8260B	Total/NA
Anthracene	0.66		0.20	0.020	ug/L	1			8270D LL	Total/NA
Fluoranthene	0.11	J	0.20	0.020	ug/L	1			8270D LL	Total/NA
Phenanthrene	2.1		0.20	0.020	ug/L	1			8270D LL	Total/NA
Pyrene	0.45		0.20	0.020	ug/L	1			8270D LL	Total/NA
1-Methylnaphthalene	24		0.20	0.020	ug/L	1			8270D LL	Total/NA
2-Methylnaphthalene	19		0.20	0.020	ug/L	1			8270D LL	Total/NA
1,2-Dibromo-3-Chloropropane	0.041	p	0.030	0.0056	ug/L	1			8011	Total/NA

Client Sample ID: TB-ROX-040918-8011-B

Lab Sample ID: 400-151994-8

No Detections.

Client Sample ID: TB-ROX-040918-8260-B

Lab Sample ID: 400-151994-9

No Detections.

Client Sample ID: MW4-ROX-040918

Lab Sample ID: 400-151994-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Methyl tert-butyl ether	3.6		1.0	0.74	ug/L	1			8260B	Total/NA

Client Sample ID: MW25-ROX-040918

Lab Sample ID: 400-151994-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Benzene	20		1.0	0.38	ug/L	1			8260B	Total/NA
Methyl tert-butyl ether	2.2		1.0	0.74	ug/L	1			8260B	Total/NA
1-Methylnaphthalene	0.028	J	0.20	0.020	ug/L	1			8270D LL	Total/NA
2-Methylnaphthalene	0.033	J	0.20	0.020	ug/L	1			8270D LL	Total/NA

Client Sample ID: MW8-ROX-040918

Lab Sample ID: 400-151994-12

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Client Sample ID: MW8-ROX-040918 (Continued)

Lab Sample ID: 400-151994-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene - DL	510000		5000	1900	ug/L	5000		8260B	Total/NA
Phenanthrene	0.13	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	9.8		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	3.5		0.20	0.020	ug/L	1		8270D LL	Total/NA
2,4-Dimethylphenol	9.3	J	10	3.5	ug/L	1		8270D	Total/NA
Indene	1.8	J	10	1.0	ug/L	1		8270D	Total/NA
3 & 4 Methylphenol	1.1	J	20	1.0	ug/L	1		8270D	Total/NA
Pentachlorophenol	1.9	J	20	1.8	ug/L	1		8270D	Total/NA
Phenol	80		10	2.6	ug/L	1		8270D	Total/NA

Client Sample ID: MW7-ROX-040918

Lab Sample ID: 400-151994-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	800	J	1000	700	ug/L	1000		8260B	Total/NA
Benzene - DL	780000		5000	1900	ug/L	5000		8260B	Total/NA
Phenanthrene	0.082	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	1.8		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	2.7		0.20	0.020	ug/L	1		8270D LL	Total/NA
Indene	2.5	J	9.9	0.99	ug/L	1		8270D	Total/NA
Phenol	13	J	9.9	2.6	ug/L	1		8270D	Total/NA
1,2-Dibromo-3-Chloropropane	0.049		0.029	0.0054	ug/L	1		8011	Total/NA

Client Sample ID: MW7-ROX-040918-DUP

Lab Sample ID: 400-151994-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	960	J	1000	700	ug/L	1000		8260B	Total/NA
Benzene - DL	770000		5000	1900	ug/L	5000		8260B	Total/NA
Phenanthrene	0.11	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	2.3		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	2.9		0.20	0.020	ug/L	1		8270D LL	Total/NA
2,4-Dimethylphenol	5.6	J	10	3.6	ug/L	1		8270D	Total/NA
Indene	2.5	J	10	1.0	ug/L	1		8270D	Total/NA
2-Methylphenol	3.0	J	10	1.8	ug/L	1		8270D	Total/NA
3 & 4 Methylphenol	3.4	J	20	1.1	ug/L	1		8270D	Total/NA
Phenol	87	J	10	2.6	ug/L	1		8270D	Total/NA
1,2-Dibromo-3-Chloropropane	0.056		0.030	0.0056	ug/L	1		8011	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Client Sample ID: TB-ROX-040918-8260-A

Lab Sample ID: 400-151994-1

Date Collected: 04/09/18 00:00

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/16/18 17:11	1
Acrolein	ND		20	10	ug/L			04/16/18 17:11	1
Acrylonitrile	ND		10	2.8	ug/L			04/16/18 17:11	1
Benzene	ND		1.0	0.38	ug/L			04/16/18 17:11	1
Bromobenzene	ND		1.0	0.54	ug/L			04/16/18 17:11	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/16/18 17:11	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/16/18 17:11	1
Bromoform	ND		5.0	0.71	ug/L			04/16/18 17:11	1
Bromomethane	ND		1.0	0.98	ug/L			04/16/18 17:11	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/16/18 17:11	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/16/18 17:11	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/16/18 17:11	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/16/18 17:11	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/16/18 17:11	1
Chloroethane	ND		1.0	0.76	ug/L			04/16/18 17:11	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/16/18 17:11	1
Chloroform	ND		1.0	0.60	ug/L			04/16/18 17:11	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/16/18 17:11	1
Chloromethane	ND		1.0	0.83	ug/L			04/16/18 17:11	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 17:11	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/18 17:11	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/16/18 17:11	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/16/18 17:11	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/16/18 17:11	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/16/18 17:11	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/16/18 17:11	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/16/18 17:11	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 17:11	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 17:11	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 17:11	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 17:11	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/16/18 17:11	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/16/18 17:11	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/16/18 17:11	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/16/18 17:11	1
2-Hexanone	ND		25	3.1	ug/L			04/16/18 17:11	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/16/18 17:11	1
Methylene bromide	ND		5.0	0.59	ug/L			04/16/18 17:11	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/16/18 17:11	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/16/18 17:11	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/16/18 17:11	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/16/18 17:11	1
Naphthalene	ND		1.0	1.0	ug/L			04/16/18 17:11	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/16/18 17:11	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/16/18 17:11	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/16/18 17:11	1
o-Xylene	ND		5.0	0.60	ug/L			04/16/18 17:11	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/16/18 17:11	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/16/18 17:11	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
 SDG: (2Q18)

Client Sample ID: TB-ROX-040918-8260-A

Lab Sample ID: 400-151994-1

Date Collected: 04/09/18 00:00

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/16/18 17:11	1
Styrene	ND		1.0	1.0	ug/L			04/16/18 17:11	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/16/18 17:11	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/16/18 17:11	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/16/18 17:11	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/16/18 17:11	1
Toluene	ND		1.0	0.70	ug/L			04/16/18 17:11	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 17:11	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/18 17:11	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/16/18 17:11	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/16/18 17:11	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/16/18 17:11	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/16/18 17:11	1
Trichloroethene	ND		1.0	0.50	ug/L			04/16/18 17:11	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/16/18 17:11	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/16/18 17:11	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/16/18 17:11	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/16/18 17:11	1
Vinyl acetate	ND		25	2.0	ug/L			04/16/18 17:11	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/16/18 17:11	1
Xylenes, Total	ND		10	1.6	ug/L			04/16/18 17:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	106		78 - 118					04/16/18 17:11	1
Dibromofluoromethane	103		81 - 121					04/16/18 17:11	1
Toluene-d8 (Surr)	100		80 - 120					04/16/18 17:11	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
 SDG: (2Q18)

Client Sample ID: TB-ROX-040918-8011-A

Lab Sample ID: 400-151994-2

Date Collected: 04/09/18 00:00

Matrix: Water

Date Received: 04/10/18 08:24

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.029	0.0054	ug/L		04/19/18 14:51	04/19/18 19:12	1
1,2-Dibromoethane	ND		0.020	0.0049	ug/L		04/19/18 14:51	04/19/18 19:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	103	p	51 - 149				04/19/18 14:51	04/19/18 19:12	1

- 1
- 2
- 3
- 4
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- 11
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- 14
- 15

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
 SDG: (2Q18)

Client Sample ID: ROST4PZG-ROX-040918

Lab Sample ID: 400-151994-3

Date Collected: 04/09/18 09:10

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/16/18 15:43	1
Acrolein	ND		20	10	ug/L			04/16/18 15:43	1
Acrylonitrile	ND		10	2.8	ug/L			04/16/18 15:43	1
Benzene	ND		1.0	0.38	ug/L			04/16/18 15:43	1
Bromobenzene	ND		1.0	0.54	ug/L			04/16/18 15:43	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/16/18 15:43	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/16/18 15:43	1
Bromoform	ND		5.0	0.71	ug/L			04/16/18 15:43	1
Bromomethane	ND		1.0	0.98	ug/L			04/16/18 15:43	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/16/18 15:43	1
Carbon disulfide	0.53	J	1.0	0.50	ug/L			04/16/18 15:43	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/16/18 15:43	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/16/18 15:43	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/16/18 15:43	1
Chloroethane	ND		1.0	0.76	ug/L			04/16/18 15:43	1
2-Chloroethyl vinyl ether	ND	F1 UJ	5.0	2.0	ug/L			04/16/18 15:43	1
Chloroform	ND		1.0	0.60	ug/L			04/16/18 15:43	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/16/18 15:43	1
Chloromethane	ND		1.0	0.83	ug/L			04/16/18 15:43	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 15:43	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/18 15:43	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/16/18 15:43	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/16/18 15:43	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/16/18 15:43	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/16/18 15:43	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/16/18 15:43	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/16/18 15:43	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 15:43	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 15:43	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 15:43	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 15:43	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/16/18 15:43	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/16/18 15:43	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/16/18 15:43	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/16/18 15:43	1
2-Hexanone	ND		25	3.1	ug/L			04/16/18 15:43	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/16/18 15:43	1
Methylene bromide	ND		5.0	0.59	ug/L			04/16/18 15:43	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/16/18 15:43	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/16/18 15:43	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/16/18 15:43	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/16/18 15:43	1
Naphthalene	ND	F2	1.0	1.0	ug/L			04/16/18 15:43	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/16/18 15:43	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/16/18 15:43	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/16/18 15:43	1
o-Xylene	ND		5.0	0.60	ug/L			04/16/18 15:43	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/16/18 15:43	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/16/18 15:43	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Client Sample ID: ROST4PZG-ROX-040918

Lab Sample ID: 400-151994-3

Date Collected: 04/09/18 09:10

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/16/18 15:43	1
Styrene	ND		1.0	1.0	ug/L			04/16/18 15:43	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/16/18 15:43	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/16/18 15:43	1
1,1,2,2-Tetrachloroethane	ND	F2	1.0	0.50	ug/L			04/16/18 15:43	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/16/18 15:43	1
Toluene	ND		1.0	0.70	ug/L			04/16/18 15:43	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 15:43	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/18 15:43	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/16/18 15:43	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/16/18 15:43	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/16/18 15:43	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/16/18 15:43	1
Trichloroethene	ND		1.0	0.50	ug/L			04/16/18 15:43	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/16/18 15:43	1
1,2,3-Trichloropropane	ND	F2 F1	5.0	0.84	ug/L			04/16/18 15:43	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/16/18 15:43	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/16/18 15:43	1
Vinyl acetate	ND		25	2.0	ug/L			04/16/18 15:43	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/16/18 15:43	1
Xylenes, Total	ND		10	1.6	ug/L			04/16/18 15:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	106		78 - 118					04/16/18 15:43	1
Dibromofluoromethane	104		81 - 121					04/16/18 15:43	1
Toluene-d8 (Surr)	99		80 - 120					04/16/18 15:43	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/17/18 23:26	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/17/18 23:26	1
Anthracene	0.057	J	0.20	0.020	ug/L		04/16/18 10:02	04/17/18 23:26	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		04/16/18 10:02	04/17/18 23:26	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		04/16/18 10:02	04/17/18 23:26	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		04/16/18 10:02	04/17/18 23:26	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		04/16/18 10:02	04/17/18 23:26	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		04/16/18 10:02	04/17/18 23:26	1
Chrysene	ND		0.20	0.039	ug/L		04/16/18 10:02	04/17/18 23:26	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		04/16/18 10:02	04/17/18 23:26	1
Fluoranthene	0.026	J	0.20	0.020	ug/L		04/16/18 10:02	04/17/18 23:26	1
Fluorene	ND		0.20	0.021	ug/L		04/16/18 10:02	04/17/18 23:26	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		04/16/18 10:02	04/17/18 23:26	1
Phenanthrene	0.10	J	0.20	0.020	ug/L		04/16/18 10:02	04/17/18 23:26	1
Pyrene	0.032	J	0.20	0.020	ug/L		04/16/18 10:02	04/17/18 23:26	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/17/18 23:26	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/17/18 23:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	68		33 - 138				04/16/18 10:02	04/17/18 23:26	1
2-Fluorobiphenyl	88		15 - 122				04/16/18 10:02	04/17/18 23:26	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Client Sample ID: ROST4PZG-ROX-040918

Lab Sample ID: 400-151994-3

Date Collected: 04/09/18 09:10

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	71		19 - 130	04/16/18 10:02	04/17/18 23:26	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	9.8	3.7	ug/L		04/16/18 10:02	04/17/18 20:41	1
Benzenethiol	ND	* UJ	9.8	1.7	ug/L		04/16/18 10:02	04/17/18 20:41	1
Benzoic acid	ND	*	29	7.1	ug/L		04/16/18 10:02	04/17/18 20:41	1
Benzyl alcohol	ND		9.8	2.0	ug/L		04/16/18 10:02	04/17/18 20:41	1
Bis(2-chloroethoxy)methane	ND		9.8	0.68	ug/L		04/16/18 10:02	04/17/18 20:41	1
Bis(2-chloroethyl)ether	ND	*	9.8	0.72	ug/L		04/16/18 10:02	04/17/18 20:41	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		04/16/18 10:02	04/17/18 20:41	1
Bis(2-ethylhexyl) phthalate	ND		9.8	2.2	ug/L		04/16/18 10:02	04/17/18 20:41	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		04/16/18 10:02	04/17/18 20:41	1
Butyl benzyl phthalate	ND	F1 UJ	9.8	0.68	ug/L		04/16/18 10:02	04/17/18 20:41	1
4-Chloroaniline	ND		9.8	3.3	ug/L		04/16/18 10:02	04/17/18 20:41	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		04/16/18 10:02	04/17/18 20:41	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		04/16/18 10:02	04/17/18 20:41	1
2-Chlorophenol	ND		9.8	2.2	ug/L		04/16/18 10:02	04/17/18 20:41	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		04/16/18 10:02	04/17/18 20:41	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		04/16/18 10:02	04/17/18 20:41	1
Dibenzofuran	ND	* UJ	9.8	0.51	ug/L		04/16/18 10:02	04/17/18 20:41	1
3,3'-Dichlorobenzidine	ND		9.8	2.5	ug/L		04/16/18 10:02	04/17/18 20:41	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		04/16/18 10:02	04/17/18 20:41	1
Diethyl phthalate	ND		9.8	0.68	ug/L		04/16/18 10:02	04/17/18 20:41	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		04/16/18 10:02	04/17/18 20:41	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		04/16/18 10:02	04/17/18 20:41	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		04/16/18 10:02	04/17/18 20:41	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		04/16/18 10:02	04/17/18 20:41	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		04/16/18 10:02	04/17/18 20:41	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		04/16/18 10:02	04/17/18 20:41	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		04/16/18 10:02	04/17/18 20:41	1
Di-n-octyl phthalate	ND	F1 UJ	9.8	0.43	ug/L		04/16/18 10:02	04/17/18 20:41	1
1,4-Dioxane	ND		9.8	0.98	ug/L		04/16/18 10:02	04/17/18 20:41	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		04/16/18 10:02	04/17/18 20:41	1
Hexachlorobenzene	ND		9.8	0.24	ug/L		04/16/18 10:02	04/17/18 20:41	1
Hexachlorocyclopentadiene	ND		20	2.5	ug/L		04/16/18 10:02	04/17/18 20:41	1
Hexachloroethane	ND	* UJ	9.8	4.1	ug/L		04/16/18 10:02	04/17/18 20:41	1
Indene	ND		9.8	0.98	ug/L		04/16/18 10:02	04/17/18 20:41	1
Isophorone	ND	UJ	9.8	0.56	ug/L		04/16/18 10:02	04/17/18 20:41	1
2-Methylphenol	ND		9.8	1.8	ug/L		04/16/18 10:02	04/17/18 20:41	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/16/18 10:02	04/17/18 20:41	1
2-Nitroaniline	ND		9.8	2.2	ug/L		04/16/18 10:02	04/17/18 20:41	1
3-Nitroaniline	ND		9.8	1.8	ug/L		04/16/18 10:02	04/17/18 20:41	1
4-Nitroaniline	ND		9.8	2.4	ug/L		04/16/18 10:02	04/17/18 20:41	1
Nitrobenzene	ND		9.8	0.54	ug/L		04/16/18 10:02	04/17/18 20:41	1
2-Nitrophenol	ND		9.8	0.64	ug/L		04/16/18 10:02	04/17/18 20:41	1
4-Nitrophenol	ND		9.8	2.1	ug/L		04/16/18 10:02	04/17/18 20:41	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		04/16/18 10:02	04/17/18 20:41	1

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Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
 SDG: (2Q18)

Client Sample ID: ROST4PZG-ROX-040918

Lab Sample ID: 400-151994-3

Date Collected: 04/09/18 09:10

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		04/16/18 10:02	04/17/18 20:41	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		04/16/18 10:02	04/17/18 20:41	1
Pentachlorophenol	ND		20	1.8	ug/L		04/16/18 10:02	04/17/18 20:41	1
Phenol	ND		9.8	2.5	ug/L		04/16/18 10:02	04/17/18 20:41	1
Pyridine	ND	UJ	9.8	3.1	ug/L		04/16/18 10:02	04/17/18 20:41	1
Quinoline	ND		9.8	5.9	ug/L		04/16/18 10:02	04/17/18 20:41	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		04/16/18 10:02	04/17/18 20:41	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		04/16/18 10:02	04/17/18 20:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	71		34 - 120	04/16/18 10:02	04/17/18 20:41	1
2-Fluorophenol	41		10 - 120	04/16/18 10:02	04/17/18 20:41	1
Nitrobenzene-d5	66		27 - 120	04/16/18 10:02	04/17/18 20:41	1
Phenol-d5	55		10 - 120	04/16/18 10:02	04/17/18 20:41	1
Terphenyl-d14	67		53 - 125	04/16/18 10:02	04/17/18 20:41	1
2,4,6-Tribromophenol	74		15 - 135	04/16/18 10:02	04/17/18 20:41	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND	F2	0.029	0.0054	ug/L		04/19/18 14:51	04/19/18 19:32	1
1,2-Dibromoethane	ND		0.020	0.0049	ug/L		04/19/18 14:51	04/19/18 19:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		51 - 149	04/19/18 14:51	04/19/18 19:32	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Client Sample ID: ROST4PZC-ROX-040918

Lab Sample ID: 400-151994-4

Date Collected: 04/09/18 10:20

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/16/18 18:39	1
Acrolein	ND		20	10	ug/L			04/16/18 18:39	1
Acrylonitrile	ND		10	2.8	ug/L			04/16/18 18:39	1
Benzene	ND		1.0	0.38	ug/L			04/16/18 18:39	1
Bromobenzene	ND		1.0	0.54	ug/L			04/16/18 18:39	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/16/18 18:39	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/16/18 18:39	1
Bromoform	ND		5.0	0.71	ug/L			04/16/18 18:39	1
Bromomethane	ND		1.0	0.98	ug/L			04/16/18 18:39	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/16/18 18:39	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/16/18 18:39	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/16/18 18:39	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/16/18 18:39	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/16/18 18:39	1
Chloroethane	ND		1.0	0.76	ug/L			04/16/18 18:39	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/16/18 18:39	1
Chloroform	ND		1.0	0.60	ug/L			04/16/18 18:39	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/16/18 18:39	1
Chloromethane	ND		1.0	0.83	ug/L			04/16/18 18:39	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 18:39	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/18 18:39	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/16/18 18:39	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/16/18 18:39	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/16/18 18:39	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/16/18 18:39	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/16/18 18:39	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/16/18 18:39	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 18:39	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 18:39	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 18:39	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 18:39	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/16/18 18:39	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/16/18 18:39	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/16/18 18:39	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/16/18 18:39	1
2-Hexanone	ND		25	3.1	ug/L			04/16/18 18:39	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/16/18 18:39	1
Methylene bromide	ND		5.0	0.59	ug/L			04/16/18 18:39	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/16/18 18:39	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/16/18 18:39	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/16/18 18:39	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/16/18 18:39	1
Naphthalene	ND		1.0	1.0	ug/L			04/16/18 18:39	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/16/18 18:39	1
N-Propylbenzene	0.80	J	1.0	0.69	ug/L			04/16/18 18:39	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/16/18 18:39	1
o-Xylene	ND		5.0	0.60	ug/L			04/16/18 18:39	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/16/18 18:39	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/16/18 18:39	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Client Sample ID: ROST4PZC-ROX-040918

Lab Sample ID: 400-151994-4

Date Collected: 04/09/18 10:20

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/16/18 18:39	1
Styrene	ND		1.0	1.0	ug/L			04/16/18 18:39	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/16/18 18:39	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/16/18 18:39	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/16/18 18:39	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/16/18 18:39	1
Toluene	ND		1.0	0.70	ug/L			04/16/18 18:39	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 18:39	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/18 18:39	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/16/18 18:39	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/16/18 18:39	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/16/18 18:39	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/16/18 18:39	1
Trichloroethene	ND		1.0	0.50	ug/L			04/16/18 18:39	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/16/18 18:39	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/16/18 18:39	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/16/18 18:39	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/16/18 18:39	1
Vinyl acetate	ND		25	2.0	ug/L			04/16/18 18:39	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/16/18 18:39	1
Xylenes, Total	ND		10	1.6	ug/L			04/16/18 18:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	109		78 - 118					04/16/18 18:39	1
Dibromofluoromethane	104		81 - 121					04/16/18 18:39	1
Toluene-d8 (Surr)	102		80 - 120					04/16/18 18:39	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.24		0.20	0.020	ug/L		04/16/18 10:02	04/17/18 23:43	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/17/18 23:43	1
Anthracene	0.10	J	0.20	0.020	ug/L		04/16/18 10:02	04/17/18 23:43	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/17/18 23:43	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/17/18 23:43	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/17/18 23:43	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/17/18 23:43	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/17/18 23:43	1
Chrysene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/17/18 23:43	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/17/18 23:43	1
Fluoranthene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/17/18 23:43	1
Fluorene	0.20		0.20	0.021	ug/L		04/16/18 10:02	04/17/18 23:43	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/17/18 23:43	1
Phenanthrene	0.68		0.20	0.020	ug/L		04/16/18 10:02	04/17/18 23:43	1
Pyrene	0.060	J	0.20	0.020	ug/L		04/16/18 10:02	04/17/18 23:43	1
1-Methylnaphthalene	4.3		0.20	0.020	ug/L		04/16/18 10:02	04/17/18 23:43	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/17/18 23:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	58		33 - 138				04/16/18 10:02	04/17/18 23:43	1
2-Fluorobiphenyl	89		15 - 122				04/16/18 10:02	04/17/18 23:43	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
 SDG: (2Q18)

Client Sample ID: ROST4PZC-ROX-040918

Lab Sample ID: 400-151994-4

Date Collected: 04/09/18 10:20

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	63		19 - 130	04/16/18 10:02	04/17/18 23:43	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	10	3.8	ug/L		04/16/18 10:02	04/17/18 21:05	1
Benzenethiol	ND	* UJ	10	1.7	ug/L		04/16/18 10:02	04/17/18 21:05	1
Benzoic acid	ND	*	30	7.3	ug/L		04/16/18 10:02	04/17/18 21:05	1
Benzyl alcohol	ND		10	2.0	ug/L		04/16/18 10:02	04/17/18 21:05	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		04/16/18 10:02	04/17/18 21:05	1
Bis(2-chloroethyl)ether	ND	*	10	0.74	ug/L		04/16/18 10:02	04/17/18 21:05	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		04/16/18 10:02	04/17/18 21:05	1
Bis(2-ethylhexyl) phthalate	ND		10	2.3	ug/L		04/16/18 10:02	04/17/18 21:05	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		04/16/18 10:02	04/17/18 21:05	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		04/16/18 10:02	04/17/18 21:05	1
4-Chloroaniline	ND		10	3.4	ug/L		04/16/18 10:02	04/17/18 21:05	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		04/16/18 10:02	04/17/18 21:05	1
2-Chloronaphthalene	ND		10	0.52	ug/L		04/16/18 10:02	04/17/18 21:05	1
2-Chlorophenol	ND		10	2.2	ug/L		04/16/18 10:02	04/17/18 21:05	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		04/16/18 10:02	04/17/18 21:05	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		04/16/18 10:02	04/17/18 21:05	1
Dibenzofuran	ND	* UJ	10	0.52	ug/L		04/16/18 10:02	04/17/18 21:05	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		04/16/18 10:02	04/17/18 21:05	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		04/16/18 10:02	04/17/18 21:05	1
Diethyl phthalate	ND		10	0.70	ug/L		04/16/18 10:02	04/17/18 21:05	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		04/16/18 10:02	04/17/18 21:05	1
Dimethyl phthalate	ND		10	0.60	ug/L		04/16/18 10:02	04/17/18 21:05	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		04/16/18 10:02	04/17/18 21:05	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		04/16/18 10:02	04/17/18 21:05	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/16/18 10:02	04/17/18 21:05	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		04/16/18 10:02	04/17/18 21:05	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		04/16/18 10:02	04/17/18 21:05	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		04/16/18 10:02	04/17/18 21:05	1
1,4-Dioxane	ND		10	1.0	ug/L		04/16/18 10:02	04/17/18 21:05	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		04/16/18 10:02	04/17/18 21:05	1
Hexachlorobenzene	ND		10	0.25	ug/L		04/16/18 10:02	04/17/18 21:05	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/16/18 10:02	04/17/18 21:05	1
Hexachloroethane	ND	* UJ	10	4.2	ug/L		04/16/18 10:02	04/17/18 21:05	1
Indene	ND		10	1.0	ug/L		04/16/18 10:02	04/17/18 21:05	1
Isophorone	ND	UJ	10	0.57	ug/L		04/16/18 10:02	04/17/18 21:05	1
2-Methylphenol	ND		10	1.8	ug/L		04/16/18 10:02	04/17/18 21:05	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/16/18 10:02	04/17/18 21:05	1
2-Nitroaniline	ND		10	2.2	ug/L		04/16/18 10:02	04/17/18 21:05	1
3-Nitroaniline	ND		10	1.8	ug/L		04/16/18 10:02	04/17/18 21:05	1
4-Nitroaniline	ND		10	2.5	ug/L		04/16/18 10:02	04/17/18 21:05	1
Nitrobenzene	ND		10	0.55	ug/L		04/16/18 10:02	04/17/18 21:05	1
2-Nitrophenol	ND		10	0.65	ug/L		04/16/18 10:02	04/17/18 21:05	1
4-Nitrophenol	ND		10	2.1	ug/L		04/16/18 10:02	04/17/18 21:05	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		04/16/18 10:02	04/17/18 21:05	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Client Sample ID: ROST4PZC-ROX-040918

Lab Sample ID: 400-151994-4

Date Collected: 04/09/18 10:20

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		04/16/18 10:02	04/17/18 21:05	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		04/16/18 10:02	04/17/18 21:05	1
Pentachlorophenol	ND		20	1.8	ug/L		04/16/18 10:02	04/17/18 21:05	1
Phenol	ND		10	2.6	ug/L		04/16/18 10:02	04/17/18 21:05	1
Pyridine	ND	W	10	3.2	ug/L		04/16/18 10:02	04/17/18 21:05	1
Quindline	ND		10	6.0	ug/L		04/16/18 10:02	04/17/18 21:05	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		04/16/18 10:02	04/17/18 21:05	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/16/18 10:02	04/17/18 21:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	51		34 - 120	04/16/18 10:02	04/17/18 21:05	1
2-Fluorophenol	29		10 - 120	04/16/18 10:02	04/17/18 21:05	1
Nitrobenzene-d5	39		27 - 120	04/16/18 10:02	04/17/18 21:05	1
Phenol-d5	33		10 - 120	04/16/18 10:02	04/17/18 21:05	1
Terphenyl-d14	36 X		53 - 125	04/16/18 10:02	04/17/18 21:05	1
2,4,6-Tribromophenol	44		15 - 135	04/16/18 10:02	04/17/18 21:05	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.030	0.0054	ug/L		04/19/18 14:51	04/19/18 20:32	1
1,2-Dibromoethane	ND		0.020	0.0049	ug/L		04/19/18 14:51	04/19/18 20:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	111		51 - 149	04/19/18 14:51	04/19/18 20:32	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
 SDG: (2Q18)

Client Sample ID: MW5-ROX-040918

Lab Sample ID: 400-151994-5

Date Collected: 04/09/18 11:20

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/16/18 19:01	1
Acrolein	ND		20	10	ug/L			04/16/18 19:01	1
Acrylonitrile	ND		10	2.8	ug/L			04/16/18 19:01	1
Benzene	ND		1.0	0.38	ug/L			04/16/18 19:01	1
Bromobenzene	ND		1.0	0.54	ug/L			04/16/18 19:01	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/16/18 19:01	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/16/18 19:01	1
Bromoform	ND		5.0	0.71	ug/L			04/16/18 19:01	1
Bromomethane	ND		1.0	0.98	ug/L			04/16/18 19:01	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/16/18 19:01	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/16/18 19:01	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/16/18 19:01	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/16/18 19:01	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/16/18 19:01	1
Chloroethane	ND		1.0	0.76	ug/L			04/16/18 19:01	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/16/18 19:01	1
Chloroform	ND		1.0	0.60	ug/L			04/16/18 19:01	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/16/18 19:01	1
Chloromethane	ND		1.0	0.83	ug/L			04/16/18 19:01	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 19:01	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/18 19:01	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/16/18 19:01	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/16/18 19:01	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/16/18 19:01	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/16/18 19:01	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/16/18 19:01	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/16/18 19:01	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 19:01	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 19:01	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 19:01	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 19:01	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/16/18 19:01	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/16/18 19:01	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/16/18 19:01	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/16/18 19:01	1
2-Hexanone	ND		25	3.1	ug/L			04/16/18 19:01	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/16/18 19:01	1
Methylene bromide	ND		5.0	0.59	ug/L			04/16/18 19:01	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/16/18 19:01	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/16/18 19:01	1
Methyl tert-butyl ether	1.1		1.0	0.74	ug/L			04/16/18 19:01	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/16/18 19:01	1
Naphthalene	ND		1.0	1.0	ug/L			04/16/18 19:01	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/16/18 19:01	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/16/18 19:01	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/16/18 19:01	1
o-Xylene	ND		5.0	0.60	ug/L			04/16/18 19:01	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/16/18 19:01	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/16/18 19:01	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Client Sample ID: MW5-ROX-040918

Lab Sample ID: 400-151994-5

Date Collected: 04/09/18 11:20

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/16/18 19:01	1
Styrene	ND		1.0	1.0	ug/L			04/16/18 19:01	1
tert-Butylbenzene	1.2		1.0	0.63	ug/L			04/16/18 19:01	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/16/18 19:01	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/16/18 19:01	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/16/18 19:01	1
Toluene	ND		1.0	0.70	ug/L			04/16/18 19:01	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 19:01	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/18 19:01	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/16/18 19:01	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/16/18 19:01	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/16/18 19:01	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/16/18 19:01	1
Trichloroethene	ND		1.0	0.50	ug/L			04/16/18 19:01	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/16/18 19:01	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/16/18 19:01	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/16/18 19:01	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/16/18 19:01	1
Vinyl acetate	ND		25	2.0	ug/L			04/16/18 19:01	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/16/18 19:01	1
Xylenes, Total	ND		10	1.6	ug/L			04/16/18 19:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	106		78 - 118					04/16/18 19:01	1
Dibromofluoromethane	103		81 - 121					04/16/18 19:01	1
Toluene-d8 (Surr)	100		80 - 120					04/16/18 19:01	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 00:00	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 00:00	1
Anthracene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 00:00	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		04/16/18 10:02	04/18/18 00:00	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		04/16/18 10:02	04/18/18 00:00	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		04/16/18 10:02	04/18/18 00:00	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		04/16/18 10:02	04/18/18 00:00	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		04/16/18 10:02	04/18/18 00:00	1
Chrysene	ND		0.20	0.039	ug/L		04/16/18 10:02	04/18/18 00:00	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		04/16/18 10:02	04/18/18 00:00	1
Fluoranthene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 00:00	1
Fluorene	ND		0.20	0.021	ug/L		04/16/18 10:02	04/18/18 00:00	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		04/16/18 10:02	04/18/18 00:00	1
Phenanthrene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 00:00	1
Pyrene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 00:00	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 00:00	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 00:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	66		33 - 138				04/16/18 10:02	04/18/18 00:00	1
2-Fluorobiphenyl	89		15 - 122				04/16/18 10:02	04/18/18 00:00	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Client Sample ID: MW5-ROX-040918

Lab Sample ID: 400-151994-5

Date Collected: 04/09/18 11:20

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	59		19 - 130	04/16/18 10:02	04/18/18 00:00	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	9.9	3.7	ug/L		04/16/18 10:02	04/17/18 21:29	1
Benzenethiol	ND	* UJ	9.9	1.7	ug/L		04/16/18 10:02	04/17/18 21:29	1
Benzoic acid	ND	*	30	7.2	ug/L		04/16/18 10:02	04/17/18 21:29	1
Benzyl alcohol	ND		9.9	2.0	ug/L		04/16/18 10:02	04/17/18 21:29	1
Bis(2-chloroethoxy)methane	ND		9.9	0.68	ug/L		04/16/18 10:02	04/17/18 21:29	1
Bis(2-chloroethyl)ether	ND	*	9.9	0.73	ug/L		04/16/18 10:02	04/17/18 21:29	1
bis (2-chloroisopropyl) ether	ND		9.9	0.80	ug/L		04/16/18 10:02	04/17/18 21:29	1
Bis(2-ethylhexyl) phthalate	ND		9.9	2.2	ug/L		04/16/18 10:02	04/17/18 21:29	1
4-Bromophenyl phenyl ether	ND		9.9	0.32	ug/L		04/16/18 10:02	04/17/18 21:29	1
Butyl benzyl phthalate	ND		9.9	0.68	ug/L		04/16/18 10:02	04/17/18 21:29	1
4-Chloroaniline	ND		9.9	3.4	ug/L		04/16/18 10:02	04/17/18 21:29	1
4-Chloro-3-methylphenol	ND		9.9	3.7	ug/L		04/16/18 10:02	04/17/18 21:29	1
2-Chloronaphthalene	ND		9.9	0.51	ug/L		04/16/18 10:02	04/17/18 21:29	1
2-Chlorophenol	ND		9.9	2.2	ug/L		04/16/18 10:02	04/17/18 21:29	1
4-Chlorophenyl phenyl ether	ND		9.9	2.0	ug/L		04/16/18 10:02	04/17/18 21:29	1
Dibenz[a,h]acridine	ND		9.9	3.0	ug/L		04/16/18 10:02	04/17/18 21:29	1
Dibenzofuran	ND	* UJ	9.9	0.51	ug/L		04/16/18 10:02	04/17/18 21:29	1
3,3'-Dichlorobenzidine	ND		9.9	2.6	ug/L		04/16/18 10:02	04/17/18 21:29	1
2,4-Dichlorophenol	ND		9.9	3.0	ug/L		04/16/18 10:02	04/17/18 21:29	1
Diethyl phthalate	ND		9.9	0.69	ug/L		04/16/18 10:02	04/17/18 21:29	1
2,4-Dimethylphenol	ND		9.9	3.5	ug/L		04/16/18 10:02	04/17/18 21:29	1
Dimethyl phthalate	ND		9.9	0.59	ug/L		04/16/18 10:02	04/17/18 21:29	1
Di-n-butyl phthalate	ND		9.9	2.7	ug/L		04/16/18 10:02	04/17/18 21:29	1
4,6-Dinitro-ortho-cresol	ND		9.9	2.0	ug/L		04/16/18 10:02	04/17/18 21:29	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/16/18 10:02	04/17/18 21:29	1
2,4-Dinitrotoluene	ND		9.9	1.9	ug/L		04/16/18 10:02	04/17/18 21:29	1
2,6-Dinitrotoluene	ND		9.9	1.9	ug/L		04/16/18 10:02	04/17/18 21:29	1
Di-n-octyl phthalate	ND		9.9	0.43	ug/L		04/16/18 10:02	04/17/18 21:29	1
1,4-Dioxane	ND		9.9	0.99	ug/L		04/16/18 10:02	04/17/18 21:29	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	0.99	ug/L		04/16/18 10:02	04/17/18 21:29	1
Hexachlorobenzene	ND		9.9	0.25	ug/L		04/16/18 10:02	04/17/18 21:29	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/16/18 10:02	04/17/18 21:29	1
Hexachloroethane	ND	* UJ	9.9	4.1	ug/L		04/16/18 10:02	04/17/18 21:29	1
Indene	ND		9.9	0.99	ug/L		04/16/18 10:02	04/17/18 21:29	1
Isophorone	ND	UJ	9.9	0.56	ug/L		04/16/18 10:02	04/17/18 21:29	1
2-Methylphenol	ND		9.9	1.8	ug/L		04/16/18 10:02	04/17/18 21:29	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/16/18 10:02	04/17/18 21:29	1
2-Nitroaniline	ND		9.9	2.2	ug/L		04/16/18 10:02	04/17/18 21:29	1
3-Nitroaniline	ND		9.9	1.8	ug/L		04/16/18 10:02	04/17/18 21:29	1
4-Nitroaniline	ND		9.9	2.4	ug/L		04/16/18 10:02	04/17/18 21:29	1
Nitrobenzene	ND		9.9	0.54	ug/L		04/16/18 10:02	04/17/18 21:29	1
2-Nitrophenol	ND		9.9	0.64	ug/L		04/16/18 10:02	04/17/18 21:29	1
4-Nitrophenol	ND		9.9	2.1	ug/L		04/16/18 10:02	04/17/18 21:29	1
N-Nitrosodimethylamine	ND		9.9	3.5	ug/L		04/16/18 10:02	04/17/18 21:29	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
 SDG: (2Q18)

Client Sample ID: MW5-ROX-040918

Lab Sample ID: 400-151994-5

Date Collected: 04/09/18 11:20

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.9	3.3	ug/L		04/16/18 10:02	04/17/18 21:29	1
N-Nitrosodiphenylamine	ND		9.9	0.46	ug/L		04/16/18 10:02	04/17/18 21:29	1
Pentachlorophenol	ND		20	1.8	ug/L		04/16/18 10:02	04/17/18 21:29	1
Phenol	ND		9.9	2.6	ug/L		04/16/18 10:02	04/17/18 21:29	1
Pyridine	ND	WJ	9.9	3.2	ug/L		04/16/18 10:02	04/17/18 21:29	1
Quinoline	ND		9.9	5.9	ug/L		04/16/18 10:02	04/17/18 21:29	1
2,4,5-Trichlorophenol	ND		9.9	3.6	ug/L		04/16/18 10:02	04/17/18 21:29	1
2,4,6-Trichlorophenol	ND		9.9	3.5	ug/L		04/16/18 10:02	04/17/18 21:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	56		34 - 120	04/16/18 10:02	04/17/18 21:29	1
2-Fluorophenol	30		10 - 120	04/16/18 10:02	04/17/18 21:29	1
Nitrobenzene-d5	46		27 - 120	04/16/18 10:02	04/17/18 21:29	1
Phenol-d5	40		10 - 120	04/16/18 10:02	04/17/18 21:29	1
Terphenyl-d14	46 X		53 - 125	04/16/18 10:02	04/17/18 21:29	1
2,4,6-Tribromophenol	56		15 - 135	04/16/18 10:02	04/17/18 21:29	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.029	0.0054	ug/L		04/19/18 14:51	04/19/18 20:52	1
1,2-Dibromoethane	ND		0.020	0.0049	ug/L		04/19/18 14:51	04/19/18 20:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		51 - 149	04/19/18 14:51	04/19/18 20:52	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
 SDG: (2Q18)

Client Sample ID: MW2-ROX-040918

Lab Sample ID: 400-151994-6

Date Collected: 04/09/18 12:55

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	29		25	10	ug/L			04/16/18 19:23	1
Acrolein	ND		20	10	ug/L			04/16/18 19:23	1
Acrylonitrile	ND		10	2.8	ug/L			04/16/18 19:23	1
Benzene	1.6		1.0	0.38	ug/L			04/16/18 19:23	1
Bromobenzene	ND		1.0	0.54	ug/L			04/16/18 19:23	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/16/18 19:23	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/16/18 19:23	1
Bromoform	ND		5.0	0.71	ug/L			04/16/18 19:23	1
Bromomethane	ND		1.0	0.98	ug/L			04/16/18 19:23	1
2-Butanone (MEK)	19	J	25	2.6	ug/L			04/16/18 19:23	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/16/18 19:23	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/16/18 19:23	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/16/18 19:23	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/16/18 19:23	1
Chloroethane	ND		1.0	0.76	ug/L			04/16/18 19:23	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/16/18 19:23	1
Chloroform	2.1		1.0	0.60	ug/L			04/16/18 19:23	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/16/18 19:23	1
Chloromethane	ND		1.0	0.83	ug/L			04/16/18 19:23	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 19:23	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/18 19:23	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/16/18 19:23	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/16/18 19:23	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/16/18 19:23	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/16/18 19:23	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/16/18 19:23	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/16/18 19:23	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 19:23	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 19:23	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 19:23	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 19:23	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/16/18 19:23	1
Ethylbenzene	220		1.0	0.50	ug/L			04/16/18 19:23	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/16/18 19:23	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/16/18 19:23	1
2-Hexanone	ND		25	3.1	ug/L			04/16/18 19:23	1
Isopropylbenzene	26		1.0	0.53	ug/L			04/16/18 19:23	1
Methylene bromide	ND		5.0	0.59	ug/L			04/16/18 19:23	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/16/18 19:23	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/16/18 19:23	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/16/18 19:23	1
m-Xylene & p-Xylene	120		5.0	1.6	ug/L			04/16/18 19:23	1
Naphthalene	36		1.0	1.0	ug/L			04/16/18 19:23	1
n-Butylbenzene	2.9		1.0	0.76	ug/L			04/16/18 19:23	1
N-Propylbenzene	33		1.0	0.69	ug/L			04/16/18 19:23	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/16/18 19:23	1
o-Xylene	9.4		5.0	0.60	ug/L			04/16/18 19:23	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/16/18 19:23	1
p-Isopropyltoluene	1.8		1.0	0.71	ug/L			04/16/18 19:23	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
 SDG: (2Q18)

Client Sample ID: MW2-ROX-040918

Lab Sample ID: 400-151994-6

Date Collected: 04/09/18 12:55

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	1.7		1.0	0.70	ug/L			04/16/18 19:23	1
Styrene	ND		1.0	1.0	ug/L			04/16/18 19:23	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/16/18 19:23	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/16/18 19:23	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/16/18 19:23	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/16/18 19:23	1
Toluene	6.0		1.0	0.70	ug/L			04/16/18 19:23	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 19:23	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/18 19:23	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/16/18 19:23	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/16/18 19:23	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/16/18 19:23	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/16/18 19:23	1
Trichloroethene	ND		1.0	0.50	ug/L			04/16/18 19:23	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/16/18 19:23	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/16/18 19:23	1
1,2,4-Trimethylbenzene	46		1.0	0.82	ug/L			04/16/18 19:23	1
1,3,5-Trimethylbenzene	38		1.0	0.56	ug/L			04/16/18 19:23	1
Vinyl acetate	ND		25	2.0	ug/L			04/16/18 19:23	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/16/18 19:23	1
Xylenes, Total	130		10	1.6	ug/L			04/16/18 19:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	105		78 - 118					04/16/18 19:23	1
Dibromofluoromethane	106		81 - 121					04/16/18 19:23	1
Toluene-d8 (Surr)	100		80 - 120					04/16/18 19:23	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 00:17	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 00:17	1
Anthracene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 00:17	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 00:17	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 00:17	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 00:17	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 00:17	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 00:17	1
Chrysene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 00:17	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 00:17	1
Fluoranthene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 00:17	1
Fluorene	ND		0.20	0.021	ug/L		04/16/18 10:02	04/18/18 00:17	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 00:17	1
Phenanthrene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 00:17	1
Pyrene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 00:17	1
1-Methylnaphthalene	15		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 00:17	1
2-Methylnaphthalene	31		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 00:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	38		33 - 138				04/16/18 10:02	04/18/18 00:17	1
2-Fluorobiphenyl	79		15 - 122				04/16/18 10:02	04/18/18 00:17	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Client Sample ID: MW2-ROX-040918

Lab Sample ID: 400-151994-6

Date Collected: 04/09/18 12:55

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	73		19 - 130	04/16/18 10:02	04/18/18 00:17	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	10	3.8	ug/L		04/16/18 10:02	04/17/18 21:53	1
Benzenethiol	ND	* UJ	10	1.7	ug/L		04/16/18 10:02	04/17/18 21:53	1
Benzoic acid	ND	*	30	7.3	ug/L		04/16/18 10:02	04/17/18 21:53	1
Benzyl alcohol	ND		10	2.0	ug/L		04/16/18 10:02	04/17/18 21:53	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		04/16/18 10:02	04/17/18 21:53	1
Bis(2-chloroethyl)ether	ND	*	10	0.74	ug/L		04/16/18 10:02	04/17/18 21:53	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		04/16/18 10:02	04/17/18 21:53	1
Bis(2-ethylhexyl) phthalate	ND		10	2.3	ug/L		04/16/18 10:02	04/17/18 21:53	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		04/16/18 10:02	04/17/18 21:53	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		04/16/18 10:02	04/17/18 21:53	1
4-Chloroaniline	ND		10	3.4	ug/L		04/16/18 10:02	04/17/18 21:53	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		04/16/18 10:02	04/17/18 21:53	1
2-Chloronaphthalene	ND		10	0.52	ug/L		04/16/18 10:02	04/17/18 21:53	1
2-Chlorophenol	ND		10	2.2	ug/L		04/16/18 10:02	04/17/18 21:53	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		04/16/18 10:02	04/17/18 21:53	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		04/16/18 10:02	04/17/18 21:53	1
Dibenzofuran	ND	* UJ	10	0.52	ug/L		04/16/18 10:02	04/17/18 21:53	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		04/16/18 10:02	04/17/18 21:53	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		04/16/18 10:02	04/17/18 21:53	1
Diethyl phthalate	ND		10	0.70	ug/L		04/16/18 10:02	04/17/18 21:53	1
2,4-Dimethylphenol	13		10	3.5	ug/L		04/16/18 10:02	04/17/18 21:53	1
Dimethyl phthalate	ND		10	0.60	ug/L		04/16/18 10:02	04/17/18 21:53	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		04/16/18 10:02	04/17/18 21:53	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		04/16/18 10:02	04/17/18 21:53	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/16/18 10:02	04/17/18 21:53	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		04/16/18 10:02	04/17/18 21:53	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		04/16/18 10:02	04/17/18 21:53	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		04/16/18 10:02	04/17/18 21:53	1
1,4-Dioxane	ND		10	1.0	ug/L		04/16/18 10:02	04/17/18 21:53	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		04/16/18 10:02	04/17/18 21:53	1
Hexachlorobenzene	ND		10	0.25	ug/L		04/16/18 10:02	04/17/18 21:53	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/16/18 10:02	04/17/18 21:53	1
Hexachloroethane	ND	* UJ	10	4.2	ug/L		04/16/18 10:02	04/17/18 21:53	1
Indene	ND		10	1.0	ug/L		04/16/18 10:02	04/17/18 21:53	1
Isophorone	ND	UJ	10	0.57	ug/L		04/16/18 10:02	04/17/18 21:53	1
2-Methylphenol	ND		10	1.8	ug/L		04/16/18 10:02	04/17/18 21:53	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/16/18 10:02	04/17/18 21:53	1
2-Nitroaniline	ND		10	2.2	ug/L		04/16/18 10:02	04/17/18 21:53	1
3-Nitroaniline	ND		10	1.8	ug/L		04/16/18 10:02	04/17/18 21:53	1
4-Nitroaniline	ND		10	2.5	ug/L		04/16/18 10:02	04/17/18 21:53	1
Nitrobenzene	ND		10	0.55	ug/L		04/16/18 10:02	04/17/18 21:53	1
2-Nitrophenol	ND		10	0.65	ug/L		04/16/18 10:02	04/17/18 21:53	1
4-Nitrophenol	ND		10	2.1	ug/L		04/16/18 10:02	04/17/18 21:53	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		04/16/18 10:02	04/17/18 21:53	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
 SDG: (2Q18)

Client Sample ID: MW2-ROX-040918

Lab Sample ID: 400-151994-6

Date Collected: 04/09/18 12:55

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		04/16/18 10:02	04/17/18 21:53	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		04/16/18 10:02	04/17/18 21:53	1
Pentachlorophenol	ND		20	1.8	ug/L		04/16/18 10:02	04/17/18 21:53	1
Phenol	ND		10	2.6	ug/L		04/16/18 10:02	04/17/18 21:53	1
Pyridine	ND	UJ	10	3.2	ug/L		04/16/18 10:02	04/17/18 21:53	1
Quinoline	ND		10	6.0	ug/L		04/16/18 10:02	04/17/18 21:53	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		04/16/18 10:02	04/17/18 21:53	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/16/18 10:02	04/17/18 21:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	52		34 - 120	04/16/18 10:02	04/17/18 21:53	1
2-Fluorophenol	24		10 - 120	04/16/18 10:02	04/17/18 21:53	1
Nitrobenzene-d5	46		27 - 120	04/16/18 10:02	04/17/18 21:53	1
Phenol-d5	33		10 - 120	04/16/18 10:02	04/17/18 21:53	1
Terphenyl-d14	27	X	53 - 125	04/16/18 10:02	04/17/18 21:53	1
2,4,6-Tribromophenol	44		15 - 135	04/16/18 10:02	04/17/18 21:53	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.030	0.0055	ug/L		04/19/18 14:51	04/19/18 21:12	1
1,2-Dibromoethane	ND		0.020	0.0050	ug/L		04/19/18 14:51	04/19/18 21:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	106	p	51 - 149	04/19/18 14:51	04/19/18 21:12	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
 SDG: (2Q18)

Client Sample ID: ROST4PZE-ROX-040918

Lab Sample ID: 400-151994-7

Date Collected: 04/09/18 14:00

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	53		25	10	ug/L			04/16/18 19:44	1
Acrolein	ND		20	10	ug/L			04/16/18 19:44	1
Acrylonitrile	ND		10	2.8	ug/L			04/16/18 19:44	1
Benzene	14		1.0	0.38	ug/L			04/16/18 19:44	1
Bromobenzene	ND		1.0	0.54	ug/L			04/16/18 19:44	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/16/18 19:44	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/16/18 19:44	1
Bromoform	ND		5.0	0.71	ug/L			04/16/18 19:44	1
Bromomethane	ND		1.0	0.98	ug/L			04/16/18 19:44	1
2-Butanone (MEK)	39		25	2.6	ug/L			04/16/18 19:44	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/16/18 19:44	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/16/18 19:44	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/16/18 19:44	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/16/18 19:44	1
Chloroethane	ND		1.0	0.76	ug/L			04/16/18 19:44	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/16/18 19:44	1
Chloroform	ND		1.0	0.60	ug/L			04/16/18 19:44	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/16/18 19:44	1
Chloromethane	ND		1.0	0.83	ug/L			04/16/18 19:44	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 19:44	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/18 19:44	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/16/18 19:44	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/16/18 19:44	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/16/18 19:44	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/16/18 19:44	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/16/18 19:44	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/16/18 19:44	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 19:44	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 19:44	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 19:44	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 19:44	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/16/18 19:44	1
Ethylbenzene	2.5		1.0	0.50	ug/L			04/16/18 19:44	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/16/18 19:44	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/16/18 19:44	1
2-Hexanone	ND		25	3.1	ug/L			04/16/18 19:44	1
Isopropylbenzene	1.8		1.0	0.53	ug/L			04/16/18 19:44	1
Methylene bromide	ND		5.0	0.59	ug/L			04/16/18 19:44	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/16/18 19:44	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/16/18 19:44	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/16/18 19:44	1
m-Xylene & p-Xylene	41		5.0	1.6	ug/L			04/16/18 19:44	1
Naphthalene	23		1.0	1.0	ug/L			04/16/18 19:44	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/16/18 19:44	1
N-Propylbenzene	1.0		1.0	0.69	ug/L			04/16/18 19:44	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/16/18 19:44	1
o-Xylene	15		5.0	0.60	ug/L			04/16/18 19:44	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/16/18 19:44	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/16/18 19:44	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Client Sample ID: ROST4PZE-ROX-040918

Lab Sample ID: 400-151994-7

Date Collected: 04/09/18 14:00

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/16/18 19:44	1
Styrene	ND		1.0	1.0	ug/L			04/16/18 19:44	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/16/18 19:44	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/16/18 19:44	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/16/18 19:44	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/16/18 19:44	1
Toluene	2.7		1.0	0.70	ug/L			04/16/18 19:44	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 19:44	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/18 19:44	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/16/18 19:44	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/16/18 19:44	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/16/18 19:44	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/16/18 19:44	1
Trichloroethene	ND		1.0	0.50	ug/L			04/16/18 19:44	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/16/18 19:44	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/16/18 19:44	1
1,2,4-Trimethylbenzene	32		1.0	0.82	ug/L			04/16/18 19:44	1
1,3,5-Trimethylbenzene	8.7		1.0	0.56	ug/L			04/16/18 19:44	1
Vinyl acetate	ND		25	2.0	ug/L			04/16/18 19:44	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/16/18 19:44	1
Xylenes, Total	56		10	1.6	ug/L			04/16/18 19:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	104		78 - 118					04/16/18 19:44	1
Dibromofluoromethane	103		81 - 121					04/16/18 19:44	1
Toluene-d8 (Surr)	96		80 - 120					04/16/18 19:44	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 00:35	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 00:35	1
Anthracene	0.66		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 00:35	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 00:35	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 00:35	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 00:35	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 00:35	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 00:35	1
Chrysene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 00:35	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 00:35	1
Fluoranthene	0.11	J	0.20	0.020	ug/L		04/16/18 10:02	04/18/18 00:35	1
Fluorene	ND		0.20	0.021	ug/L		04/16/18 10:02	04/18/18 00:35	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 00:35	1
Phenanthrene	2.1		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 00:35	1
Pyrene	0.45		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 00:35	1
1-Methylnaphthalene	24		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 00:35	1
2-Methylnaphthalene	19		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 00:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	76		33 - 138				04/16/18 10:02	04/18/18 00:35	1
2-Fluorobiphenyl	78		15 - 122				04/16/18 10:02	04/18/18 00:35	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Client Sample ID: ROST4PZE-ROX-040918

Lab Sample ID: 400-151994-7

Date Collected: 04/09/18 14:00

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	69		19 - 130	04/16/18 10:02	04/17/18 00:35	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	10	3.8	ug/L		04/16/18 10:02	04/17/18 22:17	1
Benzenethiol	ND	UJ	10	1.7	ug/L		04/16/18 10:02	04/17/18 22:17	1
Benzoic acid	ND	*	30	7.3	ug/L		04/16/18 10:02	04/17/18 22:17	1
Benzyl alcohol	ND		10	2.0	ug/L		04/16/18 10:02	04/17/18 22:17	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		04/16/18 10:02	04/17/18 22:17	1
Bis(2-chloroethyl)ether	ND	*	10	0.74	ug/L		04/16/18 10:02	04/17/18 22:17	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		04/16/18 10:02	04/17/18 22:17	1
Bis(2-ethylhexyl) phthalate	ND		10	2.3	ug/L		04/16/18 10:02	04/17/18 22:17	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		04/16/18 10:02	04/17/18 22:17	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		04/16/18 10:02	04/17/18 22:17	1
4-Chloroaniline	ND		10	3.4	ug/L		04/16/18 10:02	04/17/18 22:17	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		04/16/18 10:02	04/17/18 22:17	1
2-Chloronaphthalene	ND		10	0.52	ug/L		04/16/18 10:02	04/17/18 22:17	1
2-Chlorophenol	ND		10	2.2	ug/L		04/16/18 10:02	04/17/18 22:17	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		04/16/18 10:02	04/17/18 22:17	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		04/16/18 10:02	04/17/18 22:17	1
Dibenzofuran	ND	UJ	10	0.52	ug/L		04/16/18 10:02	04/17/18 22:17	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		04/16/18 10:02	04/17/18 22:17	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		04/16/18 10:02	04/17/18 22:17	1
Diethyl phthalate	ND		10	0.70	ug/L		04/16/18 10:02	04/17/18 22:17	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		04/16/18 10:02	04/17/18 22:17	1
Dimethyl phthalate	ND		10	0.60	ug/L		04/16/18 10:02	04/17/18 22:17	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		04/16/18 10:02	04/17/18 22:17	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		04/16/18 10:02	04/17/18 22:17	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/16/18 10:02	04/17/18 22:17	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		04/16/18 10:02	04/17/18 22:17	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		04/16/18 10:02	04/17/18 22:17	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		04/16/18 10:02	04/17/18 22:17	1
1,4-Dioxane	ND		10	1.0	ug/L		04/16/18 10:02	04/17/18 22:17	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		04/16/18 10:02	04/17/18 22:17	1
Hexachlorobenzene	ND		10	0.25	ug/L		04/16/18 10:02	04/17/18 22:17	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/16/18 10:02	04/17/18 22:17	1
Hexachloroethane	ND	UJ	10	4.2	ug/L		04/16/18 10:02	04/17/18 22:17	1
Indene	ND		10	1.0	ug/L		04/16/18 10:02	04/17/18 22:17	1
Isophorone	ND	UJ	10	0.57	ug/L		04/16/18 10:02	04/17/18 22:17	1
2-Methylphenol	ND		10	1.8	ug/L		04/16/18 10:02	04/17/18 22:17	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/16/18 10:02	04/17/18 22:17	1
2-Nitroaniline	ND		10	2.2	ug/L		04/16/18 10:02	04/17/18 22:17	1
3-Nitroaniline	ND		10	1.8	ug/L		04/16/18 10:02	04/17/18 22:17	1
4-Nitroaniline	ND		10	2.5	ug/L		04/16/18 10:02	04/17/18 22:17	1
Nitrobenzene	ND		10	0.55	ug/L		04/16/18 10:02	04/17/18 22:17	1
2-Nitrophenol	ND		10	0.65	ug/L		04/16/18 10:02	04/17/18 22:17	1
4-Nitrophenol	ND		10	2.1	ug/L		04/16/18 10:02	04/17/18 22:17	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		04/16/18 10:02	04/17/18 22:17	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Client Sample ID: ROST4PZE-ROX-040918

Lab Sample ID: 400-151994-7

Date Collected: 04/09/18 14:00

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		04/16/18 10:02	04/17/18 22:17	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		04/16/18 10:02	04/17/18 22:17	1
Pentachlorophenol	ND		20	1.8	ug/L		04/16/18 10:02	04/17/18 22:17	1
Phenol	ND		10	2.6	ug/L		04/16/18 10:02	04/17/18 22:17	1
Pyridine	ND	UJ	10	3.2	ug/L		04/16/18 10:02	04/17/18 22:17	1
Quinoline	ND		10	6.0	ug/L		04/16/18 10:02	04/17/18 22:17	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		04/16/18 10:02	04/17/18 22:17	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/16/18 10:02	04/17/18 22:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	57		34 - 120	04/16/18 10:02	04/17/18 22:17	1
2-Fluorophenol	21		10 - 120	04/16/18 10:02	04/17/18 22:17	1
Nitrobenzene-d5	51		27 - 120	04/16/18 10:02	04/17/18 22:17	1
Phenol-d5	22		10 - 120	04/16/18 10:02	04/17/18 22:17	1
Terphenyl-d14	48 X		53 - 125	04/16/18 10:02	04/17/18 22:17	1
2,4,6-Tribromophenol	54		15 - 135	04/16/18 10:02	04/17/18 22:17	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	0.041	p	0.030	0.0056	ug/L		04/19/18 14:51	04/19/18 21:51	1
1,2-Dibromoethane	ND		0.020	0.0051	ug/L		04/19/18 14:51	04/19/18 21:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	114		51 - 149	04/19/18 14:51	04/19/18 21:51	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
 SDG: (2Q18)

Client Sample ID: TB-ROX-040918-8011-B

Lab Sample ID: 400-151994-8

Date Collected: 04/09/18 00:00

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.030	0.0056	ug/L		04/19/18 14:51	04/19/18 22:11	1
1,2-Dibromoethane	ND		0.020	0.0051	ug/L		04/19/18 14:51	04/19/18 22:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	109	p	51 - 149				04/19/18 14:51	04/19/18 22:11	1



Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
 SDG: (2Q18)

Client Sample ID: TB-ROX-040918-8260-B

Lab Sample ID: 400-151994-9

Date Collected: 04/09/18 00:00

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/16/18 17:33	1
Acrolein	ND		20	10	ug/L			04/16/18 17:33	1
Acrylonitrile	ND		10	2.8	ug/L			04/16/18 17:33	1
Benzene	ND		1.0	0.38	ug/L			04/16/18 17:33	1
Bromobenzene	ND		1.0	0.54	ug/L			04/16/18 17:33	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/16/18 17:33	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/16/18 17:33	1
Bromoform	ND		5.0	0.71	ug/L			04/16/18 17:33	1
Bromomethane	ND		1.0	0.98	ug/L			04/16/18 17:33	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/16/18 17:33	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/16/18 17:33	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/16/18 17:33	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/16/18 17:33	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/16/18 17:33	1
Chloroethane	ND		1.0	0.76	ug/L			04/16/18 17:33	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/16/18 17:33	1
Chloroform	ND		1.0	0.60	ug/L			04/16/18 17:33	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/16/18 17:33	1
Chloromethane	ND		1.0	0.83	ug/L			04/16/18 17:33	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 17:33	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/18 17:33	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/16/18 17:33	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/16/18 17:33	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/16/18 17:33	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/16/18 17:33	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/16/18 17:33	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/16/18 17:33	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 17:33	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 17:33	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 17:33	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 17:33	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/16/18 17:33	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/16/18 17:33	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/16/18 17:33	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/16/18 17:33	1
2-Hexanone	ND		25	3.1	ug/L			04/16/18 17:33	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/16/18 17:33	1
Methylene bromide	ND		5.0	0.59	ug/L			04/16/18 17:33	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/16/18 17:33	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/16/18 17:33	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/16/18 17:33	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/16/18 17:33	1
Naphthalene	ND		1.0	1.0	ug/L			04/16/18 17:33	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/16/18 17:33	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/16/18 17:33	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/16/18 17:33	1
o-Xylene	ND		5.0	0.60	ug/L			04/16/18 17:33	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/16/18 17:33	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/16/18 17:33	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
 SDG: (2Q18)

Client Sample ID: TB-ROX-040918-8260-B

Lab Sample ID: 400-151994-9

Date Collected: 04/09/18 00:00

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/16/18 17:33	1
Styrene	ND		1.0	1.0	ug/L			04/16/18 17:33	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/16/18 17:33	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/16/18 17:33	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/16/18 17:33	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/16/18 17:33	1
Toluene	ND		1.0	0.70	ug/L			04/16/18 17:33	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 17:33	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/18 17:33	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/16/18 17:33	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/16/18 17:33	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/16/18 17:33	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/16/18 17:33	1
Trichloroethene	ND		1.0	0.50	ug/L			04/16/18 17:33	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/16/18 17:33	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/16/18 17:33	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/16/18 17:33	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/16/18 17:33	1
Vinyl acetate	ND		25	2.0	ug/L			04/16/18 17:33	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/16/18 17:33	1
Xylenes, Total	ND		10	1.6	ug/L			04/16/18 17:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	109		78 - 118					04/16/18 17:33	1
Dibromofluoromethane	105		81 - 121					04/16/18 17:33	1
Toluene-d8 (Surr)	99		80 - 120					04/16/18 17:33	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
 SDG: (2Q18)

Client Sample ID: MW4-ROX-040918

Lab Sample ID: 400-151994-10

Date Collected: 04/09/18 10:30

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/16/18 20:06	1
Acrolein	ND		20	10	ug/L			04/16/18 20:06	1
Acrylonitrile	ND		10	2.8	ug/L			04/16/18 20:06	1
Benzene	ND		1.0	0.38	ug/L			04/16/18 20:06	1
Bromobenzene	ND		1.0	0.54	ug/L			04/16/18 20:06	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/16/18 20:06	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/16/18 20:06	1
Bromoform	ND		5.0	0.71	ug/L			04/16/18 20:06	1
Bromomethane	ND		1.0	0.98	ug/L			04/16/18 20:06	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/16/18 20:06	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/16/18 20:06	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/16/18 20:06	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/16/18 20:06	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/16/18 20:06	1
Chloroethane	ND		1.0	0.76	ug/L			04/16/18 20:06	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/16/18 20:06	1
Chloroform	ND		1.0	0.60	ug/L			04/16/18 20:06	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/16/18 20:06	1
Chloromethane	ND		1.0	0.83	ug/L			04/16/18 20:06	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 20:06	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/18 20:06	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/16/18 20:06	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/16/18 20:06	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/16/18 20:06	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/16/18 20:06	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/16/18 20:06	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/16/18 20:06	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 20:06	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 20:06	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 20:06	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 20:06	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/16/18 20:06	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/16/18 20:06	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/16/18 20:06	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/16/18 20:06	1
2-Hexanone	ND		25	3.1	ug/L			04/16/18 20:06	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/16/18 20:06	1
Methylene bromide	ND		5.0	0.59	ug/L			04/16/18 20:06	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/16/18 20:06	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/16/18 20:06	1
Methyl tert-butyl ether	3.6		1.0	0.74	ug/L			04/16/18 20:06	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/16/18 20:06	1
Naphthalene	ND		1.0	1.0	ug/L			04/16/18 20:06	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/16/18 20:06	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/16/18 20:06	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/16/18 20:06	1
o-Xylene	ND		5.0	0.60	ug/L			04/16/18 20:06	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/16/18 20:06	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/16/18 20:06	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Client Sample ID: MW4-ROX-040918

Lab Sample ID: 400-151994-10

Date Collected: 04/09/18 10:30

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/16/18 20:06	1
Styrene	ND		1.0	1.0	ug/L			04/16/18 20:06	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/16/18 20:06	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/16/18 20:06	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/16/18 20:06	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/16/18 20:06	1
Toluene	ND		1.0	0.70	ug/L			04/16/18 20:06	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 20:06	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/18 20:06	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/16/18 20:06	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/16/18 20:06	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/16/18 20:06	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/16/18 20:06	1
Trichloroethene	ND		1.0	0.50	ug/L			04/16/18 20:06	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/16/18 20:06	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/16/18 20:06	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/16/18 20:06	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/16/18 20:06	1
Vinyl acetate	ND		25	2.0	ug/L			04/16/18 20:06	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/16/18 20:06	1
Xylenes, Total	ND		10	1.6	ug/L			04/16/18 20:06	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	106		78 - 118					04/16/18 20:06	1
Dibromofluoromethane	102		81 - 121					04/16/18 20:06	1
Toluene-d8 (Surr)	100		80 - 120					04/16/18 20:06	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 00:52	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 00:52	1
Anthracene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 00:52	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 00:52	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 00:52	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 00:52	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 00:52	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 00:52	1
Chrysene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 00:52	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 00:52	1
Fluoranthene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 00:52	1
Fluorene	ND		0.20	0.021	ug/L		04/16/18 10:02	04/18/18 00:52	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 00:52	1
Phenanthrene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 00:52	1
Pyrene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 00:52	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 00:52	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 00:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	72		33 - 138				04/16/18 10:02	04/18/18 00:52	1
2-Fluorobiphenyl	92		15 - 122				04/16/18 10:02	04/18/18 00:52	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Client Sample ID: MW4-ROX-040918

Lab Sample ID: 400-151994-10

Date Collected: 04/09/18 10:30

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	82		19 - 130	04/16/18 10:02	04/18/18 00:52	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	10	3.8	ug/L		04/16/18 10:02	04/17/18 22:41	1
Benzenethiol	ND	* UJ	10	1.7	ug/L		04/16/18 10:02	04/17/18 22:41	1
Benzoic acid	ND	*	30	7.4	ug/L		04/16/18 10:02	04/17/18 22:41	1
Benzyl alcohol	ND		10	2.0	ug/L		04/16/18 10:02	04/17/18 22:41	1
Bis(2-chloroethoxy)methane	ND		10	0.70	ug/L		04/16/18 10:02	04/17/18 22:41	1
Bis(2-chloroethyl)ether	ND	*	10	0.75	ug/L		04/16/18 10:02	04/17/18 22:41	1
bis (2-chloroisopropyl) ether	ND		10	0.82	ug/L		04/16/18 10:02	04/17/18 22:41	1
Bis(2-ethylhexyl) phthalate	ND		10	2.3	ug/L		04/16/18 10:02	04/17/18 22:41	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		04/16/18 10:02	04/17/18 22:41	1
Butyl benzyl phthalate	ND		10	0.70	ug/L		04/16/18 10:02	04/17/18 22:41	1
4-Chloroaniline	ND		10	3.4	ug/L		04/16/18 10:02	04/17/18 22:41	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		04/16/18 10:02	04/17/18 22:41	1
2-Chloronaphthalene	ND		10	0.52	ug/L		04/16/18 10:02	04/17/18 22:41	1
2-Chlorophenol	ND		10	2.2	ug/L		04/16/18 10:02	04/17/18 22:41	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		04/16/18 10:02	04/17/18 22:41	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		04/16/18 10:02	04/17/18 22:41	1
Dibenzofuran	ND	* UJ	10	0.52	ug/L		04/16/18 10:02	04/17/18 22:41	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		04/16/18 10:02	04/17/18 22:41	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		04/16/18 10:02	04/17/18 22:41	1
Diethyl phthalate	ND		10	0.71	ug/L		04/16/18 10:02	04/17/18 22:41	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		04/16/18 10:02	04/17/18 22:41	1
Dimethyl phthalate	ND		10	0.61	ug/L		04/16/18 10:02	04/17/18 22:41	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		04/16/18 10:02	04/17/18 22:41	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		04/16/18 10:02	04/17/18 22:41	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/16/18 10:02	04/17/18 22:41	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		04/16/18 10:02	04/17/18 22:41	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		04/16/18 10:02	04/17/18 22:41	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		04/16/18 10:02	04/17/18 22:41	1
1,4-Dioxane	ND		10	1.0	ug/L		04/16/18 10:02	04/17/18 22:41	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		04/16/18 10:02	04/17/18 22:41	1
Hexachlorobenzene	ND		10	0.25	ug/L		04/16/18 10:02	04/17/18 22:41	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/16/18 10:02	04/17/18 22:41	1
Hexachloroethane	ND	* UJ	10	4.2	ug/L		04/16/18 10:02	04/17/18 22:41	1
Indene	ND		10	1.0	ug/L		04/16/18 10:02	04/17/18 22:41	1
Isophorone	ND	UJ	10	0.58	ug/L		04/16/18 10:02	04/17/18 22:41	1
2-Methylphenol	ND		10	1.8	ug/L		04/16/18 10:02	04/17/18 22:41	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/16/18 10:02	04/17/18 22:41	1
2-Nitroaniline	ND		10	2.2	ug/L		04/16/18 10:02	04/17/18 22:41	1
3-Nitroaniline	ND		10	1.8	ug/L		04/16/18 10:02	04/17/18 22:41	1
4-Nitroaniline	ND		10	2.5	ug/L		04/16/18 10:02	04/17/18 22:41	1
Nitrobenzene	ND		10	0.56	ug/L		04/16/18 10:02	04/17/18 22:41	1
2-Nitrophenol	ND		10	0.66	ug/L		04/16/18 10:02	04/17/18 22:41	1
4-Nitrophenol	ND		10	2.1	ug/L		04/16/18 10:02	04/17/18 22:41	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		04/16/18 10:02	04/17/18 22:41	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Client Sample ID: MW4-ROX-040918

Lab Sample ID: 400-151994-10

Date Collected: 04/09/18 10:30

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		04/16/18 10:02	04/17/18 22:41	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		04/16/18 10:02	04/17/18 22:41	1
Pentachlorophenol	ND		20	1.8	ug/L		04/16/18 10:02	04/17/18 22:41	1
Phenol	ND		10	2.6	ug/L		04/16/18 10:02	04/17/18 22:41	1
Pyridine	ND	UJ	10	3.2	ug/L		04/16/18 10:02	04/17/18 22:41	1
Quinoline	ND		10	6.1	ug/L		04/16/18 10:02	04/17/18 22:41	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		04/16/18 10:02	04/17/18 22:41	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/16/18 10:02	04/17/18 22:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	70		34 - 120	04/16/18 10:02	04/17/18 22:41	1
2-Fluorophenol	34		10 - 120	04/16/18 10:02	04/17/18 22:41	1
Nitrobenzene-d5	65		27 - 120	04/16/18 10:02	04/17/18 22:41	1
Phenol-d5	44		10 - 120	04/16/18 10:02	04/17/18 22:41	1
Terphenyl-d14	63		53 - 125	04/16/18 10:02	04/17/18 22:41	1
2,4,6-Tribromophenol	61		15 - 135	04/16/18 10:02	04/17/18 22:41	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.030	0.0055	ug/L		04/19/18 14:51	04/19/18 22:31	1
1,2-Dibromoethane	ND		0.020	0.0050	ug/L		04/19/18 14:51	04/19/18 22:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	113		51 - 149	04/19/18 14:51	04/19/18 22:31	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Client Sample ID: MW25-ROX-040918

Lab Sample ID: 400-151994-11

Date Collected: 04/09/18 11:20

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/16/18 20:28	1
Acrolein	ND		20	10	ug/L			04/16/18 20:28	1
Acrylonitrile	ND		10	2.8	ug/L			04/16/18 20:28	1
Benzene	20		1.0	0.38	ug/L			04/16/18 20:28	1
Bromobenzene	ND		1.0	0.54	ug/L			04/16/18 20:28	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/16/18 20:28	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/16/18 20:28	1
Bromoform	ND		5.0	0.71	ug/L			04/16/18 20:28	1
Bromomethane	ND		1.0	0.98	ug/L			04/16/18 20:28	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/16/18 20:28	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/16/18 20:28	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/16/18 20:28	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/16/18 20:28	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/16/18 20:28	1
Chloroethane	ND		1.0	0.76	ug/L			04/16/18 20:28	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/16/18 20:28	1
Chloroform	ND		1.0	0.60	ug/L			04/16/18 20:28	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/16/18 20:28	1
Chloromethane	ND		1.0	0.83	ug/L			04/16/18 20:28	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 20:28	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/18 20:28	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/16/18 20:28	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/16/18 20:28	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/16/18 20:28	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/16/18 20:28	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/16/18 20:28	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/16/18 20:28	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 20:28	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 20:28	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 20:28	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 20:28	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/16/18 20:28	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/16/18 20:28	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/16/18 20:28	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/16/18 20:28	1
2-Hexanone	ND		25	3.1	ug/L			04/16/18 20:28	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/16/18 20:28	1
Methylene bromide	ND		5.0	0.59	ug/L			04/16/18 20:28	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/16/18 20:28	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/16/18 20:28	1
Methyl tert-butyl ether	2.2		1.0	0.74	ug/L			04/16/18 20:28	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/16/18 20:28	1
Naphthalene	ND		1.0	1.0	ug/L			04/16/18 20:28	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/16/18 20:28	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/16/18 20:28	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/16/18 20:28	1
o-Xylene	ND		5.0	0.60	ug/L			04/16/18 20:28	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/16/18 20:28	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/16/18 20:28	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Client Sample ID: MW25-ROX-040918

Lab Sample ID: 400-151994-11

Date Collected: 04/09/18 11:20

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/16/18 20:28	1
Styrene	ND		1.0	1.0	ug/L			04/16/18 20:28	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/16/18 20:28	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/16/18 20:28	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/16/18 20:28	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/16/18 20:28	1
Toluene	ND		1.0	0.70	ug/L			04/16/18 20:28	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 20:28	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/18 20:28	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/16/18 20:28	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/16/18 20:28	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/16/18 20:28	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/16/18 20:28	1
Trichloroethene	ND		1.0	0.50	ug/L			04/16/18 20:28	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/16/18 20:28	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/16/18 20:28	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/16/18 20:28	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/16/18 20:28	1
Vinyl acetate	ND		25	2.0	ug/L			04/16/18 20:28	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/16/18 20:28	1
Xylenes, Total	ND		10	1.6	ug/L			04/16/18 20:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	110		78 - 118		04/16/18 20:28	1
Dibromofluoromethane	106		81 - 121		04/16/18 20:28	1
Toluene-d8 (Surr)	99		80 - 120		04/16/18 20:28	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 01:09	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 01:09	1
Anthracene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 01:09	1
Benzo[a]anthracene	ND		0.20	0.041	ug/L		04/16/18 10:02	04/18/18 01:09	1
Benzo[a]pyrene	ND		0.20	0.041	ug/L		04/16/18 10:02	04/18/18 01:09	1
Benzo[b]fluoranthene	ND		0.20	0.041	ug/L		04/16/18 10:02	04/18/18 01:09	1
Benzo[g,h,i]perylene	ND		0.20	0.041	ug/L		04/16/18 10:02	04/18/18 01:09	1
Benzo[k]fluoranthene	ND		0.20	0.041	ug/L		04/16/18 10:02	04/18/18 01:09	1
Chrysene	ND		0.20	0.041	ug/L		04/16/18 10:02	04/18/18 01:09	1
Dibenz[a,h]anthracene	ND		0.20	0.041	ug/L		04/16/18 10:02	04/18/18 01:09	1
Fluoranthene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 01:09	1
Fluorene	ND		0.20	0.021	ug/L		04/16/18 10:02	04/18/18 01:09	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.041	ug/L		04/16/18 10:02	04/18/18 01:09	1
Phenanthrene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 01:09	1
Pyrene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 01:09	1
1-Methylnaphthalene	0.028	J	0.20	0.020	ug/L		04/16/18 10:02	04/18/18 01:09	1
2-Methylnaphthalene	0.033	J	0.20	0.020	ug/L		04/16/18 10:02	04/18/18 01:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	66		33 - 138	04/16/18 10:02	04/18/18 01:09	1
2-Fluorobiphenyl	87		15 - 122	04/16/18 10:02	04/18/18 01:09	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
 SDG: (2Q18)

Client Sample ID: MW25-ROX-040918

Lab Sample ID: 400-151994-11

Date Collected: 04/09/18 11:20

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	77		19 - 130	04/16/18 10:02	04/18/18 01:09	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	10	3.9	ug/L		04/16/18 10:02	04/17/18 23:05	1
Benzenethiol	ND	* UJ	10	1.7	ug/L		04/16/18 10:02	04/17/18 23:05	1
Benzoic acid	ND	*	31	7.4	ug/L		04/16/18 10:02	04/17/18 23:05	1
Benzyl alcohol	ND		10	2.0	ug/L		04/16/18 10:02	04/17/18 23:05	1
Bis(2-chloroethoxy)methane	ND		10	0.70	ug/L		04/16/18 10:02	04/17/18 23:05	1
Bis(2-chloroethyl)ether	ND	*	10	0.75	ug/L		04/16/18 10:02	04/17/18 23:05	1
bis (2-chloroisopropyl) ether	ND		10	0.82	ug/L		04/16/18 10:02	04/17/18 23:05	1
Bis(2-ethylhexyl) phthalate	ND		10	2.3	ug/L		04/16/18 10:02	04/17/18 23:05	1
4-Bromophenyl phenyl ether	ND		10	0.33	ug/L		04/16/18 10:02	04/17/18 23:05	1
Butyl benzyl phthalate	ND		10	0.70	ug/L		04/16/18 10:02	04/17/18 23:05	1
4-Chloroaniline	ND		10	3.5	ug/L		04/16/18 10:02	04/17/18 23:05	1
4-Chloro-3-methylphenol	ND		10	3.9	ug/L		04/16/18 10:02	04/17/18 23:05	1
2-Chloronaphthalene	ND		10	0.53	ug/L		04/16/18 10:02	04/17/18 23:05	1
2-Chlorophenol	ND		10	2.2	ug/L		04/16/18 10:02	04/17/18 23:05	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		04/16/18 10:02	04/17/18 23:05	1
Dibenz[a,h]acridine	ND		10	3.1	ug/L		04/16/18 10:02	04/17/18 23:05	1
Dibenzofuran	ND	* UJ	10	0.53	ug/L		04/16/18 10:02	04/17/18 23:05	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		04/16/18 10:02	04/17/18 23:05	1
2,4-Dichlorophenol	ND		10	3.1	ug/L		04/16/18 10:02	04/17/18 23:05	1
Diethyl phthalate	ND		10	0.71	ug/L		04/16/18 10:02	04/17/18 23:05	1
2,4-Dimethylphenol	ND		10	3.6	ug/L		04/16/18 10:02	04/17/18 23:05	1
Dimethyl phthalate	ND		10	0.61	ug/L		04/16/18 10:02	04/17/18 23:05	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		04/16/18 10:02	04/17/18 23:05	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		04/16/18 10:02	04/17/18 23:05	1
2,4-Dinitrophenol	ND		31	3.5	ug/L		04/16/18 10:02	04/17/18 23:05	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		04/16/18 10:02	04/17/18 23:05	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		04/16/18 10:02	04/17/18 23:05	1
Di-n-octyl phthalate	ND		10	0.45	ug/L		04/16/18 10:02	04/17/18 23:05	1
1,4-Dioxane	ND		10	1.0	ug/L		04/16/18 10:02	04/17/18 23:05	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		04/16/18 10:02	04/17/18 23:05	1
Hexachlorobenzene	ND		10	0.25	ug/L		04/16/18 10:02	04/17/18 23:05	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/16/18 10:02	04/17/18 23:05	1
Hexachloroethane	ND	* UJ	10	4.3	ug/L		04/16/18 10:02	04/17/18 23:05	1
Indene	ND		10	1.0	ug/L		04/16/18 10:02	04/17/18 23:05	1
Isophorone	ND	UJ	10	0.58	ug/L		04/16/18 10:02	04/17/18 23:05	1
2-Methylphenol	ND		10	1.8	ug/L		04/16/18 10:02	04/17/18 23:05	1
3 & 4 Methylphenol	ND		20	1.1	ug/L		04/16/18 10:02	04/17/18 23:05	1
2-Nitroaniline	ND		10	2.2	ug/L		04/16/18 10:02	04/17/18 23:05	1
3-Nitroaniline	ND		10	1.8	ug/L		04/16/18 10:02	04/17/18 23:05	1
4-Nitroaniline	ND		10	2.5	ug/L		04/16/18 10:02	04/17/18 23:05	1
Nitrobenzene	ND		10	0.56	ug/L		04/16/18 10:02	04/17/18 23:05	1
2-Nitrophenol	ND		10	0.66	ug/L		04/16/18 10:02	04/17/18 23:05	1
4-Nitrophenol	ND		10	2.1	ug/L		04/16/18 10:02	04/17/18 23:05	1
N-Nitrosodimethylamine	ND		10	3.6	ug/L		04/16/18 10:02	04/17/18 23:05	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Client Sample ID: MW25-ROX-040918

Lab Sample ID: 400-151994-11

Date Collected: 04/09/18 11:20

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	3.4	ug/L		04/16/18 10:02	04/17/18 23:05	1
N-Nitrosodiphenylamine	ND		10	0.48	ug/L		04/16/18 10:02	04/17/18 23:05	1
Pentachlorophenol	ND		20	1.8	ug/L		04/16/18 10:02	04/17/18 23:05	1
Phenol	ND		10	2.6	ug/L		04/16/18 10:02	04/17/18 23:05	1
Pyridine	ND	UJ	10	3.3	ug/L		04/16/18 10:02	04/17/18 23:05	1
Quinoline	ND		10	6.1	ug/L		04/16/18 10:02	04/17/18 23:05	1
2,4,5-Trichlorophenol	ND		10	3.8	ug/L		04/16/18 10:02	04/17/18 23:05	1
2,4,6-Trichlorophenol	ND		10	3.6	ug/L		04/16/18 10:02	04/17/18 23:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	53		34 - 120	04/16/18 10:02	04/17/18 23:05	1
2-Fluorophenol	31		10 - 120	04/16/18 10:02	04/17/18 23:05	1
Nitrobenzene-d5	53		27 - 120	04/16/18 10:02	04/17/18 23:05	1
Phenol-d5	42		10 - 120	04/16/18 10:02	04/17/18 23:05	1
Terphenyl-d14	45 X		53 - 125	04/16/18 10:02	04/17/18 23:05	1
2,4,6-Tribromophenol	55		15 - 135	04/16/18 10:02	04/17/18 23:05	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.031	0.0057	ug/L		04/19/18 14:51	04/19/18 22:51	1
1,2-Dibromoethane	ND		0.021	0.0052	ug/L		04/19/18 14:51	04/19/18 22:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	111		51 - 149	04/19/18 14:51	04/19/18 22:51	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
 SDG: (2Q18)

Client Sample ID: MW8-ROX-040918

Lab Sample ID: 400-151994-12

Date Collected: 04/09/18 12:50

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25000	10000	ug/L			04/16/18 22:40	1000
Acrolein	ND		20000	10000	ug/L			04/16/18 22:40	1000
Acrylonitrile	ND		10000	2800	ug/L			04/16/18 22:40	1000
Bromobenzene	ND		1000	540	ug/L			04/16/18 22:40	1000
Bromochloromethane	ND		1000	520	ug/L			04/16/18 22:40	1000
Bromodichloromethane	ND		1000	500	ug/L			04/16/18 22:40	1000
Bromoform	ND		5000	710	ug/L			04/16/18 22:40	1000
Bromomethane	ND		1000	980	ug/L			04/16/18 22:40	1000
2-Butanone (MEK)	ND		25000	2600	ug/L			04/16/18 22:40	1000
Carbon disulfide	ND		1000	500	ug/L			04/16/18 22:40	1000
Carbon tetrachloride	ND		1000	500	ug/L			04/16/18 22:40	1000
Chlorobenzene	ND		1000	500	ug/L			04/16/18 22:40	1000
Dibromochloromethane	ND		1000	500	ug/L			04/16/18 22:40	1000
Chloroethane	ND		1000	760	ug/L			04/16/18 22:40	1000
2-Chloroethyl vinyl ether	ND		5000	2000	ug/L			04/16/18 22:40	1000
Chloroform	ND		1000	600	ug/L			04/16/18 22:40	1000
1-Chlorohexane	ND		1000	700	ug/L			04/16/18 22:40	1000
Chloromethane	ND		1000	830	ug/L			04/16/18 22:40	1000
cis-1,2-Dichloroethene	ND		1000	500	ug/L			04/16/18 22:40	1000
cis-1,3-Dichloropropene	ND		5000	500	ug/L			04/16/18 22:40	1000
1,2-Dichlorobenzene	ND		1000	500	ug/L			04/16/18 22:40	1000
1,3-Dichlorobenzene	ND		1000	540	ug/L			04/16/18 22:40	1000
1,4-Dichlorobenzene	ND		1000	640	ug/L			04/16/18 22:40	1000
Dichlorodifluoromethane	ND		1000	850	ug/L			04/16/18 22:40	1000
1,1-Dichloroethane	ND		1000	500	ug/L			04/16/18 22:40	1000
1,2-Dichloroethane	ND		1000	500	ug/L			04/16/18 22:40	1000
1,1-Dichloroethene	ND		1000	500	ug/L			04/16/18 22:40	1000
1,2-Dichloropropane	ND		1000	500	ug/L			04/16/18 22:40	1000
1,3-Dichloropropane	ND		1000	500	ug/L			04/16/18 22:40	1000
2,2-Dichloropropane	ND		1000	500	ug/L			04/16/18 22:40	1000
1,1-Dichloropropene	ND		1000	500	ug/L			04/16/18 22:40	1000
Ethylbenzene	ND		1000	500	ug/L			04/16/18 22:40	1000
Ethyl methacrylate	ND		1000	600	ug/L			04/16/18 22:40	1000
Hexachlorobutadiene	ND		5000	900	ug/L			04/16/18 22:40	1000
2-Hexanone	ND		25000	3100	ug/L			04/16/18 22:40	1000
Isopropylbenzene	ND		1000	530	ug/L			04/16/18 22:40	1000
Methylene bromide	ND		5000	590	ug/L			04/16/18 22:40	1000
Methylene Chloride	ND		5000	3000	ug/L			04/16/18 22:40	1000
4-Methyl-2-pentanone (MIBK)	ND		25000	1800	ug/L			04/16/18 22:40	1000
Methyl tert-butyl ether	ND		1000	740	ug/L			04/16/18 22:40	1000
m-Xylene & p-Xylene	ND		5000	1600	ug/L			04/16/18 22:40	1000
Naphthalene	ND		1000	1000	ug/L			04/16/18 22:40	1000
n-Butylbenzene	ND		1000	760	ug/L			04/16/18 22:40	1000
N-Propylbenzene	ND		1000	690	ug/L			04/16/18 22:40	1000
o-Chlorotoluene	ND		1000	570	ug/L			04/16/18 22:40	1000
o-Xylene	ND		5000	600	ug/L			04/16/18 22:40	1000
p-Chlorotoluene	ND		1000	560	ug/L			04/16/18 22:40	1000
p-Isopropyltoluene	ND		1000	710	ug/L			04/16/18 22:40	1000
sec-Butylbenzene	ND		1000	700	ug/L			04/16/18 22:40	1000

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
 SDG: (2Q18)

Client Sample ID: MW8-ROX-040918

Lab Sample ID: 400-151994-12

Date Collected: 04/09/18 12:50

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		1000	1000	ug/L			04/16/18 22:40	1000
tert-Butylbenzene	ND		1000	630	ug/L			04/16/18 22:40	1000
1,1,1,2-Tetrachloroethane	ND		1000	520	ug/L			04/16/18 22:40	1000
1,1,2,2-Tetrachloroethane	ND		1000	500	ug/L			04/16/18 22:40	1000
Tetrachloroethene	ND		1000	580	ug/L			04/16/18 22:40	1000
Toluene	ND		1000	700	ug/L			04/16/18 22:40	1000
trans-1,2-Dichloroethene	ND		1000	500	ug/L			04/16/18 22:40	1000
trans-1,3-Dichloropropene	ND		5000	500	ug/L			04/16/18 22:40	1000
1,2,3-Trichlorobenzene	ND		1000	700	ug/L			04/16/18 22:40	1000
1,2,4-Trichlorobenzene	ND		1000	820	ug/L			04/16/18 22:40	1000
1,1,1-Trichloroethane	ND		1000	500	ug/L			04/16/18 22:40	1000
1,1,2-Trichloroethane	ND		5000	500	ug/L			04/16/18 22:40	1000
Trichloroethene	ND		1000	500	ug/L			04/16/18 22:40	1000
Trichlorofluoromethane	ND		1000	520	ug/L			04/16/18 22:40	1000
1,2,3-Trichloropropane	ND		5000	840	ug/L			04/16/18 22:40	1000
1,2,4-Trimethylbenzene	ND		1000	820	ug/L			04/16/18 22:40	1000
1,3,5-Trimethylbenzene	ND		1000	560	ug/L			04/16/18 22:40	1000
Vinyl acetate	ND		25000	2000	ug/L			04/16/18 22:40	1000
Vinyl chloride	ND		1000	500	ug/L			04/16/18 22:40	1000
Xylenes, Total	ND		10000	1600	ug/L			04/16/18 22:40	1000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	105		78 - 118		04/16/18 22:40	1000
Dibromofluoromethane	105		81 - 121		04/16/18 22:40	1000
Toluene-d8 (Surr)	100		80 - 120		04/16/18 22:40	1000

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	510000		5000	1900	ug/L			04/21/18 00:29	5000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107		78 - 118		04/21/18 00:29	5000
Dibromofluoromethane	101		81 - 121		04/21/18 00:29	5000
Toluene-d8 (Surr)	104		80 - 120		04/21/18 00:29	5000

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 01:26	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 01:26	1
Anthracene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 01:26	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 01:26	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 01:26	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 01:26	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 01:26	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 01:26	1
Chrysene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 01:26	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 01:26	1
Fluoranthene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 01:26	1
Fluorene	ND		0.20	0.021	ug/L		04/16/18 10:02	04/18/18 01:26	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 01:26	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
 SDG: (2Q18)

Client Sample ID: MW8-ROX-040918

Lab Sample ID: 400-151994-12

Date Collected: 04/09/18 12:50

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	0.13	J	0.20	0.020	ug/L		04/16/18 10:02	04/18/18 01:26	1
Pyrene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 01:26	1
1-Methylnaphthalene	9.8		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 01:26	1
2-Methylnaphthalene	3.5		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 01:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	39		33 - 138				04/16/18 10:02	04/18/18 01:26	1
2-Fluorobiphenyl	68		15 - 122				04/16/18 10:02	04/18/18 01:26	1
Nitrobenzene-d5	55		19 - 130				04/16/18 10:02	04/18/18 01:26	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	10	3.8	ug/L		04/16/18 10:02	04/17/18 23:29	1
Benzenethiol	ND	* UJ	10	1.7	ug/L		04/16/18 10:02	04/17/18 23:29	1
Benzoic acid	ND	*	30	7.3	ug/L		04/16/18 10:02	04/17/18 23:29	1
Benzyl alcohol	ND		10	2.0	ug/L		04/16/18 10:02	04/17/18 23:29	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		04/16/18 10:02	04/17/18 23:29	1
Bis(2-chloroethyl)ether	ND	*	10	0.74	ug/L		04/16/18 10:02	04/17/18 23:29	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		04/16/18 10:02	04/17/18 23:29	1
Bis(2-ethylhexyl) phthalate	ND		10	2.3	ug/L		04/16/18 10:02	04/17/18 23:29	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		04/16/18 10:02	04/17/18 23:29	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		04/16/18 10:02	04/17/18 23:29	1
4-Chloroaniline	ND		10	3.4	ug/L		04/16/18 10:02	04/17/18 23:29	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		04/16/18 10:02	04/17/18 23:29	1
2-Chloronaphthalene	ND		10	0.52	ug/L		04/16/18 10:02	04/17/18 23:29	1
2-Chlorophenol	ND		10	2.2	ug/L		04/16/18 10:02	04/17/18 23:29	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		04/16/18 10:02	04/17/18 23:29	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		04/16/18 10:02	04/17/18 23:29	1
Dibenzofuran	ND	* UJ	10	0.52	ug/L		04/16/18 10:02	04/17/18 23:29	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		04/16/18 10:02	04/17/18 23:29	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		04/16/18 10:02	04/17/18 23:29	1
Diethyl phthalate	ND		10	0.70	ug/L		04/16/18 10:02	04/17/18 23:29	1
2,4-Dimethylphenol	9.3	J	10	3.5	ug/L		04/16/18 10:02	04/17/18 23:29	1
Dimethyl phthalate	ND		10	0.60	ug/L		04/16/18 10:02	04/17/18 23:29	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		04/16/18 10:02	04/17/18 23:29	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		04/16/18 10:02	04/17/18 23:29	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/16/18 10:02	04/17/18 23:29	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		04/16/18 10:02	04/17/18 23:29	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		04/16/18 10:02	04/17/18 23:29	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		04/16/18 10:02	04/17/18 23:29	1
1,4-Dioxane	ND		10	1.0	ug/L		04/16/18 10:02	04/17/18 23:29	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		04/16/18 10:02	04/17/18 23:29	1
Hexachlorobenzene	ND		10	0.25	ug/L		04/16/18 10:02	04/17/18 23:29	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/16/18 10:02	04/17/18 23:29	1
Hexachloroethane	ND	* UJ	10	4.2	ug/L		04/16/18 10:02	04/17/18 23:29	1
Indene	1.8	J	10	1.0	ug/L		04/16/18 10:02	04/17/18 23:29	1
Isophorone	ND	UJ	10	0.57	ug/L		04/16/18 10:02	04/17/18 23:29	1
2-Methylphenol	ND		10	1.8	ug/L		04/16/18 10:02	04/17/18 23:29	1
3 & 4 Methylphenol	1.1	J	20	1.0	ug/L		04/16/18 10:02	04/17/18 23:29	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
 SDG: (2Q18)

Client Sample ID: MW8-ROX-040918

Lab Sample ID: 400-151994-12

Date Collected: 04/09/18 12:50

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		10	2.2	ug/L		04/16/18 10:02	04/17/18 23:29	1
3-Nitroaniline	ND		10	1.8	ug/L		04/16/18 10:02	04/17/18 23:29	1
4-Nitroaniline	ND		10	2.5	ug/L		04/16/18 10:02	04/17/18 23:29	1
Nitrobenzene	ND		10	0.55	ug/L		04/16/18 10:02	04/17/18 23:29	1
2-Nitrophenol	ND		10	0.65	ug/L		04/16/18 10:02	04/17/18 23:29	1
4-Nitrophenol	ND		10	2.1	ug/L		04/16/18 10:02	04/17/18 23:29	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		04/16/18 10:02	04/17/18 23:29	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		04/16/18 10:02	04/17/18 23:29	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		04/16/18 10:02	04/17/18 23:29	1
Pentachlorophenol	1.9	J	20	1.8	ug/L		04/16/18 10:02	04/17/18 23:29	1
Phenol	80		10	2.6	ug/L		04/16/18 10:02	04/17/18 23:29	1
Pyridine	ND	UJ	10	3.2	ug/L		04/16/18 10:02	04/17/18 23:29	1
Quinoline	ND		10	6.0	ug/L		04/16/18 10:02	04/17/18 23:29	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		04/16/18 10:02	04/17/18 23:29	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/16/18 10:02	04/17/18 23:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	50		34 - 120	04/16/18 10:02	04/17/18 23:29	1
2-Fluorophenol	19		10 - 120	04/16/18 10:02	04/17/18 23:29	1
Nitrobenzene-d5	41		27 - 120	04/16/18 10:02	04/17/18 23:29	1
Phenol-d5	40		10 - 120	04/16/18 10:02	04/17/18 23:29	1
Terphenyl-d14	35	X	53 - 125	04/16/18 10:02	04/17/18 23:29	1
2,4,6-Tribromophenol	61		15 - 135	04/16/18 10:02	04/17/18 23:29	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.030	0.0054	ug/L		04/19/18 14:51	04/19/18 23:11	1
1,2-Dibromoethane	ND		0.020	0.0049	ug/L		04/19/18 14:51	04/19/18 23:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	105		51 - 149	04/19/18 14:51	04/19/18 23:11	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
 SDG: (2Q18)

Client Sample ID: MW7-ROX-040918

Lab Sample ID: 400-151994-13

Date Collected: 04/09/18 14:05

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25000	10000	ug/L			04/16/18 23:01	1000
Acrolein	ND		20000	10000	ug/L			04/16/18 23:01	1000
Acrylonitrile	ND		10000	2800	ug/L			04/16/18 23:01	1000
Bromobenzene	ND		1000	540	ug/L			04/16/18 23:01	1000
Bromochloromethane	ND		1000	520	ug/L			04/16/18 23:01	1000
Bromodichloromethane	ND		1000	500	ug/L			04/16/18 23:01	1000
Bromoform	ND		5000	710	ug/L			04/16/18 23:01	1000
Bromomethane	ND		1000	980	ug/L			04/16/18 23:01	1000
2-Butanone (MEK)	ND		25000	2600	ug/L			04/16/18 23:01	1000
Carbon disulfide	ND		1000	500	ug/L			04/16/18 23:01	1000
Carbon tetrachloride	ND		1000	500	ug/L			04/16/18 23:01	1000
Chlorobenzene	ND		1000	500	ug/L			04/16/18 23:01	1000
Dibromochloromethane	ND		1000	500	ug/L			04/16/18 23:01	1000
Chloroethane	ND		1000	760	ug/L			04/16/18 23:01	1000
2-Chloroethyl vinyl ether	ND		5000	2000	ug/L			04/16/18 23:01	1000
Chloroform	ND		1000	600	ug/L			04/16/18 23:01	1000
1-Chlorohexane	ND		1000	700	ug/L			04/16/18 23:01	1000
Chloromethane	ND		1000	830	ug/L			04/16/18 23:01	1000
cis-1,2-Dichloroethene	ND		1000	500	ug/L			04/16/18 23:01	1000
cis-1,3-Dichloropropene	ND		5000	500	ug/L			04/16/18 23:01	1000
1,2-Dichlorobenzene	ND		1000	500	ug/L			04/16/18 23:01	1000
1,3-Dichlorobenzene	ND		1000	540	ug/L			04/16/18 23:01	1000
1,4-Dichlorobenzene	ND		1000	640	ug/L			04/16/18 23:01	1000
Dichlorodifluoromethane	ND		1000	850	ug/L			04/16/18 23:01	1000
1,1-Dichloroethane	ND		1000	500	ug/L			04/16/18 23:01	1000
1,2-Dichloroethane	ND		1000	500	ug/L			04/16/18 23:01	1000
1,1-Dichloroethene	ND		1000	500	ug/L			04/16/18 23:01	1000
1,2-Dichloropropane	ND		1000	500	ug/L			04/16/18 23:01	1000
1,3-Dichloropropane	ND		1000	500	ug/L			04/16/18 23:01	1000
2,2-Dichloropropane	ND		1000	500	ug/L			04/16/18 23:01	1000
1,1-Dichloropropene	ND		1000	500	ug/L			04/16/18 23:01	1000
Ethylbenzene	ND		1000	500	ug/L			04/16/18 23:01	1000
Ethyl methacrylate	ND		1000	600	ug/L			04/16/18 23:01	1000
Hexachlorobutadiene	ND		5000	900	ug/L			04/16/18 23:01	1000
2-Hexanone	ND		25000	3100	ug/L			04/16/18 23:01	1000
Isopropylbenzene	ND		1000	530	ug/L			04/16/18 23:01	1000
Methylene bromide	ND		5000	590	ug/L			04/16/18 23:01	1000
Methylene Chloride	ND		5000	3000	ug/L			04/16/18 23:01	1000
4-Methyl-2-pentanone (MIBK)	ND		25000	1800	ug/L			04/16/18 23:01	1000
Methyl tert-butyl ether	ND		1000	740	ug/L			04/16/18 23:01	1000
m-Xylene & p-Xylene	ND		5000	1600	ug/L			04/16/18 23:01	1000
Naphthalene	ND		1000	1000	ug/L			04/16/18 23:01	1000
n-Butylbenzene	ND		1000	760	ug/L			04/16/18 23:01	1000
N-Propylbenzene	ND		1000	690	ug/L			04/16/18 23:01	1000
o-Chlorotoluene	ND		1000	570	ug/L			04/16/18 23:01	1000
o-Xylene	ND		5000	600	ug/L			04/16/18 23:01	1000
p-Chlorotoluene	ND		1000	560	ug/L			04/16/18 23:01	1000
p-Isopropyltoluene	ND		1000	710	ug/L			04/16/18 23:01	1000
sec-Butylbenzene	ND		1000	700	ug/L			04/16/18 23:01	1000

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Client Sample ID: MW7-ROX-040918

Lab Sample ID: 400-151994-13

Date Collected: 04/09/18 14:05

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		1000	1000	ug/L			04/16/18 23:01	1000
tert-Butylbenzene	ND		1000	630	ug/L			04/16/18 23:01	1000
1,1,1,2-Tetrachloroethane	ND		1000	520	ug/L			04/16/18 23:01	1000
1,1,2,2-Tetrachloroethane	ND		1000	500	ug/L			04/16/18 23:01	1000
Tetrachloroethene	ND		1000	580	ug/L			04/16/18 23:01	1000
Toluene	800	J	1000	700	ug/L			04/16/18 23:01	1000
trans-1,2-Dichloroethene	ND		1000	500	ug/L			04/16/18 23:01	1000
trans-1,3-Dichloropropene	ND		5000	500	ug/L			04/16/18 23:01	1000
1,2,3-Trichlorobenzene	ND		1000	700	ug/L			04/16/18 23:01	1000
1,2,4-Trichlorobenzene	ND		1000	820	ug/L			04/16/18 23:01	1000
1,1,1-Trichloroethane	ND		1000	500	ug/L			04/16/18 23:01	1000
1,1,2-Trichloroethane	ND		5000	500	ug/L			04/16/18 23:01	1000
Trichloroethene	ND		1000	500	ug/L			04/16/18 23:01	1000
Trichlorofluoromethane	ND		1000	520	ug/L			04/16/18 23:01	1000
1,2,3-Trichloropropane	ND		5000	840	ug/L			04/16/18 23:01	1000
1,2,4-Trimethylbenzene	ND		1000	820	ug/L			04/16/18 23:01	1000
1,3,5-Trimethylbenzene	ND		1000	560	ug/L			04/16/18 23:01	1000
Vinyl acetate	ND		25000	2000	ug/L			04/16/18 23:01	1000
Vinyl chloride	ND		1000	500	ug/L			04/16/18 23:01	1000
Xylenes, Total	ND		10000	1600	ug/L			04/16/18 23:01	1000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	105		78 - 118		04/16/18 23:01	1000
Dibromofluoromethane	103		81 - 121		04/16/18 23:01	1000
Toluene-d8 (Surr)	100		80 - 120		04/16/18 23:01	1000

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	780000		5000	1900	ug/L			04/21/18 00:51	5000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	109		78 - 118		04/21/18 00:51	5000
Dibromofluoromethane	104		81 - 121		04/21/18 00:51	5000
Toluene-d8 (Surr)	107		80 - 120		04/21/18 00:51	5000

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 01:43	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 01:43	1
Anthracene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 01:43	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 01:43	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 01:43	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 01:43	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 01:43	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 01:43	1
Chrysene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 01:43	1
Dibenz[a,h]anthracene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 01:43	1
Fluoranthene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 01:43	1
Fluorene	ND		0.20	0.021	ug/L		04/16/18 10:02	04/18/18 01:43	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 01:43	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Client Sample ID: MW7-ROX-040918

Lab Sample ID: 400-151994-13

Date Collected: 04/09/18 14:05

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	0.082	J	0.20	0.020	ug/L		04/16/18 10:02	04/18/18 01:43	1
Pyrene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 01:43	1
1-Methylnaphthalene	1.8		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 01:43	1
2-Methylnaphthalene	2.7		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 01:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	36		33 - 138				04/16/18 10:02	04/18/18 01:43	1
2-Fluorobiphenyl	67		15 - 122				04/16/18 10:02	04/18/18 01:43	1
Nitrobenzene-d5	49		19 - 130				04/16/18 10:02	04/18/18 01:43	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	9.9	3.8	ug/L		04/16/18 10:02	04/17/18 23:53	1
Benzenethiol	ND	* UJ	9.9	1.7	ug/L		04/16/18 10:02	04/17/18 23:53	1
Benzoic acid	ND	* UJ	30	7.2	ug/L		04/16/18 10:02	04/17/18 23:53	1
Benzyl alcohol	ND	UJ	9.9	2.0	ug/L		04/16/18 10:02	04/17/18 23:53	1
Bis(2-chloroethoxy)methane	ND		9.9	0.68	ug/L		04/16/18 10:02	04/17/18 23:53	1
Bis(2-chloroethyl)ether	ND	*	9.9	0.73	ug/L		04/16/18 10:02	04/17/18 23:53	1
bis (2-chloroisopropyl) ether	ND		9.9	0.80	ug/L		04/16/18 10:02	04/17/18 23:53	1
Bis(2-ethylhexyl) phthalate	ND		9.9	2.2	ug/L		04/16/18 10:02	04/17/18 23:53	1
4-Bromophenyl phenyl ether	ND		9.9	0.32	ug/L		04/16/18 10:02	04/17/18 23:53	1
Butyl benzyl phthalate	ND		9.9	0.68	ug/L		04/16/18 10:02	04/17/18 23:53	1
4-Chloroaniline	ND		9.9	3.4	ug/L		04/16/18 10:02	04/17/18 23:53	1
4-Chloro-3-methylphenol	ND	UJ	9.9	3.8	ug/L		04/16/18 10:02	04/17/18 23:53	1
2-Chloronaphthalene	ND		9.9	0.52	ug/L		04/16/18 10:02	04/17/18 23:53	1
2-Chlorophenol	ND	UJ	9.9	2.2	ug/L		04/16/18 10:02	04/17/18 23:53	1
4-Chlorophenyl phenyl ether	ND		9.9	2.0	ug/L		04/16/18 10:02	04/17/18 23:53	1
Dibenz[a,h]acridine	ND		9.9	3.0	ug/L		04/16/18 10:02	04/17/18 23:53	1
Dibenzofuran	ND	* UJ	9.9	0.52	ug/L		04/16/18 10:02	04/17/18 23:53	1
3,3'-Dichlorobenzidine	ND		9.9	2.6	ug/L		04/16/18 10:02	04/17/18 23:53	1
2,4-Dichlorophenol	ND	UJ	9.9	3.0	ug/L		04/16/18 10:02	04/17/18 23:53	1
Diethyl phthalate	ND		9.9	0.69	ug/L		04/16/18 10:02	04/17/18 23:53	1
2,4-Dimethylphenol	ND	UJ	9.9	3.5	ug/L		04/16/18 10:02	04/17/18 23:53	1
Dimethyl phthalate	ND		9.9	0.60	ug/L		04/16/18 10:02	04/17/18 23:53	1
Di-n-butyl phthalate	ND		9.9	2.7	ug/L		04/16/18 10:02	04/17/18 23:53	1
4,6-Dinitro-ortho-cresol	ND		9.9	2.0	ug/L		04/16/18 10:02	04/17/18 23:53	1
2,4-Dinitrophenol	ND	UJ	30	3.4	ug/L		04/16/18 10:02	04/17/18 23:53	1
2,4-Dinitrotoluene	ND		9.9	1.9	ug/L		04/16/18 10:02	04/17/18 23:53	1
2,6-Dinitrotoluene	ND		9.9	1.9	ug/L		04/16/18 10:02	04/17/18 23:53	1
Di-n-octyl phthalate	ND		9.9	0.44	ug/L		04/16/18 10:02	04/17/18 23:53	1
1,4-Dioxane	ND		9.9	0.99	ug/L		04/16/18 10:02	04/17/18 23:53	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	0.99	ug/L		04/16/18 10:02	04/17/18 23:53	1
Hexachlorobenzene	ND		9.9	0.25	ug/L		04/16/18 10:02	04/17/18 23:53	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/16/18 10:02	04/17/18 23:53	1
Hexachloroethane	ND	* UJ	9.9	4.2	ug/L		04/16/18 10:02	04/17/18 23:53	1
Indene	2.5	J	9.9	0.99	ug/L		04/16/18 10:02	04/17/18 23:53	1
Isophorone	ND	UJ	9.9	0.57	ug/L		04/16/18 10:02	04/17/18 23:53	1
2-Methylphenol	ND	UJ	9.9	1.8	ug/L		04/16/18 10:02	04/17/18 23:53	1
3 & 4 Methylphenol	ND	UJ	20	1.0	ug/L		04/16/18 10:02	04/17/18 23:53	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Client Sample ID: MW7-ROX-040918

Lab Sample ID: 400-151994-13

Date Collected: 04/09/18 14:05

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		9.9	2.2	ug/L		04/16/18 10:02	04/17/18 23:53	1
3-Nitroaniline	ND		9.9	1.8	ug/L		04/16/18 10:02	04/17/18 23:53	1
4-Nitroaniline	ND		9.9	2.5	ug/L		04/16/18 10:02	04/17/18 23:53	1
Nitrobenzene	ND		9.9	0.55	ug/L		04/16/18 10:02	04/17/18 23:53	1
2-Nitrophenol	ND	UJ	9.9	0.64	ug/L		04/16/18 10:02	04/17/18 23:53	1
4-Nitrophenol	ND	UJ	9.9	2.1	ug/L		04/16/18 10:02	04/17/18 23:53	1
N-Nitrosodimethylamine	ND		9.9	3.5	ug/L		04/16/18 10:02	04/17/18 23:53	1
N-Nitrosodi-n-propylamine	ND		9.9	3.3	ug/L		04/16/18 10:02	04/17/18 23:53	1
N-Nitrosodiphenylamine	ND		9.9	0.47	ug/L		04/16/18 10:02	04/17/18 23:53	1
Pentachlorophenol	ND	UJ	20	1.8	ug/L		04/16/18 10:02	04/17/18 23:53	1
Phenol	13	J	9.9	2.6	ug/L		04/16/18 10:02	04/17/18 23:53	1
Pyridine	ND	UJ	9.9	3.2	ug/L		04/16/18 10:02	04/17/18 23:53	1
Quinoline	ND		9.9	6.0	ug/L		04/16/18 10:02	04/17/18 23:53	1
2,4,5-Trichlorophenol	ND	UJ	9.9	3.7	ug/L		04/16/18 10:02	04/17/18 23:53	1
2,4,6-Trichlorophenol	ND	UJ	9.9	3.5	ug/L		04/16/18 10:02	04/17/18 23:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	48		34 - 120	04/16/18 10:02	04/17/18 23:53	1
2-Fluorophenol	1	X	10 - 120	04/16/18 10:02	04/17/18 23:53	1
Nitrobenzene-d5	42		27 - 120	04/16/18 10:02	04/17/18 23:53	1
Phenol-d5	4	X	10 - 120	04/16/18 10:02	04/17/18 23:53	1
Terphenyl-d14	28	X	53 - 125	04/16/18 10:02	04/17/18 23:53	1
2,4,6-Tribromophenol	33		15 - 135	04/16/18 10:02	04/17/18 23:53	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	0.049		0.029	0.0054	ug/L		04/19/18 14:51	04/19/18 23:30	1
1,2-Dibromoethane	ND		0.020	0.0049	ug/L		04/19/18 14:51	04/19/18 23:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	113		51 - 149	04/19/18 14:51	04/19/18 23:30	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
 SDG: (2Q18)

Client Sample ID: MW7-ROX-040918-DUP

Lab Sample ID: 400-151994-14

Date Collected: 04/09/18 14:05

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25000	10000	ug/L			04/16/18 23:23	1000
Acrolein	ND		20000	10000	ug/L			04/16/18 23:23	1000
Acrylonitrile	ND		10000	2800	ug/L			04/16/18 23:23	1000
Bromobenzene	ND		1000	540	ug/L			04/16/18 23:23	1000
Bromochloromethane	ND		1000	520	ug/L			04/16/18 23:23	1000
Bromodichloromethane	ND		1000	500	ug/L			04/16/18 23:23	1000
Bromoform	ND		5000	710	ug/L			04/16/18 23:23	1000
Bromomethane	ND		1000	980	ug/L			04/16/18 23:23	1000
2-Butanone (MEK)	ND		25000	2600	ug/L			04/16/18 23:23	1000
Carbon disulfide	ND		1000	500	ug/L			04/16/18 23:23	1000
Carbon tetrachloride	ND		1000	500	ug/L			04/16/18 23:23	1000
Chlorobenzene	ND		1000	500	ug/L			04/16/18 23:23	1000
Dibromochloromethane	ND		1000	500	ug/L			04/16/18 23:23	1000
Chloroethane	ND		1000	760	ug/L			04/16/18 23:23	1000
2-Chloroethyl vinyl ether	ND		5000	2000	ug/L			04/16/18 23:23	1000
Chloroform	ND		1000	600	ug/L			04/16/18 23:23	1000
1-Chlorohexane	ND		1000	700	ug/L			04/16/18 23:23	1000
Chloromethane	ND		1000	830	ug/L			04/16/18 23:23	1000
cis-1,2-Dichloroethene	ND		1000	500	ug/L			04/16/18 23:23	1000
cis-1,3-Dichloropropene	ND		5000	500	ug/L			04/16/18 23:23	1000
1,2-Dichlorobenzene	ND		1000	500	ug/L			04/16/18 23:23	1000
1,3-Dichlorobenzene	ND		1000	540	ug/L			04/16/18 23:23	1000
1,4-Dichlorobenzene	ND		1000	640	ug/L			04/16/18 23:23	1000
Dichlorodifluoromethane	ND		1000	850	ug/L			04/16/18 23:23	1000
1,1-Dichloroethane	ND		1000	500	ug/L			04/16/18 23:23	1000
1,2-Dichloroethane	ND		1000	500	ug/L			04/16/18 23:23	1000
1,1-Dichloroethene	ND		1000	500	ug/L			04/16/18 23:23	1000
1,2-Dichloropropane	ND		1000	500	ug/L			04/16/18 23:23	1000
1,3-Dichloropropane	ND		1000	500	ug/L			04/16/18 23:23	1000
2,2-Dichloropropane	ND		1000	500	ug/L			04/16/18 23:23	1000
1,1-Dichloropropene	ND		1000	500	ug/L			04/16/18 23:23	1000
Ethylbenzene	ND		1000	500	ug/L			04/16/18 23:23	1000
Ethyl methacrylate	ND		1000	600	ug/L			04/16/18 23:23	1000
Hexachlorobutadiene	ND		5000	900	ug/L			04/16/18 23:23	1000
2-Hexanone	ND		25000	3100	ug/L			04/16/18 23:23	1000
Isopropylbenzene	ND		1000	530	ug/L			04/16/18 23:23	1000
Methylene bromide	ND		5000	590	ug/L			04/16/18 23:23	1000
Methylene Chloride	ND		5000	3000	ug/L			04/16/18 23:23	1000
4-Methyl-2-pentanone (MIBK)	ND		25000	1800	ug/L			04/16/18 23:23	1000
Methyl tert-butyl ether	ND		1000	740	ug/L			04/16/18 23:23	1000
m-Xylene & p-Xylene	ND		5000	1600	ug/L			04/16/18 23:23	1000
Naphthalene	ND		1000	1000	ug/L			04/16/18 23:23	1000
n-Butylbenzene	ND		1000	760	ug/L			04/16/18 23:23	1000
N-Propylbenzene	ND		1000	690	ug/L			04/16/18 23:23	1000
o-Chlorotoluene	ND		1000	570	ug/L			04/16/18 23:23	1000
o-Xylene	ND		5000	600	ug/L			04/16/18 23:23	1000
p-Chlorotoluene	ND		1000	560	ug/L			04/16/18 23:23	1000
p-Isopropyltoluene	ND		1000	710	ug/L			04/16/18 23:23	1000
sec-Butylbenzene	ND		1000	700	ug/L			04/16/18 23:23	1000

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Client Sample ID: MW7-ROX-040918-DUP

Lab Sample ID: 400-151994-14

Date Collected: 04/09/18 14:05

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		1000	1000	ug/L			04/16/18 23:23	1000
tert-Butylbenzene	ND		1000	630	ug/L			04/16/18 23:23	1000
1,1,1,2-Tetrachloroethane	ND		1000	520	ug/L			04/16/18 23:23	1000
1,1,2,2-Tetrachloroethane	ND		1000	500	ug/L			04/16/18 23:23	1000
Tetrachloroethene	ND		1000	580	ug/L			04/16/18 23:23	1000
Toluene	960	J	1000	700	ug/L			04/16/18 23:23	1000
trans-1,2-Dichloroethene	ND		1000	500	ug/L			04/16/18 23:23	1000
trans-1,3-Dichloropropene	ND		5000	500	ug/L			04/16/18 23:23	1000
1,2,3-Trichlorobenzene	ND		1000	700	ug/L			04/16/18 23:23	1000
1,2,4-Trichlorobenzene	ND		1000	820	ug/L			04/16/18 23:23	1000
1,1,1-Trichloroethane	ND		1000	500	ug/L			04/16/18 23:23	1000
1,1,2-Trichloroethane	ND		5000	500	ug/L			04/16/18 23:23	1000
Trichloroethene	ND		1000	500	ug/L			04/16/18 23:23	1000
Trichlorofluoromethane	ND		1000	520	ug/L			04/16/18 23:23	1000
1,2,3-Trichloropropane	ND		5000	840	ug/L			04/16/18 23:23	1000
1,2,4-Trimethylbenzene	ND		1000	820	ug/L			04/16/18 23:23	1000
1,3,5-Trimethylbenzene	ND		1000	560	ug/L			04/16/18 23:23	1000
Vinyl acetate	ND		25000	2000	ug/L			04/16/18 23:23	1000
Vinyl chloride	ND		1000	500	ug/L			04/16/18 23:23	1000
Xylenes, Total	ND		10000	1600	ug/L			04/16/18 23:23	1000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107		78 - 118		04/16/18 23:23	1000
Dibromofluoromethane	107		81 - 121		04/16/18 23:23	1000
Toluene-d8 (Surr)	102		80 - 120		04/16/18 23:23	1000

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	770000		5000	1900	ug/L			04/21/18 01:12	5000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		78 - 118		04/21/18 01:12	5000
Dibromofluoromethane	98		81 - 121		04/21/18 01:12	5000
Toluene-d8 (Surr)	104		80 - 120		04/21/18 01:12	5000

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 13:04	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 13:04	1
Anthracene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 13:04	1
Benzo[a]anthracene	ND		0.20	0.041	ug/L		04/16/18 10:02	04/18/18 13:04	1
Benzo[a]pyrene	ND		0.20	0.041	ug/L		04/16/18 10:02	04/18/18 13:04	1
Benzo[b]fluoranthene	ND		0.20	0.041	ug/L		04/16/18 10:02	04/18/18 13:04	1
Benzo[g,h,i]perylene	ND		0.20	0.041	ug/L		04/16/18 10:02	04/18/18 13:04	1
Benzo[k]fluoranthene	ND		0.20	0.041	ug/L		04/16/18 10:02	04/18/18 13:04	1
Chrysene	ND		0.20	0.041	ug/L		04/16/18 10:02	04/18/18 13:04	1
Dibenz(a,h)anthracene	ND		0.20	0.041	ug/L		04/16/18 10:02	04/18/18 13:04	1
Fluoranthene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 13:04	1
Fluorene	ND		0.20	0.021	ug/L		04/16/18 10:02	04/18/18 13:04	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.041	ug/L		04/16/18 10:02	04/18/18 13:04	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Client Sample ID: MW7-ROX-040918-DUP

Lab Sample ID: 400-151994-14

Date Collected: 04/09/18 14:05

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	0.11	J	0.20	0.020	ug/L		04/16/18 10:02	04/18/18 13:04	1
Pyrene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 13:04	1
1-Methylnaphthalene	2.3		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 13:04	1
2-Methylnaphthalene	2.9		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 13:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	34		33 - 138				04/16/18 10:02	04/18/18 13:04	1
2-Fluorobiphenyl	65		15 - 122				04/16/18 10:02	04/18/18 13:04	1
Nitrobenzene-d5	55		19 - 130				04/16/18 10:02	04/18/18 13:04	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	10	3.9	ug/L		04/16/18 10:02	04/18/18 00:17	1
Benzenethiol	ND	* UJ	10	1.7	ug/L		04/16/18 10:02	04/18/18 00:17	1
Benzoic acid	ND	*	30	7.4	ug/L		04/16/18 10:02	04/18/18 00:17	1
Benzyl alcohol	ND		10	2.0	ug/L		04/16/18 10:02	04/18/18 00:17	1
Bis(2-chloroethoxy)methane	ND		10	0.70	ug/L		04/16/18 10:02	04/18/18 00:17	1
Bis(2-chloroethyl)ether	ND	*	10	0.75	ug/L		04/16/18 10:02	04/18/18 00:17	1
bis (2-chloroisopropyl) ether	ND		10	0.82	ug/L		04/16/18 10:02	04/18/18 00:17	1
Bis(2-ethylhexyl) phthalate	ND		10	2.3	ug/L		04/16/18 10:02	04/18/18 00:17	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		04/16/18 10:02	04/18/18 00:17	1
Butyl benzyl phthalate	ND		10	0.70	ug/L		04/16/18 10:02	04/18/18 00:17	1
4-Chloroaniline	ND		10	3.5	ug/L		04/16/18 10:02	04/18/18 00:17	1
4-Chloro-3-methylphenol	ND		10	3.9	ug/L		04/16/18 10:02	04/18/18 00:17	1
2-Chloronaphthalene	ND		10	0.53	ug/L		04/16/18 10:02	04/18/18 00:17	1
2-Chlorophenol	ND		10	2.2	ug/L		04/16/18 10:02	04/18/18 00:17	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		04/16/18 10:02	04/18/18 00:17	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		04/16/18 10:02	04/18/18 00:17	1
Dibenzofuran	ND	* UJ	10	0.53	ug/L		04/16/18 10:02	04/18/18 00:17	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		04/16/18 10:02	04/18/18 00:17	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		04/16/18 10:02	04/18/18 00:17	1
Diethyl phthalate	ND		10	0.71	ug/L		04/16/18 10:02	04/18/18 00:17	1
2,4-Dimethylphenol	5.6	J	10	3.6	ug/L		04/16/18 10:02	04/18/18 00:17	1
Dimethyl phthalate	ND		10	0.61	ug/L		04/16/18 10:02	04/18/18 00:17	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		04/16/18 10:02	04/18/18 00:17	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		04/16/18 10:02	04/18/18 00:17	1
2,4-Dinitrophenol	ND		30	3.5	ug/L		04/16/18 10:02	04/18/18 00:17	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		04/16/18 10:02	04/18/18 00:17	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		04/16/18 10:02	04/18/18 00:17	1
Di-n-octyl phthalate	ND		10	0.45	ug/L		04/16/18 10:02	04/18/18 00:17	1
1,4-Dioxane	ND		10	1.0	ug/L		04/16/18 10:02	04/18/18 00:17	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		04/16/18 10:02	04/18/18 00:17	1
Hexachlorobenzene	ND		10	0.25	ug/L		04/16/18 10:02	04/18/18 00:17	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/16/18 10:02	04/18/18 00:17	1
Hexachloroethane	ND	* UJ	10	4.3	ug/L		04/16/18 10:02	04/18/18 00:17	1
Indene	2.5	J	10	1.0	ug/L		04/16/18 10:02	04/18/18 00:17	1
Isophorone	ND	UJ	10	0.58	ug/L		04/16/18 10:02	04/18/18 00:17	1
2-Methylphenol	3.0	J	10	1.8	ug/L		04/16/18 10:02	04/18/18 00:17	1
3 & 4 Methylphenol	3.4	J	20	1.1	ug/L		04/16/18 10:02	04/18/18 00:17	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
 SDG: (2Q18)

Client Sample ID: MW7-ROX-040918-DUP

Lab Sample ID: 400-151994-14

Date Collected: 04/09/18 14:05

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		10	2.2	ug/L		04/16/18 10:02	04/18/18 00:17	1
3-Nitroaniline	ND		10	1.8	ug/L		04/16/18 10:02	04/18/18 00:17	1
4-Nitroaniline	ND		10	2.5	ug/L		04/16/18 10:02	04/18/18 00:17	1
Nitrobenzene	ND		10	0.56	ug/L		04/16/18 10:02	04/18/18 00:17	1
2-Nitrophenol	ND		10	0.66	ug/L		04/16/18 10:02	04/18/18 00:17	1
4-Nitrophenol	ND		10	2.1	ug/L		04/16/18 10:02	04/18/18 00:17	1
N-Nitrosodimethylamine	ND		10	3.6	ug/L		04/16/18 10:02	04/18/18 00:17	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		04/16/18 10:02	04/18/18 00:17	1
N-Nitrosodiphenylamine	ND		10	0.48	ug/L		04/16/18 10:02	04/18/18 00:17	1
Pentachlorophenol	ND		20	1.8	ug/L		04/16/18 10:02	04/18/18 00:17	1
Phenol	87	J	10	2.6	ug/L		04/16/18 10:02	04/18/18 00:17	1
Pyridine	ND	UJ	10	3.2	ug/L		04/16/18 10:02	04/18/18 00:17	1
Quinoline	ND		10	6.1	ug/L		04/16/18 10:02	04/18/18 00:17	1
2,4,5-Trichlorophenol	ND		10	3.8	ug/L		04/16/18 10:02	04/18/18 00:17	1
2,4,6-Trichlorophenol	ND		10	3.6	ug/L		04/16/18 10:02	04/18/18 00:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	53		34 - 120	04/16/18 10:02	04/18/18 00:17	1
2-Fluorophenol	16		10 - 120	04/16/18 10:02	04/18/18 00:17	1
Nitrobenzene-d5	49		27 - 120	04/16/18 10:02	04/18/18 00:17	1
Phenol-d5	38		10 - 120	04/16/18 10:02	04/18/18 00:17	1
Terphenyl-d14	34 X		53 - 125	04/16/18 10:02	04/18/18 00:17	1
2,4,6-Tribromophenol	62		15 - 135	04/16/18 10:02	04/18/18 00:17	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	0.056		0.030	0.0056	ug/L		04/19/18 14:51	04/19/18 23:50	1
1,2-Dibromoethane	ND		0.020	0.0051	ug/L		04/19/18 14:51	04/19/18 23:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	105		51 - 149	04/19/18 14:51	04/19/18 23:50	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F2	MS/MSD RPD exceeds control limits
F1	MS and/or MSD Recovery is outside acceptance limits.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
*	LCS or LCSD is outside acceptance limits.
X	Surrogate is outside control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.

GC Semi VOA

Qualifier	Qualifier Description
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
F2	MS/MSD RPD exceeds control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (78-118)	DBFM (81-121)	TOL (80-120)
400-151994-1	TB-ROX-040918-8260-A	106	103	100
400-151994-3	ROST4PZG-ROX-040918	106	104	99
400-151994-3 MS	ROST4PZG-ROX-040918	108	101	97
400-151994-3 MSD	ROST4PZG-ROX-040918	112	110	96
400-151994-4	ROST4PZC-ROX-040918	109	104	102
400-151994-5	MW5-ROX-040918	106	103	100
400-151994-6	MW2-ROX-040918	105	106	100
400-151994-7	ROST4PZE-ROX-040918	104	103	96
400-151994-9	TB-ROX-040918-8260-B	109	105	99
400-151994-10	MW4-ROX-040918	106	102	100
400-151994-11	MW25-ROX-040918	110	106	99
400-151994-12	MW8-ROX-040918	105	105	100
400-151994-12 - DL	MW8-ROX-040918	107	101	104
400-151994-13	MW7-ROX-040918	105	103	100
400-151994-13 - DL	MW7-ROX-040918	109	104	107
400-151994-14	MW7-ROX-040918-DUP	107	107	102
400-151994-14 - DL	MW7-ROX-040918-DUP	102	98	104
400-152288-A-1 MS	Matrix Spike	103	102	99
400-152288-A-1 MSD	Matrix Spike Duplicate	102	103	97
LCS 400-394050/26	Lab Control Sample	101	106	95
LCS 400-394689/1002	Lab Control Sample	101	102	96
MB 400-394050/28	Method Blank	113	103	100
MB 400-394689/3	Method Blank	106	101	103

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (34-120)	2FP (10-120)	NBZ (27-120)	PHL (10-120)	TPHL (53-125)	TBP (15-135)
400-151994-3	ROST4PZG-ROX-040918	71	41	66	55	67	74
400-151994-3 MS	ROST4PZG-ROX-040918	45	30	38	35	35 X	48
400-151994-3 MSD	ROST4PZG-ROX-040918	51	32	43	40	44 X	56
400-151994-4	ROST4PZC-ROX-040918	51	29	39	33	36 X	44
400-151994-5	MW5-ROX-040918	56	30	46	40	46 X	56
400-151994-6	MW2-ROX-040918	52	24	46	33	27 X	44
400-151994-7	ROST4PZE-ROX-040918	57	21	51	22	48 X	54
400-151994-10	MW4-ROX-040918	70	34	65	44	63	61
400-151994-11	MW25-ROX-040918	53	31	53	42	45 X	55
400-151994-12	MW8-ROX-040918	50	19	41	40	35 X	61
400-151994-13	MW7-ROX-040918	48	1 X	42	4 X	28 X	33
400-151994-14	MW7-ROX-040918-DUP	53	16	49	38	34 X	62
LCS 400-394010/2-A	Lab Control Sample	71	29	59	55	77	82
LCS 400-394010/4-A	Lab Control Sample	66	21	60	44	77	59

TestAmerica Pensacola

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (34-120)	2FP (10-120)	NBZ (27-120)	PHL (10-120)	TPHL (53-125)	TBP (15-135)
LCSD 400-394010/3-A	Lab Control Sample Dup	55	23	49	43	59	64
LCSD 400-394010/5-A	Lab Control Sample Dup	69	48	65	49	82	63
MB 400-394010/1-A	Method Blank	48	26	46	34	55	40

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TPHL (33-138)	FBP (15-122)	NBZ (19-130)
400-151994-3	ROST4PZG-ROX-040918	68	88	71
400-151994-3 MS	ROST4PZG-ROX-040918	60	83	60
400-151994-3 MSD	ROST4PZG-ROX-040918	60	78	58
400-151994-4	ROST4PZC-ROX-040918	58	89	63
400-151994-5	MW5-ROX-040918	66	89	59
400-151994-6	MW2-ROX-040918	38	79	73
400-151994-7	ROST4PZE-ROX-040918	76	78	69
400-151994-10	MW4-ROX-040918	72	92	82
400-151994-11	MW25-ROX-040918	66	87	77
400-151994-12	MW8-ROX-040918	39	68	55
400-151994-13	MW7-ROX-040918	36	67	49
400-151994-14	MW7-ROX-040918-DUP	34	65	55
LCS 400-394010/2-A	Lab Control Sample	74	79	71
LCSD 400-394010/3-A	Lab Control Sample Dup	80	83	70
MB 400-394010/1-A	Method Blank	117	103	89

Surrogate Legend

TPHL = Terphenyl-d14
FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5

Method: 8011 - EDB and DBCP in Water by Microextraction

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		BFB2 (51-149)
400-151994-2	TB-ROX-040918-8011-A	103 p
400-151994-3	ROST4PZG-ROX-040918	102
400-151994-3 MS	ROST4PZG-ROX-040918	106
400-151994-3 MSD	ROST4PZG-ROX-040918	108
400-151994-4	ROST4PZC-ROX-040918	111

TestAmerica Pensacola

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Method: 8011 - EDB and DBCP in Water by Microextraction (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB2 (51-149)
400-151994-5	MW5-ROX-040918	102
400-151994-6	MW2-ROX-040918	106 p
400-151994-7	ROST4PZE-ROX-040918	114
400-151994-8	TB-ROX-040918-8011-B	109 p
400-151994-10	MW4-ROX-040918	113
400-151994-11	MW25-ROX-040918	111
400-151994-12	MW8-ROX-040918	105
400-151994-13	MW7-ROX-040918	113
400-151994-14	MW7-ROX-040918-DUP	105
LCS 400-394550/2-A	Lab Control Sample	102
LCSD 400-394550/3-A	Lab Control Sample Dup	110
MB 400-394550/1-A	Method Blank	104

Surrogate Legend

BFB = 4-Bromofluorobenzene



Method Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
8011	EDB and DBCP in Water by Microextraction	EPA	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
8011	Microextraction	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001



Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Client Sample ID: TB-ROX-040918-8260-A

Date Collected: 04/09/18 00:00
Date Received: 04/10/18 09:24

Lab Sample ID: 400-151994-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394050	04/16/18 17:11	CAR	TAL PEN

Client Sample ID: TB-ROX-040918-8011-A

Date Collected: 04/09/18 00:00
Date Received: 04/10/18 09:24

Lab Sample ID: 400-151994-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35.8 mL	35 mL	394550	04/19/18 14:51	DS	TAL PEN
Total/NA	Analysis	8011		1			394577	04/19/18 19:12	DS	TAL PEN

Client Sample ID: ROST4PZG-ROX-040918

Date Collected: 04/09/18 09:10
Date Received: 04/10/18 09:24

Lab Sample ID: 400-151994-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394050	04/16/18 15:43	CAR	TAL PEN
Total/NA	Prep	3520C			1022.2 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394181	04/17/18 20:41	S1B	TAL PEN
Total/NA	Prep	3520C			1022.2 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			394192	04/17/18 23:26	RM	TAL PEN
Total/NA	Prep	8011			35.6 mL	35 mL	394550	04/19/18 14:51	DS	TAL PEN
Total/NA	Analysis	8011		1			394577	04/19/18 19:32	DS	TAL PEN

Client Sample ID: ROST4PZC-ROX-040918

Date Collected: 04/09/18 10:20
Date Received: 04/10/18 09:24

Lab Sample ID: 400-151994-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394050	04/16/18 18:39	CAR	TAL PEN
Total/NA	Prep	3520C			1001 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394181	04/17/18 21:05	S1B	TAL PEN
Total/NA	Prep	3520C			1001 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			394192	04/17/18 23:43	RM	TAL PEN
Total/NA	Prep	8011			35.5 mL	35 mL	394550	04/19/18 14:51	DS	TAL PEN
Total/NA	Analysis	8011		1			394577	04/19/18 20:32	DS	TAL PEN

Client Sample ID: MW5-ROX-040918

Date Collected: 04/09/18 11:20
Date Received: 04/10/18 09:24

Lab Sample ID: 400-151994-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394050	04/16/18 19:01	CAR	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Client Sample ID: MW5-ROX-040918

Lab Sample ID: 400-151994-5

Date Collected: 04/09/18 11:20

Matrix: Water

Date Received: 04/10/18 09:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1014.2 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394181	04/17/18 21:29	S1B	TAL PEN
Total/NA	Prep	3520C			1014.2 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			394192	04/18/18 00:00	RM	TAL PEN
Total/NA	Prep	8011			35.6 mL	35 mL	394550	04/19/18 14:51	DS	TAL PEN
Total/NA	Analysis	8011		1			394577	04/19/18 20:52	DS	TAL PEN

Client Sample ID: MW2-ROX-040918

Lab Sample ID: 400-151994-6

Date Collected: 04/09/18 12:55

Matrix: Water

Date Received: 04/10/18 09:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394050	04/16/18 19:23	CAR	TAL PEN
Total/NA	Prep	3520C			995.2 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394181	04/17/18 21:53	S1B	TAL PEN
Total/NA	Prep	3520C			995.2 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			394192	04/18/18 00:17	RM	TAL PEN
Total/NA	Prep	8011			35.3 mL	35 mL	394550	04/19/18 14:51	DS	TAL PEN
Total/NA	Analysis	8011		1			394577	04/19/18 21:12	DS	TAL PEN

Client Sample ID: ROST4PZE-ROX-040918

Lab Sample ID: 400-151994-7

Date Collected: 04/09/18 14:00

Matrix: Water

Date Received: 04/10/18 09:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394050	04/16/18 19:44	CAR	TAL PEN
Total/NA	Prep	3520C			1001.2 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394181	04/17/18 22:17	S1B	TAL PEN
Total/NA	Prep	3520C			1001.2 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			394192	04/18/18 00:35	RM	TAL PEN
Total/NA	Prep	8011			34.6 mL	35 mL	394550	04/19/18 14:51	DS	TAL PEN
Total/NA	Analysis	8011		1			394577	04/19/18 21:51	DS	TAL PEN

Client Sample ID: TB-ROX-040918-8011-B

Lab Sample ID: 400-151994-8

Date Collected: 04/09/18 00:00

Matrix: Water

Date Received: 04/10/18 09:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			34.6 mL	35 mL	394550	04/19/18 14:51	DS	TAL PEN
Total/NA	Analysis	8011		1			394577	04/19/18 22:11	DS	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Client Sample ID: TB-ROX-040918-8260-B

Lab Sample ID: 400-151994-9

Date Collected: 04/09/18 00:00

Matrix: Water

Date Received: 04/10/18 09:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394050	04/16/18 17:33	CAR	TAL PEN

Client Sample ID: MW4-ROX-040918

Lab Sample ID: 400-151994-10

Date Collected: 04/09/18 10:30

Matrix: Water

Date Received: 04/10/18 09:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394050	04/16/18 20:06	CAR	TAL PEN
Total/NA	Prep	3520C			990.8 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394181	04/17/18 22:41	S1B	TAL PEN
Total/NA	Prep	3520C			990.8 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			394192	04/18/18 00:52	RM	TAL PEN
Total/NA	Prep	8011			34.8 mL	35 mL	394550	04/19/18 14:51	DS	TAL PEN
Total/NA	Analysis	8011		1			394577	04/19/18 22:31	DS	TAL PEN

Client Sample ID: MW25-ROX-040918

Lab Sample ID: 400-151994-11

Date Collected: 04/09/18 11:20

Matrix: Water

Date Received: 04/10/18 09:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394050	04/16/18 20:28	CAR	TAL PEN
Total/NA	Prep	3520C			982.2 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394181	04/17/18 23:05	S1B	TAL PEN
Total/NA	Prep	3520C			982.2 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			394192	04/18/18 01:09	RM	TAL PEN
Total/NA	Prep	8011			33.7 mL	35 mL	394550	04/19/18 14:51	DS	TAL PEN
Total/NA	Analysis	8011		1			394577	04/19/18 22:51	DS	TAL PEN

Client Sample ID: MW8-ROX-040918

Lab Sample ID: 400-151994-12

Date Collected: 04/09/18 12:50

Matrix: Water

Date Received: 04/10/18 09:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1000	5 mL	5 mL	394050	04/16/18 22:40	CAR	TAL PEN
Total/NA	Analysis	8260B	DL	5000	5 mL	5 mL	394689	04/21/18 00:29	WPD	TAL PEN
Total/NA	Prep	3520C			997.8 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394181	04/17/18 23:29	S1B	TAL PEN
Total/NA	Prep	3520C			997.8 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			394192	04/18/18 01:26	RM	TAL PEN
Total/NA	Prep	8011			35.5 mL	35 mL	394550	04/19/18 14:51	DS	TAL PEN
Total/NA	Analysis	8011		1			394577	04/19/18 23:11	DS	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Client Sample ID: MW7-ROX-040918

Lab Sample ID: 400-151994-13

Date Collected: 04/09/18 14:05

Matrix: Water

Date Received: 04/10/18 09:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1000	5 mL	5 mL	394050	04/16/18 23:01	CAR	TAL PEN
Total/NA	Analysis	8260B	DL	5000	5 mL	5 mL	394689	04/21/18 00:51	WPD	TAL PEN
Total/NA	Prep	3520C			1008.4 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394181	04/17/18 23:53	S1B	TAL PEN
Total/NA	Prep	3520C			1008.4 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			394192	04/18/18 01:43	RM	TAL PEN
Total/NA	Prep	8011			35.6 mL	35 mL	394550	04/19/18 14:51	DS	TAL PEN
Total/NA	Analysis	8011		1			394577	04/19/18 23:30	DS	TAL PEN

Client Sample ID: MW7-ROX-040918-DUP

Lab Sample ID: 400-151994-14

Date Collected: 04/09/18 14:05

Matrix: Water

Date Received: 04/10/18 09:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1000	5 mL	5 mL	394050	04/16/18 23:23	CAR	TAL PEN
Total/NA	Analysis	8260B	DL	5000	5 mL	5 mL	394689	04/21/18 01:12	WPD	TAL PEN
Total/NA	Prep	3520C			985.4 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394181	04/18/18 00:17	S1B	TAL PEN
Total/NA	Prep	3520C			985.4 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			394333	04/18/18 13:04	RM	TAL PEN
Total/NA	Prep	8011			34.5 mL	35 mL	394550	04/19/18 14:51	DS	TAL PEN
Total/NA	Analysis	8011		1			394577	04/19/18 23:50	DS	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-394010/1-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394181	04/17/18 17:53	S1B	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			394192	04/17/18 21:59	RM	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-394050/28

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394050	04/16/18 15:22	CAR	TAL PEN

TestAmerica Pensacola



Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Client Sample ID: Method Blank

Lab Sample ID: MB 400-394550/1-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35 mL	35 mL	394550	04/19/18 14:51	DS	TAL PEN
Total/NA	Analysis	8011		1			394577	04/19/18 18:13	DS	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-394689/3

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394689	04/20/18 17:19	WPD	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-394010/2-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	394181	04/17/18 18:17	S1B	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D LL		5			394192	04/17/18 22:17	RM	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-394010/4-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394181	04/17/18 19:04	S1B	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-394050/26

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394050	04/16/18 14:18	CAR	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-394550/2-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35 mL	35 mL	394550	04/19/18 14:51	DS	TAL PEN
Total/NA	Analysis	8011		1			394577	04/19/18 18:33	DS	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-394689/1002

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394689	04/20/18 16:01	WPD	TAL PEN

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-394010/3-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	394181	04/17/18 18:41	S1B	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D LL		5			394192	04/17/18 22:34	RM	TAL PEN

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-394010/5-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394181	04/17/18 19:29	S1B	TAL PEN

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-394550/3-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35 mL	35 mL	394550	04/19/18 14:51	DS	TAL PEN
Total/NA	Analysis	8011		1			394577	04/19/18 18:53	DS	TAL PEN

Client Sample ID: ROST4PZG-ROX-040918

Lab Sample ID: 400-151994-3 MS

Date Collected: 04/09/18 09:10

Matrix: Water

Date Received: 04/10/18 09:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394050	04/16/18 16:05	CAR	TAL PEN
Total/NA	Prep	3520C			1006.4 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394181	04/17/18 19:52	S1B	TAL PEN
Total/NA	Prep	3520C			1006.4 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D LL		5			394192	04/17/18 22:51	RM	TAL PEN
Total/NA	Prep	8011			35.5 mL	35 mL	394550	04/19/18 14:51	DS	TAL PEN
Total/NA	Analysis	8011		1			394577	04/19/18 19:52	DS	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Client Sample ID: ROST4PZG-ROX-040918

Lab Sample ID: 400-151994-3 MSD

Date Collected: 04/09/18 09:10

Matrix: Water

Date Received: 04/10/18 09:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394050	04/16/18 16:27	CAR	TAL PEN
Total/NA	Prep	3520C			988.6 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394181	04/17/18 20:16	S1B	TAL PEN
Total/NA	Prep	3520C			988.6 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D LL		5			394192	04/17/18 23:08	RM	TAL PEN
Total/NA	Prep	8011			35.1 mL	35 mL	394550	04/19/18 14:51	DS	TAL PEN
Total/NA	Analysis	8011		1			394577	04/19/18 20:12	DS	TAL PEN

Client Sample ID: Matrix Spike

Lab Sample ID: 400-152288-A-1 MS

Date Collected: 04/16/18 14:16

Matrix: Water

Date Received: 04/16/18 15:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394689	04/20/18 18:39	WPD	TAL PEN

Client Sample ID: Matrix Spike Duplicate

Lab Sample ID: 400-152288-A-1 MSD

Date Collected: 04/16/18 14:16

Matrix: Water

Date Received: 04/16/18 15:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394689	04/20/18 19:01	WPD	TAL PEN

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
 SDG: (2Q18)

GC/MS VOA

Analysis Batch: 394050

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151994-1	TB-ROX-040918-8260-A	Total/NA	Water	8260B	
400-151994-3	ROST4PZG-ROX-040918	Total/NA	Water	8260B	
400-151994-4	ROST4PZC-ROX-040918	Total/NA	Water	8260B	
400-151994-5	MW5-ROX-040918	Total/NA	Water	8260B	
400-151994-6	MW2-ROX-040918	Total/NA	Water	8260B	
400-151994-7	ROST4PZE-ROX-040918	Total/NA	Water	8260B	
400-151994-9	TB-ROX-040918-8260-B	Total/NA	Water	8260B	
400-151994-10	MW4-ROX-040918	Total/NA	Water	8260B	
400-151994-11	MW25-ROX-040918	Total/NA	Water	8260B	
400-151994-12	MW8-ROX-040918	Total/NA	Water	8260B	
400-151994-13	MW7-ROX-040918	Total/NA	Water	8260B	
400-151994-14	MW7-ROX-040918-DUP	Total/NA	Water	8260B	
MB 400-394050/28	Method Blank	Total/NA	Water	8260B	
LCS 400-394050/26	Lab Control Sample	Total/NA	Water	8260B	
400-151994-3 MS	ROST4PZG-ROX-040918	Total/NA	Water	8260B	
400-151994-3 MSD	ROST4PZG-ROX-040918	Total/NA	Water	8260B	

Analysis Batch: 394689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151994-12 - DL	MW8-ROX-040918	Total/NA	Water	8260B	
400-151994-13 - DL	MW7-ROX-040918	Total/NA	Water	8260B	
400-151994-14 - DL	MW7-ROX-040918-DUP	Total/NA	Water	8260B	
MB 400-394689/3	Method Blank	Total/NA	Water	8260B	
LCS 400-394689/1002	Lab Control Sample	Total/NA	Water	8260B	
400-152288-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
400-152288-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 394010

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151994-3	ROST4PZG-ROX-040918	Total/NA	Water	3520C	
400-151994-4	ROST4PZC-ROX-040918	Total/NA	Water	3520C	
400-151994-5	MW5-ROX-040918	Total/NA	Water	3520C	
400-151994-6	MW2-ROX-040918	Total/NA	Water	3520C	
400-151994-7	ROST4PZE-ROX-040918	Total/NA	Water	3520C	
400-151994-10	MW4-ROX-040918	Total/NA	Water	3520C	
400-151994-11	MW25-ROX-040918	Total/NA	Water	3520C	
400-151994-12	MW8-ROX-040918	Total/NA	Water	3520C	
400-151994-13	MW7-ROX-040918	Total/NA	Water	3520C	
400-151994-14	MW7-ROX-040918-DUP	Total/NA	Water	3520C	
MB 400-394010/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-394010/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-394010/4-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-394010/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	
LCSD 400-394010/5-A	Lab Control Sample Dup	Total/NA	Water	3520C	
400-151994-3 MS	ROST4PZG-ROX-040918	Total/NA	Water	3520C	
400-151994-3 MSD	ROST4PZG-ROX-040918	Total/NA	Water	3520C	

TestAmerica Pensacola



QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

GC/MS Semi VOA (Continued)

Analysis Batch: 394181

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151994-3	ROST4PZG-ROX-040918	Total/NA	Water	8270D	394010
400-151994-4	ROST4PZC-ROX-040918	Total/NA	Water	8270D	394010
400-151994-5	MW5-ROX-040918	Total/NA	Water	8270D	394010
400-151994-6	MW2-ROX-040918	Total/NA	Water	8270D	394010
400-151994-7	ROST4PZE-ROX-040918	Total/NA	Water	8270D	394010
400-151994-10	MW4-ROX-040918	Total/NA	Water	8270D	394010
400-151994-11	MW25-ROX-040918	Total/NA	Water	8270D	394010
400-151994-12	MW8-ROX-040918	Total/NA	Water	8270D	394010
400-151994-13	MW7-ROX-040918	Total/NA	Water	8270D	394010
400-151994-14	MW7-ROX-040918-DUP	Total/NA	Water	8270D	394010
MB 400-394010/1-A	Method Blank	Total/NA	Water	8270D	394010
LCS 400-394010/2-A	Lab Control Sample	Total/NA	Water	8270D	394010
LCS 400-394010/4-A	Lab Control Sample	Total/NA	Water	8270D	394010
LCSD 400-394010/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	394010
LCSD 400-394010/5-A	Lab Control Sample Dup	Total/NA	Water	8270D	394010
400-151994-3 MS	ROST4PZG-ROX-040918	Total/NA	Water	8270D	394010
400-151994-3 MSD	ROST4PZG-ROX-040918	Total/NA	Water	8270D	394010

Analysis Batch: 394192

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151994-3	ROST4PZG-ROX-040918	Total/NA	Water	8270D LL	394010
400-151994-4	ROST4PZC-ROX-040918	Total/NA	Water	8270D LL	394010
400-151994-5	MW5-ROX-040918	Total/NA	Water	8270D LL	394010
400-151994-6	MW2-ROX-040918	Total/NA	Water	8270D LL	394010
400-151994-7	ROST4PZE-ROX-040918	Total/NA	Water	8270D LL	394010
400-151994-10	MW4-ROX-040918	Total/NA	Water	8270D LL	394010
400-151994-11	MW25-ROX-040918	Total/NA	Water	8270D LL	394010
400-151994-12	MW8-ROX-040918	Total/NA	Water	8270D LL	394010
400-151994-13	MW7-ROX-040918	Total/NA	Water	8270D LL	394010
MB 400-394010/1-A	Method Blank	Total/NA	Water	8270D LL	394010
LCS 400-394010/2-A	Lab Control Sample	Total/NA	Water	8270D LL	394010
LCSD 400-394010/3-A	Lab Control Sample Dup	Total/NA	Water	8270D LL	394010
400-151994-3 MS	ROST4PZG-ROX-040918	Total/NA	Water	8270D LL	394010
400-151994-3 MSD	ROST4PZG-ROX-040918	Total/NA	Water	8270D LL	394010

Analysis Batch: 394333

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151994-14	MW7-ROX-040918-DUP	Total/NA	Water	8270D LL	394010

GC Semi VOA

Prep Batch: 394550

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151994-2	TB-ROX-040918-8011-A	Total/NA	Water	8011	
400-151994-3	ROST4PZG-ROX-040918	Total/NA	Water	8011	
400-151994-4	ROST4PZC-ROX-040918	Total/NA	Water	8011	
400-151994-5	MW5-ROX-040918	Total/NA	Water	8011	
400-151994-6	MW2-ROX-040918	Total/NA	Water	8011	
400-151994-7	ROST4PZE-ROX-040918	Total/NA	Water	8011	
400-151994-8	TB-ROX-040918-8011-B	Total/NA	Water	8011	

TestAmerica Pensacola



QC Association Summary

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
 SDG: (2Q18)

GC Semi VOA (Continued)

Prep Batch: 394550 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151994-10	MW4-ROX-040918	Total/NA	Water	8011	
400-151994-11	MW25-ROX-040918	Total/NA	Water	8011	
400-151994-12	MW8-ROX-040918	Total/NA	Water	8011	
400-151994-13	MW7-ROX-040918	Total/NA	Water	8011	
400-151994-14	MW7-ROX-040918-DUP	Total/NA	Water	8011	
MB 400-394550/1-A	Method Blank	Total/NA	Water	8011	
LCS 400-394550/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 400-394550/3-A	Lab Control Sample Dup	Total/NA	Water	8011	
400-151994-3 MS	ROST4PZG-ROX-040918	Total/NA	Water	8011	
400-151994-3 MSD	ROST4PZG-ROX-040918	Total/NA	Water	8011	

Analysis Batch: 394577

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151994-2	TB-ROX-040918-8011-A	Total/NA	Water	8011	394550
400-151994-3	ROST4PZG-ROX-040918	Total/NA	Water	8011	394550
400-151994-4	ROST4PZC-ROX-040918	Total/NA	Water	8011	394550
400-151994-5	MW5-ROX-040918	Total/NA	Water	8011	394550
400-151994-6	MW2-ROX-040918	Total/NA	Water	8011	394550
400-151994-7	ROST4PZE-ROX-040918	Total/NA	Water	8011	394550
400-151994-8	TB-ROX-040918-8011-B	Total/NA	Water	8011	394550
400-151994-10	MW4-ROX-040918	Total/NA	Water	8011	394550
400-151994-11	MW25-ROX-040918	Total/NA	Water	8011	394550
400-151994-12	MW8-ROX-040918	Total/NA	Water	8011	394550
400-151994-13	MW7-ROX-040918	Total/NA	Water	8011	394550
400-151994-14	MW7-ROX-040918-DUP	Total/NA	Water	8011	394550
MB 400-394550/1-A	Method Blank	Total/NA	Water	8011	394550
LCS 400-394550/2-A	Lab Control Sample	Total/NA	Water	8011	394550
LCSD 400-394550/3-A	Lab Control Sample Dup	Total/NA	Water	8011	394550
400-151994-3 MS	ROST4PZG-ROX-040918	Total/NA	Water	8011	394550
400-151994-3 MSD	ROST4PZG-ROX-040918	Total/NA	Water	8011	394550

QC Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
 SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-394050/28
 Matrix: Water
 Analysis Batch: 394050

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/16/18 15:22	1
Acrolein	ND		20	10	ug/L			04/16/18 15:22	1
Acrylonitrile	ND		10	2.8	ug/L			04/16/18 15:22	1
Benzene	ND		1.0	0.38	ug/L			04/16/18 15:22	1
Bromobenzene	ND		1.0	0.54	ug/L			04/16/18 15:22	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/16/18 15:22	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/16/18 15:22	1
Bromoform	ND		5.0	0.71	ug/L			04/16/18 15:22	1
Bromomethane	ND		1.0	0.98	ug/L			04/16/18 15:22	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/16/18 15:22	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/16/18 15:22	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/16/18 15:22	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/16/18 15:22	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/16/18 15:22	1
Chloroethane	ND		1.0	0.76	ug/L			04/16/18 15:22	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/16/18 15:22	1
Chloroform	ND		1.0	0.60	ug/L			04/16/18 15:22	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/16/18 15:22	1
Chloromethane	ND		1.0	0.83	ug/L			04/16/18 15:22	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 15:22	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/18 15:22	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/16/18 15:22	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/16/18 15:22	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/16/18 15:22	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/16/18 15:22	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/16/18 15:22	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/16/18 15:22	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 15:22	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 15:22	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 15:22	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/18 15:22	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/16/18 15:22	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/16/18 15:22	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/16/18 15:22	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/16/18 15:22	1
2-Hexanone	ND		25	3.1	ug/L			04/16/18 15:22	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/16/18 15:22	1
Methylene bromide	ND		5.0	0.59	ug/L			04/16/18 15:22	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/16/18 15:22	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/16/18 15:22	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/16/18 15:22	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/16/18 15:22	1
Naphthalene	ND		1.0	1.0	ug/L			04/16/18 15:22	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/16/18 15:22	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/16/18 15:22	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/16/18 15:22	1
o-Xylene	ND		5.0	0.60	ug/L			04/16/18 15:22	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/16/18 15:22	1

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-394050/28
Matrix: Water
Analysis Batch: 394050

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/16/18 15:22	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/16/18 15:22	1
Styrene	ND		1.0	1.0	ug/L			04/16/18 15:22	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/16/18 15:22	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/16/18 15:22	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/16/18 15:22	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/16/18 15:22	1
Toluene	ND		1.0	0.70	ug/L			04/16/18 15:22	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/18 15:22	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/18 15:22	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/16/18 15:22	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/16/18 15:22	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/16/18 15:22	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/16/18 15:22	1
Trichloroethene	ND		1.0	0.50	ug/L			04/16/18 15:22	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/16/18 15:22	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/16/18 15:22	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/16/18 15:22	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/16/18 15:22	1
Vinyl acetate	ND		25	2.0	ug/L			04/16/18 15:22	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/16/18 15:22	1
Xylenes, Total	ND		10	1.6	ug/L			04/16/18 15:22	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene	113		78 - 118		04/16/18 15:22	1
Dibromofluoromethane	103		81 - 121		04/16/18 15:22	1
Toluene-d8 (Surr)	100		80 - 120		04/16/18 15:22	1

Lab Sample ID: LCS 400-394050/26
Matrix: Water
Analysis Batch: 394050

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec.
		Result	Qualifier				Limits
Acetone	200	196		ug/L		98	43 - 160
Acrolein	500	452		ug/L		90	38 - 160
Acrylonitrile	500	484		ug/L		97	64 - 142
Benzene	50.0	41.0		ug/L		82	70 - 130
Bromobenzene	50.0	39.5		ug/L		79	70 - 132
Bromochloromethane	50.0	41.3		ug/L		83	70 - 130
Bromodichloromethane	50.0	42.1		ug/L		84	67 - 133
Bromoform	50.0	46.1		ug/L		92	57 - 140
Bromomethane	50.0	42.0		ug/L		84	10 - 160
2-Butanone (MEK)	200	208		ug/L		104	61 - 145
Carbon disulfide	50.0	44.6		ug/L		89	61 - 137
Carbon tetrachloride	50.0	45.0		ug/L		90	61 - 137
Chlorobenzene	50.0	39.4		ug/L		79	70 - 130
Dibromochloromethane	50.0	42.5		ug/L		85	67 - 135
Chloroethane	50.0	35.6		ug/L		71	55 - 141

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-394050/26
Matrix: Water
Analysis Batch: 394050

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
2-Chloroethyl vinyl ether	50.0	44.5		ug/L		89	10 - 160
Chloroform	50.0	40.5		ug/L		81	69 - 130
1-Chlorohexane	50.0	41.3		ug/L		83	69 - 130
Chloromethane	50.0	37.7		ug/L		75	58 - 137
cis-1,2-Dichloroethene	50.0	39.9		ug/L		80	68 - 130
cis-1,3-Dichloropropene	50.0	50.6		ug/L		101	69 - 132
1,2-Dichlorobenzene	50.0	39.7		ug/L		79	67 - 130
1,3-Dichlorobenzene	50.0	40.1		ug/L		80	70 - 130
1,4-Dichlorobenzene	50.0	39.1		ug/L		78	70 - 130
Dichlorodifluoromethane	50.0	36.9		ug/L		74	41 - 146
1,1-Dichloroethane	50.0	40.9		ug/L		82	70 - 130
1,2-Dichloroethane	50.0	41.1		ug/L		82	69 - 130
1,1-Dichloroethene	50.0	42.2		ug/L		84	63 - 134
1,2-Dichloropropane	50.0	40.4		ug/L		81	70 - 130
1,3-Dichloropropane	50.0	40.5		ug/L		81	70 - 130
2,2-Dichloropropane	50.0	46.6		ug/L		93	52 - 135
1,1-Dichloropropene	50.0	42.1		ug/L		84	70 - 130
Ethylbenzene	50.0	40.1		ug/L		80	70 - 130
Ethyl methacrylate	50.0	48.5		ug/L		97	68 - 130
Hexachlorobutadiene	50.0	42.2		ug/L		84	53 - 140
2-Hexanone	200	210		ug/L		105	65 - 137
Isopropylbenzene	50.0	41.6		ug/L		83	70 - 130
Methylene bromide	50.0	43.1		ug/L		86	70 - 130
Methylene Chloride	50.0	39.8		ug/L		80	66 - 135
4-Methyl-2-pentanone (MIBK)	200	220		ug/L		110	69 - 138
Methyl tert-butyl ether	50.0	44.0		ug/L		88	66 - 130
m-Xylene & p-Xylene	50.0	40.7		ug/L		81	70 - 130
Naphthalene	50.0	49.2		ug/L		98	47 - 149
n-Butylbenzene	50.0	40.6		ug/L		81	67 - 130
N-Propylbenzene	50.0	41.4		ug/L		83	70 - 130
o-Chlorotoluene	50.0	40.0		ug/L		80	70 - 130
o-Xylene	50.0	41.1		ug/L		82	70 - 130
p-Chlorotoluene	50.0	41.0		ug/L		82	70 - 130
p-Isopropyltoluene	50.0	43.9		ug/L		88	65 - 130
sec-Butylbenzene	50.0	42.6		ug/L		85	66 - 130
Styrene	50.0	42.0		ug/L		84	70 - 130
tert-Butylbenzene	50.0	42.5		ug/L		85	64 - 139
1,1,1,2-Tetrachloroethane	50.0	41.0		ug/L		82	67 - 131
1,1,2,2-Tetrachloroethane	50.0	43.1		ug/L		86	70 - 131
Tetrachloroethene	50.0	38.5		ug/L		77	65 - 130
Toluene	50.0	38.4		ug/L		77	70 - 130
trans-1,2-Dichloroethene	50.0	41.8		ug/L		84	70 - 130
trans-1,3-Dichloropropene	50.0	47.2		ug/L		94	63 - 130
1,2,3-Trichlorobenzene	50.0	41.3		ug/L		83	60 - 138
1,2,4-Trichlorobenzene	50.0	41.8		ug/L		84	60 - 140
1,1,1-Trichloroethane	50.0	45.1		ug/L		90	68 - 130
1,1,2-Trichloroethane	50.0	40.4		ug/L		81	70 - 130
Trichloroethene	50.0	41.7		ug/L		83	70 - 130

TestAmerica Pensacola



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-394050/26
Matrix: Water
Analysis Batch: 394050

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	50.0	37.9		ug/L		76	65 - 138
1,2,3-Trichloropropane	50.0	46.1		ug/L		92	70 - 130
1,2,4-Trimethylbenzene	50.0	42.1		ug/L		84	70 - 130
1,3,5-Trimethylbenzene	50.0	41.6		ug/L		83	69 - 130
Vinyl acetate	100	87.0		ug/L		87	26 - 160
Vinyl chloride	50.0	38.1		ug/L		76	59 - 136
Xylenes, Total	100	81.7		ug/L		82	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	101		78 - 118
Dibromofluoromethane	106		81 - 121
Toluene-d8 (Surr)	95		80 - 120

Lab Sample ID: 400-151994-3 MS
Matrix: Water
Analysis Batch: 394050

Client Sample ID: ROST4PZG-ROX-040918
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		200	193		ug/L		97	43 - 150
Acrolein	ND		500	492		ug/L		98	38 - 150
Acrylonitrile	ND		500	473		ug/L		95	62 - 149
Benzene	ND		50.0	44.0		ug/L		88	56 - 142
Bromobenzene	ND		50.0	43.9		ug/L		88	59 - 136
Bromochloromethane	ND		50.0	46.0		ug/L		92	64 - 140
Bromodichloromethane	ND		50.0	46.4		ug/L		93	59 - 143
Bromoform	ND		50.0	51.1		ug/L		102	50 - 140
Bromomethane	ND		50.0	49.5		ug/L		99	10 - 150
2-Butanone (MEK)	ND		200	197		ug/L		99	55 - 150
Carbon disulfide	0.53	J	50.0	48.6		ug/L		96	48 - 150
Carbon tetrachloride	ND		50.0	47.7		ug/L		95	55 - 145
Chlorobenzene	ND		50.0	39.7		ug/L		79	64 - 130
Dibromochloromethane	ND		50.0	45.1		ug/L		90	56 - 143
Chloroethane	ND		50.0	43.2		ug/L		86	50 - 150
2-Chloroethyl vinyl ether	ND	F1	50.0	ND	F1	ug/L		0	10 - 150
Chloroform	ND		50.0	44.6		ug/L		89	60 - 141
1-Chlorohexane	ND		50.0	38.2		ug/L		76	56 - 136
Chloromethane	ND		50.0	42.2		ug/L		84	49 - 148
cis-1,2-Dichloroethene	ND		50.0	43.7		ug/L		87	59 - 143
cis-1,3-Dichloropropene	ND		50.0	53.5		ug/L		107	57 - 140
1,2-Dichlorobenzene	ND		50.0	43.3		ug/L		87	52 - 137
1,3-Dichlorobenzene	ND		50.0	42.6		ug/L		85	54 - 135
1,4-Dichlorobenzene	ND		50.0	41.3		ug/L		83	53 - 135
Dichlorodifluoromethane	ND		50.0	40.8		ug/L		82	16 - 150
1,1-Dichloroethane	ND		50.0	44.2		ug/L		88	61 - 144
1,2-Dichloroethane	ND		50.0	45.0		ug/L		90	60 - 141
1,1-Dichloroethene	ND		50.0	44.6		ug/L		89	54 - 147
1,2-Dichloropropane	ND		50.0	43.7		ug/L		87	66 - 137
1,3-Dichloropropane	ND		50.0	42.4		ug/L		85	66 - 133

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
 SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-151994-3 MS
 Matrix: Water
 Analysis Batch: 394050

Client Sample ID: ROST4PZG-ROX-040918
 Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
2,2-Dichloropropane	ND		50.0	48.0		ug/L		96	42 - 144
1,1-Dichloropropene	ND		50.0	44.4		ug/L		89	65 - 136
Ethylbenzene	ND		50.0	39.3		ug/L		79	58 - 131
Ethyl methacrylate	ND		50.0	47.5		ug/L		95	64 - 130
Hexachlorobutadiene	ND		50.0	40.6		ug/L		81	31 - 149
2-Hexanone	ND		200	194		ug/L		97	65 - 140
Isopropylbenzene	ND		50.0	39.9		ug/L		80	56 - 133
Methylene bromide	ND		50.0	45.1		ug/L		90	63 - 138
Methylene Chloride	ND		50.0	45.4		ug/L		91	60 - 146
4-Methyl-2-pentanone (MIBK)	ND		200	215		ug/L		108	63 - 146
Methyl tert-butyl ether	ND		50.0	46.5		ug/L		93	59 - 137
m-Xylene & p-Xylene	ND		50.0	39.7		ug/L		79	57 - 130
Naphthalene	ND	F2	50.0	49.7		ug/L		99	25 - 150
n-Butylbenzene	ND		50.0	41.0		ug/L		82	41 - 142
N-Propylbenzene	ND		50.0	43.1		ug/L		86	51 - 138
o-Chlorotoluene	ND		50.0	42.9		ug/L		86	53 - 134
o-Xylene	ND		50.0	40.6		ug/L		81	61 - 130
p-Chlorotoluene	ND		50.0	43.1		ug/L		86	54 - 133
p-Isopropyltoluene	ND		50.0	43.8		ug/L		88	48 - 139
sec-Butylbenzene	ND		50.0	42.7		ug/L		85	50 - 138
Styrene	ND		50.0	42.0		ug/L		84	58 - 131
tert-Butylbenzene	ND		50.0	44.3		ug/L		89	54 - 146
1,1,1,2-Tetrachloroethane	ND		50.0	43.5		ug/L		87	59 - 137
1,1,2,2-Tetrachloroethane	ND	F2	50.0	46.2		ug/L		92	66 - 135
Tetrachloroethene	ND		50.0	37.1		ug/L		74	52 - 133
Toluene	ND		50.0	39.1		ug/L		78	65 - 130
trans-1,2-Dichloroethene	ND		50.0	44.2		ug/L		88	61 - 143
trans-1,3-Dichloropropene	ND		50.0	49.1		ug/L		98	53 - 133
1,2,3-Trichlorobenzene	ND		50.0	44.4		ug/L		89	43 - 145
1,2,4-Trichlorobenzene	ND		50.0	42.7		ug/L		85	39 - 148
1,1,1-Trichloroethane	ND		50.0	47.3		ug/L		95	57 - 142
1,1,2-Trichloroethane	ND		50.0	41.6		ug/L		83	66 - 131
Trichloroethene	ND		50.0	43.5		ug/L		87	64 - 136
Trichlorofluoromethane	ND		50.0	44.3		ug/L		89	54 - 150
1,2,3-Trichloropropane	ND	F2 F1	50.0	48.1		ug/L		96	65 - 133
1,2,4-Trimethylbenzene	ND		50.0	43.7		ug/L		87	50 - 139
1,3,5-Trimethylbenzene	ND		50.0	43.5		ug/L		87	52 - 135
Vinyl acetate	ND		100	106		ug/L		106	26 - 150
Vinyl chloride	ND		50.0	43.3		ug/L		87	46 - 150
Xylenes, Total	ND		100	80.3		ug/L		80	59 - 130

Surrogate	MS %Recovery	MS Qualifier	MS Limits
4-Bromofluorobenzene	108		78 - 118
Dibromofluoromethane	101		81 - 121
Toluene-d8 (Surr)	97		80 - 120



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-151994-3 MSD
Matrix: Water
Analysis Batch: 394050

Client Sample ID: ROST4PZG-ROX-040918
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
Acetone	ND		200	239		ug/L		120	43 - 150	21	30
Acrolein	ND		500	585		ug/L		117	38 - 150	17	31
Acrylonitrile	ND		500	580		ug/L		116	62 - 149	20	30
Benzene	ND		50.0	51.7		ug/L		103	56 - 142	16	30
Bromobenzene	ND		50.0	59.3		ug/L		119	59 - 136	30	30
Bromochloromethane	ND		50.0	54.6		ug/L		109	64 - 140	17	30
Bromodichloromethane	ND		50.0	56.3		ug/L		113	59 - 143	19	30
Bromoform	ND		50.0	67.6		ug/L		135	50 - 140	28	30
Bromomethane	ND		50.0	56.5		ug/L		113	10 - 150	13	50
2-Butanone (MEK)	ND		200	247		ug/L		123	55 - 150	22	30
Carbon disulfide	0.53	J	50.0	57.6		ug/L		114	48 - 150	17	30
Carbon tetrachloride	ND		50.0	56.6		ug/L		113	55 - 145	17	30
Chlorobenzene	ND		50.0	49.4		ug/L		99	64 - 130	22	30
Dibromochloromethane	ND		50.0	57.4		ug/L		115	56 - 143	24	30
Chloroethane	ND		50.0	52.2		ug/L		104	50 - 150	19	30
2-Chloroethyl vinyl ether	ND	F1	50.0	ND	F1	ug/L		0	10 - 150	NC	50
Chloroform	ND		50.0	52.2		ug/L		104	60 - 141	16	30
1-Chlorohexane	ND		50.0	47.6		ug/L		95	56 - 136	22	30
Chloromethane	ND		50.0	48.6		ug/L		97	49 - 148	14	31
cis-1,2-Dichloroethene	ND		50.0	51.0		ug/L		102	59 - 143	15	30
cis-1,3-Dichloropropene	ND		50.0	62.4		ug/L		125	57 - 140	15	30
1,2-Dichlorobenzene	ND		50.0	55.8		ug/L		112	52 - 137	25	30
1,3-Dichlorobenzene	ND		50.0	55.5		ug/L		111	54 - 135	26	30
1,4-Dichlorobenzene	ND		50.0	53.6		ug/L		107	53 - 135	26	30
Dichlorodifluoromethane	ND		50.0	48.7		ug/L		97	16 - 150	18	31
1,1-Dichloroethane	ND		50.0	52.4		ug/L		105	61 - 144	17	30
1,2-Dichloroethane	ND		50.0	53.3		ug/L		107	60 - 141	17	30
1,1-Dichloroethene	ND		50.0	53.5		ug/L		107	54 - 147	18	30
1,2-Dichloropropane	ND		50.0	52.7		ug/L		105	66 - 137	19	30
1,3-Dichloropropane	ND		50.0	53.6		ug/L		107	66 - 133	23	30
2,2-Dichloropropane	ND		50.0	57.9		ug/L		116	42 - 144	19	31
1,1-Dichloropropene	ND		50.0	51.9		ug/L		104	65 - 136	16	30
Ethylbenzene	ND		50.0	48.8		ug/L		98	58 - 131	21	30
Ethyl methacrylate	ND		50.0	62.0		ug/L		124	64 - 130	27	30
Hexachlorobutadiene	ND		50.0	49.8		ug/L		100	31 - 149	20	36
2-Hexanone	ND		200	255		ug/L		127	65 - 140	27	30
Isopropylbenzene	ND		50.0	49.1		ug/L		98	56 - 133	21	30
Methylene bromide	ND		50.0	54.9		ug/L		110	63 - 138	19	30
Methylene Chloride	ND		50.0	54.4		ug/L		109	60 - 146	18	32
4-Methyl-2-pentanone (MIBK)	ND		200	265		ug/L		133	63 - 146	21	30
Methyl tert-butyl ether	ND		50.0	57.3		ug/L		115	59 - 137	21	30
m-Xylene & p-Xylene	ND		50.0	49.7		ug/L		99	57 - 130	22	30
Naphthalene	ND	F2	50.0	67.6	F2	ug/L		135	25 - 150	31	30
n-Butylbenzene	ND		50.0	50.8		ug/L		102	41 - 142	21	31
N-Propylbenzene	ND		50.0	55.7		ug/L		111	51 - 138	26	30
o-Chlorotoluene	ND		50.0	55.9		ug/L		112	53 - 134	26	30
o-Xylene	ND		50.0	50.2		ug/L		100	61 - 130	21	30
p-Chlorotoluene	ND		50.0	55.7		ug/L		111	54 - 133	26	30

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-151994-3 MSD
Matrix: Water
Analysis Batch: 394050

Client Sample ID: ROST4PZG-ROX-040918
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		
p-Isopropyltoluene	ND		50.0	55.6		ug/L		111	48 - 139	24	30
sec-Butylbenzene	ND		50.0	55.3		ug/L		111	50 - 138	26	30
Styrene	ND		50.0	51.7		ug/L		103	58 - 131	21	30
tert-Butylbenzene	ND		50.0	57.2		ug/L		114	54 - 146	26	30
1,1,1,2-Tetrachloroethane	ND		50.0	54.6		ug/L		109	59 - 137	23	30
1,1,2,2-Tetrachloroethane	ND	F2	50.0	65.1	F2	ug/L		130	66 - 135	34	30
Tetrachloroethene	ND		50.0	46.4		ug/L		93	52 - 133	22	30
Toluene	ND		50.0	49.2		ug/L		98	65 - 130	23	30
trans-1,2-Dichloroethene	ND		50.0	52.3		ug/L		105	61 - 143	17	30
trans-1,3-Dichloropropene	ND		50.0	62.6		ug/L		125	53 - 133	24	30
1,2,3-Trichlorobenzene	ND		50.0	58.2		ug/L		116	43 - 145	27	30
1,2,4-Trichlorobenzene	ND		50.0	56.1		ug/L		112	39 - 148	27	30
1,1,1-Trichloroethane	ND		50.0	55.4		ug/L		111	57 - 142	16	30
1,1,2-Trichloroethane	ND		50.0	54.0		ug/L		108	66 - 131	26	30
Trichloroethene	ND		50.0	50.8		ug/L		102	64 - 136	15	30
Trichlorofluoromethane	ND		50.0	52.0		ug/L		104	54 - 150	16	30
1,2,3-Trichloropropane	ND	F2 F1	50.0	66.8	F1 F2	ug/L		134	65 - 133	33	30
1,2,4-Trimethylbenzene	ND		50.0	57.4		ug/L		115	50 - 139	27	30
1,3,5-Trimethylbenzene	ND		50.0	56.5		ug/L		113	52 - 135	26	30
Vinyl acetate	ND		100	124		ug/L		124	26 - 150	16	33
Vinyl chloride	ND		50.0	51.8		ug/L		104	46 - 150	18	30
Xylenes, Total	ND		100	99.9		ug/L		100	59 - 130	22	30

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
4-Bromofluorobenzene	112		78 - 118
Dibromofluoromethane	110		81 - 121
Toluene-d8 (Surr)	96		80 - 120

Lab Sample ID: MB 400-394689/3
Matrix: Water
Analysis Batch: 394689

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acetone	ND		25	10	ug/L			04/20/18 17:19	1
Acrolein	ND		20	10	ug/L			04/20/18 17:19	1
Acrylonitrile	ND		10	2.8	ug/L			04/20/18 17:19	1
Benzene	ND		1.0	0.38	ug/L			04/20/18 17:19	1
Bromobenzene	ND		1.0	0.54	ug/L			04/20/18 17:19	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/20/18 17:19	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/20/18 17:19	1
Bromoform	ND		5.0	0.71	ug/L			04/20/18 17:19	1
Bromomethane	ND		1.0	0.98	ug/L			04/20/18 17:19	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/20/18 17:19	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/20/18 17:19	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/20/18 17:19	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/20/18 17:19	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/20/18 17:19	1
Chloroethane	ND		1.0	0.76	ug/L			04/20/18 17:19	1

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-394689/3

Matrix: Water

Analysis Batch: 394689

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/20/18 17:19	1
Chloroform	ND		1.0	0.60	ug/L			04/20/18 17:19	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/20/18 17:19	1
Chloromethane	ND		1.0	0.83	ug/L			04/20/18 17:19	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 17:19	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/20/18 17:19	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/20/18 17:19	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/20/18 17:19	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/20/18 17:19	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/20/18 17:19	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/20/18 17:19	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/20/18 17:19	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 17:19	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 17:19	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 17:19	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 17:19	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/20/18 17:19	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/20/18 17:19	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/20/18 17:19	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/20/18 17:19	1
2-Hexanone	ND		25	3.1	ug/L			04/20/18 17:19	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/20/18 17:19	1
Methylene bromide	ND		5.0	0.59	ug/L			04/20/18 17:19	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/20/18 17:19	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/20/18 17:19	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/20/18 17:19	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/20/18 17:19	1
Naphthalene	ND		1.0	1.0	ug/L			04/20/18 17:19	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/20/18 17:19	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/20/18 17:19	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/20/18 17:19	1
o-Xylene	ND		5.0	0.60	ug/L			04/20/18 17:19	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/20/18 17:19	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/20/18 17:19	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/20/18 17:19	1
Styrene	ND		1.0	1.0	ug/L			04/20/18 17:19	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/20/18 17:19	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/20/18 17:19	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/20/18 17:19	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/20/18 17:19	1
Toluene	ND		1.0	0.70	ug/L			04/20/18 17:19	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 17:19	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/20/18 17:19	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/20/18 17:19	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/20/18 17:19	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/20/18 17:19	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/20/18 17:19	1
Trichloroethene	ND		1.0	0.50	ug/L			04/20/18 17:19	1

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-394689/3
Matrix: Water
Analysis Batch: 394689

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/20/18 17:19	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/20/18 17:19	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/20/18 17:19	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/20/18 17:19	1
Vinyl acetate	ND		25	2.0	ug/L			04/20/18 17:19	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/20/18 17:19	1
Xylenes, Total	ND		10	1.6	ug/L			04/20/18 17:19	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene	106		78 - 118		04/20/18 17:19	1
Dibromofluoromethane	101		81 - 121		04/20/18 17:19	1
Toluene-d8 (Surr)	103		80 - 120		04/20/18 17:19	1

Lab Sample ID: LCS 400-394689/1002
Matrix: Water
Analysis Batch: 394689

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Acetone	200	230		ug/L		115	43 - 160
Acrolein	500	523		ug/L		105	38 - 160
Acrylonitrile	500	554		ug/L		111	64 - 142
Benzene	50.0	44.2		ug/L		88	70 - 130
Bromobenzene	50.0	43.1		ug/L		86	70 - 132
Bromochloromethane	50.0	45.1		ug/L		90	70 - 130
Bromodichloromethane	50.0	48.3		ug/L		97	67 - 133
Bromoform	50.0	55.8		ug/L		112	57 - 140
Bromomethane	50.0	43.4		ug/L		87	10 - 160
2-Butanone (MEK)	200	241		ug/L		121	61 - 145
Carbon disulfide	50.0	48.7		ug/L		97	61 - 137
Carbon tetrachloride	50.0	49.2		ug/L		98	61 - 137
Chlorobenzene	50.0	43.0		ug/L		86	70 - 130
Dibromochloromethane	50.0	50.2		ug/L		100	67 - 135
Chloroethane	50.0	41.6		ug/L		83	55 - 141
2-Chloroethyl vinyl ether	50.0	54.7		ug/L		109	10 - 160
Chloroform	50.0	43.2		ug/L		86	69 - 130
1-Chlorohexane	50.0	47.4		ug/L		95	69 - 130
Chloromethane	50.0	43.7		ug/L		87	58 - 137
cis-1,2-Dichloroethene	50.0	44.6		ug/L		89	68 - 130
cis-1,3-Dichloropropene	50.0	57.0		ug/L		114	69 - 132
1,2-Dichlorobenzene	50.0	43.5		ug/L		87	67 - 130
1,3-Dichlorobenzene	50.0	43.6		ug/L		87	70 - 130
1,4-Dichlorobenzene	50.0	42.2		ug/L		84	70 - 130
Dichlorodifluoromethane	50.0	38.5		ug/L		77	41 - 146
1,1-Dichloroethane	50.0	44.1		ug/L		88	70 - 130
1,2-Dichloroethane	50.0	45.0		ug/L		90	69 - 130
1,1-Dichloroethene	50.0	44.4		ug/L		89	63 - 134
1,2-Dichloropropane	50.0	44.9		ug/L		90	70 - 130
1,3-Dichloropropane	50.0	45.8		ug/L		92	70 - 130

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-394689/1002
Matrix: Water
Analysis Batch: 394689

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,2-Dichloropropane	50.0	51.2		ug/L		102	52 - 135
1,1-Dichloropropene	50.0	44.9		ug/L		90	70 - 130
Ethylbenzene	50.0	45.5		ug/L		91	70 - 130
Ethyl methacrylate	50.0	56.5		ug/L		113	68 - 130
Hexachlorobutadiene	50.0	46.0		ug/L		92	53 - 140
2-Hexanone	200	262		ug/L		131	65 - 137
Isopropylbenzene	50.0	47.7		ug/L		95	70 - 130
Methylene bromide	50.0	46.7		ug/L		93	70 - 130
Methylene Chloride	50.0	42.5		ug/L		85	66 - 135
4-Methyl-2-pentanone (MIBK)	200	266		ug/L		133	69 - 138
Methyl tert-butyl ether	50.0	50.3		ug/L		101	66 - 130
m-Xylene & p-Xylene	50.0	45.8		ug/L		92	70 - 130
Naphthalene	50.0	56.8		ug/L		114	47 - 149
n-Butylbenzene	50.0	44.9		ug/L		90	67 - 130
N-Propylbenzene	50.0	46.1		ug/L		92	70 - 130
o-Chlorotoluene	50.0	44.0		ug/L		88	70 - 130
o-Xylene	50.0	46.1		ug/L		92	70 - 130
p-Chlorotoluene	50.0	45.1		ug/L		90	70 - 130
p-Isopropyltoluene	50.0	47.9		ug/L		96	65 - 130
sec-Butylbenzene	50.0	46.3		ug/L		93	66 - 130
Styrene	50.0	46.7		ug/L		93	70 - 130
tert-Butylbenzene	50.0	46.6		ug/L		93	64 - 139
1,1,1,2-Tetrachloroethane	50.0	47.6		ug/L		95	67 - 131
1,1,2,2-Tetrachloroethane	50.0	47.3		ug/L		95	70 - 131
Tetrachloroethene	50.0	42.4		ug/L		85	65 - 130
Toluene	50.0	42.8		ug/L		86	70 - 130
trans-1,2-Dichloroethene	50.0	44.1		ug/L		88	70 - 130
trans-1,3-Dichloropropene	50.0	56.4		ug/L		113	63 - 130
1,2,3-Trichlorobenzene	50.0	47.7		ug/L		95	60 - 138
1,2,4-Trichlorobenzene	50.0	47.1		ug/L		94	60 - 140
1,1,1-Trichloroethane	50.0	47.9		ug/L		96	68 - 130
1,1,2-Trichloroethane	50.0	45.3		ug/L		91	70 - 130
Trichloroethene	50.0	44.9		ug/L		90	70 - 130
Trichlorofluoromethane	50.0	40.8		ug/L		82	65 - 138
1,2,3-Trichloropropane	50.0	49.3		ug/L		99	70 - 130
1,2,4-Trimethylbenzene	50.0	45.6		ug/L		91	70 - 130
1,3,5-Trimethylbenzene	50.0	45.4		ug/L		91	69 - 130
Vinyl acetate	100	107		ug/L		107	26 - 160
Vinyl chloride	50.0	43.2		ug/L		86	59 - 136
Xylenes, Total	100	91.8		ug/L		92	70 - 130

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	101		78 - 118
Dibromofluoromethane	102		81 - 121
Toluene-d8 (Surr)	96		80 - 120

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-152288-A-1 MS
Matrix: Water
Analysis Batch: 394689

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				
Acetone	43		200	221		ug/L		89	43 - 150
Acrolein	ND		500	474		ug/L		95	38 - 150
Acrylonitrile	ND		500	462		ug/L		92	62 - 149
Benzene	ND		50.0	43.3		ug/L		87	56 - 142
Bromobenzene	ND		50.0	41.4		ug/L		83	59 - 136
Bromochloromethane	ND		50.0	43.7		ug/L		87	64 - 140
Bromodichloromethane	ND		50.0	46.0		ug/L		92	59 - 143
Bromoform	ND		50.0	50.6		ug/L		101	50 - 140
Bromomethane	ND		50.0	40.6		ug/L		81	10 - 150
2-Butanone (MEK)	8.1	J	200	203		ug/L		97	55 - 150
Carbon disulfide	1.0		50.0	49.0		ug/L		96	48 - 150
Carbon tetrachloride	ND		50.0	48.1		ug/L		96	55 - 145
Chlorobenzene	ND		50.0	42.0		ug/L		84	64 - 130
Dibromochloromethane	ND		50.0	47.8		ug/L		96	56 - 143
Chloroethane	ND		50.0	38.4		ug/L		77	50 - 150
2-Chloroethyl vinyl ether	ND	F1	50.0	ND	F1	ug/L		0	10 - 150
Chloroform	ND		50.0	42.1		ug/L		84	60 - 141
1-Chlorohexane	ND		50.0	42.8		ug/L		86	56 - 136
Chloromethane	ND		50.0	42.5		ug/L		85	49 - 148
cis-1,2-Dichloroethene	ND		50.0	43.0		ug/L		86	59 - 143
cis-1,3-Dichloropropene	ND		50.0	53.9		ug/L		108	57 - 140
1,2-Dichlorobenzene	ND		50.0	40.5		ug/L		81	52 - 137
1,3-Dichlorobenzene	ND		50.0	39.8		ug/L		80	54 - 135
1,4-Dichlorobenzene	ND		50.0	38.9		ug/L		78	53 - 135
Dichlorodifluoromethane	ND		50.0	39.6		ug/L		79	16 - 150
1,1-Dichloroethane	ND		50.0	43.2		ug/L		86	61 - 144
1,2-Dichloroethane	ND		50.0	42.9		ug/L		86	60 - 141
1,1-Dichloroethene	ND		50.0	43.9		ug/L		88	54 - 147
1,2-Dichloropropane	ND		50.0	43.0		ug/L		86	66 - 137
1,3-Dichloropropane	ND		50.0	42.2		ug/L		84	66 - 133
2,2-Dichloropropane	ND		50.0	49.8		ug/L		100	42 - 144
1,1-Dichloropropene	ND		50.0	42.8		ug/L		86	65 - 136
Ethylbenzene	4.2		50.0	47.1		ug/L		86	58 - 131
Ethyl methacrylate	ND		50.0	50.9		ug/L		102	64 - 130
Hexachlorobutadiene	ND		50.0	39.4		ug/L		79	31 - 149
2-Hexanone	ND		200	213		ug/L		106	65 - 140
Isopropylbenzene	ND		50.0	43.1		ug/L		86	56 - 133
Methylene bromide	ND		50.0	43.2		ug/L		86	63 - 138
Methylene Chloride	ND		50.0	41.9		ug/L		84	60 - 146
4-Methyl-2-pentanone (MIBK)	3.9	J	200	215		ug/L		106	63 - 146
Methyl tert-butyl ether	ND		50.0	46.9		ug/L		94	59 - 137
m-Xylene & p-Xylene	21		50.0	64.8		ug/L		87	57 - 130
Naphthalene	ND		50.0	52.3		ug/L		105	25 - 150
n-Butylbenzene	ND		50.0	39.1		ug/L		78	41 - 142
N-Propylbenzene	ND		50.0	41.5		ug/L		83	51 - 138
o-Chlorotoluene	ND		50.0	41.4		ug/L		83	53 - 134
o-Xylene	9.6		50.0	54.4		ug/L		89	61 - 130
p-Chlorotoluene	ND		50.0	40.8		ug/L		82	54 - 133

TestAmerica Pensacola



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-152288-A-1 MS
Matrix: Water
Analysis Batch: 394689

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				Limits
p-Isopropyltoluene	ND		50.0	41.5		ug/L		83	48 - 139
sec-Butylbenzene	ND		50.0	41.0		ug/L		82	50 - 138
Styrene	ND		50.0	44.9		ug/L		90	58 - 131
tert-Butylbenzene	ND		50.0	43.1		ug/L		86	54 - 146
1,1,1,2-Tetrachloroethane	ND		50.0	46.0		ug/L		92	59 - 137
1,1,2,2-Tetrachloroethane	ND		50.0	43.0		ug/L		86	66 - 135
Tetrachloroethene	ND		50.0	39.5		ug/L		79	52 - 133
Toluene	0.83	J	50.0	42.1		ug/L		83	65 - 130
trans-1,2-Dichloroethene	ND		50.0	43.7		ug/L		87	61 - 143
trans-1,3-Dichloropropene	ND		50.0	53.9		ug/L		108	53 - 133
1,2,3-Trichlorobenzene	ND		50.0	44.3		ug/L		89	43 - 145
1,2,4-Trichlorobenzene	ND		50.0	43.4		ug/L		87	39 - 148
1,1,1-Trichloroethane	ND		50.0	46.6		ug/L		93	57 - 142
1,1,2-Trichloroethane	ND		50.0	42.5		ug/L		85	66 - 131
Trichloroethene	ND		50.0	43.1		ug/L		86	64 - 136
Trichlorofluoromethane	ND		50.0	42.3		ug/L		85	54 - 150
1,2,3-Trichloropropane	ND		50.0	44.8		ug/L		90	65 - 133
1,2,4-Trimethylbenzene	ND		50.0	42.0		ug/L		84	50 - 139
1,3,5-Trimethylbenzene	ND		50.0	42.2		ug/L		84	52 - 135
Vinyl acetate	ND		100	103		ug/L		103	26 - 150
Vinyl chloride	ND		50.0	43.4		ug/L		87	46 - 150
Xylenes, Total	31		100	119		ug/L		88	59 - 130

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	103		78 - 118
Dibromofluoromethane	102		81 - 121
Toluene-d8 (Surr)	99		80 - 120

Lab Sample ID: 400-152288-A-1 MSD
Matrix: Water
Analysis Batch: 394689

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
Acetone	43		200	241		ug/L		99	43 - 150	9	30
Acrolein	ND		500	503		ug/L		101	38 - 150	6	31
Acrylonitrile	ND		500	512		ug/L		102	62 - 149	10	30
Benzene	ND		50.0	44.7		ug/L		89	56 - 142	3	30
Bromobenzene	ND		50.0	42.5		ug/L		85	59 - 136	3	30
Bromochloromethane	ND		50.0	47.3		ug/L		95	64 - 140	8	30
Bromodichloromethane	ND		50.0	48.8		ug/L		98	59 - 143	6	30
Bromoform	ND		50.0	54.1		ug/L		108	50 - 140	7	30
Bromomethane	ND		50.0	43.1		ug/L		86	10 - 150	6	50
2-Butanone (MEK)	8.1	J	200	228		ug/L		110	55 - 150	12	30
Carbon disulfide	1.0		50.0	52.5		ug/L		103	48 - 150	7	30
Carbon tetrachloride	ND		50.0	50.3		ug/L		101	55 - 145	4	30
Chlorobenzene	ND		50.0	43.1		ug/L		86	64 - 130	3	30
Dibromochloromethane	ND		50.0	50.4		ug/L		101	56 - 143	5	30
Chloroethane	ND		50.0	43.1		ug/L		86	50 - 150	12	30

TestAmerica Pensacola



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-152288-A-1 MSD
Matrix: Water
Analysis Batch: 394689

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
2-Chloroethyl vinyl ether	ND	F1	50.0	ND	F1	ug/L		0	10 - 150	NC	50
Chloroform	ND		50.0	45.1		ug/L		90	60 - 141	7	30
1-Chlorohexane	ND		50.0	44.5		ug/L		89	56 - 136	4	30
Chloromethane	ND		50.0	42.3		ug/L		85	49 - 148	0	31
cis-1,2-Dichloroethene	ND		50.0	45.5		ug/L		91	59 - 143	6	30
cis-1,3-Dichloropropene	ND		50.0	57.7		ug/L		115	57 - 140	7	30
1,2-Dichlorobenzene	ND		50.0	41.5		ug/L		83	52 - 137	2	30
1,3-Dichlorobenzene	ND		50.0	41.0		ug/L		82	54 - 135	3	30
1,4-Dichlorobenzene	ND		50.0	39.7		ug/L		79	53 - 135	2	30
Dichlorodifluoromethane	ND		50.0	41.2		ug/L		82	16 - 150	4	31
1,1-Dichloroethane	ND		50.0	45.9		ug/L		92	61 - 144	6	30
1,2-Dichloroethane	ND		50.0	44.9		ug/L		90	60 - 141	4	30
1,1-Dichloroethene	ND		50.0	45.2		ug/L		90	54 - 147	3	30
1,2-Dichloropropane	ND		50.0	45.5		ug/L		91	66 - 137	6	30
1,3-Dichloropropane	ND		50.0	45.8		ug/L		92	66 - 133	8	30
2,2-Dichloropropane	ND		50.0	52.9		ug/L		106	42 - 144	6	31
1,1-Dichloropropene	ND		50.0	45.5		ug/L		91	65 - 136	6	30
Ethylbenzene	4.2		50.0	48.5		ug/L		89	58 - 131	3	30
Ethyl methacrylate	ND		50.0	55.3		ug/L		111	64 - 130	8	30
Hexachlorobutadiene	ND		50.0	41.0		ug/L		82	31 - 149	4	36
2-Hexanone	ND		200	232		ug/L		116	65 - 140	9	30
Isopropylbenzene	ND		50.0	45.5		ug/L		91	56 - 133	5	30
Methylene bromide	ND		50.0	46.0		ug/L		92	63 - 138	6	30
Methylene Chloride	ND		50.0	44.9		ug/L		90	60 - 146	7	32
4-Methyl-2-pentanone (MIBK)	3.9	J	200	243		ug/L		120	63 - 146	12	30
Methyl tert-butyl ether	ND		50.0	51.1		ug/L		102	59 - 137	9	30
m-Xylene & p-Xylene	21		50.0	65.1		ug/L		88	57 - 130	0	30
Naphthalene	ND		50.0	56.5		ug/L		113	25 - 150	8	30
n-Butylbenzene	ND		50.0	39.5		ug/L		79	41 - 142	1	31
N-Propylbenzene	ND		50.0	43.0		ug/L		86	51 - 138	4	30
o-Chlorotoluene	ND		50.0	41.6		ug/L		83	53 - 134	1	30
o-Xylene	9.6		50.0	55.1		ug/L		91	61 - 130	1	30
p-Chlorotoluene	ND		50.0	42.6		ug/L		85	54 - 133	4	30
p-Isopropyltoluene	ND		50.0	43.6		ug/L		87	48 - 139	5	30
sec-Butylbenzene	ND		50.0	43.1		ug/L		86	50 - 138	5	30
Styrene	ND		50.0	46.6		ug/L		93	58 - 131	4	30
tert-Butylbenzene	ND		50.0	44.2		ug/L		88	54 - 146	2	30
1,1,1,2-Tetrachloroethane	ND		50.0	47.9		ug/L		96	59 - 137	4	30
1,1,2,2-Tetrachloroethane	ND		50.0	46.5		ug/L		93	66 - 135	8	30
Tetrachloroethene	ND		50.0	41.2		ug/L		82	52 - 133	4	30
Toluene	0.83	J	50.0	43.9		ug/L		86	65 - 130	4	30
trans-1,2-Dichloroethene	ND		50.0	45.8		ug/L		92	61 - 143	5	30
trans-1,3-Dichloropropene	ND		50.0	56.8		ug/L		114	53 - 133	5	30
1,2,3-Trichlorobenzene	ND		50.0	45.9		ug/L		92	43 - 145	4	30
1,2,4-Trichlorobenzene	ND		50.0	45.3		ug/L		91	39 - 148	4	30
1,1,1-Trichloroethane	ND		50.0	49.3		ug/L		99	57 - 142	5	30
1,1,2-Trichloroethane	ND		50.0	45.5		ug/L		91	66 - 131	7	30
Trichloroethene	ND		50.0	45.2		ug/L		90	64 - 136	5	30

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-152288-A-1 MSD
Matrix: Water
Analysis Batch: 394689

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Trichlorofluoromethane	ND		50.0	43.4		ug/L		87	54 - 150	2	30
1,2,3-Trichloropropane	ND		50.0	48.0		ug/L		96	65 - 133	7	30
1,2,4-Trimethylbenzene	ND		50.0	43.5		ug/L		87	50 - 139	4	30
1,3,5-Trimethylbenzene	ND		50.0	43.6		ug/L		87	52 - 135	3	30
Vinyl acetate	ND		100	109		ug/L		109	26 - 150	6	33
Vinyl chloride	ND		50.0	43.9		ug/L		88	46 - 150	1	30
Xylenes, Total	31		100	120		ug/L		89	59 - 130	1	30

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	102		78 - 118
Dibromofluoromethane	103		81 - 121
Toluene-d8 (Surr)	97		80 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-394010/1-A
Matrix: Water
Analysis Batch: 394181

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 394010

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aniline	ND		10	3.8	ug/L		04/16/18 10:02	04/17/18 17:53	1
Benzenethiol	ND		10	1.7	ug/L		04/16/18 10:02	04/17/18 17:53	1
Benzoic acid	ND		30	7.3	ug/L		04/16/18 10:02	04/17/18 17:53	1
Benzyl alcohol	ND		10	2.0	ug/L		04/16/18 10:02	04/17/18 17:53	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		04/16/18 10:02	04/17/18 17:53	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		04/16/18 10:02	04/17/18 17:53	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		04/16/18 10:02	04/17/18 17:53	1
Bis(2-ethylhexyl) phthalate	ND		10	2.3	ug/L		04/16/18 10:02	04/17/18 17:53	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		04/16/18 10:02	04/17/18 17:53	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		04/16/18 10:02	04/17/18 17:53	1
4-Chloroaniline	ND		10	3.4	ug/L		04/16/18 10:02	04/17/18 17:53	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		04/16/18 10:02	04/17/18 17:53	1
2-Chloronaphthalene	ND		10	0.52	ug/L		04/16/18 10:02	04/17/18 17:53	1
2-Chlorophenol	ND		10	2.2	ug/L		04/16/18 10:02	04/17/18 17:53	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		04/16/18 10:02	04/17/18 17:53	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		04/16/18 10:02	04/17/18 17:53	1
Dibenzofuran	ND		10	0.52	ug/L		04/16/18 10:02	04/17/18 17:53	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		04/16/18 10:02	04/17/18 17:53	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		04/16/18 10:02	04/17/18 17:53	1
Diethyl phthalate	ND		10	0.70	ug/L		04/16/18 10:02	04/17/18 17:53	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		04/16/18 10:02	04/17/18 17:53	1
Dimethyl phthalate	ND		10	0.60	ug/L		04/16/18 10:02	04/17/18 17:53	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		04/16/18 10:02	04/17/18 17:53	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		04/16/18 10:02	04/17/18 17:53	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/16/18 10:02	04/17/18 17:53	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		04/16/18 10:02	04/17/18 17:53	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		04/16/18 10:02	04/17/18 17:53	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		04/16/18 10:02	04/17/18 17:53	1

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-394010/1-A
Matrix: Water
Analysis Batch: 394181

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 394010

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,4-Dioxane	ND		10	1.0	ug/L		04/16/18 10:02	04/17/18 17:53	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		04/16/18 10:02	04/17/18 17:53	1
Hexachlorobenzene	ND		10	0.25	ug/L		04/16/18 10:02	04/17/18 17:53	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/16/18 10:02	04/17/18 17:53	1
Hexachloroethane	ND		10	4.2	ug/L		04/16/18 10:02	04/17/18 17:53	1
Indene	ND		10	1.0	ug/L		04/16/18 10:02	04/17/18 17:53	1
Isophorone	ND		10	0.57	ug/L		04/16/18 10:02	04/17/18 17:53	1
2-Methylphenol	ND		10	1.8	ug/L		04/16/18 10:02	04/17/18 17:53	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/16/18 10:02	04/17/18 17:53	1
2-Nitroaniline	ND		10	2.2	ug/L		04/16/18 10:02	04/17/18 17:53	1
3-Nitroaniline	ND		10	1.8	ug/L		04/16/18 10:02	04/17/18 17:53	1
4-Nitroaniline	ND		10	2.5	ug/L		04/16/18 10:02	04/17/18 17:53	1
Nitrobenzene	ND		10	0.55	ug/L		04/16/18 10:02	04/17/18 17:53	1
2-Nitrophenol	ND		10	0.65	ug/L		04/16/18 10:02	04/17/18 17:53	1
4-Nitrophenol	ND		10	2.1	ug/L		04/16/18 10:02	04/17/18 17:53	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		04/16/18 10:02	04/17/18 17:53	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		04/16/18 10:02	04/17/18 17:53	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		04/16/18 10:02	04/17/18 17:53	1
Pentachlorophenol	ND		20	1.8	ug/L		04/16/18 10:02	04/17/18 17:53	1
Phenol	ND		10	2.6	ug/L		04/16/18 10:02	04/17/18 17:53	1
Pyridine	ND		10	3.2	ug/L		04/16/18 10:02	04/17/18 17:53	1
Quinoline	ND		10	6.0	ug/L		04/16/18 10:02	04/17/18 17:53	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		04/16/18 10:02	04/17/18 17:53	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/16/18 10:02	04/17/18 17:53	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2-Fluorobiphenyl	48		34 - 120	04/16/18 10:02	04/17/18 17:53	1
2-Fluorophenol	26		10 - 120	04/16/18 10:02	04/17/18 17:53	1
Nitrobenzene-d5	46		27 - 120	04/16/18 10:02	04/17/18 17:53	1
Phenol-d5	34		10 - 120	04/16/18 10:02	04/17/18 17:53	1
Terphenyl-d14	55		53 - 125	04/16/18 10:02	04/17/18 17:53	1
2,4,6-Tribromophenol	40		15 - 135	04/16/18 10:02	04/17/18 17:53	1

Lab Sample ID: LCS 400-394010/2-A
Matrix: Water
Analysis Batch: 394181

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 394010

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzoic acid	120	13.4	J	ug/L		11	10 - 150
Benzyl alcohol	30.0	20.4		ug/L		68	19 - 125
Bis(2-chloroethoxy)methane	30.0	20.5		ug/L		68	45 - 120
Bis(2-chloroethyl)ether	30.0	40.6	*	ug/L		135	48 - 120
bis (2-chloroisopropyl) ether	30.0	17.8		ug/L		59	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	23.6		ug/L		79	48 - 150
4-Bromophenyl phenyl ether	30.0	22.7		ug/L		76	55 - 122
Butyl benzyl phthalate	30.0	21.1		ug/L		70	46 - 145

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-394010/2-A
Matrix: Water
Analysis Batch: 394181

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 394010

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Chloroaniline	30.0	15.2		ug/L		51	30 - 120
4-Chloro-3-methylphenol	30.0	21.7		ug/L		72	39 - 140
2-Chloronaphthalene	30.0	19.8		ug/L		66	52 - 120
2-Chlorophenol	30.0	17.1		ug/L		57	34 - 120
4-Chlorophenyl phenyl ether	30.0	22.9		ug/L		76	58 - 124
Dibenz[a,h]acridine	30.0	23.5		ug/L		78	46 - 149
Dibenzofuran	30.0	21.0		ug/L		70	58 - 123
3,3'-Dichlorobenzidine	40.0	30.5		ug/L		76	39 - 135
2,4-Dichlorophenol	30.0	19.7		ug/L		66	39 - 128
Diethyl phthalate	30.0	23.1		ug/L		77	44 - 146
2,4-Dimethylphenol	30.0	22.0		ug/L		73	44 - 120
Dimethyl phthalate	30.0	25.7		ug/L		86	50 - 131
Di-n-butyl phthalate	30.0	24.0		ug/L		80	55 - 131
4,6-Dinitro-ortho-cresol	60.0	39.2		ug/L		65	10 - 150
2,4-Dinitrophenol	60.0	25.9	J	ug/L		43	10 - 150
2,4-Dinitrotoluene	30.0	22.5		ug/L		75	58 - 140
2,6-Dinitrotoluene	30.0	21.8		ug/L		73	57 - 130
Di-n-octyl phthalate	30.0	23.8		ug/L		79	50 - 150
1,4-Dioxane	30.0	13.0		ug/L		43	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	20.0		ug/L		67	47 - 123
Hexachlorobenzene	30.0	22.5		ug/L		75	52 - 131
Hexachlorocyclopentadiene	30.0	6.68	J	ug/L		22	10 - 129
Hexachloroethane	30.0	14.6		ug/L		49	41 - 120
Indene	30.0	20.0		ug/L		67	47 - 120
Isophorone	30.0	18.4		ug/L		61	49 - 120
2-Methylphenol	30.0	19.5		ug/L		65	39 - 123
3 & 4 Methylphenol	30.0	18.5	J	ug/L		62	38 - 121
2-Nitroaniline	30.0	20.8		ug/L		69	47 - 150
3-Nitroaniline	30.0	21.2		ug/L		71	34 - 132
4-Nitroaniline	30.0	22.3		ug/L		74	41 - 135
Nitrobenzene	30.0	18.5		ug/L		62	47 - 120
2-Nitrophenol	30.0	19.8		ug/L		66	28 - 136
4-Nitrophenol	60.0	49.1		ug/L		82	10 - 150
N-Nitrosodimethylamine	30.0	20.1		ug/L		67	22 - 148
N-Nitrosodi-n-propylamine	30.0	21.1		ug/L		70	44 - 120
N-Nitrosodiphenylamine	29.8	22.8		ug/L		77	56 - 120
Pentachlorophenol	60.0	41.8		ug/L		70	15 - 141
Phenol	30.0	18.7		ug/L		62	33 - 120
Pyridine	60.0	28.8		ug/L		48	26 - 120
Quinoline	30.0	23.7		ug/L		79	51 - 129
2,4,5-Trichlorophenol	30.0	22.3		ug/L		74	38 - 147
2,4,6-Trichlorophenol	30.0	22.4		ug/L		75	36 - 139

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	71		34 - 120
2-Fluorophenol	29		10 - 120
Nitrobenzene-d5	59		27 - 120

TestAmerica Pensacola



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-394010/2-A
Matrix: Water
Analysis Batch: 394181

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 394010

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Phenol-d5	55		10 - 120
Terphenyl-d14	77		53 - 125
2,4,6-Tribromophenol	82		15 - 135

Lab Sample ID: LCS 400-394010/4-A
Matrix: Water
Analysis Batch: 394181

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 394010

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	30.0	ND	*	ug/L		2	10 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	66		34 - 120
2-Fluorophenol	21		10 - 120
Nitrobenzene-d5	60		27 - 120
Phenol-d5	44		10 - 120
Terphenyl-d14	77		53 - 125
2,4,6-Tribromophenol	59		15 - 135

Lab Sample ID: LCSD 400-394010/3-A
Matrix: Water
Analysis Batch: 394181

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 394010

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aniline	30.0	17.7	*	ug/L		59	29 - 120	59	30
Benzoic acid	120	29.6	J *	ug/L		25	10 - 150	76	30
Benzyl alcohol	30.0	17.2		ug/L		57	19 - 125	17	30
Bis(2-chloroethoxy)methane	30.0	17.3		ug/L		58	45 - 120	17	30
Bis(2-chloroethyl)ether	30.0	15.3	*	ug/L		51	48 - 120	91	30
bis (2-chloroisopropyl) ether	30.0	15.0		ug/L		50	30 - 125	17	30
Bis(2-ethylhexyl) phthalate	30.0	20.9		ug/L		70	48 - 150	12	30
4-Bromophenyl phenyl ether	30.0	18.0		ug/L		60	55 - 122	23	30
Butyl benzyl phthalate	30.0	17.3		ug/L		58	46 - 145	19	30
4-Chloroaniline	30.0	13.0		ug/L		43	30 - 120	16	30
4-Chloro-3-methylphenol	30.0	18.6		ug/L		62	39 - 140	15	30
2-Chloronaphthalene	30.0	15.7		ug/L		52	52 - 120	23	30
2-Chlorophenol	30.0	14.4		ug/L		48	34 - 120	17	30
4-Chlorophenyl phenyl ether	30.0	18.5		ug/L		62	58 - 124	21	30
Dibenz[a,h]acridine	30.0	17.7		ug/L		59	46 - 149	28	30
Dibenzofuran	30.0	16.8	*	ug/L		56	58 - 123	22	30
3,3'-Dichlorobenzidine	40.0	25.0		ug/L		63	39 - 135	20	30
2,4-Dichlorophenol	30.0	16.7		ug/L		56	39 - 128	17	30
Diethyl phthalate	30.0	18.6		ug/L		62	44 - 146	22	30
2,4-Dimethylphenol	30.0	18.4		ug/L		61	44 - 120	18	30
Dimethyl phthalate	30.0	20.7		ug/L		69	50 - 131	22	30
Di-n-butyl phthalate	30.0	19.2		ug/L		64	55 - 131	22	30
4,6-Dinitro-ortho-cresol	60.0	34.5		ug/L		57	10 - 150	13	30
2,4-Dinitrophenol	60.0	29.6	J	ug/L		49	10 - 150	13	30

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-394010/3-A
Matrix: Water
Analysis Batch: 394181

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 394010

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	
								RPD	Limit
2,4-Dinitrotoluene	30.0	18.3		ug/L		61	58 - 140	21	30
2,6-Dinitrotoluene	30.0	17.8		ug/L		59	57 - 130	20	30
Di-n-octyl phthalate	30.0	19.0		ug/L		63	50 - 150	23	30
1,4-Dioxane	30.0	10.3		ug/L		34	25 - 120	24	30
1,2-Diphenylhydrazine (as Azobenzene)	30.0	16.3		ug/L		54	47 - 123	20	30
Hexachlorobenzene	30.0	18.1		ug/L		60	52 - 131	21	30
Hexachlorocyclopentadiene	30.0	5.17	J	ug/L		17	10 - 129	25	30
Hexachloroethane	30.0	12.1	*	ug/L		40	41 - 120	19	30
Indene	30.0	16.6		ug/L		55	47 - 120	19	30
Isophorone	30.0	15.8		ug/L		53	49 - 120	15	30
2-Methylphenol	30.0	16.0		ug/L		53	39 - 123	20	30
3 & 4 Methylphenol	30.0	15.3	J	ug/L		51	38 - 121	19	30
2-Nitroaniline	30.0	17.4		ug/L		58	47 - 150	18	30
3-Nitroaniline	30.0	17.8		ug/L		59	34 - 132	17	30
4-Nitroaniline	30.0	18.8		ug/L		63	41 - 135	17	30
Nitrobenzene	30.0	15.9		ug/L		53	47 - 120	15	30
2-Nitrophenol	30.0	16.9		ug/L		56	28 - 136	16	30
4-Nitrophenol	60.0	38.9		ug/L		65	10 - 150	23	30
N-Nitrosodimethylamine	30.0	16.8		ug/L		56	22 - 148	18	30
N-Nitrosodi-n-propylamine	30.0	17.3		ug/L		58	44 - 120	20	30
N-Nitrosodiphenylamine	29.8	18.3		ug/L		61	56 - 120	22	30
Pentachlorophenol	60.0	35.8		ug/L		60	15 - 141	15	30
Phenol	30.0	15.4		ug/L		51	33 - 120	19	30
Pyridine	60.0	23.8		ug/L		40	26 - 120	19	30
Quinoline	30.0	19.8		ug/L		66	51 - 129	18	30
2,4,5-Trichlorophenol	30.0	18.0		ug/L		60	38 - 147	21	30
2,4,6-Trichlorophenol	30.0	18.4		ug/L		61	36 - 139	20	30

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	55		34 - 120
2-Fluorophenol	23		10 - 120
Nitrobenzene-d5	49		27 - 120
Phenol-d5	43		10 - 120
Terphenyl-d14	59		53 - 125
2,4,6-Tribromophenol	64		15 - 135

Lab Sample ID: LCSD 400-394010/5-A
Matrix: Water
Analysis Batch: 394181

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 394010

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	
								RPD	Limit
Benzenethiol	30.0	4.26	J *	ug/L		14	10 - 120	161	30

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	69		34 - 120
2-Fluorophenol	48		10 - 120
Nitrobenzene-d5	65		27 - 120

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-394010/5-A
Matrix: Water
Analysis Batch: 394181

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 394010

Surrogate	LCS D %Recovery	LCS D Qualifier	Limits
Phenol-d5	49		10 - 120
Terphenyl-d14	82		53 - 125
2,4,6-Tribromophenol	63		15 - 135

Lab Sample ID: 400-151994-3 MS
Matrix: Water
Analysis Batch: 394181

Client Sample ID: ROST4PZG-ROX-040918
Prep Type: Total/NA
Prep Batch: 394010

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	ND	*	29.8	16.3		ug/L		55	10 - 143
Benzoic acid	ND	*	120	41.4		ug/L		35	10 - 134
Benzyl alcohol	ND		29.8	15.6		ug/L		52	10 - 154
Bis(2-chloroethoxy)methane	ND		29.8	15.0		ug/L		50	14 - 147
Bis(2-chloroethyl)ether	ND	*	29.8	14.7		ug/L		49	28 - 130
bis (2-chloroisopropyl) ether	ND		29.8	12.8		ug/L		43	10 - 141
Bis(2-ethylhexyl) phthalate	ND		29.8	12.9		ug/L		43	43 - 160
4-Bromophenyl phenyl ether	ND		29.8	14.9		ug/L		50	26 - 159
Butyl benzyl phthalate	ND	F1	29.8	12.2	F1	ug/L		41	43 - 151
4-Chloroaniline	ND		29.8	10.8		ug/L		36	10 - 152
4-Chloro-3-methylphenol	ND		29.8	14.3		ug/L		48	17 - 156
2-Chloronaphthalene	ND		29.8	15.2		ug/L		51	10 - 155
2-Chlorophenol	ND		29.8	13.2		ug/L		44	19 - 130
4-Chlorophenyl phenyl ether	ND		29.8	15.6		ug/L		52	25 - 161
Dibenz[a,h]acridine	ND		29.8	13.3		ug/L		45	42 - 147
Dibenzofuran	ND	*	29.8	14.8		ug/L		50	18 - 157
3,3'-Dichlorobenzidine	ND		39.7	18.2		ug/L		46	10 - 172
2,4-Dichlorophenol	ND		29.8	13.4		ug/L		45	16 - 147
Diethyl phthalate	ND		29.8	13.4		ug/L		45	23 - 160
2,4-Dimethylphenol	ND		29.8	15.3		ug/L		51	25 - 146
Dimethyl phthalate	ND		29.8	15.9		ug/L		53	11 - 158
Di-n-butyl phthalate	ND		29.8	14.0		ug/L		47	28 - 162
4,6-Dinitro-ortho-cresol	ND		59.6	24.5		ug/L		41	10 - 168
2,4-Dinitrophenol	ND		59.6	23.2	J	ug/L		39	10 - 166
2,4-Dinitrotoluene	ND		29.8	13.6		ug/L		45	26 - 158
2,6-Dinitrotoluene	ND		29.8	13.1		ug/L		44	19 - 157
Di-n-octyl phthalate	ND	F1	29.8	12.2	F1	ug/L		41	42 - 150
1,4-Dioxane	ND		29.8	9.27	J	ug/L		31	10 - 130
1,2-Diphenylhydrazine (as Azobenzene)	ND		29.8	13.7		ug/L		46	19 - 162
Hexachlorobenzene	ND		29.8	13.5		ug/L		45	45 - 145
Hexachlorocyclopentadiene	ND		29.8	5.39	J	ug/L		18	10 - 151
Hexachloroethane	ND	*	29.8	11.3		ug/L		38	29 - 130
Indene	ND		29.8	14.7		ug/L		49	22 - 130
Isophorone	ND		29.8	13.6		ug/L		46	24 - 144
2-Methylphenol	ND		29.8	12.9		ug/L		43	22 - 130
3 & 4 Methylphenol	ND		29.8	11.7	J	ug/L		39	31 - 130
2-Nitroaniline	ND		29.8	13.0		ug/L		43	10 - 162
3-Nitroaniline	ND		29.8	11.6		ug/L		39	10 - 163

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-151994-3 MS
Matrix: Water
Analysis Batch: 394181

Client Sample ID: ROST4PZG-ROX-040918
Prep Type: Total/NA
Prep Batch: 394010

Analyte	Sample	Sample	Spike	MS MS		Unit	D	%Rec	%Rec.
	Result	Qualifier		Added	Result				
4-Nitroaniline	ND		29.8	13.6		ug/L		46	10 - 162
Nitrobenzene	ND		29.8	11.8		ug/L		40	34 - 135
2-Nitrophenol	ND		29.8	13.3		ug/L		45	27 - 134
4-Nitrophenol	ND		59.6	26.2		ug/L		44	10 - 175
N-Nitrosodimethylamine	ND		29.8	14.1		ug/L		47	10 - 139
N-Nitrosodi-n-propylamine	ND		29.8	14.8		ug/L		50	13 - 147
N-Nitrosodiphenylamine	ND		29.6	15.7		ug/L		53	31 - 150
Pentachlorophenol	ND		59.6	30.1		ug/L		50	10 - 180
Phenol	ND		29.8	12.7		ug/L		43	23 - 130
Pyridine	ND		59.6	20.9		ug/L		35	10 - 130
Quinoline	ND		29.8	16.4		ug/L		55	10 - 180
2,4,5-Trichlorophenol	ND		29.8	13.8		ug/L		46	43 - 137
2,4,6-Trichlorophenol	ND		29.8	13.7		ug/L		46	42 - 135

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	45		34 - 120
2-Fluorophenol	30		10 - 120
Nitrobenzene-d5	38		27 - 120
Phenol-d5	35		10 - 120
Terphenyl-d14	35	X	53 - 125
2,4,6-Tribromophenol	48		15 - 135

Lab Sample ID: 400-151994-3 MSD
Matrix: Water
Analysis Batch: 394181

Client Sample ID: ROST4PZG-ROX-040918
Prep Type: Total/NA
Prep Batch: 394010

Analyte	Sample	Sample	Spike	MSD MSD		Unit	D	%Rec	%Rec.	RPD	
	Result	Qualifier		Added	Result					Qualifier	RPD
Aniline	ND	*	30.3	18.1		ug/L		60	10 - 143	11	63
Benzoic acid	ND	*	122	48.8		ug/L		40	10 - 134	16	49
Benzyl alcohol	ND		30.3	17.3		ug/L		57	10 - 154	10	37
Bis(2-chloroethoxy)methane	ND		30.3	16.3		ug/L		54	14 - 147	9	70
Bis(2-chloroethyl)ether	ND	*	30.3	15.8		ug/L		52	28 - 130	7	42
bis (2-chloroisopropyl) ether	ND		30.3	14.5		ug/L		48	10 - 141	12	41
Bis(2-ethylhexyl) phthalate	ND		30.3	15.5		ug/L		51	43 - 160	19	35
4-Bromophenyl phenyl ether	ND		30.3	16.3		ug/L		54	26 - 159	10	30
Butyl benzyl phthalate	ND	F1	30.3	14.8		ug/L		49	43 - 151	19	32
4-Chloroaniline	ND		30.3	11.6		ug/L		38	10 - 152	7	94
4-Chloro-3-methylphenol	ND		30.3	15.5		ug/L		51	17 - 156	8	40
2-Chloronaphthalene	ND		30.3	17.2		ug/L		57	10 - 155	12	29
2-Chlorophenol	ND		30.3	14.6		ug/L		48	19 - 130	10	42
4-Chlorophenyl phenyl ether	ND		30.3	17.5		ug/L		58	25 - 161	11	27
Dibenz[a,h]acridine	ND		30.3	15.2		ug/L		50	42 - 147	13	40
Dibenzofuran	ND	*	30.3	16.5		ug/L		55	18 - 157	11	29
3,3'-Dichlorobenzidine	ND		40.5	20.5		ug/L		51	10 - 172	12	58
2,4-Dichlorophenol	ND		30.3	14.7		ug/L		48	16 - 147	9	43
Diethyl phthalate	ND		30.3	15.7		ug/L		52	23 - 160	16	40
2,4-Dimethylphenol	ND		30.3	16.9		ug/L		56	25 - 146	10	47
Dimethyl phthalate	ND		30.3	17.9		ug/L		59	11 - 158	12	36

TestAmerica Pensacola



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-151994-3 MSD
Matrix: Water
Analysis Batch: 394181

Client Sample ID: ROST4PZG-ROX-040918
Prep Type: Total/NA
Prep Batch: 394010

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Di-n-butyl phthalate	ND		30.3	16.4		ug/L		54	28 - 162	16	32
4,6-Dinitro-ortho-cresol	ND		60.7	29.0		ug/L		48	10 - 168	17	42
2,4-Dinitrophenol	ND		60.7	28.0	J	ug/L		46	10 - 166	19	36
2,4-Dinitrotoluene	ND		30.3	15.7		ug/L		52	26 - 158	14	28
2,6-Dinitrotoluene	ND		30.3	15.2		ug/L		50	19 - 157	15	28
Di-n-octyl phthalate	ND	F1	30.3	15.0		ug/L		49	42 - 150	20	35
1,4-Dioxane	ND		30.3	9.86	J	ug/L		32	10 - 130	6	40
1,2-Diphenylhydrazine (as Azobenzene)	ND		30.3	15.4		ug/L		51	19 - 162	12	40
Hexachlorobenzene	ND		30.3	15.4		ug/L		51	45 - 145	13	33
Hexachlorocyclopentadiene	ND		30.3	5.74	J	ug/L		19	10 - 151	6	50
Hexachloroethane	ND		30.3	12.8		ug/L		42	29 - 130	12	41
Indene	ND		30.3	16.3		ug/L		54	22 - 130	10	40
Isophorone	ND		30.3	14.9		ug/L		49	24 - 144	9	33
2-Methylphenol	ND		30.3	14.3		ug/L		47	22 - 130	10	47
3 & 4 Methylphenol	ND		30.3	13.3	J	ug/L		44	31 - 130	13	47
2-Nitroaniline	ND		30.3	14.8		ug/L		49	10 - 162	13	33
3-Nitroaniline	ND		30.3	13.6		ug/L		45	10 - 163	16	39
4-Nitroaniline	ND		30.3	16.3		ug/L		54	10 - 162	18	50
Nitrobenzene	ND		30.3	13.3		ug/L		44	34 - 135	12	35
2-Nitrophenol	ND		30.3	14.9		ug/L		49	27 - 134	11	43
4-Nitrophenol	ND		60.7	31.6		ug/L		52	10 - 175	19	82
N-Nitrosodimethylamine	ND		30.3	15.5		ug/L		51	10 - 139	10	62
N-Nitrosodi-n-propylamine	ND		30.3	16.5		ug/L		54	13 - 147	11	36
N-Nitrosodiphenylamine	ND		30.1	17.4		ug/L		58	31 - 150	10	34
Pentachlorophenol	ND		60.7	33.8		ug/L		56	10 - 180	12	42
Phenol	ND		30.3	14.3		ug/L		47	23 - 130	12	52
Pyridine	ND		60.7	23.7		ug/L		39	10 - 130	12	55
Quinoline	ND		30.3	17.9		ug/L		59	10 - 180	9	40
2,4,5-Trichlorophenol	ND		30.3	16.0		ug/L		53	43 - 137	15	42
2,4,6-Trichlorophenol	ND		30.3	15.9		ug/L		52	42 - 135	15	44

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	51		34 - 120
2-Fluorophenol	32		10 - 120
Nitrobenzene-d5	43		27 - 120
Phenol-d5	40		10 - 120
Terphenyl-d14	44	X	53 - 125
2,4,6-Tribromophenol	56		15 - 135

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-394010/1-A
Matrix: Water
Analysis Batch: 394192

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 394010

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acenaphthene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/17/18 21:59	1

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: MB 400-394010/1-A
Matrix: Water
Analysis Batch: 394192

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 394010

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acenaphthylene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/17/18 21:59	1
Anthracene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/17/18 21:59	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/17/18 21:59	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/17/18 21:59	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/17/18 21:59	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/17/18 21:59	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/17/18 21:59	1
Chrysene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/17/18 21:59	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/17/18 21:59	1
Fluoranthene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/17/18 21:59	1
Fluorene	ND		0.20	0.021	ug/L		04/16/18 10:02	04/17/18 21:59	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/17/18 21:59	1
Phenanthrene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/17/18 21:59	1
Pyrene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/17/18 21:59	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/17/18 21:59	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/17/18 21:59	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Terphenyl-d14	117		33 - 138	04/16/18 10:02	04/17/18 21:59	1
2-Fluorobiphenyl	103		15 - 122	04/16/18 10:02	04/17/18 21:59	1
Nitrobenzene-d5	89		19 - 130	04/16/18 10:02	04/17/18 21:59	1

Lab Sample ID: LCS 400-394010/2-A
Matrix: Water
Analysis Batch: 394192

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 394010

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Acenaphthene	30.0	23.9		ug/L		80	41 - 120
Acenaphthylene	30.0	22.4		ug/L		75	44 - 120
Anthracene	30.0	25.5		ug/L		85	49 - 120
Benzo[a]anthracene	30.0	25.0		ug/L		83	61 - 135
Benzo[a]pyrene	30.0	25.0		ug/L		83	52 - 120
Benzo[b]fluoranthene	30.0	26.8		ug/L		89	53 - 134
Benzo[g,h,i]perylene	30.0	21.4		ug/L		71	47 - 133
Benzo[k]fluoranthene	30.0	25.6		ug/L		85	57 - 134
Chrysene	30.0	24.4		ug/L		81	55 - 122
Dibenz(a,h)anthracene	30.0	23.4		ug/L		78	48 - 146
Fluoranthene	30.0	28.2		ug/L		94	54 - 128
Fluorene	30.0	28.3		ug/L		94	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	25.2		ug/L		84	43 - 142
Phenanthrene	30.0	26.6		ug/L		89	48 - 120
Pyrene	30.0	21.6		ug/L		72	48 - 132
1-Methylnaphthalene	30.0	22.1		ug/L		74	41 - 120
2-Methylnaphthalene	30.0	20.5		ug/L		68	32 - 124

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Terphenyl-d14	74		33 - 138

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-394010/2-A
Matrix: Water
Analysis Batch: 394192

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 394010

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	79		15 - 122
Nitrobenzene-d5	71		19 - 130

Lab Sample ID: LCSD 400-394010/3-A
Matrix: Water
Analysis Batch: 394192

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 394010

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	
							Limits	RPD	Limit	
Acenaphthene	30.0	25.0		ug/L		83	41 - 120	4	56	
Acenaphthylene	30.0	23.3		ug/L		78	44 - 120	4	56	
Anthracene	30.0	26.9		ug/L		90	49 - 120	5	51	
Benzo[a]anthracene	30.0	25.9		ug/L		86	61 - 135	4	49	
Benzo[a]pyrene	30.0	26.3		ug/L		88	52 - 120	5	50	
Benzo[b]fluoranthene	30.0	28.1		ug/L		94	53 - 134	5	54	
Benzo[g,h,i]perylene	30.0	22.2		ug/L		74	47 - 133	4	50	
Benzo[k]fluoranthene	30.0	26.7		ug/L		89	57 - 134	4	52	
Chrysene	30.0	25.5		ug/L		85	55 - 122	4	50	
Dibenz(a,h)anthracene	30.0	24.5		ug/L		82	48 - 146	5	50	
Fluoranthene	30.0	28.2		ug/L		94	54 - 128	0	52	
Fluorene	30.0	29.3		ug/L		98	45 - 125	4	56	
Indeno[1,2,3-cd]pyrene	30.0	26.1		ug/L		87	43 - 142	4	51	
Phenanthrene	30.0	27.9		ug/L		93	48 - 120	5	56	
Pyrene	30.0	24.1		ug/L		80	48 - 132	11	52	
1-Methylnaphthalene	30.0	22.4		ug/L		75	41 - 120	1	55	
2-Methylnaphthalene	30.0	21.5		ug/L		72	32 - 124	5	57	

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Terphenyl-d14	80		33 - 138
2-Fluorobiphenyl	83		15 - 122
Nitrobenzene-d5	70		19 - 130

Lab Sample ID: 400-151994-3 MS
Matrix: Water
Analysis Batch: 394192

Client Sample ID: ROST4PZG-ROX-040918
Prep Type: Total/NA
Prep Batch: 394010

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec.	
				Result	Qualifier				Limits	
Acenaphthene	ND		29.8	27.0		ug/L		91	35 - 113	
Acenaphthylene	ND		29.8	25.1		ug/L		84	41 - 118	
Anthracene	0.057	J	29.8	26.0		ug/L		87	45 - 122	
Benzo[a]anthracene	ND		29.8	21.9		ug/L		74	55 - 133	
Benzo[a]pyrene	ND		29.8	20.9		ug/L		70	50 - 108	
Benzo[b]fluoranthene	ND		29.8	23.1		ug/L		77	50 - 128	
Benzo[g,h,i]perylene	ND		29.8	16.8		ug/L		56	46 - 133	
Benzo[k]fluoranthene	ND		29.8	20.8		ug/L		70	52 - 128	
Chrysene	ND		29.8	21.2		ug/L		71	52 - 116	
Dibenz(a,h)anthracene	ND		29.8	18.4		ug/L		62	52 - 143	
Fluoranthene	0.026	J	29.8	26.5		ug/L		89	32 - 150	
Fluorene	ND		29.8	29.4		ug/L		99	15 - 150	

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: 400-151994-3 MS
Matrix: Water
Analysis Batch: 394192

Client Sample ID: ROST4PZG-ROX-040918
Prep Type: Total/NA
Prep Batch: 394010

Analyte	Sample	Sample	Spike	MS MS		Unit	D	%Rec	%Rec.	
	Result	Qualifier		Result	Qualifier				Limits	Limits
Indeno[1,2,3-cd]pyrene	ND		29.8	19.9		ug/L		67	41 - 141	
Phenanthrene	0.10	J	29.8	27.9		ug/L		93	36 - 125	
Pyrene	0.032	J	29.8	22.9		ug/L		77	41 - 127	
1-Methylnaphthalene	ND		29.8	25.2		ug/L		84	10 - 150	
2-Methylnaphthalene	ND		29.8	24.6		ug/L		83	10 - 150	

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
Terphenyl-d14	60		33 - 138
2-Fluorobiphenyl	83		15 - 122
Nitrobenzene-d5	60		19 - 130

Lab Sample ID: 400-151994-3 MSD
Matrix: Water
Analysis Batch: 394192

Client Sample ID: ROST4PZG-ROX-040918
Prep Type: Total/NA
Prep Batch: 394010

Analyte	Sample	Sample	Spike	MSD MSD		Unit	D	%Rec	%Rec.		RPD	
	Result	Qualifier		Result	Qualifier				Limits	RPD	Limit	
Acenaphthene	ND		30.3	26.0		ug/L		86	35 - 113	4	49	
Acenaphthylene	ND		30.3	23.9		ug/L		79	41 - 118	5	48	
Anthracene	0.057	J	30.3	25.3		ug/L		83	45 - 122	3	56	
Benzo[a]anthracene	ND		30.3	22.2		ug/L		73	55 - 133	1	57	
Benzo[a]pyrene	ND		30.3	21.2		ug/L		70	50 - 108	1	59	
Benzo[b]fluoranthene	ND		30.3	22.8		ug/L		75	50 - 128	1	62	
Benzo[g,h,i]perylene	ND		30.3	16.8		ug/L		55	46 - 133	0	58	
Benzo[k]fluoranthene	ND		30.3	22.8		ug/L		75	52 - 128	9	58	
Chrysene	ND		30.3	22.0		ug/L		72	52 - 116	3	59	
Dibenz(a,h)anthracene	ND		30.3	18.2		ug/L		60	52 - 143	1	60	
Fluoranthene	0.026	J	30.3	25.9		ug/L		85	32 - 150	2	59	
Fluorene	ND		30.3	28.6		ug/L		94	15 - 150	3	49	
Indeno[1,2,3-cd]pyrene	ND		30.3	19.7		ug/L		65	41 - 141	1	58	
Phenanthrene	0.10	J	30.3	26.8		ug/L		88	36 - 125	4	69	
Pyrene	0.032	J	30.3	22.9		ug/L		75	41 - 127	0	58	
1-Methylnaphthalene	ND		30.3	25.0		ug/L		82	10 - 150	1	66	
2-Methylnaphthalene	ND		30.3	24.1		ug/L		79	10 - 150	2	66	

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
Terphenyl-d14	60		33 - 138
2-Fluorobiphenyl	78		15 - 122
Nitrobenzene-d5	58		19 - 130

Method: 8011 - EDB and DBCP in Water by Microextraction

Lab Sample ID: MB 400-394550/1-A
Matrix: Water
Analysis Batch: 394577

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 394550

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2-Dibromo-3-Chloropropane	ND		0.030	0.0055	ug/L		04/19/18 14:51	04/19/18 18:13	1

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Method: 8011 - EDB and DBCP in Water by Microextraction (Continued)

Lab Sample ID: MB 400-394550/1-A
Matrix: Water
Analysis Batch: 394577

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 394550

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		0.020	0.0050	ug/L		04/19/18 14:51	04/19/18 18:13	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	104		51 - 149				04/19/18 14:51	04/19/18 18:13	1

Lab Sample ID: LCS 400-394550/2-A
Matrix: Water
Analysis Batch: 394577

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 394550

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromo-3-Chloropropane	0.100	0.0934		ug/L		93	60 - 140
1,2-Dibromoethane	0.100	0.104		ug/L		104	60 - 140
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene	102		51 - 149				

Lab Sample ID: LCSD 400-394550/3-A
Matrix: Water
Analysis Batch: 394577

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 394550

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
1,2-Dibromo-3-Chloropropane	0.100	0.105		ug/L		105	60 - 140	11	30
1,2-Dibromoethane	0.100	0.111		ug/L		111	60 - 140	7	30
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene	110		51 - 149						

Lab Sample ID: 400-151994-3 MS
Matrix: Water
Analysis Batch: 394577

Client Sample ID: ROST4PZG-ROX-040918
Prep Type: Total/NA
Prep Batch: 394550

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromo-3-Chloropropane	ND		0.0986	0.104		ug/L		106	65 - 135
1,2-Dibromoethane	ND		0.0986	0.0978		ug/L		99	65 - 135
Surrogate	MS %Recovery	MS Qualifier	Limits						
4-Bromofluorobenzene	106		51 - 149						

Lab Sample ID: 400-151994-3 MSD
Matrix: Water
Analysis Batch: 394577

Client Sample ID: ROST4PZG-ROX-040918
Prep Type: Total/NA
Prep Batch: 394550

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
1,2-Dibromo-3-Chloropropane	ND	F2	0.0997	0.104	F2	ug/L		104	65 - 135	24	20
1,2-Dibromoethane	ND		0.0997	0.0993		ug/L		100	65 - 135	2	20

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
SDG: (2Q18)

Method: 8011 - EDB and DBCP in Water by Microextraction (Continued)

Lab Sample ID: 400-151994-3 MSD
Matrix: Water
Analysis Batch: 394577

Client Sample ID: ROST4PZG-ROX-040918
Prep Type: Total/NA
Prep Batch: 394550

Surrogate	MSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	108		51 - 149

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ACQUITEST ()
 CALSCIENCE ()
 TESTAMERICA (TestAmerica Petroleum, 3355 McLennore Dr. Pensacola, FL 32514 (850-474-1001))
 Other (LAB VERIFICATION # 13045589 TESTAMERICA) ()

SOW FDG
 PIPELINE
 CHEMICALS
 CONSULTANT
 TRANSPORTATION
 OTHER ENV. SERVICES

RETAIL
 LUBES

Print Bill To Contact Name: Bob Billman
 PO #
 State: IL
 AECOM Project / Task Number: 60527968 - 01.03.0022 / 01.03.0022
 Rosana Quarterly GW
 60527968 - 01.03.0022 / 01.03.0022
 AECOM Order #

PiaNet Site or Project ID: 25278
 GSAP Project ID
 USPC/00114/IR/02

SITE ADDRESS: Street and City: 900 South Central Ave. ROXANA
 PINAL NO. IL
 STATE: IL
 ZIP DELIVERABLE TO (Name, Company, Street Address):
 SAKETLAH NAME(S) (P/N):
 B. Howell / McKinnick

LABORATORY COMPANY: AECOM
 ADDRESS: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300. ST. LOUIS, MO 63110
 PHONE: 314-429-0100 FAX: 314-429-0462
 Elizabeth Kunkel, Bob Billman, Wendy Pennington
 TURNAROUND TIME (CALENDAR DAYS):
 STANDARD (14 DAY) 5 DAYS 3 DAYS 2 DAYS 24 HOURS RESULTS NEEDED OR WEEKEND

LA - RUCKER RECEIPT EXEMPT
 LEVEL 2 OTHER (SPECIFY) EDD
 Cooler #1 Cooler #2 Cooler #3

SPECIAL INSTRUCTIONS OR NOTES:
 * Please include "J" values on Reports
 * Please provide sample receipt upon login

REQUESTED ANALYSIS
 UNIT COST: 60527968 - 01.03.0022
 NON-UNIT COST: 60527968 - 01.03.0022
 LAB USE ONLY

FIELD NOTES:
 TEMPERATURE ON RECEIPT C°
 Container PID Readings or Laboratory Notes

LAB JOB ONLY	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE				NO. OF CONT.
		DATE	TIME		MCL	PH03	HE204	NOBIE	
	TB - ROX - 040918 - 8260-A	04/09	0000	Water	2				2
	TB - ROX - 040918 - 8011-A	04/09	0000		2				2
	ROSTHPZC - ROX - 040918	04/09	0910		4				6
	ROSTHPZG - ROX - 040918 - WS	04/09	0916		4				6
	ROSTHPZG - ROX - 040918 - MSD	04/09	0910		4				6
	ROSTHPZC - ROX - 040918	04/09	1020		4				6
	MWS - ROX - 040918	04/09	1120		4				6
	MNS - ROX - 040918	04/09	1259		4				6
	ROSTHPZE - ROX - 040918	04/09	1400		4				6

RECEIVED BY (Signature): [Signature]
 DATE: 4/9/18
 TIME: 1630

RECEIVED BY (Signature): [Signature]
 DATE: 4/10/18
 TIME: 0724

RECEIVED BY (Signature): [Signature]
 DATE: []
 TIME: []



Shell Oil Products US Chain Of Custody Record



LAB (LOCATION)

Print Bill To Contact Name: **Bob Billman** 25278
 GSAP Project ID: **USPC00114/R02**
 AECOM Project / Task Number: **Roxana Quarterly GW**
 60527968 - 01.03.002 / 01.03.0022

STATE: **IL** LAB USE ONLY

900 South Central Ave. ROXANA, ILLINOIS 60527968 - 01.03.002 / 01.03.0022
 900 South Central Ave. ROXANA, ILLINOIS 60527968 - 01.03.002 / 01.03.0022

J. PETERS, T. JONES

LAB (LOCATION) **ACCUSET ()**

LAB VENDOR # **75643397 (TestAmerica)**

LAB VENDOR **TESTAMERICA (TestAmerica, 3355 McLennan Dr, Pensacola, FL 32514 (850-474-1001))**

LAB USE ONLY

1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110

PROJECT CONTACT (Name, Title, Phone, Fax, Email) **Elizabeth Kunkel, Bob Billman, Wendy Pennington**
 314-429-0100 314-429-0462
 elizabeth.kunkel@aec.com bob.billman@aec.com wendy.pennington@aec.com

TURNAROUND TIME (CALENDAR DAYS) STANDARD (14 DAY) 3 DAYS 2 DAYS 24 HOURS RESULTS NEEDED WEEKEND

LAB - SINGLE RECEIPT FORMAT LEVEL 1 LEVEL 2 OTHER (SPECIFY) **EDO**

DELIVERABLES COOLER #1 COOLER #2 COOLER #3

TEMPERATURE ON RECEIPT **C**

SPECIAL INSTRUCTIONS OR NOTES:
 * Please include "J" values on Reports
 * Please provide sample receipt upon login

FIELD SAMPLE IDENTIFICATION

LAB USE ONLY	DATE	TIME	MATRIX	PRESERVATIVE			NO OF CONT.
				MEL	NO3	NO2/NO	
1B-ROX-040918-8011-B	4/9	0900	WATER	2			2
1B-ROX-040918-8260-B	4/9	0900	WATER	2			2
M114-ROX-040918	4/9	1030	WATER	4			6
M1126-ROX-040918	4/9	1120	WATER	4			6
M118-ROX-040918	4/9	1250	WATER	4			6
M117-ROX-040918	4/9	1405	WATER	4			6
M117-ROX-040918-DUP	4/9	1405	WATER	4			6

Requested Analysis:
 UNIT COST: 60527968 - 01.03.0022
 NON-UNIT COST: 60527968 - 01.03.0022

FIELD NOTES:
 TEMPERATURE ON RECEIPT **C**
 Container PID Readings or Laboratory Notes

RECEIVED BY (Signature) **FEDEX** DATE: 4/9/18 TIME: 1630
 RECEIVED BY (Signature) DATE: 4/10/18 TIME: 924
 RECEIVED BY (Signature) DATE: DATE: TIME:



Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-151994-1

SDG Number: (2Q18)

Login Number: 151994

List Source: TestAmerica Pensacola

List Number: 1

Creator: Johnson, Jeremy N

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	°C IR7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151994-1
 SDG: (2Q18)

Laboratory: TestAmerica Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-18
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State Program	9	AZ0710	01-12-19
Arkansas DEQ	State Program	6	88-0689	09-01-18
California	ELAP	9	2510	03-31-18 *
Florida	NELAP	4	E81010	06-30-18
Georgia	State Program	4	N/A	06-30-18
Illinois	NELAP	5	200041	10-09-18
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-18
Kentucky (UST)	State Program	4	53	06-30-18
Kentucky (WW)	State Program	4	98030	12-31-18
Louisiana	NELAP	6	30976	06-30-18
Louisiana (DW)	NELAP	6	LA170005	12-31-18
Maryland	State Program	3	233	09-30-18
Massachusetts	State Program	1	M-FL094	06-30-18
Michigan	State Program	5	9912	06-30-18
New Jersey	NELAP	2	FL006	06-30-18
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-18
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
South Carolina	State Program	4	96026	06-30-18
Tennessee	State Program	4	TN02907	06-30-18
Texas	NELAP	6	T104704286-17-12	09-30-18
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-18
Washington	State Program	10	C915	05-15-18
West Virginia DEP	State Program	3	136	06-30-18

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



Roxana Groundwater Quarterly – 2nd Quarter 2018 Data Review

Laboratory SDG: 400-151995-1-Rev.1

Data Reviewer: Melissa Remiger

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 5/9/2018

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-ROX-040918-8011-BP	TB-ROX-040918-8260-BP
MW23-ROX-040918	

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated that several SVOC LCS/LCSD recoveries were outside evaluation criteria. The VOC by 8011 surrogate recovery for 4-bromofluorobenzene was outside criteria in trip blank TB-ROX-040918-8011-BP. The continuing calibration verifications for isophorone and pyridine were outside evaluation criteria, biased low. These issues are addressed further in the appropriate sections of this data review. Additionally, the laboratory report was revised on May 13, 2016 to correct continuing calibration verification language in the laboratory case narrative.

Three of 69 (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) 8260 VOCs are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/ RPD Criteria
LCS/LCSD 400-394010/2-A/3-A	SVOCs	Aniline	108/59	59	29-120/30
LCS/LCSD 400-394010/2-A/3-A	SVOCs	Benzoic acid	11/25	76	10-150/30
LCS/LCSD 400-394010/2-A/3-A	SVOCs	Bis(2-chloroethyl)ether	135/51	91	48-120/30
LCS/LCSD 400-394010/2-A/3-A	SVOCs	Dibenzofuran	70/56	22	58-123/30
LCS/LCSD 400-394010/2-A/3-A	SVOCs	Hexachloroethane	49/40	19	41-120/30
LCS/LCSD 400-394010/4-A/5-A	SVOCs	Benzenethiol	2/14	161	10-120/30

Analytical data that required qualification based on LCS/LCSD data are included in the table below. Professional judgment was used to qualify, however not reject, data associated with benzenethiol in LCS/LCSD 400-394010/4-A/5-A; benzenethiol has been identified as a poor performing analyte under Method 8270. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. Analytical data associated with RPD alone outside evaluation criteria did not require qualification.

Sample ID	Parameter	Analyte	Qualification
MW23-ROX-040918	SVOCs	Benzenethiol	UJ
MW23-ROX-040918	SVOCs	Dibenzofuran	UJ
MW23-ROX-040918	SVOCs	Hexachloroethane	UJ

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
TB-ROX-040918-8011-BP	VOCs by 8011	4-Bromofluorobenzene	158	51-149

Trip blank TB-ROX-040918-8011-BP is a quality control sample and does not require qualification. No qualification of data was required.

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

No

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; samples analyzed did not require dilution.

12.0 Additional Qualifications

Were additional qualifications applied?

Yes, the continuing calibration verifications for isophorone and pyridine were below acceptance criteria and are qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
MW23-ROX-040918	SVOCs	Isophorone	UJ
MW23-ROX-040918	SVOCs	Pyridine	UJ

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-151995-1

TestAmerica Sample Delivery Group: (2Q18)

Client Project/Site: ROXANA QUARTERLY GW

Revision: 1

For:

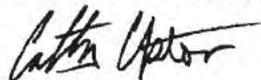
AECOM Technical Services Inc.

100 N. Broadway

20th Floor

St. Louis, Missouri 63102

Attn: Mrs. Elizabeth Kunkel



Authorized for release by:

5/13/2018 7:52:58 PM

Cathy Upton, Project Manager I

(713)690-4444

cathy.upton@testamericainc.com

LINKS

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results through

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? Ask
The
Expert

Visit us at:

www.testamericainc.com

Reviewed 5/13/18
UR

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
SDG: (2Q18)

Job ID: 400-151995-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-151995-1

Comments

The report was revised on 5/13/18 to update the wording in the job narrative.

Receipt

The samples were received on 4/10/2018 9:24 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.6° C.

GC/MS VOA

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-ROX-040918-8260-BP (400-151995-2) and MW-23-ROX-040918 (400-151995-3). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-393862 were outside control limits for 2-Chloroethyl vinyl ether due to the acidic nature of the parent sample.

Method(s) 8260B: The RPD for the matrix spike / matrix spike duplicate (MS/MSD) for 2-Chloroethyl vinyl ether was not calculable for analytical batch 400-393862 because the recoveries were below the reporting limit due to the acidic nature of the parent sample.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-394010 and analytical batch 400-394181 recovered above control limits for the following analyte: Bis(2-chloroethyl)ether. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: The laboratory control sample and the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-394010 and analytical batch 400-394181 recoveries were outside control limits for the following analyte: Benzenethiol. Benzenethiol has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method(s) 8270D: The following analytes recovered outside control limits for the LCSD associated with preparation batch 400-394010 and analytical batch 400-394181: Hexachloroethane and Dibenzofuran. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method(s) 8270D: The RPD of the laboratory control sample duplicate (LCSD) for batch preparation batch 400-394010 and analytical batch 400-394181 recovered outside control limits for the following analytes: Benzenethiol, Benzoic acid, Bis(2-chloroethyl)ether and Aniline.

Method(s) 8270D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-394010 and analytical batch 400-394181 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected.

Method(s) 8270D: The initial calibration verification (ICV) analyzed in batch 400-392786 was outside method criteria for the following analyte: 2,4-Dimethylphenol. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-394181 recovered outside acceptance criteria, low biased, for Pyridine and Isophorone. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for these analytes, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
SDG: (2Q18)

Job ID: 400-151995-1 (Continued)

Laboratory: TestAmerica Pensacola (Continued)

GC Semi VOA

Method(s) 8011: Surrogate recovery for the following sample was outside the upper control limit: TB-ROX-040918-8011-BP (400-151995-1). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

Method(s) 8011: The continuing calibration verification (CCV) associated with batch 400-393757 recovered above the upper control limit for 1,2-Dibromo-3-Chloropropane and 1,2-Dibromoethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
SDG: (2Q18)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-151995-1	TB-ROX-040918-8011-BP ✓	Water	04/09/18 00:00	04/10/18 09:24
400-151995-2	TB-ROX-040918-8260-BP ✓	Water	04/09/18 00:00	04/10/18 09:24
400-151995-3	MW-23-ROX-040918 ✓	Water	04/09/18 09:20	04/10/18 09:24

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Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
SDG: (2Q18)

Client Sample ID: TB-ROX-040918-8011-BP

Lab Sample ID: 400-151995-1

No Detections.

Client Sample ID: TB-ROX-040918-8260-BP

Lab Sample ID: 400-151995-2

No Detections.

Client Sample ID: MW-23-ROX-040918

Lab Sample ID: 400-151995-3

No Detections.

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This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
 SDG: (2Q18)

Client Sample ID: TB-ROX-040918-8011-BP

Lab Sample ID: 400-151995-1

Date Collected: 04/09/18 00:00

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.030	0.0055	ug/L		04/12/18 09:06	04/13/18 00:19	1
1,2-Dibromoethane	ND		0.020	0.0050	ug/L		04/12/18 09:06	04/13/18 00:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	158	p X	51 - 149				04/12/18 09:06	04/13/18 00:19	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
 SDG: (2Q18)

Client Sample ID: TB-ROX-040918-8260-BP

Lab Sample ID: 400-151995-2

Date Collected: 04/09/18 00:00

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/13/18 21:52	1
Acrolein	ND		20	10	ug/L			04/13/18 21:52	1
Acrylonitrile	ND		10	2.8	ug/L			04/13/18 21:52	1
Benzene	ND		1.0	0.38	ug/L			04/13/18 21:52	1
Bromobenzene	ND		1.0	0.54	ug/L			04/13/18 21:52	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/13/18 21:52	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/13/18 21:52	1
Bromoform	ND		5.0	0.71	ug/L			04/13/18 21:52	1
Bromomethane	ND		1.0	0.98	ug/L			04/13/18 21:52	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/13/18 21:52	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/13/18 21:52	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/13/18 21:52	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/13/18 21:52	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/13/18 21:52	1
Chloroethane	ND		1.0	0.76	ug/L			04/13/18 21:52	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/13/18 21:52	1
Chloroform	ND		1.0	0.60	ug/L			04/13/18 21:52	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/13/18 21:52	1
Chloromethane	ND		1.0	0.83	ug/L			04/13/18 21:52	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 21:52	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/13/18 21:52	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/13/18 21:52	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/13/18 21:52	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/13/18 21:52	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/13/18 21:52	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/13/18 21:52	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/13/18 21:52	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 21:52	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 21:52	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 21:52	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 21:52	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/13/18 21:52	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/13/18 21:52	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/13/18 21:52	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/13/18 21:52	1
2-Hexanone	ND		25	3.1	ug/L			04/13/18 21:52	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/13/18 21:52	1
Methylene bromide	ND		5.0	0.59	ug/L			04/13/18 21:52	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/13/18 21:52	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/13/18 21:52	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/13/18 21:52	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/13/18 21:52	1
Naphthalene	ND		1.0	1.0	ug/L			04/13/18 21:52	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/13/18 21:52	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/13/18 21:52	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/13/18 21:52	1
o-Xylene	ND		5.0	0.60	ug/L			04/13/18 21:52	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/13/18 21:52	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/13/18 21:52	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
 SDG: (2Q18)

Client Sample ID: TB-ROX-040918-8260-BP

Lab Sample ID: 400-151995-2

Date Collected: 04/09/18 00:00

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/13/18 21:52	1
Styrene	ND		1.0	1.0	ug/L			04/13/18 21:52	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/13/18 21:52	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/13/18 21:52	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/13/18 21:52	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/13/18 21:52	1
Toluene	ND		1.0	0.70	ug/L			04/13/18 21:52	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 21:52	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/13/18 21:52	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/13/18 21:52	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/13/18 21:52	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/13/18 21:52	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/13/18 21:52	1
Trichloroethene	ND		1.0	0.50	ug/L			04/13/18 21:52	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/13/18 21:52	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/13/18 21:52	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/13/18 21:52	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/13/18 21:52	1
Vinyl acetate	ND		25	2.0	ug/L			04/13/18 21:52	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/13/18 21:52	1
Xylenes, Total	ND		10	1.6	ug/L			04/13/18 21:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	109		78 - 118		04/13/18 21:52	1
Dibromofluoromethane	105		81 - 121		04/13/18 21:52	1
Toluene-d8 (Surr)	105		80 - 120		04/13/18 21:52	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
 SDG: (2Q18)

Client Sample ID: MW-23-ROX-040918

Lab Sample ID: 400-151995-3

Date Collected: 04/09/18 09:20

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/13/18 22:14	1
Acrolein	ND		20	10	ug/L			04/13/18 22:14	1
Acrylonitrile	ND		10	2.8	ug/L			04/13/18 22:14	1
Benzene	ND		1.0	0.38	ug/L			04/13/18 22:14	1
Bromobenzene	ND		1.0	0.54	ug/L			04/13/18 22:14	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/13/18 22:14	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/13/18 22:14	1
Bromoform	ND		5.0	0.71	ug/L			04/13/18 22:14	1
Bromomethane	ND		1.0	0.98	ug/L			04/13/18 22:14	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/13/18 22:14	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/13/18 22:14	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/13/18 22:14	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/13/18 22:14	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/13/18 22:14	1
Chloroethane	ND		1.0	0.76	ug/L			04/13/18 22:14	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/13/18 22:14	1
Chloroform	ND		1.0	0.60	ug/L			04/13/18 22:14	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/13/18 22:14	1
Chloromethane	ND		1.0	0.83	ug/L			04/13/18 22:14	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 22:14	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/13/18 22:14	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/13/18 22:14	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/13/18 22:14	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/13/18 22:14	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/13/18 22:14	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/13/18 22:14	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/13/18 22:14	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 22:14	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 22:14	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 22:14	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 22:14	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/13/18 22:14	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/13/18 22:14	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/13/18 22:14	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/13/18 22:14	1
2-Hexanone	ND		25	3.1	ug/L			04/13/18 22:14	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/13/18 22:14	1
Methylene bromide	ND		5.0	0.59	ug/L			04/13/18 22:14	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/13/18 22:14	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/13/18 22:14	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/13/18 22:14	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/13/18 22:14	1
Naphthalene	ND		1.0	1.0	ug/L			04/13/18 22:14	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/13/18 22:14	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/13/18 22:14	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/13/18 22:14	1
o-Xylene	ND		5.0	0.60	ug/L			04/13/18 22:14	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/13/18 22:14	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/13/18 22:14	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
SDG: (2Q18)

Client Sample ID: MW-23-ROX-040918

Lab Sample ID: 400-151995-3

Date Collected: 04/09/18 09:20

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/13/18 22:14	1
Styrene	ND		1.0	1.0	ug/L			04/13/18 22:14	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/13/18 22:14	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/13/18 22:14	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/13/18 22:14	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/13/18 22:14	1
Toluene	ND		1.0	0.70	ug/L			04/13/18 22:14	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 22:14	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/13/18 22:14	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/13/18 22:14	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/13/18 22:14	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/13/18 22:14	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/13/18 22:14	1
Trichloroethene	ND		1.0	0.50	ug/L			04/13/18 22:14	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/13/18 22:14	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/13/18 22:14	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/13/18 22:14	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/13/18 22:14	1
Vinyl acetate	ND		25	2.0	ug/L			04/13/18 22:14	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/13/18 22:14	1
Xylenes, Total	ND		10	1.6	ug/L			04/13/18 22:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	105		78 - 118					04/13/18 22:14	1
Dibromofluoromethane	101		81 - 121					04/13/18 22:14	1
Toluene-d8 (Surr)	100		80 - 120					04/13/18 22:14	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 13:21	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 13:21	1
Anthracene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 13:21	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 13:21	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 13:21	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 13:21	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 13:21	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 13:21	1
Chrysene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 13:21	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 13:21	1
Fluoranthene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 13:21	1
Fluorene	ND		0.20	0.021	ug/L		04/16/18 10:02	04/18/18 13:21	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/18/18 13:21	1
Phenanthrene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 13:21	1
Pyrene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 13:21	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 13:21	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/18/18 13:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	69		33 - 138				04/16/18 10:02	04/18/18 13:21	1
2-Fluorobiphenyl	96		15 - 122				04/16/18 10:02	04/18/18 13:21	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
SDG: (2Q18)

Client Sample ID: MW-23-ROX-040918

Lab Sample ID: 400-151995-3

Date Collected: 04/09/18 09:20

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	83		19 - 130	04/16/18 10:02	04/18/18 13:21	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*	10	3.8	ug/L		04/16/18 10:02	04/18/18 00:41	1
Benzenethiol	ND	* UJ	10	1.7	ug/L		04/16/18 10:02	04/18/18 00:41	1
Benzoic acid	ND	*	30	7.3	ug/L		04/16/18 10:02	04/18/18 00:41	1
Benzyl alcohol	ND		10	2.0	ug/L		04/16/18 10:02	04/18/18 00:41	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		04/16/18 10:02	04/18/18 00:41	1
Bis(2-chloroethyl)ether	ND	*	10	0.74	ug/L		04/16/18 10:02	04/18/18 00:41	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		04/16/18 10:02	04/18/18 00:41	1
Bis(2-ethylhexyl) phthalate	ND		10	2.3	ug/L		04/16/18 10:02	04/18/18 00:41	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		04/16/18 10:02	04/18/18 00:41	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		04/16/18 10:02	04/18/18 00:41	1
4-Chloroaniline	ND		10	3.4	ug/L		04/16/18 10:02	04/18/18 00:41	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		04/16/18 10:02	04/18/18 00:41	1
2-Chloronaphthalene	ND		10	0.52	ug/L		04/16/18 10:02	04/18/18 00:41	1
2-Chlorophenol	ND		10	2.2	ug/L		04/16/18 10:02	04/18/18 00:41	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		04/16/18 10:02	04/18/18 00:41	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		04/16/18 10:02	04/18/18 00:41	1
Dibenzofuran	ND	* UJ	10	0.52	ug/L		04/16/18 10:02	04/18/18 00:41	1
3,3'-Dichlorobenzidina	ND		10	2.6	ug/L		04/16/18 10:02	04/18/18 00:41	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		04/16/18 10:02	04/18/18 00:41	1
Diethyl phthalate	ND		10	0.70	ug/L		04/16/18 10:02	04/18/18 00:41	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		04/16/18 10:02	04/18/18 00:41	1
Dimethyl phthalate	ND		10	0.60	ug/L		04/16/18 10:02	04/18/18 00:41	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		04/16/18 10:02	04/18/18 00:41	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		04/16/18 10:02	04/18/18 00:41	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/16/18 10:02	04/18/18 00:41	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		04/16/18 10:02	04/18/18 00:41	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		04/16/18 10:02	04/18/18 00:41	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		04/16/18 10:02	04/18/18 00:41	1
1,4-Dioxane	ND		10	1.0	ug/L		04/16/18 10:02	04/18/18 00:41	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		04/16/18 10:02	04/18/18 00:41	1
Hexachlorobenzene	ND		10	0.25	ug/L		04/16/18 10:02	04/18/18 00:41	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/16/18 10:02	04/18/18 00:41	1
Hexachloroethane	ND	* UJ	10	4.2	ug/L		04/16/18 10:02	04/18/18 00:41	1
Indene	ND		10	1.0	ug/L		04/16/18 10:02	04/18/18 00:41	1
Isophorone	ND	UJ	10	0.57	ug/L		04/16/18 10:02	04/18/18 00:41	1
2-Methylphenol	ND		10	1.8	ug/L		04/16/18 10:02	04/18/18 00:41	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/16/18 10:02	04/18/18 00:41	1
2-Nitroaniline	ND		10	2.2	ug/L		04/16/18 10:02	04/18/18 00:41	1
3-Nitroaniline	ND		10	1.8	ug/L		04/16/18 10:02	04/18/18 00:41	1
4-Nitroaniline	ND		10	2.5	ug/L		04/16/18 10:02	04/18/18 00:41	1
Nitrobenzene	ND		10	0.55	ug/L		04/16/18 10:02	04/18/18 00:41	1
2-Nitrophenol	ND		10	0.65	ug/L		04/16/18 10:02	04/18/18 00:41	1
4-Nitrophenol	ND		10	2.1	ug/L		04/16/18 10:02	04/18/18 00:41	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		04/16/18 10:02	04/18/18 00:41	1

TestAmerica Pensacola

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Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
 SDG: (2Q18)

Client Sample ID: MW-23-ROX-040918

Lab Sample ID: 400-151995-3

Date Collected: 04/09/18 09:20

Matrix: Water

Date Received: 04/10/18 09:24

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		04/16/18 10:02	04/18/18 00:41	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		04/16/18 10:02	04/18/18 00:41	1
Pentachlorophenol	ND		20	1.8	ug/L		04/16/18 10:02	04/18/18 00:41	1
Phenol	ND		10	2.6	ug/L		04/16/18 10:02	04/18/18 00:41	1
Pyridine	ND	UJ	10	3.2	ug/L		04/16/18 10:02	04/18/18 00:41	1
Quinoline	ND		10	6.0	ug/L		04/16/18 10:02	04/18/18 00:41	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		04/16/18 10:02	04/18/18 00:41	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/16/18 10:02	04/18/18 00:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	63		34 - 120	04/16/18 10:02	04/18/18 00:41	1
2-Fluorophenol	29		10 - 120	04/16/18 10:02	04/18/18 00:41	1
Nitrobenzene-d5	58		27 - 120	04/16/18 10:02	04/18/18 00:41	1
Phenol-d5	34		10 - 120	04/16/18 10:02	04/18/18 00:41	1
Terphenyl-d14	54		53 - 125	04/16/18 10:02	04/18/18 00:41	1
2,4,6-Tribromophenol	49		15 - 135	04/16/18 10:02	04/18/18 00:41	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.029	0.0053	ug/L		04/12/18 09:06	04/13/18 00:59	1
1,2-Dibromoethane	ND		0.019	0.0048	ug/L		04/12/18 09:06	04/13/18 00:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	113	p	51 - 149	04/12/18 09:06	04/13/18 00:59	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
SDG: (2Q18)

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.
X	Surrogate is outside control limits
*	RPD of the LCS and LCSD exceeds the control limits
*	LCS or LCSD is outside acceptance limits.

GC Semi VOA

Qualifier	Qualifier Description
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
X	Surrogate is outside control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (78-118)	DBFM (81-121)	TOL (80-120)
400-151882-A-6 MS	Matrix Spike	99	103	96
400-151882-A-6 MSD	Matrix Spike Duplicate	105	102	96
400-151995-2	TB-ROX-040918-8260-BP	109	105	105
400-151995-3	MW-23-ROX-040918	105	101	100
LCS 400-393862/1002	Lab Control Sample	96	101	97
MB 400-393862/19	Method Blank	103	105	99

Surrogate Legend
 BFB = 4-Bromofluorobenzene
 DBFM = Dibromofluoromethane
 TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (34-120)	2FP (10-120)	NBZ (27-120)	PHL (10-120)	TPHL (53-125)	TBP (15-135)
400-151994-E-3-B MS	Matrix Spike	45	30	38	35	35 X	48
400-151994-E-3-C MSD	Matrix Spike Duplicate	51	32	43	40	44 X	56
400-151995-3	MW-23-ROX-040918	63	29	58	34	54	49
LCS 400-394010/2-A	Lab Control Sample	71	29	59	55	77	82
LCS 400-394010/4-A	Lab Control Sample	66	21	60	44	77	59
LCSD 400-394010/3-A	Lab Control Sample Dup	55	23	49	43	59	64
LCSD 400-394010/5-A	Lab Control Sample Dup	69	48	65	49	82	63
MB 400-394010/1-A	Method Blank	48	26	46	34	55	40

Surrogate Legend
 FBP = 2-Fluorobiphenyl
 2FP = 2-Fluorophenol
 NBZ = Nitrobenzene-d5
 PHL = Phenol-d5
 TPHL = Terphenyl-d14
 TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TPHL (33-138)	FBP (15-122)	NBZ (19-130)
400-151994-E-3-B MS	Matrix Spike	60	83	60
400-151994-E-3-C MSD	Matrix Spike Duplicate	60	78	58
400-151995-3	MW-23-ROX-040918	69	96	83
LCS 400-394010/2-A	Lab Control Sample	74	79	71
LCSD 400-394010/3-A	Lab Control Sample Dup	80	83	70
MB 400-394010/1-A	Method Blank	117	103	89

Surrogate Legend
 TPHL = Terphenyl-d14

TestAmerica Pensacola

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
SDG: (2Q18)

FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5

Method: 8011 - EDB and DBCP in Water by Microextraction

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB2 (51-149)
400-151882-C-6-A MSD	Matrix Spike Duplicate	109
400-151882-D-6-B MS	Matrix Spike	107
400-151995-1	TB-ROX-040918-8011-BP	158 p X
400-151995-3	MW-23-ROX-040918	113 p
LCS 400-393622/2-A	Lab Control Sample	103
LCSD 400-393622/3-A	Lab Control Sample Dup	105
MB 400-393622/1-A	Method Blank	96

Surrogate Legend

BFB = 4-Bromofluorobenzene



Method Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
SDG: (2Q18)

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
8011	EDB and DBCP in Water by Microextraction	EPA	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
8011	Microextraction	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001



Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
SDG: (2Q18)

Client Sample ID: TB-ROX-040918-8011-BP

Lab Sample ID: 400-151995-1

Date Collected: 04/09/18 00:00
Date Received: 04/10/18 09:24

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35.3 mL	35 mL	393622	04/12/18 09:06	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/13/18 00:19	DS	TAL PEN

Client Sample ID: TB-ROX-040918-8260-BP

Lab Sample ID: 400-151995-2

Date Collected: 04/09/18 00:00
Date Received: 04/10/18 09:24

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393862	04/13/18 21:52	RS	TAL PEN

Client Sample ID: MW-23-ROX-040918

Lab Sample ID: 400-151995-3

Date Collected: 04/09/18 09:20
Date Received: 04/10/18 09:24

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393862	04/13/18 22:14	RS	TAL PEN
Total/NA	Prep	3520C			996.6 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394181	04/18/18 00:41	S1B	TAL PEN
Total/NA	Prep	3520C			996.6 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			394333	04/18/18 13:21	RM	TAL PEN
Total/NA	Prep	8011			36.4 mL	35 mL	393622	04/12/18 09:06	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/13/18 00:59	DS	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-393622/1-A

Date Collected: N/A
Date Received: N/A

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35 mL	35 mL	393622	04/12/18 09:06	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/12/18 17:41	DS	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-393862/19

Date Collected: N/A
Date Received: N/A

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393862	04/13/18 15:06	RS	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
SDG: (2Q18)

Client Sample ID: Method Blank

Lab Sample ID: MB 400-394010/1-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394181	04/17/18 17:53	S1B	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			394192	04/17/18 21:59	RM	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-393622/2-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35 mL	35 mL	393622	04/12/18 09:06	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/12/18 18:01	DS	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-393862/1002

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393862	04/13/18 14:09	RS	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-394010/2-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	394181	04/17/18 18:17	S1B	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D LL		5			394192	04/17/18 22:17	RM	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-394010/4-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394181	04/17/18 19:04	S1B	TAL PEN

TestAmerica Pensacola



Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
SDG: (2Q18)

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-393622/3-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35 mL	35 mL	393622	04/12/18 09:06	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/12/18 18:20	DS	TAL PEN

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-394010/3-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	394181	04/17/18 18:41	S1B	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D LL		5			394192	04/17/18 22:34	RM	TAL PEN

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-394010/5-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394181	04/17/18 19:29	S1B	TAL PEN

Client Sample ID: Matrix Spike

Lab Sample ID: 400-151882-A-6 MS

Date Collected: 04/05/18 13:35

Matrix: Water

Date Received: 04/06/18 09:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393862	04/13/18 16:23	RS	TAL PEN

Client Sample ID: Matrix Spike Duplicate

Lab Sample ID: 400-151882-A-6 MSD

Date Collected: 04/05/18 13:35

Matrix: Water

Date Received: 04/06/18 09:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	393862	04/13/18 16:45	RS	TAL PEN

Client Sample ID: Matrix Spike Duplicate

Lab Sample ID: 400-151882-C-6-A MSD

Date Collected: 04/05/18 13:35

Matrix: Water

Date Received: 04/06/18 09:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			36.4 mL	35 mL	393622	04/12/18 09:06	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/12/18 20:40	DS	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
SDG: (2Q18)

Client Sample ID: Matrix Spike

Lab Sample ID: 400-151882-D-6-B MS

Date Collected: 04/05/18 13:35

Matrix: Water

Date Received: 04/06/18 09:29

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35.3 mL	35 mL	393622	04/12/18 09:06	VC1	TAL PEN
Total/NA	Analysis	8011		1			393757	04/12/18 20:20	DS	TAL PEN

Client Sample ID: Matrix Spike

Lab Sample ID: 400-151994-E-3-B MS

Date Collected: 04/09/18 09:10

Matrix: Water

Date Received: 04/10/18 09:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1006.4 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394181	04/17/18 19:52	S1B	TAL PEN
Total/NA	Prep	3520C			1006.4 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D LL		5			394192	04/17/18 22:51	RM	TAL PEN

Client Sample ID: Matrix Spike Duplicate

Lab Sample ID: 400-151994-E-3-C MSD

Date Collected: 04/09/18 09:10

Matrix: Water

Date Received: 04/10/18 09:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			988.6 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394181	04/17/18 20:16	S1B	TAL PEN
Total/NA	Prep	3520C			988.6 mL	1.0 mL	394010	04/16/18 10:02	JJA	TAL PEN
Total/NA	Analysis	8270D LL		5			394192	04/17/18 23:08	RM	TAL PEN

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
 SDG: (2Q18)

GC/MS VOA

Analysis Batch: 393862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151995-2	TB-ROX-040918-8260-BP	Total/NA	Water	8260B	
400-151995-3	MW-23-ROX-040918	Total/NA	Water	8260B	
MB 400-393862/19	Method Blank	Total/NA	Water	8260B	
LCS 400-393862/1002	Lab Control Sample	Total/NA	Water	8260B	
400-151882-A-6 MS	Matrix Spike	Total/NA	Water	8260B	
400-151882-A-6 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 394010

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151995-3	MW-23-ROX-040918	Total/NA	Water	3520C	
MB 400-394010/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-394010/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-394010/4-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-394010/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	
LCSD 400-394010/5-A	Lab Control Sample Dup	Total/NA	Water	3520C	
400-151994-E-3-B MS	Matrix Spike	Total/NA	Water	3520C	
400-151994-E-3-C MSD	Matrix Spike Duplicate	Total/NA	Water	3520C	

Analysis Batch: 394181

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151995-3	MW-23-ROX-040918	Total/NA	Water	8270D	394010
MB 400-394010/1-A	Method Blank	Total/NA	Water	8270D	394010
LCS 400-394010/2-A	Lab Control Sample	Total/NA	Water	8270D	394010
LCS 400-394010/4-A	Lab Control Sample	Total/NA	Water	8270D	394010
LCSD 400-394010/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	394010
LCSD 400-394010/5-A	Lab Control Sample Dup	Total/NA	Water	8270D	394010
400-151994-E-3-B MS	Matrix Spike	Total/NA	Water	8270D	394010
400-151994-E-3-C MSD	Matrix Spike Duplicate	Total/NA	Water	8270D	394010

Analysis Batch: 394192

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-394010/1-A	Method Blank	Total/NA	Water	8270D LL	394010
LCS 400-394010/2-A	Lab Control Sample	Total/NA	Water	8270D LL	394010
LCSD 400-394010/3-A	Lab Control Sample Dup	Total/NA	Water	8270D LL	394010
400-151994-E-3-B MS	Matrix Spike	Total/NA	Water	8270D LL	394010
400-151994-E-3-C MSD	Matrix Spike Duplicate	Total/NA	Water	8270D LL	394010

Analysis Batch: 394333

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151995-3	MW-23-ROX-040918	Total/NA	Water	8270D LL	394010

GC Semi VOA

Prep Batch: 393622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151995-1	TB-ROX-040918-8011-BP	Total/NA	Water	8011	
400-151995-3	MW-23-ROX-040918	Total/NA	Water	8011	
MB 400-393622/1-A	Method Blank	Total/NA	Water	8011	

TestAmerica Pensacola



QC Association Summary

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
 SDG: (2Q18)

GC Semi VOA (Continued)

Prep Batch: 393622 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-393622/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 400-393622/3-A	Lab Control Sample Dup	Total/NA	Water	8011	
400-151882-C-6-A MSD	Matrix Spike Duplicate	Total/NA	Water	8011	
400-151882-D-6-B MS	Matrix Spike	Total/NA	Water	8011	

Analysis Batch: 393757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-151995-1	TB-ROX-040918-8011-BP	Total/NA	Water	8011	393622
400-151995-3	MW-23-ROX-040918	Total/NA	Water	8011	393622
MB 400-393622/1-A	Method Blank	Total/NA	Water	8011	393622
LCS 400-393622/2-A	Lab Control Sample	Total/NA	Water	8011	393622
LCSD 400-393622/3-A	Lab Control Sample Dup	Total/NA	Water	8011	393622
400-151882-C-6-A MSD	Matrix Spike Duplicate	Total/NA	Water	8011	393622
400-151882-D-6-B MS	Matrix Spike	Total/NA	Water	8011	393622



QC Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
 SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-393862/19
 Matrix: Water
 Analysis Batch: 393862

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/13/18 15:06	1
Acrolein	ND		20	10	ug/L			04/13/18 15:06	1
Acrylonitrile	ND		10	2.8	ug/L			04/13/18 15:06	1
Benzene	ND		1.0	0.38	ug/L			04/13/18 15:06	1
Bromobenzene	ND		1.0	0.54	ug/L			04/13/18 15:06	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/13/18 15:06	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/13/18 15:06	1
Bromoform	ND		5.0	0.71	ug/L			04/13/18 15:06	1
Bromomethane	ND		1.0	0.98	ug/L			04/13/18 15:06	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/13/18 15:06	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/13/18 15:06	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/13/18 15:06	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/13/18 15:06	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/13/18 15:06	1
Chloroethane	ND		1.0	0.76	ug/L			04/13/18 15:06	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/13/18 15:06	1
Chloroform	ND		1.0	0.60	ug/L			04/13/18 15:06	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/13/18 15:06	1
Chloromethane	ND		1.0	0.83	ug/L			04/13/18 15:06	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 15:06	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/13/18 15:06	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/13/18 15:06	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/13/18 15:06	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/13/18 15:06	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/13/18 15:06	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/13/18 15:06	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/13/18 15:06	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 15:06	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 15:06	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 15:06	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/13/18 15:06	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/13/18 15:06	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/13/18 15:06	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/13/18 15:06	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/13/18 15:06	1
2-Hexanone	ND		25	3.1	ug/L			04/13/18 15:06	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/13/18 15:06	1
Methylene bromide	ND		5.0	0.59	ug/L			04/13/18 15:06	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/13/18 15:06	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/13/18 15:06	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/13/18 15:06	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/13/18 15:06	1
Naphthalene	ND		1.0	1.0	ug/L			04/13/18 15:06	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/13/18 15:06	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/13/18 15:06	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/13/18 15:06	1
o-Xylene	ND		5.0	0.60	ug/L			04/13/18 15:06	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/13/18 15:06	1

TestAmerica Pensacola



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-393862/19
Matrix: Water
Analysis Batch: 393862

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/13/18 15:06	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/13/18 15:06	1
Styrene	ND		1.0	1.0	ug/L			04/13/18 15:06	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/13/18 15:06	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/13/18 15:06	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/13/18 15:06	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/13/18 15:06	1
Toluene	ND		1.0	0.70	ug/L			04/13/18 15:06	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/13/18 15:06	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/13/18 15:06	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/13/18 15:06	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/13/18 15:06	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/13/18 15:06	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/13/18 15:06	1
Trichloroethene	ND		1.0	0.50	ug/L			04/13/18 15:06	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/13/18 15:06	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/13/18 15:06	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/13/18 15:06	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/13/18 15:06	1
Vinyl acetate	ND		25	2.0	ug/L			04/13/18 15:06	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/13/18 15:06	1
Xylenes, Total	ND		10	1.6	ug/L			04/13/18 15:06	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene	103		78 - 118		04/13/18 15:06	1
Dibromofluoromethane	105		81 - 121		04/13/18 15:06	1
Toluene-d8 (Surr)	99		80 - 120		04/13/18 15:06	1

Lab Sample ID: LCS 400-393862/1002
Matrix: Water
Analysis Batch: 393862

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Acetone	200	230		ug/L		115	43 - 160
Acrolein	500	561		ug/L		112	38 - 160
Acrylonitrile	500	574		ug/L		115	64 - 142
Benzene	50.0	48.8		ug/L		98	70 - 130
Bromobenzene	50.0	45.0		ug/L		90	70 - 132
Bromochloromethane	50.0	51.0		ug/L		102	70 - 130
Bromodichloromethane	50.0	50.0		ug/L		100	67 - 133
Bromoform	50.0	54.6		ug/L		109	57 - 140
Bromomethane	50.0	48.9		ug/L		98	10 - 160
2-Butanone (MEK)	200	250		ug/L		125	61 - 145
Carbon disulfide	50.0	53.9		ug/L		108	61 - 137
Carbon tetrachloride	50.0	54.1		ug/L		108	61 - 137
Chlorobenzene	50.0	45.0		ug/L		90	70 - 130
Dibromochloromethane	50.0	51.2		ug/L		102	67 - 135
Chloroethane	50.0	45.1		ug/L		90	55 - 141

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-393862/1002
Matrix: Water
Analysis Batch: 393862

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
							Limits
2-Chloroethyl vinyl ether	50.0	54.5		ug/L		109	10 - 160
Chloroform	50.0	47.7		ug/L		95	69 - 130
1-Chlorohexane	50.0	47.3		ug/L		95	69 - 130
Chloromethane	50.0	44.7		ug/L		89	58 - 137
cis-1,2-Dichloroethene	50.0	47.5		ug/L		95	68 - 130
cis-1,3-Dichloropropene	50.0	58.3		ug/L		117	69 - 132
1,2-Dichlorobenzene	50.0	45.2		ug/L		90	67 - 130
1,3-Dichlorobenzene	50.0	45.3		ug/L		91	70 - 130
1,4-Dichlorobenzene	50.0	44.2		ug/L		88	70 - 130
Dichlorodifluoromethane	50.0	46.2		ug/L		92	41 - 146
1,1-Dichloroethane	50.0	47.2		ug/L		94	70 - 130
1,2-Dichloroethane	50.0	48.5		ug/L		97	69 - 130
1,1-Dichloroethene	50.0	48.8		ug/L		98	63 - 134
1,2-Dichloropropane	50.0	47.0		ug/L		94	70 - 130
1,3-Dichloropropane	50.0	47.7		ug/L		95	70 - 130
2,2-Dichloropropane	50.0	52.3		ug/L		105	52 - 135
1,1-Dichloropropene	50.0	49.7		ug/L		99	70 - 130
Ethylbenzene	50.0	46.9		ug/L		94	70 - 130
Ethyl methacrylate	50.0	57.6		ug/L		115	68 - 130
Hexachlorobutadiene	50.0	46.6		ug/L		93	53 - 140
2-Hexanone	200	250		ug/L		125	65 - 137
Isopropylbenzene	50.0	48.5		ug/L		97	70 - 130
Methylene bromide	50.0	50.5		ug/L		101	70 - 130
Methylene Chloride	50.0	46.7		ug/L		93	66 - 135
4-Methyl-2-pentanone (MIBK)	200	261		ug/L		131	69 - 138
Methyl tert-butyl ether	50.0	51.6		ug/L		103	66 - 130
m-Xylene & p-Xylene	50.0	47.6		ug/L		95	70 - 130
Naphthalene	50.0	56.6		ug/L		113	47 - 149
n-Butylbenzene	50.0	46.2		ug/L		92	67 - 130
N-Propylbenzene	50.0	47.4		ug/L		95	70 - 130
o-Chlorotoluene	50.0	44.9		ug/L		90	70 - 130
o-Xylene	50.0	46.7		ug/L		93	70 - 130
p-Chlorotoluene	50.0	46.3		ug/L		93	70 - 130
p-Isopropyltoluene	50.0	49.0		ug/L		98	65 - 130
sec-Butylbenzene	50.0	47.2		ug/L		94	66 - 130
Styrene	50.0	49.3		ug/L		99	70 - 130
tert-Butylbenzene	50.0	46.3		ug/L		93	64 - 139
1,1,1,2-Tetrachloroethane	50.0	49.4		ug/L		99	67 - 131
1,1,2,2-Tetrachloroethane	50.0	49.7		ug/L		99	70 - 131
Tetrachloroethene	50.0	46.2		ug/L		92	65 - 130
Toluene	50.0	46.1		ug/L		92	70 - 130
trans-1,2-Dichloroethene	50.0	49.2		ug/L		98	70 - 130
trans-1,3-Dichloropropene	50.0	56.8		ug/L		114	63 - 130
1,2,3-Trichlorobenzene	50.0	48.0		ug/L		96	60 - 138
1,2,4-Trichlorobenzene	50.0	47.8		ug/L		96	60 - 140
1,1,1-Trichloroethane	50.0	52.1		ug/L		104	68 - 130
1,1,2-Trichloroethane	50.0	47.7		ug/L		95	70 - 130
Trichloroethene	50.0	48.8		ug/L		98	70 - 130

TestAmerica Pensacola



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-393862/1002
Matrix: Water
Analysis Batch: 393862

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Trichlorofluoromethane	50.0	45.3		ug/L		91	65 - 138
1,2,3-Trichloropropane	50.0	52.3		ug/L		105	70 - 130
1,2,4-Trimethylbenzene	50.0	47.1		ug/L		94	70 - 130
1,3,5-Trimethylbenzene	50.0	46.3		ug/L		93	69 - 130
Vinyl acetate	100	114		ug/L		114	26 - 160
Vinyl chloride	50.0	46.7		ug/L		93	59 - 136
Xylenes, Total	100	94.3		ug/L		94	70 - 130

Surrogate	LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	96		78 - 118
Dibromofluoromethane	101		81 - 121
Toluene-d8 (Surr)	97		80 - 120

Lab Sample ID: 400-151882-A-6 MS
Matrix: Water
Analysis Batch: 393862

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec. Limits
				Result	Qualifier				
Acetone	ND		200	252		ug/L		126	43 - 150
Acrolein	ND		500	509		ug/L		102	38 - 150
Acrylonitrile	ND		500	632		ug/L		126	62 - 149
Benzene	ND		50.0	59.1		ug/L		118	56 - 142
Bromobenzene	ND		50.0	55.4		ug/L		111	59 - 136
Bromochloromethane	ND		50.0	61.8		ug/L		124	64 - 140
Bromodichloromethane	ND		50.0	64.0		ug/L		128	59 - 143
Bromoform	ND		50.0	65.6		ug/L		131	50 - 140
Bromomethane	ND		50.0	49.4		ug/L		99	10 - 150
2-Butanone (MEK)	ND		200	266		ug/L		133	55 - 150
Carbon disulfide	ND		50.0	65.4		ug/L		131	48 - 150
Carbon tetrachloride	ND		50.0	65.7		ug/L		131	55 - 145
Chlorobenzene	ND		50.0	54.8		ug/L		110	64 - 130
Dibromochloromethane	ND		50.0	65.4		ug/L		131	56 - 143
Chloroethane	ND		50.0	47.1		ug/L		94	50 - 150
2-Chloroethyl vinyl ether	ND	F1	50.0	ND	F1	ug/L		0	10 - 150
Chloroform	ND		50.0	59.9		ug/L		120	60 - 141
1-Chlorohexane	ND		50.0	52.8		ug/L		106	56 - 136
Chloromethane	ND		50.0	46.1		ug/L		92	49 - 148
cis-1,2-Dichloroethene	ND		50.0	59.0		ug/L		118	59 - 143
cis-1,3-Dichloropropene	ND		50.0	70.1		ug/L		140	57 - 140
1,2-Dichlorobenzene	ND		50.0	52.4		ug/L		105	52 - 137
1,3-Dichlorobenzene	ND		50.0	52.7		ug/L		105	54 - 135
1,4-Dichlorobenzene	ND		50.0	51.1		ug/L		102	53 - 135
Dichlorodifluoromethane	ND		50.0	48.3		ug/L		97	16 - 150
1,1-Dichloroethane	ND		50.0	59.4		ug/L		119	61 - 144
1,2-Dichloroethane	ND		50.0	58.2		ug/L		116	60 - 141
1,1-Dichloroethene	ND		50.0	61.8		ug/L		124	54 - 147
1,2-Dichloropropane	ND		50.0	59.1		ug/L		118	66 - 137
1,3-Dichloropropane	ND		50.0	56.4		ug/L		113	66 - 133

TestAmerica Pensacola

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QC Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
 SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-151882-A-6 MS
 Matrix: Water
 Analysis Batch: 393862

Client Sample ID: Matrix Spike
 Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
2,2-Dichloropropane	ND		50.0	66.2		ug/L		132	42 - 144
1,1-Dichloropropene	ND		50.0	58.6		ug/L		117	65 - 136
Ethylbenzene	ND		50.0	55.3		ug/L		111	58 - 131
Ethyl methacrylate	ND		50.0	63.6		ug/L		127	64 - 130
Hexachlorobutadiene	ND		50.0	48.1		ug/L		96	31 - 149
2-Hexanone	ND		200	256		ug/L		128	65 - 140
Isopropylbenzene	ND		50.0	55.9		ug/L		112	56 - 133
Methylene bromide	ND		50.0	60.5		ug/L		121	63 - 138
Methylene Chloride	ND		50.0	58.9		ug/L		118	60 - 146
4-Methyl-2-pentanone (MIBK)	ND		200	260		ug/L		130	63 - 146
Methyl tert-butyl ether	ND		50.0	63.3		ug/L		127	59 - 137
m-Xylene & p-Xylene	ND		50.0	56.0		ug/L		112	57 - 130
Naphthalene	ND		50.0	60.3		ug/L		121	25 - 150
n-Butylbenzene	ND		50.0	49.0		ug/L		98	41 - 142
N-Propylbenzene	ND		50.0	54.6		ug/L		109	51 - 138
o-Chlorotoluene	ND		50.0	51.4		ug/L		103	53 - 134
o-Xylene	ND		50.0	56.0		ug/L		112	61 - 130
p-Chlorotoluene	ND		50.0	53.2		ug/L		106	54 - 133
p-Isopropyltoluene	ND		50.0	54.8		ug/L		110	48 - 139
sec-Butylbenzene	ND		50.0	53.6		ug/L		107	50 - 138
Styrene	ND		50.0	58.4		ug/L		117	58 - 131
tert-Butylbenzene	ND		50.0	54.8		ug/L		110	54 - 146
1,1,1,2-Tetrachloroethane	ND		50.0	60.6		ug/L		121	59 - 137
1,1,2,2-Tetrachloroethane	ND		50.0	57.3		ug/L		115	66 - 135
Tetrachloroethene	ND		50.0	52.6		ug/L		105	52 - 133
Toluene	ND		50.0	54.3		ug/L		109	65 - 130
trans-1,2-Dichloroethene	ND		50.0	61.4		ug/L		123	61 - 143
trans-1,3-Dichloropropene	ND		50.0	66.1		ug/L		132	53 - 133
1,2,3-Trichlorobenzene	ND		50.0	52.2		ug/L		104	43 - 145
1,2,4-Trichlorobenzene	ND		50.0	51.7		ug/L		103	39 - 148
1,1,1-Trichloroethane	ND		50.0	63.7		ug/L		127	57 - 142
1,1,2-Trichloroethane	ND		50.0	57.4		ug/L		115	66 - 131
Trichloroethene	ND		50.0	58.8		ug/L		118	64 - 136
Trichlorofluoromethane	ND		50.0	48.6		ug/L		97	54 - 150
1,2,3-Trichloropropane	ND		50.0	58.6		ug/L		117	65 - 133
1,2,4-Trimethylbenzene	ND		50.0	54.4		ug/L		109	50 - 139
1,3,5-Trimethylbenzene	ND		50.0	54.9		ug/L		110	52 - 135
Vinyl acetate	ND		100	109		ug/L		109	26 - 150
Vinyl chloride	ND		50.0	48.8		ug/L		98	46 - 150
Xylenes, Total	ND		100	112		ug/L		112	59 - 130

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	99		78 - 118
Dibromofluoromethane	103		81 - 121
Toluene-d8 (Surr)	96		80 - 120



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-151882-A-6 MSD
Matrix: Water
Analysis Batch: 393862

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
Acetone	ND		200	218		ug/L		109	43 - 150	14	30
Acrolein	ND		500	535		ug/L		107	38 - 150	5	31
Acrylonitrile	ND		500	544		ug/L		109	62 - 149	15	30
Benzene	ND		50.0	49.5		ug/L		99	56 - 142	18	30
Bromobenzene	ND		50.0	49.4		ug/L		99	59 - 136	11	30
Bromochloromethane	ND		50.0	51.4		ug/L		103	64 - 140	18	30
Bromodichloromethane	ND		50.0	52.2		ug/L		104	59 - 143	20	30
Bromoform	ND		50.0	59.2		ug/L		118	50 - 140	10	30
Bromomethane	ND		50.0	49.9		ug/L		100	10 - 150	1	50
2-Butanone (MEK)	ND		200	229		ug/L		114	55 - 150	15	30
Carbon disulfide	ND		50.0	54.8		ug/L		110	48 - 150	18	30
Carbon tetrachloride	ND		50.0	55.4		ug/L		111	55 - 145	17	30
Chlorobenzene	ND		50.0	45.4		ug/L		91	64 - 130	19	30
Dibromochloromethane	ND		50.0	53.6		ug/L		107	56 - 143	20	30
Chloroethane	ND		50.0	47.9		ug/L		96	50 - 150	2	30
2-Chloroethyl vinyl ether	ND	F1	50.0	ND	F1	ug/L		0	10 - 150	NC	50
Chloroform	ND		50.0	50.0		ug/L		100	60 - 141	18	30
1-Chlorohexane	ND		50.0	43.6		ug/L		87	56 - 136	19	30
Chloromethane	ND		50.0	46.9		ug/L		94	49 - 148	2	31
cis-1,2-Dichloroethene	ND		50.0	49.6		ug/L		99	59 - 143	17	30
cis-1,3-Dichloropropene	ND		50.0	57.1		ug/L		114	57 - 140	21	30
1,2-Dichlorobenzene	ND		50.0	47.0		ug/L		94	52 - 137	11	30
1,3-Dichlorobenzene	ND		50.0	47.1		ug/L		94	54 - 135	11	30
1,4-Dichlorobenzene	ND		50.0	45.5		ug/L		91	53 - 135	11	30
Dichlorodifluoromethane	ND		50.0	49.4		ug/L		99	16 - 150	2	31
1,1-Dichloroethane	ND		50.0	50.7		ug/L		101	61 - 144	16	30
1,2-Dichloroethane	ND		50.0	49.3		ug/L		99	60 - 141	17	30
1,1-Dichloroethene	ND		50.0	52.9		ug/L		106	54 - 147	16	30
1,2-Dichloropropane	ND		50.0	49.1		ug/L		98	66 - 137	18	30
1,3-Dichloropropane	ND		50.0	47.4		ug/L		95	66 - 133	17	30
2,2-Dichloropropane	ND		50.0	55.3		ug/L		111	42 - 144	18	31
1,1-Dichloropropene	ND		50.0	50.7		ug/L		101	65 - 136	14	30
Ethylbenzene	ND		50.0	46.9		ug/L		94	58 - 131	17	30
Ethyl methacrylate	ND		50.0	54.4		ug/L		109	64 - 130	16	30
Hexachlorobutadiene	ND		50.0	42.2		ug/L		84	31 - 149	13	36
2-Hexanone	ND		200	215		ug/L		108	65 - 140	17	30
Isopropylbenzene	ND		50.0	46.9		ug/L		94	56 - 133	18	30
Methylene bromide	ND		50.0	51.5		ug/L		103	63 - 138	16	30
Methylene Chloride	ND		50.0	50.4		ug/L		101	60 - 146	16	32
4-Methyl-2-pentanone (MIBK)	ND		200	220		ug/L		110	63 - 146	17	30
Methyl tert-butyl ether	ND		50.0	54.4		ug/L		109	59 - 137	15	30
m-Xylene & p-Xylene	ND		50.0	46.4		ug/L		93	57 - 130	19	30
Naphthalene	ND		50.0	57.2		ug/L		114	25 - 150	5	30
n-Butylbenzene	ND		50.0	44.4		ug/L		89	41 - 142	10	31
N-Propylbenzene	ND		50.0	48.9		ug/L		98	51 - 138	11	30
o-Chlorotoluene	ND		50.0	47.8		ug/L		96	53 - 134	7	30
o-Xylene	ND		50.0	46.4		ug/L		93	61 - 130	19	30
p-Chlorotoluene	ND		50.0	47.2		ug/L		94	54 - 133	12	30

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-151882-A-6 MSD
Matrix: Water
Analysis Batch: 393862

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		
p-Isopropyltoluene	ND		50.0	48.8		ug/L		98	48 - 139	12	30
sec-Butylbenzene	ND		50.0	48.4		ug/L		97	50 - 138	10	30
Styrene	ND		50.0	48.3		ug/L		97	58 - 131	19	30
tert-Butylbenzene	ND		50.0	49.6		ug/L		99	54 - 146	10	30
1,1,1,2-Tetrachloroethane	ND		50.0	50.1		ug/L		100	59 - 137	19	30
1,1,2,2-Tetrachloroethane	ND		50.0	53.5		ug/L		107	66 - 135	7	30
Tetrachloroethene	ND		50.0	43.8		ug/L		88	52 - 133	18	30
Toluene	ND		50.0	46.0		ug/L		92	65 - 130	16	30
trans-1,2-Dichloroethene	ND		50.0	51.6		ug/L		103	61 - 143	17	30
trans-1,3-Dichloropropene	ND		50.0	55.6		ug/L		111	53 - 133	17	30
1,2,3-Trichlorobenzene	ND		50.0	48.7		ug/L		97	43 - 145	7	30
1,2,4-Trichlorobenzene	ND		50.0	46.9		ug/L		94	39 - 148	10	30
1,1,1-Trichloroethane	ND		50.0	53.5		ug/L		107	57 - 142	17	30
1,1,2-Trichloroethane	ND		50.0	48.0		ug/L		96	66 - 131	18	30
Trichloroethene	ND		50.0	49.8		ug/L		100	64 - 136	16	30
Trichlorofluoromethane	ND		50.0	49.7		ug/L		99	54 - 150	2	30
1,2,3-Trichloropropane	ND		50.0	55.0		ug/L		110	65 - 133	6	30
1,2,4-Trimethylbenzene	ND		50.0	48.8		ug/L		98	50 - 139	11	30
1,3,5-Trimethylbenzene	ND		50.0	49.4		ug/L		99	52 - 135	11	30
Vinyl acetate	ND		100	115		ug/L		115	26 - 150	5	33
Vinyl chloride	ND		50.0	49.4		ug/L		99	46 - 150	1	30
Xylenes, Total	ND		100	92.8		ug/L		93	59 - 130	19	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene	105		78 - 118
Dibromofluoromethane	102		81 - 121
Toluene-d8 (Surr)	96		80 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-394010/1-A
Matrix: Water
Analysis Batch: 394181

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 394010

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aniline	ND		10	3.8	ug/L		04/16/18 10:02	04/17/18 17:53	1
Benzenethiol	ND		10	1.7	ug/L		04/16/18 10:02	04/17/18 17:53	1
Benzoic acid	ND		30	7.3	ug/L		04/16/18 10:02	04/17/18 17:53	1
Benzyl alcohol	ND		10	2.0	ug/L		04/16/18 10:02	04/17/18 17:53	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		04/16/18 10:02	04/17/18 17:53	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		04/16/18 10:02	04/17/18 17:53	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		04/16/18 10:02	04/17/18 17:53	1
Bis(2-ethylhexyl) phthalate	ND		10	2.3	ug/L		04/16/18 10:02	04/17/18 17:53	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		04/16/18 10:02	04/17/18 17:53	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		04/16/18 10:02	04/17/18 17:53	1
4-Chloroaniline	ND		10	3.4	ug/L		04/16/18 10:02	04/17/18 17:53	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		04/16/18 10:02	04/17/18 17:53	1
2-Chloronaphthalene	ND		10	0.52	ug/L		04/16/18 10:02	04/17/18 17:53	1

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-394010/1-A
Matrix: Water
Analysis Batch: 394181

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 394010

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
2-Chlorophenol	ND		10	2.2	ug/L		04/16/18 10:02	04/17/18 17:53	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		04/16/18 10:02	04/17/18 17:53	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		04/16/18 10:02	04/17/18 17:53	1
Dibenzofuran	ND		10	0.52	ug/L		04/16/18 10:02	04/17/18 17:53	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		04/16/18 10:02	04/17/18 17:53	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		04/16/18 10:02	04/17/18 17:53	1
Diethyl phthalate	ND		10	0.70	ug/L		04/16/18 10:02	04/17/18 17:53	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		04/16/18 10:02	04/17/18 17:53	1
Dimethyl phthalate	ND		10	0.60	ug/L		04/16/18 10:02	04/17/18 17:53	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		04/16/18 10:02	04/17/18 17:53	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		04/16/18 10:02	04/17/18 17:53	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/16/18 10:02	04/17/18 17:53	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		04/16/18 10:02	04/17/18 17:53	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		04/16/18 10:02	04/17/18 17:53	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		04/16/18 10:02	04/17/18 17:53	1
1,4-Dioxane	ND		10	1.0	ug/L		04/16/18 10:02	04/17/18 17:53	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		04/16/18 10:02	04/17/18 17:53	1
Hexachlorobenzene	ND		10	0.25	ug/L		04/16/18 10:02	04/17/18 17:53	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/16/18 10:02	04/17/18 17:53	1
Hexachloroethane	ND		10	4.2	ug/L		04/16/18 10:02	04/17/18 17:53	1
Indene	ND		10	1.0	ug/L		04/16/18 10:02	04/17/18 17:53	1
Isophorone	ND		10	0.57	ug/L		04/16/18 10:02	04/17/18 17:53	1
2-Methylphenol	ND		10	1.8	ug/L		04/16/18 10:02	04/17/18 17:53	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/16/18 10:02	04/17/18 17:53	1
2-Nitroaniline	ND		10	2.2	ug/L		04/16/18 10:02	04/17/18 17:53	1
3-Nitroaniline	ND		10	1.8	ug/L		04/16/18 10:02	04/17/18 17:53	1
4-Nitroaniline	ND		10	2.5	ug/L		04/16/18 10:02	04/17/18 17:53	1
Nitrobenzene	ND		10	0.55	ug/L		04/16/18 10:02	04/17/18 17:53	1
2-Nitrophenol	ND		10	0.65	ug/L		04/16/18 10:02	04/17/18 17:53	1
4-Nitrophenol	ND		10	2.1	ug/L		04/16/18 10:02	04/17/18 17:53	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		04/16/18 10:02	04/17/18 17:53	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		04/16/18 10:02	04/17/18 17:53	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		04/16/18 10:02	04/17/18 17:53	1
Pentachlorophenol	ND		20	1.8	ug/L		04/16/18 10:02	04/17/18 17:53	1
Phenol	ND		10	2.6	ug/L		04/16/18 10:02	04/17/18 17:53	1
Pyridine	ND		10	3.2	ug/L		04/16/18 10:02	04/17/18 17:53	1
Quinoline	ND		10	6.0	ug/L		04/16/18 10:02	04/17/18 17:53	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		04/16/18 10:02	04/17/18 17:53	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/16/18 10:02	04/17/18 17:53	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2-Fluorobiphenyl	48		34 - 120	04/16/18 10:02	04/17/18 17:53	1
2-Fluorophenol	26		10 - 120	04/16/18 10:02	04/17/18 17:53	1
Nitrobenzene-d5	46		27 - 120	04/16/18 10:02	04/17/18 17:53	1
Phenol-d5	34		10 - 120	04/16/18 10:02	04/17/18 17:53	1
Terphenyl-d14	55		53 - 125	04/16/18 10:02	04/17/18 17:53	1
2,4,6-Tribromophenol	40		15 - 135	04/16/18 10:02	04/17/18 17:53	1

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
SDG: (2Q18)

Lab Sample ID: LCS 400-394010/2-A
Matrix: Water
Analysis Batch: 394181

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 394010

Analyte	Spike Added	LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Aniline	30.0	32.4		ug/L		108	29 - 120
Benzoic acid	120	13.4	J	ug/L		11	10 - 150
Benzyl alcohol	30.0	20.4		ug/L		68	19 - 125
Bis(2-chloroethoxy)methane	30.0	20.5		ug/L		68	45 - 120
Bis(2-chloroethyl)ether	30.0	40.6	*	ug/L		135	48 - 120
bis (2-chloroisopropyl) ether	30.0	17.8		ug/L		59	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	23.6		ug/L		79	48 - 150
4-Bromophenyl phenyl ether	30.0	22.7		ug/L		76	55 - 122
Butyl benzyl phthalate	30.0	21.1		ug/L		70	46 - 145
4-Chloroaniline	30.0	15.2		ug/L		51	30 - 120
4-Chloro-3-methylphenol	30.0	21.7		ug/L		72	39 - 140
2-Chloronaphthalene	30.0	19.8		ug/L		66	52 - 120
2-Chlorophenol	30.0	17.1		ug/L		57	34 - 120
4-Chlorophenyl phenyl ether	30.0	22.9		ug/L		76	58 - 124
Dibenz[a,h]acridine	30.0	23.5		ug/L		78	46 - 149
Dibenzofuran	30.0	21.0		ug/L		70	58 - 123
3,3'-Dichlorobenzidine	40.0	30.5		ug/L		76	39 - 135
2,4-Dichlorophenol	30.0	19.7		ug/L		66	39 - 128
Diethyl phthalate	30.0	23.1		ug/L		77	44 - 146
2,4-Dimethylphenol	30.0	22.0		ug/L		73	44 - 120
Dimethyl phthalate	30.0	25.7		ug/L		86	50 - 131
Di-n-butyl phthalate	30.0	24.0		ug/L		80	55 - 131
4,6-Dinitro-ortho-cresol	60.0	39.2		ug/L		65	10 - 150
2,4-Dinitrophenol	60.0	25.9	J	ug/L		43	10 - 150
2,4-Dinitrotoluene	30.0	22.5		ug/L		75	58 - 140
2,6-Dinitrotoluene	30.0	21.8		ug/L		73	57 - 130
Di-n-octyl phthalate	30.0	23.8		ug/L		79	50 - 150
1,4-Dioxane	30.0	13.0		ug/L		43	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	20.0		ug/L		67	47 - 123
Hexachlorobenzene	30.0	22.5		ug/L		75	52 - 131
Hexachlorocyclopentadiene	30.0	6.68	J	ug/L		22	10 - 129
Hexachloroethane	30.0	14.6		ug/L		49	41 - 120
Indene	30.0	20.0		ug/L		67	47 - 120
Isophorone	30.0	18.4		ug/L		61	49 - 120
2-Methylphenol	30.0	19.5		ug/L		65	39 - 123
3 & 4 Methylphenol	30.0	18.5	J	ug/L		62	38 - 121
2-Nitroaniline	30.0	20.8		ug/L		69	47 - 150
3-Nitroaniline	30.0	21.2		ug/L		71	34 - 132
4-Nitroaniline	30.0	22.3		ug/L		74	41 - 135
Nitrobenzene	30.0	18.5		ug/L		62	47 - 120
2-Nitrophenol	30.0	19.8		ug/L		66	28 - 136
4-Nitrophenol	60.0	49.1		ug/L		82	10 - 150
N-Nitrosodimethylamine	30.0	20.1		ug/L		67	22 - 148
N-Nitrosodi-n-propylamine	30.0	21.1		ug/L		70	44 - 120
N-Nitrosodiphenylamine	29.8	22.8		ug/L		77	56 - 120
Pentachlorophenol	60.0	41.8		ug/L		70	15 - 141
Phenol	30.0	18.7		ug/L		62	33 - 120
Pyridine	60.0	28.8		ug/L		48	26 - 120
Quinoline	30.0	23.7		ug/L		79	51 - 129

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-394010/2-A
Matrix: Water
Analysis Batch: 394181

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 394010

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
2,4,5-Trichlorophenol	30.0	22.3		ug/L		74	38 - 147	
2,4,6-Trichlorophenol	30.0	22.4		ug/L		75	36 - 139	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	71		34 - 120
2-Fluorophenol	29		10 - 120
Nitrobenzene-d5	59		27 - 120
Phenol-d5	55		10 - 120
Terphenyl-d14	77		53 - 125
2,4,6-Tribromophenol	82		15 - 135

Lab Sample ID: LCS 400-394010/4-A
Matrix: Water
Analysis Batch: 394181

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 394010

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Benzenethiol	30.0	ND	*	ug/L		2	10 - 120	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	66		34 - 120
2-Fluorophenol	21		10 - 120
Nitrobenzene-d5	60		27 - 120
Phenol-d5	44		10 - 120
Terphenyl-d14	77		53 - 125
2,4,6-Tribromophenol	59		15 - 135

Lab Sample ID: LCSD 400-394010/3-A
Matrix: Water
Analysis Batch: 394181

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 394010

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD	
									RPD	Limit
Aniline	30.0	17.7	*	ug/L		59	29 - 120	59	30	
Benzoic acid	120	29.6	J *	ug/L		25	10 - 150	76	30	
Benzyl alcohol	30.0	17.2		ug/L		57	19 - 125	17	30	
Bis(2-chloroethoxy)methane	30.0	17.3		ug/L		58	45 - 120	17	30	
Bis(2-chloroethyl)ether	30.0	15.3	*	ug/L		51	48 - 120	91	30	
bis (2-chloroisopropyl) ether	30.0	15.0		ug/L		50	30 - 125	17	30	
Bis(2-ethylhexyl) phthalate	30.0	20.9		ug/L		70	48 - 150	12	30	
4-Bromophenyl phenyl ether	30.0	18.0		ug/L		60	55 - 122	23	30	
Butyl benzyl phthalate	30.0	17.3		ug/L		58	46 - 145	19	30	
4-Chloroaniline	30.0	13.0		ug/L		43	30 - 120	16	30	
4-Chloro-3-methylphenol	30.0	18.6		ug/L		62	39 - 140	15	30	
2-Chloronaphthalene	30.0	15.7		ug/L		52	52 - 120	23	30	
2-Chlorophenol	30.0	14.4		ug/L		48	34 - 120	17	30	
4-Chlorophenyl phenyl ether	30.0	18.5		ug/L		62	58 - 124	21	30	
Dibenz[a,h]acridine	30.0	17.7		ug/L		59	46 - 149	28	30	
Dibenzofuran	30.0	16.8	*	ug/L		56	58 - 123	22	30	
3,3'-Dichlorobenzidine	40.0	25.0		ug/L		63	39 - 135	20	30	

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-394010/3-A
Matrix: Water
Analysis Batch: 394181

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 394010

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD	
							RPD	Limit		
2,4-Dichlorophenol	30.0	16.7		ug/L		56	39 - 128	17	30	
Diethyl phthalate	30.0	18.6		ug/L		62	44 - 146	22	30	
2,4-Dimethylphenol	30.0	18.4		ug/L		61	44 - 120	18	30	
Dimethyl phthalate	30.0	20.7		ug/L		69	50 - 131	22	30	
Di-n-butyl phthalate	30.0	19.2		ug/L		64	55 - 131	22	30	
4,6-Dinitro-ortho-cresol	60.0	34.5		ug/L		57	10 - 150	13	30	
2,4-Dinitrophenol	60.0	29.6	J	ug/L		49	10 - 150	13	30	
2,4-Dinitrotoluene	30.0	18.3		ug/L		61	58 - 140	21	30	
2,6-Dinitrotoluene	30.0	17.8		ug/L		59	57 - 130	20	30	
Di-n-octyl phthalate	30.0	19.0		ug/L		63	50 - 150	23	30	
1,4-Dioxane	30.0	10.3		ug/L		34	25 - 120	24	30	
1,2-Diphenylhydrazine (as Azobenzene)	30.0	16.3		ug/L		54	47 - 123	20	30	
Hexachlorobenzene	30.0	18.1		ug/L		60	52 - 131	21	30	
Hexachlorocyclopentadiene	30.0	5.17	J	ug/L		17	10 - 129	25	30	
Hexachloroethane	30.0	12.1	*	ug/L		40	41 - 120	19	30	
Indene	30.0	16.6		ug/L		55	47 - 120	19	30	
Isophorone	30.0	15.8		ug/L		53	49 - 120	15	30	
2-Methylphenol	30.0	16.0		ug/L		53	39 - 123	20	30	
3 & 4 Methylphenol	30.0	15.3	J	ug/L		51	38 - 121	19	30	
2-Nitroaniline	30.0	17.4		ug/L		58	47 - 150	18	30	
3-Nitroaniline	30.0	17.8		ug/L		59	34 - 132	17	30	
4-Nitroaniline	30.0	18.8		ug/L		63	41 - 135	17	30	
Nitrobenzene	30.0	15.9		ug/L		53	47 - 120	15	30	
2-Nitrophenol	30.0	16.9		ug/L		56	28 - 136	16	30	
4-Nitrophenol	60.0	38.9		ug/L		65	10 - 150	23	30	
N-Nitrosodimethylamine	30.0	16.8		ug/L		56	22 - 148	18	30	
N-Nitrosodi-n-propylamine	30.0	17.3		ug/L		58	44 - 120	20	30	
N-Nitrosodiphenylamine	29.8	18.3		ug/L		61	56 - 120	22	30	
Pentachlorophenol	60.0	35.8		ug/L		60	15 - 141	15	30	
Phenol	30.0	15.4		ug/L		51	33 - 120	19	30	
Pyridine	60.0	23.8		ug/L		40	26 - 120	19	30	
Quinoline	30.0	19.8		ug/L		66	51 - 129	18	30	
2,4,5-Trichlorophenol	30.0	18.0		ug/L		60	38 - 147	21	30	
2,4,6-Trichlorophenol	30.0	18.4		ug/L		61	36 - 139	20	30	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	55		34 - 120
2-Fluorophenol	23		10 - 120
Nitrobenzene-d5	49		27 - 120
Phenol-d5	43		10 - 120
Terphenyl-d14	59		53 - 125
2,4,6-Tribromophenol	64		15 - 135

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-394010/5-A
Matrix: Water
Analysis Batch: 394181

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 394010

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	30.0	4.26	J *	ug/L		14	10 - 120	161	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	69		34 - 120
2-Fluorophenol	48		10 - 120
Nitrobenzene-d5	65		27 - 120
Phenol-d5	49		10 - 120
Terphenyl-d14	82		53 - 125
2,4,6-Tribromophenol	63		15 - 135

Lab Sample ID: 400-151994-E-3-B MS
Matrix: Water
Analysis Batch: 394181

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 394010

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	ND	*	29.8	16.3		ug/L		55	10 - 143
Benzoic acid	ND	*	120	41.4		ug/L		35	10 - 134
Benzyl alcohol	ND		29.8	15.6		ug/L		52	10 - 154
Bis(2-chloroethoxy)methane	ND		29.8	15.0		ug/L		50	14 - 147
Bis(2-chloroethyl)ether	ND	*	29.8	14.7		ug/L		49	28 - 130
bis (2-chloroisopropyl) ether	ND		29.8	12.8		ug/L		43	10 - 141
Bis(2-ethylhexyl) phthalate	ND		29.8	12.9		ug/L		43	43 - 160
4-Bromophenyl phenyl ether	ND		29.8	14.9		ug/L		50	26 - 159
Butyl benzyl phthalate	ND	F1	29.8	12.2	F1	ug/L		41	43 - 151
4-Chloroaniline	ND		29.8	10.8		ug/L		36	10 - 152
4-Chloro-3-methylphenol	ND		29.8	14.3		ug/L		48	17 - 156
2-Chloronaphthalene	ND		29.8	15.2		ug/L		51	10 - 155
2-Chlorophenol	ND		29.8	13.2		ug/L		44	19 - 130
4-Chlorophenyl phenyl ether	ND		29.8	15.6		ug/L		52	25 - 161
Dibenz[a,h]acridine	ND		29.8	13.3		ug/L		45	42 - 147
Dibenzofuran	ND	*	29.8	14.8		ug/L		50	18 - 157
3,3'-Dichlorobenzidine	ND		39.7	18.2		ug/L		46	10 - 172
2,4-Dichlorophenol	ND		29.8	13.4		ug/L		45	16 - 147
Diethyl phthalate	ND		29.8	13.4		ug/L		45	23 - 160
2,4-Dimethylphenol	ND		29.8	15.3		ug/L		51	25 - 146
Dimethyl phthalate	ND		29.8	15.9		ug/L		53	11 - 158
Di-n-butyl phthalate	ND		29.8	14.0		ug/L		47	28 - 162
4,6-Dinitro-ortho-cresol	ND		59.6	24.5		ug/L		41	10 - 168
2,4-Dinitrophenol	ND		59.6	23.2	J	ug/L		39	10 - 166
2,4-Dinitrotoluene	ND		29.8	13.6		ug/L		45	26 - 158
2,6-Dinitrotoluene	ND		29.8	13.1		ug/L		44	19 - 157
Di-n-octyl phthalate	ND	F1	29.8	12.2	F1	ug/L		41	42 - 150
1,4-Dioxane	ND		29.8	9.27	J	ug/L		31	10 - 130
1,2-Diphenylhydrazine (as Azobenzene)	ND		29.8	13.7		ug/L		46	19 - 162
Hexachlorobenzene	ND		29.8	13.5		ug/L		45	45 - 145
Hexachlorocyclopentadiene	ND		29.8	5.39	J	ug/L		18	10 - 151
Hexachloroethane	ND	*	29.8	11.3		ug/L		38	29 - 130

TestAmerica Pensacola



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-151994-E-3-B MS
Matrix: Water
Analysis Batch: 394181

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 394010

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
Indene	ND		29.8	14.7		ug/L		49	22 - 130
Isophorone	ND		29.8	13.6		ug/L		46	24 - 144
2-Methylphenol	ND		29.8	12.9		ug/L		43	22 - 130
3 & 4 Methylphenol	ND		29.8	11.7	J	ug/L		39	31 - 130
2-Nitroaniline	ND		29.8	13.0		ug/L		43	10 - 162
3-Nitroaniline	ND		29.8	11.6		ug/L		39	10 - 163
4-Nitroaniline	ND		29.8	13.6		ug/L		46	10 - 162
Nitrobenzene	ND		29.8	11.8		ug/L		40	34 - 135
2-Nitrophenol	ND		29.8	13.3		ug/L		45	27 - 134
4-Nitrophenol	ND		59.6	26.2		ug/L		44	10 - 175
N-Nitrosodimethylamine	ND		29.8	14.1		ug/L		47	10 - 139
N-Nitrosodi-n-propylamine	ND		29.8	14.8		ug/L		50	13 - 147
N-Nitrosodiphenylamine	ND		29.6	15.7		ug/L		53	31 - 150
Pentachlorophenol	ND		59.6	30.1		ug/L		50	10 - 180
Phenol	ND		29.8	12.7		ug/L		43	23 - 130
Pyridine	ND		59.6	20.9		ug/L		35	10 - 130
Quinoline	ND		29.8	16.4		ug/L		55	10 - 180
2,4,5-Trichlorophenol	ND		29.8	13.8		ug/L		46	43 - 137
2,4,6-Trichlorophenol	ND		29.8	13.7		ug/L		46	42 - 135

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	45		34 - 120
2-Fluorophenol	30		10 - 120
Nitrobenzene-d5	38		27 - 120
Phenol-d5	35		10 - 120
Terphenyl-d14	35	X	53 - 125
2,4,6-Tribromophenol	48		15 - 135

Lab Sample ID: 400-151994-E-3-C MSD
Matrix: Water
Analysis Batch: 394181

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 394010

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
Aniline	ND	*	30.3	18.1		ug/L		60	10 - 143	11	63
Benzolc acid	ND	*	122	48.8		ug/L		40	10 - 134	16	49
Benzyl alcohol	ND		30.3	17.3		ug/L		57	10 - 154	10	37
Bis(2-chloroethoxy)methane	ND		30.3	16.3		ug/L		54	14 - 147	9	70
Bis(2-chloroethyl)ether	ND	*	30.3	15.8		ug/L		52	28 - 130	7	42
bis (2-chloroisopropyl) ether	ND		30.3	14.5		ug/L		48	10 - 141	12	41
Bis(2-ethylhexyl) phthalate	ND		30.3	15.5		ug/L		51	43 - 160	19	35
4-Bromophenyl phenyl ether	ND		30.3	16.3		ug/L		54	26 - 159	10	30
Butyl benzyl phthalate	ND	F1	30.3	14.8		ug/L		49	43 - 151	19	32
4-Chloroaniline	ND		30.3	11.6		ug/L		38	10 - 152	7	94
4-Chloro-3-methylphenol	ND		30.3	15.5		ug/L		51	17 - 156	8	40
2-Chloronaphthalene	ND		30.3	17.2		ug/L		57	10 - 155	12	29
2-Chlorophenol	ND		30.3	14.6		ug/L		48	19 - 130	10	42
4-Chlorophenyl phenyl ether	ND		30.3	17.5		ug/L		58	25 - 161	11	27
Dibenz[a,h]acridine	ND		30.3	15.2		ug/L		50	42 - 147	13	40

TestAmerica Pensacola



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-151994-E-3-C MSD
Matrix: Water
Analysis Batch: 394181

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 394010

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
Dibenzofuran	ND		30.3	16.5		ug/L		55	18 - 157	11	29
3,3'-Dichlorobenzidine	ND		40.5	20.5		ug/L		51	10 - 172	12	58
2,4-Dichlorophenol	ND		30.3	14.7		ug/L		48	16 - 147	9	43
Diethyl phthalate	ND		30.3	15.7		ug/L		52	23 - 160	16	40
2,4-Dimethylphenol	ND		30.3	16.9		ug/L		56	25 - 146	10	47
Dimethyl phthalate	ND		30.3	17.9		ug/L		59	11 - 158	12	36
Di-n-butyl phthalate	ND		30.3	16.4		ug/L		54	28 - 162	16	32
4,6-Dinitro-ortho-cresol	ND		60.7	29.0		ug/L		48	10 - 168	17	42
2,4-Dinitrophenol	ND		60.7	28.0	J	ug/L		46	10 - 166	19	36
2,4-Dinitrotoluene	ND		30.3	15.7		ug/L		52	26 - 158	14	28
2,6-Dinitrotoluene	ND		30.3	15.2		ug/L		50	19 - 157	15	28
Di-n-octyl phthalate	ND	F1	30.3	15.0		ug/L		49	42 - 150	20	35
1,4-Dioxane	ND		30.3	9.86	J	ug/L		32	10 - 130	6	40
1,2-Diphenylhydrazine (as Azobenzene)	ND		30.3	15.4		ug/L		51	19 - 162	12	40
Hexachlorobenzene	ND		30.3	15.4		ug/L		51	45 - 145	13	33
Hexachlorocyclopentadiene	ND		30.3	5.74	J	ug/L		19	10 - 151	6	50
Hexachloroethane	ND		30.3	12.8		ug/L		42	29 - 130	12	41
Indene	ND		30.3	16.3		ug/L		54	22 - 130	10	40
Isophorone	ND		30.3	14.9		ug/L		49	24 - 144	9	33
2-Methylphenol	ND		30.3	14.3		ug/L		47	22 - 130	10	47
3 & 4 Methylphenol	ND		30.3	13.3	J	ug/L		44	31 - 130	13	47
2-Nitroaniline	ND		30.3	14.8		ug/L		49	10 - 162	13	33
3-Nitroaniline	ND		30.3	13.6		ug/L		45	10 - 163	16	39
4-Nitroaniline	ND		30.3	16.3		ug/L		54	10 - 162	18	50
Nitrobenzene	ND		30.3	13.3		ug/L		44	34 - 135	12	35
2-Nitrophenol	ND		30.3	14.9		ug/L		49	27 - 134	11	43
4-Nitrophenol	ND		60.7	31.6		ug/L		52	10 - 175	19	82
N-Nitrosodimethylamine	ND		30.3	15.5		ug/L		51	10 - 139	10	62
N-Nitrosodi-n-propylamine	ND		30.3	16.5		ug/L		54	13 - 147	11	36
N-Nitrosodiphenylamine	ND		30.1	17.4		ug/L		58	31 - 150	10	34
Pentachlorophenol	ND		60.7	33.8		ug/L		56	10 - 180	12	42
Phenol	ND		30.3	14.3		ug/L		47	23 - 130	12	52
Pyridine	ND		60.7	23.7		ug/L		39	10 - 130	12	55
Quinoline	ND		30.3	17.9		ug/L		59	10 - 180	9	40
2,4,5-Trichlorophenol	ND		30.3	16.0		ug/L		53	43 - 137	15	42
2,4,6-Trichlorophenol	ND		30.3	15.9		ug/L		52	42 - 135	15	44

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	51		34 - 120
2-Fluorophenol	32		10 - 120
Nitrobenzene-d5	43		27 - 120
Phenol-d5	40		10 - 120
Terphenyl-d14	44	X	53 - 125
2,4,6-Tribromophenol	56		15 - 135

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
SDG: (2Q18)

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-394010/1-A
Matrix: Water
Analysis Batch: 394192

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 394010

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acenaphthene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/17/18 21:59	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/17/18 21:59	1
Anthracene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/17/18 21:59	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/17/18 21:59	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/17/18 21:59	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/17/18 21:59	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/17/18 21:59	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/17/18 21:59	1
Chrysene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/17/18 21:59	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/17/18 21:59	1
Fluoranthene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/17/18 21:59	1
Fluorene	ND		0.20	0.021	ug/L		04/16/18 10:02	04/17/18 21:59	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/16/18 10:02	04/17/18 21:59	1
Phenanthrene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/17/18 21:59	1
Pyrene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/17/18 21:59	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/17/18 21:59	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/16/18 10:02	04/17/18 21:59	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Terphenyl-d14	117		33 - 138	04/16/18 10:02	04/17/18 21:59	1
2-Fluorobiphenyl	103		15 - 122	04/16/18 10:02	04/17/18 21:59	1
Nitrobenzene-d5	89		19 - 130	04/16/18 10:02	04/17/18 21:59	1

Lab Sample ID: LCS 400-394010/2-A
Matrix: Water
Analysis Batch: 394192

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 394010

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Acenaphthene	30.0	23.9		ug/L		80	41 - 120
Acenaphthylene	30.0	22.4		ug/L		75	44 - 120
Anthracene	30.0	25.5		ug/L		85	49 - 120
Benzo[a]anthracene	30.0	25.0		ug/L		83	61 - 135
Benzo[a]pyrene	30.0	25.0		ug/L		83	52 - 120
Benzo[b]fluoranthene	30.0	26.8		ug/L		89	53 - 134
Benzo[g,h,i]perylene	30.0	21.4		ug/L		71	47 - 133
Benzo[k]fluoranthene	30.0	25.6		ug/L		85	57 - 134
Chrysene	30.0	24.4		ug/L		81	55 - 122
Dibenz(a,h)anthracene	30.0	23.4		ug/L		78	48 - 146
Fluoranthene	30.0	28.2		ug/L		94	54 - 128
Fluorene	30.0	28.3		ug/L		94	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	25.2		ug/L		84	43 - 142
Phenanthrene	30.0	26.6		ug/L		89	48 - 120
Pyrene	30.0	21.6		ug/L		72	48 - 132
1-Methylnaphthalene	30.0	22.1		ug/L		74	41 - 120
2-Methylnaphthalene	30.0	20.5		ug/L		68	32 - 124

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
SDG: (2Q18)

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-394010/2-A
Matrix: Water
Analysis Batch: 394192

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 394010

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Terphenyl-d14	74		33 - 138
2-Fluorobiphenyl	79		15 - 122
Nitrobenzene-d5	71		19 - 130

Lab Sample ID: LCSD 400-394010/3-A
Matrix: Water
Analysis Batch: 394192

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 394010

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	
							Limits	RPD	Limit	
Acenaphthene	30.0	25.0		ug/L		83	41 - 120	4	56	
Acenaphthylene	30.0	23.3		ug/L		78	44 - 120	4	56	
Anthracene	30.0	26.9		ug/L		90	49 - 120	5	51	
Benzo[a]anthracene	30.0	25.9		ug/L		86	61 - 135	4	49	
Benzo[a]pyrene	30.0	26.3		ug/L		88	52 - 120	5	50	
Benzo[b]fluoranthene	30.0	28.1		ug/L		94	53 - 134	5	54	
Benzo[g,h,i]perylene	30.0	22.2		ug/L		74	47 - 133	4	50	
Benzo[k]fluoranthene	30.0	26.7		ug/L		89	57 - 134	4	52	
Chrysene	30.0	25.5		ug/L		85	55 - 122	4	50	
Dibenz(a,h)anthracene	30.0	24.5		ug/L		82	48 - 146	5	50	
Fluoranthene	30.0	28.2		ug/L		94	54 - 128	0	52	
Fluorene	30.0	29.3		ug/L		98	45 - 125	4	56	
Indeno[1,2,3-cd]pyrene	30.0	26.1		ug/L		87	43 - 142	4	51	
Phenanthrene	30.0	27.9		ug/L		93	48 - 120	5	56	
Pyrene	30.0	24.1		ug/L		80	48 - 132	11	52	
1-Methylnaphthalene	30.0	22.4		ug/L		75	41 - 120	1	55	
2-Methylnaphthalene	30.0	21.5		ug/L		72	32 - 124	5	57	

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Terphenyl-d14	80		33 - 138
2-Fluorobiphenyl	83		15 - 122
Nitrobenzene-d5	70		19 - 130

Lab Sample ID: 400-151994-E-3-B MS
Matrix: Water
Analysis Batch: 394192

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 394010

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec.	
				Result	Qualifier				Limits	RPD
Acenaphthene	ND		29.8	27.0		ug/L		91	35 - 113	
Acenaphthylene	ND		29.8	25.1		ug/L		84	41 - 118	
Anthracene	0.057	J	29.8	26.0		ug/L		87	45 - 122	
Benzo[a]anthracene	ND		29.8	21.9		ug/L		74	55 - 133	
Benzo[a]pyrene	ND		29.8	20.9		ug/L		70	50 - 108	
Benzo[b]fluoranthene	ND		29.8	23.1		ug/L		77	50 - 128	
Benzo[g,h,i]perylene	ND		29.8	16.8		ug/L		56	46 - 133	
Benzo[k]fluoranthene	ND		29.8	20.8		ug/L		70	52 - 128	
Chrysene	ND		29.8	21.2		ug/L		71	52 - 116	
Dibenz(a,h)anthracene	ND		29.8	18.4		ug/L		62	52 - 143	
Fluoranthene	0.026	J	29.8	26.5		ug/L		89	32 - 150	

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
 SDG: (2Q18)

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: 400-151994-E-3-B MS
 Matrix: Water
 Analysis Batch: 394192

Client Sample ID: Matrix Spike
 Prep Type: Total/NA
 Prep Batch: 394010

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier					
Fluorene	ND		29.8	29.4		ug/L		99	15 - 150	
Indeno[1,2,3-cd]pyrene	ND		29.8	19.9		ug/L		67	41 - 141	
Phenanthrene	0.10	J	29.8	27.9		ug/L		93	36 - 125	
Pyrene	0.032	J	29.8	22.9		ug/L		77	41 - 127	
1-Methylnaphthalene	ND		29.8	25.2		ug/L		84	10 - 150	
2-Methylnaphthalene	ND		29.8	24.6		ug/L		83	10 - 150	
MS MS										
Surrogate	%Recovery	Qualifier	Limits							
Terphenyl-d14	60		33 - 138							
2-Fluorobiphenyl	83		15 - 122							
Nitrobenzene-d5	60		19 - 130							

Lab Sample ID: 400-151994-E-3-C MSD
 Matrix: Water
 Analysis Batch: 394192

Client Sample ID: Matrix Spike Duplicate
 Prep Type: Total/NA
 Prep Batch: 394010

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier						RPD	Limit
Acenaphthene	ND		30.3	26.0		ug/L		86	35 - 113	4	49	
Acenaphthylene	ND		30.3	23.9		ug/L		79	41 - 118	5	48	
Anthracene	0.057	J	30.3	25.3		ug/L		83	45 - 122	3	56	
Benzo[a]anthracene	ND		30.3	22.2		ug/L		73	55 - 133	1	57	
Benzo[a]pyrene	ND		30.3	21.2		ug/L		70	50 - 108	1	59	
Benzo[b]fluoranthene	ND		30.3	22.8		ug/L		75	50 - 128	1	62	
Benzo[g,h,i]perylene	ND		30.3	16.8		ug/L		55	46 - 133	0	58	
Benzo[k]fluoranthene	ND		30.3	22.8		ug/L		75	52 - 128	9	58	
Chrysene	ND		30.3	22.0		ug/L		72	52 - 116	3	59	
Dibenz(a,h)anthracene	ND		30.3	18.2		ug/L		60	52 - 143	1	60	
Fluoranthene	0.026	J	30.3	25.9		ug/L		85	32 - 150	2	59	
Fluorene	ND		30.3	28.6		ug/L		94	15 - 150	3	49	
Indeno[1,2,3-cd]pyrene	ND		30.3	19.7		ug/L		65	41 - 141	1	58	
Phenanthrene	0.10	J	30.3	26.8		ug/L		88	36 - 125	4	69	
Pyrene	0.032	J	30.3	22.9		ug/L		75	41 - 127	0	58	
1-Methylnaphthalene	ND		30.3	25.0		ug/L		82	10 - 150	1	66	
2-Methylnaphthalene	ND		30.3	24.1		ug/L		79	10 - 150	2	66	
MSD MSD												
Surrogate	%Recovery	Qualifier	Limits									
Terphenyl-d14	60		33 - 138									
2-Fluorobiphenyl	78		15 - 122									
Nitrobenzene-d5	58		19 - 130									

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
SDG: (2Q18)

Method: 8011 - EDB and DBCP in Water by Microextraction

Lab Sample ID: MB 400-393622/1-A
Matrix: Water
Analysis Batch: 393757

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 393622

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2-Dibromo-3-Chloropropane	ND		0.030	0.0055	ug/L		04/12/18 09:06	04/12/18 17:41	1
1,2-Dibromoethane	ND		0.020	0.0050	ug/L		04/12/18 09:06	04/12/18 17:41	1
Surrogate	MB MB		Limits			Prepared	Analyzed	Dil Fac	
	%Recovery	Qualifier							
4-Bromofluorobenzene	96		51 - 149			04/12/18 09:06	04/12/18 17:41	1	

Lab Sample ID: LCS 400-393622/2-A
Matrix: Water
Analysis Batch: 393757

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 393622

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
1,2-Dibromo-3-Chloropropane	0.100	0.0983		ug/L		98	60 - 140
1,2-Dibromoethane	0.100	0.101		ug/L		101	60 - 140
Surrogate	LCS LCS		Limits			%Rec	
	%Recovery	Qualifier					
4-Bromofluorobenzene	103		51 - 149				

Lab Sample ID: LCSD 400-393622/3-A
Matrix: Water
Analysis Batch: 393757

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 393622

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec. Limits	RPD	
		Result	Qualifier					RPD	Limit
1,2-Dibromo-3-Chloropropane	0.100	0.0992		ug/L		99	60 - 140	1	30
1,2-Dibromoethane	0.100	0.103		ug/L		103	60 - 140	1	30
Surrogate	LCSD LCSD		Limits			%Rec			
	%Recovery	Qualifier							
4-Bromofluorobenzene	105		51 - 149						

Lab Sample ID: 400-151882-C-6-A MSD
Matrix: Water
Analysis Batch: 393757

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 393622

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD MSD		Unit	D	%Rec	%Rec. Limits	RPD	
				Result	Qualifier					RPD	Limit
1,2-Dibromo-3-Chloropropane	ND		0.0962	0.104		ug/L		108	65 - 135	0	20
1,2-Dibromoethane	ND		0.0962	0.102		ug/L		106	65 - 135	7	20
Surrogate	MSD MSD		Limits			%Rec					
	%Recovery	Qualifier									
4-Bromofluorobenzene	109		51 - 149								

Lab Sample ID: 400-151882-D-6-B MS
Matrix: Water
Analysis Batch: 393757

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 393622

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
				Result	Qualifier				
1,2-Dibromo-3-Chloropropane	ND		0.0992	0.104		ug/L		105	65 - 135
1,2-Dibromoethane	ND		0.0992	0.109		ug/L		110	65 - 135

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
SDG: (2Q18)

Method: 8011 - EDB and DBCP in Water by Microextraction (Continued)

Lab Sample ID: 400-151882-D-6-B MS
Matrix: Water
Analysis Batch: 393757

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 393622

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	107		51 - 149

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Shell Oil Products US Chain Of Custody Record



LAB (LOCATION)

ACCOUNT ()
 CALCIENE ()
 TESTAMERICA (TestAmerica, Pensacola, 3355 McLennore Dr Pensacola, FL 32514 (850-474-1001))
 Other LAB Vendor # 1304509 (TestAmerica)

Print Bill To Contact Name: **Bob Bilman** PlaNet Site or Project ID: **25278**
 PO # **GSAP Project ID**
 60527968 - 01.03.002 / 01.03.0022 USPC00114/R/02
 SITE ADDRESS: Street and City State: **IL** ZIP CODE: **60527968**
 900 South Central Ave: ROXANA AECOM Project / Task Number: **Roxana Quatroy GW**
 900 South Central Ave: ROXANA AECOM Project / Task Number: **60527968 - 01.03.002 / 01.03.0022**

Please Check Appropriate Box:
 SOW FDG PIPELINE RETAIL
 CHEMICALS CONSULTANT LUBES
 TRANSPORTATION OTHER - ENV. SERVICES

Turnaround Time (Calendar Days):
 STANDARD (14 DAY) 3 DAYS 2 DAYS 24 HOURS RESULTS NEEDED OR WEEKEND

LA - RWQRB REPORT FORMAT:
 LEVEL 1 LEVEL 2 LEVEL 4 OTHER (SPECIFY) EDO

SPECIAL INSTRUCTIONS OR NOTES:
 * Please include "J" values on Reports
 * Please provide sample receipt upon login

LABOR USE ONLY
 J. PETERS, T. JONES
 REQUESTED ANALYSIS
 UNIT COST: **60527968 - 01.03.0022**
 NON-UNIT COST: **60527968 - 01.03.002**

LAB USE ONLY	Field Sample Identification		SAMPLING		PRESERVATIVE			NO. OF CONT.	
	DATE	TIME	DATE	TIME	MATRIX	HEP	PHOS		NONE
	TB-ROX-040918-8011-BP	4/9	0000	WATER	2				2
	TB-ROX-040918-8260-BP	4/9	0000	WATER	2				2
	MA23-ROX-040918	4/9	0920	WATER	4				6

VENDOR INFORMATION:
 VENDOR: **FAH 8270LL** VENDOR: **VOC 8260** VENDOR: **SVOC 8270**
 VENDOR: **VOC 8011** VENDOR: **X** VENDOR: **X** VENDOR: **X**

FIELD NOTES:
 TEMPERATURE ON RECEIPT: C
 Container PID Readings or Laboratory Notes

RECEIVED BY (SIGNATURE): *[Signature]* DATE: **4/9/18** TIME: **1630**
 RECEIVED BY (SIGNATURE): *[Signature]* DATE: **4/10/18** TIME: **924**
 RECEIVED BY (SIGNATURE): *[Signature]*



Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-151995-1

SDG Number: (2Q18)

Login Number: 151995

List Source: TestAmerica Pensacola

List Number: 1

Creator: Johnson, Jeremy N

Question	Answer	Comment
Radioactivity wasn't checked or is \neq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	°C IR7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-151995-1
 SDG: (2Q18)

Laboratory: TestAmerica Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-18
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State Program	9	AZ0710	01-12-19
Arkansas DEQ	State Program	6	88-0689	09-01-18
California	ELAP	9	2510	03-31-18 *
Florida	NELAP	4	E81010	06-30-18
Georgia	State Program	4	N/A	06-30-18
Illinois	NELAP	5	200041	10-09-18
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-18
Kentucky (UST)	State Program	4	53	06-30-18
Kentucky (WW)	State Program	4	98030	12-31-18
Louisiana	NELAP	6	30976	06-30-18
Louisiana (DW)	NELAP	6	LA170005	12-31-18
Maryland	State Program	3	233	09-30-18
Massachusetts	State Program	1	M-FL094	06-30-18
Michigan	State Program	5	9912	06-30-18
New Jersey	NELAP	2	FL006	06-30-18
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-18
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
South Carolina	State Program	4	96026	06-30-18
Tennessee	State Program	4	TN02907	06-30-18
Texas	NELAP	6	T104704286-17-12	09-30-18
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-18
Washington	State Program	10	C915	05-15-18
West Virginia DEP	State Program	3	136	06-30-18

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



Roxana Groundwater Quarterly – 2nd Quarter 2018 Data Review

Laboratory SDG: 400-152114-1-Rev.1

Data Reviewer: Melissa Remiger

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 5/9/2018

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-ROX-041018-8011	TB-ROX-041018-8260
MW14-ROX-041018-EB	MW14-ROX-041018
P66-ROX-041018	P74-ROX-041018
P74-ROX-041018-Dup	P57-ROX-041018
MW22-ROX-041018	

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated anthracene was detected in the method blank, and although not indicated in the laboratory case narrative, PAHs were detected in the equipment blank. VOC and SVOC LCS recoveries were outside evaluation criteria. PAH and SVOC surrogate recoveries were outside criteria in sample MW22-ROX-041018. Several VOC MS/MSD recoveries and VOC MS/MSD RPDs were outside evaluation criteria in sample MW14-ROX-041018. The PAH internal standard area recovery for acenaphthene-d₁₀ was outside criteria in sample P66-ROX-041018. VOCs in samples P57-ROX-041018 and MW22-ROX-041018, and several PAHs in samples P66-ROX-041018 and MW22-ROX-041018, were diluted to bring the concentration within instrument calibration range. The continuing calibration verifications for several analytes were outside evaluation criteria, biased low. These issues are addressed further in the appropriate sections of this data review. Additionally, the laboratory report was revised on May 13, 2016 to correct continuing calibration verification language in the laboratory case narrative.

Three of 69 (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) 8260 VOCs are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form indicated insufficient sample volume was received for MS/MSD analysis, however MS/MSD analysis was not requested; no qualification of data was required.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
MW14-ROX-041018-EB	PAHs	Anthracene	0.045 µg/L
MW14-ROX-041018-EB	PAHs	Indeno[1,2,3-cd]pyrene	0.041 µg/L
MW14-ROX-041018-EB	PAHs	Pyrene	0.026 µg/L
MB 400-394076/1-A	PAHs	Anthracene	0.0483 µg/L

Qualifications due to blank contamination are included in the table below. Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
MW14-ROX-041018	PAHs	Anthracene	-	U
P74-ROX-041018	PAHs	Anthracene	-	U
P74-ROX-041018-Dup	PAHs	Anthracene	-	U

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/ RPD Criteria
LCS 400-394595/1002	VOCs	Bromomethane	177	NA	10-160
LCS/LCSD 400-394076/4-A/5-A	SVOCs	Benzenethiol	2/54	183	10-120/30

Analytical data that required qualification based on LCS/LCSD data are included in the table below. Professional judgment was used to qualify, however not reject, data associated with benzenethiol in LCS/LCSD 400-394010/4-A/5-A; benzenethiol has been identified as a poor performing analyte under Method 8270. Analytical data associated with RPD alone outside evaluation criteria did not require qualification.

Sample ID	Parameter	Analyte	Qualification
MW14-ROX-041018	SVOCs	Benzenethiol	UJ
P66-ROX-041018	SVOCs	Benzenethiol	UJ
P74-ROX-041018	SVOCs	Benzenethiol	UJ
P74-ROX-041018-Dup	SVOCs	Benzenethiol	UJ
P57-ROX-041018	SVOCs	Benzenethiol	UJ
MW22-ROX-041018	SVOCs	Benzenethiol	UJ

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
MW22-ROX-041018	PAHs	Terphenyl-d ₁₄	0.4	33-138
MW22-ROX-041018	PAHs	2-Fluorobiphenyl	0.08	15-122
MW22-ROX-041018	PAHs	Nitrobenzene-d ₅	9	19-130
MW22-ROX-041018	SVOCs	2-Fluorobiphenyl	0	34-120
MW22-ROX-041018	SVOCs	2-Fluorophenol	0	10-120
MW22-ROX-041018	SVOCs	Nitrobenzene-d ₅	7	27-120
MW22-ROX-041018	SVOCs	Phenol-d ₅	0	10-120
MW22-ROX-041018	SVOCs	Terphenyl-d ₁₄	0	53-125
MW22-ROX-041018	SVOCs	2,4,6-Tribromophenol	0	15-135

Analytical data that required qualification based on surrogate recovery outside evaluation criteria are included in the table below. Professional judgment was used to qualify, however not reject, data associated with PAH/SVOC surrogates in sample MW22-ROX-041018. Evidence of matrix interference is present; re-analysis was performed with concurring results.

Sample ID	Parameter	Analyte	Qualification
MW22-ROX-041018	PAHs	1-Methylnaphthalene	J
MW22-ROX-041018	PAHs	2-Methylnaphthalene	J
MW22-ROX-041018	PAHs	All non-detects	UJ
MW22-ROX-041018	SVOCs	2,4-Dimethylphenol	J
MW22-ROX-041018	SVOCs	Indene	J
MW22-ROX-041018	SVOCs	3&4-Methylphenol	J
MW22-ROX-041018	SVOCs	All non-detect	UJ

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

Yes, although not requested, sample MW14-ROX-041018 was spiked and duplicated for Method 8260 VOCs.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
MW14-ROX-041018	VOCs	Bromomethane	179/171	5	10-150/50
MW14-ROX-041018	VOCs	Chloroethane	172/147	16	50-150/30
MW14-ROX-041018	VOCs	2-Chloroethyl vinyl ether	0/0	NC	10-150/50
MW14-ROX-041018	VOCs	cis-1,2-Dichloroethene	109/145	28	59-143/30
MW14-ROX-041018	VOCs	2,2-Dichloropropane	102/143	34	42-144/31

Analytical data that required qualification based on MS/MSD data are included in the table below. Analytical data associated with RPD alone outside evaluation criteria did not require qualification. Analytical data reported as non-detect and associated with MSMSD recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
MW14-ROX-041018	VOCs	2-Chloroethyl vinyl ether	UJ

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

No

Sample ID	Parameter	Analyte	IS Area Recovery	IS Criteria
P66-ROX-041018 DL	PAHs	Acenaphthene-d ₁₀	646934	132693-530770

PAH data in sample P66-ROX-041018 are reported from the undiluted run (Run#1). There were no target analytes associated with acenaphthene-d₁₀ in the confirmation run (DL); therefore, no qualification of data was required.

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
P74-ROX-041018	P74-ROX-041018-Dup

Were field duplicates within evaluation criteria?

Yes

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

Yes, the continuing calibration verifications for several analytes were below acceptance criteria and are qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
MW14-ROX-041018	SVOCs	Benzyl alcohol	UJ
MW14-ROX-041018	SVOCs	Bis(2-chloroethyl)ether	UJ

Sample ID	Parameter	Analyte	Qualification
MW14-ROX-041018	SVOCs	Indene	UJ
MW14-ROX-041018	SVOCs	Phenol	UJ
MW14-ROX-041018	SVOCs	Pyridine	UJ
P66-ROX-041018	SVOCs	Benzyl alcohol	UJ
P66-ROX-041018	SVOCs	Bis(2-chloroethyl)ether	UJ
P66-ROX-041018	SVOCs	Indene	UJ
P66-ROX-041018	SVOCs	Phenol	UJ
P66-ROX-041018	SVOCs	Pyridine	UJ
P74-ROX-041018	SVOCs	Benzyl alcohol	UJ
P74-ROX-041018	SVOCs	Bis(2-chloroethyl)ether	UJ
P74-ROX-041018	SVOCs	Indene	UJ
P74-ROX-041018	SVOCs	Phenol	UJ
P74-ROX-041018	SVOCs	Pyridine	UJ
P74-ROX-041018-Dup	SVOCs	Benzyl alcohol	UJ
P74-ROX-041018-Dup	SVOCs	Bis(2-chloroethyl)ether	UJ
P74-ROX-041018-Dup	SVOCs	Indene	UJ
P74-ROX-041018-Dup	SVOCs	Phenol	UJ
P74-ROX-041018-Dup	SVOCs	Pyridine	UJ
P57-ROX-041018	SVOCs	Benzyl alcohol	UJ
P57-ROX-041018	SVOCs	Bis(2-chloroethyl)ether	UJ
P57-ROX-041018	SVOCs	Indene	UJ
P57-ROX-041018	SVOCs	Pyridine	UJ

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-152114-1

TestAmerica Sample Delivery Group: (2Q18)

Client Project/Site: ROXANA QUARTERLY GW

Revision: 1

For:

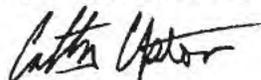
AECOM Technical Services Inc.

100 N. Broadway

20th Floor

St. Louis, Missouri 63102

Attn: Mrs. Elizabeth Kunkel



Authorized for release by:

5/13/2018 8:01:57 PM

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*Reviewed 5/13/18
UR*

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Job ID: 400-152114-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-152114-1

Comments

The report was revised on 5/13/18 to update the wording in the job narrative.

Receipt

The samples were received on 4/11/2018 9:31 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.7° C, 2.1° C and 4.1° C.

GC/MS VOA

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-ROX-041018-8260 (400-152114-2), MW14-ROX-041018-EB (400-152114-3), MW14-ROX-041018 (400-152114-4), P66-ROX-041018 (400-152114-5), P74-ROX-041018 (400-152114-6), P74-ROX-041018-DUP (400-152114-7), P57-ROX-041018 (400-152114-8) and MW22-ROX-041018 (400-152114-9). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: The laboratory control sample (LCS) for analytical batch 400-394595 recovered outside control limits for the following analyte: Bromomethane. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 400-394595 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-394595 were outside control limits for 2-Chloroethyl vinyl ether due to the acidic nature of the parent sample.

Method(s) 8260B: The RPD for the matrix spike duplicate (MSD) for 2-Chloroethyl vinyl ether was not calculable for analytical batches 400-394595 because the recoveries were below the reporting limit due to the acidic nature of the parent sample.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) precision for 2-Chloroethyl vinyl ether associated with analytical batch 400-394772 was outside control limits. Sample matrix interference is suspected.

Method(s) 8260B: The initial calibration verification (ICV) analyzed in batch 400-390144 was outside method criteria for the following analyte: Acrolein. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte is considered estimated.

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 400-394595 recovered above the upper control limit for Bromomethane. The samples associated with this CCV were non-detect for the affected analyte; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

Method(s) 8270D: Surrogate recovery for the following sample was outside control limits: MW22-ROX-041018 (400-152114-9). Evidence of matrix interference is present; re-analysis was performed with concurring results. The original analysis has been reported.

Method(s) 8270D LL: The method blank for preparation batch 400-394076 and analytical batch 400-394333 contained Anthracene above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 400-394076 and analytical batch 400-394362 recovery and precision were outside control limits for the following analyte: Benzenethiol. Benzenethiol has been identified as a poor performing

Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Job ID: 400-152114-1 (Continued)

Laboratory: TestAmerica Pensacola (Continued)

analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method(s) 8270D: The initial calibration verification (ICV) analyzed in batches 400-392940 and 400-392786 was outside method criteria for the following analyte: 2,4-Dimethylphenol. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-394362 recovered above the upper control limit for Hexachlorocyclopentadiene. The samples associated with this CCV were non-detects for the affected analyte; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-394362 recovered outside acceptance criteria, low biased, for Phenol, Indene, Bis(2-chloroethyl)ether, Pyridine and Benzyl alcohol. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for these analytes, the data have been reported.

Method(s) 8270D LL: The following samples were diluted to bring the concentration of target analytes within the calibration range: P66-ROX-041018 (400-152114-5) and MW22-ROX-041018 (400-152114-9). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

Method(s) 8011: The matrix spike duplicate (MSD) precision for 1,2-Dibromo-3-Chloropropane associated with preparation batch 400-394550 and analytical batch 400-394577 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

Method(s) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 400-394076.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-152114-1	TB-ROX-041018-8011 ✓	Water	04/10/18 00:00	04/11/18 09:31
400-152114-2	TB-ROX-041018-8260 ✓	Water	04/10/18 00:00	04/11/18 09:31
400-152114-3	MW14-ROX-041018-EB ✓	Water	04/10/18 10:15	04/11/18 09:31
400-152114-4	MW14-ROX-041018 ✓	Water	04/10/18 10:40	04/11/18 09:31
400-152114-5	P66-ROX-041018 ✓	Water	04/10/18 11:35	04/11/18 09:31
400-152114-6	P74-ROX-041018 ✓	Water	04/10/18 13:15	04/11/18 09:31
400-152114-7	P74-ROX-041018-DUP ✓	Water	04/10/18 13:15	04/11/18 09:31
400-152114-8	P57-ROX-041018 ✓	Water	04/10/18 14:30	04/11/18 09:31
400-152114-9	MW22-ROX-041018 ✓	Water	04/10/18 16:05	04/11/18 09:31



Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Client Sample ID: TB-ROX-041018-8011

Lab Sample ID: 400-152114-1

No Detections.

Client Sample ID: TB-ROX-041018-8260

Lab Sample ID: 400-152114-2

No Detections.

Client Sample ID: MW14-ROX-041018-EB

Lab Sample ID: 400-152114-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Anthracene	0.045	J B	0.20	0.020	ug/L	1			8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	0.041	J	0.20	0.040	ug/L	1			8270D LL	Total/NA
Pyrene	0.026	J	0.20	0.020	ug/L	1			8270D LL	Total/NA

Client Sample ID: MW14-ROX-041018

Lab Sample ID: 400-152114-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Anthracene	0.050	J B	0.20	0.020	ug/L	1			8270D LL	Total/NA

Client Sample ID: P66-ROX-041018

Lab Sample ID: 400-152114-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Acetone	13	J	25	10	ug/L	1			8260B	Total/NA
Benzene	15		1.0	0.38	ug/L	1			8260B	Total/NA
Chlorobenzene	0.60	J	1.0	0.50	ug/L	1			8260B	Total/NA
Ethylbenzene	0.56	J	1.0	0.50	ug/L	1			8260B	Total/NA
Isopropylbenzene	65		1.0	0.53	ug/L	1			8260B	Total/NA
Methyl tert-butyl ether	6.4		1.0	0.74	ug/L	1			8260B	Total/NA
n-Butylbenzene	4.5		1.0	0.76	ug/L	1			8260B	Total/NA
N-Propylbenzene	71		1.0	0.69	ug/L	1			8260B	Total/NA
o-Xylene	0.60	J	5.0	0.60	ug/L	1			8260B	Total/NA
sec-Butylbenzene	8.2		1.0	0.70	ug/L	1			8260B	Total/NA
tert-Butylbenzene	3.7		1.0	0.63	ug/L	1			8260B	Total/NA
Acenaphthene	0.47		0.20	0.020	ug/L	1			8270D LL	Total/NA
Fluorene	1.0		0.20	0.021	ug/L	1			8270D LL	Total/NA
Phenanthrene	0.65		0.20	0.020	ug/L	1			8270D LL	Total/NA
2-Methylnaphthalene	37		0.20	0.020	ug/L	1			8270D LL	Total/NA
1-Methylnaphthalene - DL	100		0.99	0.099	ug/L	5			8270D LL	Total/NA

Client Sample ID: P74-ROX-041018

Lab Sample ID: 400-152114-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Anthracene	0.042	J B	0.20	0.020	ug/L	1			8270D LL	Total/NA

Client Sample ID: P74-ROX-041018-DUP

Lab Sample ID: 400-152114-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Anthracene	0.039	J B	0.20	0.020	ug/L	1			8270D LL	Total/NA

Client Sample ID: P57-ROX-041018

Lab Sample ID: 400-152114-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Benzene	8800		50	19	ug/L	50			8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Client Sample ID: P57-ROX-041018 (Continued)

Lab Sample ID: 400-152114-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	0.15	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Fluorene	0.32		0.20	0.021	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.41		0.20	0.020	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	31		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	39		0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenol - RA	60		10	2.6	ug/L	1		8270D	Total/NA

Client Sample ID: MW22-ROX-041018

Lab Sample ID: 400-152114-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	430		20	7.6	ug/L	20		8260B	Total/NA
Ethylbenzene	1800		20	10	ug/L	20		8260B	Total/NA
Isopropylbenzene	52		20	11	ug/L	20		8260B	Total/NA
m-Xylene & p-Xylene	3300		100	32	ug/L	20		8260B	Total/NA
Naphthalene	160		20	20	ug/L	20		8260B	Total/NA
N-Propylbenzene	78		20	14	ug/L	20		8260B	Total/NA
o-Xylene	1000		100	12	ug/L	20		8260B	Total/NA
Toluene	280		20	14	ug/L	20		8260B	Total/NA
1,2,4-Trimethylbenzene	590		20	16	ug/L	20		8260B	Total/NA
1,3,5-Trimethylbenzene	150		20	11	ug/L	20		8260B	Total/NA
Xylenes, Total	4300		200	32	ug/L	20		8260B	Total/NA
1-Methylnaphthalene	28		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene - DL	40		0.99	0.099	ug/L	5		8270D LL	Total/NA
2,4-Dimethylphenol	14		9.9	3.5	ug/L	1		8270D	Total/NA
Indene	20		9.9	0.99	ug/L	1		8270D	Total/NA
3 & 4 Methylphenol	11	J	20	1.0	ug/L	1		8270D	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
 SDG: (2Q18)

Client Sample ID: TB-ROX-041018-8011

Lab Sample ID: 400-152114-1

Date Collected: 04/10/18 00:00

Matrix: Water

Date Received: 04/11/18 09:31

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.031	0.0057	ug/L		04/19/18 14:51	04/20/18 00:10	1
1,2-Dibromoethane	ND		0.021	0.0052	ug/L		04/19/18 14:51	04/20/18 00:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	85	p	51 - 149				04/19/18 14:51	04/20/18 00:10	1



Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
 SDG: (2Q18)

Client Sample ID: TB-ROX-041018-8260

Lab Sample ID: 400-152114-2

Date Collected: 04/10/18 00:00

Matrix: Water

Date Received: 04/11/18 09:31

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/20/18 15:46	1
Acrolein	ND		20	10	ug/L			04/20/18 15:46	1
Acrylonitrile	ND		10	2.8	ug/L			04/20/18 15:46	1
Benzene	ND		1.0	0.38	ug/L			04/20/18 15:46	1
Bromobenzene	ND		1.0	0.54	ug/L			04/20/18 15:46	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/20/18 15:46	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/20/18 15:46	1
Bromoform	ND		5.0	0.71	ug/L			04/20/18 15:46	1
Bromomethane	ND		1.0	0.98	ug/L			04/20/18 15:46	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/20/18 15:46	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/20/18 15:46	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/20/18 15:46	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/20/18 15:46	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/20/18 15:46	1
Chloroethane	ND		1.0	0.76	ug/L			04/20/18 15:46	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/20/18 15:46	1
Chloroform	ND		1.0	0.60	ug/L			04/20/18 15:46	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/20/18 15:46	1
Chloromethane	ND		1.0	0.83	ug/L			04/20/18 15:46	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 15:46	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/20/18 15:46	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/20/18 15:46	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/20/18 15:46	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/20/18 15:46	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/20/18 15:46	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/20/18 15:46	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/20/18 15:46	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 15:46	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 15:46	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 15:46	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 15:46	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/20/18 15:46	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/20/18 15:46	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/20/18 15:46	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/20/18 15:46	1
2-Hexanone	ND		25	3.1	ug/L			04/20/18 15:46	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/20/18 15:46	1
Methylene bromide	ND		5.0	0.59	ug/L			04/20/18 15:46	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/20/18 15:46	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/20/18 15:46	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/20/18 15:46	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/20/18 15:46	1
Naphthalene	ND		1.0	1.0	ug/L			04/20/18 15:46	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/20/18 15:46	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/20/18 15:46	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/20/18 15:46	1
o-Xylene	ND		5.0	0.60	ug/L			04/20/18 15:46	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/20/18 15:46	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/20/18 15:46	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Client Sample ID: TB-ROX-041018-8260

Lab Sample ID: 400-152114-2

Date Collected: 04/10/18 00:00

Matrix: Water

Date Received: 04/11/18 09:31

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/20/18 15:46	1
Styrene	ND		1.0	1.0	ug/L			04/20/18 15:46	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/20/18 15:46	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/20/18 15:46	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/20/18 15:46	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/20/18 15:46	1
Toluene	ND		1.0	0.70	ug/L			04/20/18 15:46	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 15:46	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/20/18 15:46	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/20/18 15:46	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/20/18 15:46	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/20/18 15:46	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/20/18 15:46	1
Trichloroethene	ND		1.0	0.50	ug/L			04/20/18 15:46	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/20/18 15:46	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/20/18 15:46	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/20/18 15:46	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/20/18 15:46	1
Vinyl acetate	ND		25	2.0	ug/L			04/20/18 15:46	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/20/18 15:46	1
Xylenes, Total	ND		10	1.6	ug/L			04/20/18 15:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	104		78 - 118					04/20/18 15:46	1
Dibromofluoromethane	102		81 - 121					04/20/18 15:46	1
Toluene-d8 (Surr)	98		80 - 120					04/20/18 15:46	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
 SDG: (2Q18)

Client Sample ID: MW14-ROX-041018-EB

Lab Sample ID: 400-152114-3

Date Collected: 04/10/18 10:15

Matrix: Water

Date Received: 04/11/18 09:31

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/22/18 08:49	1
Acrolein	ND		20	10	ug/L			04/22/18 08:49	1
Acrylonitrile	ND		10	2.8	ug/L			04/22/18 08:49	1
Benzene	ND		1.0	0.38	ug/L			04/22/18 08:49	1
Bromobenzene	ND		1.0	0.54	ug/L			04/22/18 08:49	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/22/18 08:49	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/22/18 08:49	1
Bromoform	ND		5.0	0.71	ug/L			04/22/18 08:49	1
Bromomethane	ND		1.0	0.98	ug/L			04/22/18 08:49	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/22/18 08:49	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/22/18 08:49	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/22/18 08:49	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/22/18 08:49	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/22/18 08:49	1
Chloroethane	ND		1.0	0.76	ug/L			04/22/18 08:49	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/22/18 08:49	1
Chloroform	ND		1.0	0.60	ug/L			04/22/18 08:49	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/22/18 08:49	1
Chloromethane	ND		1.0	0.83	ug/L			04/22/18 08:49	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/22/18 08:49	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/22/18 08:49	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/22/18 08:49	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/22/18 08:49	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/22/18 08:49	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/22/18 08:49	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/22/18 08:49	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/22/18 08:49	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/22/18 08:49	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/22/18 08:49	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/22/18 08:49	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/22/18 08:49	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/22/18 08:49	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/22/18 08:49	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/22/18 08:49	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/22/18 08:49	1
2-Hexanone	ND		25	3.1	ug/L			04/22/18 08:49	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/22/18 08:49	1
Methylene bromide	ND		5.0	0.59	ug/L			04/22/18 08:49	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/22/18 08:49	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/22/18 08:49	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/22/18 08:49	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/22/18 08:49	1
Naphthalene	ND		1.0	1.0	ug/L			04/22/18 08:49	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/22/18 08:49	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/22/18 08:49	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/22/18 08:49	1
o-Xylene	ND		5.0	0.60	ug/L			04/22/18 08:49	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/22/18 08:49	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/22/18 08:49	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Client Sample ID: MW14-ROX-041018-EB

Lab Sample ID: 400-152114-3

Date Collected: 04/10/18 10:15

Matrix: Water

Date Received: 04/11/18 09:31

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/22/18 08:49	1
Styrene	ND		1.0	1.0	ug/L			04/22/18 08:49	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/22/18 08:49	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/22/18 08:49	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/22/18 08:49	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/22/18 08:49	1
Toluene	ND		1.0	0.70	ug/L			04/22/18 08:49	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/22/18 08:49	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/22/18 08:49	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/22/18 08:49	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/22/18 08:49	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/22/18 08:49	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/22/18 08:49	1
Trichloroethene	ND		1.0	0.50	ug/L			04/22/18 08:49	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/22/18 08:49	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/22/18 08:49	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/22/18 08:49	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/22/18 08:49	1
Vinyl acetate	ND		25	2.0	ug/L			04/22/18 08:49	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/22/18 08:49	1
Xylenes, Total	ND		10	1.6	ug/L			04/22/18 08:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	103		78 - 118		04/22/18 08:49	1
Dibromofluoromethane	103		81 - 121		04/22/18 08:49	1
Toluene-d8 (Surr)	99		80 - 120		04/22/18 08:49	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 17:24	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 17:24	1
Anthracene	0.045	J E	0.20	0.020	ug/L		04/16/18 15:05	04/18/18 17:24	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 17:24	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 17:24	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 17:24	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 17:24	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 17:24	1
Chrysene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 17:24	1
Dibenz[a,h]anthracene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 17:24	1
Fluoranthene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 17:24	1
Fluorene	ND		0.20	0.021	ug/L		04/16/18 15:05	04/18/18 17:24	1
Indeno[1,2,3-cd]pyrene	0.041	J	0.20	0.040	ug/L		04/16/18 15:05	04/18/18 17:24	1
Phenanthrene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 17:24	1
Pyrene	0.026	J	0.20	0.020	ug/L		04/16/18 15:05	04/18/18 17:24	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 17:24	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 17:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	98		33 - 138	04/16/18 15:05	04/18/18 17:24	1
2-Fluorobiphenyl	89		15 - 122	04/16/18 15:05	04/18/18 17:24	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Client Sample ID: MW14-ROX-041018-EB

Lab Sample ID: 400-152114-3

Date Collected: 04/10/18 10:15

Matrix: Water

Date Received: 04/11/18 09:31

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	75		19 - 130	04/16/18 15:05	04/18/18 17:24	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		04/16/18 15:05	04/18/18 23:21	1
Benzenethiol	ND	*	10	1.7	ug/L		04/16/18 15:05	04/18/18 23:21	1
Benzoic acid	ND		30	7.3	ug/L		04/16/18 15:05	04/18/18 23:21	1
Benzyl alcohol	ND		10	2.0	ug/L		04/16/18 15:05	04/18/18 23:21	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		04/16/18 15:05	04/18/18 23:21	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		04/16/18 15:05	04/18/18 23:21	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		04/16/18 15:05	04/18/18 23:21	1
Bis(2-ethylhexyl) phthalate	ND		10	2.3	ug/L		04/16/18 15:05	04/18/18 23:21	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		04/16/18 15:05	04/18/18 23:21	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		04/16/18 15:05	04/18/18 23:21	1
4-Chloroaniline	ND		10	3.4	ug/L		04/16/18 15:05	04/18/18 23:21	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		04/16/18 15:05	04/18/18 23:21	1
2-Chloronaphthalene	ND		10	0.52	ug/L		04/16/18 15:05	04/18/18 23:21	1
2-Chlorophenol	ND		10	2.2	ug/L		04/16/18 15:05	04/18/18 23:21	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		04/16/18 15:05	04/18/18 23:21	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		04/16/18 15:05	04/18/18 23:21	1
Dibenzofuran	ND		10	0.52	ug/L		04/16/18 15:05	04/18/18 23:21	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		04/16/18 15:05	04/18/18 23:21	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		04/16/18 15:05	04/18/18 23:21	1
Diethyl phthalate	ND		10	0.70	ug/L		04/16/18 15:05	04/18/18 23:21	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		04/16/18 15:05	04/18/18 23:21	1
Dimethyl phthalate	ND		10	0.60	ug/L		04/16/18 15:05	04/18/18 23:21	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		04/16/18 15:05	04/18/18 23:21	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		04/16/18 15:05	04/18/18 23:21	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/16/18 15:05	04/18/18 23:21	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		04/16/18 15:05	04/18/18 23:21	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		04/16/18 15:05	04/18/18 23:21	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		04/16/18 15:05	04/18/18 23:21	1
1,4-Dioxane	ND		10	1.0	ug/L		04/16/18 15:05	04/18/18 23:21	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		04/16/18 15:05	04/18/18 23:21	1
Hexachlorobenzene	ND		10	0.25	ug/L		04/16/18 15:05	04/18/18 23:21	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/16/18 15:05	04/18/18 23:21	1
Hexachloroethane	ND		10	4.2	ug/L		04/16/18 15:05	04/18/18 23:21	1
Indene	ND		10	1.0	ug/L		04/16/18 15:05	04/18/18 23:21	1
Isophorone	ND		10	0.57	ug/L		04/16/18 15:05	04/18/18 23:21	1
2-Methylphenol	ND		10	1.8	ug/L		04/16/18 15:05	04/18/18 23:21	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/16/18 15:05	04/18/18 23:21	1
2-Nitroaniline	ND		10	2.2	ug/L		04/16/18 15:05	04/18/18 23:21	1
3-Nitroaniline	ND		10	1.8	ug/L		04/16/18 15:05	04/18/18 23:21	1
4-Nitroaniline	ND		10	2.5	ug/L		04/16/18 15:05	04/18/18 23:21	1
Nitrobenzene	ND		10	0.55	ug/L		04/16/18 15:05	04/18/18 23:21	1
2-Nitrophenol	ND		10	0.65	ug/L		04/16/18 15:05	04/18/18 23:21	1
4-Nitrophenol	ND		10	2.1	ug/L		04/16/18 15:05	04/18/18 23:21	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		04/16/18 15:05	04/18/18 23:21	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
 SDG: (2Q18)

Client Sample ID: MW14-ROX-041018-EB

Lab Sample ID: 400-152114-3

Date Collected: 04/10/18 10:15

Matrix: Water

Date Received: 04/11/18 09:31

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		04/16/18 15:05	04/18/18 23:21	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		04/16/18 15:05	04/18/18 23:21	1
Pentachlorophenol	ND		20	1.8	ug/L		04/16/18 15:05	04/18/18 23:21	1
Phenol	ND		10	2.6	ug/L		04/16/18 15:05	04/18/18 23:21	1
Pyridine	ND		10	3.2	ug/L		04/16/18 15:05	04/18/18 23:21	1
Quinoline	ND		10	6.0	ug/L		04/16/18 15:05	04/18/18 23:21	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		04/16/18 15:05	04/18/18 23:21	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/16/18 15:05	04/18/18 23:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	65		34 - 120	04/16/18 15:05	04/18/18 23:21	1
2-Fluorophenol	52		10 - 120	04/16/18 15:05	04/18/18 23:21	1
Nitrobenzene-d5	56		27 - 120	04/16/18 15:05	04/18/18 23:21	1
Phenol-d5	54		10 - 120	04/16/18 15:05	04/18/18 23:21	1
Terphenyl-d14	79		53 - 125	04/16/18 15:05	04/18/18 23:21	1
2,4,6-Tribromophenol	70		15 - 135	04/16/18 15:05	04/18/18 23:21	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.030	0.0055	ug/L		04/19/18 14:51	04/20/18 00:30	1
1,2-Dibromoethane	ND		0.020	0.0050	ug/L		04/19/18 14:51	04/20/18 00:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	116	p	51 - 149	04/19/18 14:51	04/20/18 00:30	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Client Sample ID: MW14-ROX-041018

Lab Sample ID: 400-152114-4

Date Collected: 04/10/18 10:40

Matrix: Water

Date Received: 04/11/18 09:31

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/20/18 13:50	1
Acrolein	ND		20	10	ug/L			04/20/18 13:50	1
Acrylonitrile	ND		10	2.8	ug/L			04/20/18 13:50	1
Benzene	ND		1.0	0.38	ug/L			04/20/18 13:50	1
Bromobenzene	ND		1.0	0.54	ug/L			04/20/18 13:50	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/20/18 13:50	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/20/18 13:50	1
Bromoform	ND		5.0	0.71	ug/L			04/20/18 13:50	1
Bromomethane	ND	* F1	1.0	0.98	ug/L			04/20/18 13:50	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/20/18 13:50	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/20/18 13:50	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/20/18 13:50	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/20/18 13:50	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/20/18 13:50	1
Chloroethane	ND	F1	1.0	0.76	ug/L			04/20/18 13:50	1
2-Chloroethyl vinyl ether	ND	F1 UJ	5.0	2.0	ug/L			04/20/18 13:50	1
Chloroform	ND		1.0	0.60	ug/L			04/20/18 13:50	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/20/18 13:50	1
Chloromethane	ND		1.0	0.83	ug/L			04/20/18 13:50	1
cis-1,2-Dichloroethene	ND	F1	1.0	0.50	ug/L			04/20/18 13:50	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/20/18 13:50	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/20/18 13:50	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/20/18 13:50	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/20/18 13:50	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/20/18 13:50	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/20/18 13:50	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/20/18 13:50	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 13:50	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 13:50	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 13:50	1
2,2-Dichloropropane	ND	F2	1.0	0.50	ug/L			04/20/18 13:50	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/20/18 13:50	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/20/18 13:50	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/20/18 13:50	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/20/18 13:50	1
2-Hexanone	ND		25	3.1	ug/L			04/20/18 13:50	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/20/18 13:50	1
Methylene bromide	ND		5.0	0.59	ug/L			04/20/18 13:50	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/20/18 13:50	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/20/18 13:50	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/20/18 13:50	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/20/18 13:50	1
Naphthalene	ND		1.0	1.0	ug/L			04/20/18 13:50	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/20/18 13:50	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/20/18 13:50	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/20/18 13:50	1
o-Xylene	ND		5.0	0.60	ug/L			04/20/18 13:50	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/20/18 13:50	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/20/18 13:50	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Client Sample ID: MW14-ROX-041018

Lab Sample ID: 400-152114-4

Date Collected: 04/10/18 10:40

Matrix: Water

Date Received: 04/11/18 09:31

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/20/18 13:50	1
Styrene	ND		1.0	1.0	ug/L			04/20/18 13:50	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/20/18 13:50	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/20/18 13:50	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/20/18 13:50	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/20/18 13:50	1
Toluene	ND		1.0	0.70	ug/L			04/20/18 13:50	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 13:50	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/20/18 13:50	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/20/18 13:50	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/20/18 13:50	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/20/18 13:50	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/20/18 13:50	1
Trichloroethene	ND		1.0	0.50	ug/L			04/20/18 13:50	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/20/18 13:50	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/20/18 13:50	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/20/18 13:50	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/20/18 13:50	1
Vinyl acetate	ND		25	2.0	ug/L			04/20/18 13:50	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/20/18 13:50	1
Xylenes, Total	ND		10	1.6	ug/L			04/20/18 13:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	104		78 - 118					04/20/18 13:50	1
Dibromofluoromethane	106		81 - 121					04/20/18 13:50	1
Toluene-d8 (Surr)	99		80 - 120					04/20/18 13:50	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 17:42	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 17:42	1
Anthracene	0.050 JB U		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 17:42	1
Benzo[a]anthracene	ND		0.20	0.041	ug/L		04/16/18 15:05	04/18/18 17:42	1
Benzo[a]pyrene	ND		0.20	0.041	ug/L		04/16/18 15:05	04/18/18 17:42	1
Benzo[b]fluoranthene	ND		0.20	0.041	ug/L		04/16/18 15:05	04/18/18 17:42	1
Benzo[g,h,i]perylene	ND		0.20	0.041	ug/L		04/16/18 15:05	04/18/18 17:42	1
Benzo[k]fluoranthene	ND		0.20	0.041	ug/L		04/16/18 15:05	04/18/18 17:42	1
Chrysene	ND		0.20	0.041	ug/L		04/16/18 15:05	04/18/18 17:42	1
Dibenz(a,h)anthracene	ND		0.20	0.041	ug/L		04/16/18 15:05	04/18/18 17:42	1
Fluoranthene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 17:42	1
Fluorene	ND		0.20	0.021	ug/L		04/16/18 15:05	04/18/18 17:42	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.041	ug/L		04/16/18 15:05	04/18/18 17:42	1
Phenanthrene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 17:42	1
Pyrene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 17:42	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 17:42	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 17:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	86		33 - 138				04/16/18 15:05	04/18/18 17:42	1
2-Fluorobiphenyl	84		15 - 122				04/16/18 15:05	04/18/18 17:42	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Client Sample ID: MW14-ROX-041018

Lab Sample ID: 400-152114-4

Date Collected: 04/10/18 10:40

Matrix: Water

Date Received: 04/11/18 09:31

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	74		19 - 130	04/16/18 15:05	04/18/18 17:42	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.9	ug/L		04/16/18 15:05	04/18/18 23:45	1
Benzenethiol	ND	UJ	10	1.7	ug/L		04/16/18 15:05	04/18/18 23:45	1
Benzoic acid	ND		31	7.4	ug/L		04/16/18 15:05	04/18/18 23:45	1
Benzyl alcohol	ND	UJ	10	2.0	ug/L		04/16/18 15:05	04/18/18 23:45	1
Bis(2-chloroethoxy)methane	ND	UJ	10	0.70	ug/L		04/16/18 15:05	04/18/18 23:45	1
Bis(2-chloroethyl)ether	ND	UJ	10	0.75	ug/L		04/16/18 15:05	04/18/18 23:45	1
bis (2-chloroisopropyl) ether	ND		10	0.83	ug/L		04/16/18 15:05	04/18/18 23:45	1
Bis(2-ethylhexyl) phthalate	ND		10	2.3	ug/L		04/16/18 15:05	04/18/18 23:45	1
4-Bromophenyl phenyl ether	ND		10	0.33	ug/L		04/16/18 15:05	04/18/18 23:45	1
Butyl benzyl phthalate	ND		10	0.70	ug/L		04/16/18 15:05	04/18/18 23:45	1
4-Chloroaniline	ND		10	3.5	ug/L		04/16/18 15:05	04/18/18 23:45	1
4-Chloro-3-methylphenol	ND		10	3.9	ug/L		04/16/18 15:05	04/18/18 23:45	1
2-Chloronaphthalene	ND		10	0.53	ug/L		04/16/18 15:05	04/18/18 23:45	1
2-Chlorophenol	ND		10	2.2	ug/L		04/16/18 15:05	04/18/18 23:45	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		04/16/18 15:05	04/18/18 23:45	1
Dibenz[a,h]acridine	ND		10	3.1	ug/L		04/16/18 15:05	04/18/18 23:45	1
Dibenzofuran	ND		10	0.53	ug/L		04/16/18 15:05	04/18/18 23:45	1
3,3'-Dichlorobenzidine	ND		10	2.7	ug/L		04/16/18 15:05	04/18/18 23:45	1
2,4-Dichlorophenol	ND		10	3.1	ug/L		04/16/18 15:05	04/18/18 23:45	1
Diethyl phthalate	ND		10	0.71	ug/L		04/16/18 15:05	04/18/18 23:45	1
2,4-Dimethylphenol	ND		10	3.6	ug/L		04/16/18 15:05	04/18/18 23:45	1
Dimethyl phthalate	ND		10	0.61	ug/L		04/16/18 15:05	04/18/18 23:45	1
Di-n-butyl phthalate	ND		10	2.8	ug/L		04/16/18 15:05	04/18/18 23:45	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		04/16/18 15:05	04/18/18 23:45	1
2,4-Dinitrophenol	ND		31	3.5	ug/L		04/16/18 15:05	04/18/18 23:45	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		04/16/18 15:05	04/18/18 23:45	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		04/16/18 15:05	04/18/18 23:45	1
Di-n-octyl phthalate	ND		10	0.45	ug/L		04/16/18 15:05	04/18/18 23:45	1
1,4-Dioxane	ND		10	1.0	ug/L		04/16/18 15:05	04/18/18 23:45	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		04/16/18 15:05	04/18/18 23:45	1
Hexachlorobenzene	ND		10	0.25	ug/L		04/16/18 15:05	04/18/18 23:45	1
Hexachlorocyclopentadiene	ND		20	2.7	ug/L		04/16/18 15:05	04/18/18 23:45	1
Hexachloroethane	ND		10	4.3	ug/L		04/16/18 15:05	04/18/18 23:45	1
Indene	ND	UJ	10	1.0	ug/L		04/16/18 15:05	04/18/18 23:45	1
Isophorone	ND		10	0.58	ug/L		04/16/18 15:05	04/18/18 23:45	1
2-Methylphenol	ND		10	1.8	ug/L		04/16/18 15:05	04/18/18 23:45	1
3 & 4 Methylphenol	ND		20	1.1	ug/L		04/16/18 15:05	04/18/18 23:45	1
2-Nitroaniline	ND		10	2.2	ug/L		04/16/18 15:05	04/18/18 23:45	1
3-Nitroaniline	ND		10	1.8	ug/L		04/16/18 15:05	04/18/18 23:45	1
4-Nitroaniline	ND		10	2.5	ug/L		04/16/18 15:05	04/18/18 23:45	1
Nitrobenzene	ND		10	0.56	ug/L		04/16/18 15:05	04/18/18 23:45	1
2-Nitrophenol	ND		10	0.66	ug/L		04/16/18 15:05	04/18/18 23:45	1
4-Nitrophenol	ND		10	2.1	ug/L		04/16/18 15:05	04/18/18 23:45	1
N-Nitrosodimethylamine	ND		10	3.6	ug/L		04/16/18 15:05	04/18/18 23:45	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
 SDG: (2Q18)

Client Sample ID: MW14-ROX-041018

Lab Sample ID: 400-152114-4

Date Collected: 04/10/18 10:40

Matrix: Water

Date Received: 04/11/18 09:31

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	3.4	ug/L		04/16/18 15:05	04/18/18 23:45	1
N-Nitrosodiphenylamine	ND		10	0.48	ug/L		04/16/18 15:05	04/18/18 23:45	1
Pentachlorophenol	ND		20	1.8	ug/L		04/16/18 15:05	04/18/18 23:45	1
Phenol	ND	WJ	10	2.7	ug/L		04/16/18 15:05	04/18/18 23:45	1
Pyridine	ND	WJ	10	3.3	ug/L		04/16/18 15:05	04/18/18 23:45	1
Quinoline	ND		10	6.1	ug/L		04/16/18 15:05	04/18/18 23:45	1
2,4,5-Trichlorophenol	ND		10	3.8	ug/L		04/16/18 15:05	04/18/18 23:45	1
2,4,6-Trichlorophenol	ND		10	3.6	ug/L		04/16/18 15:05	04/18/18 23:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	61		34 - 120	04/16/18 15:05	04/18/18 23:45	1
2-Fluorophenol	45		10 - 120	04/16/18 15:05	04/18/18 23:45	1
Nitrobenzene-d5	54		27 - 120	04/16/18 15:05	04/18/18 23:45	1
Phenol-d5	51		10 - 120	04/16/18 15:05	04/18/18 23:45	1
Terphenyl-d14	77		53 - 125	04/16/18 15:05	04/18/18 23:45	1
2,4,6-Tribromophenol	78		15 - 135	04/16/18 15:05	04/18/18 23:45	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.030	0.0054	ug/L		04/19/18 14:51	04/20/18 00:50	1
1,2-Dibromoethane	ND		0.020	0.0049	ug/L		04/19/18 14:51	04/20/18 00:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	108		51 - 149	04/19/18 14:51	04/20/18 00:50	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Client Sample ID: P66-ROX-041018

Lab Sample ID: 400-152114-5

Date Collected: 04/10/18 11:35

Matrix: Water

Date Received: 04/11/18 09:31

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	13	J	25	10	ug/L			04/20/18 17:13	1
Acrolein	ND		20	10	ug/L			04/20/18 17:13	1
Acrylonitrile	ND		10	2.8	ug/L			04/20/18 17:13	1
Benzene	15		1.0	0.38	ug/L			04/20/18 17:13	1
Bromobenzene	ND		1.0	0.54	ug/L			04/20/18 17:13	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/20/18 17:13	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/20/18 17:13	1
Bromoform	ND		5.0	0.71	ug/L			04/20/18 17:13	1
Bromomethane	ND	*	1.0	0.98	ug/L			04/20/18 17:13	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/20/18 17:13	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/20/18 17:13	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/20/18 17:13	1
Chlorobenzene	0.60	J	1.0	0.50	ug/L			04/20/18 17:13	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/20/18 17:13	1
Chloroethane	ND		1.0	0.76	ug/L			04/20/18 17:13	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/20/18 17:13	1
Chloroform	ND		1.0	0.60	ug/L			04/20/18 17:13	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/20/18 17:13	1
Chloromethane	ND		1.0	0.83	ug/L			04/20/18 17:13	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 17:13	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/20/18 17:13	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/20/18 17:13	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/20/18 17:13	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/20/18 17:13	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/20/18 17:13	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/20/18 17:13	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/20/18 17:13	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 17:13	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 17:13	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 17:13	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 17:13	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/20/18 17:13	1
Ethylbenzene	0.56	J	1.0	0.50	ug/L			04/20/18 17:13	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/20/18 17:13	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/20/18 17:13	1
2-Hexanone	ND		25	3.1	ug/L			04/20/18 17:13	1
Isopropylbenzene	65		1.0	0.53	ug/L			04/20/18 17:13	1
Methylene bromide	ND		5.0	0.59	ug/L			04/20/18 17:13	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/20/18 17:13	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/20/18 17:13	1
Methyl tert-butyl ether	6.4		1.0	0.74	ug/L			04/20/18 17:13	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/20/18 17:13	1
Naphthalene	ND		1.0	1.0	ug/L			04/20/18 17:13	1
n-Butylbenzene	4.5		1.0	0.76	ug/L			04/20/18 17:13	1
N-Propylbenzene	71		1.0	0.69	ug/L			04/20/18 17:13	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/20/18 17:13	1
o-Xylene	0.60	J	5.0	0.60	ug/L			04/20/18 17:13	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/20/18 17:13	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/20/18 17:13	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Client Sample ID: P66-ROX-041018

Lab Sample ID: 400-152114-5

Date Collected: 04/10/18 11:35

Matrix: Water

Date Received: 04/11/18 09:31

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	8.2		1.0	0.70	ug/L			04/20/18 17:13	1
Styrene	ND		1.0	1.0	ug/L			04/20/18 17:13	1
tert-Butylbenzene	3.7		1.0	0.63	ug/L			04/20/18 17:13	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/20/18 17:13	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/20/18 17:13	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/20/18 17:13	1
Toluene	ND		1.0	0.70	ug/L			04/20/18 17:13	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 17:13	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/20/18 17:13	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/20/18 17:13	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/20/18 17:13	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/20/18 17:13	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/20/18 17:13	1
Trichloroethene	ND		1.0	0.50	ug/L			04/20/18 17:13	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/20/18 17:13	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/20/18 17:13	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/20/18 17:13	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/20/18 17:13	1
Vinyl acetate	ND		25	2.0	ug/L			04/20/18 17:13	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/20/18 17:13	1
Xylenes, Total	ND		10	1.6	ug/L			04/20/18 17:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	106		78 - 118					04/20/18 17:13	1
Dibromofluoromethane	99		81 - 121					04/20/18 17:13	1
Toluene-d8 (Surr)	98		80 - 120					04/20/18 17:13	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.47		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 17:59	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 17:59	1
Anthracene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 17:59	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 17:59	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 17:59	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 17:59	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 17:59	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 17:59	1
Chrysene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 17:59	1
Dibenz[a,h]anthracene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 17:59	1
Fluoranthene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 17:59	1
Fluorene	1.0		0.20	0.021	ug/L		04/16/18 15:05	04/18/18 17:59	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 17:59	1
Phenanthrene	0.65		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 17:59	1
Pyrene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 17:59	1
2-Methylnaphthalene	37		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 17:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	47		33 - 138				04/16/18 15:05	04/18/18 17:59	1
2-Fluorobiphenyl	70		15 - 122				04/16/18 15:05	04/18/18 17:59	1
Nitrobenzene-d5	82		19 - 130				04/16/18 15:05	04/18/18 17:59	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Client Sample ID: P66-ROX-041018

Lab Sample ID: 400-152114-5

Date Collected: 04/10/18 11:35

Matrix: Water

Date Received: 04/11/18 09:31

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	100		0.99	0.099	ug/L		04/16/18 15:05	04/19/18 10:08	5

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.9	3.8	ug/L		04/16/18 15:05	04/19/18 00:10	1
Benzenethiol	ND	UJ	9.9	1.7	ug/L		04/16/18 15:05	04/19/18 00:10	1
Benzoic acid	ND		30	7.2	ug/L		04/16/18 15:05	04/19/18 00:10	1
Benzyl alcohol	ND	UJ	9.9	2.0	ug/L		04/16/18 15:05	04/19/18 00:10	1
Bis(2-chloroethoxy)methane	ND		9.9	0.68	ug/L		04/16/18 15:05	04/19/18 00:10	1
Bis(2-chloroethyl)ether	ND	UJ	9.9	0.73	ug/L		04/16/18 15:05	04/19/18 00:10	1
bis (2-chloroisopropyl) ether	ND		9.9	0.80	ug/L		04/16/18 15:05	04/19/18 00:10	1
Bis(2-ethylhexyl) phthalate	ND		9.9	2.2	ug/L		04/16/18 15:05	04/19/18 00:10	1
4-Bromophenyl phenyl ether	ND		9.9	0.32	ug/L		04/16/18 15:05	04/19/18 00:10	1
Butyl benzyl phthalate	ND		9.9	0.68	ug/L		04/16/18 15:05	04/19/18 00:10	1
4-Chloroaniline	ND		9.9	3.4	ug/L		04/16/18 15:05	04/19/18 00:10	1
4-Chloro-3-methylphenol	ND		9.9	3.8	ug/L		04/16/18 15:05	04/19/18 00:10	1
2-Chloronaphthalene	ND		9.9	0.52	ug/L		04/16/18 15:05	04/19/18 00:10	1
2-Chlorophenol	ND		9.9	2.2	ug/L		04/16/18 15:05	04/19/18 00:10	1
4-Chlorophenyl phenyl ether	ND		9.9	2.0	ug/L		04/16/18 15:05	04/19/18 00:10	1
Dibenz[a,h]acridine	ND		9.9	3.0	ug/L		04/16/18 15:05	04/19/18 00:10	1
Dibenzofuran	ND		9.9	0.52	ug/L		04/16/18 15:05	04/19/18 00:10	1
3,3'-Dichlorobenzidine	ND		9.9	2.6	ug/L		04/16/18 15:05	04/19/18 00:10	1
2,4-Dichlorophenol	ND		9.9	3.0	ug/L		04/16/18 15:05	04/19/18 00:10	1
Diethyl phthalate	ND		9.9	0.69	ug/L		04/16/18 15:05	04/19/18 00:10	1
2,4-Dimethylphenol	ND		9.9	3.5	ug/L		04/16/18 15:05	04/19/18 00:10	1
Dimethyl phthalate	ND		9.9	0.59	ug/L		04/16/18 15:05	04/19/18 00:10	1
Di-n-butyl phthalate	ND		9.9	2.7	ug/L		04/16/18 15:05	04/19/18 00:10	1
4,6-Dinitro-ortho-cresol	ND		9.9	2.0	ug/L		04/16/18 15:05	04/19/18 00:10	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/16/18 15:05	04/19/18 00:10	1
2,4-Dinitrotoluene	ND		9.9	1.9	ug/L		04/16/18 15:05	04/19/18 00:10	1
2,6-Dinitrotoluene	ND		9.9	1.9	ug/L		04/16/18 15:05	04/19/18 00:10	1
Di-n-octyl phthalate	ND		9.9	0.44	ug/L		04/16/18 15:05	04/19/18 00:10	1
1,4-Dioxane	ND		9.9	0.99	ug/L		04/16/18 15:05	04/19/18 00:10	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	0.99	ug/L		04/16/18 15:05	04/19/18 00:10	1
Hexachlorobenzene	ND		9.9	0.25	ug/L		04/16/18 15:05	04/19/18 00:10	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/16/18 15:05	04/19/18 00:10	1
Hexachloroethane	ND		9.9	4.2	ug/L		04/16/18 15:05	04/19/18 00:10	1
Indene	ND	UJ	9.9	0.99	ug/L		04/16/18 15:05	04/19/18 00:10	1
Isophorone	ND		9.9	0.56	ug/L		04/16/18 15:05	04/19/18 00:10	1
2-Methylphenol	ND		9.9	1.8	ug/L		04/16/18 15:05	04/19/18 00:10	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/16/18 15:05	04/19/18 00:10	1
2-Nitroaniline	ND		9.9	2.2	ug/L		04/16/18 15:05	04/19/18 00:10	1
3-Nitroaniline	ND		9.9	1.8	ug/L		04/16/18 15:05	04/19/18 00:10	1
4-Nitroaniline	ND		9.9	2.5	ug/L		04/16/18 15:05	04/19/18 00:10	1
Nitrobenzene	ND		9.9	0.55	ug/L		04/16/18 15:05	04/19/18 00:10	1
2-Nitrophenol	ND		9.9	0.64	ug/L		04/16/18 15:05	04/19/18 00:10	1
4-Nitrophenol	ND		9.9	2.1	ug/L		04/16/18 15:05	04/19/18 00:10	1
N-Nitrosodimethylamine	ND		9.9	3.5	ug/L		04/16/18 15:05	04/19/18 00:10	1
N-Nitrosodi-n-propylamine	ND		9.9	3.3	ug/L		04/16/18 15:05	04/19/18 00:10	1

TestAmerica Pensacola



Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
 SDG: (2Q18)

Client Sample ID: P66-ROX-041018

Lab Sample ID: 400-152114-5

Date Collected: 04/10/18 11:35

Matrix: Water

Date Received: 04/11/18 09:31

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiphenylamine	ND		9.9	0.47	ug/L		04/16/18 15:05	04/19/18 00:10	1
Pentachlorophenol	ND		20	1.8	ug/L		04/16/18 15:05	04/19/18 00:10	1
Phenol	ND	UJ	9.9	2.6	ug/L		04/16/18 15:05	04/19/18 00:10	1
Pyridine	ND	UJ	9.9	3.2	ug/L		04/16/18 15:05	04/19/18 00:10	1
Quinoline	ND		9.9	5.9	ug/L		04/16/18 15:05	04/19/18 00:10	1
2,4,5-Trichlorophenol	ND		9.9	3.7	ug/L		04/16/18 15:05	04/19/18 00:10	1
2,4,6-Trichlorophenol	ND		9.9	3.5	ug/L		04/16/18 15:05	04/19/18 00:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	61		34 - 120	04/16/18 15:05	04/19/18 00:10	1
2-Fluorophenol	53		10 - 120	04/16/18 15:05	04/19/18 00:10	1
Nitrobenzene-d5	72		27 - 120	04/16/18 15:05	04/19/18 00:10	1
Phenol-d5	56		10 - 120	04/16/18 15:05	04/19/18 00:10	1
Terphenyl-d14	55		53 - 125	04/16/18 15:05	04/19/18 00:10	1
2,4,6-Tribromophenol	97		15 - 135	04/16/18 15:05	04/19/18 00:10	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.030	0.0054	ug/L		04/19/18 14:51	04/20/18 01:29	1
1,2-Dibromoethane	ND		0.020	0.0049	ug/L		04/19/18 14:51	04/20/18 01:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	118		51 - 149	04/19/18 14:51	04/20/18 01:29	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
 SDG: (2Q18)

Client Sample ID: P74-ROX-041018

Lab Sample ID: 400-152114-6

Date Collected: 04/10/18 13:15

Matrix: Water

Date Received: 04/11/18 09:31

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/20/18 17:42	1
Acrolein	ND		20	10	ug/L			04/20/18 17:42	1
Acrylonitrile	ND		10	2.8	ug/L			04/20/18 17:42	1
Benzene	ND		1.0	0.38	ug/L			04/20/18 17:42	1
Bromobenzene	ND		1.0	0.54	ug/L			04/20/18 17:42	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/20/18 17:42	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/20/18 17:42	1
Bromoform	ND		5.0	0.71	ug/L			04/20/18 17:42	1
Bromomethane	ND		1.0	0.98	ug/L			04/20/18 17:42	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/20/18 17:42	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/20/18 17:42	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/20/18 17:42	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/20/18 17:42	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/20/18 17:42	1
Chloroethane	ND		1.0	0.76	ug/L			04/20/18 17:42	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/20/18 17:42	1
Chloroform	ND		1.0	0.60	ug/L			04/20/18 17:42	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/20/18 17:42	1
Chloromethane	ND		1.0	0.83	ug/L			04/20/18 17:42	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 17:42	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/20/18 17:42	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/20/18 17:42	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/20/18 17:42	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/20/18 17:42	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/20/18 17:42	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/20/18 17:42	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/20/18 17:42	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 17:42	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 17:42	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 17:42	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 17:42	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/20/18 17:42	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/20/18 17:42	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/20/18 17:42	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/20/18 17:42	1
2-Hexanone	ND		25	3.1	ug/L			04/20/18 17:42	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/20/18 17:42	1
Methylene bromide	ND		5.0	0.59	ug/L			04/20/18 17:42	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/20/18 17:42	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/20/18 17:42	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/20/18 17:42	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/20/18 17:42	1
Naphthalene	ND		1.0	1.0	ug/L			04/20/18 17:42	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/20/18 17:42	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/20/18 17:42	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/20/18 17:42	1
o-Xylene	ND		5.0	0.60	ug/L			04/20/18 17:42	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/20/18 17:42	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/20/18 17:42	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Client Sample ID: P74-ROX-041018

Lab Sample ID: 400-152114-6

Date Collected: 04/10/18 13:15

Matrix: Water

Date Received: 04/11/18 09:31

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/20/18 17:42	1
Styrene	ND		1.0	1.0	ug/L			04/20/18 17:42	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/20/18 17:42	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/20/18 17:42	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/20/18 17:42	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/20/18 17:42	1
Toluene	ND		1.0	0.70	ug/L			04/20/18 17:42	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 17:42	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/20/18 17:42	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/20/18 17:42	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/20/18 17:42	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/20/18 17:42	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/20/18 17:42	1
Trichloroethene	ND		1.0	0.50	ug/L			04/20/18 17:42	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/20/18 17:42	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/20/18 17:42	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/20/18 17:42	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/20/18 17:42	1
Vinyl acetate	ND		25	2.0	ug/L			04/20/18 17:42	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/20/18 17:42	1
Xylenes, Total	ND		10	1.6	ug/L			04/20/18 17:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107		78 - 118					04/20/18 17:42	1
Dibromofluoromethane	103		81 - 121					04/20/18 17:42	1
Toluene-d8 (Surr)	99		80 - 120					04/20/18 17:42	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 18:16	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 18:16	1
Anthracene	0.042	JB 4	0.20	0.020	ug/L		04/16/18 15:05	04/18/18 18:16	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 18:16	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 18:16	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 18:16	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 18:16	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 18:16	1
Chrysene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 18:16	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 18:16	1
Fluoranthene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 18:16	1
Fluorene	ND		0.20	0.021	ug/L		04/16/18 15:05	04/18/18 18:16	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 18:16	1
Phenanthrene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 18:16	1
Pyrene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 18:16	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 18:16	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 18:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	78		33 - 138				04/16/18 15:05	04/18/18 18:16	1
2-Fluorobiphenyl	89		15 - 122				04/16/18 15:05	04/18/18 18:16	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Client Sample ID: P74-ROX-041018

Lab Sample ID: 400-152114-6

Date Collected: 04/10/18 13:15

Matrix: Water

Date Received: 04/11/18 09:31

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	77		19 - 130	04/16/18 15:05	04/18/18 18:16	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.9	3.8	ug/L		04/16/18 15:05	04/19/18 00:34	1
Benzenethiol	ND	UJ	9.9	1.7	ug/L		04/16/18 15:05	04/19/18 00:34	1
Benzoic acid	ND		30	7.2	ug/L		04/16/18 15:05	04/19/18 00:34	1
Benzyl alcohol	ND	UJ	9.9	2.0	ug/L		04/16/18 15:05	04/19/18 00:34	1
Bis(2-chloroethoxy)methane	ND		9.9	0.68	ug/L		04/16/18 15:05	04/19/18 00:34	1
Bis(2-chloroethyl)ether	ND	UJ	9.9	0.73	ug/L		04/16/18 15:05	04/19/18 00:34	1
bis (2-chloroisopropyl) ether	ND		9.9	0.80	ug/L		04/16/18 15:05	04/19/18 00:34	1
Bis(2-ethylhexyl) phthalate	ND		9.9	2.2	ug/L		04/16/18 15:05	04/19/18 00:34	1
4-Bromophenyl phenyl ether	ND		9.9	0.32	ug/L		04/16/18 15:05	04/19/18 00:34	1
Butyl benzyl phthalate	ND		9.9	0.68	ug/L		04/16/18 15:05	04/19/18 00:34	1
4-Chloroaniline	ND		9.9	3.4	ug/L		04/16/18 15:05	04/19/18 00:34	1
4-Chloro-3-methylphenol	ND		9.9	3.8	ug/L		04/16/18 15:05	04/19/18 00:34	1
2-Chloronaphthalene	ND		9.9	0.52	ug/L		04/16/18 15:05	04/19/18 00:34	1
2-Chlorophenol	ND		9.9	2.2	ug/L		04/16/18 15:05	04/19/18 00:34	1
4-Chlorophenyl phenyl ether	ND		9.9	2.0	ug/L		04/16/18 15:05	04/19/18 00:34	1
Dibenz[a,h]acridine	ND		9.9	3.0	ug/L		04/16/18 15:05	04/19/18 00:34	1
Dibenzofuran	ND		9.9	0.52	ug/L		04/16/18 15:05	04/19/18 00:34	1
3,3'-Dichlorobenzidine	ND		9.9	2.6	ug/L		04/16/18 15:05	04/19/18 00:34	1
2,4-Dichlorophenol	ND		9.9	3.0	ug/L		04/16/18 15:05	04/19/18 00:34	1
Diethyl phthalate	ND		9.9	0.69	ug/L		04/16/18 15:05	04/19/18 00:34	1
2,4-Dimethylphenol	ND		9.9	3.5	ug/L		04/16/18 15:05	04/19/18 00:34	1
Dimethyl phthalate	ND		9.9	0.60	ug/L		04/16/18 15:05	04/19/18 00:34	1
Di-n-butyl phthalate	ND		9.9	2.7	ug/L		04/16/18 15:05	04/19/18 00:34	1
4,6-Dinitro-ortho-cresol	ND		9.9	2.0	ug/L		04/16/18 15:05	04/19/18 00:34	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/16/18 15:05	04/19/18 00:34	1
2,4-Dinitrotoluene	ND		9.9	1.9	ug/L		04/16/18 15:05	04/19/18 00:34	1
2,6-Dinitrotoluene	ND		9.9	1.9	ug/L		04/16/18 15:05	04/19/18 00:34	1
Di-n-octyl phthalate	ND		9.9	0.44	ug/L		04/16/18 15:05	04/19/18 00:34	1
1,4-Dioxane	ND		9.9	0.99	ug/L		04/16/18 15:05	04/19/18 00:34	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	0.99	ug/L		04/16/18 15:05	04/19/18 00:34	1
Hexachlorobenzene	ND		9.9	0.25	ug/L		04/16/18 15:05	04/19/18 00:34	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/16/18 15:05	04/19/18 00:34	1
Hexachloroethane	ND		9.9	4.2	ug/L		04/16/18 15:05	04/19/18 00:34	1
Indene	ND	UJ	9.9	0.99	ug/L		04/16/18 15:05	04/19/18 00:34	1
Isophorone	ND		9.9	0.57	ug/L		04/16/18 15:05	04/19/18 00:34	1
2-Methylphenol	ND		9.9	1.8	ug/L		04/16/18 15:05	04/19/18 00:34	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/16/18 15:05	04/19/18 00:34	1
2-Nitroaniline	ND		9.9	2.2	ug/L		04/16/18 15:05	04/19/18 00:34	1
3-Nitroaniline	ND		9.9	1.8	ug/L		04/16/18 15:05	04/19/18 00:34	1
4-Nitroaniline	ND		9.9	2.5	ug/L		04/16/18 15:05	04/19/18 00:34	1
Nitrobenzene	ND		9.9	0.55	ug/L		04/16/18 15:05	04/19/18 00:34	1
2-Nitrophenol	ND		9.9	0.64	ug/L		04/16/18 15:05	04/19/18 00:34	1
4-Nitrophenol	ND		9.9	2.1	ug/L		04/16/18 15:05	04/19/18 00:34	1
N-Nitrosodimethylamine	ND		9.9	3.5	ug/L		04/16/18 15:05	04/19/18 00:34	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Client Sample ID: P74-ROX-041018

Lab Sample ID: 400-152114-6

Date Collected: 04/10/18 13:15

Matrix: Water

Date Received: 04/11/18 09:31

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.9	3.3	ug/L		04/16/18 15:05	04/19/18 00:34	1
N-Nitrosodiphenylamine	ND		9.9	0.47	ug/L		04/16/18 15:05	04/19/18 00:34	1
Pentachlorophenol	ND		20	1.8	ug/L		04/16/18 15:05	04/19/18 00:34	1
Phenol	ND	WJ	9.9	2.6	ug/L		04/16/18 15:05	04/19/18 00:34	1
Pyridine	ND	WJ	9.9	3.2	ug/L		04/16/18 15:05	04/19/18 00:34	1
Quinoline	ND		9.9	6.0	ug/L		04/16/18 15:05	04/19/18 00:34	1
2,4,5-Trichlorophenol	ND		9.9	3.7	ug/L		04/16/18 15:05	04/19/18 00:34	1
2,4,6-Trichlorophenol	ND		9.9	3.5	ug/L		04/16/18 15:05	04/19/18 00:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	67		34 - 120	04/16/18 15:05	04/19/18 00:34	1
2-Fluorophenol	47		10 - 120	04/16/18 15:05	04/19/18 00:34	1
Nitrobenzene-d5	55		27 - 120	04/16/18 15:05	04/19/18 00:34	1
Phenol-d5	51		10 - 120	04/16/18 15:05	04/19/18 00:34	1
Terphenyl-d14	69		53 - 125	04/16/18 15:05	04/19/18 00:34	1
2,4,6-Tribromophenol	74		15 - 135	04/16/18 15:05	04/19/18 00:34	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.029	0.0053	ug/L		04/19/18 14:51	04/20/18 01:49	1
1,2-Dibromoethane	ND		0.019	0.0048	ug/L		04/19/18 14:51	04/20/18 01:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	114	p	51 - 149	04/19/18 14:51	04/20/18 01:49	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
 SDG: (2Q18)

Client Sample ID: P74-ROX-041018-DUP

Lab Sample ID: 400-152114-7

Date Collected: 04/10/18 13:15

Matrix: Water

Date Received: 04/11/18 09:31

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/20/18 18:11	1
Acrolein	ND		20	10	ug/L			04/20/18 18:11	1
Acrylonitrile	ND		10	2.8	ug/L			04/20/18 18:11	1
Benzene	ND		1.0	0.38	ug/L			04/20/18 18:11	1
Bromobenzene	ND		1.0	0.54	ug/L			04/20/18 18:11	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/20/18 18:11	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/20/18 18:11	1
Bromoform	ND		5.0	0.71	ug/L			04/20/18 18:11	1
Bromomethane	ND		1.0	0.98	ug/L			04/20/18 18:11	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/20/18 18:11	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/20/18 18:11	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/20/18 18:11	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/20/18 18:11	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/20/18 18:11	1
Chloroethane	ND		1.0	0.76	ug/L			04/20/18 18:11	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/20/18 18:11	1
Chloroform	ND		1.0	0.60	ug/L			04/20/18 18:11	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/20/18 18:11	1
Chloromethane	ND		1.0	0.83	ug/L			04/20/18 18:11	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 18:11	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/20/18 18:11	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/20/18 18:11	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/20/18 18:11	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/20/18 18:11	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/20/18 18:11	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/20/18 18:11	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/20/18 18:11	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 18:11	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 18:11	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 18:11	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 18:11	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/20/18 18:11	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/20/18 18:11	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/20/18 18:11	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/20/18 18:11	1
2-Hexanone	ND		25	3.1	ug/L			04/20/18 18:11	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/20/18 18:11	1
Methylene bromide	ND		5.0	0.59	ug/L			04/20/18 18:11	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/20/18 18:11	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/20/18 18:11	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/20/18 18:11	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/20/18 18:11	1
Naphthalene	ND		1.0	1.0	ug/L			04/20/18 18:11	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/20/18 18:11	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/20/18 18:11	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/20/18 18:11	1
o-Xylene	ND		5.0	0.60	ug/L			04/20/18 18:11	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/20/18 18:11	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/20/18 18:11	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Client Sample ID: P74-ROX-041018-DUP

Lab Sample ID: 400-152114-7

Date Collected: 04/10/18 13:15

Matrix: Water

Date Received: 04/11/18 09:31

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/20/18 18:11	1
Styrene	ND		1.0	1.0	ug/L			04/20/18 18:11	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/20/18 18:11	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/20/18 18:11	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/20/18 18:11	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/20/18 18:11	1
Toluene	ND		1.0	0.70	ug/L			04/20/18 18:11	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 18:11	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/20/18 18:11	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/20/18 18:11	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/20/18 18:11	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/20/18 18:11	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/20/18 18:11	1
Trichloroethene	ND		1.0	0.50	ug/L			04/20/18 18:11	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/20/18 18:11	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/20/18 18:11	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/20/18 18:11	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/20/18 18:11	1
Vinyl acetate	ND		25	2.0	ug/L			04/20/18 18:11	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/20/18 18:11	1
Xylenes, Total	ND		10	1.6	ug/L			04/20/18 18:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	105		78 - 118		04/20/18 18:11	1
Dibromofluoromethane	101		81 - 121		04/20/18 18:11	1
Toluene-d8 (Surr)	98		80 - 120		04/20/18 18:11	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 18:34	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 18:34	1
Anthracene	0.039	JB 4	0.20	0.020	ug/L		04/16/18 15:05	04/18/18 18:34	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 18:34	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 18:34	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 18:34	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 18:34	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 18:34	1
Chrysene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 18:34	1
Dibenz[a,h]anthracene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 18:34	1
Fluoranthene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 18:34	1
Fluorene	ND		0.20	0.021	ug/L		04/16/18 15:05	04/18/18 18:34	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 18:34	1
Phenanthrene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 18:34	1
Pyrene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 18:34	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 18:34	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 18:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	81		33 - 138	04/16/18 15:05	04/18/18 18:34	1
2-Fluorobiphenyl	90		15 - 122	04/16/18 15:05	04/18/18 18:34	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Client Sample ID: P74-ROX-041018-DUP

Lab Sample ID: 400-152114-7

Date Collected: 04/10/18 13:15

Matrix: Water

Date Received: 04/11/18 09:31

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	74		19 - 130	04/16/18 15:05	04/18/18 18:34	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.9	3.8	ug/L		04/16/18 15:05	04/19/18 00:59	1
Benzenethiol	ND	UJ	9.9	1.7	ug/L		04/16/18 15:05	04/19/18 00:59	1
Benzoic acid	ND		30	7.2	ug/L		04/16/18 15:05	04/19/18 00:59	1
Benzyl alcohol	ND	UJ	9.9	2.0	ug/L		04/16/18 15:05	04/19/18 00:59	1
Bis(2-chloroethoxy)methane	ND		9.9	0.68	ug/L		04/16/18 15:05	04/19/18 00:59	1
Bis(2-chloroethyl)ether	ND	UJ	9.9	0.73	ug/L		04/16/18 15:05	04/19/18 00:59	1
bis (2-chloroisopropyl) ether	ND		9.9	0.80	ug/L		04/16/18 15:05	04/19/18 00:59	1
Bis(2-ethylhexyl) phthalate	ND		9.9	2.2	ug/L		04/16/18 15:05	04/19/18 00:59	1
4-Bromophenyl phenyl ether	ND		9.9	0.32	ug/L		04/16/18 15:05	04/19/18 00:59	1
Butyl benzyl phthalate	ND		9.9	0.68	ug/L		04/16/18 15:05	04/19/18 00:59	1
4-Chloroaniline	ND		9.9	3.4	ug/L		04/16/18 15:05	04/19/18 00:59	1
4-Chloro-3-methylphenol	ND		9.9	3.8	ug/L		04/16/18 15:05	04/19/18 00:59	1
2-Chloronaphthalene	ND		9.9	0.52	ug/L		04/16/18 15:05	04/19/18 00:59	1
2-Chlorophenol	ND		9.9	2.2	ug/L		04/16/18 15:05	04/19/18 00:59	1
4-Chlorophenyl phenyl ether	ND		9.9	2.0	ug/L		04/16/18 15:05	04/19/18 00:59	1
Dibenz[a,h]acridine	ND		9.9	3.0	ug/L		04/16/18 15:05	04/19/18 00:59	1
Dibenzofuran	ND		9.9	0.52	ug/L		04/16/18 15:05	04/19/18 00:59	1
3,3'-Dichlorobenzidine	ND		9.9	2.6	ug/L		04/16/18 15:05	04/19/18 00:59	1
2,4-Dichlorophenol	ND		9.9	3.0	ug/L		04/16/18 15:05	04/19/18 00:59	1
Diethyl phthalate	ND		9.9	0.69	ug/L		04/16/18 15:05	04/19/18 00:59	1
2,4-Dimethylphenol	ND		9.9	3.5	ug/L		04/16/18 15:05	04/19/18 00:59	1
Dimethyl phthalate	ND		9.9	0.59	ug/L		04/16/18 15:05	04/19/18 00:59	1
Di-n-butyl phthalate	ND		9.9	2.7	ug/L		04/16/18 15:05	04/19/18 00:59	1
4,6-Dinitro-ortho-cresol	ND		9.9	2.0	ug/L		04/16/18 15:05	04/19/18 00:59	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/16/18 15:05	04/19/18 00:59	1
2,4-Dinitrotoluene	ND		9.9	1.9	ug/L		04/16/18 15:05	04/19/18 00:59	1
2,6-Dinitrotoluene	ND		9.9	1.9	ug/L		04/16/18 15:05	04/19/18 00:59	1
Di-n-octyl phthalate	ND		9.9	0.44	ug/L		04/16/18 15:05	04/19/18 00:59	1
1,4-Dioxane	ND		9.9	0.99	ug/L		04/16/18 15:05	04/19/18 00:59	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	0.99	ug/L		04/16/18 15:05	04/19/18 00:59	1
Hexachlorobenzene	ND		9.9	0.25	ug/L		04/16/18 15:05	04/19/18 00:59	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/16/18 15:05	04/19/18 00:59	1
Hexachloroethane	ND		9.9	4.2	ug/L		04/16/18 15:05	04/19/18 00:59	1
Indene	ND	UJ	9.9	0.99	ug/L		04/16/18 15:05	04/19/18 00:59	1
Isophorone	ND		9.9	0.57	ug/L		04/16/18 15:05	04/19/18 00:59	1
2-Methylphenol	ND		9.9	1.8	ug/L		04/16/18 15:05	04/19/18 00:59	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/16/18 15:05	04/19/18 00:59	1
2-Nitroaniline	ND		9.9	2.2	ug/L		04/16/18 15:05	04/19/18 00:59	1
3-Nitroaniline	ND		9.9	1.8	ug/L		04/16/18 15:05	04/19/18 00:59	1
4-Nitroaniline	ND		9.9	2.5	ug/L		04/16/18 15:05	04/19/18 00:59	1
Nitrobenzene	ND		9.9	0.55	ug/L		04/16/18 15:05	04/19/18 00:59	1
2-Nitrophenol	ND		9.9	0.64	ug/L		04/16/18 15:05	04/19/18 00:59	1
4-Nitrophenol	ND		9.9	2.1	ug/L		04/16/18 15:05	04/19/18 00:59	1
N-Nitrosodimethylamine	ND		9.9	3.5	ug/L		04/16/18 15:05	04/19/18 00:59	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Client Sample ID: P74-ROX-041018-DUP

Lab Sample ID: 400-152114-7

Date Collected: 04/10/18 13:15

Matrix: Water

Date Received: 04/11/18 09:31

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.9	3.3	ug/L		04/16/18 15:05	04/19/18 00:59	1
N-Nitrosodiphenylamine	ND		9.9	0.47	ug/L		04/16/18 15:05	04/19/18 00:59	1
Pentachlorophenol	ND		20	1.8	ug/L		04/16/18 15:05	04/19/18 00:59	1
Phenol	ND	UJ	9.9	2.6	ug/L		04/16/18 15:05	04/19/18 00:59	1
Pyridine	ND	UJ	9.9	3.2	ug/L		04/16/18 15:05	04/19/18 00:59	1
Quinoline	ND		9.9	5.9	ug/L		04/16/18 15:05	04/19/18 00:59	1
2,4,5-Trichlorophenol	ND		9.9	3.7	ug/L		04/16/18 15:05	04/19/18 00:59	1
2,4,6-Trichlorophenol	ND		9.9	3.5	ug/L		04/16/18 15:05	04/19/18 00:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	65		34 - 120	04/16/18 15:05	04/19/18 00:59	1
2-Fluorophenol	37		10 - 120	04/16/18 15:05	04/19/18 00:59	1
Nitrobenzene-d5	54		27 - 120	04/16/18 15:05	04/19/18 00:59	1
Phenol-d5	46		10 - 120	04/16/18 15:05	04/19/18 00:59	1
Terphenyl-d14	78		53 - 125	04/16/18 15:05	04/19/18 00:59	1
2,4,6-Tribromophenol	71		15 - 135	04/16/18 15:05	04/19/18 00:59	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.029	0.0053	ug/L		04/19/18 14:51	04/20/18 02:09	1
1,2-Dibromoethane	ND		0.019	0.0048	ug/L		04/19/18 14:51	04/20/18 02:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	120	p	51 - 149	04/19/18 14:51	04/20/18 02:09	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
 SDG: (2Q18)

Client Sample ID: P57-ROX-041018

Lab Sample ID: 400-152114-8

Date Collected: 04/10/18 14:30

Matrix: Water

Date Received: 04/11/18 09:31

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		1300	500	ug/L			04/20/18 22:04	50
Acrolein	ND		1000	500	ug/L			04/20/18 22:04	50
Acrylonitrile	ND		500	140	ug/L			04/20/18 22:04	50
Benzene	8800		50	19	ug/L			04/20/18 22:04	50
Bromobenzene	ND		50	27	ug/L			04/20/18 22:04	50
Bromochloromethane	ND		50	26	ug/L			04/20/18 22:04	50
Bromodichloromethane	ND		50	25	ug/L			04/20/18 22:04	50
Bromoform	ND		250	36	ug/L			04/20/18 22:04	50
Bromomethane	ND		50	49	ug/L			04/20/18 22:04	50
2-Butanone (MEK)	ND		1300	130	ug/L			04/20/18 22:04	50
Carbon disulfide	ND		50	25	ug/L			04/20/18 22:04	50
Carbon tetrachloride	ND		50	25	ug/L			04/20/18 22:04	50
Chlorobenzene	ND		50	25	ug/L			04/20/18 22:04	50
Dibromochloromethane	ND		50	25	ug/L			04/20/18 22:04	50
Chloroethane	ND		50	38	ug/L			04/20/18 22:04	50
2-Chloroethyl vinyl ether	ND		250	100	ug/L			04/20/18 22:04	50
Chloroform	ND		50	30	ug/L			04/20/18 22:04	50
1-Chlorohexane	ND		50	35	ug/L			04/20/18 22:04	50
Chloromethane	ND		50	42	ug/L			04/20/18 22:04	50
cis-1,2-Dichloroethene	ND		50	25	ug/L			04/20/18 22:04	50
cis-1,3-Dichloropropene	ND		250	25	ug/L			04/20/18 22:04	50
1,2-Dichlorobenzene	ND		50	25	ug/L			04/20/18 22:04	50
1,3-Dichlorobenzene	ND		50	27	ug/L			04/20/18 22:04	50
1,4-Dichlorobenzene	ND		50	32	ug/L			04/20/18 22:04	50
Dichlorodifluoromethane	ND		50	43	ug/L			04/20/18 22:04	50
1,1-Dichloroethane	ND		50	25	ug/L			04/20/18 22:04	50
1,2-Dichloroethane	ND		50	25	ug/L			04/20/18 22:04	50
1,1-Dichloroethene	ND		50	25	ug/L			04/20/18 22:04	50
1,2-Dichloropropane	ND		50	25	ug/L			04/20/18 22:04	50
1,3-Dichloropropane	ND		50	25	ug/L			04/20/18 22:04	50
2,2-Dichloropropane	ND		50	25	ug/L			04/20/18 22:04	50
1,1-Dichloropropene	ND		50	25	ug/L			04/20/18 22:04	50
Ethylbenzene	ND		50	25	ug/L			04/20/18 22:04	50
Ethyl methacrylate	ND		50	30	ug/L			04/20/18 22:04	50
Hexachlorobutadiene	ND		250	45	ug/L			04/20/18 22:04	50
2-Hexanone	ND		1300	160	ug/L			04/20/18 22:04	50
Isopropylbenzene	ND		50	27	ug/L			04/20/18 22:04	50
Methylene bromide	ND		250	30	ug/L			04/20/18 22:04	50
Methylene Chloride	ND		250	150	ug/L			04/20/18 22:04	50
4-Methyl-2-pentanone (MIBK)	ND		1300	90	ug/L			04/20/18 22:04	50
Methyl tert-butyl ether	ND		50	37	ug/L			04/20/18 22:04	50
m-Xylene & p-Xylene	ND		250	80	ug/L			04/20/18 22:04	50
Naphthalene	ND		50	50	ug/L			04/20/18 22:04	50
n-Butylbenzene	ND		50	38	ug/L			04/20/18 22:04	50
N-Propylbenzene	ND		50	35	ug/L			04/20/18 22:04	50
o-Chlorotoluene	ND		50	29	ug/L			04/20/18 22:04	50
o-Xylene	ND		250	30	ug/L			04/20/18 22:04	50
p-Chlorotoluene	ND		50	28	ug/L			04/20/18 22:04	50
p-Isopropyltoluene	ND		50	36	ug/L			04/20/18 22:04	50

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Client Sample ID: P57-ROX-041018

Lab Sample ID: 400-152114-8

Date Collected: 04/10/18 14:30

Matrix: Water

Date Received: 04/11/18 09:31

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		50	35	ug/L			04/20/18 22:04	50
Styrene	ND		50	50	ug/L			04/20/18 22:04	50
tert-Butylbenzene	ND		50	32	ug/L			04/20/18 22:04	50
1,1,1,2-Tetrachloroethane	ND		50	26	ug/L			04/20/18 22:04	50
1,1,2,2-Tetrachloroethane	ND		50	25	ug/L			04/20/18 22:04	50
Tetrachloroethene	ND		50	29	ug/L			04/20/18 22:04	50
Toluene	ND		50	35	ug/L			04/20/18 22:04	50
trans-1,2-Dichloroethene	ND		50	25	ug/L			04/20/18 22:04	50
trans-1,3-Dichloropropene	ND		250	25	ug/L			04/20/18 22:04	50
1,2,3-Trichlorobenzene	ND		50	35	ug/L			04/20/18 22:04	50
1,2,4-Trichlorobenzene	ND		50	41	ug/L			04/20/18 22:04	50
1,1,1-Trichloroethane	ND		50	25	ug/L			04/20/18 22:04	50
1,1,2-Trichloroethane	ND		250	25	ug/L			04/20/18 22:04	50
Trichloroethene	ND		50	25	ug/L			04/20/18 22:04	50
Trichlorofluoromethane	ND		50	26	ug/L			04/20/18 22:04	50
1,2,3-Trichloropropane	ND		250	42	ug/L			04/20/18 22:04	50
1,2,4-Trimethylbenzene	ND		50	41	ug/L			04/20/18 22:04	50
1,3,5-Trimethylbenzene	ND		50	28	ug/L			04/20/18 22:04	50
Vinyl acetate	ND		1300	100	ug/L			04/20/18 22:04	50
Vinyl chloride	ND		50	25	ug/L			04/20/18 22:04	50
Xylenes, Total	ND		500	80	ug/L			04/20/18 22:04	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	104		78 - 118					04/20/18 22:04	50
Dibromofluoromethane	102		81 - 121					04/20/18 22:04	50
Toluene-d8 (Surr)	101		80 - 120					04/20/18 22:04	50

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.15	J	0.20	0.020	ug/L		04/16/18 15:05	04/18/18 18:51	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 18:51	1
Anthracene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 18:51	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 18:51	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 18:51	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 18:51	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 18:51	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 18:51	1
Chrysene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 18:51	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 18:51	1
Fluoranthene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 18:51	1
Fluorene	0.32		0.20	0.021	ug/L		04/16/18 15:05	04/18/18 18:51	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 18:51	1
Phenanthrene	0.41		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 18:51	1
Pyrene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 18:51	1
1-Methylnaphthalene	31		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 18:51	1
2-Methylnaphthalene	39		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 18:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	61		33 - 138				04/16/18 15:05	04/18/18 18:51	1
2-Fluorobiphenyl	48		15 - 122				04/16/18 15:05	04/18/18 18:51	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
 SDG: (2Q18)

Client Sample ID: P57-ROX-041018

Lab Sample ID: 400-152114-8

Date Collected: 04/10/18 14:30

Matrix: Water

Date Received: 04/11/18 09:31

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	84		19 - 130	04/16/18 15:05	04/18/18 18:51	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		04/16/18 15:05	04/19/18 01:23	1
Benzenethiol	ND	UJ	10	1.7	ug/L		04/16/18 15:05	04/19/18 01:23	1
Benzoic acid	ND		30	7.3	ug/L		04/16/18 15:05	04/19/18 01:23	1
Benzyl alcohol	ND	UJ	10	2.0	ug/L		04/16/18 15:05	04/19/18 01:23	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		04/16/18 15:05	04/19/18 01:23	1
Bis(2-chloroethyl)ether	ND	UJ	10	0.74	ug/L		04/16/18 15:05	04/19/18 01:23	1
bis(2-chloroisopropyl) ether	ND		10	0.81	ug/L		04/16/18 15:05	04/19/18 01:23	1
Bis(2-ethylhexyl) phthalate	ND		10	2.3	ug/L		04/16/18 15:05	04/19/18 01:23	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		04/16/18 15:05	04/19/18 01:23	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		04/16/18 15:05	04/19/18 01:23	1
4-Chloroaniline	ND		10	3.4	ug/L		04/16/18 15:05	04/19/18 01:23	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		04/16/18 15:05	04/19/18 01:23	1
2-Chloronaphthalene	ND		10	0.52	ug/L		04/16/18 15:05	04/19/18 01:23	1
2-Chlorophenol	ND		10	2.2	ug/L		04/16/18 15:05	04/19/18 01:23	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		04/16/18 15:05	04/19/18 01:23	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		04/16/18 15:05	04/19/18 01:23	1
Dibenzofuran	ND		10	0.52	ug/L		04/16/18 15:05	04/19/18 01:23	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		04/16/18 15:05	04/19/18 01:23	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		04/16/18 15:05	04/19/18 01:23	1
Diethyl phthalate	ND		10	0.70	ug/L		04/16/18 15:05	04/19/18 01:23	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		04/16/18 15:05	04/19/18 01:23	1
Dimethyl phthalate	ND		10	0.60	ug/L		04/16/18 15:05	04/19/18 01:23	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		04/16/18 15:05	04/19/18 01:23	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		04/16/18 15:05	04/19/18 01:23	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/16/18 15:05	04/19/18 01:23	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		04/16/18 15:05	04/19/18 01:23	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		04/16/18 15:05	04/19/18 01:23	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		04/16/18 15:05	04/19/18 01:23	1
1,4-Dioxane	ND		10	1.0	ug/L		04/16/18 15:05	04/19/18 01:23	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		04/16/18 15:05	04/19/18 01:23	1
Hexachlorobenzene	ND		10	0.25	ug/L		04/16/18 15:05	04/19/18 01:23	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/16/18 15:05	04/19/18 01:23	1
Hexachloroethane	ND		10	4.2	ug/L		04/16/18 15:05	04/19/18 01:23	1
Indene	ND	UJ	10	1.0	ug/L		04/16/18 15:05	04/19/18 01:23	1
Isophorone	ND		10	0.57	ug/L		04/16/18 15:05	04/19/18 01:23	1
2-Methylphenol	ND		10	1.8	ug/L		04/16/18 15:05	04/19/18 01:23	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/16/18 15:05	04/19/18 01:23	1
2-Nitroaniline	ND		10	2.2	ug/L		04/16/18 15:05	04/19/18 01:23	1
3-Nitroaniline	ND		10	1.8	ug/L		04/16/18 15:05	04/19/18 01:23	1
4-Nitroaniline	ND		10	2.5	ug/L		04/16/18 15:05	04/19/18 01:23	1
Nitrobenzene	ND		10	0.55	ug/L		04/16/18 15:05	04/19/18 01:23	1
2-Nitrophenol	ND		10	0.65	ug/L		04/16/18 15:05	04/19/18 01:23	1
4-Nitrophenol	ND		10	2.1	ug/L		04/16/18 15:05	04/19/18 01:23	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		04/16/18 15:05	04/19/18 01:23	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
 SDG: (2Q18)

Client Sample ID: P57-ROX-041018

Lab Sample ID: 400-152114-8

Date Collected: 04/10/18 14:30

Matrix: Water

Date Received: 04/11/18 09:31

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		04/16/18 15:05	04/19/18 01:23	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		04/16/18 15:05	04/19/18 01:23	1
Pentachlorophenol	ND		20	1.8	ug/L		04/16/18 15:05	04/19/18 01:23	1
Pyridine	ND	UJ	10	3.2	ug/L		04/16/18 15:05	04/19/18 01:23	1
Quinoline	ND		10	6.0	ug/L		04/16/18 15:05	04/19/18 01:23	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		04/16/18 15:05	04/19/18 01:23	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/16/18 15:05	04/19/18 01:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	68		34 - 120	04/16/18 15:05	04/19/18 01:23	1
2-Fluorophenol	52		10 - 120	04/16/18 15:05	04/19/18 01:23	1
Nitrobenzene-d5	60		27 - 120	04/16/18 15:05	04/19/18 01:23	1
Phenol-d5	61		10 - 120	04/16/18 15:05	04/19/18 01:23	1
Terphenyl-d14	64		53 - 125	04/16/18 15:05	04/19/18 01:23	1
2,4,6-Tribromophenol	99		15 - 135	04/16/18 15:05	04/19/18 01:23	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	60		10	2.6	ug/L		04/16/18 15:05	04/19/18 11:33	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.030	0.0054	ug/L		04/19/18 14:51	04/20/18 02:29	1
1,2-Dibromoethane	ND		0.020	0.0049	ug/L		04/19/18 14:51	04/20/18 02:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	125		51 - 149	04/19/18 14:51	04/20/18 02:29	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
 SDG: (2Q18)

Client Sample ID: MW22-ROX-041018

Lab Sample ID: 400-152114-9

Date Collected: 04/10/18 16:05

Matrix: Water

Date Received: 04/11/18 09:31

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		500	200	ug/L			04/20/18 21:34	20
Acrolein	ND		400	200	ug/L			04/20/18 21:34	20
Acrylonitrile	ND		200	56	ug/L			04/20/18 21:34	20
Benzene	430		20	7.6	ug/L			04/20/18 21:34	20
Bromobenzene	ND		20	11	ug/L			04/20/18 21:34	20
Bromochloromethane	ND		20	10	ug/L			04/20/18 21:34	20
Bromodichloromethane	ND		20	10	ug/L			04/20/18 21:34	20
Bromoform	ND		100	14	ug/L			04/20/18 21:34	20
Bromomethane	ND		20	20	ug/L			04/20/18 21:34	20
2-Butanone (MEK)	ND		500	52	ug/L			04/20/18 21:34	20
Carbon disulfide	ND		20	10	ug/L			04/20/18 21:34	20
Carbon tetrachloride	ND		20	10	ug/L			04/20/18 21:34	20
Chlorobenzene	ND		20	10	ug/L			04/20/18 21:34	20
Dibromochloromethane	ND		20	10	ug/L			04/20/18 21:34	20
Chloroethane	ND		20	15	ug/L			04/20/18 21:34	20
2-Chloroethyl vinyl ether	ND		100	40	ug/L			04/20/18 21:34	20
Chloroform	ND		20	12	ug/L			04/20/18 21:34	20
1-Chlorohexane	ND		20	14	ug/L			04/20/18 21:34	20
Chloromethane	ND		20	17	ug/L			04/20/18 21:34	20
cis-1,2-Dichloroethene	ND		20	10	ug/L			04/20/18 21:34	20
cis-1,3-Dichloropropene	ND		100	10	ug/L			04/20/18 21:34	20
1,2-Dichlorobenzene	ND		20	10	ug/L			04/20/18 21:34	20
1,3-Dichlorobenzene	ND		20	11	ug/L			04/20/18 21:34	20
1,4-Dichlorobenzene	ND		20	13	ug/L			04/20/18 21:34	20
Dichlorodifluoromethane	ND		20	17	ug/L			04/20/18 21:34	20
1,1-Dichloroethane	ND		20	10	ug/L			04/20/18 21:34	20
1,2-Dichloroethane	ND		20	10	ug/L			04/20/18 21:34	20
1,1-Dichloroethene	ND		20	10	ug/L			04/20/18 21:34	20
1,2-Dichloropropane	ND		20	10	ug/L			04/20/18 21:34	20
1,3-Dichloropropane	ND		20	10	ug/L			04/20/18 21:34	20
2,2-Dichloropropane	ND		20	10	ug/L			04/20/18 21:34	20
1,1-Dichloropropene	ND		20	10	ug/L			04/20/18 21:34	20
Ethylbenzene	1800		20	10	ug/L			04/20/18 21:34	20
Ethyl methacrylate	ND		20	12	ug/L			04/20/18 21:34	20
Hexachlorobutadiene	ND		100	18	ug/L			04/20/18 21:34	20
2-Hexanone	ND		500	62	ug/L			04/20/18 21:34	20
Isopropylbenzene	52		20	11	ug/L			04/20/18 21:34	20
Methylene bromide	ND		100	12	ug/L			04/20/18 21:34	20
Methylene Chloride	ND		100	60	ug/L			04/20/18 21:34	20
4-Methyl-2-pentanone (MIBK)	ND		500	36	ug/L			04/20/18 21:34	20
Methyl tert-butyl ether	ND		20	15	ug/L			04/20/18 21:34	20
m-Xylene & p-Xylene	3300		100	32	ug/L			04/20/18 21:34	20
Naphthalene	160		20	20	ug/L			04/20/18 21:34	20
n-Butylbenzene	ND		20	15	ug/L			04/20/18 21:34	20
N-Propylbenzene	78		20	14	ug/L			04/20/18 21:34	20
o-Chlorotoluene	ND		20	11	ug/L			04/20/18 21:34	20
o-Xylene	1000		100	12	ug/L			04/20/18 21:34	20
p-Chlorotoluene	ND		20	11	ug/L			04/20/18 21:34	20
p-Isopropyltoluene	ND		20	14	ug/L			04/20/18 21:34	20

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Client Sample ID: MW22-ROX-041018

Lab Sample ID: 400-152114-9

Date Collected: 04/10/18 16:05

Matrix: Water

Date Received: 04/11/18 09:31

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		20	14	ug/L			04/20/18 21:34	20
Styrene	ND		20	20	ug/L			04/20/18 21:34	20
tert-Butylbenzene	ND		20	13	ug/L			04/20/18 21:34	20
1,1,1,2-Tetrachloroethane	ND		20	10	ug/L			04/20/18 21:34	20
1,1,2,2-Tetrachloroethane	ND		20	10	ug/L			04/20/18 21:34	20
Tetrachloroethene	ND		20	12	ug/L			04/20/18 21:34	20
Toluene	280		20	14	ug/L			04/20/18 21:34	20
trans-1,2-Dichloroethene	ND		20	10	ug/L			04/20/18 21:34	20
trans-1,3-Dichloropropene	ND		100	10	ug/L			04/20/18 21:34	20
1,2,3-Trichlorobenzene	ND		20	14	ug/L			04/20/18 21:34	20
1,2,4-Trichlorobenzene	ND		20	16	ug/L			04/20/18 21:34	20
1,1,1-Trichloroethane	ND		20	10	ug/L			04/20/18 21:34	20
1,1,2-Trichloroethane	ND		100	10	ug/L			04/20/18 21:34	20
Trichloroethene	ND		20	10	ug/L			04/20/18 21:34	20
Trichlorofluoromethane	ND		20	10	ug/L			04/20/18 21:34	20
1,2,3-Trichloropropane	ND		100	17	ug/L			04/20/18 21:34	20
1,2,4-Trimethylbenzene	590		20	16	ug/L			04/20/18 21:34	20
1,3,5-Trimethylbenzene	150		20	11	ug/L			04/20/18 21:34	20
Vinyl acetate	ND		500	40	ug/L			04/20/18 21:34	20
Vinyl chloride	ND		20	10	ug/L			04/20/18 21:34	20
Xylenes, Total	4300		200	32	ug/L			04/20/18 21:34	20
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	103		78 - 118					04/20/18 21:34	20
Dibromofluoromethane	99		81 - 121					04/20/18 21:34	20
Toluene-d8 (Surr)	99		80 - 120					04/20/18 21:34	20

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/16/18 15:09	04/18/18 19:08	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/16/18 15:09	04/18/18 19:08	1
Anthracene	ND		0.20	0.020	ug/L		04/16/18 15:09	04/18/18 19:08	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/16/18 15:09	04/18/18 19:08	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/16/18 15:09	04/18/18 19:08	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/16/18 15:09	04/18/18 19:08	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/16/18 15:09	04/18/18 19:08	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/16/18 15:09	04/18/18 19:08	1
Chrysene	ND		0.20	0.040	ug/L		04/16/18 15:09	04/18/18 19:08	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		04/16/18 15:09	04/18/18 19:08	1
Fluoranthene	ND		0.20	0.020	ug/L		04/16/18 15:09	04/18/18 19:08	1
Fluorene	ND		0.20	0.021	ug/L		04/16/18 15:09	04/18/18 19:08	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/16/18 15:09	04/18/18 19:08	1
Phenanthrene	ND		0.20	0.020	ug/L		04/16/18 15:09	04/18/18 19:08	1
Pyrene	ND		0.20	0.020	ug/L		04/16/18 15:09	04/18/18 19:08	1
1-Methylnaphthalene	28	J	0.20	0.020	ug/L		04/16/18 15:09	04/18/18 19:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	0.4	X	33 - 138				04/16/18 15:09	04/18/18 19:08	1
2-Fluorobiphenyl	0.08	X	15 - 122				04/16/18 15:09	04/18/18 19:08	1
Nitrobenzene-d5	9	X	19 - 130				04/16/18 15:09	04/18/18 19:08	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Client Sample ID: MW22-ROX-041018

Lab Sample ID: 400-152114-9

Date Collected: 04/10/18 16:05

Matrix: Water

Date Received: 04/11/18 09:31

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	40	J	0.99	0.099	ug/L		04/16/18 15:09	04/19/18 10:25	5

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	UJ	9.9	3.8	ug/L		04/16/18 15:09	04/19/18 01:48	1
Benzenethiol	ND	*	9.9	1.7	ug/L		04/16/18 15:09	04/19/18 01:48	1
Benzoic acid	ND		30	7.2	ug/L		04/16/18 15:09	04/19/18 01:48	1
Benzyl alcohol	ND		9.9	2.0	ug/L		04/16/18 15:09	04/19/18 01:48	1
Bis(2-chloroethoxy)methane	ND		9.9	0.68	ug/L		04/16/18 15:09	04/19/18 01:48	1
Bis(2-chloroethyl)ether	ND		9.9	0.73	ug/L		04/16/18 15:09	04/19/18 01:48	1
bis (2-chloroisopropyl) ether	ND		9.9	0.80	ug/L		04/16/18 15:09	04/19/18 01:48	1
Bis(2-ethylhexyl) phthalate	ND		9.9	2.2	ug/L		04/16/18 15:09	04/19/18 01:48	1
4-Bromophenyl phenyl ether	ND		9.9	0.32	ug/L		04/16/18 15:09	04/19/18 01:48	1
Butyl benzyl phthalate	ND		9.9	0.66	ug/L		04/16/18 15:09	04/19/18 01:48	1
4-Chloroaniline	ND		9.9	3.4	ug/L		04/16/18 15:09	04/19/18 01:48	1
4-Chloro-3-methylphenol	ND		9.9	3.8	ug/L		04/16/18 15:09	04/19/18 01:48	1
2-Chloronaphthalene	ND		9.9	0.52	ug/L		04/16/18 15:09	04/19/18 01:48	1
2-Chlorophenol	ND		9.9	2.2	ug/L		04/16/18 15:09	04/19/18 01:48	1
4-Chlorophenyl phenyl ether	ND		9.9	2.0	ug/L		04/16/18 15:09	04/19/18 01:48	1
Dibenz[a,h]acridine	ND		9.9	3.0	ug/L		04/16/18 15:09	04/19/18 01:48	1
Dibenzofuran	ND		9.9	0.52	ug/L		04/16/18 15:09	04/19/18 01:48	1
3,3'-Dichlorobenzidine	ND		9.9	2.6	ug/L		04/16/18 15:09	04/19/18 01:48	1
2,4-Dichlorophenol	ND		9.9	3.0	ug/L		04/16/18 15:09	04/19/18 01:48	1
Diethyl phthalate	ND		9.9	0.69	ug/L		04/16/18 15:09	04/19/18 01:48	1
2,4-Dimethylphenol	14	J	9.9	3.5	ug/L		04/16/18 15:09	04/19/18 01:48	1
Dimethyl phthalate	ND	UJ	9.9	0.59	ug/L		04/16/18 15:09	04/19/18 01:48	1
Di-n-butyl phthalate	ND		9.9	2.7	ug/L		04/16/18 15:09	04/19/18 01:48	1
4,6-Dinitro-ortho-cresol	ND		9.9	2.0	ug/L		04/16/18 15:09	04/19/18 01:48	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/16/18 15:09	04/19/18 01:48	1
2,4-Dinitrotoluene	ND		9.9	1.9	ug/L		04/16/18 15:09	04/19/18 01:48	1
2,6-Dinitrotoluene	ND		9.9	1.9	ug/L		04/16/18 15:09	04/19/18 01:48	1
Di-n-octyl phthalate	ND		9.9	0.44	ug/L		04/16/18 15:09	04/19/18 01:48	1
1,4-Dioxane	ND		9.9	0.99	ug/L		04/16/18 15:09	04/19/18 01:48	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	0.99	ug/L		04/16/18 15:09	04/19/18 01:48	1
Hexachlorobenzene	ND		9.9	0.25	ug/L		04/16/18 15:09	04/19/18 01:48	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/16/18 15:09	04/19/18 01:48	1
Hexachloroethane	ND		9.9	4.2	ug/L		04/16/18 15:09	04/19/18 01:48	1
Indene	20	J	9.9	0.99	ug/L		04/16/18 15:09	04/19/18 01:48	1
Isophorone	ND	J	9.9	0.57	ug/L		04/16/18 15:09	04/19/18 01:48	1
2-Methylphenol	ND	UJ	9.9	1.8	ug/L		04/16/18 15:09	04/19/18 01:48	1
3 & 4 Methylphenol	11	J	20	1.0	ug/L		04/16/18 15:09	04/19/18 01:48	1
2-Nitroaniline	ND	UJ	9.9	2.2	ug/L		04/16/18 15:09	04/19/18 01:48	1
3-Nitroaniline	ND		9.9	1.8	ug/L		04/16/18 15:09	04/19/18 01:48	1
4-Nitroaniline	ND		9.9	2.5	ug/L		04/16/18 15:09	04/19/18 01:48	1
Nitrobenzene	ND		9.9	0.55	ug/L		04/16/18 15:09	04/19/18 01:48	1
2-Nitrophenol	ND		9.9	0.64	ug/L		04/16/18 15:09	04/19/18 01:48	1
4-Nitrophenol	ND		9.9	2.1	ug/L		04/16/18 15:09	04/19/18 01:48	1
N-Nitrosodimethylamine	ND		9.9	3.5	ug/L		04/16/18 15:09	04/19/18 01:48	1
N-Nitrosodi-n-propylamine	ND		9.9	3.3	ug/L		04/16/18 15:09	04/19/18 01:48	1

TestAmerica Pensacola

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Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Client Sample ID: MW22-ROX-041018

Lab Sample ID: 400-152114-9

Date Collected: 04/10/18 16:05

Matrix: Water

Date Received: 04/11/18 09:31

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiphenylamine	ND	WJ	9.9	0.47	ug/L		04/16/18 15:09	04/19/18 01:48	1
Pentachlorophenol	ND		20	1.8	ug/L		04/16/18 15:09	04/19/18 01:48	1
Phenol	ND		9.9	2.6	ug/L		04/16/18 15:09	04/19/18 01:48	1
Pyridine	ND		9.9	3.2	ug/L		04/16/18 15:09	04/19/18 01:48	1
Quinoline	ND		9.9	5.9	ug/L		04/16/18 15:09	04/19/18 01:48	1
2,4,5-Trichlorophenol	ND		9.9	3.7	ug/L		04/16/18 15:09	04/19/18 01:48	1
2,4,6-Trichlorophenol	ND		9.9	3.5	ug/L		04/16/18 15:09	04/19/18 01:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	0	X	34 - 120	04/16/18 15:09	04/19/18 01:48	1
2-Fluorophenol	0	X	10 - 120	04/16/18 15:09	04/19/18 01:48	1
Nitrobenzene-d5	7	X	27 - 120	04/16/18 15:09	04/19/18 01:48	1
Phenol-d5	0	X	10 - 120	04/16/18 15:09	04/19/18 01:48	1
Terphenyl-d14	0	X	53 - 125	04/16/18 15:09	04/19/18 01:48	1
2,4,6-Tribromophenol	0	X	15 - 135	04/16/18 15:09	04/19/18 01:48	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.029	0.0054	ug/L		04/19/18 14:51	04/20/18 02:49	1
1,2-Dibromoethane	ND		0.020	0.0049	ug/L		04/19/18 14:51	04/20/18 02:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	145	p	51 - 149	04/19/18 14:51	04/20/18 02:49	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	LCS or LCSD is outside acceptance limits.
*	RPD of the LCS and LCSD exceeds the control limits
X	Surrogate is outside control limits

GC Semi VOA

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds control limits
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
■	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (78-118)	DBFM (81-121)	TOL (80-120)
400-152114-2	TB-ROX-041018-8260	104	102	98
400-152114-3	MW14-ROX-041018-EB	103	103	99
400-152114-4	MW14-ROX-041018	104	106	99
400-152114-4 MS	MW14-ROX-041018	99	106	94
400-152114-4 MSD	MW14-ROX-041018	99	101	95
400-152114-5	P66-ROX-041018	106	99	98
400-152114-6	P74-ROX-041018	107	103	99
400-152114-7	P74-ROX-041018-DUP	105	101	98
400-152114-8	P57-ROX-041018	104	102	101
400-152114-9	MW22-ROX-041018	103	99	99
400-152470-A-2 MS	Matrix Spike	97	103	97
400-152470-A-2 MSD	Matrix Spike Duplicate	98	102	97
LCS 400-394595/1002	Lab Control Sample	96	106	97
LCS 400-394772/1002	Lab Control Sample	102	100	96
MB 400-394595/29	Method Blank	104	99	95
MB 400-394772/4	Method Blank	102	101	100

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (34-120)	2FP (10-120)	NBZ (27-120)	PHL (10-120)	TPHL (53-125)	TBP (15-135)
400-152114-3	MW14-ROX-041018-EB	65	52	56	54	79	70
400-152114-4	MW14-ROX-041018	61	45	54	51	77	78
400-152114-5	P66-ROX-041018	61	53	72	56	55	97
400-152114-6	P74-ROX-041018	67	47	55	51	69	74
400-152114-7	P74-ROX-041018-DUP	65	37	54	46	78	71
400-152114-8	P57-ROX-041018	68	52	60	61	64	99
400-152114-9	MW22-ROX-041018	0 X	0 X	7 X	0 X	0 X	0 X
LCS 400-394076/2-A	Lab Control Sample	66	42	61	54	85	81
LCS 400-394076/4-A	Lab Control Sample	78	53	66	62	96	81
LCSD 400-394076/3-A	Lab Control Sample Dup	67	41	62	54	80	81
LCSD 400-394076/5-A	Lab Control Sample Dup	73	57	62	61	93	76
MB 400-394076/1-A	Method Blank	58	23	52	38	75	59

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

TestAmerica Pensacola

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TPHL (33-138)	FBP (15-122)	NBZ (19-130)
400-152114-3	MW14-ROX-041018-EB	98	89	75
400-152114-4	MW14-ROX-041018	86	84	74
400-152114-5	P66-ROX-041018	47	70	82
400-152114-6	P74-ROX-041018	78	89	77
400-152114-7	P74-ROX-041018-DUP	81	90	74
400-152114-8	P57-ROX-041018	61	48	84
400-152114-9	MW22-ROX-041018	0.4 X	0.08 X	9 X
LCS 400-394076/2-A	Lab Control Sample	69	71	63
LCSD 400-394076/3-A	Lab Control Sample Dup	75	75	71
MB 400-394076/1-A	Method Blank	80	71	64

Surrogate Legend

TPHL = Terphenyl-d14
FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5

Method: 8011 - EDB and DBCP in Water by Microextraction

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		BFB2 (51-149)
400-151994-C-3-B MS	Matrix Spike	106
400-151994-C-3-C MSD	Matrix Spike Duplicate	108
400-152114-1	TB-ROX-041018-8011	85 p
400-152114-3	MW14-ROX-041018-EB	116 p
400-152114-4	MW14-ROX-041018	108
400-152114-5	P66-ROX-041018	118
400-152114-6	P74-ROX-041018	114 p
400-152114-7	P74-ROX-041018-DUP	120 p
400-152114-8	P57-ROX-041018	125
400-152114-9	MW22-ROX-041018	145 p
LCS 400-394550/2-A	Lab Control Sample	102
LCSD 400-394550/3-A	Lab Control Sample Dup	110
MB 400-394550/1-A	Method Blank	104

Surrogate Legend

BFB = 4-Bromofluorobenzene

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
8011	EDB and DBCP in Water by Microextraction	EPA	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
8011	Microextraction	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001



Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Client Sample ID: TB-ROX-041018-8011

Lab Sample ID: 400-152114-1

Date Collected: 04/10/18 00:00

Matrix: Water

Date Received: 04/11/18 09:31

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			33.9 mL	35 mL	394550	04/19/18 14:51	DS	TAL PEN
Total/NA	Analysis	8011		1			394577	04/20/18 00:10	DS	TAL PEN

Client Sample ID: TB-ROX-041018-8260

Lab Sample ID: 400-152114-2

Date Collected: 04/10/18 00:00

Matrix: Water

Date Received: 04/11/18 09:31

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394595	04/20/18 15:46	CAR	TAL PEN

Client Sample ID: MW14-ROX-041018-EB

Lab Sample ID: 400-152114-3

Date Collected: 04/10/18 10:15

Matrix: Water

Date Received: 04/11/18 09:31

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394772	04/22/18 08:49	WPD	TAL PEN
Total/NA	Prep	3520C			1003 mL	1.0 mL	394076	04/16/18 15:05	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394362	04/18/18 23:21	S1B	TAL PEN
Total/NA	Prep	3520C			1003 mL	1.0 mL	394076	04/16/18 15:05	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			394333	04/18/18 17:24	RM	TAL PEN
Total/NA	Prep	8011			35.3 mL	35 mL	394550	04/19/18 14:51	DS	TAL PEN
Total/NA	Analysis	8011		1			394577	04/20/18 00:30	DS	TAL PEN

Client Sample ID: MW14-ROX-041018

Lab Sample ID: 400-152114-4

Date Collected: 04/10/18 10:40

Matrix: Water

Date Received: 04/11/18 09:31

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394595	04/20/18 13:50	CAR	TAL PEN
Total/NA	Prep	3520C			980.8 mL	1.0 mL	394076	04/16/18 15:05	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394362	04/18/18 23:45	S1B	TAL PEN
Total/NA	Prep	3520C			980.8 mL	1.0 mL	394076	04/16/18 15:05	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			394333	04/18/18 17:42	RM	TAL PEN
Total/NA	Prep	8011			35.5 mL	35 mL	394550	04/19/18 14:51	DS	TAL PEN
Total/NA	Analysis	8011		1			394577	04/20/18 00:50	DS	TAL PEN

Client Sample ID: P66-ROX-041018

Lab Sample ID: 400-152114-5

Date Collected: 04/10/18 11:35

Matrix: Water

Date Received: 04/11/18 09:31

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394595	04/20/18 17:13	CAR	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Client Sample ID: P66-ROX-041018

Lab Sample ID: 400-152114-5

Date Collected: 04/10/18 11:35

Matrix: Water

Date Received: 04/11/18 09:31

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1009 mL	1.0 mL	394076	04/16/18 15:05	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394362	04/19/18 00:10	S1B	TAL PEN
Total/NA	Prep	3520C			1009 mL	1.0 mL	394076	04/16/18 15:05	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			394333	04/18/18 17:59	RM	TAL PEN
Total/NA	Prep	3520C	DL		1009 mL	1.0 mL	394076	04/16/18 15:05	JJA	TAL PEN
Total/NA	Analysis	8270D LL	DL	5			394441	04/19/18 10:08	RM	TAL PEN
Total/NA	Prep	8011			35.4 mL	35 mL	394550	04/19/18 14:51	DS	TAL PEN
Total/NA	Analysis	8011		1			394577	04/20/18 01:29	DS	TAL PEN

Client Sample ID: P74-ROX-041018

Lab Sample ID: 400-152114-6

Date Collected: 04/10/18 13:15

Matrix: Water

Date Received: 04/11/18 09:31

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394595	04/20/18 17:42	CAR	TAL PEN
Total/NA	Prep	3520C			1008.4 mL	1.0 mL	394076	04/16/18 15:05	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394362	04/19/18 00:34	S1B	TAL PEN
Total/NA	Prep	3520C			1008.4 mL	1.0 mL	394076	04/16/18 15:05	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			394333	04/18/18 18:16	RM	TAL PEN
Total/NA	Prep	8011			36.5 mL	35 mL	394550	04/19/18 14:51	DS	TAL PEN
Total/NA	Analysis	8011		1			394577	04/20/18 01:49	DS	TAL PEN

Client Sample ID: P74-ROX-041018-DUP

Lab Sample ID: 400-152114-7

Date Collected: 04/10/18 13:15

Matrix: Water

Date Received: 04/11/18 09:31

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394595	04/20/18 18:11	CAR	TAL PEN
Total/NA	Prep	3520C			1008.6 mL	1.0 mL	394076	04/16/18 15:05	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394362	04/19/18 00:59	S1B	TAL PEN
Total/NA	Prep	3520C			1008.6 mL	1.0 mL	394076	04/16/18 15:05	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			394333	04/18/18 18:34	RM	TAL PEN
Total/NA	Prep	8011			36.1 mL	35 mL	394550	04/19/18 14:51	DS	TAL PEN
Total/NA	Analysis	8011		1			394577	04/20/18 02:09	DS	TAL PEN

Client Sample ID: P57-ROX-041018

Lab Sample ID: 400-152114-8

Date Collected: 04/10/18 14:30

Matrix: Water

Date Received: 04/11/18 09:31

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		50	5 mL	5 mL	394595	04/20/18 22:04	CAR	TAL PEN
Total/NA	Prep	3520C	RA		998 mL	1.0 mL	394076	04/16/18 15:05	JJA	TAL PEN
Total/NA	Analysis	8270D	RA	1			394429	04/19/18 11:33	S1B	TAL PEN

TestAmerica Pensacola



Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Client Sample ID: P57-ROX-041018

Date Collected: 04/10/18 14:30
Date Received: 04/11/18 09:31

Lab Sample ID: 400-152114-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			998 mL	1.0 mL	394076	04/16/18 15:05	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394362	04/19/18 01:23	S1B	TAL PEN
Total/NA	Prep	3520C			998 mL	1.0 mL	394076	04/16/18 15:05	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			394333	04/18/18 18:51	RM	TAL PEN
Total/NA	Prep	8011			35.5 mL	35 mL	394550	04/19/18 14:51	DS	TAL PEN
Total/NA	Analysis	8011		1			394577	04/20/18 02:29	DS	TAL PEN

Client Sample ID: MW22-ROX-041018

Date Collected: 04/10/18 16:05
Date Received: 04/11/18 09:31

Lab Sample ID: 400-152114-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		20	5 mL	5 mL	394595	04/20/18 21:34	CAR	TAL PEN
Total/NA	Prep	3520C			1008.8 mL	1.0 mL	394076	04/16/18 15:09	JJA	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	394362	04/19/18 01:48	S1B	TAL PEN
Total/NA	Prep	3520C			1008.8 mL	1.0 mL	394076	04/16/18 15:09	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			394333	04/18/18 19:08	RM	TAL PEN
Total/NA	Prep	3520C	DL		1008.8 mL	1.0 mL	394076	04/16/18 15:09	JJA	TAL PEN
Total/NA	Analysis	8270D LL	DL	5			394441	04/19/18 10:25	RM	TAL PEN
Total/NA	Prep	8011			35.7 mL	35 mL	394550	04/19/18 14:51	DS	TAL PEN
Total/NA	Analysis	8011		1			394577	04/20/18 02:49	DS	TAL PEN

Client Sample ID: Method Blank

Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-394076/1-A

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	394076	04/16/18 15:05	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394362	04/18/18 21:17	S1B	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	394076	04/16/18 15:05	JJA	TAL PEN
Total/NA	Analysis	8270D LL		1			394333	04/18/18 16:33	RM	TAL PEN

Client Sample ID: Method Blank

Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-394550/1-A

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35 mL	35 mL	394550	04/19/18 14:51	DS	TAL PEN
Total/NA	Analysis	8011		1			394577	04/19/18 18:13	DS	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Client Sample ID: Method Blank

Lab Sample ID: MB 400-394595/29

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394595	04/20/18 13:21	CAR	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-394772/4

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394772	04/22/18 08:27	WPD	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-394076/2-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	394076	04/16/18 15:05	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394362	04/18/18 21:42	S1B	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	394076	04/16/18 15:05	JJA	TAL PEN
Total/NA	Analysis	8270D LL		5			394333	04/18/18 16:50	RM	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-394076/4-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	394076	04/16/18 15:05	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394362	04/18/18 22:32	S1B	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-394550/2-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35 mL	35 mL	394550	04/19/18 14:51	DS	TAL PEN
Total/NA	Analysis	8011		1			394577	04/19/18 18:33	DS	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-394595/1002

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394595	04/20/18 12:20	CAR	TAL PEN

TestAmerica Pensacola



Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-394772/1002

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394772	04/22/18 07:42	WPD	TAL PEN

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-394076/3-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	394076	04/16/18 15:05	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394362	04/18/18 22:07	S1B	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	394076	04/16/18 15:05	JJA	TAL PEN
Total/NA	Analysis	8270D LL		5			394333	04/18/18 17:07	RM	TAL PEN

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-394076/5-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	394076	04/16/18 15:05	JJA	TAL PEN
Total/NA	Analysis	8270D		1			394362	04/18/18 22:57	S1B	TAL PEN

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-394550/3-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35 mL	35 mL	394550	04/19/18 14:51	DS	TAL PEN
Total/NA	Analysis	8011		1			394577	04/19/18 18:53	DS	TAL PEN

Client Sample ID: Matrix Spike

Lab Sample ID: 400-151994-C-3-B MS

Date Collected: 04/09/18 09:10

Matrix: Water

Date Received: 04/10/18 09:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35.5 mL	35 mL	394550	04/19/18 14:51	DS	TAL PEN
Total/NA	Analysis	8011		1			394577	04/19/18 19:52	DS	TAL PEN

Client Sample ID: Matrix Spike Duplicate

Lab Sample ID: 400-151994-C-3-C MSD

Date Collected: 04/09/18 09:10

Matrix: Water

Date Received: 04/10/18 09:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35.1 mL	35 mL	394550	04/19/18 14:51	DS	TAL PEN
Total/NA	Analysis	8011		1			394577	04/19/18 20:12	DS	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Client Sample ID: MW14-ROX-041018

Lab Sample ID: 400-152114-4 MS

Date Collected: 04/10/18 10:40

Matrix: Water

Date Received: 04/11/18 09:31

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394595	04/20/18 14:19	CAR	TAL PEN

Client Sample ID: MW14-ROX-041018

Lab Sample ID: 400-152114-4 MSD

Date Collected: 04/10/18 10:40

Matrix: Water

Date Received: 04/11/18 09:31

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394595	04/20/18 14:49	CAR	TAL PEN

Client Sample ID: Matrix Spike

Lab Sample ID: 400-152470-A-2 MS

Date Collected: 04/09/18 15:45

Matrix: Water

Date Received: 04/14/18 10:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394772	04/22/18 11:46	WPD	TAL PEN

Client Sample ID: Matrix Spike Duplicate

Lab Sample ID: 400-152470-A-2 MSD

Date Collected: 04/09/18 15:45

Matrix: Water

Date Received: 04/14/18 10:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394772	04/22/18 12:09	WPD	TAL PEN

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

GC/MS VOA

Analysis Batch: 394595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152114-2	TB-ROX-041018-8260	Total/NA	Water	8260B	
400-152114-4	MW14-ROX-041018	Total/NA	Water	8260B	
400-152114-5	P66-ROX-041018	Total/NA	Water	8260B	
400-152114-6	P74-ROX-041018	Total/NA	Water	8260B	
400-152114-7	P74-ROX-041018-DUP	Total/NA	Water	8260B	
400-152114-8	P57-ROX-041018	Total/NA	Water	8260B	
400-152114-9	MW22-ROX-041018	Total/NA	Water	8260B	
MB 400-394595/29	Method Blank	Total/NA	Water	8260B	
LCS 400-394595/1002	Lab Control Sample	Total/NA	Water	8260B	
400-152114-4 MS	MW14-ROX-041018	Total/NA	Water	8260B	
400-152114-4 MSD	MW14-ROX-041018	Total/NA	Water	8260B	

Analysis Batch: 394772

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152114-3	MW14-ROX-041018-EB	Total/NA	Water	8260B	
MB 400-394772/4	Method Blank	Total/NA	Water	8260B	
LCS 400-394772/1002	Lab Control Sample	Total/NA	Water	8260B	
400-152470-A-2 MS	Matrix Spike	Total/NA	Water	8260B	
400-152470-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 394076

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152114-3	MW14-ROX-041018-EB	Total/NA	Water	3520C	
400-152114-4	MW14-ROX-041018	Total/NA	Water	3520C	
400-152114-5	P66-ROX-041018	Total/NA	Water	3520C	
400-152114-5 - DL	P66-ROX-041018	Total/NA	Water	3520C	
400-152114-6	P74-ROX-041018	Total/NA	Water	3520C	
400-152114-7	P74-ROX-041018-DUP	Total/NA	Water	3520C	
400-152114-8 - RA	P57-ROX-041018	Total/NA	Water	3520C	
400-152114-8	P57-ROX-041018	Total/NA	Water	3520C	
400-152114-9	MW22-ROX-041018	Total/NA	Water	3520C	
400-152114-9 - DL	MW22-ROX-041018	Total/NA	Water	3520C	
MB 400-394076/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-394076/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-394076/4-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-394076/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	
LCSD 400-394076/5-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 394333

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152114-3	MW14-ROX-041018-EB	Total/NA	Water	8270D LL	394076
400-152114-4	MW14-ROX-041018	Total/NA	Water	8270D LL	394076
400-152114-5	P66-ROX-041018	Total/NA	Water	8270D LL	394076
400-152114-6	P74-ROX-041018	Total/NA	Water	8270D LL	394076
400-152114-7	P74-ROX-041018-DUP	Total/NA	Water	8270D LL	394076
400-152114-8	P57-ROX-041018	Total/NA	Water	8270D LL	394076
400-152114-9	MW22-ROX-041018	Total/NA	Water	8270D LL	394076
MB 400-394076/1-A	Method Blank	Total/NA	Water	8270D LL	394076

TestAmerica Pensacola



QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)



GC/MS Semi VOA (Continued)

Analysis Batch: 394333 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-394076/2-A	Lab Control Sample	Total/NA	Water	8270D LL	394076
LCSD 400-394076/3-A	Lab Control Sample Dup	Total/NA	Water	8270D LL	394076

Analysis Batch: 394362

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152114-3	MW14-ROX-041018-EB	Total/NA	Water	8270D	394076
400-152114-4	MW14-ROX-041018	Total/NA	Water	8270D	394076
400-152114-5	P66-ROX-041018	Total/NA	Water	8270D	394076
400-152114-6	P74-ROX-041018	Total/NA	Water	8270D	394076
400-152114-7	P74-ROX-041018-DUP	Total/NA	Water	8270D	394076
400-152114-8	P57-ROX-041018	Total/NA	Water	8270D	394076
400-152114-9	MW22-ROX-041018	Total/NA	Water	8270D	394076
MB 400-394076/1-A	Method Blank	Total/NA	Water	8270D	394076
LCS 400-394076/2-A	Lab Control Sample	Total/NA	Water	8270D	394076
LCS 400-394076/4-A	Lab Control Sample	Total/NA	Water	8270D	394076
LCSD 400-394076/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	394076
LCSD 400-394076/5-A	Lab Control Sample Dup	Total/NA	Water	8270D	394076

Analysis Batch: 394429

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152114-8 - RA	P57-ROX-041018	Total/NA	Water	8270D	394076

Analysis Batch: 394441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152114-5 - DL	P66-ROX-041018	Total/NA	Water	8270D LL	394076
400-152114-9 - DL	MW22-ROX-041018	Total/NA	Water	8270D LL	394076

GC Semi VOA

Prep Batch: 394550

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152114-1	TB-ROX-041018-8011	Total/NA	Water	8011	
400-152114-3	MW14-ROX-041018-EB	Total/NA	Water	8011	
400-152114-4	MW14-ROX-041018	Total/NA	Water	8011	
400-152114-5	P66-ROX-041018	Total/NA	Water	8011	
400-152114-6	P74-ROX-041018	Total/NA	Water	8011	
400-152114-7	P74-ROX-041018-DUP	Total/NA	Water	8011	
400-152114-8	P57-ROX-041018	Total/NA	Water	8011	
400-152114-9	MW22-ROX-041018	Total/NA	Water	8011	
MB 400-394550/1-A	Method Blank	Total/NA	Water	8011	
LCS 400-394550/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 400-394550/3-A	Lab Control Sample Dup	Total/NA	Water	8011	
400-151994-C-3-B MS	Matrix Spike	Total/NA	Water	8011	
400-151994-C-3-C MSD	Matrix Spike Duplicate	Total/NA	Water	8011	

Analysis Batch: 394577

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152114-1	TB-ROX-041018-8011	Total/NA	Water	8011	394550
400-152114-3	MW14-ROX-041018-EB	Total/NA	Water	8011	394550
400-152114-4	MW14-ROX-041018	Total/NA	Water	8011	394550

TestAmerica Pensacola

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

GC Semi VOA (Continued)

Analysis Batch: 394577 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152114-5	P66-ROX-041018	Total/NA	Water	8011	394550
400-152114-6	P74-ROX-041018	Total/NA	Water	8011	394550
400-152114-7	P74-ROX-041018-DUP	Total/NA	Water	8011	394550
400-152114-8	P57-ROX-041018	Total/NA	Water	8011	394550
400-152114-9	MW22-ROX-041018	Total/NA	Water	8011	394550
MB 400-394550/1-A	Method Blank	Total/NA	Water	8011	394550
LCS 400-394550/2-A	Lab Control Sample	Total/NA	Water	8011	394550
LCSD 400-394550/3-A	Lab Control Sample Dup	Total/NA	Water	8011	394550
400-151994-C-3-B MS	Matrix Spike	Total/NA	Water	8011	394550
400-151994-C-3-C MSD	Matrix Spike Duplicate	Total/NA	Water	8011	394550

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

QC Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
 SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-394595/29
 Matrix: Water
 Analysis Batch: 394595

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acetone	ND		25	10	ug/L			04/20/18 13:21	1
Acrolein	ND		20	10	ug/L			04/20/18 13:21	1
Acrylonitrile	ND		10	2.8	ug/L			04/20/18 13:21	1
Benzene	ND		1.0	0.38	ug/L			04/20/18 13:21	1
Bromobenzene	ND		1.0	0.54	ug/L			04/20/18 13:21	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/20/18 13:21	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/20/18 13:21	1
Bromoform	ND		5.0	0.71	ug/L			04/20/18 13:21	1
Bromomethane	ND		1.0	0.98	ug/L			04/20/18 13:21	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/20/18 13:21	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/20/18 13:21	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/20/18 13:21	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/20/18 13:21	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/20/18 13:21	1
Chloroethane	ND		1.0	0.76	ug/L			04/20/18 13:21	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/20/18 13:21	1
Chloroform	ND		1.0	0.60	ug/L			04/20/18 13:21	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/20/18 13:21	1
Chloromethane	ND		1.0	0.83	ug/L			04/20/18 13:21	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 13:21	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/20/18 13:21	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/20/18 13:21	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/20/18 13:21	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/20/18 13:21	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/20/18 13:21	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/20/18 13:21	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/20/18 13:21	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 13:21	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 13:21	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 13:21	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 13:21	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/20/18 13:21	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/20/18 13:21	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/20/18 13:21	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/20/18 13:21	1
2-Hexanone	ND		25	3.1	ug/L			04/20/18 13:21	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/20/18 13:21	1
Methylene bromide	ND		5.0	0.59	ug/L			04/20/18 13:21	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/20/18 13:21	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/20/18 13:21	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/20/18 13:21	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/20/18 13:21	1
Naphthalene	ND		1.0	1.0	ug/L			04/20/18 13:21	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/20/18 13:21	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/20/18 13:21	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/20/18 13:21	1
o-Xylene	ND		5.0	0.60	ug/L			04/20/18 13:21	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/20/18 13:21	1

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-394595/29
Matrix: Water
Analysis Batch: 394595

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/20/18 13:21	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/20/18 13:21	1
Styrene	ND		1.0	1.0	ug/L			04/20/18 13:21	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/20/18 13:21	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/20/18 13:21	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/20/18 13:21	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/20/18 13:21	1
Toluene	ND		1.0	0.70	ug/L			04/20/18 13:21	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 13:21	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/20/18 13:21	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/20/18 13:21	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/20/18 13:21	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/20/18 13:21	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/20/18 13:21	1
Trichloroethene	ND		1.0	0.50	ug/L			04/20/18 13:21	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/20/18 13:21	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/20/18 13:21	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/20/18 13:21	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/20/18 13:21	1
Vinyl acetate	ND		25	2.0	ug/L			04/20/18 13:21	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/20/18 13:21	1
Xylenes, Total	ND		10	1.6	ug/L			04/20/18 13:21	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene	104		78 - 118		04/20/18 13:21	1
Dibromofluoromethane	99		81 - 121		04/20/18 13:21	1
Toluene-d8 (Surr)	95		80 - 120		04/20/18 13:21	1

Lab Sample ID: LCS 400-394595/1002
Matrix: Water
Analysis Batch: 394595

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec.
		Result	Qualifier				Limits
Acetone	200	218		ug/L		109	43 - 160
Acrolein	250	205		ug/L		82	38 - 160
Acrylonitrile	500	483		ug/L		97	64 - 142
Benzene	50.0	51.2		ug/L		102	70 - 130
Bromobenzene	50.0	43.9		ug/L		88	70 - 132
Bromochloromethane	50.0	49.3		ug/L		99	70 - 130
Bromodichloromethane	50.0	53.8		ug/L		108	67 - 133
Bromoform	50.0	42.0		ug/L		84	57 - 140
Bromomethane	25.0	44.1	*	ug/L		177	10 - 160
2-Butanone (MEK)	200	198		ug/L		99	61 - 145
Carbon disulfide	50.0	48.8		ug/L		98	61 - 137
Carbon tetrachloride	50.0	56.6		ug/L		113	61 - 137
Chlorobenzene	50.0	46.8		ug/L		94	70 - 130
Dibromochloromethane	50.0	45.7		ug/L		91	67 - 135
Chloroethane	25.0	31.6		ug/L		126	55 - 141

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-394595/1002
Matrix: Water
Analysis Batch: 394595

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Chloroethyl vinyl ether	25.0	12.5		ug/L		50	10 - 160
Chloroform	50.0	50.9		ug/L		102	69 - 130
1-Chlorohexane	50.0	46.5		ug/L		93	69 - 130
Chloromethane	25.0	25.6		ug/L		102	58 - 137
cis-1,2-Dichloroethene	50.0	51.7		ug/L		103	68 - 130
cis-1,3-Dichloropropene	50.0	49.2		ug/L		98	69 - 132
1,2-Dichlorobenzene	50.0	43.1		ug/L		86	67 - 130
1,3-Dichlorobenzene	50.0	44.1		ug/L		88	70 - 130
1,4-Dichlorobenzene	50.0	43.1		ug/L		86	70 - 130
Dichlorodifluoromethane	25.0	30.7		ug/L		123	41 - 146
1,1-Dichloroethane	50.0	48.8		ug/L		98	70 - 130
1,2-Dichloroethane	50.0	52.0		ug/L		104	69 - 130
1,1-Dichloroethene	50.0	47.0		ug/L		94	63 - 134
1,2-Dichloropropane	50.0	49.0		ug/L		98	70 - 130
1,3-Dichloropropane	50.0	45.7		ug/L		91	70 - 130
2,2-Dichloropropane	50.0	49.1		ug/L		98	52 - 135
1,1-Dichloropropene	50.0	52.3		ug/L		105	70 - 130
Ethylbenzene	50.0	47.5		ug/L		95	70 - 130
Ethyl methacrylate	50.0	43.5		ug/L		87	68 - 130
Hexachlorobutadiene	50.0	44.9		ug/L		90	53 - 140
2-Hexanone	200	171		ug/L		86	65 - 137
Isopropylbenzene	50.0	48.3		ug/L		97	70 - 130
Methylene bromide	50.0	51.7		ug/L		103	70 - 130
Methylene Chloride	50.0	48.3		ug/L		97	66 - 135
4-Methyl-2-pentanone (MIBK)	200	190		ug/L		95	69 - 138
Methyl tert-butyl ether	50.0	45.6		ug/L		91	66 - 130
m-Xylene & p-Xylene	50.0	46.9		ug/L		94	70 - 130
Naphthalene	50.0	39.7		ug/L		79	47 - 149
n-Butylbenzene	50.0	44.5		ug/L		89	67 - 130
N-Propylbenzene	50.0	42.7		ug/L		85	70 - 130
o-Chlorotoluene	50.0	41.2		ug/L		82	70 - 130
o-Xylene	50.0	46.5		ug/L		93	70 - 130
p-Chlorotoluene	50.0	43.6		ug/L		87	70 - 130
p-Isopropyltoluene	50.0	43.2		ug/L		86	65 - 130
sec-Butylbenzene	50.0	44.0		ug/L		88	66 - 130
Styrene	50.0	46.3		ug/L		93	70 - 130
tert-Butylbenzene	50.0	44.5		ug/L		89	64 - 139
1,1,1,2-Tetrachloroethane	50.0	45.2		ug/L		90	67 - 131
1,1,2,2-Tetrachloroethane	50.0	41.4		ug/L		83	70 - 131
Tetrachloroethene	50.0	44.8		ug/L		90	65 - 130
Toluene	50.0	45.6		ug/L		91	70 - 130
trans-1,2-Dichloroethene	50.0	48.7		ug/L		97	70 - 130
trans-1,3-Dichloropropene	50.0	43.5		ug/L		87	63 - 130
1,2,3-Trichlorobenzene	50.0	43.0		ug/L		86	60 - 138
1,2,4-Trichlorobenzene	50.0	43.1		ug/L		86	60 - 140
1,1,1-Trichloroethane	50.0	53.4		ug/L		107	68 - 130
1,1,2-Trichloroethane	50.0	47.7		ug/L		95	70 - 130
Trichloroethene	50.0	50.6		ug/L		101	70 - 130

TestAmerica Pensacola



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-394595/1002
Matrix: Water
Analysis Batch: 394595

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	25.0	28.1		ug/L		112	65 - 138
1,2,3-Trichloropropane	50.0	43.5		ug/L		87	70 - 130
1,2,4-Trimethylbenzene	50.0	43.9		ug/L		88	70 - 130
1,3,5-Trimethylbenzene	50.0	43.0		ug/L		86	69 - 130
Vinyl acetate	50.0	51.0		ug/L		102	26 - 160
Vinyl chloride	25.0	26.1		ug/L		104	59 - 136
Xylenes, Total	100	93.5		ug/L		93	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	96		78 - 118
Dibromofluoromethane	106		81 - 121
Toluene-d8 (Surr)	97		80 - 120

Lab Sample ID: 400-152114-4 MS
Matrix: Water
Analysis Batch: 394595

Client Sample ID: MW14-ROX-041018
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		200	228		ug/L		114	43 - 150
Acrolein	ND		250	252		ug/L		101	38 - 150
Acrylonitrile	ND		500	527		ug/L		105	62 - 149
Benzene	ND		50.0	53.9		ug/L		108	56 - 142
Bromobenzene	ND		50.0	45.9		ug/L		92	59 - 136
Bromochloromethane	ND		50.0	52.5		ug/L		105	64 - 140
Bromodichloromethane	ND		50.0	55.4		ug/L		111	59 - 143
Bromoform	ND		50.0	43.6		ug/L		87	50 - 140
Bromomethane	ND	* F1	25.0	44.8	F1	ug/L		179	10 - 150
2-Butanone (MEK)	ND		200	212		ug/L		106	55 - 150
Carbon disulfide	ND		50.0	49.9		ug/L		100	48 - 150
Carbon tetrachloride	ND		50.0	54.7		ug/L		109	55 - 145
Chlorobenzene	ND		50.0	48.4		ug/L		97	64 - 130
Dibromochloromethane	ND		50.0	47.1		ug/L		94	56 - 143
Chloroethane	ND	F1	25.0	42.9	F1	ug/L		172	50 - 150
2-Chloroethyl vinyl ether	ND	F1	25.0	ND	F1	ug/L		0	10 - 150
Chloroform	ND		50.0	55.2		ug/L		110	60 - 141
1-Chlorohexane	ND		50.0	46.6		ug/L		93	56 - 136
Chloromethane	ND		25.0	30.3		ug/L		121	49 - 148
cis-1,2-Dichloroethene	ND	F1	50.0	54.6		ug/L		109	59 - 143
cis-1,3-Dichloropropene	ND		50.0	50.9		ug/L		102	57 - 140
1,2-Dichlorobenzene	ND		50.0	45.8		ug/L		92	52 - 137
1,3-Dichlorobenzene	ND		50.0	44.2		ug/L		88	54 - 135
1,4-Dichlorobenzene	ND		50.0	45.3		ug/L		91	53 - 135
Dichlorodifluoromethane	ND		25.0	32.0		ug/L		128	16 - 150
1,1-Dichloroethane	ND		50.0	50.7		ug/L		101	61 - 144
1,2-Dichloroethane	ND		50.0	54.1		ug/L		108	60 - 141
1,1-Dichloroethene	ND		50.0	51.0		ug/L		102	54 - 147
1,2-Dichloropropane	ND		50.0	51.5		ug/L		103	66 - 137
1,3-Dichloropropane	ND		50.0	49.3		ug/L		99	66 - 133

TestAmerica Pensacola



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-152114-4 MS
Matrix: Water
Analysis Batch: 394595

Client Sample ID: MW14-ROX-041018
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS MS		Unit	D	%Rec	%Rec. Limits
	Result	Qualifier		Result	Qualifier				
2,2-Dichloropropane	ND	F2	50.0	51.0		ug/L		102	42 - 144
1,1-Dichloropropene	ND		50.0	53.2		ug/L		106	65 - 136
Ethylbenzene	ND		50.0	49.1		ug/L		98	58 - 131
Ethyl methacrylate	ND		50.0	46.1		ug/L		92	64 - 130
Hexachlorobutadiene	ND		50.0	42.8		ug/L		86	31 - 149
2-Hexanone	ND		200	187		ug/L		94	65 - 140
Isopropylbenzene	ND		50.0	48.3		ug/L		97	56 - 133
Methylene bromide	ND		50.0	52.8		ug/L		106	63 - 138
Methylene Chloride	ND		50.0	51.2		ug/L		102	60 - 146
4-Methyl-2-pentanone (MIBK)	ND		200	208		ug/L		104	63 - 146
Methyl tert-butyl ether	ND		50.0	47.5		ug/L		95	59 - 137
m-Xylene & p-Xylene	ND		50.0	47.2		ug/L		94	57 - 130
Naphthalene	ND		50.0	41.8		ug/L		84	25 - 150
n-Butylbenzene	ND		50.0	43.5		ug/L		87	41 - 142
N-Propylbenzene	ND		50.0	42.7		ug/L		85	51 - 138
o-Chlorotoluene	ND		50.0	53.7		ug/L		107	53 - 134
o-Xylene	ND		50.0	47.7		ug/L		95	61 - 130
p-Chlorotoluene	ND		50.0	45.2		ug/L		90	54 - 133
p-Isopropyltoluene	ND		50.0	43.6		ug/L		87	48 - 139
sec-Butylbenzene	ND		50.0	44.4		ug/L		89	50 - 138
Styrene	ND		50.0	47.5		ug/L		95	58 - 131
tert-Butylbenzene	ND		50.0	45.2		ug/L		90	54 - 146
1,1,1,2-Tetrachloroethane	ND		50.0	48.1		ug/L		96	59 - 137
1,1,2,2-Tetrachloroethane	ND		50.0	48.6		ug/L		97	66 - 135
Tetrachloroethene	ND		50.0	40.8		ug/L		82	52 - 133
Toluene	ND		50.0	46.2		ug/L		92	65 - 130
trans-1,2-Dichloroethene	ND		50.0	51.1		ug/L		102	61 - 143
trans-1,3-Dichloropropene	ND		50.0	44.3		ug/L		89	53 - 133
1,2,3-Trichlorobenzene	ND		50.0	44.8		ug/L		90	43 - 145
1,2,4-Trichlorobenzene	ND		50.0	43.6		ug/L		87	39 - 148
1,1,1-Trichloroethane	ND		50.0	54.2		ug/L		108	57 - 142
1,1,2-Trichloroethane	ND		50.0	49.9		ug/L		100	66 - 131
Trichloroethene	ND		50.0	49.9		ug/L		100	64 - 136
Trichlorofluoromethane	ND		25.0	31.6		ug/L		126	54 - 150
1,2,3-Trichloropropane	ND		50.0	48.1		ug/L		96	65 - 133
1,2,4-Trimethylbenzene	ND		50.0	44.3		ug/L		89	50 - 139
1,3,5-Trimethylbenzene	ND		50.0	44.4		ug/L		89	52 - 135
Vinyl acetate	ND		50.0	60.0		ug/L		120	26 - 150
Vinyl chloride	ND		25.0	30.5		ug/L		122	46 - 150
Xylenes, Total	ND		100	94.9		ug/L		95	59 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene	99		78 - 118
Dibromofluoromethane	106		81 - 121
Toluene-d8 (Surr)	94		80 - 120



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-152114-4 MSD
Matrix: Water
Analysis Batch: 394595

Client Sample ID: MW14-ROX-041018
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		200	228		ug/L		114	43 - 150	0	30
Acrolein	ND		250	242		ug/L		97	38 - 150	4	31
Acrylonitrile	ND		500	510		ug/L		102	62 - 149	3	30
Benzene	ND		50.0	54.2		ug/L		108	56 - 142	0	30
Bromobenzene	ND		50.0	46.6		ug/L		93	59 - 136	2	30
Bromochloromethane	ND		50.0	53.0		ug/L		106	64 - 140	1	30
Bromodichloromethane	ND		50.0	55.6		ug/L		111	59 - 143	0	30
Bromoform	ND		50.0	43.7		ug/L		87	50 - 140	0	30
Bromomethane	ND	* F1	25.0	42.8	F1	ug/L		171	10 - 150	5	50
2-Butanone (MEK)	ND		200	282		ug/L		141	55 - 150	28	30
Carbon disulfide	ND		50.0	50.6		ug/L		101	48 - 150	2	30
Carbon tetrachloride	ND		50.0	57.3		ug/L		115	55 - 145	5	30
Chlorobenzene	ND		50.0	49.0		ug/L		98	64 - 130	1	30
Dibromochloromethane	ND		50.0	48.0		ug/L		96	56 - 143	2	30
Chloroethane	ND	F1	25.0	36.7		ug/L		147	50 - 150	16	30
2-Chloroethyl vinyl ether	ND	F1	25.0	ND	F1	ug/L		0	10 - 150	NC	50
Chloroform	ND		50.0	54.5		ug/L		109	60 - 141		30
1-Chlorohexane	ND		50.0	44.5		ug/L		89	56 - 136	5	30
Chloromethane	ND		25.0	28.5		ug/L		114	49 - 148	6	31
cis-1,2-Dichloroethene	ND	F1	50.0	72.6	F1	ug/L		145	59 - 143	28	30
cis-1,3-Dichloropropene	ND		50.0	51.9		ug/L		104	57 - 140	2	30
1,2-Dichlorobenzene	ND		50.0	44.8		ug/L		90	52 - 137	2	30
1,3-Dichlorobenzene	ND		50.0	44.1		ug/L		88	54 - 135	0	30
1,4-Dichlorobenzene	ND		50.0	43.7		ug/L		87	53 - 135	4	30
Dichlorodifluoromethane	ND		25.0	32.2		ug/L		129	16 - 150	1	31
1,1-Dichloroethane	ND		50.0	50.7		ug/L		101	61 - 144	0	30
1,2-Dichloroethane	ND		50.0	55.0		ug/L		110	60 - 141	2	30
1,1-Dichloroethene	ND		50.0	51.4		ug/L		103	54 - 147	1	30
1,2-Dichloropropane	ND		50.0	50.9		ug/L		102	66 - 137	1	30
1,3-Dichloropropane	ND		50.0	50.7		ug/L		101	66 - 133	3	30
2,2-Dichloropropane	ND	F2	50.0	71.6	F2	ug/L		143	42 - 144	34	31
1,1-Dichloropropene	ND		50.0	54.7		ug/L		109	65 - 136	3	30
Ethylbenzene	ND		50.0	48.1		ug/L		96	58 - 131	2	30
Ethyl methacrylate	ND		50.0	48.1		ug/L		96	64 - 130	4	30
Hexachlorobutadiene	ND		50.0	39.8		ug/L		80	31 - 149	7	36
2-Hexanone	ND		200	188		ug/L		94	65 - 140	0	30
Isopropylbenzene	ND		50.0	47.3		ug/L		95	56 - 133	2	30
Methylene bromide	ND		50.0	56.5		ug/L		113	63 - 138	7	30
Methylene Chloride	ND		50.0	51.4		ug/L		103	60 - 146	0	32
4-Methyl-2-pentanone (MIBK)	ND		200	210		ug/L		105	63 - 146	1	30
Methyl tert-butyl ether	ND		50.0	48.6		ug/L		97	59 - 137	2	30
m-Xylene & p-Xylene	ND		50.0	47.2		ug/L		94	57 - 130	0	30
Naphthalene	ND		50.0	42.6		ug/L		85	25 - 150	2	30
n-Butylbenzene	ND		50.0	41.2		ug/L		82	41 - 142	5	31
N-Propylbenzene	ND		50.0	41.9		ug/L		84	51 - 138	2	30
o-Chlorotoluene	ND		50.0	52.6		ug/L		105	53 - 134	2	30
o-Xylene	ND		50.0	47.8		ug/L		96	61 - 130	0	30
p-Chlorotoluene	ND		50.0	44.4		ug/L		89	54 - 133	2	30

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-152114-4 MSD
Matrix: Water
Analysis Batch: 394595

Client Sample ID: MW14-ROX-041018
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
p-Isopropyltoluene	ND		50.0	41.6		ug/L		83	48 - 139	5	30
sec-Butylbenzene	ND		50.0	42.4		ug/L		85	50 - 138	5	30
Styrene	ND		50.0	47.7		ug/L		95	58 - 131	0	30
tert-Butylbenzene	ND		50.0	43.2		ug/L		86	54 - 146	5	30
1,1,1,2-Tetrachloroethane	ND		50.0	47.0		ug/L		94	59 - 137	2	30
1,1,2,2-Tetrachloroethane	ND		50.0	48.3		ug/L		97	66 - 135	1	30
Tetrachloroethene	ND		50.0	41.0		ug/L		82	52 - 133	0	30
Toluene	ND		50.0	47.0		ug/L		94	65 - 130	2	30
trans-1,2-Dichloroethene	ND		50.0	51.1		ug/L		102	61 - 143	0	30
trans-1,3-Dichloropropene	ND		50.0	45.2		ug/L		90	53 - 133	2	30
1,2,3-Trichlorobenzene	ND		50.0	43.8		ug/L		88	43 - 145	2	30
1,2,4-Trichlorobenzene	ND		50.0	42.0		ug/L		84	39 - 148	4	30
1,1,1-Trichloroethane	ND		50.0	54.2		ug/L		108	57 - 142	0	30
1,1,2-Trichloroethane	ND		50.0	51.1		ug/L		102	66 - 131	2	30
Trichloroethene	ND		50.0	51.4		ug/L		103	64 - 136	3	30
Trichlorofluoromethane	ND		25.0	30.2		ug/L		121	54 - 150	4	30
1,2,3-Trichloropropane	ND		50.0	46.5		ug/L		93	65 - 133	3	30
1,2,4-Trimethylbenzene	ND		50.0	42.6		ug/L		85	50 - 139	4	30
1,3,5-Trimethylbenzene	ND		50.0	43.3		ug/L		87	52 - 135	3	30
Vinyl acetate	ND		50.0	54.8		ug/L		110	26 - 150	9	33
Vinyl chloride	ND		25.0	28.9		ug/L		116	46 - 150	5	30
Xylenes, Total	ND		100	94.9		ug/L		95	59 - 130	0	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene	99		78 - 118
Dibromofluoromethane	101		81 - 121
Toluene-d8 (Surr)	95		80 - 120

Lab Sample ID: MB 400-394772/4
Matrix: Water
Analysis Batch: 394772

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acetone	ND		25	10	ug/L			04/22/18 08:27	1
Acrolein	ND		20	10	ug/L			04/22/18 08:27	1
Acrylonitrile	ND		10	2.8	ug/L			04/22/18 08:27	1
Benzene	ND		1.0	0.38	ug/L			04/22/18 08:27	1
Bromobenzene	ND		1.0	0.54	ug/L			04/22/18 08:27	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/22/18 08:27	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/22/18 08:27	1
Bromoform	ND		5.0	0.71	ug/L			04/22/18 08:27	1
Bromomethane	ND		1.0	0.98	ug/L			04/22/18 08:27	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/22/18 08:27	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/22/18 08:27	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/22/18 08:27	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/22/18 08:27	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/22/18 08:27	1
Chloroethane	ND		1.0	0.76	ug/L			04/22/18 08:27	1

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-394772/4
Matrix: Water
Analysis Batch: 394772

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/22/18 08:27	1
Chloroform	ND		1.0	0.60	ug/L			04/22/18 08:27	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/22/18 08:27	1
Chloromethane	ND		1.0	0.83	ug/L			04/22/18 08:27	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/22/18 08:27	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/22/18 08:27	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/22/18 08:27	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/22/18 08:27	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/22/18 08:27	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/22/18 08:27	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/22/18 08:27	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/22/18 08:27	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/22/18 08:27	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/22/18 08:27	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/22/18 08:27	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/22/18 08:27	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/22/18 08:27	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/22/18 08:27	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/22/18 08:27	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/22/18 08:27	1
2-Hexanone	ND		25	3.1	ug/L			04/22/18 08:27	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/22/18 08:27	1
Methylene bromide	ND		5.0	0.59	ug/L			04/22/18 08:27	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/22/18 08:27	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/22/18 08:27	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/22/18 08:27	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/22/18 08:27	1
Naphthalene	ND		1.0	1.0	ug/L			04/22/18 08:27	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/22/18 08:27	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/22/18 08:27	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/22/18 08:27	1
o-Xylene	ND		5.0	0.60	ug/L			04/22/18 08:27	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/22/18 08:27	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/22/18 08:27	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/22/18 08:27	1
Styrene	ND		1.0	1.0	ug/L			04/22/18 08:27	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/22/18 08:27	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/22/18 08:27	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/22/18 08:27	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/22/18 08:27	1
Toluene	ND		1.0	0.70	ug/L			04/22/18 08:27	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/22/18 08:27	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/22/18 08:27	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/22/18 08:27	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/22/18 08:27	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/22/18 08:27	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/22/18 08:27	1
Trichloroethene	ND		1.0	0.50	ug/L			04/22/18 08:27	1

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-394772/4
Matrix: Water
Analysis Batch: 394772

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/22/18 08:27	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/22/18 08:27	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/22/18 08:27	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/22/18 08:27	1
Vinyl acetate	ND		25	2.0	ug/L			04/22/18 08:27	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/22/18 08:27	1
Xylenes, Total	ND		10	1.6	ug/L			04/22/18 08:27	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene	102		78 - 118		04/22/18 08:27	1
Dibromofluoromethane	101		81 - 121		04/22/18 08:27	1
Toluene-d8 (Surr)	100		80 - 120		04/22/18 08:27	1

Lab Sample ID: LCS 400-394772/1002
Matrix: Water
Analysis Batch: 394772

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Acetone	200	186		ug/L		93	43 - 160
Acrolein	500	379		ug/L		76	38 - 160
Acrylonitrile	500	465		ug/L		93	64 - 142
Benzene	50.0	43.5		ug/L		87	70 - 130
Bromobenzene	50.0	46.1		ug/L		92	70 - 132
Bromochloromethane	50.0	45.8		ug/L		92	70 - 130
Bromodichloromethane	50.0	49.0		ug/L		98	67 - 133
Bromoform	50.0	55.1		ug/L		110	57 - 140
Bromomethane	50.0	39.2		ug/L		78	10 - 160
2-Butanone (MEK)	200	205		ug/L		103	61 - 145
Carbon disulfide	50.0	47.3		ug/L		95	61 - 137
Carbon tetrachloride	50.0	48.7		ug/L		97	61 - 137
Chlorobenzene	50.0	44.4		ug/L		89	70 - 130
Dibromochloromethane	50.0	49.2		ug/L		98	67 - 135
Chloroethane	50.0	42.1		ug/L		84	55 - 141
2-Chloroethyl vinyl ether	50.0	51.4		ug/L		103	10 - 160
Chloroform	50.0	43.4		ug/L		87	69 - 130
1-Chlorohexane	50.0	44.4		ug/L		89	69 - 130
Chloromethane	50.0	39.4		ug/L		79	58 - 137
cis-1,2-Dichloroethene	50.0	42.8		ug/L		86	68 - 130
cis-1,3-Dichloropropene	50.0	56.7		ug/L		113	69 - 132
1,2-Dichlorobenzene	50.0	45.3		ug/L		91	67 - 130
1,3-Dichlorobenzene	50.0	44.6		ug/L		89	70 - 130
1,4-Dichlorobenzene	50.0	43.6		ug/L		87	70 - 130
Dichlorodifluoromethane	50.0	35.9		ug/L		72	41 - 146
1,1-Dichloroethane	50.0	42.4		ug/L		85	70 - 130
1,2-Dichloroethane	50.0	44.1		ug/L		88	69 - 130
1,1-Dichloroethene	50.0	44.8		ug/L		90	63 - 134
1,2-Dichloropropane	50.0	43.9		ug/L		88	70 - 130
1,3-Dichloropropane	50.0	44.9		ug/L		90	70 - 130

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-394772/1002
Matrix: Water
Analysis Batch: 394772

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,2-Dichloropropane	50.0	49.8		ug/L		100	52 - 135
1,1-Dichloropropene	50.0	44.6		ug/L		89	70 - 130
Ethylbenzene	50.0	44.4		ug/L		89	70 - 130
Ethyl methacrylate	50.0	54.8		ug/L		110	68 - 130
Hexachlorobutadiene	50.0	47.7		ug/L		95	53 - 140
2-Hexanone	200	215		ug/L		108	65 - 137
Isopropylbenzene	50.0	47.0		ug/L		94	70 - 130
Methylene bromide	50.0	46.8		ug/L		94	70 - 130
Methylene Chloride	50.0	43.5		ug/L		87	66 - 135
4-Methyl-2-pentanone (MIBK)	200	223		ug/L		112	69 - 138
Methyl tert-butyl ether	50.0	48.9		ug/L		98	66 - 130
m-Xylene & p-Xylene	50.0	45.2		ug/L		90	70 - 130
Naphthalene	50.0	54.7		ug/L		109	47 - 149
n-Butylbenzene	50.0	45.2		ug/L		90	67 - 130
N-Propylbenzene	50.0	47.4		ug/L		95	70 - 130
o-Chlorotoluene	50.0	45.2		ug/L		90	70 - 130
o-Xylene	50.0	45.1		ug/L		90	70 - 130
p-Chlorotoluene	50.0	45.7		ug/L		91	70 - 130
p-Isopropyltoluene	50.0	48.1		ug/L		96	65 - 130
sec-Butylbenzene	50.0	46.3		ug/L		93	66 - 130
Styrene	50.0	47.0		ug/L		94	70 - 130
tert-Butylbenzene	50.0	47.6		ug/L		95	64 - 139
1,1,1,2-Tetrachloroethane	50.0	48.0		ug/L		96	67 - 131
1,1,2,2-Tetrachloroethane	50.0	46.9		ug/L		94	70 - 131
Tetrachloroethene	50.0	42.2		ug/L		84	65 - 130
Toluene	50.0	43.0		ug/L		86	70 - 130
trans-1,2-Dichloroethene	50.0	44.3		ug/L		89	70 - 130
trans-1,3-Dichloropropene	50.0	55.9		ug/L		112	63 - 130
1,2,3-Trichlorobenzene	50.0	49.3		ug/L		99	60 - 138
1,2,4-Trichlorobenzene	50.0	48.0		ug/L		96	60 - 140
1,1,1-Trichloroethane	50.0	47.5		ug/L		95	68 - 130
1,1,2-Trichloroethane	50.0	43.9		ug/L		88	70 - 130
Trichloroethene	50.0	45.6		ug/L		91	70 - 130
Trichlorofluoromethane	50.0	41.0		ug/L		82	65 - 138
1,2,3-Trichloropropane	50.0	50.3		ug/L		101	70 - 130
1,2,4-Trimethylbenzene	50.0	46.9		ug/L		94	70 - 130
1,3,5-Trimethylbenzene	50.0	47.0		ug/L		94	69 - 130
Vinyl acetate	100	102		ug/L		102	26 - 160
Vinyl chloride	50.0	41.4		ug/L		83	59 - 136
Xylenes, Total	100	90.3		ug/L		90	70 - 130

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	102		78 - 118
Dibromofluoromethane	100		81 - 121
Toluene-d8 (Surr)	96		80 - 120



QC Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
 SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-152470-A-2 MS

Client Sample ID: Matrix Spike

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 394772

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
Acetone	ND		200	158		ug/L		79	43 - 150
Acrolein	ND		500	369		ug/L		74	38 - 150
Acrylonitrile	ND		500	408		ug/L		82	62 - 149
Benzene	ND		50.0	41.5		ug/L		83	56 - 142
Bromobenzene	ND		50.0	40.8		ug/L		82	59 - 136
Bromochloromethane	ND		50.0	43.0		ug/L		86	64 - 140
Bromodichloromethane	ND		50.0	44.4		ug/L		89	59 - 143
Bromoform	ND		50.0	48.2		ug/L		96	50 - 140
Bromomethane	ND		50.0	23.6		ug/L		47	10 - 150
2-Butanone (MEK)	ND		200	176		ug/L		88	55 - 150
Carbon disulfide	ND		50.0	45.0		ug/L		90	48 - 150
Carbon tetrachloride	ND		50.0	46.0		ug/L		92	55 - 145
Chlorobenzene	ND		50.0	41.8		ug/L		84	64 - 130
Dibromochloromethane	ND		50.0	46.3		ug/L		93	56 - 143
Chloroethane	ND		50.0	37.6		ug/L		75	50 - 150
2-Chloroethyl vinyl ether	ND	F2	50.0	23.3		ug/L		47	10 - 150
Chloroform	ND		50.0	41.3		ug/L		83	60 - 141
1-Chlorohexane	ND		50.0	42.4		ug/L		85	56 - 136
Chloromethane	ND		50.0	32.6		ug/L		65	49 - 148
cis-1,2-Dichloroethene	ND		50.0	40.4		ug/L		81	59 - 143
cis-1,3-Dichloropropene	ND		50.0	52.4		ug/L		105	57 - 140
1,2-Dichlorobenzene	ND		50.0	41.0		ug/L		82	52 - 137
1,3-Dichlorobenzene	ND		50.0	40.7		ug/L		81	54 - 135
1,4-Dichlorobenzene	ND		50.0	39.6		ug/L		79	53 - 135
Dichlorodifluoromethane	ND		50.0	33.7		ug/L		67	16 - 150
1,1-Dichloroethane	ND		50.0	40.5		ug/L		81	61 - 144
1,2-Dichloroethane	ND		50.0	41.1		ug/L		82	60 - 141
1,1-Dichloroethene	ND		50.0	41.9		ug/L		84	54 - 147
1,2-Dichloropropane	ND		50.0	40.6		ug/L		81	66 - 137
1,3-Dichloropropane	ND		50.0	41.2		ug/L		82	66 - 133
2,2-Dichloropropane	ND		50.0	46.0		ug/L		92	42 - 144
1,1-Dichloropropene	ND		50.0	42.0		ug/L		84	65 - 136
Ethylbenzene	ND		50.0	41.9		ug/L		84	58 - 131
Ethyl methacrylate	ND		50.0	48.5		ug/L		97	64 - 130
Hexachlorobutadiene	ND		50.0	42.9		ug/L		86	31 - 149
2-Hexanone	ND		200	183		ug/L		92	65 - 140
Isopropylbenzene	ND		50.0	43.8		ug/L		88	56 - 133
Methylene bromide	ND		50.0	42.8		ug/L		86	63 - 138
Methylene Chloride	ND		50.0	40.2		ug/L		80	60 - 146
4-Methyl-2-pentanone (MIBK)	ND		200	190		ug/L		95	63 - 146
Methyl tert-butyl ether	ND		50.0	43.8		ug/L		88	59 - 137
m-Xylene & p-Xylene	ND		50.0	42.3		ug/L		85	57 - 130
Naphthalene	ND		50.0	46.9		ug/L		94	25 - 150
n-Butylbenzene	ND		50.0	40.5		ug/L		81	41 - 142
N-Propylbenzene	ND		50.0	42.2		ug/L		84	51 - 138
o-Chlorotoluene	ND		50.0	40.4		ug/L		81	53 - 134
o-Xylene	ND		50.0	42.6		ug/L		85	61 - 130
p-Chlorotoluene	ND		50.0	41.7		ug/L		83	54 - 133

TestAmerica Pensacola



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-152470-A-2 MS
Matrix: Water
Analysis Batch: 394772

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier					
p-Isopropyltoluene	ND		50.0	43.7		ug/L		87	48 - 139	
sec-Butylbenzene	ND		50.0	42.0		ug/L		84	50 - 138	
Styrene	ND		50.0	44.3		ug/L		89	58 - 131	
tert-Butylbenzene	ND		50.0	42.9		ug/L		86	54 - 146	
1,1,1,2-Tetrachloroethane	ND		50.0	44.4		ug/L		89	59 - 137	
1,1,2,2-Tetrachloroethane	ND		50.0	40.8		ug/L		82	66 - 135	
Tetrachloroethene	ND		50.0	39.4		ug/L		79	52 - 133	
Toluene	ND		50.0	40.1		ug/L		80	65 - 130	
trans-1,2-Dichloroethene	ND		50.0	42.7		ug/L		85	61 - 143	
trans-1,3-Dichloropropene	ND		50.0	50.7		ug/L		101	53 - 133	
1,2,3-Trichlorobenzene	ND		50.0	43.3		ug/L		87	43 - 145	
1,2,4-Trichlorobenzene	ND		50.0	41.9		ug/L		84	39 - 148	
1,1,1-Trichloroethane	ND		50.0	45.0		ug/L		90	57 - 142	
1,1,2-Trichloroethane	ND		50.0	41.0		ug/L		82	66 - 131	
Trichloroethene	ND		50.0	42.7		ug/L		85	64 - 136	
Trichlorofluoromethane	ND		50.0	37.1		ug/L		74	54 - 150	
1,2,3-Trichloropropane	ND		50.0	42.7		ug/L		85	65 - 133	
1,2,4-Trimethylbenzene	ND		50.0	42.4		ug/L		85	50 - 139	
1,3,5-Trimethylbenzene	ND		50.0	42.3		ug/L		85	52 - 135	
Vinyl acetate	ND		100	89.0		ug/L		89	26 - 150	
Vinyl chloride	ND		50.0	34.5		ug/L		69	46 - 150	
Xylenes, Total	ND		100	84.9		ug/L		85	59 - 130	

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	97		78 - 118
Dibromofluoromethane	103		81 - 121
Toluene-d8 (Surr)	97		80 - 120

Lab Sample ID: 400-152470-A-2 MSD
Matrix: Water
Analysis Batch: 394772

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
Acetone	ND		200	162		ug/L		81	43 - 150	2	30	
Acrolein	ND		500	399		ug/L		80	38 - 150	8	31	
Acrylonitrile	ND		500	404		ug/L		81	62 - 149	1	30	
Benzene	ND		50.0	37.1		ug/L		74	56 - 142	11	30	
Bromobenzene	ND		50.0	35.2		ug/L		70	59 - 136	15	30	
Bromochloromethane	ND		50.0	39.3		ug/L		79	64 - 140	9	30	
Bromodichloromethane	ND		50.0	40.0		ug/L		80	59 - 143	10	30	
Bromoform	ND		50.0	43.2		ug/L		86	50 - 140	11	30	
Bromomethane	ND		50.0	29.3		ug/L		59	10 - 150	21	50	
2-Butanone (MEK)	ND		200	179		ug/L		89	55 - 150	2	30	
Carbon disulfide	ND		50.0	40.5		ug/L		81	48 - 150	10	30	
Carbon tetrachloride	ND		50.0	42.3		ug/L		85	55 - 145	8	30	
Chlorobenzene	ND		50.0	36.2		ug/L		72	64 - 130	14	30	
Dibromochloromethane	ND		50.0	42.0		ug/L		84	56 - 143	10	30	
Chloroethane	ND		50.0	36.2		ug/L		72	50 - 150	4	30	

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-152470-A-2 MSD
Matrix: Water
Analysis Batch: 394772

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
2-Chloroethyl vinyl ether	ND	F2	50.0	10.2	F2	ug/L		20	10 - 150	79	50
Chloroform	ND		50.0	37.0		ug/L		74	60 - 141	11	30
1-Chlorohexane	ND		50.0	36.7		ug/L		73	56 - 136	14	30
Chloromethane	ND		50.0	35.2		ug/L		70	49 - 148	7	31
cis-1,2-Dichloroethene	ND		50.0	36.7		ug/L		73	59 - 143	9	30
cis-1,3-Dichloropropene	ND		50.0	46.9		ug/L		94	57 - 140	11	30
1,2-Dichlorobenzene	ND		50.0	34.7		ug/L		69	52 - 137	17	30
1,3-Dichlorobenzene	ND		50.0	34.1		ug/L		68	54 - 135	18	30
1,4-Dichlorobenzene	ND		50.0	32.9		ug/L		66	53 - 135	19	30
Dichlorodifluoromethane	ND		50.0	33.3		ug/L		67	16 - 150	1	31
1,1-Dichloroethane	ND		50.0	36.5		ug/L		73	61 - 144	11	30
1,2-Dichloroethane	ND		50.0	37.1		ug/L		74	60 - 141	10	30
1,1-Dichloroethene	ND		50.0	38.7		ug/L		77	54 - 147	8	30
1,2-Dichloropropane	ND		50.0	36.4		ug/L		73	66 - 137	11	30
1,3-Dichloropropane	ND		50.0	37.6		ug/L		75	66 - 133	9	30
2,2-Dichloropropane	ND		50.0	42.5		ug/L		85	42 - 144	8	31
1,1-Dichloropropene	ND		50.0	37.4		ug/L		75	65 - 136	12	30
Ethylbenzene	ND		50.0	36.4		ug/L		73	58 - 131	14	30
Ethyl methacrylate	ND		50.0	45.7		ug/L		91	64 - 130	6	30
Hexachlorobutadiene	ND		50.0	34.8		ug/L		70	31 - 149	21	36
2-Hexanone	ND		200	187		ug/L		93	65 - 140	2	30
Isopropylbenzene	ND		50.0	38.3		ug/L		77	56 - 133	13	30
Methylene bromide	ND		50.0	38.5		ug/L		77	63 - 138	11	30
Methylene Chloride	ND		50.0	36.2		ug/L		72	60 - 146	11	32
4-Methyl-2-pentanone (MIBK)	ND		200	192		ug/L		96	63 - 146	1	30
Methyl tert-butyl ether	ND		50.0	41.4		ug/L		83	59 - 137	6	30
m-Xylene & p-Xylene	ND		50.0	36.5		ug/L		73	57 - 130	15	30
Naphthalene	ND		50.0	42.9		ug/L		86	25 - 150	9	30
n-Butylbenzene	ND		50.0	34.2		ug/L		68	41 - 142	17	31
N-Propylbenzene	ND		50.0	35.9		ug/L		72	51 - 138	16	30
o-Chlorotoluene	ND		50.0	34.8		ug/L		70	53 - 134	15	30
o-Xylene	ND		50.0	36.8		ug/L		74	61 - 130	15	30
p-Chlorotoluene	ND		50.0	34.7		ug/L		69	54 - 133	18	30
p-Isopropyltoluene	ND		50.0	36.2		ug/L		72	48 - 139	19	30
sec-Butylbenzene	ND		50.0	36.0		ug/L		72	50 - 138	15	30
Styrene	ND		50.0	37.9		ug/L		76	58 - 131	16	30
tert-Butylbenzene	ND		50.0	36.6		ug/L		73	54 - 146	16	30
1,1,1,2-Tetrachloroethane	ND		50.0	39.5		ug/L		79	59 - 137	12	30
1,1,2,2-Tetrachloroethane	ND		50.0	37.9		ug/L		76	66 - 135	7	30
Tetrachloroethene	ND		50.0	35.5		ug/L		71	52 - 133	10	30
Toluene	ND		50.0	35.8		ug/L		72	65 - 130	11	30
trans-1,2-Dichloroethene	ND		50.0	38.2		ug/L		76	61 - 143	11	30
trans-1,3-Dichloropropene	ND		50.0	46.1		ug/L		92	53 - 133	10	30
1,2,3-Trichlorobenzene	ND		50.0	36.1		ug/L		72	43 - 145	18	30
1,2,4-Trichlorobenzene	ND		50.0	34.4		ug/L		69	39 - 148	20	30
1,1,1-Trichloroethane	ND		50.0	40.8		ug/L		82	57 - 142	10	30
1,1,2-Trichloroethane	ND		50.0	37.9		ug/L		76	66 - 131	8	30
Trichloroethene	ND		50.0	38.6		ug/L		77	64 - 136	10	30

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-152470-A-2 MSD
Matrix: Water
Analysis Batch: 394772

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Trichlorofluoromethane	ND		50.0	36.8		ug/L		74	54 - 150	1	30
1,2,3-Trichloropropane	ND		50.0	41.2		ug/L		82	65 - 133	3	30
1,2,4-Trimethylbenzene	ND		50.0	36.1		ug/L		72	50 - 139	16	30
1,3,5-Trimethylbenzene	ND		50.0	35.9		ug/L		72	52 - 135	17	30
Vinyl acetate	ND		100	95.7		ug/L		96	26 - 150	7	33
Vinyl chloride	ND		50.0	36.3		ug/L		73	46 - 150	5	30
Xylenes, Total	ND		100	73.3		ug/L		73	59 - 130	15	30

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	98		78 - 118
Dibromofluoromethane	102		81 - 121
Toluene-d8 (Surr)	97		80 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-394076/1-A
Matrix: Water
Analysis Batch: 394362

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 394076

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aniline	ND		10	3.8	ug/L		04/16/18 15:05	04/18/18 21:17	1
Benzenethiol	ND		10	1.7	ug/L		04/16/18 15:05	04/18/18 21:17	1
Benzoic acid	ND		30	7.3	ug/L		04/16/18 15:05	04/18/18 21:17	1
Benzyl alcohol	ND		10	2.0	ug/L		04/16/18 15:05	04/18/18 21:17	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		04/16/18 15:05	04/18/18 21:17	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		04/16/18 15:05	04/18/18 21:17	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		04/16/18 15:05	04/18/18 21:17	1
Bis(2-ethylhexyl) phthalate	ND		10	2.3	ug/L		04/16/18 15:05	04/18/18 21:17	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		04/16/18 15:05	04/18/18 21:17	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		04/16/18 15:05	04/18/18 21:17	1
4-Chloroaniline	ND		10	3.4	ug/L		04/16/18 15:05	04/18/18 21:17	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		04/16/18 15:05	04/18/18 21:17	1
2-Chloronaphthalene	ND		10	0.52	ug/L		04/16/18 15:05	04/18/18 21:17	1
2-Chlorophenol	ND		10	2.2	ug/L		04/16/18 15:05	04/18/18 21:17	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		04/16/18 15:05	04/18/18 21:17	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		04/16/18 15:05	04/18/18 21:17	1
Dibenzofuran	ND		10	0.52	ug/L		04/16/18 15:05	04/18/18 21:17	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		04/16/18 15:05	04/18/18 21:17	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		04/16/18 15:05	04/18/18 21:17	1
Diethyl phthalate	ND		10	0.70	ug/L		04/16/18 15:05	04/18/18 21:17	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		04/16/18 15:05	04/18/18 21:17	1
Dimethyl phthalate	ND		10	0.60	ug/L		04/16/18 15:05	04/18/18 21:17	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		04/16/18 15:05	04/18/18 21:17	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		04/16/18 15:05	04/18/18 21:17	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/16/18 15:05	04/18/18 21:17	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		04/16/18 15:05	04/18/18 21:17	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		04/16/18 15:05	04/18/18 21:17	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		04/16/18 15:05	04/18/18 21:17	1

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-394076/1-A
Matrix: Water
Analysis Batch: 394362

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 394076

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,4-Dioxane	ND		10	1.0	ug/L		04/16/18 15:05	04/18/18 21:17	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		04/16/18 15:05	04/18/18 21:17	1
Hexachlorobenzene	ND		10	0.25	ug/L		04/16/18 15:05	04/18/18 21:17	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/16/18 15:05	04/18/18 21:17	1
Hexachloroethane	ND		10	4.2	ug/L		04/16/18 15:05	04/18/18 21:17	1
Indene	ND		10	1.0	ug/L		04/16/18 15:05	04/18/18 21:17	1
Isophorone	ND		10	0.57	ug/L		04/16/18 15:05	04/18/18 21:17	1
2-Methylphenol	ND		10	1.8	ug/L		04/16/18 15:05	04/18/18 21:17	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/16/18 15:05	04/18/18 21:17	1
2-Nitroaniline	ND		10	2.2	ug/L		04/16/18 15:05	04/18/18 21:17	1
3-Nitroaniline	ND		10	1.8	ug/L		04/16/18 15:05	04/18/18 21:17	1
4-Nitroaniline	ND		10	2.5	ug/L		04/16/18 15:05	04/18/18 21:17	1
Nitrobenzene	ND		10	0.55	ug/L		04/16/18 15:05	04/18/18 21:17	1
2-Nitrophenol	ND		10	0.65	ug/L		04/16/18 15:05	04/18/18 21:17	1
4-Nitrophenol	ND		10	2.1	ug/L		04/16/18 15:05	04/18/18 21:17	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		04/16/18 15:05	04/18/18 21:17	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		04/16/18 15:05	04/18/18 21:17	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		04/16/18 15:05	04/18/18 21:17	1
Pentachlorophenol	ND		20	1.8	ug/L		04/16/18 15:05	04/18/18 21:17	1
Phenol	ND		10	2.6	ug/L		04/16/18 15:05	04/18/18 21:17	1
Pyridine	ND		10	3.2	ug/L		04/16/18 15:05	04/18/18 21:17	1
Quinoline	ND		10	6.0	ug/L		04/16/18 15:05	04/18/18 21:17	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		04/16/18 15:05	04/18/18 21:17	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/16/18 15:05	04/18/18 21:17	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2-Fluorobiphenyl	58		34 - 120	04/16/18 15:05	04/18/18 21:17	1
2-Fluorophenol	23		10 - 120	04/16/18 15:05	04/18/18 21:17	1
Nitrobenzene-d5	52		27 - 120	04/16/18 15:05	04/18/18 21:17	1
Phenol-d5	38		10 - 120	04/16/18 15:05	04/18/18 21:17	1
Terphenyl-d14	75		53 - 125	04/16/18 15:05	04/18/18 21:17	1
2,4,6-Tribromophenol	59		15 - 135	04/16/18 15:05	04/18/18 21:17	1

Lab Sample ID: LCS 400-394076/2-A
Matrix: Water
Analysis Batch: 394362

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 394076

Analyte	Spike Added	LCS LCS		Unit	D	%Rec.	
		Result	Qualifier			%Rec	Limits
Aniline	30.0	18.5		ug/L		62	29 - 120
Benzoic acid	120	41.4		ug/L		34	10 - 150
Benzyl alcohol	30.0	11.8		ug/L		39	19 - 125
Bis(2-chloroethoxy)methane	30.0	17.1		ug/L		57	45 - 120
Bis(2-chloroethyl)ether	30.0	15.1		ug/L		50	48 - 120
bis (2-chloroisopropyl) ether	30.0	14.6		ug/L		49	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	20.1		ug/L		67	48 - 150
4-Bromophenyl phenyl ether	30.0	20.4		ug/L		68	55 - 122
Butyl benzyl phthalate	30.0	20.4		ug/L		68	46 - 145

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-394076/2-A
Matrix: Water
Analysis Batch: 394362

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 394076

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Chloroaniline	30.0	17.1		ug/L		57	30 - 120
4-Chloro-3-methylphenol	30.0	19.9		ug/L		66	39 - 140
2-Chloronaphthalene	30.0	18.5		ug/L		62	52 - 120
2-Chlorophenol	30.0	17.0		ug/L		57	34 - 120
4-Chlorophenyl phenyl ether	30.0	21.6		ug/L		72	58 - 124
Dibenz[a,h]acridine	30.0	19.1		ug/L		64	46 - 149
Dibenzofuran	30.0	20.3		ug/L		68	58 - 123
3,3'-Dichlorobenzidine	40.0	25.8		ug/L		65	39 - 135
2,4-Dichlorophenol	30.0	20.1		ug/L		67	39 - 128
Diethyl phthalate	30.0	21.8		ug/L		73	44 - 146
2,4-Dimethylphenol	30.0	21.4		ug/L		71	44 - 120
Dimethyl phthalate	30.0	23.8		ug/L		79	50 - 131
Di-n-butyl phthalate	30.0	21.9		ug/L		73	55 - 131
4,6-Dinitro-ortho-cresol	60.0	39.1		ug/L		65	10 - 150
2,4-Dinitrophenol	60.0	36.8		ug/L		61	10 - 150
2,4-Dinitrotoluene	30.0	22.3		ug/L		74	58 - 140
2,6-Dinitrotoluene	30.0	21.1		ug/L		70	57 - 130
Di-n-octyl phthalate	30.0	20.0		ug/L		67	50 - 150
1,4-Dioxane	30.0	11.6		ug/L		39	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	16.7		ug/L		56	47 - 123
Hexachlorobenzene	30.0	23.3		ug/L		78	52 - 131
Hexachlorocyclopentadiene	30.0	14.4	J	ug/L		48	10 - 129
Hexachloroethane	30.0	13.4		ug/L		45	41 - 120
Indene	30.0	19.7		ug/L		66	47 - 120
Isophorone	30.0	16.6		ug/L		55	49 - 120
2-Methylphenol	30.0	18.8		ug/L		63	39 - 123
3 & 4 Methylphenol	30.0	16.5	J	ug/L		55	38 - 121
2-Nitroaniline	30.0	17.4		ug/L		58	47 - 150
3-Nitroaniline	30.0	17.1		ug/L		57	34 - 132
4-Nitroaniline	30.0	20.4		ug/L		68	41 - 135
Nitrobenzene	30.0	16.8		ug/L		56	47 - 120
2-Nitrophenol	30.0	19.9		ug/L		66	28 - 136
4-Nitrophenol	60.0	36.7		ug/L		61	10 - 150
N-Nitrosodimethylamine	30.0	16.2		ug/L		54	22 - 148
N-Nitrosodi-n-propylamine	30.0	17.7		ug/L		59	44 - 120
N-Nitrosodiphenylamine	29.8	19.6		ug/L		66	56 - 120
Pentachlorophenol	60.0	46.1		ug/L		77	15 - 141
Phenol	30.0	14.8		ug/L		49	33 - 120
Pyridine	60.0	24.2		ug/L		40	26 - 120
Quinoline	30.0	23.1		ug/L		77	51 - 129
2,4,5-Trichlorophenol	30.0	22.6		ug/L		75	38 - 147
2,4,6-Trichlorophenol	30.0	20.4		ug/L		68	36 - 139

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	66		34 - 120
2-Fluorophenol	42		10 - 120
Nitrobenzene-d5	61		27 - 120

TestAmerica Pensacola



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-394076/2-A
Matrix: Water
Analysis Batch: 394362

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 394076

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Phenol-d5	54		10 - 120
Terphenyl-d14	85		53 - 125
2,4,6-Tribromophenol	81		15 - 135

Lab Sample ID: LCS 400-394076/4-A
Matrix: Water
Analysis Batch: 394362

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 394076

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Benzenethiol	30.0	ND	*	ug/L		2	10 - 120

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	78		34 - 120
2-Fluorophenol	53		10 - 120
Nitrobenzene-d5	66		27 - 120
Phenol-d5	62		10 - 120
Terphenyl-d14	96		53 - 125
2,4,6-Tribromophenol	81		15 - 135

Lab Sample ID: LCSD 400-394076/3-A
Matrix: Water
Analysis Batch: 394362

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 394076

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec. RPD		Limit
		Result	Qualifier				Limits	RPD	
Aniline	30.0	18.5		ug/L		62	29 - 120	0	30
Benzoic acid	120	46.5		ug/L		39	10 - 150	12	30
Benzyl alcohol	30.0	13.0		ug/L		43	19 - 125	10	30
Bis(2-chloroethoxy)methane	30.0	18.0		ug/L		60	45 - 120	5	30
Bis(2-chloroethyl)ether	30.0	15.8		ug/L		53	48 - 120	4	30
bis (2-chloroisopropyl) ether	30.0	14.8		ug/L		49	30 - 125	1	30
Bis(2-ethylhexyl) phthalate	30.0	19.8		ug/L		66	48 - 150	1	30
4-Bromophenyl phenyl ether	30.0	21.1		ug/L		70	55 - 122	3	30
Butyl benzyl phthalate	30.0	20.1		ug/L		67	46 - 145	2	30
4-Chloroaniline	30.0	17.5		ug/L		58	30 - 120	2	30
4-Chloro-3-methylphenol	30.0	20.4		ug/L		68	39 - 140	3	30
2-Chloronaphthalene	30.0	18.9		ug/L		63	52 - 120	2	30
2-Chlorophenol	30.0	17.6		ug/L		59	34 - 120	3	30
4-Chlorophenyl phenyl ether	30.0	21.8		ug/L		73	58 - 124	1	30
Dibenz[a,h]acridine	30.0	22.4		ug/L		75	46 - 149	16	30
Dibenzofuran	30.0	21.3		ug/L		71	58 - 123	5	30
3,3'-Dichlorobenzidine	40.0	27.1		ug/L		68	39 - 135	5	30
2,4-Dichlorophenol	30.0	20.6		ug/L		69	39 - 128	2	30
Diethyl phthalate	30.0	22.3		ug/L		74	44 - 146	2	30
2,4-Dimethylphenol	30.0	22.0		ug/L		73	44 - 120	3	30
Dimethyl phthalate	30.0	24.3		ug/L		81	50 - 131	2	30
Di-n-butyl phthalate	30.0	21.9		ug/L		73	55 - 131	0	30
4,6-Dinitro-ortho-cresol	60.0	41.2		ug/L		69	10 - 150	5	30
2,4-Dinitrophenol	60.0	40.0		ug/L		67	10 - 150	8	30

TestAmerica Pensacola



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-394076/3-A
Matrix: Water
Analysis Batch: 394362

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 394076

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	Limit
							Limits	RPD		
2,4-Dinitrotoluene	30.0	23.4		ug/L		78	58 - 140	5	30	
2,6-Dinitrotoluene	30.0	21.7		ug/L		72	57 - 130	3	30	
Di-n-octyl phthalate	30.0	20.0		ug/L		67	50 - 150	0	30	
1,4-Dioxane	30.0	11.6		ug/L		39	25 - 120	0	30	
1,2-Diphenylhydrazine (as Azobenzene)	30.0	16.9		ug/L		56	47 - 123	1	30	
Hexachlorobenzene	30.0	23.9		ug/L		80	52 - 131	2	30	
Hexachlorocyclopentadiene	30.0	15.0	J	ug/L		50	10 - 129	4	30	
Hexachloroethane	30.0	14.0		ug/L		47	41 - 120	4	30	
Indene	30.0	19.6		ug/L		65	47 - 120	0	30	
Isophorone	30.0	17.1		ug/L		57	49 - 120	3	30	
2-Methylphenol	30.0	19.2		ug/L		64	39 - 123	2	30	
3 & 4 Methylphenol	30.0	16.9	J	ug/L		56	38 - 121	2	30	
2-Nitroaniline	30.0	18.2		ug/L		61	47 - 150	4	30	
3-Nitroaniline	30.0	17.0		ug/L		57	34 - 132	0	30	
4-Nitroaniline	30.0	21.6		ug/L		72	41 - 135	6	30	
Nitrobenzene	30.0	17.5		ug/L		58	47 - 120	4	30	
2-Nitrophenol	30.0	20.5		ug/L		68	28 - 136	3	30	
4-Nitrophenol	60.0	36.6		ug/L		61	10 - 150	0	30	
N-Nitrosodimethylamine	30.0	16.4		ug/L		55	22 - 148	1	30	
N-Nitrosodi-n-propylamine	30.0	18.5		ug/L		62	44 - 120	5	30	
N-Nitrosodiphenylamine	29.8	20.4		ug/L		68	56 - 120	4	30	
Pentachlorophenol	60.0	47.0		ug/L		78	15 - 141	2	30	
Phenol	30.0	15.3		ug/L		51	33 - 120	3	30	
Pyridine	60.0	25.8		ug/L		43	26 - 120	6	30	
Quinoline	30.0	23.6		ug/L		79	51 - 129	2	30	
2,4,5-Trichlorophenol	30.0	23.0		ug/L		77	38 - 147	2	30	
2,4,6-Trichlorophenol	30.0	20.8		ug/L		69	36 - 139	2	30	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	67		34 - 120
2-Fluorophenol	41		10 - 120
Nitrobenzene-d5	62		27 - 120
Phenol-d5	54		10 - 120
Terphenyl-d14	80		53 - 125
2,4,6-Tribromophenol	81		15 - 135

Lab Sample ID: LCSD 400-394076/5-A
Matrix: Water
Analysis Batch: 394362

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 394076

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	Limit
							Limits	RPD		
Benzenethiol	30.0	16.2	*	ug/L		54	10 - 120	183	30	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	73		34 - 120
2-Fluorophenol	57		10 - 120
Nitrobenzene-d5	62		27 - 120

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-394076/5-A
Matrix: Water
Analysis Batch: 394362

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 394076

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
Phenol-d5	61		10 - 120
Terphenyl-d14	93		53 - 125
2,4,6-Tribromophenol	76		15 - 135

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-394076/1-A
Matrix: Water
Analysis Batch: 394333

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 394076

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acenaphthene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 16:33	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 16:33	1
Anthracene	0.0483	J	0.20	0.020	ug/L		04/16/18 15:05	04/18/18 16:33	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 16:33	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 16:33	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 16:33	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 16:33	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 16:33	1
Chrysene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 16:33	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 16:33	1
Fluoranthene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 16:33	1
Fluorene	ND		0.20	0.021	ug/L		04/16/18 15:05	04/18/18 16:33	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/16/18 15:05	04/18/18 16:33	1
Phenanthrene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 16:33	1
Pyrene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 16:33	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 16:33	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/16/18 15:05	04/18/18 16:33	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Terphenyl-d14	80		33 - 138	04/16/18 15:05	04/18/18 16:33	1
2-Fluorobiphenyl	71		15 - 122	04/16/18 15:05	04/18/18 16:33	1
Nitrobenzene-d5	64		19 - 130	04/16/18 15:05	04/18/18 16:33	1

Lab Sample ID: LCS 400-394076/2-A
Matrix: Water
Analysis Batch: 394333

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 394076

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Acenaphthene	30.0	22.2		ug/L		74	41 - 120
Acenaphthylene	30.0	20.4		ug/L		68	44 - 120
Anthracene	30.0	23.4		ug/L		78	49 - 120
Benzo[a]anthracene	30.0	23.2		ug/L		77	61 - 135
Benzo[a]pyrene	30.0	23.3		ug/L		78	52 - 120
Benzo[b]fluoranthene	30.0	25.0		ug/L		83	53 - 134
Benzo[g,h,i]perylene	30.0	18.1		ug/L		60	47 - 133
Benzo[k]fluoranthene	30.0	23.6		ug/L		79	57 - 134

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-394076/2-A
Matrix: Water
Analysis Batch: 394333

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 394076

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chrysene	30.0	22.7		ug/L		76	55 - 122
Dibenz(a,h)anthracene	30.0	19.7		ug/L		66	48 - 146
Fluoranthene	30.0	26.2		ug/L		87	54 - 128
Fluorene	30.0	25.7		ug/L		86	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	20.9		ug/L		70	43 - 142
Phenanthrene	30.0	24.8		ug/L		83	48 - 120
Pyrene	30.0	20.6		ug/L		69	48 - 132
1-Methylnaphthalene	30.0	22.9		ug/L		76	41 - 120
2-Methylnaphthalene	30.0	20.3		ug/L		68	32 - 124

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	69		33 - 138
2-Fluorobiphenyl	71		15 - 122
Nitrobenzene-d5	63		19 - 130

Lab Sample ID: LCSD 400-394076/3-A
Matrix: Water
Analysis Batch: 394333

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 394076

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Acenaphthene	30.0	23.1		ug/L		77	41 - 120	4	56
Acenaphthylene	30.0	21.5		ug/L		72	44 - 120	5	56
Anthracene	30.0	24.1		ug/L		80	49 - 120	3	51
Benzo[a]anthracene	30.0	24.2		ug/L		81	61 - 135	4	49
Benzo[a]pyrene	30.0	24.4		ug/L		81	52 - 120	4	50
Benzo[b]fluoranthene	30.0	27.5		ug/L		92	53 - 134	10	54
Benzo[g,h,i]perylene	30.0	17.3		ug/L		58	47 - 133	4	50
Benzo[k]fluoranthene	30.0	25.8		ug/L		86	57 - 134	9	52
Chrysene	30.0	23.7		ug/L		79	55 - 122	4	50
Dibenz(a,h)anthracene	30.0	18.8		ug/L		63	48 - 146	5	50
Fluoranthene	30.0	26.3		ug/L		88	54 - 128	0	52
Fluorene	30.0	27.1		ug/L		90	45 - 125	5	56
Indeno[1,2,3-cd]pyrene	30.0	20.4		ug/L		68	43 - 142	2	51
Phenanthrene	30.0	25.5		ug/L		85	48 - 120	3	56
Pyrene	30.0	22.9		ug/L		76	48 - 132	10	52
1-Methylnaphthalene	30.0	20.3		ug/L		68	41 - 120	12	55
2-Methylnaphthalene	30.0	20.3		ug/L		68	32 - 124	0	57

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Terphenyl-d14	75		33 - 138
2-Fluorobiphenyl	75		15 - 122
Nitrobenzene-d5	71		19 - 130

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Method: 8011 - EDB and DBCP in Water by Microextraction

Lab Sample ID: MB 400-394550/1-A
Matrix: Water
Analysis Batch: 394577

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 394550

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.030	0.0055	ug/L		04/19/18 14:51	04/19/18 18:13	1
1,2-Dibromoethane	ND		0.020	0.0050	ug/L		04/19/18 14:51	04/19/18 18:13	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	104		51 - 149	04/19/18 14:51	04/19/18 18:13	1

Lab Sample ID: LCS 400-394550/2-A
Matrix: Water
Analysis Batch: 394577

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 394550

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromo-3-Chloropropane	0.100	0.0934		ug/L		93	60 - 140
1,2-Dibromoethane	0.100	0.104		ug/L		104	60 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	102		51 - 149

Lab Sample ID: LCSD 400-394550/3-A
Matrix: Water
Analysis Batch: 394577

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 394550

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
1,2-Dibromo-3-Chloropropane	0.100	0.105		ug/L		105	60 - 140	11	30
1,2-Dibromoethane	0.100	0.111		ug/L		111	60 - 140	7	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	110		51 - 149

Lab Sample ID: 400-151994-C-3-B MS
Matrix: Water
Analysis Batch: 394577

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 394550

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromo-3-Chloropropane	ND		0.0986	0.104		ug/L		106	65 - 135
1,2-Dibromoethane	ND		0.0986	0.0978		ug/L		99	65 - 135

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene	106		51 - 149

Lab Sample ID: 400-151994-C-3-C MSD
Matrix: Water
Analysis Batch: 394577

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 394550

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
1,2-Dibromo-3-Chloropropane	ND	F2	0.0997	0.104	F2	ug/L		104	65 - 135	24	20
1,2-Dibromoethane	ND		0.0997	0.0993		ug/L		100	65 - 135	2	20

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
SDG: (2Q18)

Method: 8011 - EDB and DBCP in Water by Microextraction (Continued)

Lab Sample ID: 400-151994-C-3-C MSD
Matrix: Water
Analysis Batch: 394577

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 394550

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	108		51 - 149

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

Shell Oil Products US Chain Of Custody Record



LAB (LOCATION)

ACQUITS ()
 CALSCIENCE ()
 TESTAMERICA (TestAmerica Peninsula, 3355 McLamore Dr. Peninsula, P. 32514 (850-474-3001))
 Other ()

Please Check Appropriate Box:
 SOW FDG PIPELINE RETAIL
 CHEMICALS CONSULTANT LUBES
 TRANSPORTATION OTHER ENV. SERVICES

Print Bill To Contact Name: Bob Bliman
 PlanNet Site or Project ID: 25278
 PO #
 GSAP Project ID: USPC/00114/R/02

AECOM Project Task Number: 60527968 - 01.03.002
 Rosacea Quarterly SW
 60527968 - 01.03.002 / 01.03.0022

800 South Central Ave. ROXANA, ILL. 60527968 - 01.03.002 / 01.03.0022
 800 South Central Ave. ROXANA, ILL. 60527968 - 01.03.002 / 01.03.0022
 800 South Central Ave. ROXANA, ILL. 60527968 - 01.03.002 / 01.03.0022

SAMPLES NAME(S) (P/N)
 B. Howell M. Kunkel

REQUESTED ANALYSIS
 UNIT COST: 60527968 - 01.03.0022
 NON-UNIT COST: 60527968 - 01.03.0022

FIELD NOTES:
 TEMPERATURE ON RECEIPT: 2.1°C, 1.7°C
 4.1°C JELLY
 Container PID Readings or Laboratory Notes

LAB USE ONLY	FIELD SAMPLE IDENTIFICATION	SAMPLING		MATRIX	PRESERVATIVE			NO. OF CONT.
		DATE	TIME		HCL	HNO3	H2SO4	
	TP-ROX-041018-8011	04/10	0800	Water				2
	TB-ROX-041018-8260	04/10	0800					2
	MN14-ROX-041018-EB	04/10	1015					6
	MN14-ROX-041018	04/10	1040					6
	PL6-ROX-041018	04/10	1135					6
	PT4-ROX-041018	04/10	1315					6
	PT4-ROX-041018-DUP	04/10	1315					6
	P51-ROX-041018	04/10	1430					6
	MN22-ROX-041018	04/10	1605					6

PAH 8270LL	VOC 8011	VOC 8260	SVOC 8270
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓
✓	✓	✓	✓

RECEIVED BY (Signature): M. Kunkel
 7429 5930 4933, 7429 5930 4944;
 RECEIVED BY (Signature): FedEx
 7429 5930 4953

RECEIVED BY (Signature):
 RECEIVED BY (Signature):
 RECEIVED BY (Signature):

Date: 04/10/18 Time: 1800
 Date: 4/11/18 Time: 0931
 Date:

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-152114-1

SDG Number: (2Q18)

Login Number: 152114

List Source: TestAmerica Pensacola

List Number: 1

Creator: Perez, Trina M

Question	Answer	Comment
Radioactivity wasn't checked or is \neq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.1°C, 1.7°C, 4.1°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152114-1
 SDG: (2Q18)

Laboratory: TestAmerica Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-18
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State Program	9	AZ0710	01-12-19
Arkansas DEQ	State Program	6	88-0689	09-01-18
California	ELAP	9	2510	03-31-18 *
Florida	NELAP	4	E81010	06-30-18
Georgia	State Program	4	N/A	06-30-18
Illinois	NELAP	5	200041	10-09-18
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-18
Kentucky (UST)	State Program	4	53	06-30-18
Kentucky (WW)	State Program	4	98030	12-31-18
Louisiana	NELAP	6	30976	06-30-18
Louisiana (DW)	NELAP	6	LA170005	12-31-18
Maryland	State Program	3	233	09-30-18
Massachusetts	State Program	1	M-FL094	06-30-18
Michigan	State Program	5	9912	06-30-18
New Jersey	NELAP	2	FL006	06-30-18
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-18
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
South Carolina	State Program	4	96026	06-30-18
Tennessee	State Program	4	TN02907	06-30-18
Texas	NELAP	6	T104704286-17-12	09-30-18
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-18
Washington	State Program	10	C915	05-15-18
West Virginia DEP	State Program	3	136	06-30-18

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



Roxana Groundwater Quarterly – 2nd Quarter 2018 Data Review

Laboratory SDG: 400-152204-1

Data Reviewer: Melissa Remiger

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 5/10/2018

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-ROX-041118-8011-SS	TB-ROX-041118-8260-SS
P93C-ROX-041118	P93A-ROX-041118-EB
P93A-ROX-041118	P56-ROX-041118

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated PAHs were detected in the method blank. The SVOC LCSD recovery for benzyl alcohol was outside evaluation criteria, and several LCS/LCSD RPDs were outside evaluation criteria. The SVOC surrogate recovery for terphenyl-d₁₄ was outside criteria in sample P56-ROX-041118. The SVOC internal standard area recovery for perylene-d₁₂ was outside criteria in sample P93C-ROX-041118. VOCs in sample P93A-ROX-041118 were diluted to bring the concentration within instrument calibration range. These issues are addressed further in the appropriate sections of this data review.

Three of 69 (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) 8260 VOCs are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form indicated insufficient sample volume was received for MS/MSD analysis, however MS/MSD analysis was not requested; no qualification of data was required.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
MB 400-394327/1-A	PAHs	Fluoranthene	0.0208 µg/L

Blank ID	Parameter	Analyte	Concentration/ Amount
MB 400-394327/1-A	PAHs	Indeno[1,2,3-cd]pyrene	0.0446 µg/L
MB 400-394327/1-A	PAHs	Pyrene	0.0330 µg/L

Qualifications due to blank contamination are included in the table below. Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
P93C-ROX-041118	PAHs	Indeno[1,2,3-cd]pyrene	-	U

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/ RPD Criteria
LCS/LCSD 400-394327/24-A/25-A	SVOCs	Benzyl alcohol	19/15	23	19-125/30
LCS/LCSD 400-394327/4-A/5-A	SVOCs	Benzenethiol	29/19	41	10-120/30
LCS/LCSD 400-394693/2-A/3-A	VOCs by 8011	1,2-Dibromo-3-chloropropane	102/102	37	60-140/30

Analytical data that required qualification based on LCS/LCSD data are included in the table below. Analytical data associated with RPD alone outside evaluation criteria did not require qualification.

Sample ID	Parameter	Analyte	Qualification
P93C-ROX-041118	SVOCs	Benzyl alcohol	UJ
P93A-ROX-041118	SVOCs	Benzyl alcohol	UJ
P56-ROX-041118	SVOCs	Benzyl alcohol	UJ

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
P56-ROX-041118	SVOCs	Terphenyl-d ₁₄	46	53-125

Qualifications due to surrogate recoveries were not required if only one of three base/neutral fraction surrogate recoveries were outside evaluation criteria in the associated SVOC samples. No qualification of data was required.

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

No

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

No

Sample ID	Parameter	Analyte	IS Area Recovery	IS Criteria
P93C-ROX-041118	SVOCs	Perylene-d ₁₂	1435360	341938-1367752

Analytical data reported as non-detect and associated with internal standard recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. No qualification of data was required.

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-152204-1

TestAmerica Sample Delivery Group: (2Q18)

Client Project/Site: ROXANA QUARTERLY GW

For:

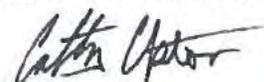
AECOM Technical Services Inc.

100 N. Broadway

20th Floor

St. Louis, Missouri 63102

Attn: Mrs. Elizabeth Kunkel



Authorized for release by:

4/29/2018 8:41:27 PM

Cathy Upton, Project Manager I

(713)690-4444

cathy.upton@testamericainc.com

LINKS

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results through
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The
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www.testamericainc.com

Reviewed 5/10/18
MR

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Job ID: 400-152204-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-152204-1

Comments

No additional comments.

Receipt

The samples were received on 4/12/2018 9:32 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.0° C and 4.2° C.

GC/MS VOA

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-ROX-041118-8260-SS (400-152204-2), P93C-ROX-041118 (400-152204-3), P93A-ROX-041118-EB (400-152204-4), P93A-ROX-041118 (400-152204-5) and P56-ROX-041118 (400-152204-6). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-394689 were outside control limits for 2-Chloroethyl vinyl ether due to the acidic nature of the parent sample.

Method(s) 8260B: The RPD for the matrix spike duplicate (MSD) for 2-Chloroethyl vinyl ether was not calculable for analytical batches 400-394689 because the recoveries were below the reporting limit due to the acidic nature of the parent sample.

Method(s) 8260B: The matrix spike duplicate (MSD) precision for 2-Chloroethyl vinyl ether associated with analytical batch 400-394772 was outside control limits. Sample matrix interference is suspected.

Method(s) 8260B: The following sample was diluted to bring the concentration of target analytes within the calibration range: P93A-ROX-041118 (400-152204-5). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: P56-ROX-041118 (400-152204-6). These results have been reported and qualified.

Method(s) 8270D: The following analyte recovered outside control limits for the laboratory control sample duplicate (LCSD) associated with preparation batch 400-394327 and analytical batch 400-394678: Benzyl alcohol. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method(s) 8270D: The RPD of the laboratory control sample duplicate (LCSD) for batch preparation batch 400-394327 and analytical batch 400-394678 recovered outside control limits for the following analyte: Benzenethiol.

Method(s) 8270D LL: The method blank for preparation batch 400-394327 and analytical batch 400-394686 contained Fluoranthene, Pyrene and Indeno[1,2,3-cd]pyrene above the method detection limit. These target analyte concentrations were less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

Method(s) 8011: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 400-394693.

Method(s) 8011: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 400-394693 and analytical batch 400-394741 recovered outside control limits for the following analyte:

Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Job ID: 400-152204-1 (Continued)

Laboratory: TestAmerica Pensacola (Continued)

1,2-Dibromo-3-Chloropropane.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.



Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-152204-1	TB-ROX-041118-8011-SS ✓	Water	04/11/18 00:00	04/12/18 09:32
400-152204-2	TB-ROX-041118-8260-SS ✓	Water	04/11/18 00:00	04/12/18 09:32
400-152204-3	P93C-ROX-041118 ✓	Water	04/11/18 11:10	04/12/18 09:32
400-152204-4	P93A-ROX-041118-EB ✓	Water	04/11/18 11:40	04/12/18 09:32
400-152204-5	P93A-ROX-041118 ✓	Water	04/11/18 14:20	04/12/18 09:32
400-152204-6	P56-ROX-041118 ✓	Water	04/11/18 15:25	04/12/18 09:32



Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)



Client Sample ID: TB-ROX-041118-8011-SS

Lab Sample ID: 400-152204-1

No Detections.

Client Sample ID: TB-ROX-041118-8260-SS

Lab Sample ID: 400-152204-2

No Detections.

Client Sample ID: P93C-ROX-041118

Lab Sample ID: 400-152204-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	11	J	25	10	ug/L	1		8260B	Total/NA
Benzene	55		1.0	0.38	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	3.5		1.0	0.74	ug/L	1		8260B	Total/NA
Indeno[1,2,3-cd]pyrene	0.054	J B U	0.20	0.040	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	0.048	J	0.20	0.020	ug/L	1		8270D LL	Total/NA

Client Sample ID: P93A-ROX-041118-EB

Lab Sample ID: 400-152204-4

No Detections.

Client Sample ID: P93A-ROX-041118

Lab Sample ID: 400-152204-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	57000		250	95	ug/L	250		8260B	Total/NA
Phenanthrene	0.049	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	0.92		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	0.47		0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenol	70		9.9	2.6	ug/L	1		8270D	Total/NA

Client Sample ID: P56-ROX-041118

Lab Sample ID: 400-152204-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	99		25	10	ug/L	1		8260B	Total/NA
Benzene	5.7		1.0	0.38	ug/L	1		8260B	Total/NA
2-Butanone (MEK)	18	J	25	2.6	ug/L	1		8260B	Total/NA
Carbon disulfide	1.0		1.0	0.50	ug/L	1		8260B	Total/NA
Ethylbenzene	1.4		1.0	0.50	ug/L	1		8260B	Total/NA
Isopropylbenzene	20		1.0	0.53	ug/L	1		8260B	Total/NA
m-Xylene & p-Xylene	16		5.0	1.6	ug/L	1		8260B	Total/NA
Naphthalene	1.9		1.0	1.0	ug/L	1		8260B	Total/NA
n-Butylbenzene	0.92	J	1.0	0.76	ug/L	1		8260B	Total/NA
N-Propylbenzene	23		1.0	0.69	ug/L	1		8260B	Total/NA
p-Isopropyltoluene	1.0		1.0	0.71	ug/L	1		8260B	Total/NA
sec-Butylbenzene	1.6		1.0	0.70	ug/L	1		8260B	Total/NA
1,2,4-Trimethylbenzene	4.7		1.0	0.82	ug/L	1		8260B	Total/NA
1,3,5-Trimethylbenzene	1.7		1.0	0.58	ug/L	1		8260B	Total/NA
Xylenes, Total	17		10	1.6	ug/L	1		8260B	Total/NA
Acenaphthene	0.15	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Anthracene	0.061	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene	0.38		0.20	0.020	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	10		0.20	0.020	ug/L	1		8270D LL	Total/NA
2-Methylnaphthalene	1.4		0.20	0.020	ug/L	1		8270D LL	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Client Sample ID: TB-ROX-041118-8011-SS

Lab Sample ID: 400-152204-1

Date Collected: 04/11/18 00:00

Matrix: Water

Date Received: 04/12/18 09:32

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND	*	0.028	0.0052	ug/L		04/20/18 15:17	04/20/18 22:06	1
1,2-Dibromoethane	ND		0.019	0.0047	ug/L		04/20/18 15:17	04/20/18 22:06	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	93	p	51 - 149				04/20/18 15:17	04/20/18 22:06	1



Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Client Sample ID: TB-ROX-041118-8260-SS

Lab Sample ID: 400-152204-2

Date Collected: 04/11/18 00:00

Matrix: Water

Date Received: 04/12/18 09:32

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/20/18 21:12	1
Acrolein	ND		20	10	ug/L			04/20/18 21:12	1
Acrylonitrile	ND		10	2.8	ug/L			04/20/18 21:12	1
Benzene	ND		1.0	0.38	ug/L			04/20/18 21:12	1
Bromobenzene	ND		1.0	0.54	ug/L			04/20/18 21:12	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/20/18 21:12	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/20/18 21:12	1
Bromoform	ND		5.0	0.71	ug/L			04/20/18 21:12	1
Bromomethane	ND		1.0	0.98	ug/L			04/20/18 21:12	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/20/18 21:12	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/20/18 21:12	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/20/18 21:12	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/20/18 21:12	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/20/18 21:12	1
Chloroethane	ND		1.0	0.76	ug/L			04/20/18 21:12	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/20/18 21:12	1
Chloroform	ND		1.0	0.60	ug/L			04/20/18 21:12	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/20/18 21:12	1
Chloromethane	ND		1.0	0.83	ug/L			04/20/18 21:12	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 21:12	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/20/18 21:12	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/20/18 21:12	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/20/18 21:12	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/20/18 21:12	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/20/18 21:12	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/20/18 21:12	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/20/18 21:12	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 21:12	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 21:12	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 21:12	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 21:12	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/20/18 21:12	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/20/18 21:12	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/20/18 21:12	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/20/18 21:12	1
2-Hexanone	ND		25	3.1	ug/L			04/20/18 21:12	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/20/18 21:12	1
Methylene bromide	ND		5.0	0.59	ug/L			04/20/18 21:12	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/20/18 21:12	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/20/18 21:12	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/20/18 21:12	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/20/18 21:12	1
Naphthalene	ND		1.0	1.0	ug/L			04/20/18 21:12	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/20/18 21:12	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/20/18 21:12	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/20/18 21:12	1
o-Xylene	ND		5.0	0.60	ug/L			04/20/18 21:12	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/20/18 21:12	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/20/18 21:12	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Client Sample ID: TB-ROX-041118-8260-SS

Lab Sample ID: 400-152204-2

Date Collected: 04/11/18 00:00

Matrix: Water

Date Received: 04/12/18 09:32

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/20/18 21:12	1
Styrene	ND		1.0	1.0	ug/L			04/20/18 21:12	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/20/18 21:12	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/20/18 21:12	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/20/18 21:12	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/20/18 21:12	1
Toluene	ND		1.0	0.70	ug/L			04/20/18 21:12	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 21:12	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/20/18 21:12	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/20/18 21:12	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/20/18 21:12	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/20/18 21:12	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/20/18 21:12	1
Trichloroethene	ND		1.0	0.50	ug/L			04/20/18 21:12	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/20/18 21:12	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/20/18 21:12	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/20/18 21:12	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/20/18 21:12	1
Vinyl acetate	ND		25	2.0	ug/L			04/20/18 21:12	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/20/18 21:12	1
Xylenes, Total	ND		10	1.6	ug/L			04/20/18 21:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107		78 - 118					04/20/18 21:12	1
Dibromofluoromethane	99		81 - 121					04/20/18 21:12	1
Toluene-d8 (Surr)	103		80 - 120					04/20/18 21:12	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Client Sample ID: P93C-ROX-041118

Lab Sample ID: 400-152204-3

Date Collected: 04/11/18 11:10

Matrix: Water

Date Received: 04/12/18 09:32

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	11	J	25	10	ug/L			04/20/18 21:56	1
Acrolein	ND		20	10	ug/L			04/20/18 21:56	1
Acrylonitrile	ND		10	2.8	ug/L			04/20/18 21:56	1
Benzene	55		1.0	0.38	ug/L			04/20/18 21:56	1
Bromobenzene	ND		1.0	0.54	ug/L			04/20/18 21:56	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/20/18 21:56	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/20/18 21:56	1
Bromoform	ND		5.0	0.71	ug/L			04/20/18 21:56	1
Bromomethane	ND		1.0	0.98	ug/L			04/20/18 21:56	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/20/18 21:56	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/20/18 21:56	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/20/18 21:56	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/20/18 21:56	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/20/18 21:56	1
Chloroethane	ND		1.0	0.76	ug/L			04/20/18 21:56	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/20/18 21:56	1
Chloroform	ND		1.0	0.60	ug/L			04/20/18 21:56	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/20/18 21:56	1
Chloromethane	ND		1.0	0.83	ug/L			04/20/18 21:56	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 21:56	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/20/18 21:56	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/20/18 21:56	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/20/18 21:56	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/20/18 21:56	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/20/18 21:56	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/20/18 21:56	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/20/18 21:56	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 21:56	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 21:56	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 21:56	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 21:56	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/20/18 21:56	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/20/18 21:56	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/20/18 21:56	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/20/18 21:56	1
2-Hexanone	ND		25	3.1	ug/L			04/20/18 21:56	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/20/18 21:56	1
Methylene bromide	ND		5.0	0.59	ug/L			04/20/18 21:56	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/20/18 21:56	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/20/18 21:56	1
Methyl tert-butyl ether	3.5		1.0	0.74	ug/L			04/20/18 21:56	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/20/18 21:56	1
Naphthalene	ND		1.0	1.0	ug/L			04/20/18 21:56	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/20/18 21:56	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/20/18 21:56	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/20/18 21:56	1
o-Xylene	ND		5.0	0.60	ug/L			04/20/18 21:56	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/20/18 21:56	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/20/18 21:56	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Client Sample ID: P93C-ROX-041118

Lab Sample ID: 400-152204-3

Date Collected: 04/11/18 11:10

Matrix: Water

Date Received: 04/12/18 09:32

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/20/18 21:56	1
Styrene	ND		1.0	1.0	ug/L			04/20/18 21:56	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/20/18 21:56	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/20/18 21:56	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/20/18 21:56	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/20/18 21:56	1
Toluene	ND		1.0	0.70	ug/L			04/20/18 21:56	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 21:56	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/20/18 21:56	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/20/18 21:56	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/20/18 21:56	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/20/18 21:56	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/20/18 21:56	1
Trichloroethene	ND		1.0	0.50	ug/L			04/20/18 21:56	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/20/18 21:56	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/20/18 21:56	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/20/18 21:56	1
1,3,5-Trimethylbenzene	ND		1.0	0.55	ug/L			04/20/18 21:56	1
Vinyl acetate	ND		25	2.0	ug/L			04/20/18 21:56	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/20/18 21:56	1
Xylenes, Total	ND		10	1.6	ug/L			04/20/18 21:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107		78 - 118					04/20/18 21:56	1
Dibromofluoromethane	100		81 - 121					04/20/18 21:56	1
Toluene-d8 (Surr)	101		80 - 120					04/20/18 21:56	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 16:24	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 16:24	1
Anthracene	ND		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 16:24	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/18/18 11:16	04/20/18 16:24	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/18/18 11:16	04/20/18 16:24	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/18/18 11:16	04/20/18 16:24	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/18/18 11:16	04/20/18 16:24	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/18/18 11:16	04/20/18 16:24	1
Chrysene	ND		0.20	0.040	ug/L		04/18/18 11:16	04/20/18 16:24	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		04/18/18 11:16	04/20/18 16:24	1
Fluoranthene	ND		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 16:24	1
Fluorene	ND		0.20	0.021	ug/L		04/18/18 11:16	04/20/18 16:24	1
Indeno[1,2,3-cd]pyrene	0.054	J B U	0.20	0.040	ug/L		04/18/18 11:16	04/20/18 16:24	1
Phenanthrene	ND		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 16:24	1
Pyrene	ND		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 16:24	1
1-Methylnaphthalene	0.048	J	0.20	0.020	ug/L		04/18/18 11:16	04/20/18 16:24	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 16:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	71		33 - 138				04/18/18 11:16	04/20/18 16:24	1
2-Fluorobiphenyl	72		15 - 122				04/18/18 11:16	04/20/18 16:24	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Client Sample ID: P93C-ROX-041118

Lab Sample ID: 400-152204-3

Date Collected: 04/11/18 11:10

Matrix: Water

Date Received: 04/12/18 09:32

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	70		19 - 130	04/18/18 11:16	04/20/18 16:24	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		04/18/18 11:16	04/23/18 12:41	1
Benzenethiol	ND	*	10	1.7	ug/L		04/18/18 11:16	04/20/18 18:57	1
Benzoic acid	ND		30	7.3	ug/L		04/18/18 11:16	04/20/18 18:57	1
Benzyl alcohol	ND	UJ	10	2.0	ug/L		04/18/18 11:16	04/23/18 12:41	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		04/18/18 11:16	04/20/18 18:57	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		04/18/18 11:16	04/20/18 18:57	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		04/18/18 11:16	04/20/18 18:57	1
Bis(2-ethylhexyl) phthalate	ND		10	2.2	ug/L		04/18/18 11:16	04/20/18 18:57	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		04/18/18 11:16	04/20/18 18:57	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		04/18/18 11:16	04/20/18 18:57	1
4-Chloroaniline	ND		10	3.4	ug/L		04/18/18 11:16	04/20/18 18:57	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		04/18/18 11:16	04/23/18 12:41	1
2-Chloronaphthalene	ND		10	0.52	ug/L		04/18/18 11:16	04/20/18 18:57	1
2-Chlorophenol	ND		10	2.2	ug/L		04/18/18 11:16	04/20/18 18:57	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		04/18/18 11:16	04/20/18 18:57	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		04/18/18 11:16	04/20/18 18:57	1
Dibenzofuran	ND		10	0.52	ug/L		04/18/18 11:16	04/20/18 18:57	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		04/18/18 11:16	04/20/18 18:57	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		04/18/18 11:16	04/20/18 18:57	1
Diethyl phthalate	ND		10	0.70	ug/L		04/18/18 11:16	04/20/18 18:57	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		04/18/18 11:16	04/20/18 18:57	1
Dimethyl phthalate	ND		10	0.60	ug/L		04/18/18 11:16	04/20/18 18:57	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		04/18/18 11:16	04/20/18 18:57	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		04/18/18 11:16	04/20/18 18:57	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/18/18 11:16	04/20/18 18:57	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		04/18/18 11:16	04/20/18 18:57	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		04/18/18 11:16	04/20/18 18:57	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		04/18/18 11:16	04/20/18 18:57	1
1,4-Dioxane	ND		10	1.0	ug/L		04/18/18 11:16	04/23/18 12:41	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		04/18/18 11:16	04/20/18 18:57	1
Hexachlorobenzene	ND		10	0.25	ug/L		04/18/18 11:16	04/20/18 18:57	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/18/18 11:16	04/20/18 18:57	1
Hexachloroethane	ND		10	4.2	ug/L		04/18/18 11:16	04/20/18 18:57	1
Indene	ND		10	1.0	ug/L		04/18/18 11:16	04/23/18 12:41	1
Isophorone	ND		10	0.57	ug/L		04/18/18 11:16	04/23/18 12:41	1
2-Methylphenol	ND		10	1.8	ug/L		04/18/18 11:16	04/20/18 18:57	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/18/18 11:16	04/20/18 18:57	1
2-Nitroaniline	ND		10	2.2	ug/L		04/18/18 11:16	04/20/18 18:57	1
3-Nitroaniline	ND		10	1.8	ug/L		04/18/18 11:16	04/20/18 18:57	1
4-Nitroaniline	ND		10	2.5	ug/L		04/18/18 11:16	04/20/18 18:57	1
Nitrobenzene	ND		10	0.55	ug/L		04/18/18 11:16	04/23/18 12:41	1
2-Nitrophenol	ND		10	0.65	ug/L		04/18/18 11:16	04/20/18 18:57	1
4-Nitrophenol	ND		10	2.1	ug/L		04/18/18 11:16	04/23/18 12:41	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		04/18/18 11:16	04/23/18 12:41	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Client Sample ID: P93C-ROX-041118

Lab Sample ID: 400-152204-3

Date Collected: 04/11/18 11:10

Matrix: Water

Date Received: 04/12/18 09:32

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		04/18/18 11:16	04/23/18 12:41	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		04/18/18 11:16	04/20/18 18:57	1
Pentachlorophenol	ND		20	1.8	ug/L		04/18/18 11:16	04/20/18 18:57	1
Phenol	ND		10	2.6	ug/L		04/18/18 11:16	04/20/18 18:57	1
Pyridine	ND		10	3.2	ug/L		04/18/18 11:16	04/23/18 12:41	1
Quinoline	ND		10	6.0	ug/L		04/18/18 11:16	04/20/18 18:57	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		04/18/18 11:16	04/20/18 18:57	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/18/18 11:16	04/20/18 18:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	59		34 - 120	04/18/18 11:16	04/20/18 18:57	1
2-Fluorophenol	51		10 - 120	04/18/18 11:16	04/20/18 18:57	1
Nitrobenzene-d5	55		27 - 120	04/18/18 11:16	04/20/18 18:57	1
Phenol-d5	54		10 - 120	04/18/18 11:16	04/20/18 18:57	1
Terphenyl-d14	66		53 - 125	04/18/18 11:16	04/20/18 18:57	1
2,4,6-Tribromophenol	75		15 - 135	04/18/18 11:16	04/20/18 18:57	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.031	0.0056	ug/L		04/20/18 15:17	04/20/18 22:26	1
1,2-Dibromoethane	ND		0.020	0.0051	ug/L		04/20/18 15:17	04/20/18 22:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	108	p	51 - 149	04/20/18 15:17	04/20/18 22:26	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Client Sample ID: P93A-ROX-041118-EB

Lab Sample ID: 400-152204-4

Date Collected: 04/11/18 11:40

Matrix: Water

Date Received: 04/12/18 09:32

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/20/18 22:40	1
Acrolein	ND		20	10	ug/L			04/20/18 22:40	1
Acrylonitrile	ND		10	2.8	ug/L			04/20/18 22:40	1
Benzene	ND		1.0	0.38	ug/L			04/20/18 22:40	1
Bromobenzene	ND		1.0	0.54	ug/L			04/20/18 22:40	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/20/18 22:40	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/20/18 22:40	1
Bromoform	ND		5.0	0.71	ug/L			04/20/18 22:40	1
Bromomethane	ND		1.0	0.98	ug/L			04/20/18 22:40	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/20/18 22:40	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/20/18 22:40	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/20/18 22:40	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/20/18 22:40	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/20/18 22:40	1
Chloroethane	ND		1.0	0.76	ug/L			04/20/18 22:40	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/20/18 22:40	1
Chloroform	ND		1.0	0.60	ug/L			04/20/18 22:40	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/20/18 22:40	1
Chloromethane	ND		1.0	0.83	ug/L			04/20/18 22:40	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 22:40	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/20/18 22:40	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/20/18 22:40	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/20/18 22:40	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/20/18 22:40	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/20/18 22:40	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/20/18 22:40	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/20/18 22:40	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 22:40	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 22:40	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 22:40	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 22:40	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/20/18 22:40	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/20/18 22:40	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/20/18 22:40	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/20/18 22:40	1
2-Hexanone	ND		25	3.1	ug/L			04/20/18 22:40	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/20/18 22:40	1
Methylene bromide	ND		5.0	0.59	ug/L			04/20/18 22:40	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/20/18 22:40	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/20/18 22:40	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/20/18 22:40	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/20/18 22:40	1
Naphthalene	ND		1.0	1.0	ug/L			04/20/18 22:40	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/20/18 22:40	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/20/18 22:40	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/20/18 22:40	1
o-Xylene	ND		5.0	0.60	ug/L			04/20/18 22:40	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/20/18 22:40	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/20/18 22:40	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Client Sample ID: P93A-ROX-041118-EB

Lab Sample ID: 400-152204-4

Date Collected: 04/11/18 11:40

Matrix: Water

Date Received: 04/12/18 09:32

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/20/18 22:40	1
Styrene	ND		1.0	1.0	ug/L			04/20/18 22:40	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/20/18 22:40	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/20/18 22:40	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/20/18 22:40	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/20/18 22:40	1
Toluene	ND		1.0	0.70	ug/L			04/20/18 22:40	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 22:40	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/20/18 22:40	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/20/18 22:40	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/20/18 22:40	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/20/18 22:40	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/20/18 22:40	1
Trichloroethene	ND		1.0	0.50	ug/L			04/20/18 22:40	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/20/18 22:40	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/20/18 22:40	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/20/18 22:40	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/20/18 22:40	1
Vinyl acetate	ND		25	2.0	ug/L			04/20/18 22:40	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/20/18 22:40	1
Xylenes, Total	ND		10	1.6	ug/L			04/20/18 22:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	104		78 - 118					04/20/18 22:40	1
Dibromofluoromethane	100		81 - 121					04/20/18 22:40	1
Toluene-d8 (Surr)	105		80 - 120					04/20/18 22:40	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.019	ug/L		04/18/18 11:16	04/20/18 16:42	1
Acenaphthylene	ND		0.19	0.019	ug/L		04/18/18 11:16	04/20/18 16:42	1
Anthracene	ND		0.19	0.019	ug/L		04/18/18 11:16	04/20/18 16:42	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		04/18/18 11:16	04/20/18 16:42	1
Benzo[a]pyrene	ND		0.19	0.039	ug/L		04/18/18 11:16	04/20/18 16:42	1
Benzo[b]fluoranthene	ND		0.19	0.039	ug/L		04/18/18 11:16	04/20/18 16:42	1
Benzo[g,h,i]perylene	ND		0.19	0.039	ug/L		04/18/18 11:16	04/20/18 16:42	1
Benzo[k]fluoranthene	ND		0.19	0.039	ug/L		04/18/18 11:16	04/20/18 16:42	1
Chrysene	ND		0.19	0.039	ug/L		04/18/18 11:16	04/20/18 16:42	1
Dibenz(a,h)anthracene	ND		0.19	0.039	ug/L		04/18/18 11:16	04/20/18 16:42	1
Fluoranthene	ND		0.19	0.019	ug/L		04/18/18 11:16	04/20/18 16:42	1
Fluorene	ND		0.19	0.020	ug/L		04/18/18 11:16	04/20/18 16:42	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.039	ug/L		04/18/18 11:16	04/20/18 16:42	1
Phenanthrene	ND		0.19	0.019	ug/L		04/18/18 11:16	04/20/18 16:42	1
Pyrene	ND		0.19	0.019	ug/L		04/18/18 11:16	04/20/18 16:42	1
1-Methylnaphthalene	ND		0.19	0.019	ug/L		04/18/18 11:16	04/20/18 16:42	1
2-Methylnaphthalene	ND		0.19	0.019	ug/L		04/18/18 11:16	04/20/18 16:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	117		33 - 138				04/18/18 11:16	04/20/18 16:42	1
2-Fluorobiphenyl	92		15 - 122				04/18/18 11:16	04/20/18 16:42	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Client Sample ID: P93A-ROX-041118-EB

Lab Sample ID: 400-152204-4

Date Collected: 04/11/18 11:40

Matrix: Water

Date Received: 04/12/18 09:32

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	79		19 - 130	04/18/18 11:16	04/20/18 16:42	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		04/18/18 11:16	04/23/18 13:14	1
Benzenethiol	ND		9.7	1.7	ug/L		04/18/18 11:16	04/20/18 19:18	1
Benzoic acid	ND		29	7.1	ug/L		04/18/18 11:16	04/20/18 19:18	1
Benzyl alcohol	ND		9.7	1.9	ug/L		04/18/18 11:16	04/23/18 13:14	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		04/18/18 11:16	04/20/18 19:18	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		04/18/18 11:16	04/20/18 19:18	1
bis (2-chloroisopropyl) ether	ND		9.7	0.79	ug/L		04/18/18 11:16	04/20/18 19:18	1
Bis(2-ethylhexyl) phthalate	ND		9.7	2.2	ug/L		04/18/18 11:16	04/20/18 19:18	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		04/18/18 11:16	04/20/18 19:18	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		04/18/18 11:16	04/20/18 19:18	1
4-Chloroaniline	ND		9.7	3.3	ug/L		04/18/18 11:16	04/20/18 19:18	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		04/18/18 11:16	04/23/18 13:14	1
2-Chloronaphthalene	ND		9.7	0.51	ug/L		04/18/18 11:16	04/20/18 19:18	1
2-Chlorophenol	ND		9.7	2.1	ug/L		04/18/18 11:16	04/20/18 19:18	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		04/18/18 11:16	04/20/18 19:18	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		04/18/18 11:16	04/20/18 19:18	1
Dibenzofuran	ND		9.7	0.51	ug/L		04/18/18 11:16	04/20/18 19:18	1
3,3'-Dichlorobenzidine	ND		9.7	2.5	ug/L		04/18/18 11:16	04/20/18 19:18	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		04/18/18 11:16	04/20/18 19:18	1
Diethyl phthalate	ND		9.7	0.68	ug/L		04/18/18 11:16	04/20/18 19:18	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		04/18/18 11:16	04/20/18 19:18	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		04/18/18 11:16	04/20/18 19:18	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		04/18/18 11:16	04/20/18 19:18	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		04/18/18 11:16	04/20/18 19:18	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		04/18/18 11:16	04/20/18 19:18	1
2,4-Dinitrotoluene	ND		9.7	1.9	ug/L		04/18/18 11:16	04/20/18 19:18	1
2,6-Dinitrotoluene	ND		9.7	1.9	ug/L		04/18/18 11:16	04/20/18 19:18	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		04/18/18 11:16	04/20/18 19:18	1
1,4-Dioxane	ND		9.7	0.97	ug/L		04/18/18 11:16	04/23/18 13:14	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		04/18/18 11:16	04/20/18 19:18	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		04/18/18 11:16	04/20/18 19:18	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		04/18/18 11:16	04/20/18 19:18	1
Hexachloroethane	ND		9.7	4.1	ug/L		04/18/18 11:16	04/20/18 19:18	1
Indene	ND		9.7	0.97	ug/L		04/18/18 11:16	04/23/18 13:14	1
Isophorone	ND		9.7	0.56	ug/L		04/18/18 11:16	04/23/18 13:14	1
2-Methylphenol	ND		9.7	1.8	ug/L		04/18/18 11:16	04/20/18 19:18	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		04/18/18 11:16	04/20/18 19:18	1
2-Nitroaniline	ND		9.7	2.1	ug/L		04/18/18 11:16	04/20/18 19:18	1
3-Nitroaniline	ND		9.7	1.8	ug/L		04/18/18 11:16	04/20/18 19:18	1
4-Nitroaniline	ND		9.7	2.4	ug/L		04/18/18 11:16	04/20/18 19:18	1
Nitrobenzene	ND		9.7	0.54	ug/L		04/18/18 11:16	04/23/18 13:14	1
2-Nitrophenol	ND		9.7	0.63	ug/L		04/18/18 11:16	04/20/18 19:18	1
4-Nitrophenol	ND		9.7	2.0	ug/L		04/18/18 11:16	04/23/18 13:14	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		04/18/18 11:16	04/23/18 13:14	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Client Sample ID: P93A-ROX-041118-EB

Lab Sample ID: 400-152204-4

Date Collected: 04/11/18 11:40

Matrix: Water

Date Received: 04/12/18 09:32

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		04/18/18 11:16	04/23/18 13:14	1
N-Nitrosodiphenylamine	ND		9.7	0.46	ug/L		04/18/18 11:16	04/20/18 19:18	1
Pentachlorophenol	ND		19	1.8	ug/L		04/18/18 11:16	04/20/18 19:18	1
Phenol	ND		9.7	2.5	ug/L		04/18/18 11:16	04/20/18 19:18	1
Pyridine	ND		9.7	3.1	ug/L		04/18/18 11:16	04/23/18 13:14	1
Quinoline	ND		9.7	5.8	ug/L		04/18/18 11:16	04/20/18 19:18	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		04/18/18 11:16	04/20/18 19:18	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		04/18/18 11:16	04/20/18 19:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	62		34 - 120	04/18/18 11:16	04/20/18 19:18	1
2-Fluorophenol	49		10 - 120	04/18/18 11:16	04/20/18 19:18	1
Nitrobenzene-d5	60		27 - 120	04/18/18 11:16	04/20/18 19:18	1
Phenol-d5	56		10 - 120	04/18/18 11:16	04/20/18 19:18	1
Terphenyl-d14	84		53 - 125	04/18/18 11:16	04/20/18 19:18	1
2,4,6-Tribromophenol	61		15 - 135	04/18/18 11:16	04/20/18 19:18	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND	*	0.029	0.0054	ug/L		04/20/18 15:17	04/20/18 22:45	1
1,2-Dibromoethane	ND		0.020	0.0049	ug/L		04/20/18 15:17	04/20/18 22:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107	p	51 - 149	04/20/18 15:17	04/20/18 22:45	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Client Sample ID: P93A-ROX-041118

Lab Sample ID: 400-152204-5

Date Collected: 04/11/18 14:20

Matrix: Water

Date Received: 04/12/18 09:32

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		6300	2500	ug/L			04/22/18 10:40	250
Acrolein	ND		5000	2500	ug/L			04/22/18 10:40	250
Acrylonitrile	ND		2500	700	ug/L			04/22/18 10:40	250
Benzene	57000		250	95	ug/L			04/22/18 10:40	250
Bromobenzene	ND		250	140	ug/L			04/22/18 10:40	250
Bromochloromethane	ND		250	130	ug/L			04/22/18 10:40	250
Bromodichloromethane	ND		250	130	ug/L			04/22/18 10:40	250
Bromoform	ND		1300	180	ug/L			04/22/18 10:40	250
Bromomethane	ND		250	250	ug/L			04/22/18 10:40	250
2-Butanone (MEK)	ND		6300	650	ug/L			04/22/18 10:40	250
Carbon disulfide	ND		250	130	ug/L			04/22/18 10:40	250
Carbon tetrachloride	ND		250	130	ug/L			04/22/18 10:40	250
Chlorobenzene	ND		250	130	ug/L			04/22/18 10:40	250
Dibromochloromethane	ND		250	130	ug/L			04/22/18 10:40	250
Chloroethane	ND		250	190	ug/L			04/22/18 10:40	250
2-Chloroethyl vinyl ether	ND		1300	500	ug/L			04/22/18 10:40	250
Chloroform	ND		250	150	ug/L			04/22/18 10:40	250
1-Chlorohexane	ND		250	180	ug/L			04/22/18 10:40	250
Chloromethane	ND		250	210	ug/L			04/22/18 10:40	250
cis-1,2-Dichloroethene	ND		250	130	ug/L			04/22/18 10:40	250
cis-1,3-Dichloropropene	ND		1300	130	ug/L			04/22/18 10:40	250
1,2-Dichlorobenzene	ND		250	130	ug/L			04/22/18 10:40	250
1,3-Dichlorobenzene	ND		250	140	ug/L			04/22/18 10:40	250
1,4-Dichlorobenzene	ND		250	160	ug/L			04/22/18 10:40	250
Dichlorodifluoromethane	ND		250	210	ug/L			04/22/18 10:40	250
1,1-Dichloroethane	ND		250	130	ug/L			04/22/18 10:40	250
1,2-Dichloroethane	ND		250	130	ug/L			04/22/18 10:40	250
1,1-Dichloroethene	ND		250	130	ug/L			04/22/18 10:40	250
1,2-Dichloropropane	ND		250	130	ug/L			04/22/18 10:40	250
1,3-Dichloropropane	ND		250	130	ug/L			04/22/18 10:40	250
2,2-Dichloropropane	ND		250	130	ug/L			04/22/18 10:40	250
1,1-Dichloropropene	ND		250	130	ug/L			04/22/18 10:40	250
Ethylbenzene	ND		250	130	ug/L			04/22/18 10:40	250
Ethyl methacrylate	ND		250	150	ug/L			04/22/18 10:40	250
Hexachlorobutadiene	ND		1300	230	ug/L			04/22/18 10:40	250
2-Hexanone	ND		6300	780	ug/L			04/22/18 10:40	250
Isopropylbenzene	ND		250	130	ug/L			04/22/18 10:40	250
Methylene bromide	ND		1300	150	ug/L			04/22/18 10:40	250
Methylene Chloride	ND		1300	750	ug/L			04/22/18 10:40	250
4-Methyl-2-pentanone (MIBK)	ND		6300	450	ug/L			04/22/18 10:40	250
Methyl tert-butyl ether	ND		250	190	ug/L			04/22/18 10:40	250
m-Xylene & p-Xylene	ND		1300	400	ug/L			04/22/18 10:40	250
Naphthalene	ND		250	250	ug/L			04/22/18 10:40	250
n-Butylbenzene	ND		250	190	ug/L			04/22/18 10:40	250
N-Propylbenzene	ND		250	170	ug/L			04/22/18 10:40	250
o-Chlorotoluene	ND		250	140	ug/L			04/22/18 10:40	250
o-Xylene	ND		1300	150	ug/L			04/22/18 10:40	250
p-Chlorotoluene	ND		250	140	ug/L			04/22/18 10:40	250
p-Isopropyltoluene	ND		250	180	ug/L			04/22/18 10:40	250

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Client Sample ID: P93A-ROX-041118

Lab Sample ID: 400-152204-5

Date Collected: 04/11/18 14:20

Matrix: Water

Date Received: 04/12/18 09:32

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		250	180	ug/L			04/22/18 10:40	250
Styrene	ND		250	250	ug/L			04/22/18 10:40	250
tert-Butylbenzene	ND		250	160	ug/L			04/22/18 10:40	250
1,1,1,2-Tetrachloroethane	ND		250	130	ug/L			04/22/18 10:40	250
1,1,2,2-Tetrachloroethane	ND		250	130	ug/L			04/22/18 10:40	250
Tetrachloroethene	ND		250	150	ug/L			04/22/18 10:40	250
Toluene	ND		250	180	ug/L			04/22/18 10:40	250
trans-1,2-Dichloroethene	ND		250	130	ug/L			04/22/18 10:40	250
trans-1,3-Dichloropropene	ND		1300	130	ug/L			04/22/18 10:40	250
1,2,3-Trichlorobenzene	ND		250	180	ug/L			04/22/18 10:40	250
1,2,4-Trichlorobenzene	ND		250	210	ug/L			04/22/18 10:40	250
1,1,1-Trichloroethane	ND		250	130	ug/L			04/22/18 10:40	250
1,1,2-Trichloroethane	ND		1300	130	ug/L			04/22/18 10:40	250
Trichloroethene	ND		250	130	ug/L			04/22/18 10:40	250
Trichlorofluoromethane	ND		250	130	ug/L			04/22/18 10:40	250
1,2,3-Trichloropropane	ND		1300	210	ug/L			04/22/18 10:40	250
1,2,4-Trimethylbenzene	ND		250	210	ug/L			04/22/18 10:40	250
1,3,5-Trimethylbenzene	ND		250	140	ug/L			04/22/18 10:40	250
Vinyl acetate	ND		6300	500	ug/L			04/22/18 10:40	250
Vinyl chloride	ND		250	130	ug/L			04/22/18 10:40	250
Xylenes, Total	ND		2500	400	ug/L			04/22/18 10:40	250
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	105		78 - 118					04/22/18 10:40	250
Dibromofluoromethane	103		81 - 121					04/22/18 10:40	250
Toluene-d8 (Surr)	101		80 - 120					04/22/18 10:40	250

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 16:59	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 16:59	1
Anthracene	ND		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 16:59	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		04/18/18 11:16	04/20/18 16:59	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		04/18/18 11:16	04/20/18 16:59	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		04/18/18 11:16	04/20/18 16:59	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		04/18/18 11:16	04/20/18 16:59	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		04/18/18 11:16	04/20/18 16:59	1
Chrysene	ND		0.20	0.039	ug/L		04/18/18 11:16	04/20/18 16:59	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		04/18/18 11:16	04/20/18 16:59	1
Fluoranthene	ND		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 16:59	1
Fluorene	ND		0.20	0.021	ug/L		04/18/18 11:16	04/20/18 16:59	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		04/18/18 11:16	04/20/18 16:59	1
Phenanthrene	0.049	J	0.20	0.020	ug/L		04/18/18 11:16	04/20/18 16:59	1
Pyrene	ND		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 16:59	1
1-Methylnaphthalene	0.92		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 16:59	1
2-Methylnaphthalene	0.47		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 16:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	75		33 - 138				04/18/18 11:16	04/20/18 16:59	1
2-Fluorobiphenyl	96		15 - 122				04/18/18 11:16	04/20/18 16:59	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Client Sample ID: P93A-ROX-041118

Lab Sample ID: 400-152204-5

Date Collected: 04/11/18 14:20

Matrix: Water

Date Received: 04/12/18 09:32

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	89		19 - 130	04/18/18 11:16	04/20/18 16:59	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.9	3.7	ug/L		04/18/18 11:16	04/23/18 13:48	1
Benzenethiol	ND		9.9	1.7	ug/L		04/18/18 11:16	04/20/18 19:39	1
Benzoic acid	ND		30	7.2	ug/L		04/18/18 11:16	04/20/18 19:39	1
Benzyl alcohol	ND	UJ	9.9	2.0	ug/L		04/18/18 11:16	04/23/18 13:48	1
Bis(2-chloroethoxy)methane	ND		9.9	0.68	ug/L		04/18/18 11:16	04/20/18 19:39	1
Bis(2-chloroethyl)ether	ND		9.9	0.73	ug/L		04/18/18 11:16	04/20/18 19:39	1
bis (2-chloroisopropyl) ether	ND		9.9	0.80	ug/L		04/18/18 11:16	04/20/18 19:39	1
Bis(2-ethylhexyl) phthalate	ND		9.9	2.2	ug/L		04/18/18 11:16	04/20/18 19:39	1
4-Bromophenyl phenyl ether	ND		9.9	0.32	ug/L		04/18/18 11:16	04/20/18 19:39	1
Butyl benzyl phthalate	ND		9.9	0.68	ug/L		04/18/18 11:16	04/20/18 19:39	1
4-Chloroaniline	ND		9.9	3.3	ug/L		04/18/18 11:16	04/20/18 19:39	1
4-Chloro-3-methylphenol	ND		9.9	3.7	ug/L		04/18/18 11:16	04/23/18 13:48	1
2-Chloronaphthalene	ND		9.9	0.51	ug/L		04/18/18 11:16	04/20/18 19:39	1
2-Chlorophenol	ND		9.9	2.2	ug/L		04/18/18 11:16	04/20/18 19:39	1
4-Chlorophenyl phenyl ether	ND		9.9	2.0	ug/L		04/18/18 11:16	04/20/18 19:39	1
Dibenz[a,h]acridine	ND		9.9	3.0	ug/L		04/18/18 11:16	04/20/18 19:39	1
Dibenzofuran	ND		9.9	0.51	ug/L		04/18/18 11:16	04/20/18 19:39	1
3,3'-Dichlorobenzidine	ND		9.9	2.6	ug/L		04/18/18 11:16	04/20/18 19:39	1
2,4-Dichlorophenol	ND		9.9	3.0	ug/L		04/18/18 11:16	04/20/18 19:39	1
Diethyl phthalate	ND		9.9	0.69	ug/L		04/18/18 11:16	04/20/18 19:39	1
2,4-Dimethylphenol	ND		9.9	3.4	ug/L		04/18/18 11:16	04/20/18 19:39	1
Dimethyl phthalate	ND		9.9	0.59	ug/L		04/18/18 11:16	04/20/18 19:39	1
Di-n-butyl phthalate	ND		9.9	2.7	ug/L		04/18/18 11:16	04/20/18 19:39	1
4,6-Dinitro-ortho-cresol	ND		9.9	2.0	ug/L		04/18/18 11:16	04/20/18 19:39	1
2,4-Dinitrophenol	ND		30	3.3	ug/L		04/18/18 11:16	04/20/18 19:39	1
2,4-Dinitrotoluene	ND		9.9	1.9	ug/L		04/18/18 11:16	04/20/18 19:39	1
2,6-Dinitrotoluene	ND		9.9	1.9	ug/L		04/18/18 11:16	04/20/18 19:39	1
Di-n-octyl phthalate	ND		9.9	0.43	ug/L		04/18/18 11:16	04/20/18 19:39	1
1,4-Dioxane	ND		9.9	0.99	ug/L		04/18/18 11:16	04/23/18 13:48	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	0.99	ug/L		04/18/18 11:16	04/20/18 19:39	1
Hexachlorobenzene	ND		9.9	0.25	ug/L		04/18/18 11:16	04/20/18 19:39	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/18/18 11:16	04/20/18 19:39	1
Hexachloroethane	ND		9.9	4.1	ug/L		04/18/18 11:16	04/20/18 19:39	1
Indene	ND		9.9	0.99	ug/L		04/18/18 11:16	04/23/18 13:48	1
Isophorone	ND		9.9	0.56	ug/L		04/18/18 11:16	04/23/18 13:48	1
2-Methylphenol	ND		9.9	1.8	ug/L		04/18/18 11:16	04/20/18 19:39	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/18/18 11:16	04/20/18 19:39	1
2-Nitroaniline	ND		9.9	2.2	ug/L		04/18/18 11:16	04/20/18 19:39	1
3-Nitroaniline	ND		9.9	1.8	ug/L		04/18/18 11:16	04/20/18 19:39	1
4-Nitroaniline	ND		9.9	2.4	ug/L		04/18/18 11:16	04/20/18 19:39	1
Nitrobenzene	ND		9.9	0.54	ug/L		04/18/18 11:16	04/23/18 13:48	1
2-Nitrophenol	ND		9.9	0.64	ug/L		04/18/18 11:16	04/20/18 19:39	1
4-Nitrophenol	ND		9.9	2.1	ug/L		04/18/18 11:16	04/23/18 13:48	1
N-Nitrosodimethylamine	ND		9.9	3.4	ug/L		04/18/18 11:16	04/23/18 13:48	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Client Sample ID: P93A-ROX-041118

Lab Sample ID: 400-152204-5

Date Collected: 04/11/18 14:20

Matrix: Water

Date Received: 04/12/18 09:32

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.9	3.3	ug/L		04/18/18 11:16	04/23/18 13:48	1
N-Nitrosodiphenylamine	ND		9.9	0.46	ug/L		04/18/18 11:16	04/20/18 19:39	1
Pentachlorophenol	ND		20	1.8	ug/L		04/18/18 11:16	04/20/18 19:39	1
Phenol	70		9.9	2.6	ug/L		04/18/18 11:16	04/20/18 19:39	1
Pyridine	ND		9.9	3.2	ug/L		04/18/18 11:16	04/23/18 13:48	1
Quinoline	ND		9.9	5.9	ug/L		04/18/18 11:16	04/20/18 19:39	1
2,4,5-Trichlorophenol	ND		9.9	3.6	ug/L		04/18/18 11:16	04/20/18 19:39	1
2,4,6-Trichlorophenol	ND		9.9	3.4	ug/L		04/18/18 11:16	04/20/18 19:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	65		34 - 120	04/18/18 11:16	04/20/18 19:39	1
2-Fluorophenol	55		10 - 120	04/18/18 11:16	04/20/18 19:39	1
Nitrobenzene-d5	64		27 - 120	04/18/18 11:16	04/20/18 19:39	1
Phenol-d5	59		10 - 120	04/18/18 11:16	04/20/18 19:39	1
Terphenyl-d14	63		53 - 125	04/18/18 11:16	04/20/18 19:39	1
2,4,6-Tribromophenol	73		15 - 135	04/18/18 11:16	04/20/18 19:39	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND	*	0.032	0.0059	ug/L		04/20/18 15:17	04/20/18 23:05	1
1,2-Dibromoethane	ND		0.021	0.0054	ug/L		04/20/18 15:17	04/20/18 23:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	119		51 - 149	04/20/18 15:17	04/20/18 23:05	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Client Sample ID: P56-ROX-041118

Lab Sample ID: 400-152204-6

Date Collected: 04/11/18 15:25

Matrix: Water

Date Received: 04/12/18 09:32

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	99		25	10	ug/L			04/22/18 09:33	1
Acrolein	ND		20	10	ug/L			04/22/18 09:33	1
Acrylonitrile	ND		10	2.8	ug/L			04/22/18 09:33	1
Benzene	5.7		1.0	0.38	ug/L			04/22/18 09:33	1
Bromobenzene	ND		1.0	0.54	ug/L			04/22/18 09:33	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/22/18 09:33	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/22/18 09:33	1
Bromoform	ND		5.0	0.71	ug/L			04/22/18 09:33	1
Bromomethane	ND		1.0	0.98	ug/L			04/22/18 09:33	1
2-Butanone (MEK)	18 J		25	2.6	ug/L			04/22/18 09:33	1
Carbon disulfide	1.0		1.0	0.50	ug/L			04/22/18 09:33	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/22/18 09:33	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/22/18 09:33	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/22/18 09:33	1
Chloroethane	ND		1.0	0.76	ug/L			04/22/18 09:33	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/22/18 09:33	1
Chloroform	ND		1.0	0.60	ug/L			04/22/18 09:33	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/22/18 09:33	1
Chloromethane	ND		1.0	0.83	ug/L			04/22/18 09:33	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/22/18 09:33	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/22/18 09:33	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/22/18 09:33	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/22/18 09:33	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/22/18 09:33	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/22/18 09:33	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/22/18 09:33	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/22/18 09:33	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/22/18 09:33	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/22/18 09:33	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/22/18 09:33	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/22/18 09:33	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/22/18 09:33	1
Ethylbenzene	1.4		1.0	0.50	ug/L			04/22/18 09:33	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/22/18 09:33	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/22/18 09:33	1
2-Hexanone	ND		25	3.1	ug/L			04/22/18 09:33	1
Isopropylbenzene	20		1.0	0.53	ug/L			04/22/18 09:33	1
Methylene bromide	ND		5.0	0.59	ug/L			04/22/18 09:33	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/22/18 09:33	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/22/18 09:33	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/22/18 09:33	1
m-Xylene & p-Xylene	16		5.0	1.6	ug/L			04/22/18 09:33	1
Naphthalene	1.9		1.0	1.0	ug/L			04/22/18 09:33	1
n-Butylbenzene	0.92 J		1.0	0.76	ug/L			04/22/18 09:33	1
N-Propylbenzene	23		1.0	0.69	ug/L			04/22/18 09:33	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/22/18 09:33	1
o-Xylene	ND		5.0	0.60	ug/L			04/22/18 09:33	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/22/18 09:33	1
p-Isopropyltoluene	1.0		1.0	0.71	ug/L			04/22/18 09:33	1



Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Client Sample ID: P56-ROX-041118

Lab Sample ID: 400-152204-6

Date Collected: 04/11/18 15:25

Matrix: Water

Date Received: 04/12/18 09:32

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	1.6		1.0	0.70	ug/L			04/22/18 09:33	1
Styrene	ND		1.0	1.0	ug/L			04/22/18 09:33	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/22/18 09:33	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/22/18 09:33	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/22/18 09:33	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/22/18 09:33	1
Toluene	ND		1.0	0.70	ug/L			04/22/18 09:33	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/22/18 09:33	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/22/18 09:33	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/22/18 09:33	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/22/18 09:33	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/22/18 09:33	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/22/18 09:33	1
Trichloroethene	ND		1.0	0.50	ug/L			04/22/18 09:33	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/22/18 09:33	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/22/18 09:33	1
1,2,4-Trimethylbenzene	4.7		1.0	0.82	ug/L			04/22/18 09:33	1
1,3,5-Trimethylbenzene	1.7		1.0	0.56	ug/L			04/22/18 09:33	1
Vinyl acetate	ND		25	2.0	ug/L			04/22/18 09:33	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/22/18 09:33	1
Xylenes, Total	17		10	1.6	ug/L			04/22/18 09:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	105		78 - 118					04/22/18 09:33	1
Dibromofluoromethane	105		81 - 121					04/22/18 09:33	1
Toluene-d8 (Surr)	102		80 - 120					04/22/18 09:33	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.15	J	0.20	0.020	ug/L		04/18/18 11:16	04/20/18 17:16	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 17:16	1
Anthracene	0.061	J	0.20	0.020	ug/L		04/18/18 11:16	04/20/18 17:16	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		04/18/18 11:16	04/20/18 17:16	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		04/18/18 11:16	04/20/18 17:16	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		04/18/18 11:16	04/20/18 17:16	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		04/18/18 11:16	04/20/18 17:16	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		04/18/18 11:16	04/20/18 17:16	1
Chrysene	ND		0.20	0.039	ug/L		04/18/18 11:16	04/20/18 17:16	1
Dibenz[a,h]anthracene	ND		0.20	0.039	ug/L		04/18/18 11:16	04/20/18 17:16	1
Fluoranthene	ND		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 17:16	1
Fluorene	ND		0.20	0.021	ug/L		04/18/18 11:16	04/20/18 17:16	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		04/18/18 11:16	04/20/18 17:16	1
Phenanthrene	0.38		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 17:16	1
Pyrene	ND		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 17:16	1
1-Methylnaphthalene	10		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 17:16	1
2-Methylnaphthalene	1.4		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 17:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	49		33 - 138				04/18/18 11:16	04/20/18 17:16	1
2-Fluorobiphenyl	69		15 - 122				04/18/18 11:16	04/20/18 17:16	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Client Sample ID: P56-ROX-041118

Lab Sample ID: 400-152204-6

Date Collected: 04/11/18 15:25

Matrix: Water

Date Received: 04/12/18 09:32

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	72		19 - 130	04/18/18 11:16	04/20/18 17:16	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		04/18/18 11:16	04/23/18 14:22	1
Benzenethiol	ND	*	9.8	1.7	ug/L		04/18/18 11:16	04/20/18 20:00	1
Benzoic acid	ND		29	7.1	ug/L		04/18/18 11:16	04/20/18 20:00	1
Benzyl alcohol	ND	UJ	9.8	2.0	ug/L		04/18/18 11:16	04/23/18 14:22	1
Bis(2-chloroethoxy)methane	ND		9.8	0.67	ug/L		04/18/18 11:16	04/20/18 20:00	1
Bis(2-chloroethyl)ether	ND		9.8	0.72	ug/L		04/18/18 11:16	04/20/18 20:00	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		04/18/18 11:16	04/20/18 20:00	1
Bis(2-ethylhexyl) phthalate	ND		9.8	2.2	ug/L		04/18/18 11:16	04/20/18 20:00	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		04/18/18 11:16	04/20/18 20:00	1
Butyl benzyl phthalate	ND		9.8	0.67	ug/L		04/18/18 11:16	04/20/18 20:00	1
4-Chloroaniline	ND		9.8	3.3	ug/L		04/18/18 11:16	04/20/18 20:00	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		04/18/18 11:16	04/23/18 14:22	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		04/18/18 11:16	04/20/18 20:00	1
2-Chlorophenol	ND		9.8	2.1	ug/L		04/18/18 11:16	04/20/18 20:00	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		04/18/18 11:16	04/20/18 20:00	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		04/18/18 11:16	04/20/18 20:00	1
Dibenzofuran	ND		9.8	0.51	ug/L		04/18/18 11:16	04/20/18 20:00	1
3,3'-Dichlorobenzidine	ND		9.8	2.5	ug/L		04/18/18 11:16	04/20/18 20:00	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		04/18/18 11:16	04/20/18 20:00	1
Diethyl phthalate	ND		9.8	0.68	ug/L		04/18/18 11:16	04/20/18 20:00	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		04/18/18 11:16	04/20/18 20:00	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		04/18/18 11:16	04/20/18 20:00	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		04/18/18 11:16	04/20/18 20:00	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		04/18/18 11:16	04/20/18 20:00	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		04/18/18 11:16	04/20/18 20:00	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		04/18/18 11:16	04/20/18 20:00	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		04/18/18 11:16	04/20/18 20:00	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		04/18/18 11:16	04/20/18 20:00	1
1,4-Dioxane	ND		9.8	0.98	ug/L		04/18/18 11:16	04/23/18 14:22	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		04/18/18 11:16	04/20/18 20:00	1
Hexachlorobenzene	ND		9.8	0.24	ug/L		04/18/18 11:16	04/20/18 20:00	1
Hexachlorocyclopentadiene	ND		20	2.5	ug/L		04/18/18 11:16	04/20/18 20:00	1
Hexachloroethane	ND		9.8	4.1	ug/L		04/18/18 11:16	04/20/18 20:00	1
Indene	ND		9.8	0.98	ug/L		04/18/18 11:16	04/23/18 14:22	1
Isophorone	ND		9.8	0.56	ug/L		04/18/18 11:16	04/23/18 14:22	1
2-Methylphenol	ND		9.8	1.8	ug/L		04/18/18 11:16	04/20/18 20:00	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/18/18 11:16	04/20/18 20:00	1
2-Nitroaniline	ND		9.8	2.1	ug/L		04/18/18 11:16	04/20/18 20:00	1
3-Nitroaniline	ND		9.8	1.8	ug/L		04/18/18 11:16	04/20/18 20:00	1
4-Nitroaniline	ND		9.8	2.4	ug/L		04/18/18 11:16	04/20/18 20:00	1
Nitrobenzene	ND		9.8	0.54	ug/L		04/18/18 11:16	04/23/18 14:22	1
2-Nitrophenol	ND		9.8	0.64	ug/L		04/18/18 11:16	04/20/18 20:00	1
4-Nitrophenol	ND		9.8	2.1	ug/L		04/18/18 11:16	04/23/18 14:22	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		04/18/18 11:16	04/23/18 14:22	1



Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Client Sample ID: P56-ROX-041118

Lab Sample ID: 400-152204-6

Date Collected: 04/11/18 15:25

Matrix: Water

Date Received: 04/12/18 09:32

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		04/18/18 11:16	04/23/18 14:22	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		04/18/18 11:16	04/20/18 20:00	1
Pentachlorophenol	ND		20	1.8	ug/L		04/18/18 11:16	04/20/18 20:00	1
Phenol	ND		9.8	2.5	ug/L		04/18/18 11:16	04/20/18 20:00	1
Pyridine	ND		9.8	3.1	ug/L		04/18/18 11:16	04/23/18 14:22	1
Quinoline	ND		9.8	5.9	ug/L		04/18/18 11:16	04/20/18 20:00	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		04/18/18 11:16	04/20/18 20:00	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		04/18/18 11:16	04/20/18 20:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	62		34 - 120				04/18/18 11:16	04/20/18 20:00	1
2-Fluorophenol	47		10 - 120				04/18/18 11:16	04/20/18 20:00	1
Nitrobenzene-d5	60		27 - 120				04/18/18 11:16	04/20/18 20:00	1
Phenol-d5	58		10 - 120				04/18/18 11:16	04/20/18 20:00	1
Terphenyl-d14	46 X		53 - 125				04/18/18 11:16	04/20/18 20:00	1
2,4,6-Tribromophenol	91		15 - 135				04/18/18 11:16	04/20/18 20:00	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND	*	0.030	0.0055	ug/L		04/20/18 15:17	04/20/18 23:25	1
1,2-Dibromoethane	ND		0.020	0.0050	ug/L		04/20/18 15:17	04/20/18 23:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	113		51 - 149				04/20/18 15:17	04/20/18 23:25	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits

GC/MS Semi VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
X	Surrogate is outside control limits
*	LCS or LCSD is outside acceptance limits.

GC Semi VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
■	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (78-118)	DBFM (81-121)	TOL (80-120)
400-152204-2	TB-ROX-041118-8260-SS	107	99	103
400-152204-3	P93C-ROX-041118	107	100	101
400-152204-4	P93A-ROX-041118-EB	104	100	105
400-152204-5	P93A-ROX-041118	105	103	101
400-152204-6	P56-ROX-041118	105	105	102
400-152288-A-1 MS	Matrix Spike	103	102	99
400-152288-A-1 MSD	Matrix Spike Duplicate	102	103	97
400-152470-A-2 MS	Matrix Spike	97	103	97
400-152470-A-2 MSD	Matrix Spike Duplicate	98	102	97
LCS 400-394689/1002	Lab Control Sample	101	102	96
LCS 400-394772/1002	Lab Control Sample	102	100	96
MB 400-394689/3	Method Blank	106	101	103
MB 400-394772/4	Method Blank	102	101	100

Surrogate Legend
 BFB = 4-Bromofluorobenzene
 DBFM = Dibromofluoromethane
 TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (34-120)	2FP (10-120)	NBZ (27-120)	PHL (10-120)	TPHL (53-125)	TBP (15-135)
400-152204-3	P93C-ROX-041118	59	51	55	54	66	75
400-152204-4	P93A-ROX-041118-EB	62	49	60	56	84	61
400-152204-5	P93A-ROX-041118	65	55	64	59	63	73
400-152204-6	P56-ROX-041118	62	47	60	58	46 X	91
LCS 400-394327/24-A	Lab Control Sample	66	39	75	57	82	77
LCS 400-394327/4-A	Lab Control Sample	58	54	59	56	75	60
LCS 400-394327/25-A	Lab Control Sample Dup	62	49	67	57	80	73
LCS 400-394327/5-A	Lab Control Sample Dup	61	55	61	56	85	68
MB 400-394327/1-A	Method Blank	60	51	61	56	76	60

Surrogate Legend
 FBP = 2-Fluorobiphenyl
 2FP = 2-Fluorophenol
 NBZ = Nitrobenzene-d5
 PHL = Phenol-d5
 TPHL = Terphenyl-d14
 TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TPHL (33-138)	FBP (15-122)	NBZ (19-130)
400-152204-3	P93C-ROX-041118	71	72	70

TestAmerica Pensacola

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TPHL (33-138)	FBP (15-122)	NBZ (19-130)
400-152204-4	P93A-ROX-041118-EB	117	92	79
400-152204-5	P93A-ROX-041118	75	96	89
400-152204-6	P56-ROX-041118	49	69	72
LCS 400-394327/2-A	Lab Control Sample	80	75	83
LCSD 400-394327/3-A	Lab Control Sample Dup	80	77	81
MB 400-394327/1-A	Method Blank	113	84	73

Surrogate Legend
 TPHL = Terphenyl-d14
 FBP = 2-Fluorobiphenyl
 NBZ = Nitrobenzene-d5

Method: 8011 - EDB and DBCP in Water by Microextraction

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		BFB2 (51-149)
400-152204-1	TB-ROX-041118-8011-SS	93 p
400-152204-3	P93C-ROX-041118	108 p
400-152204-4	P93A-ROX-041118-EB	107 p
400-152204-5	P93A-ROX-041118	119
400-152204-6	P56-ROX-041118	113
LCS 400-394693/2-A	Lab Control Sample	105
LCSD 400-394693/3-A	Lab Control Sample Dup	104
MB 400-394693/1-A	Method Blank	97

Surrogate Legend
 BFB = 4-Bromofluorobenzene

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
8011	EDB and DBCP in Water by Microextraction	EPA	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
8011	Microextraction	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001



Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Client Sample ID: TB-ROX-041118-8011-SS

Date Collected: 04/11/18 00:00
Date Received: 04/12/18 09:32

Lab Sample ID: 400-152204-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			36.9 mL	35 mL	394693	04/20/18 15:17	SAB	TAL PEN
Total/NA	Analysis	8011		1			394741	04/20/18 22:06	SAB	TAL PEN

Client Sample ID: TB-ROX-041118-8260-SS

Date Collected: 04/11/18 00:00
Date Received: 04/12/18 09:32

Lab Sample ID: 400-152204-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394689	04/20/18 21:12	WPD	TAL PEN

Client Sample ID: P93C-ROX-041118

Date Collected: 04/11/18 11:10
Date Received: 04/12/18 09:32

Lab Sample ID: 400-152204-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394689	04/20/18 21:56	WPD	TAL PEN
Total/NA	Prep	3520C			1004.8 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D		1			394678	04/20/18 18:57	S1B	TAL PEN
Total/NA	Prep	3520C			1004.8 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D		1			394846	04/23/18 12:41	S1B	TAL PEN
Total/NA	Prep	3520C			1004.8 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			394686	04/20/18 16:24	PP1	TAL PEN
Total/NA	Prep	8011			34.2 mL	35 mL	394693	04/20/18 15:17	SAB	TAL PEN
Total/NA	Analysis	8011		1			394741	04/20/18 22:26	SAB	TAL PEN

Client Sample ID: P93A-ROX-041118-EB

Date Collected: 04/11/18 11:40
Date Received: 04/12/18 09:32

Lab Sample ID: 400-152204-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394689	04/20/18 22:40	WPD	TAL PEN
Total/NA	Prep	3520C			1027 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D		1			394678	04/20/18 19:18	S1B	TAL PEN
Total/NA	Prep	3520C			1027 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D		1			394846	04/23/18 13:14	S1B	TAL PEN
Total/NA	Prep	3520C			1027 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			394686	04/20/18 16:42	PP1	TAL PEN
Total/NA	Prep	8011			35.6 mL	35 mL	394693	04/20/18 15:17	SAB	TAL PEN
Total/NA	Analysis	8011		1			394741	04/20/18 22:45	SAB	TAL PEN



Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Client Sample ID: P93A-ROX-041118

Lab Sample ID: 400-152204-5

Date Collected: 04/11/18 14:20

Matrix: Water

Date Received: 04/12/18 09:32

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		250	5 mL	5 mL	394772	04/22/18 10:40	WPD	TAL PEN
Total/NA	Prep	3520C			1015.2 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D		1			394678	04/20/18 19:39	S1B	TAL PEN
Total/NA	Prep	3520C			1015.2 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D		1			394846	04/23/18 13:48	S1B	TAL PEN
Total/NA	Prep	3520C			1015.2 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			394686	04/20/18 16:59	PP1	TAL PEN
Total/NA	Prep	8011			32.7 mL	35 mL	394693	04/20/18 15:17	SAB	TAL PEN
Total/NA	Analysis	8011		1			394741	04/20/18 23:05	SAB	TAL PEN

Client Sample ID: P56-ROX-041118

Lab Sample ID: 400-152204-6

Date Collected: 04/11/18 15:25

Matrix: Water

Date Received: 04/12/18 09:32

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394772	04/22/18 09:33	WPD	TAL PEN
Total/NA	Prep	3520C			1023.6 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D		1			394678	04/20/18 20:00	S1B	TAL PEN
Total/NA	Prep	3520C			1023.6 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D		1			394846	04/23/18 14:22	S1B	TAL PEN
Total/NA	Prep	3520C			1023.6 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			394686	04/20/18 17:16	PP1	TAL PEN
Total/NA	Prep	8011			35 mL	35 mL	394693	04/20/18 15:17	SAB	TAL PEN
Total/NA	Analysis	8011		1			394741	04/20/18 23:25	SAB	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-394327/1-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D		1			394678	04/20/18 16:31	S1B	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D		1			394846	04/23/18 12:08	S1B	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			394686	04/20/18 15:33	PP1	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-394689/3

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394689	04/20/18 17:19	WPD	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Client Sample ID: Method Blank

Lab Sample ID: MB 400-394693/1-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35 mL	35 mL	394693	04/20/18 15:17	SAB	TAL PEN
Total/NA	Analysis	8011		1			394741	04/20/18 21:05	SAB	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-394772/4

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394772	04/22/18 08:27	WPD	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-394327/24-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	394327	04/18/18 11:23	NTH	TAL PEN
Total/NA	Analysis	8270D		1			394678	04/20/18 18:15	S1B	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-394327/2-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			394686	04/20/18 15:50	PP1	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-394327/4-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D		1			394678	04/20/18 17:33	S1B	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-394689/1002

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394689	04/20/18 16:01	WPD	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-394693/2-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35 mL	35 mL	394693	04/20/18 15:17	SAB	TAL PEN
Total/NA	Analysis	8011		1			394741	04/20/18 21:26	SAB	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-394772/1002

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394772	04/22/18 07:42	WPD	TAL PEN

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-394327/25-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	394327	04/18/18 11:23	NTH	TAL PEN
Total/NA	Analysis	8270D		1			394678	04/20/18 18:36	S1B	TAL PEN

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-394327/3-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			394686	04/20/18 16:07	PP1	TAL PEN

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-394327/5-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D		1			394678	04/20/18 17:54	S1B	TAL PEN

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-394693/3-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35 mL	35 mL	394693	04/20/18 15:17	SAB	TAL PEN
Total/NA	Analysis	8011		1			394741	04/20/18 21:46	SAB	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
 SDG: (2Q18)

Client Sample ID: Matrix Spike

Lab Sample ID: 400-152288-A-1 MS

Date Collected: 04/16/18 14:16

Matrix: Water

Date Received: 04/16/18 15:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394689	04/20/18 18:39	WPD	TAL PEN

Client Sample ID: Matrix Spike Duplicate

Lab Sample ID: 400-152288-A-1 MSD

Date Collected: 04/16/18 14:16

Matrix: Water

Date Received: 04/16/18 15:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394689	04/20/18 19:01	WPD	TAL PEN

Client Sample ID: Matrix Spike

Lab Sample ID: 400-152470-A-2 MS

Date Collected: 04/09/18 15:45

Matrix: Water

Date Received: 04/14/18 10:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394772	04/22/18 11:46	WPD	TAL PEN

Client Sample ID: Matrix Spike Duplicate

Lab Sample ID: 400-152470-A-2 MSD

Date Collected: 04/09/18 15:45

Matrix: Water

Date Received: 04/14/18 10:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394772	04/22/18 12:09	WPD	TAL PEN

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001



QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)



GC/MS VOA

Analysis Batch: 394689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152204-2	TB-ROX-041118-8260-SS	Total/NA	Water	8260B	
400-152204-3	P93C-ROX-041118	Total/NA	Water	8260B	
400-152204-4	P93A-ROX-041118-EB	Total/NA	Water	8260B	
MB 400-394689/3	Method Blank	Total/NA	Water	8260B	
LCS 400-394689/1002	Lab Control Sample	Total/NA	Water	8260B	
400-152288-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
400-152288-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 394772

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152204-5	P93A-ROX-041118	Total/NA	Water	8260B	
400-152204-6	P56-ROX-041118	Total/NA	Water	8260B	
MB 400-394772/4	Method Blank	Total/NA	Water	8260B	
LCS 400-394772/1002	Lab Control Sample	Total/NA	Water	8260B	
400-152470-A-2 MS	Matrix Spike	Total/NA	Water	8260B	
400-152470-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 394327

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152204-3	P93C-ROX-041118	Total/NA	Water	3520C	
400-152204-4	P93A-ROX-041118-EB	Total/NA	Water	3520C	
400-152204-5	P93A-ROX-041118	Total/NA	Water	3520C	
400-152204-6	P56-ROX-041118	Total/NA	Water	3520C	
MB 400-394327/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-394327/24-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-394327/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-394327/4-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-394327/25-A	Lab Control Sample Dup	Total/NA	Water	3520C	
LCSD 400-394327/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	
LCSD 400-394327/5-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 394678

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152204-3	P93C-ROX-041118	Total/NA	Water	8270D	394327
400-152204-4	P93A-ROX-041118-EB	Total/NA	Water	8270D	394327
400-152204-5	P93A-ROX-041118	Total/NA	Water	8270D	394327
400-152204-6	P56-ROX-041118	Total/NA	Water	8270D	394327
MB 400-394327/1-A	Method Blank	Total/NA	Water	8270D	394327
LCS 400-394327/24-A	Lab Control Sample	Total/NA	Water	8270D	394327
LCS 400-394327/4-A	Lab Control Sample	Total/NA	Water	8270D	394327
LCSD 400-394327/25-A	Lab Control Sample Dup	Total/NA	Water	8270D	394327
LCSD 400-394327/5-A	Lab Control Sample Dup	Total/NA	Water	8270D	394327

Analysis Batch: 394686

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152204-3	P93C-ROX-041118	Total/NA	Water	8270D LL	394327
400-152204-4	P93A-ROX-041118-EB	Total/NA	Water	8270D LL	394327
400-152204-5	P93A-ROX-041118	Total/NA	Water	8270D LL	394327

TestAmerica Pensacola

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)



GC/MS Semi VOA (Continued)

Analysis Batch: 394686 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152204-6	P56-ROX-041118	Total/NA	Water	8270D LL	394327
MB 400-394327/1-A	Method Blank	Total/NA	Water	8270D LL	394327
LCS 400-394327/2-A	Lab Control Sample	Total/NA	Water	8270D LL	394327
LCSD 400-394327/3-A	Lab Control Sample Dup	Total/NA	Water	8270D LL	394327

Analysis Batch: 394846

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152204-3	P93C-ROX-041118	Total/NA	Water	8270D	394327
400-152204-4	P93A-ROX-041118-EB	Total/NA	Water	8270D	394327
400-152204-5	P93A-ROX-041118	Total/NA	Water	8270D	394327
400-152204-6	P56-ROX-041118	Total/NA	Water	8270D	394327
MB 400-394327/1-A	Method Blank	Total/NA	Water	8270D	394327

GC Semi VOA

Prep Batch: 394693

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152204-1	TB-ROX-041118-8011-SS	Total/NA	Water	8011	
400-152204-3	P93C-ROX-041118	Total/NA	Water	8011	
400-152204-4	P93A-ROX-041118-EB	Total/NA	Water	8011	
400-152204-5	P93A-ROX-041118	Total/NA	Water	8011	
400-152204-6	P56-ROX-041118	Total/NA	Water	8011	
MB 400-394693/1-A	Method Blank	Total/NA	Water	8011	
LCS 400-394693/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 400-394693/3-A	Lab Control Sample Dup	Total/NA	Water	8011	

Analysis Batch: 394741

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152204-1	TB-ROX-041118-8011-SS	Total/NA	Water	8011	394693
400-152204-3	P93C-ROX-041118	Total/NA	Water	8011	394693
400-152204-4	P93A-ROX-041118-EB	Total/NA	Water	8011	394693
400-152204-5	P93A-ROX-041118	Total/NA	Water	8011	394693
400-152204-6	P56-ROX-041118	Total/NA	Water	8011	394693
MB 400-394693/1-A	Method Blank	Total/NA	Water	8011	394693
LCS 400-394693/2-A	Lab Control Sample	Total/NA	Water	8011	394693
LCSD 400-394693/3-A	Lab Control Sample Dup	Total/NA	Water	8011	394693

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-394689/3

Matrix: Water

Analysis Batch: 394689

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acetone	ND		25	10	ug/L			04/20/18 17:19	1
Acrolein	ND		20	10	ug/L			04/20/18 17:19	1
Acrylonitrile	ND		10	2.8	ug/L			04/20/18 17:19	1
Benzene	ND		1.0	0.38	ug/L			04/20/18 17:19	1
Bromobenzene	ND		1.0	0.54	ug/L			04/20/18 17:19	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/20/18 17:19	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/20/18 17:19	1
Bromoform	ND		5.0	0.71	ug/L			04/20/18 17:19	1
Bromomethane	ND		1.0	0.98	ug/L			04/20/18 17:19	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/20/18 17:19	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/20/18 17:19	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/20/18 17:19	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/20/18 17:19	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/20/18 17:19	1
Chloroethane	ND		1.0	0.76	ug/L			04/20/18 17:19	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/20/18 17:19	1
Chloroform	ND		1.0	0.60	ug/L			04/20/18 17:19	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/20/18 17:19	1
Chloromethane	ND		1.0	0.83	ug/L			04/20/18 17:19	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 17:19	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/20/18 17:19	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/20/18 17:19	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/20/18 17:19	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/20/18 17:19	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/20/18 17:19	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/20/18 17:19	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/20/18 17:19	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 17:19	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 17:19	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 17:19	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 17:19	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/20/18 17:19	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/20/18 17:19	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/20/18 17:19	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/20/18 17:19	1
2-Hexanone	ND		25	3.1	ug/L			04/20/18 17:19	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/20/18 17:19	1
Methylene bromide	ND		5.0	0.59	ug/L			04/20/18 17:19	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/20/18 17:19	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/20/18 17:19	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/20/18 17:19	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/20/18 17:19	1
Naphthalene	ND		1.0	1.0	ug/L			04/20/18 17:19	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/20/18 17:19	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/20/18 17:19	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/20/18 17:19	1
o-Xylene	ND		5.0	0.60	ug/L			04/20/18 17:19	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/20/18 17:19	1

TestAmerica Pensacola



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-394689/3

Matrix: Water

Analysis Batch: 394689

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/20/18 17:19	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/20/18 17:19	1
Styrene	ND		1.0	1.0	ug/L			04/20/18 17:19	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/20/18 17:19	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/20/18 17:19	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/20/18 17:19	1
Tetrachloroethane	ND		1.0	0.58	ug/L			04/20/18 17:19	1
Toluene	ND		1.0	0.70	ug/L			04/20/18 17:19	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 17:19	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/20/18 17:19	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/20/18 17:19	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/20/18 17:19	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/20/18 17:19	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/20/18 17:19	1
Trichloroethene	ND		1.0	0.50	ug/L			04/20/18 17:19	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/20/18 17:19	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/20/18 17:19	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/20/18 17:19	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/20/18 17:19	1
Vinyl acetate	ND		25	2.0	ug/L			04/20/18 17:19	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/20/18 17:19	1
Xylenes, Total	ND		10	1.6	ug/L			04/20/18 17:19	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene	106		78 - 118		04/20/18 17:19	1
Dibromofluoromethane	101		81 - 121		04/20/18 17:19	1
Toluene-d8 (Surr)	103		80 - 120		04/20/18 17:19	1

Lab Sample ID: LCS 400-394689/1002

Matrix: Water

Analysis Batch: 394689

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrolein	500	523		ug/L		105	38 - 160
Acrylonitrile	500	554		ug/L		111	64 - 142
Benzene	50.0	44.2		ug/L		88	70 - 130
Bromobenzene	50.0	43.1		ug/L		86	70 - 132
Bromochloromethane	50.0	45.1		ug/L		90	70 - 130
Bromodichloromethane	50.0	48.3		ug/L		97	67 - 133
Bromoform	50.0	55.8		ug/L		112	57 - 140
Bromomethane	50.0	43.4		ug/L		87	10 - 160
2-Butanone (MEK)	200	241		ug/L		121	61 - 145
Carbon disulfide	50.0	48.7		ug/L		97	61 - 137
Carbon tetrachloride	50.0	49.2		ug/L		98	61 - 137
Chlorobenzene	50.0	43.0		ug/L		86	70 - 130
Dibromochloromethane	50.0	50.2		ug/L		100	67 - 135
Chloroethane	50.0	41.6		ug/L		83	55 - 141

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-394689/1002

Matrix: Water

Analysis Batch: 394689

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Chloroethyl vinyl ether	50.0	54.7		ug/L		109	10 - 160
Chloroform	50.0	43.2		ug/L		86	69 - 130
1-Chlorohexane	50.0	47.4		ug/L		95	69 - 130
Chloromethane	50.0	43.7		ug/L		87	58 - 137
cis-1,2-Dichloroethene	50.0	44.6		ug/L		89	68 - 130
cis-1,3-Dichloropropene	50.0	57.0		ug/L		114	69 - 132
1,2-Dichlorobenzene	50.0	43.5		ug/L		87	67 - 130
1,3-Dichlorobenzene	50.0	43.6		ug/L		87	70 - 130
1,4-Dichlorobenzene	50.0	42.2		ug/L		84	70 - 130
Dichlorodifluoromethane	50.0	38.5		ug/L		77	41 - 146
1,1-Dichloroethane	50.0	44.1		ug/L		88	70 - 130
1,2-Dichloroethane	50.0	45.0		ug/L		90	69 - 130
1,1-Dichloroethene	50.0	44.4		ug/L		89	63 - 134
1,2-Dichloropropane	50.0	44.9		ug/L		90	70 - 130
1,3-Dichloropropane	50.0	45.8		ug/L		92	70 - 130
2,2-Dichloropropane	50.0	51.2		ug/L		102	52 - 135
1,1-Dichloropropene	50.0	44.9		ug/L		90	70 - 130
Ethylbenzene	50.0	45.5		ug/L		91	70 - 130
Ethyl methacrylate	50.0	56.5		ug/L		113	68 - 130
Hexachlorobutadiene	50.0	48.0		ug/L		92	53 - 140
2-Hexanone	200	262		ug/L		131	65 - 137
Isopropylbenzene	50.0	47.7		ug/L		95	70 - 130
Methylene bromide	50.0	46.7		ug/L		93	70 - 130
Methylene Chloride	50.0	42.5		ug/L		85	66 - 135
4-Methyl-2-pentanone (MIBK)	200	266		ug/L		133	69 - 138
Methyl tert-butyl ether	50.0	50.3		ug/L		101	66 - 130
m-Xylene & p-Xylene	50.0	45.8		ug/L		92	70 - 130
Naphthalene	50.0	56.8		ug/L		114	47 - 149
n-Butylbenzene	50.0	44.9		ug/L		90	67 - 130
N-Propylbenzene	50.0	46.1		ug/L		92	70 - 130
o-Chlorotoluene	50.0	44.0		ug/L		88	70 - 130
o-Xylene	50.0	46.1		ug/L		92	70 - 130
p-Chlorotoluene	50.0	45.1		ug/L		90	70 - 130
p-Isopropyltoluene	50.0	47.9		ug/L		96	65 - 130
sec-Butylbenzene	50.0	46.3		ug/L		93	66 - 130
Styrene	50.0	46.7		ug/L		93	70 - 130
tert-Butylbenzene	50.0	46.6		ug/L		93	64 - 139
1,1,1,2-Tetrachloroethane	50.0	47.6		ug/L		95	67 - 131
1,1,2,2-Tetrachloroethane	50.0	47.3		ug/L		95	70 - 131
Tetrachloroethene	50.0	42.4		ug/L		85	65 - 130
Toluene	50.0	42.8		ug/L		86	70 - 130
trans-1,2-Dichloroethene	50.0	44.1		ug/L		88	70 - 130
trans-1,3-Dichloropropene	50.0	56.4		ug/L		113	63 - 130
1,2,3-Trichlorobenzene	50.0	47.7		ug/L		95	60 - 138
1,2,4-Trichlorobenzene	50.0	47.1		ug/L		94	60 - 140
1,1,1-Trichloroethane	50.0	47.9		ug/L		96	68 - 130
1,1,2-Trichloroethane	50.0	45.3		ug/L		91	70 - 130
Trichloroethene	50.0	44.9		ug/L		90	70 - 130

TestAmerica Pensacola



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-394689/1002

Matrix: Water

Analysis Batch: 394689

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Trichlorofluoromethane	50.0	40.8		ug/L		82	65 - 138
1,2,3-Trichloropropane	50.0	49.3		ug/L		99	70 - 130
1,2,4-Trimethylbenzene	50.0	45.6		ug/L		91	70 - 130
1,3,5-Trimethylbenzene	50.0	45.4		ug/L		91	69 - 130
Vinyl acetate	100	107		ug/L		107	26 - 160
Vinyl chloride	50.0	43.2		ug/L		86	59 - 136
Xylenes, Total	100	91.8		ug/L		92	70 - 130

Surrogate	LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	101		78 - 118
Dibromofluoromethane	102		81 - 121
Toluene-d8 (Surr)	96		80 - 120

Lab Sample ID: 400-152288-A-1 MS

Matrix: Water

Analysis Batch: 394689

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec. Limits
				Result	Qualifier				
Acetone	43		200	221		ug/L		89	43 - 150
Acrolein	ND		500	474		ug/L		95	38 - 150
Acrylonitrile	ND		500	462		ug/L		92	62 - 149
Benzene	ND		50.0	43.3		ug/L		87	56 - 142
Bromobenzene	ND		50.0	41.4		ug/L		83	59 - 136
Bromochloromethane	ND		50.0	43.7		ug/L		87	64 - 140
Bromodichloromethane	ND		50.0	46.0		ug/L		92	59 - 143
Bromoform	ND		50.0	50.6		ug/L		101	50 - 140
Bromomethane	ND		50.0	40.6		ug/L		81	10 - 150
2-Butanone (MEK)	8.1	J	200	203		ug/L		97	55 - 150
Carbon disulfide	1.0		50.0	49.0		ug/L		96	48 - 150
Carbon tetrachloride	ND		50.0	48.1		ug/L		96	55 - 145
Chlorobenzene	ND		50.0	42.0		ug/L		84	64 - 130
Dibromochloromethane	ND		50.0	47.8		ug/L		96	56 - 143
Chloroethane	ND		50.0	38.4		ug/L		77	50 - 150
2-Chloroethyl vinyl ether	ND	F1	50.0	ND	F1	ug/L		0	10 - 150
Chloroform	ND		50.0	42.1		ug/L		84	60 - 141
1-Chlorohexane	ND		50.0	42.8		ug/L		86	56 - 136
Chloromethane	ND		50.0	42.5		ug/L		85	49 - 148
cis-1,2-Dichloroethene	ND		50.0	43.0		ug/L		86	59 - 143
cis-1,3-Dichloropropene	ND		50.0	53.9		ug/L		108	57 - 140
1,2-Dichlorobenzene	ND		50.0	40.5		ug/L		81	52 - 137
1,3-Dichlorobenzene	ND		50.0	39.8		ug/L		80	54 - 135
1,4-Dichlorobenzene	ND		50.0	38.9		ug/L		78	53 - 135
Dichlorodifluoromethane	ND		50.0	39.6		ug/L		79	16 - 150
1,1-Dichloroethane	ND		50.0	43.2		ug/L		86	61 - 144
1,2-Dichloroethane	ND		50.0	42.9		ug/L		86	60 - 141
1,1-Dichloroethene	ND		50.0	43.9		ug/L		88	54 - 147
1,2-Dichloropropane	ND		50.0	43.0		ug/L		86	66 - 137
1,3-Dichloropropane	ND		50.0	42.2		ug/L		84	66 - 133

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-152288-A-1 MS
Matrix: Water
Analysis Batch: 394689

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
2,2-Dichloropropane	ND		50.0	49.8		ug/L		100	42 - 144
1,1-Dichloropropene	ND		50.0	42.8		ug/L		86	65 - 136
Ethylbenzene	4.2		50.0	47.1		ug/L		86	58 - 131
Ethyl methacrylate	ND		50.0	50.9		ug/L		102	64 - 130
Hexachlorobutadiene	ND		50.0	39.4		ug/L		79	31 - 149
2-Hexanone	ND		200	213		ug/L		106	65 - 140
Isopropylbenzene	ND		50.0	43.1		ug/L		86	56 - 133
Methylene bromide	ND		50.0	43.2		ug/L		86	63 - 138
Methylene Chloride	ND		50.0	41.9		ug/L		84	60 - 146
4-Methyl-2-pentanone (MIBK)	3.9	J	200	215		ug/L		106	63 - 146
Methyl tert-butyl ether	ND		50.0	46.9		ug/L		94	59 - 137
m-Xylene & p-Xylene	21		50.0	64.8		ug/L		87	57 - 130
Naphthalene	ND		50.0	52.3		ug/L		105	25 - 150
n-Butylbenzene	ND		50.0	39.1		ug/L		78	41 - 142
N-Propylbenzene	ND		50.0	41.5		ug/L		83	51 - 138
o-Chlorotoluene	ND		50.0	41.4		ug/L		83	53 - 134
o-Xylene	9.6		50.0	54.4		ug/L		89	61 - 130
p-Chlorotoluene	ND		50.0	40.8		ug/L		82	54 - 133
p-Isopropyltoluene	ND		50.0	41.5		ug/L		83	48 - 139
sec-Butylbenzene	ND		50.0	41.0		ug/L		82	50 - 138
Styrene	ND		50.0	44.9		ug/L		90	58 - 131
tert-Butylbenzene	ND		50.0	43.1		ug/L		86	54 - 146
1,1,1,2-Tetrachloroethane	ND		50.0	46.0		ug/L		92	59 - 137
1,1,2,2-Tetrachloroethane	ND		50.0	43.0		ug/L		86	66 - 135
Tetrachloroethene	ND		50.0	39.5		ug/L		79	52 - 133
Toluene	0.83	J	50.0	42.1		ug/L		83	65 - 130
trans-1,2-Dichloroethene	ND		50.0	43.7		ug/L		87	61 - 143
trans-1,3-Dichloropropene	ND		50.0	53.9		ug/L		108	53 - 133
1,2,3-Trichlorobenzene	ND		50.0	44.3		ug/L		89	43 - 145
1,2,4-Trichlorobenzene	ND		50.0	43.4		ug/L		87	39 - 148
1,1,1-Trichloroethane	ND		50.0	46.6		ug/L		93	57 - 142
1,1,2-Trichloroethane	ND		50.0	42.5		ug/L		85	66 - 131
Trichloroethene	ND		50.0	43.1		ug/L		86	64 - 136
Trichlorofluoromethane	ND		50.0	42.3		ug/L		85	54 - 150
1,2,3-Trichloropropane	ND		50.0	44.8		ug/L		90	65 - 133
1,2,4-Trimethylbenzene	ND		50.0	42.0		ug/L		84	50 - 139
1,3,5-Trimethylbenzene	ND		50.0	42.2		ug/L		84	52 - 135
Vinyl acetate	ND		100	103		ug/L		103	26 - 150
Vinyl chloride	ND		50.0	43.4		ug/L		87	46 - 150
Xylenes, Total	31		100	119		ug/L		88	59 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene	103		78 - 118
Dibromofluoromethane	102		81 - 121
Toluene-d8 (Surr)	99		80 - 120



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-152288-A-1 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 394689

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
Acetone	43		200	241		ug/L		99	43 - 150	9	30
Acrolein	ND		500	503		ug/L		101	38 - 150	6	31
Acrylonitrile	ND		500	512		ug/L		102	62 - 149	10	30
Benzene	ND		50.0	44.7		ug/L		89	56 - 142	3	30
Bromobenzene	ND		50.0	42.5		ug/L		85	59 - 136	3	30
Bromochloromethane	ND		50.0	47.3		ug/L		95	64 - 140	8	30
Bromodichloromethane	ND		50.0	48.8		ug/L		98	59 - 143	6	30
Bromoform	ND		50.0	54.1		ug/L		108	50 - 140	7	30
Bromomethane	ND		50.0	43.1		ug/L		86	10 - 150	6	50
2-Butanone (MEK)	8.1	J	200	228		ug/L		110	55 - 150	12	30
Carbon disulfide	1.0		50.0	52.5		ug/L		103	48 - 150	7	30
Carbon tetrachloride	ND		50.0	50.3		ug/L		101	55 - 145	4	30
Chlorobenzene	ND		50.0	43.1		ug/L		86	64 - 130	3	30
Dibromochloromethane	ND		50.0	50.4		ug/L		101	56 - 143	5	30
Chloroethane	ND		50.0	43.1		ug/L		86	50 - 150	12	30
2-Chloroethyl vinyl ether	ND	F1	50.0	ND	F1	ug/L		0	10 - 150	NC	50
Chloroform	ND		50.0	45.1		ug/L		90	60 - 141	7	30
1-Chlorohexane	ND		50.0	44.5		ug/L		89	56 - 136	4	30
Chloromethane	ND		50.0	42.3		ug/L		85	49 - 148	0	31
cis-1,2-Dichloroethene	ND		50.0	45.5		ug/L		91	59 - 143	6	30
cis-1,3-Dichloropropene	ND		50.0	57.7		ug/L		115	57 - 140	7	30
1,2-Dichlorobenzene	ND		50.0	41.5		ug/L		83	52 - 137	2	30
1,3-Dichlorobenzene	ND		50.0	41.0		ug/L		82	54 - 135	3	30
1,4-Dichlorobenzene	ND		50.0	39.7		ug/L		79	53 - 135	2	30
Dichlorodifluoromethane	ND		50.0	41.2		ug/L		82	16 - 150	4	31
1,1-Dichloroethane	ND		50.0	45.9		ug/L		92	61 - 144	6	30
1,2-Dichloroethane	ND		50.0	44.9		ug/L		90	60 - 141	4	30
1,1-Dichloroethene	ND		50.0	45.2		ug/L		90	54 - 147	3	30
1,2-Dichloropropane	ND		50.0	45.5		ug/L		91	66 - 137	6	30
1,3-Dichloropropane	ND		50.0	45.8		ug/L		92	66 - 133	8	30
2,2-Dichloropropane	ND		50.0	52.9		ug/L		106	42 - 144	6	31
1,1-Dichloropropene	ND		50.0	45.5		ug/L		91	65 - 136	6	30
Ethylbenzene	4.2		50.0	48.5		ug/L		89	58 - 131	3	30
Ethyl methacrylate	ND		50.0	55.3		ug/L		111	64 - 130	8	30
Hexachlorobutadiene	ND		50.0	41.0		ug/L		82	31 - 149	4	36
2-Hexanone	ND		200	232		ug/L		116	65 - 140	9	30
Isopropylbenzene	ND		50.0	45.5		ug/L		91	56 - 133	5	30
Methylene bromide	ND		50.0	46.0		ug/L		92	63 - 138	6	30
Methylene Chloride	ND		50.0	44.9		ug/L		90	60 - 146	7	32
4-Methyl-2-pentanone (MIBK)	3.9	J	200	243		ug/L		120	63 - 146	12	30
Methyl tert-butyl ether	ND		50.0	51.1		ug/L		102	59 - 137	9	30
m-Xylene & p-Xylene	21		50.0	65.1		ug/L		88	57 - 130	0	30
Naphthalene	ND		50.0	56.5		ug/L		113	25 - 150	8	30
n-Butylbenzene	ND		50.0	39.5		ug/L		79	41 - 142	1	31
N-Propylbenzene	ND		50.0	43.0		ug/L		86	51 - 138	4	30
o-Chlorotoluene	ND		50.0	41.6		ug/L		83	53 - 134	1	30
o-Xylene	9.6		50.0	55.1		ug/L		91	61 - 130	1	30
p-Chlorotoluene	ND		50.0	42.6		ug/L		85	54 - 133	4	30

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-152288-A-1 MSD
Matrix: Water
Analysis Batch: 394689

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
p-Isopropyltoluene	ND		50.0	43.6		ug/L		87	48 - 139	5	30
sec-Butylbenzene	ND		50.0	43.1		ug/L		86	50 - 138	5	30
Styrene	ND		50.0	46.6		ug/L		93	58 - 131	4	30
tert-Butylbenzene	ND		50.0	44.2		ug/L		88	54 - 146	2	30
1,1,1,2-Tetrachloroethane	ND		50.0	47.9		ug/L		96	59 - 137	4	30
1,1,2,2-Tetrachloroethane	ND		50.0	46.5		ug/L		93	66 - 135	8	30
Tetrachloroethene	ND		50.0	41.2		ug/L		82	52 - 133	4	30
Toluene	0.83	J	50.0	43.9		ug/L		86	65 - 130	4	30
trans-1,2-Dichloroethene	ND		50.0	45.8		ug/L		92	61 - 143	5	30
trans-1,3-Dichloropropene	ND		50.0	56.8		ug/L		114	53 - 133	5	30
1,2,3-Trichlorobenzene	ND		50.0	45.9		ug/L		92	43 - 145	4	30
1,2,4-Trichlorobenzene	ND		50.0	45.3		ug/L		91	39 - 148	4	30
1,1,1-Trichloroethane	ND		50.0	49.3		ug/L		99	57 - 142	5	30
1,1,2-Trichloroethane	ND		50.0	45.5		ug/L		91	66 - 131	7	30
Trichloroethene	ND		50.0	45.2		ug/L		90	64 - 136	5	30
Trichlorofluoromethane	ND		50.0	43.4		ug/L		87	54 - 150	2	30
1,2,3-Trichloropropane	ND		50.0	48.0		ug/L		96	65 - 133	7	30
1,2,4-Trimethylbenzene	ND		50.0	43.5		ug/L		87	50 - 139	4	30
1,3,5-Trimethylbenzene	ND		50.0	43.6		ug/L		87	52 - 135	3	30
Vinyl acetate	ND		100	109		ug/L		109	26 - 150	6	33
Vinyl chloride	ND		50.0	43.9		ug/L		88	46 - 150	1	30
Xylenes, Total	31		100	120		ug/L		89	59 - 130	1	30

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	102		78 - 118
Dibromofluoromethane	103		81 - 121
Toluene-d8 (Surr)	97		80 - 120

Lab Sample ID: MB 400-394772/4
Matrix: Water
Analysis Batch: 394772

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acetone	ND		25	10	ug/L			04/22/18 08:27	1
Acrolein	ND		20	10	ug/L			04/22/18 08:27	1
Acrylonitrile	ND		10	2.8	ug/L			04/22/18 08:27	1
Benzene	ND		1.0	0.38	ug/L			04/22/18 08:27	1
Bromobenzene	ND		1.0	0.54	ug/L			04/22/18 08:27	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/22/18 08:27	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/22/18 08:27	1
Bromoform	ND		5.0	0.71	ug/L			04/22/18 08:27	1
Bromomethane	ND		1.0	0.98	ug/L			04/22/18 08:27	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/22/18 08:27	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/22/18 08:27	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/22/18 08:27	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/22/18 08:27	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/22/18 08:27	1
Chloroethane	ND		1.0	0.76	ug/L			04/22/18 08:27	1

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-394772/4

Matrix: Water

Analysis Batch: 394772

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/22/18 08:27	1
Chloroform	ND		1.0	0.60	ug/L			04/22/18 08:27	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/22/18 08:27	1
Chloromethane	ND		1.0	0.83	ug/L			04/22/18 08:27	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/22/18 08:27	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/22/18 08:27	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/22/18 08:27	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/22/18 08:27	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/22/18 08:27	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/22/18 08:27	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/22/18 08:27	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/22/18 08:27	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/22/18 08:27	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/22/18 08:27	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/22/18 08:27	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/22/18 08:27	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/22/18 08:27	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/22/18 08:27	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/22/18 08:27	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/22/18 08:27	1
2-Hexanone	ND		25	3.1	ug/L			04/22/18 08:27	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/22/18 08:27	1
Methylene bromide	ND		5.0	0.59	ug/L			04/22/18 08:27	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/22/18 08:27	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/22/18 08:27	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/22/18 08:27	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/22/18 08:27	1
Naphthalene	ND		1.0	1.0	ug/L			04/22/18 08:27	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/22/18 08:27	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/22/18 08:27	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/22/18 08:27	1
o-Xylene	ND		5.0	0.60	ug/L			04/22/18 08:27	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/22/18 08:27	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/22/18 08:27	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/22/18 08:27	1
Styrene	ND		1.0	1.0	ug/L			04/22/18 08:27	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/22/18 08:27	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/22/18 08:27	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/22/18 08:27	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/22/18 08:27	1
Toluene	ND		1.0	0.70	ug/L			04/22/18 08:27	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/22/18 08:27	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/22/18 08:27	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/22/18 08:27	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/22/18 08:27	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/22/18 08:27	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/22/18 08:27	1
Trichloroethene	ND		1.0	0.50	ug/L			04/22/18 08:27	1

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-394772/4
Matrix: Water
Analysis Batch: 394772

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/22/18 08:27	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/22/18 08:27	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/22/18 08:27	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/22/18 08:27	1
Vinyl acetate	ND		25	2.0	ug/L			04/22/18 08:27	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/22/18 08:27	1
Xylenes, Total	ND		10	1.6	ug/L			04/22/18 08:27	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene	102		78 - 118		04/22/18 08:27	1
Dibromofluoromethane	101		81 - 121		04/22/18 08:27	1
Toluene-d8 (Surr)	100		80 - 120		04/22/18 08:27	1

Lab Sample ID: LCS 400-394772/1002
Matrix: Water
Analysis Batch: 394772

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acrolein	500	379		ug/L		76	38 - 160
Acrylonitrile	500	465		ug/L		93	64 - 142
Benzene	50.0	43.5		ug/L		87	70 - 130
Bromobenzene	50.0	46.1		ug/L		92	70 - 132
Bromochloromethane	50.0	45.8		ug/L		92	70 - 130
Bromodichloromethane	50.0	49.0		ug/L		98	67 - 133
Bromoform	50.0	55.1		ug/L		110	57 - 140
Bromomethane	50.0	39.2		ug/L		78	10 - 160
2-Butanone (MEK)	200	205		ug/L		103	61 - 145
Carbon disulfide	50.0	47.3		ug/L		95	61 - 137
Carbon tetrachloride	50.0	48.7		ug/L		97	61 - 137
Chlorobenzene	50.0	44.4		ug/L		89	70 - 130
Dibromochloromethane	50.0	49.2		ug/L		98	67 - 135
Chloroethane	50.0	42.1		ug/L		84	55 - 141
2-Chloroethyl vinyl ether	50.0	51.4		ug/L		103	10 - 160
Chloroform	50.0	43.4		ug/L		87	69 - 130
1-Chlorohexane	50.0	44.4		ug/L		89	69 - 130
Chloromethane	50.0	39.4		ug/L		79	58 - 137
cis-1,2-Dichloroethene	50.0	42.8		ug/L		86	68 - 130
cis-1,3-Dichloropropene	50.0	56.7		ug/L		113	69 - 132
1,2-Dichlorobenzene	50.0	45.3		ug/L		91	67 - 130
1,3-Dichlorobenzene	50.0	44.6		ug/L		89	70 - 130
1,4-Dichlorobenzene	50.0	43.6		ug/L		87	70 - 130
Dichlorodifluoromethane	50.0	35.9		ug/L		72	41 - 146
1,1-Dichloroethane	50.0	42.4		ug/L		85	70 - 130
1,2-Dichloroethane	50.0	44.1		ug/L		88	69 - 130
1,1-Dichloroethene	50.0	44.8		ug/L		90	63 - 134
1,2-Dichloropropane	50.0	43.9		ug/L		88	70 - 130
1,3-Dichloropropane	50.0	44.9		ug/L		90	70 - 130

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-394772/1002

Matrix: Water

Analysis Batch: 394772

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
2,2-Dichloropropane	50.0	49.8		ug/L		100	52 - 135
1,1-Dichloropropene	50.0	44.6		ug/L		89	70 - 130
Ethylbenzene	50.0	44.4		ug/L		89	70 - 130
Ethyl methacrylate	50.0	54.8		ug/L		110	68 - 130
Hexachlorobutadiene	50.0	47.7		ug/L		95	53 - 140
2-Hexanone	200	215		ug/L		108	65 - 137
Isopropylbenzene	50.0	47.0		ug/L		94	70 - 130
Methylene bromide	50.0	46.8		ug/L		94	70 - 130
Methylene Chloride	50.0	43.5		ug/L		87	66 - 135
4-Methyl-2-pentanone (MIBK)	200	223		ug/L		112	69 - 138
Methyl tert-butyl ether	50.0	48.9		ug/L		98	66 - 130
m-Xylene & p-Xylene	50.0	45.2		ug/L		90	70 - 130
Naphthalene	50.0	54.7		ug/L		109	47 - 149
n-Butylbenzene	50.0	45.2		ug/L		90	67 - 130
N-Propylbenzene	50.0	47.4		ug/L		95	70 - 130
o-Chlorotoluene	50.0	45.2		ug/L		90	70 - 130
c-Xylene	50.0	45.1		ug/L		90	70 - 130
p-Chlorotoluene	50.0	45.7		ug/L		91	70 - 130
p-Isopropyltoluene	50.0	48.1		ug/L		96	65 - 130
sec-Butylbenzene	50.0	46.3		ug/L		93	66 - 130
Styrene	50.0	47.0		ug/L		94	70 - 130
tert-Butylbenzene	50.0	47.6		ug/L		95	64 - 139
1,1,1,2-Tetrachloroethane	50.0	48.0		ug/L		96	67 - 131
1,1,2,2-Tetrachloroethane	50.0	46.9		ug/L		94	70 - 131
Tetrachloroethene	50.0	42.2		ug/L		84	65 - 130
Toluene	50.0	43.0		ug/L		86	70 - 130
trans-1,2-Dichloroethene	50.0	44.3		ug/L		89	70 - 130
trans-1,3-Dichloropropene	50.0	55.9		ug/L		112	63 - 130
1,2,3-Trichlorobenzene	50.0	49.3		ug/L		99	60 - 138
1,2,4-Trichlorobenzene	50.0	48.0		ug/L		96	60 - 140
1,1,1-Trichloroethane	50.0	47.5		ug/L		95	68 - 130
1,1,2-Trichloroethane	50.0	43.9		ug/L		88	70 - 130
Trichloroethene	50.0	45.6		ug/L		91	70 - 130
Trichlorofluoromethane	50.0	41.0		ug/L		82	65 - 138
1,2,3-Trichloropropane	50.0	50.3		ug/L		101	70 - 130
1,2,4-Trimethylbenzene	50.0	46.9		ug/L		94	70 - 130
1,3,5-Trimethylbenzene	50.0	47.0		ug/L		94	69 - 130
Vinyl acetate	100	102		ug/L		102	26 - 160
Vinyl chloride	50.0	41.4		ug/L		83	59 - 136
Xylenes, Total	100	90.3		ug/L		90	70 - 130

Surrogate	LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	102		78 - 118
Dibromofluoromethane	100		81 - 121
Toluene-d8 (Surr)	96		80 - 120



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-152470-A-2 MS

Matrix: Water

Analysis Batch: 394772

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		200	158		ug/L		79	43 - 150
Acrolein	ND		500	369		ug/L		74	38 - 150
Acrylonitrile	ND		500	408		ug/L		82	62 - 149
Benzene	ND		50.0	41.5		ug/L		83	56 - 142
Bromobenzene	ND		50.0	40.8		ug/L		82	59 - 136
Bromochloromethane	ND		50.0	43.0		ug/L		86	64 - 140
Bromodichloromethane	ND		50.0	44.4		ug/L		89	59 - 143
Bromoform	ND		50.0	48.2		ug/L		96	50 - 140
Bromomethane	ND		50.0	23.6		ug/L		47	10 - 150
2-Butanone (MEK)	ND		200	176		ug/L		88	55 - 150
Carbon disulfide	ND		50.0	45.0		ug/L		90	48 - 150
Carbon tetrachloride	ND		50.0	46.0		ug/L		92	55 - 145
Chlorobenzene	ND		50.0	41.8		ug/L		84	64 - 130
Dibromochloromethane	ND		50.0	46.3		ug/L		93	56 - 143
Chloroethane	ND		50.0	37.6		ug/L		75	50 - 150
2-Chloroethyl vinyl ether	ND	F2	50.0	23.3		ug/L		47	10 - 150
Chloroform	ND		50.0	41.3		ug/L		83	60 - 141
1-Chlorohexane	ND		50.0	42.4		ug/L		85	56 - 136
Chloromethane	ND		50.0	32.6		ug/L		65	49 - 148
cis-1,2-Dichloroethene	ND		50.0	40.4		ug/L		81	59 - 143
cis-1,3-Dichloropropene	ND		50.0	52.4		ug/L		105	57 - 140
1,2-Dichlorobenzene	ND		50.0	41.0		ug/L		82	52 - 137
1,3-Dichlorobenzene	ND		50.0	40.7		ug/L		81	54 - 135
1,4-Dichlorobenzene	ND		50.0	39.6		ug/L		79	53 - 135
Dichlorodifluoromethane	ND		50.0	33.7		ug/L		67	16 - 150
1,1-Dichloroethane	ND		50.0	40.5		ug/L		81	61 - 144
1,2-Dichloroethane	ND		50.0	41.1		ug/L		82	60 - 141
1,1-Dichloroethene	ND		50.0	41.9		ug/L		84	54 - 147
1,2-Dichloropropane	ND		50.0	40.6		ug/L		81	66 - 137
1,3-Dichloropropane	ND		50.0	41.2		ug/L		82	66 - 133
2,2-Dichloropropane	ND		50.0	46.0		ug/L		92	42 - 144
1,1-Dichloropropene	ND		50.0	42.0		ug/L		84	65 - 136
Ethylbenzene	ND		50.0	41.9		ug/L		84	58 - 131
Ethyl methacrylate	ND		50.0	48.5		ug/L		97	64 - 130
Hexachlorobutadiene	ND		50.0	42.9		ug/L		86	31 - 149
2-Hexanone	ND		200	183		ug/L		92	65 - 140
Isopropylbenzene	ND		50.0	43.8		ug/L		88	56 - 133
Methylene bromide	ND		50.0	42.8		ug/L		86	63 - 138
Methylene Chloride	ND		50.0	40.2		ug/L		80	60 - 146
4-Methyl-2-pentanone (MIBK)	ND		200	190		ug/L		95	63 - 146
Methyl tert-butyl ether	ND		50.0	43.8		ug/L		88	59 - 137
m-Xylene & p-Xylene	ND		50.0	42.3		ug/L		85	57 - 130
Naphthalene	ND		50.0	46.9		ug/L		94	25 - 150
n-Butylbenzene	ND		50.0	40.5		ug/L		81	41 - 142
N-Propylbenzene	ND		50.0	42.2		ug/L		84	51 - 138
o-Chlorotoluene	ND		50.0	40.4		ug/L		81	53 - 134
o-Xylene	ND		50.0	42.6		ug/L		85	61 - 130
p-Chlorotoluene	ND		50.0	41.7		ug/L		83	54 - 133

TestAmerica Pensacola



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-152470-A-2 MS

Matrix: Water

Analysis Batch: 394772

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS MS		Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier		Result	Qualifier					
p-Isopropyltoluene	ND		50.0	43.7		ug/L		87	48 - 139	
sec-Butylbenzene	ND		50.0	42.0		ug/L		84	50 - 138	
Styrene	ND		50.0	44.3		ug/L		89	58 - 131	
tert-Butylbenzene	ND		50.0	42.9		ug/L		86	54 - 146	
1,1,1,2-Tetrachloroethane	ND		50.0	44.4		ug/L		89	59 - 137	
1,1,2,2-Tetrachloroethane	ND		50.0	40.8		ug/L		82	66 - 135	
Tetrachloroethene	ND		50.0	39.4		ug/L		79	52 - 133	
Toluene	ND		50.0	40.1		ug/L		80	65 - 130	
trans-1,2-Dichloroethene	ND		50.0	42.7		ug/L		85	61 - 143	
trans-1,3-Dichloropropene	ND		50.0	50.7		ug/L		101	53 - 133	
1,2,3-Trichlorobenzene	ND		50.0	43.3		ug/L		87	43 - 145	
1,2,4-Trichlorobenzene	ND		50.0	41.9		ug/L		84	39 - 148	
1,1,1-Trichloroethane	ND		50.0	45.0		ug/L		90	57 - 142	
1,1,2-Trichloroethane	ND		50.0	41.0		ug/L		82	66 - 131	
Trichloroethene	ND		50.0	42.7		ug/L		85	64 - 136	
Trichlorofluoromethane	ND		50.0	37.1		ug/L		74	54 - 150	
1,2,3-Trichloropropane	ND		50.0	42.7		ug/L		85	65 - 133	
1,2,4-Trimethylbenzene	ND		50.0	42.4		ug/L		85	50 - 139	
1,3,5-Trimethylbenzene	ND		50.0	42.3		ug/L		85	52 - 135	
Vinyl acetate	ND		100	89.0		ug/L		89	26 - 150	
Vinyl chloride	ND		50.0	34.5		ug/L		69	46 - 150	
Xylenes, Total	ND		100	84.9		ug/L		85	59 - 130	

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	97		78 - 118
Dibromofluoromethane	103		81 - 121
Toluene-d8 (Surr)	97		80 - 120

Lab Sample ID: 400-152470-A-2 MSD

Matrix: Water

Analysis Batch: 394772

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD MSD		Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier		Result	Qualifier						
Acetone	ND		200	162		ug/L		81	43 - 150	2	30
Acrolein	ND		500	399		ug/L		80	38 - 150	8	31
Acrylonitrile	ND		500	404		ug/L		81	62 - 149	1	30
Benzene	ND		50.0	37.1		ug/L		74	56 - 142	11	30
Bromobenzene	ND		50.0	35.2		ug/L		70	59 - 136	15	30
Bromochloromethane	ND		50.0	39.3		ug/L		79	64 - 140	9	30
Bromodichloromethane	ND		50.0	40.0		ug/L		80	59 - 143	10	30
Bromoform	ND		50.0	43.2		ug/L		86	50 - 140	11	30
Bromomethane	ND		50.0	29.3		ug/L		59	10 - 150	21	50
2-Butanone (MEK)	ND		200	179		ug/L		89	55 - 150	2	30
Carbon disulfide	ND		50.0	40.5		ug/L		81	48 - 150	10	30
Carbon tetrachloride	ND		50.0	42.3		ug/L		85	55 - 145	8	30
Chlorobenzene	ND		50.0	36.2		ug/L		72	64 - 130	14	30
Dibromochloromethane	ND		50.0	42.0		ug/L		84	56 - 143	10	30
Chloroethane	ND		50.0	36.2		ug/L		72	50 - 150	4	30

TestAmerica Pensacola



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-152470-A-2 MSD

Matrix: Water

Analysis Batch: 394772

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
2-Chloroethyl vinyl ether	ND	F2	50.0	10.2	F2	ug/L		20	10 - 150	79	50
Chloroform	ND		50.0	37.0		ug/L		74	60 - 141	11	30
1-Chlorohexane	ND		50.0	36.7		ug/L		73	56 - 136	14	30
Chloromethane	ND		50.0	35.2		ug/L		70	49 - 148	7	31
cis-1,2-Dichloroethene	ND		50.0	36.7		ug/L		73	59 - 143	9	30
cis-1,3-Dichloropropene	ND		50.0	46.9		ug/L		94	57 - 140	11	30
1,2-Dichlorobenzene	ND		50.0	34.7		ug/L		69	52 - 137	17	30
1,3-Dichlorobenzene	ND		50.0	34.1		ug/L		68	54 - 135	18	30
1,4-Dichlorobenzene	ND		50.0	32.9		ug/L		66	53 - 135	19	30
Dichlorodifluoromethane	ND		50.0	33.3		ug/L		67	16 - 150	1	31
1,1-Dichloroethane	ND		50.0	36.5		ug/L		73	61 - 144	11	30
1,2-Dichloroethane	ND		50.0	37.1		ug/L		74	60 - 141	10	30
1,1-Dichloroethene	ND		50.0	38.7		ug/L		77	54 - 147	8	30
1,2-Dichloropropane	ND		50.0	36.4		ug/L		73	56 - 137	11	30
1,3-Dichloropropane	ND		50.0	37.6		ug/L		75	66 - 133	9	30
2,2-Dichloropropane	ND		50.0	42.5		ug/L		85	42 - 144	8	31
1,1-Dichloropropene	ND		50.0	37.4		ug/L		75	65 - 136	12	30
Ethylbenzene	ND		50.0	36.4		ug/L		73	58 - 131	14	30
Ethyl methacrylate	ND		50.0	45.7		ug/L		91	64 - 130	6	30
Hexachlorobutadiene	ND		50.0	34.8		ug/L		70	31 - 149	21	36
2-Hexanone	ND		200	187		ug/L		93	65 - 140	2	30
Isopropylbenzene	ND		50.0	38.3		ug/L		77	56 - 133	13	30
Methylene bromide	ND		50.0	38.5		ug/L		77	63 - 138	11	30
Methylene Chloride	ND		50.0	36.2		ug/L		72	60 - 146	11	32
4-Methyl-2-pentanone (MIBK)	ND		200	192		ug/L		96	63 - 146	1	30
Methyl tert-butyl ether	ND		50.0	41.4		ug/L		83	59 - 137	6	30
m-Xylene & p-Xylene	ND		50.0	36.5		ug/L		73	57 - 130	15	30
Naphthalene	ND		50.0	42.9		ug/L		86	25 - 150	9	30
n-Butylbenzene	ND		50.0	34.2		ug/L		68	41 - 142	17	31
N-Propylbenzene	ND		50.0	35.9		ug/L		72	51 - 138	16	30
o-Chlorotoluene	ND		50.0	34.8		ug/L		70	53 - 134	15	30
o-Xylene	ND		50.0	36.8		ug/L		74	61 - 130	15	30
p-Chlorotoluene	ND		50.0	34.7		ug/L		69	54 - 133	18	30
p-Isopropyltoluene	ND		50.0	36.2		ug/L		72	48 - 139	19	30
sec-Butylbenzene	ND		50.0	36.0		ug/L		72	50 - 138	15	30
Styrene	ND		50.0	37.9		ug/L		76	58 - 131	16	30
tert-Butylbenzene	ND		50.0	36.6		ug/L		73	54 - 146	16	30
1,1,1,2-Tetrachloroethane	ND		50.0	39.5		ug/L		79	59 - 137	12	30
1,1,2,2-Tetrachloroethane	ND		50.0	37.9		ug/L		76	66 - 135	7	30
Tetrachloroethene	ND		50.0	35.5		ug/L		71	52 - 133	10	30
Toluene	ND		50.0	35.8		ug/L		72	65 - 130	11	30
trans-1,2-Dichloroethene	ND		50.0	38.2		ug/L		76	61 - 143	11	30
trans-1,3-Dichloropropene	ND		50.0	46.1		ug/L		92	53 - 133	10	30
1,2,3-Trichlorobenzene	ND		50.0	36.1		ug/L		72	43 - 145	18	30
1,2,4-Trichlorobenzene	ND		50.0	34.4		ug/L		69	39 - 148	20	30
1,1,1-Trichloroethane	ND		50.0	40.8		ug/L		82	57 - 142	10	30
1,1,2-Trichloroethane	ND		50.0	37.9		ug/L		76	66 - 131	8	30
Trichloroethene	ND		50.0	38.6		ug/L		77	64 - 136	10	30

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-152470-A-2 MSD

Matrix: Water

Analysis Batch: 394772

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
Trichlorofluoromethane	ND		50.0	36.8		ug/L		74	54 - 150	1	30
1,2,3-Trichloropropane	ND		50.0	41.2		ug/L		82	65 - 133	3	30
1,2,4-Trimethylbenzene	ND		50.0	36.1		ug/L		72	50 - 139	16	30
1,3,5-Trimethylbenzene	ND		50.0	35.9		ug/L		72	52 - 135	17	30
Vinyl acetate	ND		100	95.7		ug/L		96	26 - 150	7	33
Vinyl chloride	ND		50.0	36.3		ug/L		73	46 - 150	5	30
Xylenes, Total	ND		100	73.3		ug/L		73	59 - 130	15	30
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene	98		78 - 118								
Dibromofluoromethane	102		81 - 121								
Toluene-d8 (Surr)	97		80 - 120								

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-394327/1-A

Matrix: Water

Analysis Batch: 394678

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 394327

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzenethiol	ND		10	1.7	ug/L		04/18/18 11:16	04/20/18 16:31	1
Benzoic acid	ND		30	7.3	ug/L		04/18/18 11:16	04/20/18 16:31	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		04/18/18 11:16	04/20/18 16:31	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		04/18/18 11:16	04/20/18 16:31	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		04/18/18 11:16	04/20/18 16:31	1
Bis(2-ethylhexyl) phthalate	ND		10	2.3	ug/L		04/18/18 11:16	04/20/18 16:31	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		04/18/18 11:16	04/20/18 16:31	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		04/18/18 11:16	04/20/18 16:31	1
4-Chloroaniline	ND		10	3.4	ug/L		04/18/18 11:16	04/20/18 16:31	1
2-Chloronaphthalene	ND		10	0.52	ug/L		04/18/18 11:16	04/20/18 16:31	1
2-Chlorophenol	ND		10	2.2	ug/L		04/18/18 11:16	04/20/18 16:31	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		04/18/18 11:16	04/20/18 16:31	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		04/18/18 11:16	04/20/18 16:31	1
Dibenzofuran	ND		10	0.52	ug/L		04/18/18 11:16	04/20/18 16:31	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		04/18/18 11:16	04/20/18 16:31	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		04/18/18 11:16	04/20/18 16:31	1
Diethyl phthalate	ND		10	0.70	ug/L		04/18/18 11:16	04/20/18 16:31	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		04/18/18 11:16	04/20/18 16:31	1
Dimethyl phthalate	ND		10	0.60	ug/L		04/18/18 11:16	04/20/18 16:31	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		04/18/18 11:16	04/20/18 16:31	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		04/18/18 11:16	04/20/18 16:31	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/18/18 11:16	04/20/18 16:31	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		04/18/18 11:16	04/20/18 16:31	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		04/18/18 11:16	04/20/18 16:31	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		04/18/18 11:16	04/20/18 16:31	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		04/18/18 11:16	04/20/18 16:31	1
Hexachlorobenzene	ND		10	0.25	ug/L		04/18/18 11:16	04/20/18 16:31	1

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-394327/1-A

Matrix: Water

Analysis Batch: 394678

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 394327

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/18/18 11:16	04/20/18 16:31	1
Hexachloroethane	ND		10	4.2	ug/L		04/18/18 11:16	04/20/18 16:31	1
2-Methylphenol	ND		10	1.8	ug/L		04/18/18 11:16	04/20/18 16:31	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/18/18 11:16	04/20/18 16:31	1
2-Nitroaniline	ND		10	2.2	ug/L		04/18/18 11:16	04/20/18 16:31	1
3-Nitroaniline	ND		10	1.8	ug/L		04/18/18 11:16	04/20/18 16:31	1
4-Nitroaniline	ND		10	2.5	ug/L		04/18/18 11:16	04/20/18 16:31	1
2-Nitrophenol	ND		10	0.65	ug/L		04/18/18 11:16	04/20/18 16:31	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		04/18/18 11:16	04/20/18 16:31	1
Pentachlorophenol	ND		20	1.8	ug/L		04/18/18 11:16	04/20/18 16:31	1
Phenol	ND		10	2.6	ug/L		04/18/18 11:16	04/20/18 16:31	1
Quinoline	ND		10	6.0	ug/L		04/18/18 11:16	04/20/18 16:31	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		04/18/18 11:16	04/20/18 16:31	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/18/18 11:16	04/20/18 16:31	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2-Fluorobiphenyl	60		34 - 120	04/18/18 11:16	04/20/18 16:31	1
2-Fluorophenol	51		10 - 120	04/18/18 11:16	04/20/18 16:31	1
Nitrobenzene-d5	61		27 - 120	04/18/18 11:16	04/20/18 16:31	1
Phenol-d5	56		10 - 120	04/18/18 11:16	04/20/18 16:31	1
Terphenyl-d14	76		53 - 125	04/18/18 11:16	04/20/18 16:31	1
2,4,6-Tribromophenol	60		15 - 135	04/18/18 11:16	04/20/18 16:31	1

Lab Sample ID: MB 400-394327/1-A

Matrix: Water

Analysis Batch: 394846

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 394327

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aniline	ND		10	3.8	ug/L		04/18/18 11:16	04/23/18 12:08	1
Benzyl alcohol	ND		10	2.0	ug/L		04/18/18 11:16	04/23/18 12:08	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		04/18/18 11:16	04/23/18 12:08	1
1,4-Dioxane	ND		10	1.0	ug/L		04/18/18 11:16	04/23/18 12:08	1
Indene	ND		10	1.0	ug/L		04/18/18 11:16	04/23/18 12:08	1
Isophorone	ND		10	0.57	ug/L		04/18/18 11:16	04/23/18 12:08	1
Nitrobenzene	ND		10	0.55	ug/L		04/18/18 11:16	04/23/18 12:08	1
4-Nitrophenol	ND		10	2.1	ug/L		04/18/18 11:16	04/23/18 12:08	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		04/18/18 11:16	04/23/18 12:08	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		04/18/18 11:16	04/23/18 12:08	1
Pyridine	ND		10	3.2	ug/L		04/18/18 11:16	04/23/18 12:08	1

Lab Sample ID: LCS 400-394327/24-A

Matrix: Water

Analysis Batch: 394678

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 394327

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec.
		Result	Qualifier				Limits
Aniline	30.0	14.5		ug/L		48	29 - 120
Benzyl alcohol	30.0	5.76	J	ug/L		19	19 - 125
Bis(2-chloroethoxy)methane	30.0	21.6		ug/L		72	45 - 120

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-394327/24-A
Matrix: Water
Analysis Batch: 394678

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 394327

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bis(2-chloroethyl)ether	30.0	21.0		ug/L		70	48 - 120
bis (2-chloroisopropyl) ether	30.0	19.0		ug/L		63	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	24.4		ug/L		81	48 - 150
4-Bromophenyl phenyl ether	30.0	22.7		ug/L		76	55 - 122
Butyl benzyl phthalate	30.0	22.8		ug/L		76	46 - 145
4-Chloroaniline	30.0	14.3		ug/L		48	30 - 120
4-Chloro-3-methylphenol	30.0	17.7		ug/L		59	39 - 140
2-Chloronaphthalene	30.0	20.4		ug/L		68	52 - 120
2-Chlorophenol	30.0	19.4		ug/L		65	34 - 120
4-Chlorophenyl phenyl ether	30.0	21.9		ug/L		73	58 - 124
Dibenzofuran	30.0	22.1		ug/L		74	58 - 123
3,3'-Dichlorobenzidine	60.0	41.7		ug/L		70	39 - 135
2,4-Dichlorophenol	30.0	20.4		ug/L		68	39 - 128
Diethyl phthalate	30.0	23.2		ug/L		77	44 - 146
2,4-Dimethylphenol	30.0	16.4		ug/L		55	44 - 120
Dimethyl phthalate	30.0	22.3		ug/L		74	50 - 131
Di-n-butyl phthalate	30.0	25.2		ug/L		84	55 - 131
4,6-Dinitro-ortho-cresol	60.0	57.8		ug/L		96	10 - 150
2,4-Dinitrophenol	60.0	45.6		ug/L		76	10 - 150
2,4-Dinitrotoluene	30.0	23.1		ug/L		77	58 - 140
2,6-Dinitrotoluene	30.0	22.1		ug/L		74	57 - 130
Di-n-octyl phthalate	30.0	24.7		ug/L		82	50 - 150
1,4-Dioxane	30.0	10.3		ug/L		34	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	20.9		ug/L		70	47 - 123
Hexachlorobenzene	30.0	25.2		ug/L		84	52 - 131
Hexachlorocyclopentadiene	30.0	9.14	J	ug/L		30	10 - 129
Hexachloroethane	30.0	18.3		ug/L		61	41 - 120
Isophorone	30.0	19.2		ug/L		64	49 - 120
2-Methylphenol	30.0	24.3		ug/L		81	39 - 123
3 & 4 Methylphenol	30.0	23.7		ug/L		79	38 - 121
2-Nitroaniline	30.0	20.3		ug/L		68	47 - 150
3-Nitroaniline	30.0	17.0		ug/L		57	34 - 132
4-Nitroaniline	30.0	18.1		ug/L		60	41 - 135
Nitrobenzene	30.0	20.7		ug/L		69	47 - 120
2-Nitrophenol	30.0	21.7		ug/L		72	28 - 136
4-Nitrophenol	60.0	43.6		ug/L		73	10 - 150
N-Nitrosodimethylamine	30.0	15.8		ug/L		53	22 - 148
N-Nitrosodi-n-propylamine	30.0	18.7		ug/L		62	44 - 120
N-Nitrosodiphenylamine	29.8	22.0		ug/L		74	56 - 120
Pentachlorophenol	60.0	46.4		ug/L		77	15 - 141
Phenol	30.0	14.7		ug/L		49	33 - 120
Pyridine	60.0	28.0		ug/L		47	26 - 120
2,4,5-Trichlorophenol	30.0	23.1		ug/L		77	38 - 147
2,4,6-Trichlorophenol	30.0	21.4		ug/L		71	36 - 139

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	66		34 - 120

TestAmerica Pensacola



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-394327/24-A
Matrix: Water
Analysis Batch: 394678

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 394327

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Fluorophenol	39		10 - 120
Nitrobenzene-d5	75		27 - 120
Phenol-d5	57		10 - 120
Terphenyl-d14	82		53 - 125
2,4,6-Tribromophenol	77		15 - 135

Lab Sample ID: LCS 400-394327/4-A
Matrix: Water
Analysis Batch: 394678

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 394327

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Benzenethiol	30.0	8.57	J	ug/L		29	10 - 120

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	58		34 - 120
2-Fluorophenol	54		10 - 120
Nitrobenzene-d5	59		27 - 120
Phenol-d5	56		10 - 120
Terphenyl-d14	75		53 - 125
2,4,6-Tribromophenol	60		15 - 135

Lab Sample ID: LCSD 400-394327/25-A
Matrix: Water
Analysis Batch: 394678

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 394327

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec. Limits	RPD	
		Result	Qualifier					RPD	Limit
Aniline	30.0	11.8		ug/L		39	29 - 120	20	30
Benzyl alcohol	30.0	4.55	J *	ug/L		15	19 - 125	23	30
Bis(2-chloroethoxy)methane	30.0	20.0		ug/L		67	45 - 120	7	30
Bis(2-chloroethyl)ether	30.0	21.5		ug/L		72	46 - 120	3	30
bis (2-chloroisopropyl) ether	30.0	17.7		ug/L		59	30 - 125	7	30
Bis(2-ethylhexyl) phthalate	30.0	23.2		ug/L		77	48 - 150	5	30
4-Bromophenyl phenyl ether	30.0	21.2		ug/L		71	55 - 122	7	30
Butyl benzyl phthalate	30.0	22.2		ug/L		74	46 - 145	3	30
4-Chloroaniline	30.0	12.5		ug/L		42	30 - 120	14	30
4-Chloro-3-methylphenol	30.0	16.4		ug/L		55	39 - 140	7	30
2-Chloronaphthalene	30.0	19.5		ug/L		65	52 - 120	4	30
2-Chlorophenol	30.0	19.5		ug/L		65	34 - 120	0	30
4-Chlorophenyl phenyl ether	30.0	20.4		ug/L		68	58 - 124	7	30
Dibenzofuran	30.0	21.3		ug/L		71	58 - 123	4	30
3,3'-Dichlorobenzidine	60.0	39.8		ug/L		66	39 - 135	5	30
2,4-Dichlorophenol	30.0	19.5		ug/L		65	39 - 128	4	30
Diethyl phthalate	30.0	22.1		ug/L		74	44 - 146	5	30
2,4-Dimethylphenol	30.0	15.9		ug/L		53	44 - 120	3	30
Dimethyl phthalate	30.0	21.3		ug/L		71	50 - 131	5	30
Di-n-butyl phthalate	30.0	24.1		ug/L		80	55 - 131	4	30
4,6-Dinitro-ortho-cresol	60.0	57.8		ug/L		96	10 - 150	0	30
2,4-Dinitrophenol	60.0	47.3		ug/L		79	10 - 150	4	30

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-394327/25-A
Matrix: Water
Analysis Batch: 394678

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 394327

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4-Dinitrotoluene	30.0	21.7		ug/L		72	58 - 140	6	30
2,6-Dinitrotoluene	30.0	20.7		ug/L		69	57 - 130	6	30
Di-n-octyl phthalate	30.0	24.4		ug/L		81	50 - 150	1	30
1,4-Dioxane	30.0	10.1		ug/L		34	25 - 120	2	30
1,2-Diphenylhydrazine (as Azobenzene)	30.0	19.0		ug/L		63	47 - 123	10	30
Hexachlorobenzene	30.0	24.1		ug/L		80	52 - 131	4	30
Hexachlorocyclopentadiene	30.0	7.34	J	ug/L		24	10 - 129	22	30
Hexachloroethane	30.0	16.6		ug/L		55	41 - 120	10	30
Isophorone	30.0	18.0		ug/L		60	49 - 120	7	30
2-Methylphenol	30.0	23.9		ug/L		80	39 - 123	1	30
3 & 4 Methylphenol	30.0	23.4		ug/L		78	38 - 121	1	30
2-Nitroaniline	30.0	18.2		ug/L		61	47 - 150	11	30
3-Nitroaniline	30.0	15.1		ug/L		50	34 - 132	12	30
4-Nitroaniline	30.0	17.5		ug/L		58	41 - 135	3	30
Nitrobenzene	30.0	19.0		ug/L		63	47 - 120	9	30
2-Nitrophenol	30.0	21.1		ug/L		70	28 - 136	3	30
4-Nitrophenol	60.0	41.4		ug/L		69	10 - 150	5	30
N-Nitrosodimethylamine	30.0	15.6		ug/L		52	22 - 148	1	30
N-Nitrosodi-n-propylamine	30.0	17.3		ug/L		58	44 - 120	8	30
N-Nitrosodiphenylamine	29.8	20.8		ug/L		70	56 - 120	5	30
Pentachlorophenol	60.0	47.0		ug/L		78	15 - 141	1	30
Phenol	30.0	19.9		ug/L		66	33 - 120	30	30
Pyridine	60.0	27.1		ug/L		45	26 - 120	3	30
2,4,5-Trichlorophenol	30.0	22.2		ug/L		74	38 - 147	4	30
2,4,6-Trichlorophenol	30.0	20.7		ug/L		69	36 - 139	4	30

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	62		34 - 120
2-Fluorophenol	49		10 - 120
Nitrobenzene-d5	67		27 - 120
Phenol-d5	57		10 - 120
Terphenyl-d14	80		53 - 125
2,4,6-Tribromophenol	73		15 - 135

Lab Sample ID: LCSD 400-394327/5-A
Matrix: Water
Analysis Batch: 394678

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 394327

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	30.0	5.68	J *	ug/L		19	10 - 120	41	30

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	61		34 - 120
2-Fluorophenol	55		10 - 120
Nitrobenzene-d5	61		27 - 120
Phenol-d5	56		10 - 120
Terphenyl-d14	85		53 - 125

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-394327/5-A
Matrix: Water
Analysis Batch: 394678

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 394327

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol	68		15 - 135

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-394327/1-A
Matrix: Water
Analysis Batch: 394686

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 394327

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 15:33	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 15:33	1
Anthracene	ND		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 15:33	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/18/18 11:16	04/20/18 15:33	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/18/18 11:16	04/20/18 15:33	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/18/18 11:16	04/20/18 15:33	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/18/18 11:16	04/20/18 15:33	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/18/18 11:16	04/20/18 15:33	1
Chrysene	ND		0.20	0.040	ug/L		04/18/18 11:16	04/20/18 15:33	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		04/18/18 11:16	04/20/18 15:33	1
Fluoranthene	0.0208	J	0.20	0.020	ug/L		04/18/18 11:16	04/20/18 15:33	1
Fluorene	ND		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 15:33	1
Indeno[1,2,3-cd]pyrene	0.0446	J	0.20	0.040	ug/L		04/18/18 11:16	04/20/18 15:33	1
Phenanthrene	ND		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 15:33	1
Pyrene	0.0330	J	0.20	0.020	ug/L		04/18/18 11:16	04/20/18 15:33	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 15:33	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 15:33	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	113		33 - 138	04/18/18 11:16	04/20/18 15:33	1
2-Fluorobiphenyl	84		15 - 122	04/18/18 11:16	04/20/18 15:33	1
Nitrobenzene-d5	73		19 - 130	04/18/18 11:16	04/20/18 15:33	1

Lab Sample ID: LCS 400-394327/2-A
Matrix: Water
Analysis Batch: 394686

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 394327

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	26.2		ug/L		87	41 - 120
Acenaphthylene	30.0	23.6		ug/L		79	44 - 120
Anthracene	30.0	24.3		ug/L		81	49 - 120
Benzo[a]anthracene	30.0	23.5		ug/L		78	61 - 135
Benzo[a]pyrene	30.0	23.1		ug/L		77	52 - 120
Benzo[b]fluoranthene	30.0	27.5		ug/L		92	53 - 134
Benzo[g,h,i]perylene	30.0	21.6		ug/L		72	47 - 133
Benzo[k]fluoranthene	30.0	23.6		ug/L		79	57 - 134
Chrysene	30.0	22.6		ug/L		75	55 - 122
Dibenz(a,h)anthracene	30.0	20.8		ug/L		69	48 - 146

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-394327/2-A

Matrix: Water

Analysis Batch: 394686

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 394327

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Fluoranthene	30.0	25.4		ug/L		85	54 - 128	
Fluorene	30.0	28.6		ug/L		95	45 - 125	
Indeno[1,2,3-cd]pyrene	30.0	23.2		ug/L		77	43 - 142	
Phenanthrene	30.0	26.2		ug/L		87	48 - 120	
Pyrene	30.0	23.0		ug/L		77	48 - 132	
1-Methylnaphthalene	30.0	24.1		ug/L		80	41 - 120	
2-Methylnaphthalene	30.0	23.3		ug/L		78	32 - 124	
LCS LCS								
Surrogate	%Recovery	Qualifier	Limits					
Terphenyl-d14	80		33 - 138					
2-Fluorobiphenyl	75		15 - 122					
Nitrobenzene-d5	83		19 - 130					

Lab Sample ID: LCSD 400-394327/3-A

Matrix: Water

Analysis Batch: 394686

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 394327

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD	
									RPD	Limit
Acenaphthene	30.0	25.8		ug/L		86	41 - 120	1	56	
Acenaphthylene	30.0	23.1		ug/L		77	44 - 120	2	56	
Anthracene	30.0	23.9		ug/L		80	49 - 120	2	51	
Benzo[a]anthracene	30.0	22.9		ug/L		76	61 - 135	3	49	
Benzo[a]pyrene	30.0	23.2		ug/L		77	52 - 120	1	50	
Benzo[b]fluoranthene	30.0	26.1		ug/L		87	53 - 134	5	54	
Benzo[g,h,i]perylene	30.0	21.1		ug/L		70	47 - 133	2	50	
Benzo[k]fluoranthene	30.0	24.3		ug/L		81	57 - 134	3	52	
Chrysene	30.0	22.5		ug/L		75	55 - 122	1	50	
Dibenz(a,h)anthracene	30.0	20.6		ug/L		69	48 - 146	1	50	
Fluoranthene	30.0	24.8		ug/L		83	54 - 128	3	52	
Fluorene	30.0	27.7		ug/L		92	45 - 125	3	56	
Indeno[1,2,3-cd]pyrene	30.0	23.0		ug/L		77	43 - 142	1	51	
Phenanthrene	30.0	25.6		ug/L		85	48 - 120	3	56	
Pyrene	30.0	22.6		ug/L		75	48 - 132	2	52	
1-Methylnaphthalene	30.0	23.9		ug/L		80	41 - 120	1	55	
2-Methylnaphthalene	30.0	23.1		ug/L		77	32 - 124	1	57	
LCSD LCSD										
Surrogate	%Recovery	Qualifier	Limits							
Terphenyl-d14	80		33 - 138							
2-Fluorobiphenyl	77		15 - 122							
Nitrobenzene-d5	81		19 - 130							

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
SDG: (2Q18)

Method: 8011 - EDB and DBCP in Water by Microextraction

Lab Sample ID: MB 400-394693/1-A

Matrix: Water

Analysis Batch: 394741

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 394693

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2-Dibromo-3-Chloropropane	ND		0.030	0.0055	ug/L		04/20/18 15:17	04/20/18 21:05	1
1,2-Dibromoethane	ND		0.020	0.0050	ug/L		04/20/18 15:17	04/20/18 21:05	1
Surrogate	MB MB		Limits			Prepared	Analyzed	Dil Fac	
%Recovery	Qualifier								
4-Bromofluorobenzene	97		51 - 149			04/20/18 15:17	04/20/18 21:05	1	

Lab Sample ID: LCS 400-394693/2-A

Matrix: Water

Analysis Batch: 394741

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 394693

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
1,2-Dibromo-3-Chloropropane	0.100	0.102		ug/L		102	60 - 140
1,2-Dibromoethane	0.100	0.109		ug/L		109	60 - 140
Surrogate	LCS LCS		Limits			%Rec	
%Recovery	Qualifier						
4-Bromofluorobenzene	105		51 - 149				

Lab Sample ID: LCSD 400-394693/3-A

Matrix: Water

Analysis Batch: 394741

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 394693

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
		Result	Qualifier						
1,2-Dibromo-3-Chloropropane	0.100	0.102		ug/L		102	60 - 140	37	30
1,2-Dibromoethane	0.100	0.109		ug/L		109	60 - 140	0	30
Surrogate	LCSD LCSD		Limits			%Rec			
%Recovery	Qualifier								
4-Bromofluorobenzene	104		51 - 149						

TestAmerica Pensacola

Shell Oil Products US Chain Of Custody Record



LAB (LOCATION)

ACQUITT () CALC SCIENCE () PIPELINE () RETAIL () SOW PDG () CHEMICALS () CONSULTANT () LIURES () TRANSPORTATION () OTHER ENV. SERVICES ()

PROJECT CONTRACT ID: 1001 HIGHLANDS PLAZA DRIVE WEST - SUITE 300, ST. LOUIS, MO 63110
 Elizabeth Kunkel, Bob Billman, Wendy Pennington
 TEL: 314-429-0100 FAX: 314-429-0482
 TURNAROUND TIME (CALENDAR DAYS): 5 STANDARD (14 DAY) 3 DAYS 2 DAYS 24 HOURS RESULTS NEEDED

LAB USE ONLY: LEVEL 2 LEVEL 4 OTHER (SPECIFY) _ED0
 TEMPERATURE ON RECEIPT C°: COOLER #1 COOLER #2 COOLER #3

SPECIAL INSTRUCTIONS OR NOTES: **SPLIT REPORT**
 SHELL CONTRACT RATE APPLIES
 STATE REIMBURSEMENT RATE APPLIES
 EDO NOT NEEDED
 RECEIPT VERIFICATION REQUESTED
 PROVIDE LEDD DISK

LAB USE ONLY	Field Sample Identification		SAMPLING		MATRIX	PRESERVATIVE				NO. OF CONT.
	DATE	TIME	DATE	TIME		HCL	H2O2	H2SO4	NONE	
	TB-ROX-041118-8011-SS	4/11/18 0000	4/11/18 0000	Water	2					2
	TB-ROX-041118-8260-SS	4/11/18 0000	4/11/18 0000		2					2
	P93C-ROX-041118	4/11/18 1100	4/11/18 1100		6					6
	P93A-ROX-041118-EB	4/11/18 1140	4/11/18 1140		6					6
	P93A-ROX-041118	4/11/18 1420	4/11/18 1420		6					6
	P56-ROX-041118	4/11/18 1525	4/11/18 1525		6					6

RECEIVED BY (SIGNATURE): *[Signature]*
 RECEIVED BY (SIGNATURE): *[Signature]*
 RECEIVED BY (SIGNATURE): *[Signature]*

DATE: 04/11/18 TIME: 1800
 DATE: 4/12/18 TIME: 0932

UNIT COST: 60527968 - 01.03.0022
 NON-UNIT COST: 60527968 - 01.03.0022

FIELD NOTES: TEMPERATURE ON RECEIPT C°
 CONTAINER PID READINGS OR LABORATORY NOTES: SPLIT SAMPLE



Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-152204-1

SDG Number: (2Q18)

Login Number: 152204

List Number: 1

Creator: Perez, Trina M

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.2°C, 2.0°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152204-1
 SDG: (2Q18)

Laboratory: TestAmerica Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-18
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State Program	9	AZ0710	01-12-19
Arkansas DEQ	State Program	6	88-0589	09-01-18
California	ELAP	9	2510	03-31-18 *
Florida	NELAP	4	E81010	06-30-18
Georgia	State Program	4	N/A	06-30-18
Illinois	NELAP	5	200041	10-09-18
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-18
Kentucky (UST)	State Program	4	53	06-30-18
Kentucky (WW)	State Program	4	98030	12-31-18
Louisiana	NELAP	6	30976	06-30-18
Louisiana (DW)	NELAP	6	LA170005	12-31-18
Maryland	State Program	3	233	09-30-18
Massachusetts	State Program	1	M-FL094	06-30-18
Michigan	State Program	5	9912	06-30-18
New Jersey	NELAP	2	FL006	06-30-18
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-18
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
South Carolina	State Program	4	96026	06-30-18
Tennessee	State Program	4	TN02907	06-30-18
Texas	NELAP	6	T104704286-17-12	09-30-18
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-18
Washington	State Program	10	C915	05-15-18
West Virginia DEP	State Program	3	136	06-30-18

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



Roxana Groundwater Quarterly – 2nd Quarter 2018 Data Review

Laboratory SDG: 400-152209-1

Data Reviewer: Melissa Remiger

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 5/10/2018

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-ROX-041118-8011	TB-ROX-041118-8260
P58-ROX-041118	P58-ROX-041118-Dup

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated PAHs were detected in the method blank. The SVOC LCSD recovery for benzyl alcohol was outside evaluation criteria, and several LCS/LCSD RPDs were outside evaluation criteria. The PAH internal standard area recovery for perylene-d₁₂ was outside criteria in sample P58-ROX-041118-Dup. The difference in phenol results for the field duplicate pair P58-ROX-041118/P58-ROX-041118-Dup was greater than two times (2X) the reporting level, and results for phenanthrene and phenol were qualified due to field duplicate RPD above evaluation criteria; therefore results were qualified as estimated (UJ/J). VOCs, and several PAHs and SVOCs, in field duplicate pair P58-ROX-041118/P58-ROX-041118-Dup were diluted to bring the concentration within instrument calibration range. These issues are addressed further in the appropriate sections of this data review.

Three of 69 (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) 8260 VOCs are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form indicated insufficient sample volume was received for MS/MSD analysis, however MS/MSD analysis was not requested; no qualification of data was required.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
MB 400-394327/1-A	PAHs	Fluoranthene	0.0208 µg/L
MB 400-394327/1-A	PAHs	Indeno[1,2,3-cd]pyrene	0.0446 µg/L
MB 400-394327/1-A	PAHs	Pyrene	0.0330 µg/L

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/ RPD Criteria
LCS/LCSD 400-394327/24-A/25-A	SVOCs	Benzyl alcohol	19/15	23	19-125/30
LCS/LCSD 400-394327/4-A/5-A	SVOCs	Benzenethiol	29/19	41	10-120/30
LCS/LCSD 400-394693/2-A/3-A	VOCs by 8011	1,2-Dibromo-3-chloropropane	102/102	37	60-140/30

Analytical data associated with RPD alone outside evaluation criteria did not require qualification. Benzyl alcohol in field duplicate pair P58-ROX-041118/ P58-ROX-041118-Dup was reported from the confirmation run (RA); no qualification of data was required.

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

No

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

No

Sample ID	Parameter	Analyte	IS Area Recovery	IS Criteria
P58-ROX-041118-DUP	PAHs	Perylene-d ₁₂	679791	169901-679604

Analytical data reported as non-detect and associated with internal standard recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. No qualification of data was required.

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
P58-ROX-041118	P58-ROX-041118-Dup

Were field duplicates within evaluation criteria?

No

Field ID	Field Duplicate ID	Parameter	Analyte	RPD	Qualification
P58-ROX-041118	P58-ROX-041118-Dup	PAHs	Phenanthrene	30	J/J
P58-ROX-041118	P58-ROX-041118-Dup	SVOCs	Phenol	28	J/J
P58-ROX-041118	P58-ROX-041118-Dup	VOCs by 8011	1,2-Dibromo-3-chloropropane	> 2X RL	UJ/J

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-152209-1

TestAmerica Sample Delivery Group: (2Q18)

Client Project/Site: ROXANA QUARTERLY GW

For:

AECOM Technical Services Inc.

100 N. Broadway

20th Floor

St. Louis, Missouri 63102

Attn: Mrs. Elizabeth Kunkel



Authorized for release by:

4/30/2018 9:32:38 AM

Cathy Upton, Project Manager I

(713)690-4444

cathy.upton@testamericainc.com

LINKS

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Reviewed 5/10/18
UR

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

Job ID: 400-152209-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-152209-1

Comments

No additional comments.

Receipt

The samples were received on 4/12/2018 9:32 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.0° C and 4.2° C.

GC/MS VOA

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-ROX-041118-8260 (400-152209-2), P58-ROX-041118 (400-152209-3) and P58-ROX-041118-DUP (400-152209-4). The requested target analyte list include 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

Method(s) 8270D: The following analyte recovered outside control limits for the laboratory control sample duplicate (LCSD) associated with preparation batch 400-394327 and analytical batch 400-394678: Benzyl alcohol. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method(s) 8270D: The RPD of the laboratory control sample duplicate (LCSD) for batch preparation batch 400-394327 and analytical batch 400-394678 recovered outside control limits for the following analyte: Benzenethiol.

Method(s) 8270D: The initial calibration verification (ICV) analyzed in batch 400-392167 was outside method criteria for the following analyte(s): 2,4-Dimethylphenol. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8270D: The following samples were diluted to bring the concentration of target analytes within the calibration range: P58-ROX-041118 (400-152209-3) and P58-ROX-041118-DUP (400-152209-4). Elevated reporting limits (RLs) are provided.

Method(s) 8270D LL: The method blank for preparation batch 400-394327 and analytical batch 400-394686 contained Fluoranthene, Pyrene and Indeno[1,2,3-cd]pyrene above the method detection limit. These target analyte concentrations were less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method(s) 8270D LL: The following samples were diluted to bring the concentration of target analytes within the calibration range: P58-ROX-041118 (400-152209-3) and P58-ROX-041118-DUP (400-152209-4). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

Method(s) 8011: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 400-394693.

Method(s) 8011: The RPD of the laboratory control sample duplicate (LCSD) for batch preparation batch 400-394693 and analytical batch 400-394741 recovered outside control limits for the following analytes: 1,2-Dibromo-3-Chloropropane.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep



Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

Job ID: 400-152209-1 (Continued)

Laboratory: TestAmerica Pensacola (Continued)

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-152209-1	TB-ROX-041118-8011 ✓	Water	04/11/18 00:00	04/12/18 09:32
400-152209-2	TB-ROX-041118-8260 ✓	Water	04/11/18 00:00	04/12/18 09:32
400-152209-3	P58-ROX-041118 ✓	Water	04/11/18 10:10	04/12/18 09:32
400-152209-4	P58-ROX-041118-DUP ✓	Water	04/11/18 10:10	04/12/18 09:32

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Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

Client Sample ID: TB-ROX-041118-8011

Lab Sample ID: 400-152209-1

No Detections.

Client Sample ID: TB-ROX-041118-8260

Lab Sample ID: 400-152209-2

No Detections.

Client Sample ID: P58-ROX-041118

Lab Sample ID: 400-152209-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	220000		2000	760	ug/L	2000		8260B	Total/NA
Acenaphthene	0.59		0.20	0.020	ug/L	1		8270D LL	Total/NA
Acenaphthylene	0.27		0.20	0.020	ug/L	1		8270D LL	Total/NA
Fluorene	1.6		0.20	0.021	ug/L	1		8270D LL	Total/NA
Phenanthrene	1.9	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene - DL	73		1.0	0.10	ug/L	5		8270D LL	Total/NA
2-Methylnaphthalene - DL	79		1.0	0.10	ug/L	5		8270D LL	Total/NA
Dibenzofuran	1.7	J	10	0.52	ug/L	1		8270D	Total/NA
Phenol - DL	330	J	50	13	ug/L	5		8270D	Total/NA

Client Sample ID: P58-ROX-041118-DUP

Lab Sample ID: 400-152209-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	240000		2000	760	ug/L	2000		8260B	Total/NA
Acenaphthene	0.57		0.19	0.019	ug/L	1		8270D LL	Total/NA
Acenaphthylene	0.32		0.19	0.019	ug/L	1		8270D LL	Total/NA
Fluorene	1.7		0.19	0.020	ug/L	1		8270D LL	Total/NA
Phenanthrene	1.4	J	0.19	0.019	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene - DL	61		0.97	0.097	ug/L	5		8270D LL	Total/NA
2-Methylnaphthalene - DL	64		0.97	0.097	ug/L	5		8270D LL	Total/NA
Dibenzofuran	1.9	J	9.7	0.51	ug/L	1		8270D	Total/NA
Phenol - DL	250	J	49	13	ug/L	5		8270D	Total/NA
1,2-Dibromo-3-Chloropropane	0.13	*J	0.032	0.0059	ug/L	1		8011	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
 SDG: (2Q18)

Client Sample ID: TB-ROX-041118-8011

Lab Sample ID: 400-152209-1

Date Collected: 04/11/18 00:00

Matrix: Water

Date Received: 04/12/18 09:32

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND	*	0.030	0.0055	ug/L		04/20/18 15:17	04/20/18 23:45	1
1,2-Dibromoethane	ND		0.020	0.0050	ug/L		04/20/18 15:17	04/20/18 23:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	112	p	51 - 149				04/20/18 15:17	04/20/18 23:45	1



Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

Client Sample ID: TB-ROX-041118-8260

Lab Sample ID: 400-152209-2

Date Collected: 04/11/18 00:00

Matrix: Water

Date Received: 04/12/18 09:32

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/20/18 00:07	1
Acrolein	ND		20	10	ug/L			04/20/18 00:07	1
Acrylonitrile	ND		10	2.8	ug/L			04/20/18 00:07	1
Benzene	ND		1.0	0.38	ug/L			04/20/18 00:07	1
Bromobenzene	ND		1.0	0.54	ug/L			04/20/18 00:07	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/20/18 00:07	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/20/18 00:07	1
Bromoform	ND		5.0	0.71	ug/L			04/20/18 00:07	1
Bromomethane	ND		1.0	0.98	ug/L			04/20/18 00:07	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/20/18 00:07	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/20/18 00:07	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/20/18 00:07	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/20/18 00:07	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/20/18 00:07	1
Chloroethane	ND		1.0	0.76	ug/L			04/20/18 00:07	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/20/18 00:07	1
Chloroform	ND		1.0	0.60	ug/L			04/20/18 00:07	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/20/18 00:07	1
Chloromethane	ND		1.0	0.83	ug/L			04/20/18 00:07	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 00:07	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/20/18 00:07	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/20/18 00:07	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/20/18 00:07	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/20/18 00:07	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/20/18 00:07	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/20/18 00:07	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/20/18 00:07	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 00:07	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 00:07	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 00:07	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/20/18 00:07	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/20/18 00:07	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/20/18 00:07	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/20/18 00:07	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/20/18 00:07	1
2-Hexanone	ND		25	3.1	ug/L			04/20/18 00:07	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/20/18 00:07	1
Methylene bromide	ND		5.0	0.59	ug/L			04/20/18 00:07	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/20/18 00:07	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/20/18 00:07	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/20/18 00:07	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/20/18 00:07	1
Naphthalene	ND		1.0	1.0	ug/L			04/20/18 00:07	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/20/18 00:07	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/20/18 00:07	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/20/18 00:07	1
o-Xylene	ND		5.0	0.60	ug/L			04/20/18 00:07	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/20/18 00:07	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/20/18 00:07	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
 SDG: (2Q18)

Client Sample ID: TB-ROX-041118-8260

Lab Sample ID: 400-152209-2

Date Collected: 04/11/18 00:00

Matrix: Water

Date Received: 04/12/18 09:32

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/20/18 00:07	1
Styrene	ND		1.0	1.0	ug/L			04/20/18 00:07	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/20/18 00:07	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/20/18 00:07	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/20/18 00:07	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/20/18 00:07	1
Toluene	ND		1.0	0.70	ug/L			04/20/18 00:07	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/20/18 00:07	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/20/18 00:07	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/20/18 00:07	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/20/18 00:07	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/20/18 00:07	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/20/18 00:07	1
Trichloroethene	ND		1.0	0.50	ug/L			04/20/18 00:07	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/20/18 00:07	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/20/18 00:07	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/20/18 00:07	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/20/18 00:07	1
Vinyl acetate	ND		25	2.0	ug/L			04/20/18 00:07	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/20/18 00:07	1
Xylenes, Total	ND		10	1.6	ug/L			04/20/18 00:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	103		78 - 118					04/20/18 00:07	1
Dibromofluoromethane	100		81 - 121					04/20/18 00:07	1
Toluene-d8 (Surr)	104		80 - 120					04/20/18 00:07	1



Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

Client Sample ID: P58-ROX-041118

Lab Sample ID: 400-152209-3

Date Collected: 04/11/18 10:10

Matrix: Water

Date Received: 04/12/18 09:32

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		50000	20000	ug/L			04/20/18 00:29	2000
Acrolein	ND		40000	20000	ug/L			04/20/18 00:29	2000
Acrylonitrile	ND		20000	5600	ug/L			04/20/18 00:29	2000
Benzene	220000		2000	760	ug/L			04/20/18 00:29	2000
Bromobenzene	ND		2000	1100	ug/L			04/20/18 00:29	2000
Bromochloromethane	ND		2000	1000	ug/L			04/20/18 00:29	2000
Bromodichloromethane	ND		2000	1000	ug/L			04/20/18 00:29	2000
Bromoform	ND		10000	1400	ug/L			04/20/18 00:29	2000
Bromomethane	ND		2000	2000	ug/L			04/20/18 00:29	2000
2-Butanone (MEK)	ND		50000	5200	ug/L			04/20/18 00:29	2000
Carbon disulfide	ND		2000	1000	ug/L			04/20/18 00:29	2000
Carbon tetrachloride	ND		2000	1000	ug/L			04/20/18 00:29	2000
Chlorobenzene	ND		2000	1000	ug/L			04/20/18 00:29	2000
Dibromochloromethane	ND		2000	1000	ug/L			04/20/18 00:29	2000
Chloroethane	ND		2000	1500	ug/L			04/20/18 00:29	2000
2-Chloroethyl vinyl ether	ND		10000	4000	ug/L			04/20/18 00:29	2000
Chloroform	ND		2000	1200	ug/L			04/20/18 00:29	2000
1-Chlorohexane	ND		2000	1400	ug/L			04/20/18 00:29	2000
Chloromethane	ND		2000	1700	ug/L			04/20/18 00:29	2000
cis-1,2-Dichloroethene	ND		2000	1000	ug/L			04/20/18 00:29	2000
cis-1,3-Dichloropropene	ND		10000	1000	ug/L			04/20/18 00:29	2000
1,2-Dichlorobenzene	ND		2000	1000	ug/L			04/20/18 00:29	2000
1,3-Dichlorobenzene	ND		2000	1100	ug/L			04/20/18 00:29	2000
1,4-Dichlorobenzene	ND		2000	1300	ug/L			04/20/18 00:29	2000
Dichlorodifluoromethane	ND		2000	1700	ug/L			04/20/18 00:29	2000
1,1-Dichloroethane	ND		2000	1000	ug/L			04/20/18 00:29	2000
1,2-Dichloroethane	ND		2000	1000	ug/L			04/20/18 00:29	2000
1,1-Dichloroethene	ND		2000	1000	ug/L			04/20/18 00:29	2000
1,2-Dichloropropane	ND		2000	1000	ug/L			04/20/18 00:29	2000
1,3-Dichloropropane	ND		2000	1000	ug/L			04/20/18 00:29	2000
2,2-Dichloropropane	ND		2000	1000	ug/L			04/20/18 00:29	2000
1,1-Dichloropropene	ND		2000	1000	ug/L			04/20/18 00:29	2000
Ethylbenzene	ND		2000	1000	ug/L			04/20/18 00:29	2000
Ethyl methacrylate	ND		2000	1200	ug/L			04/20/18 00:29	2000
Hexachlorobutadiene	ND		10000	1800	ug/L			04/20/18 00:29	2000
2-Hexanone	ND		50000	6200	ug/L			04/20/18 00:29	2000
Isopropylbenzene	ND		2000	1100	ug/L			04/20/18 00:29	2000
Methylene bromide	ND		10000	1200	ug/L			04/20/18 00:29	2000
Methylene Chloride	ND		10000	6000	ug/L			04/20/18 00:29	2000
4-Methyl-2-pentanone (MIBK)	ND		50000	3600	ug/L			04/20/18 00:29	2000
Methyl tert-butyl ether	ND		2000	1500	ug/L			04/20/18 00:29	2000
m-Xylene & p-Xylene	ND		10000	3200	ug/L			04/20/18 00:29	2000
Naphthalene	ND		2000	2000	ug/L			04/20/18 00:29	2000
n-Butylbenzene	ND		2000	1500	ug/L			04/20/18 00:29	2000
N-Propylbenzene	ND		2000	1400	ug/L			04/20/18 00:29	2000
o-Chlorotoluene	ND		2000	1100	ug/L			04/20/18 00:29	2000
o-Xylene	ND		10000	1200	ug/L			04/20/18 00:29	2000
p-Chlorotoluene	ND		2000	1100	ug/L			04/20/18 00:29	2000
p-Isopropyltoluene	ND		2000	1400	ug/L			04/20/18 00:29	2000

TestAmerica Pensacola



Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

Client Sample ID: P58-ROX-041118

Lab Sample ID: 400-152209-3

Date Collected: 04/11/18 10:10

Matrix: Water

Date Received: 04/12/18 09:32

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		2000	1400	ug/L			04/20/18 00:29	2000
Styrene	ND		2000	2000	ug/L			04/20/18 00:29	2000
tert-Butylbenzene	ND		2000	1300	ug/L			04/20/18 00:29	2000
1,1,1,2-Tetrachloroethane	ND		2000	1000	ug/L			04/20/18 00:29	2000
1,1,1,2-Tetrachloroethane	ND		2000	1000	ug/L			04/20/18 00:29	2000
Tetrachloroethene	ND		2000	1200	ug/L			04/20/18 00:29	2000
Toluene	ND		2000	1400	ug/L			04/20/18 00:29	2000
trans-1,2-Dichloroethene	ND		2000	1000	ug/L			04/20/18 00:29	2000
trans-1,3-Dichloropropene	ND		10000	1000	ug/L			04/20/18 00:29	2000
1,2,3-Trichlorobenzene	ND		2000	1400	ug/L			04/20/18 00:29	2000
1,2,4-Trichlorobenzene	ND		2000	1600	ug/L			04/20/18 00:29	2000
1,1,1-Trichloroethane	ND		2000	1000	ug/L			04/20/18 00:29	2000
1,1,2-Trichloroethane	ND		10000	1000	ug/L			04/20/18 00:29	2000
Trichloroethene	ND		2000	1000	ug/L			04/20/18 00:29	2000
Trichlorofluoromethane	ND		2000	1000	ug/L			04/20/18 00:29	2000
1,2,3-Trichloropropane	ND		10000	1700	ug/L			04/20/18 00:29	2000
1,2,4-Trimethylbenzene	ND		2000	1600	ug/L			04/20/18 00:29	2000
1,3,5-Trimethylbenzene	ND		2000	1100	ug/L			04/20/18 00:29	2000
Vinyl acetate	ND		50000	4000	ug/L			04/20/18 00:29	2000
Vinyl chloride	ND		2000	1000	ug/L			04/20/18 00:29	2000
Xylenes, Total	ND		20000	3200	ug/L			04/20/18 00:29	2000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		78 - 118		04/20/18 00:29	2000
Dibromofluoromethane	102		81 - 121		04/20/18 00:29	2000
Toluene-d8 (Surr)	105		80 - 120		04/20/18 00:29	2000

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.59		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 17:34	1
Acenaphthylene	0.27		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 17:34	1
Anthracene	ND		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 17:34	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/18/18 11:16	04/20/18 17:34	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/18/18 11:16	04/20/18 17:34	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/18/18 11:16	04/20/18 17:34	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/18/18 11:16	04/20/18 17:34	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/18/18 11:16	04/20/18 17:34	1
Chrysene	ND		0.20	0.040	ug/L		04/18/18 11:16	04/20/18 17:34	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		04/18/18 11:16	04/20/18 17:34	1
Fluoranthene	ND		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 17:34	1
Fluorene	1.6		0.20	0.021	ug/L		04/18/18 11:16	04/20/18 17:34	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/18/18 11:16	04/20/18 17:34	1
Phenanthrene	1.9	J	0.20	0.020	ug/L		04/18/18 11:16	04/20/18 17:34	1
Pyrene	ND		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 17:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	38		33 - 138	04/18/18 11:16	04/20/18 17:34	1
2-Fluorobiphenyl	68		15 - 122	04/18/18 11:16	04/20/18 17:34	1
Nitrobenzene-d5	63		19 - 130	04/18/18 11:16	04/20/18 17:34	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

Client Sample ID: P58-ROX-041118

Lab Sample ID: 400-152209-3

Date Collected: 04/11/18 10:10

Matrix: Water

Date Received: 04/12/18 09:32

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	73		1.0	0.10	ug/L		04/18/18 11:16	04/24/18 01:54	5
2-Methylnaphthalene	79		1.0	0.10	ug/L		04/18/18 11:16	04/24/18 01:54	5

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzenethiol	ND		10	1.7	ug/L		04/18/18 11:16	04/20/18 20:21	1
Benzoic acid	ND		30	7.3	ug/L		04/18/18 11:16	04/20/18 20:21	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		04/18/18 11:16	04/20/18 20:21	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		04/18/18 11:16	04/20/18 20:21	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		04/18/18 11:16	04/20/18 20:21	1
Bis(2-ethylhexyl) phthalate	ND		10	2.3	ug/L		04/18/18 11:16	04/20/18 20:21	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		04/18/18 11:16	04/20/18 20:21	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		04/18/18 11:16	04/20/18 20:21	1
4-Chloroaniline	ND		10	3.4	ug/L		04/18/18 11:16	04/20/18 20:21	1
2-Chloronaphthalene	ND		10	0.52	ug/L		04/18/18 11:16	04/20/18 20:21	1
2-Chlorophenol	ND		10	2.2	ug/L		04/18/18 11:16	04/20/18 20:21	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		04/18/18 11:16	04/20/18 20:21	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		04/18/18 11:16	04/20/18 20:21	1
Dibenzofuran	1.7	J	10	0.52	ug/L		04/18/18 11:16	04/20/18 20:21	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		04/18/18 11:16	04/20/18 20:21	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		04/18/18 11:16	04/20/18 20:21	1
Diethyl phthalate	ND		10	0.70	ug/L		04/18/18 11:16	04/20/18 20:21	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		04/18/18 11:16	04/20/18 20:21	1
Dimethyl phthalate	ND		10	0.60	ug/L		04/18/18 11:16	04/20/18 20:21	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		04/18/18 11:16	04/20/18 20:21	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		04/18/18 11:16	04/20/18 20:21	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/18/18 11:16	04/20/18 20:21	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		04/18/18 11:16	04/20/18 20:21	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		04/18/18 11:16	04/20/18 20:21	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		04/18/18 11:16	04/20/18 20:21	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		04/18/18 11:16	04/20/18 20:21	1
Hexachlorobenzene	ND		10	0.25	ug/L		04/18/18 11:16	04/20/18 20:21	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/18/18 11:16	04/20/18 20:21	1
Hexachloroethane	ND		10	4.2	ug/L		04/18/18 11:16	04/20/18 20:21	1
2-Methylphenol	ND		10	1.8	ug/L		04/18/18 11:16	04/20/18 20:21	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/18/18 11:16	04/20/18 20:21	1
2-Nitroaniline	ND		10	2.2	ug/L		04/18/18 11:16	04/20/18 20:21	1
3-Nitroaniline	ND		10	1.8	ug/L		04/18/18 11:16	04/20/18 20:21	1
4-Nitroaniline	ND		10	2.5	ug/L		04/18/18 11:16	04/20/18 20:21	1
2-Nitrophenol	ND		10	0.65	ug/L		04/18/18 11:16	04/20/18 20:21	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		04/18/18 11:16	04/20/18 20:21	1
Pentachlorophenol	ND		20	1.8	ug/L		04/18/18 11:16	04/20/18 20:21	1
Quinoline	ND		10	6.0	ug/L		04/18/18 11:16	04/20/18 20:21	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		04/18/18 11:16	04/20/18 20:21	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/18/18 11:16	04/20/18 20:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	65		34 - 120	04/18/18 11:16	04/20/18 20:21	1
2-Fluorophenol	34		10 - 120	04/18/18 11:16	04/20/18 20:21	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

Client Sample ID: P58-ROX-041118

Lab Sample ID: 400-152209-3

Date Collected: 04/11/18 10:10

Matrix: Water

Date Received: 04/12/18 09:32

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	64		27 - 120	04/18/18 11:16	04/20/18 20:21	1
Phenol-d5	48		10 - 120	04/18/18 11:16	04/20/18 20:21	1
Terphenyl-d14	68		53 - 125	04/18/18 11:16	04/20/18 20:21	1
2,4,6-Tribromophenol	115		15 - 135	04/18/18 11:16	04/20/18 20:21	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	330	S	50	13	ug/L		04/18/18 11:16	04/23/18 15:29	5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		04/18/18 11:16	04/23/18 14:55	1
Benzyl alcohol	ND		10	2.0	ug/L		04/18/18 11:16	04/23/18 14:55	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		04/18/18 11:16	04/23/18 14:55	1
1,4-Dioxane	ND		10	1.0	ug/L		04/18/18 11:16	04/23/18 14:55	1
Indene	ND		10	1.0	ug/L		04/18/18 11:16	04/23/18 14:55	1
Isophorone	ND		10	0.57	ug/L		04/18/18 11:16	04/23/18 14:55	1
Nitrobenzene	ND		10	0.55	ug/L		04/18/18 11:16	04/23/18 14:55	1
4-Nitrophenol	ND		10	2.1	ug/L		04/18/18 11:16	04/23/18 14:55	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		04/18/18 11:16	04/23/18 14:55	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		04/18/18 11:16	04/23/18 14:55	1
Pyridine	ND		10	3.2	ug/L		04/18/18 11:16	04/23/18 14:55	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND	* US	0.030	0.0054	ug/L		04/20/18 15:17	04/21/18 00:05	1
1,2-Dibromoethane	ND		0.020	0.0049	ug/L		04/20/18 15:17	04/21/18 00:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	104		51 - 149	04/20/18 15:17	04/21/18 00:05	1



Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

Client Sample ID: P58-ROX-041118-DUP

Lab Sample ID: 400-152209-4

Date Collected: 04/11/18 10:10

Matrix: Water

Date Received: 04/12/18 09:32

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		50000	20000	ug/L			04/20/18 00:51	2000
Acrolein	ND		40000	20000	ug/L			04/20/18 00:51	2000
Acrylonitrile	ND		20000	5600	ug/L			04/20/18 00:51	2000
Benzene	240000		2000	760	ug/L			04/20/18 00:51	2000
Bromobenzene	ND		2000	1100	ug/L			04/20/18 00:51	2000
Bromochloromethane	ND		2000	1000	ug/L			04/20/18 00:51	2000
Bromodichloromethane	ND		2000	1000	ug/L			04/20/18 00:51	2000
Bromoform	ND		10000	1400	ug/L			04/20/18 00:51	2000
Bromomethane	ND		2000	2000	ug/L			04/20/18 00:51	2000
2-Butanone (MEK)	ND		50000	5200	ug/L			04/20/18 00:51	2000
Carbon disulfide	ND		2000	1000	ug/L			04/20/18 00:51	2000
Carbon tetrachloride	ND		2000	1000	ug/L			04/20/18 00:51	2000
Chlorobenzene	ND		2000	1000	ug/L			04/20/18 00:51	2000
Dibromochloromethane	ND		2000	1000	ug/L			04/20/18 00:51	2000
Chloroethane	ND		2000	1500	ug/L			04/20/18 00:51	2000
2-Chloroethyl vinyl ether	ND		10000	4000	ug/L			04/20/18 00:51	2000
Chloroform	ND		2000	1200	ug/L			04/20/18 00:51	2000
1-Chlorohexane	ND		2000	1400	ug/L			04/20/18 00:51	2000
Chloromethane	ND		2000	1700	ug/L			04/20/18 00:51	2000
cis-1,2-Dichloroethene	ND		2000	1000	ug/L			04/20/18 00:51	2000
cis-1,3-Dichloropropene	ND		10000	1000	ug/L			04/20/18 00:51	2000
1,2-Dichlorobenzene	ND		2000	1000	ug/L			04/20/18 00:51	2000
1,3-Dichlorobenzene	ND		2000	1100	ug/L			04/20/18 00:51	2000
1,4-Dichlorobenzene	ND		2000	1300	ug/L			04/20/18 00:51	2000
Dichlorodifluoromethane	ND		2000	1700	ug/L			04/20/18 00:51	2000
1,1-Dichloroethane	ND		2000	1000	ug/L			04/20/18 00:51	2000
1,2-Dichloroethane	ND		2000	1000	ug/L			04/20/18 00:51	2000
1,1-Dichloroethene	ND		2000	1000	ug/L			04/20/18 00:51	2000
1,2-Dichloropropane	ND		2000	1000	ug/L			04/20/18 00:51	2000
1,3-Dichloropropane	ND		2000	1000	ug/L			04/20/18 00:51	2000
2,2-Dichloropropane	ND		2000	1000	ug/L			04/20/18 00:51	2000
1,1-Dichloropropene	ND		2000	1000	ug/L			04/20/18 00:51	2000
Ethylbenzene	ND		2000	1000	ug/L			04/20/18 00:51	2000
Ethyl methacrylate	ND		2000	1200	ug/L			04/20/18 00:51	2000
Hexachlorobutadiene	ND		10000	1800	ug/L			04/20/18 00:51	2000
2-Hexanone	ND		50000	6200	ug/L			04/20/18 00:51	2000
Isopropylbenzene	ND		2000	1100	ug/L			04/20/18 00:51	2000
Methylene bromide	ND		10000	1200	ug/L			04/20/18 00:51	2000
Methylene Chloride	ND		10000	6000	ug/L			04/20/18 00:51	2000
4-Methyl-2-pentanone (MIBK)	ND		50000	3600	ug/L			04/20/18 00:51	2000
Methyl tert-butyl ether	ND		2000	1500	ug/L			04/20/18 00:51	2000
m-Xylene & p-Xylene	ND		10000	3200	ug/L			04/20/18 00:51	2000
Naphthalene	ND		2000	2000	ug/L			04/20/18 00:51	2000
n-Butylbenzene	ND		2000	1500	ug/L			04/20/18 00:51	2000
N-Propylbenzene	ND		2000	1400	ug/L			04/20/18 00:51	2000
o-Chlorotoluene	ND		2000	1100	ug/L			04/20/18 00:51	2000
o-Xylene	ND		10000	1200	ug/L			04/20/18 00:51	2000
p-Chlorotoluene	ND		2000	1100	ug/L			04/20/18 00:51	2000
p-Isopropyltoluene	ND		2000	1400	ug/L			04/20/18 00:51	2000

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

Client Sample ID: P58-ROX-041118-DUP

Lab Sample ID: 400-152209-4

Date Collected: 04/11/18 10:10

Matrix: Water

Date Received: 04/12/18 09:32

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		2000	1400	ug/L			04/20/18 00:51	2000
Styrene	ND		2000	2000	ug/L			04/20/18 00:51	2000
tert-Butylbenzene	ND		2000	1300	ug/L			04/20/18 00:51	2000
1,1,1,2-Tetrachloroethane	ND		2000	1000	ug/L			04/20/18 00:51	2000
1,1,2,2-Tetrachloroethane	ND		2000	1000	ug/L			04/20/18 00:51	2000
Tetrachloroethene	ND		2000	1200	ug/L			04/20/18 00:51	2000
Toluene	ND		2000	1400	ug/L			04/20/18 00:51	2000
trans-1,2-Dichloroethene	ND		2000	1000	ug/L			04/20/18 00:51	2000
trans-1,3-Dichloropropene	ND		10000	1000	ug/L			04/20/18 00:51	2000
1,2,3-Trichlorobenzene	ND		2000	1400	ug/L			04/20/18 00:51	2000
1,2,4-Trichlorobenzene	ND		2000	1600	ug/L			04/20/18 00:51	2000
1,1,1-Trichloroethane	ND		2000	1000	ug/L			04/20/18 00:51	2000
1,1,2-Trichloroethane	ND		10000	1000	ug/L			04/20/18 00:51	2000
Trichloroethene	ND		2000	1000	ug/L			04/20/18 00:51	2000
Trichlorofluoromethane	ND		2000	1000	ug/L			04/20/18 00:51	2000
1,2,3-Trichloropropane	ND		10000	1700	ug/L			04/20/18 00:51	2000
1,2,4-Trimethylbenzene	ND		2000	1600	ug/L			04/20/18 00:51	2000
1,3,5-Trimethylbenzene	ND		2000	1100	ug/L			04/20/18 00:51	2000
Vinyl acetate	ND		50000	4000	ug/L			04/20/18 00:51	2000
Vinyl chloride	ND		2000	1000	ug/L			04/20/18 00:51	2000
Xylenes, Total	ND		20000	3200	ug/L			04/20/18 00:51	2000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		78 - 118		04/20/18 00:51	2000
Dibromofluoromethane	101		81 - 121		04/20/18 00:51	2000
Toluene-d8 (Surr)	102		80 - 120		04/20/18 00:51	2000

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.57		0.19	0.019	ug/L		04/18/18 11:16	04/20/18 17:51	1
Acenaphthylene	0.32		0.19	0.019	ug/L		04/18/18 11:16	04/20/18 17:51	1
Anthracene	ND		0.19	0.019	ug/L		04/18/18 11:16	04/20/18 17:51	1
Benzo[a]anthracene	ND		0.19	0.039	ug/L		04/18/18 11:16	04/20/18 17:51	1
Chrysene	ND		0.19	0.039	ug/L		04/18/18 11:16	04/20/18 17:51	1
Fluoranthene	ND		0.19	0.019	ug/L		04/18/18 11:16	04/20/18 17:51	1
Fluorene	1.7		0.19	0.020	ug/L		04/18/18 11:16	04/20/18 17:51	1
Phenanthrene	1.4	J	0.19	0.019	ug/L		04/18/18 11:16	04/20/18 17:51	1
Pyrene	ND		0.19	0.019	ug/L		04/18/18 11:16	04/20/18 17:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	68		15 - 122	04/18/18 11:16	04/20/18 17:51	1
Nitrobenzene-d5	72		19 - 130	04/18/18 11:16	04/20/18 17:51	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]pyrene	ND		0.97	0.19	ug/L		04/18/18 11:16	04/24/18 02:10	5
Benzo[b]fluoranthene	ND		0.97	0.19	ug/L		04/18/18 11:16	04/24/18 02:10	5
Benzo[g,h,i]perylene	ND		0.97	0.19	ug/L		04/18/18 11:16	04/24/18 02:10	5
Benzo[k]fluoranthene	ND		0.97	0.19	ug/L		04/18/18 11:16	04/24/18 02:10	5
Dibenz(a,h)anthracene	ND		0.97	0.19	ug/L		04/18/18 11:16	04/24/18 02:10	5

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

Client Sample ID: P58-ROX-041118-DUP

Lab Sample ID: 400-152209-4

Date Collected: 04/11/18 10:10

Matrix: Water

Date Received: 04/12/18 09:32

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Indeno[1,2,3-cd]pyrene	ND		0.97	0.19	ug/L		04/18/18 11:16	04/24/18 02:10	5
1-Methylnaphthalene	61		0.97	0.097	ug/L		04/18/18 11:16	04/24/18 02:10	5
2-Methylnaphthalene	64		0.97	0.097	ug/L		04/18/18 11:16	04/24/18 02:10	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	56		33 - 138				04/18/18 11:16	04/24/18 02:10	5

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzenethiol	ND	*	9.7	1.7	ug/L		04/18/18 11:16	04/20/18 20:42	1
Benzoic acid	ND		29	7.1	ug/L		04/18/18 11:16	04/20/18 20:42	1
Bis(2-chloroethoxy)methane	ND		9.7	0.67	ug/L		04/18/18 11:16	04/20/18 20:42	1
Bis(2-chloroethyl)ether	ND		9.7	0.72	ug/L		04/18/18 11:16	04/20/18 20:42	1
bis (2-chloroisopropyl) ether	ND		9.7	0.79	ug/L		04/18/18 11:16	04/20/18 20:42	1
Bis(2-ethylhexyl) phthalate	ND		9.7	2.2	ug/L		04/18/18 11:16	04/20/18 20:42	1
4-Bromophenyl phenyl ether	ND		9.7	0.31	ug/L		04/18/18 11:16	04/20/18 20:42	1
Butyl benzyl phthalate	ND		9.7	0.67	ug/L		04/18/18 11:16	04/20/18 20:42	1
4-Chloroaniline	ND		9.7	3.3	ug/L		04/18/18 11:16	04/20/18 20:42	1
2-Chloronaphthalene	ND		9.7	0.51	ug/L		04/18/18 11:16	04/20/18 20:42	1
2-Chlorophenol	ND		9.7	2.1	ug/L		04/18/18 11:16	04/20/18 20:42	1
4-Chlorophenyl phenyl ether	ND		9.7	1.9	ug/L		04/18/18 11:16	04/20/18 20:42	1
Dibenz[a,h]acridine	ND		9.7	2.9	ug/L		04/18/18 11:16	04/20/18 20:42	1
Dibenzofuran	1.9	J	9.7	0.51	ug/L		04/18/18 11:16	04/20/18 20:42	1
3,3'-Dichlorobenzidine	ND		9.7	2.5	ug/L		04/18/18 11:16	04/20/18 20:42	1
2,4-Dichlorophenol	ND		9.7	2.9	ug/L		04/18/18 11:16	04/20/18 20:42	1
Diethyl phthalate	ND		9.7	0.68	ug/L		04/18/18 11:16	04/20/18 20:42	1
2,4-Dimethylphenol	ND		9.7	3.4	ug/L		04/18/18 11:16	04/20/18 20:42	1
Dimethyl phthalate	ND		9.7	0.58	ug/L		04/18/18 11:16	04/20/18 20:42	1
Di-n-butyl phthalate	ND		9.7	2.6	ug/L		04/18/18 11:16	04/20/18 20:42	1
4,6-Dinitro-ortho-cresol	ND		9.7	1.9	ug/L		04/18/18 11:16	04/20/18 20:42	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		04/18/18 11:16	04/20/18 20:42	1
2,4-Dinitrotoluene	ND		9.7	1.8	ug/L		04/18/18 11:16	04/20/18 20:42	1
2,6-Dinitrotoluene	ND		9.7	1.8	ug/L		04/18/18 11:16	04/20/18 20:42	1
Di-n-octyl phthalate	ND		9.7	0.43	ug/L		04/18/18 11:16	04/20/18 20:42	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	0.97	ug/L		04/18/18 11:16	04/20/18 20:42	1
Hexachlorobenzene	ND		9.7	0.24	ug/L		04/18/18 11:16	04/20/18 20:42	1
Hexachlorocyclopentadiene	ND		19	2.5	ug/L		04/18/18 11:16	04/20/18 20:42	1
Hexachloroethane	ND		9.7	4.1	ug/L		04/18/18 11:16	04/20/18 20:42	1
2-Methylphenol	ND		9.7	1.7	ug/L		04/18/18 11:16	04/20/18 20:42	1
3 & 4 Methylphenol	ND		19	1.0	ug/L		04/18/18 11:16	04/20/18 20:42	1
2-Nitroaniline	ND		9.7	2.1	ug/L		04/18/18 11:16	04/20/18 20:42	1
3-Nitroaniline	ND		9.7	1.7	ug/L		04/18/18 11:16	04/20/18 20:42	1
4-Nitroaniline	ND		9.7	2.4	ug/L		04/18/18 11:16	04/20/18 20:42	1
2-Nitrophenol	ND		9.7	0.63	ug/L		04/18/18 11:16	04/20/18 20:42	1
N-Nitrosodiphenylamine	ND		9.7	0.46	ug/L		04/18/18 11:16	04/20/18 20:42	1
Pentachlorophenol	ND		19	1.8	ug/L		04/18/18 11:16	04/20/18 20:42	1
Quinoline	ND		9.7	5.8	ug/L		04/18/18 11:16	04/20/18 20:42	1
2,4,5-Trichlorophenol	ND		9.7	3.6	ug/L		04/18/18 11:16	04/20/18 20:42	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		04/18/18 11:16	04/20/18 20:42	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

Client Sample ID: P58-ROX-041118-DUP

Lab Sample ID: 400-152209-4

Date Collected: 04/11/18 10:10

Matrix: Water

Date Received: 04/12/18 09:32

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	63		34 - 120	04/18/18 11:16	04/20/18 20:42	1
2-Fluorophenol	29		10 - 120	04/18/18 11:16	04/20/18 20:42	1
Nitrobenzene-d5	54		27 - 120	04/18/18 11:16	04/20/18 20:42	1
Phenol-d5	51		10 - 120	04/18/18 11:16	04/20/18 20:42	1
Terphenyl-d14	65		53 - 125	04/18/18 11:16	04/20/18 20:42	1
2,4,6-Tribromophenol	115		15 - 135	04/18/18 11:16	04/20/18 20:42	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	250	J	49	13	ug/L		04/18/18 11:16	04/23/18 16:37	5

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	3.7	ug/L		04/18/18 11:16	04/23/18 16:03	1
Benzyl alcohol	ND		9.7	1.9	ug/L		04/18/18 11:16	04/23/18 16:03	1
4-Chloro-3-methylphenol	ND		9.7	3.7	ug/L		04/18/18 11:16	04/23/18 16:03	1
1,4-Dioxane	ND		9.7	0.97	ug/L		04/18/18 11:16	04/23/18 16:03	1
Indene	ND		9.7	0.97	ug/L		04/18/18 11:16	04/23/18 16:03	1
Isophorone	ND		9.7	0.55	ug/L		04/18/18 11:16	04/23/18 16:03	1
Nitrobenzene	ND		9.7	0.53	ug/L		04/18/18 11:16	04/23/18 16:03	1
4-Nitrophenol	ND		9.7	2.0	ug/L		04/18/18 11:16	04/23/18 16:03	1
N-Nitrosodimethylamine	ND		9.7	3.4	ug/L		04/18/18 11:16	04/23/18 16:03	1
N-Nitrosodi-n-propylamine	ND		9.7	3.2	ug/L		04/18/18 11:16	04/23/18 16:03	1
Pyridine	ND		9.7	3.1	ug/L		04/18/18 11:16	04/23/18 16:03	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	0.13	* J	0.032	0.0059	ug/L		04/20/18 15:17	04/21/18 00:45	1
1,2-Dibromoethane	ND		0.021	0.0053	ug/L		04/20/18 15:17	04/21/18 00:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	125		51 - 149	04/20/18 15:17	04/21/18 00:45	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	LCS or LCSD is outside acceptance limits.

GC Semi VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (78-118)	DBFM (81-121)	TOL (80-120)
400-152209-2	TB-ROX-041118-8260	103	100	104
400-152209-3	P58-ROX-041118	102	102	105
400-152209-4	P58-ROX-041118-DUP	102	101	102
400-152366-B-4 MS	Matrix Spike	98	101	99
400-152366-B-4 MSD	Matrix Spike Duplicate	99	103	96
LCS 400-394529/1002	Lab Control Sample	96	101	98
MB 400-394529/4	Method Blank	107	102	102

Surrogate Legend
 BFB = 4-Bromofluorobenzene
 DBFM = Dibromofluoromethane
 TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (34-120)	2FP (10-120)	NBZ (27-120)	PHL (10-120)	TPHL (53-125)	TBP (15-135)
400-152209-3	P58-ROX-041118	65	34	64	48	68	115
400-152209-4	P58-ROX-041118-DUP	63	29	54	51	65	115
LCS 400-394327/24-A	Lab Control Sample	66	39	75	57	82	77
LCS 400-394327/4-A	Lab Control Sample	58	54	59	56	75	60
LCSD 400-394327/25-A	Lab Control Sample Dup	62	49	67	57	80	73
LCSD 400-394327/5-A	Lab Control Sample Dup	61	55	61	56	85	68
MB 400-394327/1-A	Method Blank	60	51	61	56	76	60

Surrogate Legend
 FBP = 2-Fluorobiphenyl
 2FP = 2-Fluorophenol
 NBZ = Nitrobenzene-d5
 PHL = Phenol-d5
 TPHL = Terphenyl-d14
 TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TPHL (33-138)	FBP (15-122)	NBZ (19-130)
400-152209-3	P58-ROX-041118	38	68	63
400-152209-4	P58-ROX-041118-DUP		68	72
400-152209-4 - DL	P58-ROX-041118-DUP	56		
LCS 400-394327/2-A	Lab Control Sample	80	75	83
LCSD 400-394327/3-A	Lab Control Sample Dup	80	77	81
MB 400-394327/1-A	Method Blank	113	84	73

Surrogate Legend
 TPHL = Terphenyl-d14

TestAmerica Pensacola

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

FBP = 2-Fluorobiphenyl

NBZ = Nitrobenzene-d5

Method: 8011 - EDB and DBCP in Water by Microextraction

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB2 (51-149)
400-152209-1	TB-ROX-041118-8011	112 p
400-152209-3	P58-ROX-041118	104
400-152209-4	P58-ROX-041118-DUP	125
LCS 400-394693/2-A	Lab Control Sample	105
LCSD 400-394693/3-A	Lab Control Sample Dup	104
MB 400-394693/1-A	Method Blank	97

Surrogate Legend

BFB = 4-Bromofluorobenzene



Method Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
8011	EDB and DBCP in Water by Microextraction	EPA	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
8011	Microextraction	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

Client Sample ID: TB-ROX-041118-8011

Lab Sample ID: 400-152209-1

Date Collected: 04/11/18 00:00

Matrix: Water

Date Received: 04/12/18 09:32

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			34.9 mL	35 mL	394693	04/20/18 15:17	SAB	TAL PEN
Total/NA	Analysis	8011		1			394741	04/20/18 23:45	SAB	TAL PEN

Client Sample ID: TB-ROX-041118-8260

Lab Sample ID: 400-152209-2

Date Collected: 04/11/18 00:00

Matrix: Water

Date Received: 04/12/18 09:32

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394529	04/20/18 00:07	S1K	TAL PEN

Client Sample ID: P58-ROX-041118

Lab Sample ID: 400-152209-3

Date Collected: 04/11/18 10:10

Matrix: Water

Date Received: 04/12/18 09:32

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2000	5 mL	5 mL	394529	04/20/18 00:29	S1K	TAL PEN
Total/NA	Prep	3520C			995.4 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D		1			394678	04/20/18 20:21	S1B	TAL PEN
Total/NA	Prep	3520C	RA		995.4 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D	RA	1			394846	04/23/18 14:55	S1B	TAL PEN
Total/NA	Prep	3520C	DL		995.4 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D	DL	5			394846	04/23/18 15:29	S1B	TAL PEN
Total/NA	Prep	3520C			995.4 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			394686	04/20/18 17:34	PP1	TAL PEN
Total/NA	Prep	3520C	DL		995.4 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D LL	DL	5			394992	04/24/18 01:54	KJA	TAL PEN
Total/NA	Prep	8011			35.5 mL	35 mL	394693	04/20/18 15:17	SAB	TAL PEN
Total/NA	Analysis	8011		1			394741	04/21/18 00:05	SAB	TAL PEN

Client Sample ID: P58-ROX-041118-DUP

Lab Sample ID: 400-152209-4

Date Collected: 04/11/18 10:10

Matrix: Water

Date Received: 04/12/18 09:32

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2000	5 mL	5 mL	394529	04/20/18 00:51	S1K	TAL PEN
Total/NA	Prep	3520C			1029.4 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D		1			394678	04/20/18 20:42	S1B	TAL PEN
Total/NA	Prep	3520C	RA		1029.4 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D	RA	1			394846	04/23/18 16:03	S1B	TAL PEN
Total/NA	Prep	3520C	DL		1029.4 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D	DL	5			394846	04/23/18 16:37	S1B	TAL PEN
Total/NA	Prep	3520C			1029.4 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			394686	04/20/18 17:51	PP1	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C	DL		1029.4 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D LL	DL	5			394992	04/24/18 02:10	KJA	TAL PEN
Total/NA	Prep	8011			32.8 mL	35 mL	394693	04/20/18 15:17	SAB	TAL PEN
Total/NA	Analysis	8011		1			394741	04/21/18 00:45	SAB	TAL PEN

Client Sample ID: Method Blank

Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-394327/1-A

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D		1			394678	04/20/18 16:31	S1B	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D		1			394846	04/23/18 12:08	S1B	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			394686	04/20/18 15:33	PP1	TAL PEN

Client Sample ID: Method Blank

Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-394529/4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394529	04/19/18 16:50	S1K	TAL PEN

Client Sample ID: Method Blank

Date Collected: N/A
Date Received: N/A

Lab Sample ID: MB 400-394693/1-A

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35 mL	35 mL	394693	04/20/18 15:17	SAB	TAL PEN
Total/NA	Analysis	8011		1			394741	04/20/18 21:05	SAB	TAL PEN

Client Sample ID: Lab Control Sample

Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-394327/24-A

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	394327	04/18/18 11:23	NTH	TAL PEN
Total/NA	Analysis	8270D		1			394678	04/20/18 18:15	S1B	TAL PEN

Client Sample ID: Lab Control Sample

Date Collected: N/A
Date Received: N/A

Lab Sample ID: LCS 400-394327/2-A

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			394686	04/20/18 15:50	PP1	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-394327/4-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D		1			394678	04/20/18 17:33	S1B	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-394529/1002

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394529	04/19/18 15:53	S1K	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-394693/2-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35 mL	35 mL	394693	04/20/18 15:17	SAB	TAL PEN
Total/NA	Analysis	8011		1			394741	04/20/18 21:26	SAB	TAL PEN

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-394327/25-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	394327	04/18/18 11:23	NTH	TAL PEN
Total/NA	Analysis	8270D		1			394678	04/20/18 18:36	S1B	TAL PEN

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-394327/3-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			394686	04/20/18 16:07	PP1	TAL PEN

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-394327/5-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	394327	04/18/18 11:16	NTH	TAL PEN
Total/NA	Analysis	8270D		1			394678	04/20/18 17:54	S1B	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
 SDG: (2Q18)

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-394693/3-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35 mL	35 mL	394693	04/20/18 15:17	SAB	TAL PEN
Total/NA	Analysis	8011		1			394741	04/20/18 21:46	SAB	TAL PEN

Client Sample ID: Matrix Spike

Lab Sample ID: 400-152366-B-4 MS

Date Collected: 04/13/18 09:24

Matrix: Water

Date Received: 04/18/18 09:36

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394529	04/19/18 17:56	S1K	TAL PEN

Client Sample ID: Matrix Spike Duplicate

Lab Sample ID: 400-152366-B-4 MSD

Date Collected: 04/13/18 09:24

Matrix: Water

Date Received: 04/18/18 09:36

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394529	04/19/18 18:18	S1K	TAL PEN

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

GC/MS VOA

Analysis Batch: 394529

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152209-2	TB-ROX-041118-8260	Total/NA	Water	8260B	
400-152209-3	P58-ROX-041118	Total/NA	Water	8260B	
400-152209-4	P58-ROX-041118-DUP	Total/NA	Water	8260B	
MB 400-394529/4	Method Blank	Total/NA	Water	8260B	
LCS 400-394529/1002	Lab Control Sample	Total/NA	Water	8260B	
400-152366-B-4 MS	Matrix Spike	Total/NA	Water	8260B	
400-152366-B-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 394327

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152209-3	P58-ROX-041118	Total/NA	Water	3520C	
400-152209-3 - DL	P58-ROX-041118	Total/NA	Water	3520C	
400-152209-3 - RA	P58-ROX-041118	Total/NA	Water	3520C	
400-152209-4	P58-ROX-041118-DUP	Total/NA	Water	3520C	
400-152209-4 - DL	P58-ROX-041118-DUP	Total/NA	Water	3520C	
400-152209-4 - RA	P58-ROX-041118-DUP	Total/NA	Water	3520C	
MB 400-394327/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-394327/24-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-394327/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-394327/4-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-394327/25-A	Lab Control Sample Dup	Total/NA	Water	3520C	
LCSD 400-394327/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	
LCSD 400-394327/5-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 394678

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152209-3	P58-ROX-041118	Total/NA	Water	8270D	394327
400-152209-4	P58-ROX-041118-DUP	Total/NA	Water	8270D	394327
MB 400-394327/1-A	Method Blank	Total/NA	Water	8270D	394327
LCS 400-394327/24-A	Lab Control Sample	Total/NA	Water	8270D	394327
LCS 400-394327/4-A	Lab Control Sample	Total/NA	Water	8270D	394327
LCSD 400-394327/25-A	Lab Control Sample Dup	Total/NA	Water	8270D	394327
LCSD 400-394327/5-A	Lab Control Sample Dup	Total/NA	Water	8270D	394327

Analysis Batch: 394686

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152209-3	P58-ROX-041118	Total/NA	Water	8270D LL	394327
400-152209-4	P58-ROX-041118-DUP	Total/NA	Water	8270D LL	394327
MB 400-394327/1-A	Method Blank	Total/NA	Water	8270D LL	394327
LCS 400-394327/2-A	Lab Control Sample	Total/NA	Water	8270D LL	394327
LCSD 400-394327/3-A	Lab Control Sample Dup	Total/NA	Water	8270D LL	394327

Analysis Batch: 394846

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152209-3 - RA	P58-ROX-041118	Total/NA	Water	8270D	394327
400-152209-3 - DL	P58-ROX-041118	Total/NA	Water	8270D	394327
400-152209-4 - RA	P58-ROX-041118-DUP	Total/NA	Water	8270D	394327
400-152209-4 - DL	P58-ROX-041118-DUP	Total/NA	Water	8270D	394327

TestAmerica Pensacola



QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

GC/MS Semi VOA (Continued)

Analysis Batch: 394846 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-394327/1-A	Method Blank	Total/NA	Water	8270D	394327

Analysis Batch: 394992

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152209-3 - DL	P58-ROX-041118	Total/NA	Water	8270D LL	394327
400-152209-4 - DL	P58-ROX-041118-DUP	Total/NA	Water	8270D LL	394327

GC Semi VOA

Prep Batch: 394693

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152209-1	TB-ROX-041118-8011	Total/NA	Water	8011	
400-152209-3	P58-ROX-041118	Total/NA	Water	8011	
400-152209-4	P58-ROX-041118-DUP	Total/NA	Water	8011	
MB 400-394693/1-A	Method Blank	Total/NA	Water	8011	
LCS 400-394693/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 400-394693/3-A	Lab Control Sample Dup	Total/NA	Water	8011	

Analysis Batch: 394741

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152209-1	TB-ROX-041118-8011	Total/NA	Water	8011	394693
400-152209-3	P58-ROX-041118	Total/NA	Water	8011	394693
400-152209-4	P58-ROX-041118-DUP	Total/NA	Water	8011	394693
MB 400-394693/1-A	Method Blank	Total/NA	Water	8011	394693
LCS 400-394693/2-A	Lab Control Sample	Total/NA	Water	8011	394693
LCSD 400-394693/3-A	Lab Control Sample Dup	Total/NA	Water	8011	394693

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-394529/4
Matrix: Water
Analysis Batch: 394529

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
Acetone	ND		25	10	ug/L			04/19/18 16:50	1
Acrolein	ND		20	10	ug/L			04/19/18 16:50	1
Acrylonitrile	ND		10	2.8	ug/L			04/19/18 16:50	1
Benzene	ND		1.0	0.38	ug/L			04/19/18 16:50	1
Bromobenzene	ND		1.0	0.54	ug/L			04/19/18 16:50	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/19/18 16:50	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/19/18 16:50	1
Bromoform	ND		5.0	0.71	ug/L			04/19/18 16:50	1
Bromomethane	ND		1.0	0.98	ug/L			04/19/18 16:50	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/19/18 16:50	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/19/18 16:50	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/19/18 16:50	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/19/18 16:50	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/19/18 16:50	1
Chloroethane	ND		1.0	0.76	ug/L			04/19/18 16:50	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/19/18 16:50	1
Chloroform	ND		1.0	0.60	ug/L			04/19/18 16:50	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/19/18 16:50	1
Chloromethane	ND		1.0	0.83	ug/L			04/19/18 16:50	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/19/18 16:50	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/19/18 16:50	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/19/18 16:50	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/19/18 16:50	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/19/18 16:50	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/19/18 16:50	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/19/18 16:50	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/19/18 16:50	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/19/18 16:50	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/19/18 16:50	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/19/18 16:50	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/19/18 16:50	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/19/18 16:50	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/19/18 16:50	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/19/18 16:50	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/19/18 16:50	1
2-Hexanone	ND		25	3.1	ug/L			04/19/18 16:50	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/19/18 16:50	1
Methylene bromide	ND		5.0	0.59	ug/L			04/19/18 16:50	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/19/18 16:50	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/19/18 16:50	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/19/18 16:50	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/19/18 16:50	1
Naphthalene	ND		1.0	1.0	ug/L			04/19/18 16:50	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/19/18 16:50	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/19/18 16:50	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/19/18 16:50	1
o-Xylene	ND		5.0	0.60	ug/L			04/19/18 16:50	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/19/18 16:50	1

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-394529/4

Matrix: Water

Analysis Batch: 394529

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/19/18 16:50	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/19/18 16:50	1
Styrene	ND		1.0	1.0	ug/L			04/19/18 16:50	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/19/18 16:50	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/19/18 16:50	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/19/18 16:50	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/19/18 16:50	1
Toluene	ND		1.0	0.70	ug/L			04/19/18 16:50	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/19/18 16:50	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/19/18 16:50	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/19/18 16:50	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/19/18 16:50	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/19/18 16:50	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/19/18 16:50	1
Trichloroethene	ND		1.0	0.50	ug/L			04/19/18 16:50	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/19/18 16:50	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/19/18 16:50	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/19/18 16:50	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/19/18 16:50	1
Vinyl acetate	ND		25	2.0	ug/L			04/19/18 16:50	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/19/18 16:50	1
Xylenes, Total	ND		10	1.6	ug/L			04/19/18 16:50	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene	107		78 - 118		04/19/18 16:50	1
Dibromofluoromethane	102		81 - 121		04/19/18 16:50	1
Toluene-d8 (Surr)	102		80 - 120		04/19/18 16:50	1

Lab Sample ID: LCS 400-394529/1002

Matrix: Water

Analysis Batch: 394529

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
							Limits
Acetone	200	238		ug/L		119	43 - 160
Acrolein	500	578		ug/L		116	38 - 160
Acrylonitrile	500	590		ug/L		118	64 - 142
Benzene	50.0	49.8		ug/L		100	70 - 130
Bromobenzene	50.0	49.5		ug/L		99	70 - 132
Bromochloromethane	50.0	50.3		ug/L		101	70 - 130
Bromodichloromethane	50.0	52.6		ug/L		105	67 - 133
Bromoform	50.0	57.3		ug/L		115	57 - 140
Bromomethane	50.0	54.6		ug/L		109	10 - 160
2-Butanone (MEK)	200	255		ug/L		127	61 - 145
Carbon disulfide	50.0	53.8		ug/L		108	61 - 137
Carbon tetrachloride	50.0	54.9		ug/L		110	61 - 137
Chlorobenzene	50.0	50.4		ug/L		101	70 - 130
Dibromochloromethane	50.0	55.4		ug/L		111	67 - 135
Chloroethane	50.0	48.2		ug/L		96	55 - 141

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-394529/1002

Matrix: Water

Analysis Batch: 394529

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Chloroethyl vinyl ether	50.0	58.5		ug/L		117	10 - 160
Chloroform	50.0	49.9		ug/L		100	69 - 130
1-Chlorohexane	50.0	51.1		ug/L		102	69 - 130
Chloromethane	50.0	47.3		ug/L		95	58 - 137
cis-1,2-Dichloroethene	50.0	48.3		ug/L		97	68 - 130
cis-1,3-Dichloropropene	50.0	61.1		ug/L		122	69 - 132
1,2-Dichlorobenzene	50.0	50.0		ug/L		100	67 - 130
1,3-Dichlorobenzene	50.0	49.5		ug/L		99	70 - 130
1,4-Dichlorobenzene	50.0	49.1		ug/L		98	70 - 130
Dichlorodifluoromethane	50.0	45.4		ug/L		91	41 - 146
1,1-Dichloroethane	50.0	49.0		ug/L		98	70 - 130
1,2-Dichloroethane	50.0	50.3		ug/L		101	69 - 130
1,1-Dichloroethene	50.0	50.0		ug/L		100	63 - 134
1,2-Dichloropropane	50.0	49.7		ug/L		99	70 - 130
1,3-Dichloropropane	50.0	50.6		ug/L		101	70 - 130
2,2-Dichloropropane	50.0	54.8		ug/L		110	52 - 135
1,1-Dichloropropene	50.0	50.5		ug/L		101	70 - 130
Ethylbenzene	50.0	51.0		ug/L		102	70 - 130
Ethyl methacrylate	50.0	60.6		ug/L		121	68 - 130
Hexachlorobutadiene	50.0	53.8		ug/L		108	53 - 140
2-Hexanone	200	264		ug/L		132	65 - 137
Isopropylbenzene	50.0	53.7		ug/L		107	70 - 130
Methylene bromide	50.0	52.2		ug/L		104	70 - 130
Methylene Chloride	50.0	49.0		ug/L		98	66 - 135
4-Methyl-2-pentanone (MIBK)	200	271		ug/L		135	69 - 138
Methyl tert-butyl ether	50.0	52.3		ug/L		105	66 - 130
m-Xylene & p-Xylene	50.0	52.3		ug/L		105	70 - 130
Naphthalene	50.0	59.6		ug/L		119	47 - 149
n-Butylbenzene	50.0	51.8		ug/L		104	67 - 130
N-Propylbenzene	50.0	52.1		ug/L		104	70 - 130
o-Chlorotoluene	50.0	49.6		ug/L		99	70 - 130
o-Xylene	50.0	52.5		ug/L		105	70 - 130
p-Chlorotoluene	50.0	50.7		ug/L		101	70 - 130
p-Isopropyltoluene	50.0	54.5		ug/L		109	65 - 130
sec-Butylbenzene	50.0	52.3		ug/L		105	66 - 130
Styrene	50.0	54.3		ug/L		109	70 - 130
tert-Butylbenzene	50.0	52.3		ug/L		105	64 - 139
1,1,1,2-Tetrachloroethane	50.0	54.0		ug/L		108	67 - 131
1,1,2,2-Tetrachloroethane	50.0	52.4		ug/L		105	70 - 131
Tetrachloroethene	50.0	50.7		ug/L		101	65 - 130
Toluene	50.0	49.3		ug/L		99	70 - 130
trans-1,2-Dichloroethene	50.0	51.4		ug/L		103	70 - 130
trans-1,3-Dichloropropene	50.0	61.0		ug/L		122	63 - 130
1,2,3-Trichlorobenzene	50.0	52.8		ug/L		106	60 - 138
1,2,4-Trichlorobenzene	50.0	52.2		ug/L		104	60 - 140
1,1,1-Trichloroethane	50.0	53.7		ug/L		107	68 - 130
1,1,2-Trichloroethane	50.0	50.7		ug/L		101	70 - 130
Trichloroethene	50.0	50.9		ug/L		102	70 - 130

TestAmerica Pensacola



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-394529/1002

Matrix: Water

Analysis Batch: 394529

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	50.0	48.7		ug/L		97	65 - 138
1,2,3-Trichloropropane	50.0	55.4		ug/L		111	70 - 130
1,2,4-Trimethylbenzene	50.0	52.2		ug/L		104	70 - 130
1,3,5-Trimethylbenzene	50.0	52.1		ug/L		104	69 - 130
Vinyl acetate	100	115		ug/L		115	26 - 160
Vinyl chloride	50.0	49.2		ug/L		98	59 - 136
Xylenes, Total	100	105		ug/L		105	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	96		78 - 118
Dibromofluoromethane	101		81 - 121
Toluene-d8 (Surr)	98		80 - 120

Lab Sample ID: 400-152366-B-4 MS

Matrix: Water

Analysis Batch: 394529

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		200	188		ug/L		94	43 - 150
Acrolein	ND		500	460		ug/L		92	38 - 150
Acrylonitrile	ND		500	475		ug/L		95	62 - 149
Benzene	ND		50.0	42.9		ug/L		86	56 - 142
Bromobenzene	ND		50.0	40.7		ug/L		81	59 - 136
Bromochloromethane	ND		50.0	44.7		ug/L		89	64 - 140
Bromodichloromethane	ND		50.0	44.9		ug/L		90	59 - 143
Bromoform	ND		50.0	48.2		ug/L		96	50 - 140
Bromomethane	ND		50.0	47.3		ug/L		95	10 - 150
2-Butanone (MEK)	ND		200	199		ug/L		99	55 - 150
Carbon disulfide	ND		50.0	45.9		ug/L		92	48 - 150
Carbon tetrachloride	ND		50.0	46.7		ug/L		93	55 - 145
Chlorobenzene	ND		50.0	40.4		ug/L		81	64 - 130
Dibromochloromethane	ND		50.0	46.2		ug/L		92	56 - 143
Chloroethane	ND		50.0	44.7		ug/L		89	50 - 150
2-Chloroethyl vinyl ether	ND		50.0	47.5		ug/L		95	10 - 150
Chloroform	ND		50.0	42.7		ug/L		85	60 - 141
1-Chlorohexane	ND		50.0	39.4		ug/L		79	56 - 136
Chloromethane	ND		50.0	41.5		ug/L		83	49 - 148
cis-1,2-Dichloroethene	ND		50.0	42.4		ug/L		85	59 - 143
cis-1,3-Dichloropropene	ND		50.0	51.4		ug/L		103	57 - 140
1,2-Dichlorobenzene	ND		50.0	39.6		ug/L		79	52 - 137
1,3-Dichlorobenzene	ND		50.0	38.6		ug/L		77	54 - 135
1,4-Dichlorobenzene	ND		50.0	37.9		ug/L		76	53 - 135
Dichlorodifluoromethane	ND		50.0	37.2		ug/L		74	16 - 150
1,1-Dichloroethane	ND		50.0	42.9		ug/L		86	61 - 144
1,2-Dichloroethane	ND		50.0	43.6		ug/L		87	60 - 141
1,1-Dichloroethene	ND		50.0	43.8		ug/L		88	54 - 147
1,2-Dichloropropane	ND		50.0	42.1		ug/L		84	66 - 137
1,3-Dichloropropane	ND		50.0	43.0		ug/L		86	66 - 133

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-152366-B-4 MSD

Matrix: Water

Analysis Batch: 394529

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	ND		200	232		ug/L		116	43 - 150	21	30
Acrolein	ND		500	528		ug/L		106	38 - 150	14	31
Acrylonitrile	ND		500	562		ug/L		112	62 - 149	17	30
Benzene	ND		50.0	46.7		ug/L		93	56 - 142	9	30
Bromobenzene	ND		50.0	42.8		ug/L		86	59 - 136	5	30
Bromochloromethane	ND		50.0	47.9		ug/L		96	64 - 140	7	30
Bromodichloromethane	ND		50.0	48.7		ug/L		97	59 - 143	8	30
Bromoform	ND		50.0	51.4		ug/L		103	50 - 140	7	30
Bromomethane	ND		50.0	48.5		ug/L		97	10 - 150	2	50
2-Butanone (MEK)	ND		200	242		ug/L		121	55 - 150	19	30
Carbon disulfide	ND		50.0	49.8		ug/L		100	48 - 150	8	30
Carbon tetrachloride	ND		50.0	50.4		ug/L		101	55 - 145	8	30
Chlorobenzene	ND		50.0	44.2		ug/L		88	64 - 130	9	30
Dibromochloromethane	ND		50.0	48.9		ug/L		98	56 - 143	6	30
Chloroethane	ND		50.0	45.1		ug/L		90	50 - 150	1	30
2-Chloroethyl vinyl ether	ND		50.0	54.0		ug/L		108	10 - 150	13	50
Chloroform	ND		50.0	46.9		ug/L		94	60 - 141	10	30
1-Chlorohexane	ND		50.0	42.4		ug/L		85	56 - 136	7	30
Chloromethane	ND		50.0	45.2		ug/L		90	49 - 148	9	31
cis-1,2-Dichloroethene	ND		50.0	46.3		ug/L		93	59 - 143	9	30
cis-1,3-Dichloropropene	ND		50.0	56.4		ug/L		113	57 - 140	9	30
1,2-Dichlorobenzene	ND		50.0	42.1		ug/L		84	52 - 137	6	30
1,3-Dichlorobenzene	ND		50.0	41.2		ug/L		82	54 - 135	6	30
1,4-Dichlorobenzene	ND		50.0	40.4		ug/L		81	53 - 135	7	30
Dichlorodifluoromethane	ND		50.0	39.9		ug/L		80	16 - 150	7	31
1,1-Dichloroethane	ND		50.0	47.2		ug/L		94	61 - 144	10	30
1,2-Dichloroethane	ND		50.0	48.1		ug/L		96	60 - 141	10	30
1,1-Dichloroethene	ND		50.0	47.6		ug/L		95	54 - 147	8	30
1,2-Dichloropropane	ND		50.0	46.3		ug/L		93	66 - 137	10	30
1,3-Dichloropropane	ND		50.0	45.5		ug/L		91	66 - 133	6	30
2,2-Dichloropropane	ND		50.0	51.2		ug/L		102	42 - 144	10	31
1,1-Dichloropropene	ND		50.0	47.0		ug/L		94	65 - 136	10	30
Ethylbenzene	ND		50.0	44.4		ug/L		89	58 - 131	11	30
Ethyl methacrylate	ND		50.0	55.1		ug/L		110	64 - 130	11	30
Hexachlorobutadiene	ND		50.0	39.0		ug/L		78	31 - 149	13	36
2-Hexanone	ND		200	245		ug/L		123	65 - 140	16	30
Isopropylbenzene	ND		50.0	44.7		ug/L		89	56 - 133	13	30
Methylene bromide	ND		50.0	48.4		ug/L		97	63 - 138	9	30
Methylene Chloride	ND		50.0	47.7		ug/L		95	60 - 146	9	32
4-Methyl-2-pentanone (MIBK)	ND		200	251		ug/L		126	63 - 146	19	30
Methyl tert-butyl ether	ND		50.0	51.2		ug/L		102	59 - 137	13	30
m-Xylene & p-Xylene	ND		50.0	44.4		ug/L		89	57 - 130	11	30
Naphthalene	ND		50.0	54.1		ug/L		108	25 - 150	13	30
n-Butylbenzene	ND		50.0	38.2		ug/L		76	41 - 142	11	31
N-Propylbenzene	ND		50.0	42.2		ug/L		84	51 - 138	11	30
o-Chlorotoluene	ND		50.0	41.5		ug/L		83	53 - 134	9	30
o-Xylene	ND		50.0	44.9		ug/L		90	61 - 130	10	30
p-Chlorotoluene	ND		50.0	41.9		ug/L		84	54 - 133	8	30

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-152366-B-4 MSD

Matrix: Water

Analysis Batch: 394529

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
p-Isopropyltoluene	ND		50.0	42.4		ug/L		85	48 - 139	12	30
sec-Butylbenzene	ND		50.0	41.6		ug/L		83	50 - 138	13	30
Styrene	ND		50.0	46.3		ug/L		93	58 - 131	10	30
tert-Butylbenzene	ND		50.0	42.9		ug/L		86	54 - 146	9	30
1,1,1,2-Tetrachloroethane	ND		50.0	47.2		ug/L		94	59 - 137	5	30
1,1,2,2-Tetrachloroethane	ND		50.0	46.9		ug/L		94	66 - 135	7	30
Tetrachloroethene	ND		50.0	43.3		ug/L		87	52 - 133	8	30
Toluene	ND		50.0	43.1		ug/L		86	65 - 130	6	30
trans-1,2-Dichloroethene	ND		50.0	47.5		ug/L		95	61 - 143	9	30
trans-1,3-Dichloropropene	ND		50.0	55.2		ug/L		110	53 - 133	9	30
1,2,3-Trichlorobenzene	ND		50.0	45.7		ug/L		91	43 - 145	13	30
1,2,4-Trichlorobenzene	ND		50.0	42.3		ug/L		85	39 - 148	10	30
1,1,1-Trichloroethane	ND		50.0	49.1		ug/L		98	57 - 142	8	30
1,1,2-Trichloroethane	ND		50.0	46.4		ug/L		93	66 - 131	7	30
Trichloroethene	ND		50.0	46.2		ug/L		92	64 - 136	10	30
Trichlorofluoromethane	ND		50.0	45.5		ug/L		91	54 - 150	8	30
1,2,3-Trichloropropane	ND		50.0	50.9		ug/L		102	65 - 133	9	30
1,2,4-Trimethylbenzene	ND		50.0	42.3		ug/L		85	50 - 139	8	30
1,3,5-Trimethylbenzene	ND		50.0	42.4		ug/L		85	52 - 135	10	30
Vinyl acetate	ND		100	109		ug/L		109	26 - 150	13	33
Vinyl chloride	ND		50.0	43.6		ug/L		87	46 - 150	4	30
Xylenes, Total	ND		100	89.4		ug/L		89	59 - 130	10	30

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
4-Bromofluorobenzene	99		78 - 118
Dibromofluoromethane	103		81 - 121
Toluene-d8 (Surr)	96		80 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-394327/1-A

Matrix: Water

Analysis Batch: 394678

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 394327

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzenethiol	ND		10	1.7	ug/L		04/18/18 11:16	04/20/18 16:31	1
Benzoic acid	ND		30	7.3	ug/L		04/18/18 11:16	04/20/18 16:31	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		04/18/18 11:16	04/20/18 16:31	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		04/18/18 11:16	04/20/18 16:31	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		04/18/18 11:16	04/20/18 16:31	1
Bis(2-ethylhexyl) phthalate	ND		10	2.3	ug/L		04/18/18 11:16	04/20/18 16:31	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		04/18/18 11:16	04/20/18 16:31	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		04/18/18 11:16	04/20/18 16:31	1
4-Chloroaniline	ND		10	3.4	ug/L		04/18/18 11:16	04/20/18 16:31	1
2-Chloronaphthalene	ND		10	0.52	ug/L		04/18/18 11:16	04/20/18 16:31	1
2-Chlorophenol	ND		10	2.2	ug/L		04/18/18 11:16	04/20/18 16:31	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		04/18/18 11:16	04/20/18 16:31	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		04/18/18 11:16	04/20/18 16:31	1

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-394327/1-A
Matrix: Water
Analysis Batch: 394678

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 394327

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibenzofuran	ND		10	0.52	ug/L		04/18/18 11:16	04/20/18 16:31	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		04/18/18 11:16	04/20/18 16:31	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		04/18/18 11:16	04/20/18 16:31	1
Diethyl phthalate	ND		10	0.70	ug/L		04/18/18 11:16	04/20/18 16:31	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		04/18/18 11:16	04/20/18 16:31	1
Dimethyl phthalate	ND		10	0.60	ug/L		04/18/18 11:16	04/20/18 16:31	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		04/18/18 11:16	04/20/18 16:31	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		04/18/18 11:16	04/20/18 16:31	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/18/18 11:16	04/20/18 16:31	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		04/18/18 11:16	04/20/18 16:31	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		04/18/18 11:16	04/20/18 16:31	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		04/18/18 11:16	04/20/18 16:31	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		04/18/18 11:16	04/20/18 16:31	1
Hexachlorobenzene	ND		10	0.25	ug/L		04/18/18 11:16	04/20/18 16:31	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/18/18 11:16	04/20/18 16:31	1
Hexachloroethane	ND		10	4.2	ug/L		04/18/18 11:16	04/20/18 16:31	1
2-Methylphenol	ND		10	1.8	ug/L		04/18/18 11:16	04/20/18 16:31	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/18/18 11:16	04/20/18 16:31	1
2-Nitroaniline	ND		10	2.2	ug/L		04/18/18 11:16	04/20/18 16:31	1
3-Nitroaniline	ND		10	1.8	ug/L		04/18/18 11:16	04/20/18 16:31	1
4-Nitroaniline	ND		10	2.5	ug/L		04/18/18 11:16	04/20/18 16:31	1
2-Nitrophenol	ND		10	0.65	ug/L		04/18/18 11:16	04/20/18 16:31	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		04/18/18 11:16	04/20/18 16:31	1
Pentachlorophenol	ND		20	1.8	ug/L		04/18/18 11:16	04/20/18 16:31	1
Phenol	ND		10	2.6	ug/L		04/18/18 11:16	04/20/18 16:31	1
Quinoline	ND		10	6.0	ug/L		04/18/18 11:16	04/20/18 16:31	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		04/18/18 11:16	04/20/18 16:31	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/18/18 11:16	04/20/18 16:31	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	60		34 - 120	04/18/18 11:16	04/20/18 16:31	1
2-Fluorophenol	51		10 - 120	04/18/18 11:16	04/20/18 16:31	1
Nitrobenzene-d5	61		27 - 120	04/18/18 11:16	04/20/18 16:31	1
Phenol-d5	56		10 - 120	04/18/18 11:16	04/20/18 16:31	1
Terphenyl-d14	76		53 - 125	04/18/18 11:16	04/20/18 16:31	1
2,4,6-Tribromophenol	60		15 - 135	04/18/18 11:16	04/20/18 16:31	1

Lab Sample ID: MB 400-394327/1-A
Matrix: Water
Analysis Batch: 394846

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 394327

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		04/18/18 11:16	04/23/18 12:08	1
Benzyl alcohol	ND		10	2.0	ug/L		04/18/18 11:16	04/23/18 12:08	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		04/18/18 11:16	04/23/18 12:08	1
1,4-Dioxane	ND		10	1.0	ug/L		04/18/18 11:16	04/23/18 12:08	1
Indene	ND		10	1.0	ug/L		04/18/18 11:16	04/23/18 12:08	1

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-394327/1-A

Matrix: Water

Analysis Batch: 394846

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 394327

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
Isophorone	ND		10	0.57	ug/L		04/18/18 11:16	04/23/18 12:08	1
Nitrobenzene	ND		10	0.55	ug/L		04/18/18 11:16	04/23/18 12:08	1
4-Nitrophenol	ND		10	2.1	ug/L		04/18/18 11:16	04/23/18 12:08	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		04/18/18 11:16	04/23/18 12:08	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		04/18/18 11:16	04/23/18 12:08	1
Pyridine	ND		10	3.2	ug/L		04/18/18 11:16	04/23/18 12:08	1

Lab Sample ID: LCS 400-394327/24-A

Matrix: Water

Analysis Batch: 394678

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 394327

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aniline	30.0	14.5		ug/L		48	29 - 120
Benzyl alcohol	30.0	5.76	J	ug/L		19	19 - 125
Bis(2-chloroethoxy)methane	30.0	21.6		ug/L		72	45 - 120
Bis(2-chloroethyl)ether	30.0	21.0		ug/L		70	48 - 120
bis (2-chloroisopropyl) ether	30.0	19.0		ug/L		63	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	24.4		ug/L		81	48 - 150
4-Bromophenyl phenyl ether	30.0	22.7		ug/L		76	55 - 122
Butyl benzyl phthalate	30.0	22.8		ug/L		76	46 - 145
4-Chloroaniline	30.0	14.3		ug/L		48	30 - 120
4-Chloro-3-methylphenol	30.0	17.7		ug/L		59	39 - 140
2-Chloronaphthalene	30.0	20.4		ug/L		68	52 - 120
2-Chlorophenol	30.0	19.4		ug/L		65	34 - 120
4-Chlorophenyl phenyl ether	30.0	21.9		ug/L		73	58 - 124
Dibenzofuran	30.0	22.1		ug/L		74	58 - 123
3,3'-Dichlorobenzidine	60.0	41.7		ug/L		70	39 - 135
2,4-Dichlorophenol	30.0	20.4		ug/L		68	39 - 128
Diethyl phthalate	30.0	23.2		ug/L		77	44 - 146
2,4-Dimethylphenol	30.0	16.4		ug/L		55	44 - 120
Dimethyl phthalate	30.0	22.3		ug/L		74	50 - 131
Di-n-butyl phthalate	30.0	25.2		ug/L		84	55 - 131
4,6-Dinitro-ortho-cresol	60.0	57.8		ug/L		96	10 - 150
2,4-Dinitrophenol	60.0	45.6		ug/L		76	10 - 150
2,4-Dinitrotoluene	30.0	23.1		ug/L		77	58 - 140
2,6-Dinitrotoluene	30.0	22.1		ug/L		74	57 - 130
Di-n-octyl phthalate	30.0	24.7		ug/L		82	50 - 150
1,4-Dioxane	30.0	10.3		ug/L		34	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	20.9		ug/L		70	47 - 123
Hexachlorobenzene	30.0	25.2		ug/L		84	52 - 131
Hexachlorocyclopentadiene	30.0	9.14	J	ug/L		30	10 - 129
Hexachloroethane	30.0	18.3		ug/L		61	41 - 120
Isophorone	30.0	19.2		ug/L		64	49 - 120
2-Methylphenol	30.0	24.3		ug/L		81	39 - 123
3 & 4 Methylphenol	30.0	23.7		ug/L		79	38 - 121
2-Nitroaniline	30.0	20.3		ug/L		68	47 - 150
3-Nitroaniline	30.0	17.0		ug/L		57	34 - 132
4-Nitroaniline	30.0	18.1		ug/L		60	41 - 135

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-394327/24-A
Matrix: Water
Analysis Batch: 394678

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 394327
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Nitrobenzene	30.0	20.7		ug/L		69	47 - 120
2-Nitrophenol	30.0	21.7		ug/L		72	28 - 136
4-Nitrophenol	60.0	43.6		ug/L		73	10 - 150
N-Nitrosodimethylamine	30.0	15.8		ug/L		53	22 - 148
N-Nitrosodi-n-propylamine	30.0	18.7		ug/L		62	44 - 120
N-Nitrosodiphenylamine	29.8	22.0		ug/L		74	56 - 120
Pentachlorophenol	60.0	46.4		ug/L		77	15 - 141
Phenol	30.0	14.7		ug/L		49	33 - 120
Pyridine	60.0	28.0		ug/L		47	26 - 120
2,4,5-Trichlorophenol	30.0	23.1		ug/L		77	38 - 147
2,4,6-Trichlorophenol	30.0	21.4		ug/L		71	36 - 139

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	66		34 - 120
2-Fluorophenol	39		10 - 120
Nitrobenzene-d5	75		27 - 120
Phenol-d5	57		10 - 120
Terphenyl-d14	82		53 - 125
2,4,6-Tribromophenol	77		15 - 135

Lab Sample ID: LCS 400-394327/4-A
Matrix: Water
Analysis Batch: 394678

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 394327
%Rec.

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Benzenethiol	30.0	8.57	J	ug/L		29	10 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	58		34 - 120
2-Fluorophenol	54		10 - 120
Nitrobenzene-d5	59		27 - 120
Phenol-d5	56		10 - 120
Terphenyl-d14	75		53 - 125
2,4,6-Tribromophenol	60		15 - 135

Lab Sample ID: LCSD 400-394327/25-A
Matrix: Water
Analysis Batch: 394678

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 394327
%Rec.

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Aniline	30.0	11.8		ug/L		39	29 - 120	20	30
Benzyl alcohol	30.0	4.55	J *	ug/L		15	19 - 125	23	30
Bis(2-chloroethoxy)methane	30.0	20.0		ug/L		67	45 - 120	7	30
Bis(2-chloroethyl)ether	30.0	21.5		ug/L		72	48 - 120	3	30
bis (2-chloroisopropyl) ether	30.0	17.7		ug/L		59	30 - 125	7	30
Bis(2-ethylhexyl) phthalate	30.0	23.2		ug/L		77	48 - 150	5	30
4-Bromophenyl phenyl ether	30.0	21.2		ug/L		71	55 - 122	7	30
Butyl benzyl phthalate	30.0	22.2		ug/L		74	46 - 145	3	30

TestAmerica Pensacola



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-394327/25-A
Matrix: Water
Analysis Batch: 394678

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 394327

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Chloroaniline	30.0	12.5		ug/L		42	30 - 120	14	30
4-Chloro-3-methylphenol	30.0	16.4		ug/L		55	39 - 140	7	30
2-Chloronaphthalene	30.0	19.5		ug/L		65	52 - 120	4	30
2-Chlorophenol	30.0	19.5		ug/L		65	34 - 120	0	30
4-Chlorophenyl phenyl ether	30.0	20.4		ug/L		68	58 - 124	7	30
Dibenzofuran	30.0	21.3		ug/L		71	58 - 123	4	30
3,3'-Dichlorobenzidine	60.0	39.8		ug/L		66	39 - 135	5	30
2,4-Dichlorophenol	30.0	19.5		ug/L		65	39 - 128	4	30
Diethyl phthalate	30.0	22.1		ug/L		74	44 - 146	5	30
2,4-Dimethylphenol	30.0	15.9		ug/L		53	44 - 120	3	30
Dimethyl phthalate	30.0	21.3		ug/L		71	50 - 131	5	30
Di-n-butyl phthalate	30.0	24.1		ug/L		80	55 - 131	4	30
4,6-Dinitro-ortho-cresol	60.0	57.8		ug/L		96	10 - 150	0	30
2,4-Dinitrophenol	60.0	47.3		ug/L		79	10 - 150	4	30
2,4-Dinitrotoluene	30.0	21.7		ug/L		72	58 - 140	6	30
2,6-Dinitrotoluene	30.0	20.7		ug/L		69	57 - 130	6	30
Di-n-octyl phthalate	30.0	24.4		ug/L		81	50 - 150	1	30
1,4-Dioxane	30.0	10.1		ug/L		34	25 - 120	2	30
1,2-Diphenylhydrazine (as Azobenzene)	30.0	19.0		ug/L		63	47 - 123	10	30
Hexachlorobenzene	30.0	24.1		ug/L		80	52 - 131	4	30
Hexachlorocyclopentadiene	30.0	7.34	J	ug/L		24	10 - 129	22	30
Hexachloroethane	30.0	16.6		ug/L		55	41 - 120	10	30
Isophorone	30.0	18.0		ug/L		60	49 - 120	7	30
2-Methylphenol	30.0	23.9		ug/L		80	39 - 123	1	30
3 & 4 Methylphenol	30.0	23.4		ug/L		78	38 - 121	1	30
2-Nitroaniline	30.0	18.2		ug/L		61	47 - 150	11	30
3-Nitroaniline	30.0	15.1		ug/L		50	34 - 132	12	30
4-Nitroaniline	30.0	17.5		ug/L		58	41 - 135	3	30
Nitrobenzene	30.0	19.0		ug/L		63	47 - 120	9	30
2-Nitrophenol	30.0	21.1		ug/L		70	28 - 136	3	30
4-Nitrophenol	60.0	41.4		ug/L		69	10 - 150	5	30
N-Nitrosodimethylamine	30.0	15.6		ug/L		52	22 - 148	1	30
N-Nitrosodi-n-propylamine	30.0	17.3		ug/L		58	44 - 120	8	30
N-Nitrosodiphenylamine	29.8	20.8		ug/L		70	56 - 120	5	30
Pentachlorophenol	60.0	47.0		ug/L		78	15 - 141	1	30
Phenol	30.0	19.9		ug/L		66	33 - 120	30	30
Pyridine	60.0	27.1		ug/L		45	26 - 120	3	30
2,4,5-Trichlorophenol	30.0	22.2		ug/L		74	38 - 147	4	30
2,4,6-Trichlorophenol	30.0	20.7		ug/L		69	36 - 139	4	30

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	62		34 - 120
2-Fluorophenol	49		10 - 120
Nitrobenzene-d5	67		27 - 120
Phenol-d5	57		10 - 120
Terphenyl-d14	80		53 - 125
2,4,6-Tribromophenol	73		15 - 135

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

Lab Sample ID: LCSD 400-394327/5-A
Matrix: Water
Analysis Batch: 394678

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 394327

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzenethiol	30.0	5.68	J*	ug/L		19	10 - 120	41	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	61		34 - 120
2-Fluorophenol	55		10 - 120
Nitrobenzene-d5	61		27 - 120
Phenol-d5	56		10 - 120
Terphenyl-d14	85		53 - 125
2,4,6-Tribromophenol	68		15 - 135

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-394327/1-A
Matrix: Water
Analysis Batch: 394686

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 394327

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 15:33	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 15:33	1
Anthracene	ND		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 15:33	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/18/18 11:16	04/20/18 15:33	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/18/18 11:16	04/20/18 15:33	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/18/18 11:16	04/20/18 15:33	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/18/18 11:16	04/20/18 15:33	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/18/18 11:16	04/20/18 15:33	1
Chrysene	ND		0.20	0.040	ug/L		04/18/18 11:16	04/20/18 15:33	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		04/18/18 11:16	04/20/18 15:33	1
Fluoranthene	0.0208	J	0.20	0.020	ug/L		04/18/18 11:16	04/20/18 15:33	1
Fluorene	ND		0.20	0.021	ug/L		04/18/18 11:16	04/20/18 15:33	1
Indeno[1,2,3-cd]pyrene	0.0446	J	0.20	0.040	ug/L		04/18/18 11:16	04/20/18 15:33	1
Phenanthrene	ND		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 15:33	1
Pyrene	0.0330	J	0.20	0.020	ug/L		04/18/18 11:16	04/20/18 15:33	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 15:33	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/18/18 11:16	04/20/18 15:33	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	113		33 - 138	04/18/18 11:16	04/20/18 15:33	1
2-Fluorobiphenyl	84		15 - 122	04/18/18 11:16	04/20/18 15:33	1
Nitrobenzene-d5	73		19 - 130	04/18/18 11:16	04/20/18 15:33	1

Lab Sample ID: LCS 400-394327/2-A
Matrix: Water
Analysis Batch: 394686

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 394327

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	26.2		ug/L		87	41 - 120
Acenaphthylene	30.0	23.6		ug/L		79	44 - 120
Anthracene	30.0	24.3		ug/L		81	49 - 120
Benzo[a]anthracene	30.0	23.5		ug/L		78	61 - 135

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-394327/2-A

Matrix: Water

Analysis Batch: 394686

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 394327

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Benzo[a]pyrene	30.0	23.1		ug/L		77	52 - 120
Benzo[b]fluoranthene	30.0	27.5		ug/L		92	53 - 134
Benzo[g,h,i]perylene	30.0	21.6		ug/L		72	47 - 133
Benzo[k]fluoranthene	30.0	23.6		ug/L		79	57 - 134
Chrysene	30.0	22.6		ug/L		75	55 - 122
Dibenz(a,h)anthracene	30.0	20.8		ug/L		69	48 - 146
Fluoranthene	30.0	25.4		ug/L		85	54 - 128
Fluorene	30.0	28.6		ug/L		95	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	23.2		ug/L		77	43 - 142
Phenanthrene	30.0	26.2		ug/L		87	48 - 120
Pyrene	30.0	23.0		ug/L		77	48 - 132
1-Methylnaphthalene	30.0	24.1		ug/L		80	41 - 120
2-Methylnaphthalene	30.0	23.3		ug/L		78	32 - 124

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	80		33 - 138
2-Fluorobiphenyl	75		15 - 122
Nitrobenzene-d5	83		19 - 130

Lab Sample ID: LCSD 400-394327/3-A

Matrix: Water

Analysis Batch: 394686

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 394327

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Acenaphthene	30.0	25.8		ug/L		86	41 - 120	1	56
Acenaphthylene	30.0	23.1		ug/L		77	44 - 120	2	56
Anthracene	30.0	23.9		ug/L		80	49 - 120	2	51
Benzo[a]anthracene	30.0	22.9		ug/L		76	61 - 135	3	49
Benzo[a]pyrene	30.0	23.2		ug/L		77	52 - 120	1	50
Benzo[b]fluoranthene	30.0	26.1		ug/L		87	53 - 134	5	54
Benzo[g,h,i]perylene	30.0	21.1		ug/L		70	47 - 133	2	50
Benzo[k]fluoranthene	30.0	24.3		ug/L		81	57 - 134	3	52
Chrysene	30.0	22.5		ug/L		75	55 - 122	1	50
Dibenz(a,h)anthracene	30.0	20.6		ug/L		69	48 - 146	1	50
Fluoranthene	30.0	24.8		ug/L		83	54 - 128	3	52
Fluorene	30.0	27.7		ug/L		92	45 - 125	3	56
Indeno[1,2,3-cd]pyrene	30.0	23.0		ug/L		77	43 - 142	1	51
Phenanthrene	30.0	25.6		ug/L		85	48 - 120	3	56
Pyrene	30.0	22.6		ug/L		75	48 - 132	2	52
1-Methylnaphthalene	30.0	23.9		ug/L		80	41 - 120	1	55
2-Methylnaphthalene	30.0	23.1		ug/L		77	32 - 124	1	57

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Terphenyl-d14	80		33 - 138
2-Fluorobiphenyl	77		15 - 122
Nitrobenzene-d5	81		19 - 130

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
SDG: (2Q18)

Method: 8011 - EDB and DBCP in Water by Microextraction

Lab Sample ID: MB 400-394693/1-A
Matrix: Water
Analysis Batch: 394741

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 394693

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.030	0.0055	ug/L		04/20/18 15:17	04/20/18 21:05	1
1,2-Dibromoethane	ND		0.020	0.0050	ug/L		04/20/18 15:17	04/20/18 21:05	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	97		51 - 149				04/20/18 15:17	04/20/18 21:05	1

Lab Sample ID: LCS 400-394693/2-A
Matrix: Water
Analysis Batch: 394741

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 394693

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,2-Dibromo-3-Chloropropane	0.100	0.102		ug/L		102	60 - 140
1,2-Dibromoethane	0.100	0.109		ug/L		109	60 - 140
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene	105		51 - 149				

Lab Sample ID: LCSD 400-394693/3-A
Matrix: Water
Analysis Batch: 394741

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 394693

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,2-Dibromo-3-Chloropropane	0.100	0.102	*	ug/L		102	60 - 140	37	30
1,2-Dibromoethane	0.100	0.109		ug/L		109	60 - 140	0	30
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene	104		51 - 149						

LAB (LOCATION)

Shell Oil Products US Chain Of Custody Record



ACCOUNT ()
 CALSCIENCE ()
 TESTAMERICA (TestAmerica Pensacola, 3355 McLennore Dr, Pensacola, FL 32514 (850-474-1003))
 Other (JOB VENDOR # 13541997 (TestAmerica))

SOW FDG
 PIPELINE
 CHEMICALS
 CONSULTANT
 TRANSPORTATION
 OTHER ENV. SERVICES

RETAIL
 LUBES

Print Bill To Contact Name: Bob Bilman
 PO #
 60527988 - 01.03.002 / 01.03.0022
 USPC00114/R002

Please Check Appropriate Box:
 CHECK IF NO WARRANTY APPLIES
 DATE: 4/11/18
 PAGE: 1 of 1

AECOM Project Task Number: Roxana Quarry GW
 00327988 - 01.03.002 / 01.03.0022
 AECOM Office ID

BTE ADDRESS Street and City: 900 South Central Ave, ROXANA
 ILLINOIS 60527988 - 01.03.002 / 01.03.0022
 STATE: IL

SAMPLER NAME(S) (P/N): B.T. Howell M. Karick

UNIT COST: 60527988 - 01.03.0022
 NON-UNIT COST: 60527988 - 01.03.0022

FIELD NOTES:
 TEMPERATURE ON RECEIPT C°
 Container PID Readings or Laboratory Notes

LA - RWQCL RECORD FORMAT
 DELIVERABLES
 LEVEL 2
 LEVEL 4
 OTHER (SPECIFY) EDO
 Cooler #1
 Cooler #2
 Cooler #3

SPECIAL INSTRUCTIONS OR NOTES:
 * Please include "J" values on Reports
 * Please provide sample receipt upon login

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE				NO. OF CONT.
		DATE	TIME		HCL	HNO3	H2SO4	NONE	
	TB-ROX-04118-8011 ✓	04118	0000	Water	2				2
	TB-ROX-04118-8260 ✓	04118	0000		2				2
	P58-ROX-04118 ✓	04118	1010		4	2			6
	P58-ROX-04118-DMP ✓	04118	1010		4	2			6

RECEIVED BY (Signature): [Signature]
 RECEIVED BY (Signature): [Signature]
 RECEIVED BY (Signature): [Signature]

7429 5930 4911 ; 7429 5930 4922
 Date: 4/11/18
 Time: 1800
 Date: 4/12/18
 Time: 0932

4204 2.00c JAS



Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-152209-1

SDG Number: (2Q18)

Login Number: 152209

List Number: 1

Creator: Perez, Trina M

List Source: TestAmerica Pensacola

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.2°C, 2.0°C IR-8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152209-1
 SDG: (2Q18)

Laboratory: TestAmerica Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-18
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State Program	9	AZ0710	01-12-19
Arkansas DEQ	State Program	6	88-0689	09-01-18
California	ELAP	9	2510	03-31-18 *
Florida	NELAP	4	E81010	06-30-18
Georgia	State Program	4	N/A	06-30-18
Illinois	NELAP	5	200041	10-09-18
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-18
Kentucky (UST)	State Program	4	53	06-30-18
Kentucky (WW)	State Program	4	98030	12-31-18
Louisiana	NELAP	6	30976	06-30-18
Louisiana (DW)	NELAP	6	LA170005	12-31-18
Maryland	State Program	3	233	09-30-18
Massachusetts	State Program	1	M-FL094	06-30-18
Michigan	State Program	5	9912	06-30-18
New Jersey	NELAP	2	FL006	06-30-18
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-18
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
South Carolina	State Program	4	96026	06-30-18
Tennessee	State Program	4	TN02907	06-30-18
Texas	NELAP	6	T104704286-17-12	09-30-18
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-18
Washington	State Program	10	C915	05-15-18
West Virginia DEP	State Program	3	136	06-30-18

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



Roxana Groundwater Quarterly – 2nd Quarter 2018 Data Review

Laboratory SDG: 400-152229-1-Rev.1

Data Reviewer: Melissa Remiger

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 5/13/2018

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
TB-ROX-041218-8011-SS	TB-ROX-041218-8260-SS
P93D-ROX-041218	P93B-ROX-041218
P93B-ROX-041218-Dup	T12-ROX-041218-EB
T12-ROX-041218	P59-ROX-041218

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, although not indicated in the laboratory case narrative, benzyl alcohol was detected in the equipment blank. The VOC by 8011 LCS/LCSD RPD for 1,2-dibromo-3-chloropropane was outside evaluation criteria. The SVOC surrogate recovery for terphenyl-d₁₄ was outside criteria in samples P93B-ROX-041218 and P59-ROX-041218. The PAH internal standard area recovery for chrysene-d₁₂ was outside criteria in equipment blank T12-ROX-041218-EB. Several samples were diluted to bring the concentration within instrument calibration range. The continuing calibration verifications for hexachlorocyclopentadiene and indene were outside evaluation criteria, biased low. These issues are addressed further in the appropriate sections of this data review. Additionally, the laboratory report was revised on May 13, 2016 to correct continuing calibration verification language in the laboratory case narrative.

Three of 69 (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) 8260 VOCs are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form indicated insufficient sample volume was received for MS/MSD analysis, however MS/MSD analysis was not requested; no qualification of data was required.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
T12-ROX-041218-EB	SVOCs	Benzyl alcohol	13 µg/L

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/ RPD Criteria
LCS/LCSD 400-394696/2-A/3-A	VOCs by 8011	1,2-Dibromo-3-chloropropane	104/113	47	60-140/30

Analytical data associated with RPD alone outside evaluation criteria did not require qualification. No qualification of data was required.

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
P93B-ROX-041218	SVOCs	Terphenyl-d ₁₄	52	53-125
P59-ROX-041218	SVOCs	Terphenyl-d ₁₄	30	53-125

Qualifications due to surrogate recoveries were not required if only one of three base/neutral fraction surrogate recoveries were outside evaluation criteria in the associated SVOC samples. No qualification of data was required.

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

No

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

No

Sample ID	Parameter	Analyte	IS Area Recovery	IS Criteria
T12-ROX-041218-EB	PAHs	Chrysene-d ₁₂	232699	235175-940700

Equipment blank T12-ROX-041218-EB is a quality control sample and does not require qualification. No qualification of data was required.

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
P93B-ROX-041218	P93B-ROX-041218-Dup

Were field duplicates within evaluation criteria?

Yes

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

Yes, the continuing calibration verifications for hexachlorocyclopentadiene and indene were below acceptance criteria and are qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
P93D-ROX-041218	SVOCs	Hexachlorocyclopentadiene	UJ
P93D-ROX-041218	SVOCs	Indene	UJ
P93B-ROX-041218	SVOCs	Hexachlorocyclopentadiene	UJ
P93B-ROX-041218	SVOCs	Indene	UJ
P93B-ROX-041218-Dup	SVOCs	Hexachlorocyclopentadiene	UJ
P93B-ROX-041218-Dup	SVOCs	Indene	UJ
T12-ROX-041218	SVOCs	Hexachlorocyclopentadiene	UJ
T12-ROX-041218	SVOCs	Indene	UJ
P59-ROX-041218	SVOCs	Hexachlorocyclopentadiene	UJ
P59-ROX-041218	SVOCs	Indene	J

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

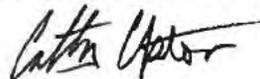
ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Pensacola
3355 McLemore Drive
Pensacola, FL 32514
Tel: (850)474-1001

TestAmerica Job ID: 400-152229-1
TestAmerica Sample Delivery Group: (2Q18)
Client Project/Site: ROXANA QUARTERLY GW
Revision: 1

For:
AECOM Technical Services Inc.
100 N. Broadway
20th Floor
St. Louis, Missouri 63102

Attn: Mrs. Elizabeth Kunkel



Authorized for release by:
5/13/2018 8:27:27 PM

Cathy Upton, Project Manager I
(713)690-4444
cathy.upton@testamericainc.com

LINKS

Review your project
results through
Total Access

Have a Question?

? Ask
The
Expert

Visit us at:
www.testamericainc.com

Reviewed
5/13/18
MR

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Job ID: 400-152229-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative 400-152229-1

Comments

The report was revised on 5/13/18 to update the wording in the job narrative.

Receipt

The samples were received on 4/13/2018 9:10 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 2.0° C, 4.2° C and 4.3° C.

GC/MS VOA

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-ROX-041218-8260-SS (400-152229-2), P93D-ROX-041218 (400-152229-3), P93B-ROX-041218 (400-152229-4), P93B-ROX-041218-DUP (400-152229-5), T12-ROX-041218-EB (400-152229-6), T12-ROX-041218 (400-152229-7) and P59-ROX-041218 (400-152229-8). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: The matrix spike duplicate (MSD) precision for 2-Chloroethyl vinyl ether associated with analytical batch 400-394772 was outside control limits. Sample matrix interference is suspected.

Method(s) 8260B: The following samples were diluted to bring the concentration of target analytes within the calibration range: P93B-ROX-041218 (400-152229-4), P93B-ROX-041218-DUP (400-152229-5), T12-ROX-041218 (400-152229-7) and P59-ROX-041218 (400-152229-8). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: P93B-ROX-041218 (400-152229-4) and P59-ROX-041218 (400-152229-8). These results have been reported and qualified.

Method(s) 8270D: The initial calibration verification (ICV) analyzed in batch 400-389211 was outside method criteria for the following analyte: N-Nitrosodiphenylamine. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8270D: The initial calibration verification (ICV) analyzed in batch 400-392786 was outside method criteria for the following analyte: 2,4-Dimethylphenol. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-394711 recovered outside acceptance criteria, low biased, for Hexachlorocyclopentadiene and Indene. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were either non-detect or less than reporting limit (RL) for these analytes, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 400-395214 recovered outside acceptance criteria, low biased, for Hexachlorocyclopentadiene. The following QC was impacted: LCS 400-394488/2A and LCSD 400-394488/3/A. The recoveries for this analyte were within acceptance limits; therefore, the data have been qualified and reported.

Method(s) 8270D: The following samples were diluted to bring the concentration of target analytes within the calibration range: P93B-ROX-041218 (400-152229-4) and P93B-ROX-041218-DUP (400-152229-5). Elevated reporting limits (RLs) are provided.

Method(s) 8270D LL: The following sample was diluted to bring the concentration of target analytes within the calibration range: T12-ROX-041218 (400-152229-7). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Job ID: 400-152229-1 (Continued)

Laboratory: TestAmerica Pensacola (Continued)

GC Semi VOA

Method(s) 8011: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 400-394696.

Method(s) 8011: The RPD of the laboratory control sample duplicate (LCSD) for batch preparation batch 400-394696 and analytical batch 400-394851 recovered outside control limits for the following analytes: 1,2-Dibromo-3-Chloropropane.

Method(s) 8011: The continuing calibration verification (CCV) associated with batch 400-394851 recovered above the upper control limit for Ethylene Dibromide. The samples associated with this CCV were non-detects for the affected analyte; therefore, the data have been reported. The following samples are impacted: TB-ROX-041218-8011-SS (400-152229-1), P93D-ROX-041218 (400-152229-3), P93B-ROX-041218 (400-152229-4), P93B-ROX-041218-DUP (400-152229-5), T12-ROX-041218-EB (400-152229-6), T12-ROX-041218 (400-152229-7) and P59-ROX-041218 (400-152229-8).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

Method(s) 3520C, 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 400-394488 and 400-394488.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-152229-1	TB-ROX-041218-8011-SS ✓	Water	04/12/18 00:00	04/13/18 09:10
400-152229-2	TB-ROX-041218-8260-SS ✓	Water	04/12/18 00:00	04/13/18 09:10
400-152229-3	P93D-ROX-041218 ✓	Water	04/12/18 13:05	04/13/18 09:10
400-152229-4	P93B-ROX-041218 ✓	Water	04/12/18 14:25	04/13/18 09:10
400-152229-5	P93B-ROX-041218-DUP ✓	Water	04/12/18 14:25	04/13/18 09:10
400-152229-6	T12-ROX-041218-EB ✓	Water	04/12/18 15:40	04/13/18 09:10
400-152229-7	T12-ROX-041218 ✓	Water	04/12/18 16:00	04/13/18 09:10
400-152229-8	P59-ROX-041218 ✓	Water	04/12/18 17:10	04/13/18 09:10



Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Client Sample ID: TB-ROX-041218-8011-SS

Lab Sample ID: 400-152229-1

No Detections.

Client Sample ID: TB-ROX-041218-8260-SS

Lab Sample ID: 400-152229-2

No Detections.

Client Sample ID: P93D-ROX-041218

Lab Sample ID: 400-152229-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	38		1.0	0.38	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	2.0		1.0	0.74	ug/L	1		8260B	Total/NA
Benzo[a]anthracene	0.046	J	0.20	0.040	ug/L	1		8270D LL	Total/NA
Benzo[g,h,i]perylene	0.23		0.20	0.040	ug/L	1		8270D LL	Total/NA
Fluoranthene	0.051	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Indeno[1,2,3-cd]pyrene	0.15	J	0.20	0.040	ug/L	1		8270D LL	Total/NA
Pyrene	0.076	J	0.20	0.020	ug/L	1		8270D LL	Total/NA

Client Sample ID: P93B-ROX-041218

Lab Sample ID: 400-152229-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	120000		1000	380	ug/L	1000		8260B	Total/NA
Indeno[1,2,3-cd]pyrene	0.041	J	0.20	0.040	ug/L	1		8270D LL	Total/NA
1-Methylnaphthalene	0.028	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenol - DL	360		49	13	ug/L	5		8270D	Total/NA

Client Sample ID: P93B-ROX-041218-DUP

Lab Sample ID: 400-152229-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	130000		1000	380	ug/L	1000		8260B	Total/NA
1-Methylnaphthalene	0.045	J	0.20	0.020	ug/L	1		8270D LL	Total/NA
Phenol - DL	350		49	13	ug/L	5		8270D	Total/NA

Client Sample ID: T12-ROX-041218-EB

Lab Sample ID: 400-152229-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzyl alcohol	13		9.9	2.0	ug/L	1		8270D	Total/NA

Client Sample ID: T12-ROX-041218

Lab Sample ID: 400-152229-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1700		10	3.8	ug/L	10		8260B	Total/NA
Bromomethane	12		10	9.8	ug/L	10		8260B	Total/NA
Ethylbenzene	95		10	5.0	ug/L	10		8260B	Total/NA
Isopropylbenzene	18		10	5.3	ug/L	10		8260B	Total/NA
Methyl tert-butyl ether	16		10	7.4	ug/L	10		8260B	Total/NA
m-Xylene & p-Xylene	340		50	16	ug/L	10		8260B	Total/NA
Naphthalene	87		10	10	ug/L	10		8260B	Total/NA
N-Propylbenzene	22		10	6.9	ug/L	10		8260B	Total/NA
o-Xylene	11	J	50	6.0	ug/L	10		8260B	Total/NA
Toluene	85		10	7.0	ug/L	10		8260B	Total/NA
1,2,4-Trimethylbenzene	47		10	8.2	ug/L	10		8260B	Total/NA
1,3,5-Trimethylbenzene	7.4	J	10	5.6	ug/L	10		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Client Sample ID: T12-ROX-041218 (Continued)

Lab Sample ID: 400-152229-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Xylenes, Total	350		100	16	ug/L	10			8260B	Total/NA
Acenaphthene	0.26		0.20	0.020	ug/L	1			8270D LL	Total/NA
Anthracene	0.15	J	0.20	0.020	ug/L	1			8270D LL	Total/NA
Fluorene	0.31		0.20	0.021	ug/L	1			8270D LL	Total/NA
Phenanthrene	0.80		0.20	0.020	ug/L	1			8270D LL	Total/NA
1-Methylnaphthalene	33		0.20	0.020	ug/L	1			8270D LL	Total/NA
2-Methylnaphthalene - DL	36		0.99	0.099	ug/L	5			8270D LL	Total/NA
Phenol	37		9.9	2.6	ug/L	1			8270D	Total/NA

Client Sample ID: P59-ROX-041218

Lab Sample ID: 400-152229-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Benzene	3200		20	7.6	ug/L	20			8260B	Total/NA
Bromomethane	20		20	20	ug/L	20			8260B	Total/NA
Ethylbenzene	770		20	10	ug/L	20			8260B	Total/NA
Isopropylbenzene	29		20	11	ug/L	20			8260B	Total/NA
m-Xylene & p-Xylene	1100		100	32	ug/L	20			8260B	Total/NA
Naphthalene	150		20	20	ug/L	20			8260B	Total/NA
N-Propylbenzene	52		20	14	ug/L	20			8260B	Total/NA
o-Xylene	82	J	100	12	ug/L	20			8260B	Total/NA
Toluene	460		20	14	ug/L	20			8260B	Total/NA
1,2,4-Trimethylbenzene	320		20	16	ug/L	20			8260B	Total/NA
1,3,5-Trimethylbenzene	45		20	11	ug/L	20			8260B	Total/NA
Xylenes, Total	1200		200	32	ug/L	20			8260B	Total/NA
Acenaphthene	0.14	J	0.20	0.020	ug/L	1			8270D LL	Total/NA
Anthracene	0.093	J	0.20	0.020	ug/L	1			8270D LL	Total/NA
Fluoranthene	0.050	J	0.20	0.020	ug/L	1			8270D LL	Total/NA
Fluorene	0.17	J	0.20	0.021	ug/L	1			8270D LL	Total/NA
Phenanthrene	0.56		0.20	0.020	ug/L	1			8270D LL	Total/NA
Pyrene	0.10	J	0.20	0.020	ug/L	1			8270D LL	Total/NA
1-Methylnaphthalene	20		0.20	0.020	ug/L	1			8270D LL	Total/NA
2-Methylnaphthalene	36		0.20	0.020	ug/L	1			8270D LL	Total/NA
Indene	4.8	J J	10	1.0	ug/L	1			8270D	Total/NA
Phenol	15		10	2.6	ug/L	1			8270D	Total/NA
1,2-Dibromo-3-Chloropropane	0.032	p *	0.027	0.0049	ug/L	1			8011	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
 SDG: (2Q18)

Client Sample ID: TB-ROX-041218-8011-SS

Lab Sample ID: 400-152229-1

Date Collected: 04/12/18 00:00

Matrix: Water

Date Received: 04/13/18 09:10

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND	*	0.026	0.0048	ug/L		04/20/18 15:34	04/23/18 14:14	1
1,2-Dibromoethane	ND		0.018	0.0044	ug/L		04/20/18 15:34	04/23/18 14:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	137	p	51 - 149				04/20/18 15:34	04/23/18 14:14	1

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Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
 SDG: (2Q18)

Client Sample ID: TB-ROX-041218-8260-SS

Lab Sample ID: 400-152229-2

Date Collected: 04/12/18 00:00

Matrix: Water

Date Received: 04/13/18 09:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/22/18 12:53	1
Acrolein	ND		20	10	ug/L			04/22/18 12:53	1
Acrylonitrile	ND		10	2.8	ug/L			04/22/18 12:53	1
Benzene	ND		1.0	0.38	ug/L			04/22/18 12:53	1
Bromobenzene	ND		1.0	0.54	ug/L			04/22/18 12:53	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/22/18 12:53	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/22/18 12:53	1
Bromoform	ND		5.0	0.71	ug/L			04/22/18 12:53	1
Bromomethane	ND		1.0	0.98	ug/L			04/22/18 12:53	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/22/18 12:53	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/22/18 12:53	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/22/18 12:53	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/22/18 12:53	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/22/18 12:53	1
Chloroethane	ND		1.0	0.76	ug/L			04/22/18 12:53	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/22/18 12:53	1
Chloroform	ND		1.0	0.60	ug/L			04/22/18 12:53	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/22/18 12:53	1
Chloromethane	ND		1.0	0.83	ug/L			04/22/18 12:53	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/22/18 12:53	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/22/18 12:53	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/22/18 12:53	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/22/18 12:53	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/22/18 12:53	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/22/18 12:53	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/22/18 12:53	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/22/18 12:53	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/22/18 12:53	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/22/18 12:53	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/22/18 12:53	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/22/18 12:53	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/22/18 12:53	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/22/18 12:53	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/22/18 12:53	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/22/18 12:53	1
2-Hexanone	ND		25	3.1	ug/L			04/22/18 12:53	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/22/18 12:53	1
Methylene bromide	ND		5.0	0.59	ug/L			04/22/18 12:53	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/22/18 12:53	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/22/18 12:53	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/22/18 12:53	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/22/18 12:53	1
Naphthalene	ND		1.0	1.0	ug/L			04/22/18 12:53	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/22/18 12:53	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/22/18 12:53	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/22/18 12:53	1
o-Xylene	ND		5.0	0.60	ug/L			04/22/18 12:53	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/22/18 12:53	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/22/18 12:53	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
 SDG: (2Q18)

Client Sample ID: TB-ROX-041218-8260-SS

Lab Sample ID: 400-152229-2

Date Collected: 04/12/18 00:00

Matrix: Water

Date Received: 04/13/18 09:10

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/22/18 12:53	1
Styrene	ND		1.0	1.0	ug/L			04/22/18 12:53	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/22/18 12:53	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/22/18 12:53	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/22/18 12:53	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/22/18 12:53	1
Toluene	ND		1.0	0.70	ug/L			04/22/18 12:53	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/22/18 12:53	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/22/18 12:53	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/22/18 12:53	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/22/18 12:53	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/22/18 12:53	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/22/18 12:53	1
Trichloroethene	ND		1.0	0.50	ug/L			04/22/18 12:53	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/22/18 12:53	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/22/18 12:53	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/22/18 12:53	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/22/18 12:53	1
Vinyl acetate	ND		25	2.0	ug/L			04/22/18 12:53	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/22/18 12:53	1
Xylenes, Total	ND		10	1.6	ug/L			04/22/18 12:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	103		78 - 118					04/22/18 12:53	1
Dibromofluoromethane	101		81 - 121					04/22/18 12:53	1
Toluene-d8 (Surr)	100		80 - 120					04/22/18 12:53	1



Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
 SDG: (2Q18)

Client Sample ID: P93D-ROX-041218

Lab Sample ID: 400-152229-3

Date Collected: 04/12/18 13:05

Matrix: Water

Date Received: 04/13/18 09:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/22/18 13:15	1
Acrolein	ND		20	10	ug/L			04/22/18 13:15	1
Acrylonitrile	ND		10	2.8	ug/L			04/22/18 13:15	1
Benzene	38		1.0	0.38	ug/L			04/22/18 13:15	1
Bromobenzene	ND		1.0	0.54	ug/L			04/22/18 13:15	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/22/18 13:15	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/22/18 13:15	1
Bromoform	ND		5.0	0.71	ug/L			04/22/18 13:15	1
Bromomethane	ND		1.0	0.98	ug/L			04/22/18 13:15	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/22/18 13:15	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/22/18 13:15	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/22/18 13:15	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/22/18 13:15	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/22/18 13:15	1
Chloroethane	ND		1.0	0.76	ug/L			04/22/18 13:15	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/22/18 13:15	1
Chloroform	ND		1.0	0.60	ug/L			04/22/18 13:15	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/22/18 13:15	1
Chloromethane	ND		1.0	0.83	ug/L			04/22/18 13:15	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/22/18 13:15	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/22/18 13:15	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/22/18 13:15	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/22/18 13:15	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/22/18 13:15	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/22/18 13:15	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/22/18 13:15	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/22/18 13:15	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/22/18 13:15	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/22/18 13:15	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/22/18 13:15	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/22/18 13:15	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/22/18 13:15	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/22/18 13:15	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/22/18 13:15	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/22/18 13:15	1
2-Hexanone	ND		25	3.1	ug/L			04/22/18 13:15	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/22/18 13:15	1
Methylene bromide	ND		5.0	0.59	ug/L			04/22/18 13:15	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/22/18 13:15	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/22/18 13:15	1
Methyl tert-butyl ether	2.0		1.0	0.74	ug/L			04/22/18 13:15	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/22/18 13:15	1
Naphthalene	ND		1.0	1.0	ug/L			04/22/18 13:15	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/22/18 13:15	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/22/18 13:15	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/22/18 13:15	1
o-Xylene	ND		5.0	0.60	ug/L			04/22/18 13:15	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/22/18 13:15	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/22/18 13:15	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Client Sample ID: P93D-ROX-041218

Lab Sample ID: 400-152229-3

Date Collected: 04/12/18 13:05

Matrix: Water

Date Received: 04/13/18 09:10

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/22/18 13:15	1
Styrene	ND		1.0	1.0	ug/L			04/22/18 13:15	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/22/18 13:15	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/22/18 13:15	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/22/18 13:15	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/22/18 13:15	1
Toluene	ND		1.0	0.70	ug/L			04/22/18 13:15	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/22/18 13:15	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/22/18 13:15	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/22/18 13:15	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/22/18 13:15	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/22/18 13:15	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/22/18 13:15	1
Trichloroethene	ND		1.0	0.50	ug/L			04/22/18 13:15	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/22/18 13:15	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/22/18 13:15	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/22/18 13:15	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/22/18 13:15	1
Vinyl acetate	ND		25	2.0	ug/L			04/22/18 13:15	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/22/18 13:15	1
Xylenes, Total	ND		10	1.6	ug/L			04/22/18 13:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		78 - 118		04/22/18 13:15	1
Dibromofluoromethane	103		81 - 121		04/22/18 13:15	1
Toluene-d8 (Surr)	101		80 - 120		04/22/18 13:15	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/20/18 23:18	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/20/18 23:18	1
Anthracene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/20/18 23:18	1
Benzo[a]anthracene	0.046	J	0.20	0.040	ug/L		04/19/18 11:51	04/20/18 23:18	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/19/18 11:51	04/20/18 23:18	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/19/18 11:51	04/20/18 23:18	1
Benzo[g,h,i]perylene	0.23		0.20	0.040	ug/L		04/19/18 11:51	04/20/18 23:18	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/19/18 11:51	04/20/18 23:18	1
Chrysene	ND		0.20	0.040	ug/L		04/19/18 11:51	04/20/18 23:18	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		04/19/18 11:51	04/20/18 23:18	1
Fluoranthene	0.051	J	0.20	0.020	ug/L		04/19/18 11:51	04/20/18 23:18	1
Fluorene	ND		0.20	0.021	ug/L		04/19/18 11:51	04/20/18 23:18	1
Indeno[1,2,3-cd]pyrene	0.15	J	0.20	0.040	ug/L		04/19/18 11:51	04/20/18 23:18	1
Phenanthrene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/20/18 23:18	1
Pyrene	0.076	J	0.20	0.020	ug/L		04/19/18 11:51	04/20/18 23:18	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/20/18 23:18	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/20/18 23:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	88		33 - 138	04/19/18 11:51	04/20/18 23:18	1
2-Fluorobiphenyl	78		15 - 122	04/19/18 11:51	04/20/18 23:18	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Client Sample ID: P93D-ROX-041218

Lab Sample ID: 400-152229-3

Date Collected: 04/12/18 13:05

Matrix: Water

Date Received: 04/13/18 09:10

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	64		19 - 130	04/19/18 11:51	04/20/18 23:18	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		04/19/18 11:51	04/20/18 21:12	1
Benzenethiol	ND		10	1.7	ug/L		04/19/18 11:51	04/20/18 21:12	1
Benzoic acid	ND		30	7.3	ug/L		04/19/18 11:51	04/20/18 21:12	1
Benzyl alcohol	ND		10	2.0	ug/L		04/19/18 11:51	04/20/18 21:12	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		04/19/18 11:51	04/20/18 21:12	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		04/19/18 11:51	04/20/18 21:12	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		04/19/18 11:51	04/20/18 21:12	1
Bis(2-ethylhexyl) phthalate	ND		10	2.3	ug/L		04/19/18 11:51	04/20/18 21:12	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		04/19/18 11:51	04/20/18 21:12	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		04/19/18 11:51	04/20/18 21:12	1
4-Chloroaniline	ND		10	3.4	ug/L		04/19/18 11:51	04/20/18 21:12	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		04/19/18 11:51	04/20/18 21:12	1
2-Chloronaphthalene	ND		10	0.52	ug/L		04/19/18 11:51	04/20/18 21:12	1
2-Chlorophenol	ND		10	2.2	ug/L		04/19/18 11:51	04/20/18 21:12	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		04/19/18 11:51	04/20/18 21:12	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		04/19/18 11:51	04/20/18 21:12	1
Dibenzofuran	ND		10	0.52	ug/L		04/19/18 11:51	04/20/18 21:12	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		04/19/18 11:51	04/20/18 21:12	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		04/19/18 11:51	04/20/18 21:12	1
Diethyl phthalate	ND		10	0.70	ug/L		04/19/18 11:51	04/20/18 21:12	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		04/19/18 11:51	04/20/18 21:12	1
Dimethyl phthalate	ND		10	0.60	ug/L		04/19/18 11:51	04/20/18 21:12	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		04/19/18 11:51	04/20/18 21:12	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		04/19/18 11:51	04/20/18 21:12	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/19/18 11:51	04/20/18 21:12	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		04/19/18 11:51	04/20/18 21:12	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		04/19/18 11:51	04/20/18 21:12	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		04/19/18 11:51	04/20/18 21:12	1
1,4-Dioxane	ND		10	1.0	ug/L		04/19/18 11:51	04/20/18 21:12	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		04/19/18 11:51	04/20/18 21:12	1
Hexachlorobenzene	ND		10	0.25	ug/L		04/19/18 11:51	04/20/18 21:12	1
Hexachlorocyclopentadiene	ND	UJ	20	2.6	ug/L		04/19/18 11:51	04/20/18 21:12	1
Hexachloroethane	ND		10	4.2	ug/L		04/19/18 11:51	04/20/18 21:12	1
Indene	ND	UJ	10	1.0	ug/L		04/19/18 11:51	04/20/18 21:12	1
Isophorone	ND		10	0.57	ug/L		04/19/18 11:51	04/20/18 21:12	1
2-Methylphenol	ND		10	1.8	ug/L		04/19/18 11:51	04/20/18 21:12	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/19/18 11:51	04/20/18 21:12	1
2-Nitroaniline	ND		10	2.2	ug/L		04/19/18 11:51	04/20/18 21:12	1
3-Nitroaniline	ND		10	1.8	ug/L		04/19/18 11:51	04/20/18 21:12	1
4-Nitroaniline	ND		10	2.5	ug/L		04/19/18 11:51	04/20/18 21:12	1
Nitrobenzene	ND		10	0.55	ug/L		04/19/18 11:51	04/20/18 21:12	1
2-Nitrophenol	ND		10	0.65	ug/L		04/19/18 11:51	04/20/18 21:12	1
4-Nitrophenol	ND		10	2.1	ug/L		04/19/18 11:51	04/20/18 21:12	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		04/19/18 11:51	04/20/18 21:12	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Client Sample ID: P93D-ROX-041218

Lab Sample ID: 400-152229-3

Date Collected: 04/12/18 13:05

Matrix: Water

Date Received: 04/13/18 09:10

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		04/19/18 11:51	04/20/18 21:12	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		04/19/18 11:51	04/20/18 21:12	1
Pentachlorophenol	ND		20	1.8	ug/L		04/19/18 11:51	04/20/18 21:12	1
Phenol	ND		10	2.6	ug/L		04/19/18 11:51	04/20/18 21:12	1
Pyridine	ND		10	3.2	ug/L		04/19/18 11:51	04/20/18 21:12	1
Quinoline	ND		10	6.0	ug/L		04/19/18 11:51	04/20/18 21:12	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		04/19/18 11:51	04/20/18 21:12	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/19/18 11:51	04/20/18 21:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	50		34 - 120	04/19/18 11:51	04/20/18 21:12	1
2-Fluorophenol	38		10 - 120	04/19/18 11:51	04/20/18 21:12	1
Nitrobenzene-d5	44		27 - 120	04/19/18 11:51	04/20/18 21:12	1
Phenol-d5	41		10 - 120	04/19/18 11:51	04/20/18 21:12	1
Terphenyl-d14	54		53 - 125	04/19/18 11:51	04/20/18 21:12	1
2,4,6-Tribromophenol	54		15 - 135	04/19/18 11:51	04/20/18 21:12	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.027	0.0049	ug/L		04/20/18 15:34	04/23/18 14:34	1
1,2-Dibromoethane	ND		0.018	0.0045	ug/L		04/20/18 15:34	04/23/18 14:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	108	p	51 - 149	04/20/18 15:34	04/23/18 14:34	1

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Client Sample ID: P93B-ROX-041218

Lab Sample ID: 400-152229-4

Date Collected: 04/12/18 14:25

Matrix: Water

Date Received: 04/13/18 09:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25000	10000	ug/L			04/22/18 11:02	1000
Acrolein	ND		20000	10000	ug/L			04/22/18 11:02	1000
Acrylonitrile	ND		10000	2800	ug/L			04/22/18 11:02	1000
Benzene	120000		1000	380	ug/L			04/22/18 11:02	1000
Bromobenzene	ND		1000	540	ug/L			04/22/18 11:02	1000
Bromochloromethane	ND		1000	520	ug/L			04/22/18 11:02	1000
Bromodichloromethane	ND		1000	500	ug/L			04/22/18 11:02	1000
Bromoform	ND		5000	710	ug/L			04/22/18 11:02	1000
Bromomethane	ND		1000	980	ug/L			04/22/18 11:02	1000
2-Butanone (MEK)	ND		25000	2600	ug/L			04/22/18 11:02	1000
Carbon disulfide	ND		1000	500	ug/L			04/22/18 11:02	1000
Carbon tetrachloride	ND		1000	500	ug/L			04/22/18 11:02	1000
Chlorobenzene	ND		1000	500	ug/L			04/22/18 11:02	1000
Dibromochloromethane	ND		1000	500	ug/L			04/22/18 11:02	1000
Chloroethane	ND		1000	760	ug/L			04/22/18 11:02	1000
2-Chloroethyl vinyl ether	ND		5000	2000	ug/L			04/22/18 11:02	1000
Chloroform	ND		1000	600	ug/L			04/22/18 11:02	1000
1-Chlorohexane	ND		1000	700	ug/L			04/22/18 11:02	1000
Chloromethane	ND		1000	830	ug/L			04/22/18 11:02	1000
cis-1,2-Dichloroethene	ND		1000	500	ug/L			04/22/18 11:02	1000
cis-1,3-Dichloropropene	ND		5000	500	ug/L			04/22/18 11:02	1000
1,2-Dichlorobenzene	ND		1000	500	ug/L			04/22/18 11:02	1000
1,3-Dichlorobenzene	ND		1000	540	ug/L			04/22/18 11:02	1000
1,4-Dichlorobenzene	ND		1000	640	ug/L			04/22/18 11:02	1000
Dichlorodifluoromethane	ND		1000	850	ug/L			04/22/18 11:02	1000
1,1-Dichloroethane	ND		1000	500	ug/L			04/22/18 11:02	1000
1,2-Dichloroethane	ND		1000	500	ug/L			04/22/18 11:02	1000
1,1-Dichloroethene	ND		1000	500	ug/L			04/22/18 11:02	1000
1,2-Dichloropropane	ND		1000	500	ug/L			04/22/18 11:02	1000
1,3-Dichloropropane	ND		1000	500	ug/L			04/22/18 11:02	1000
2,2-Dichloropropane	ND		1000	500	ug/L			04/22/18 11:02	1000
1,1-Dichloropropene	ND		1000	500	ug/L			04/22/18 11:02	1000
Ethylbenzene	ND		1000	500	ug/L			04/22/18 11:02	1000
Ethyl methacrylate	ND		1000	600	ug/L			04/22/18 11:02	1000
Hexachlorobutadiene	ND		5000	900	ug/L			04/22/18 11:02	1000
2-Hexanone	ND		25000	3100	ug/L			04/22/18 11:02	1000
Isopropylbenzene	ND		1000	530	ug/L			04/22/18 11:02	1000
Methylene bromide	ND		5000	590	ug/L			04/22/18 11:02	1000
Methylene Chloride	ND		5000	3000	ug/L			04/22/18 11:02	1000
4-Methyl-2-pentanone (MIBK)	ND		25000	1800	ug/L			04/22/18 11:02	1000
Methyl tert-butyl ether	ND		1000	740	ug/L			04/22/18 11:02	1000
m-Xylene & p-Xylene	ND		5000	1600	ug/L			04/22/18 11:02	1000
Naphthalene	ND		1000	1000	ug/L			04/22/18 11:02	1000
n-Butylbenzene	ND		1000	760	ug/L			04/22/18 11:02	1000
N-Propylbenzene	ND		1000	690	ug/L			04/22/18 11:02	1000
o-Chlorotoluene	ND		1000	570	ug/L			04/22/18 11:02	1000
o-Xylene	ND		5000	600	ug/L			04/22/18 11:02	1000
p-Chlorotoluene	ND		1000	560	ug/L			04/22/18 11:02	1000
p-Isopropyltoluene	ND		1000	710	ug/L			04/22/18 11:02	1000

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Client Sample ID: P93B-ROX-041218

Lab Sample ID: 400-152229-4

Date Collected: 04/12/18 14:25

Matrix: Water

Date Received: 04/13/18 09:10

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1000	700	ug/L			04/22/18 11:02	1000
Styrene	ND		1000	1000	ug/L			04/22/18 11:02	1000
tert-Butylbenzene	ND		1000	630	ug/L			04/22/18 11:02	1000
1,1,1,2-Tetrachloroethane	ND		1000	520	ug/L			04/22/18 11:02	1000
1,1,2,2-Tetrachloroethane	ND		1000	500	ug/L			04/22/18 11:02	1000
Tetrachloroethene	ND		1000	580	ug/L			04/22/18 11:02	1000
Toluene	ND		1000	700	ug/L			04/22/18 11:02	1000
trans-1,2-Dichloroethene	ND		1000	500	ug/L			04/22/18 11:02	1000
trans-1,3-Dichloropropene	ND		5000	500	ug/L			04/22/18 11:02	1000
1,2,3-Trichlorobenzene	ND		1000	700	ug/L			04/22/18 11:02	1000
1,2,4-Trichlorobenzene	ND		1000	820	ug/L			04/22/18 11:02	1000
1,1,1-Trichloroethane	ND		1000	500	ug/L			04/22/18 11:02	1000
1,1,2-Trichloroethane	ND		5000	500	ug/L			04/22/18 11:02	1000
Trichloroethene	ND		1000	500	ug/L			04/22/18 11:02	1000
Trichlorofluoromethane	ND		1000	520	ug/L			04/22/18 11:02	1000
1,2,3-Trichloropropane	ND		5000	840	ug/L			04/22/18 11:02	1000
1,2,4-Trimethylbenzene	ND		1000	820	ug/L			04/22/18 11:02	1000
1,3,5-Trimethylbenzene	ND		1000	560	ug/L			04/22/18 11:02	1000
Vinyl acetate	ND		25000	2000	ug/L			04/22/18 11:02	1000
Vinyl chloride	ND		1000	500	ug/L			04/22/18 11:02	1000
Xylenes, Total	ND		10000	1600	ug/L			04/22/18 11:02	1000
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		78 - 118					04/22/18 11:02	1000
Dibromofluoromethane	101		81 - 121					04/22/18 11:02	1000
Toluene-d8 (Surr)	108		80 - 120					04/22/18 11:02	1000

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/20/18 23:35	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/20/18 23:35	1
Anthracene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/20/18 23:35	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/19/18 11:51	04/20/18 23:35	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/19/18 11:51	04/20/18 23:35	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/19/18 11:51	04/20/18 23:35	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/19/18 11:51	04/20/18 23:35	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/19/18 11:51	04/20/18 23:35	1
Chrysene	ND		0.20	0.040	ug/L		04/19/18 11:51	04/20/18 23:35	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		04/19/18 11:51	04/20/18 23:35	1
Fluoranthene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/20/18 23:35	1
Fluorene	ND		0.20	0.021	ug/L		04/19/18 11:51	04/20/18 23:35	1
Indeno[1,2,3-cd]pyrene	0.041	J	0.20	0.040	ug/L		04/19/18 11:51	04/20/18 23:35	1
Phenanthrene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/20/18 23:35	1
Pyrene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/20/18 23:35	1
1-Methylnaphthalene	0.028	J	0.20	0.020	ug/L		04/19/18 11:51	04/20/18 23:35	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/20/18 23:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	91		33 - 138				04/19/18 11:51	04/20/18 23:35	1
2-Fluorobiphenyl	83		15 - 122				04/19/18 11:51	04/20/18 23:35	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Client Sample ID: P93B-ROX-041218

Lab Sample ID: 400-152229-4

Date Collected: 04/12/18 14:25

Matrix: Water

Date Received: 04/13/18 09:10

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	73		19 - 130	04/19/18 11:51	04/20/18 23:35	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.9	3.8	ug/L		04/19/18 11:51	04/20/18 21:36	1
Benzenethiol	ND		9.9	1.7	ug/L		04/19/18 11:51	04/20/18 21:36	1
Benzoic acid	ND		30	7.2	ug/L		04/19/18 11:51	04/20/18 21:36	1
Benzyl alcohol	ND		9.9	2.0	ug/L		04/19/18 11:51	04/20/18 21:36	1
Bis(2-chloroethoxy)methane	ND		9.9	0.68	ug/L		04/19/18 11:51	04/20/18 21:36	1
Bis(2-chloroethyl)ether	ND		9.9	0.73	ug/L		04/19/18 11:51	04/20/18 21:36	1
bis (2-chloroisopropyl) ether	ND		9.9	0.80	ug/L		04/19/18 11:51	04/20/18 21:36	1
Bis(2-ethylhexyl) phthalate	ND		9.9	2.2	ug/L		04/19/18 11:51	04/20/18 21:36	1
4-Bromophenyl phenyl ether	ND		9.9	0.32	ug/L		04/19/18 11:51	04/20/18 21:36	1
Butyl benzyl phthalate	ND		9.9	0.68	ug/L		04/19/18 11:51	04/20/18 21:36	1
4-Chloroaniline	ND		9.9	3.4	ug/L		04/19/18 11:51	04/20/18 21:36	1
4-Chloro-3-methylphenol	ND		9.9	3.8	ug/L		04/19/18 11:51	04/20/18 21:36	1
2-Chloronaphthalene	ND		9.9	0.51	ug/L		04/19/18 11:51	04/20/18 21:36	1
2-Chlorophenol	ND		9.9	2.2	ug/L		04/19/18 11:51	04/20/18 21:36	1
4-Chlorophenyl phenyl ether	ND		9.9	2.0	ug/L		04/19/18 11:51	04/20/18 21:36	1
Dibenz[a,h]acridine	ND		9.9	3.0	ug/L		04/19/18 11:51	04/20/18 21:36	1
Dibenzofuran	ND		9.9	0.51	ug/L		04/19/18 11:51	04/20/18 21:36	1
3,3'-Dichlorobenzidine	ND		9.9	2.6	ug/L		04/19/18 11:51	04/20/18 21:36	1
2,4-Dichlorophenol	ND		9.9	3.0	ug/L		04/19/18 11:51	04/20/18 21:36	1
Diethyl phthalate	ND		9.9	0.69	ug/L		04/19/18 11:51	04/20/18 21:36	1
2,4-Dimethylphenol	ND		9.9	3.5	ug/L		04/19/18 11:51	04/20/18 21:36	1
Dimethyl phthalate	ND		9.9	0.59	ug/L		04/19/18 11:51	04/20/18 21:36	1
Di-n-butyl phthalate	ND		9.9	2.7	ug/L		04/19/18 11:51	04/20/18 21:36	1
4,6-Dinitro-ortho-cresol	ND		9.9	2.0	ug/L		04/19/18 11:51	04/20/18 21:36	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/19/18 11:51	04/20/18 21:36	1
2,4-Dinitrotoluene	ND		9.9	1.9	ug/L		04/19/18 11:51	04/20/18 21:36	1
2,6-Dinitrotoluene	ND		9.9	1.9	ug/L		04/19/18 11:51	04/20/18 21:36	1
Di-n-octyl phthalate	ND		9.9	0.44	ug/L		04/19/18 11:51	04/20/18 21:36	1
1,4-Dioxane	ND		9.9	0.99	ug/L		04/19/18 11:51	04/20/18 21:36	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	0.99	ug/L		04/19/18 11:51	04/20/18 21:36	1
Hexachlorobenzene	ND		9.9	0.25	ug/L		04/19/18 11:51	04/20/18 21:36	1
Hexachlorocyclopentadiene	ND	UJ	20	2.6	ug/L		04/19/18 11:51	04/20/18 21:36	1
Hexachloroethane	ND		9.9	4.2	ug/L		04/19/18 11:51	04/20/18 21:36	1
Indene	ND	UJ	9.9	0.99	ug/L		04/19/18 11:51	04/20/18 21:36	1
Isophorone	ND		9.9	0.56	ug/L		04/19/18 11:51	04/20/18 21:36	1
2-Methylphenol	ND		9.9	1.8	ug/L		04/19/18 11:51	04/20/18 21:36	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/19/18 11:51	04/20/18 21:36	1
2-Nitroaniline	ND		9.9	2.2	ug/L		04/19/18 11:51	04/20/18 21:36	1
3-Nitroaniline	ND		9.9	1.8	ug/L		04/19/18 11:51	04/20/18 21:36	1
4-Nitroaniline	ND		9.9	2.5	ug/L		04/19/18 11:51	04/20/18 21:36	1
Nitrobenzene	ND		9.9	0.54	ug/L		04/19/18 11:51	04/20/18 21:36	1
2-Nitrophenol	ND		9.9	0.64	ug/L		04/19/18 11:51	04/20/18 21:36	1
4-Nitrophenol	ND		9.9	2.1	ug/L		04/19/18 11:51	04/20/18 21:36	1
N-Nitrosodimethylamine	ND		9.9	3.5	ug/L		04/19/18 11:51	04/20/18 21:36	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Client Sample ID: P93B-ROX-041218

Lab Sample ID: 400-152229-4

Date Collected: 04/12/18 14:25

Matrix: Water

Date Received: 04/13/18 09:10

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.9	3.3	ug/L		04/19/18 11:51	04/20/18 21:36	1
N-Nitrosodiphenylamine	ND		9.9	0.46	ug/L		04/19/18 11:51	04/20/18 21:36	1
Pentachlorophenol	ND		20	1.8	ug/L		04/19/18 11:51	04/20/18 21:36	1
Pyridine	ND		9.9	3.2	ug/L		04/19/18 11:51	04/20/18 21:36	1
Quinoline	ND		9.9	5.9	ug/L		04/19/18 11:51	04/20/18 21:36	1
2,4,5-Trichlorophenol	ND		9.9	3.7	ug/L		04/19/18 11:51	04/20/18 21:36	1
2,4,6-Trichlorophenol	ND		9.9	3.5	ug/L		04/19/18 11:51	04/20/18 21:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	49		34 - 120	04/19/18 11:51	04/20/18 21:36	1
2-Fluorophenol	38		10 - 120	04/19/18 11:51	04/20/18 21:36	1
Nitrobenzene-d5	46		27 - 120	04/19/18 11:51	04/20/18 21:36	1
Phenol-d5	43		10 - 120	04/19/18 11:51	04/20/18 21:36	1
Terphenyl-d14	52 X		53 - 125	04/19/18 11:51	04/20/18 21:36	1
2,4,6-Tribromophenol	60		15 - 135	04/19/18 11:51	04/20/18 21:36	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	360		49	13	ug/L		04/19/18 11:51	04/23/18 21:07	5

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.028	0.0051	ug/L		04/20/18 15:34	04/23/18 14:54	1
1,2-Dibromoethane	ND		0.019	0.0047	ug/L		04/20/18 15:34	04/23/18 14:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	110		51 - 149	04/20/18 15:34	04/23/18 14:54	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
 SDG: (2Q18)

Client Sample ID: P93B-ROX-041218-DUP

Lab Sample ID: 400-152229-5

Date Collected: 04/12/18 14:25

Matrix: Water

Date Received: 04/13/18 09:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25000	10000	ug/L			04/22/18 11:24	1000
Acrolein	ND		20000	10000	ug/L			04/22/18 11:24	1000
Acrylonitrile	ND		10000	2800	ug/L			04/22/18 11:24	1000
Benzene	130000		1000	380	ug/L			04/22/18 11:24	1000
Bromobenzene	ND		1000	540	ug/L			04/22/18 11:24	1000
Bromochloromethane	ND		1000	520	ug/L			04/22/18 11:24	1000
Bromodichloromethane	ND		1000	500	ug/L			04/22/18 11:24	1000
Bromoform	ND		5000	710	ug/L			04/22/18 11:24	1000
Bromomethane	ND		1000	980	ug/L			04/22/18 11:24	1000
2-Butanone (MEK)	ND		25000	2600	ug/L			04/22/18 11:24	1000
Carbon disulfide	ND		1000	500	ug/L			04/22/18 11:24	1000
Carbon tetrachloride	ND		1000	500	ug/L			04/22/18 11:24	1000
Chlorobenzene	ND		1000	500	ug/L			04/22/18 11:24	1000
Dibromochloromethane	ND		1000	500	ug/L			04/22/18 11:24	1000
Chloroethane	ND		1000	760	ug/L			04/22/18 11:24	1000
2-Chloroethyl vinyl ether	ND		5000	2000	ug/L			04/22/18 11:24	1000
Chloroform	ND		1000	600	ug/L			04/22/18 11:24	1000
1-Chlorohexane	ND		1000	700	ug/L			04/22/18 11:24	1000
Chloromethane	ND		1000	830	ug/L			04/22/18 11:24	1000
cis-1,2-Dichloroethene	ND		1000	500	ug/L			04/22/18 11:24	1000
cis-1,3-Dichloropropene	ND		5000	500	ug/L			04/22/18 11:24	1000
1,2-Dichlorobenzene	ND		1000	500	ug/L			04/22/18 11:24	1000
1,3-Dichlorobenzene	ND		1000	540	ug/L			04/22/18 11:24	1000
1,4-Dichlorobenzene	ND		1000	640	ug/L			04/22/18 11:24	1000
Dichlorodifluoromethane	ND		1000	850	ug/L			04/22/18 11:24	1000
1,1-Dichloroethane	ND		1000	500	ug/L			04/22/18 11:24	1000
1,2-Dichloroethane	ND		1000	500	ug/L			04/22/18 11:24	1000
1,1-Dichloroethene	ND		1000	500	ug/L			04/22/18 11:24	1000
1,2-Dichloropropane	ND		1000	500	ug/L			04/22/18 11:24	1000
1,3-Dichloropropane	ND		1000	500	ug/L			04/22/18 11:24	1000
2,2-Dichloropropane	ND		1000	500	ug/L			04/22/18 11:24	1000
1,1-Dichloropropene	ND		1000	500	ug/L			04/22/18 11:24	1000
Ethylbenzene	ND		1000	500	ug/L			04/22/18 11:24	1000
Ethyl methacrylate	ND		1000	600	ug/L			04/22/18 11:24	1000
Hexachlorobutadiene	ND		5000	900	ug/L			04/22/18 11:24	1000
2-Hexanone	ND		25000	3100	ug/L			04/22/18 11:24	1000
Isopropylbenzene	ND		1000	530	ug/L			04/22/18 11:24	1000
Methylene bromide	ND		5000	590	ug/L			04/22/18 11:24	1000
Methylene Chloride	ND		5000	3000	ug/L			04/22/18 11:24	1000
4-Methyl-2-pentanone (MIBK)	ND		25000	1800	ug/L			04/22/18 11:24	1000
Methyl tert-butyl ether	ND		1000	740	ug/L			04/22/18 11:24	1000
m-Xylene & p-Xylene	ND		5000	1600	ug/L			04/22/18 11:24	1000
Naphthalene	ND		1000	1000	ug/L			04/22/18 11:24	1000
n-Butylbenzene	ND		1000	760	ug/L			04/22/18 11:24	1000
N-Propylbenzene	ND		1000	690	ug/L			04/22/18 11:24	1000
o-Chlorotoluene	ND		1000	570	ug/L			04/22/18 11:24	1000
o-Xylene	ND		5000	600	ug/L			04/22/18 11:24	1000
p-Chlorotoluene	ND		1000	560	ug/L			04/22/18 11:24	1000
p-Isopropyltoluene	ND		1000	710	ug/L			04/22/18 11:24	1000

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Client Sample ID: P93B-ROX-041218-DUP

Lab Sample ID: 400-152229-5

Date Collected: 04/12/18 14:25

Matrix: Water

Date Received: 04/13/18 09:10

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1000	700	ug/L			04/22/18 11:24	1000
Styrene	ND		1000	1000	ug/L			04/22/18 11:24	1000
tert-Butylbenzene	ND		1000	630	ug/L			04/22/18 11:24	1000
1,1,1,2-Tetrachloroethane	ND		1000	520	ug/L			04/22/18 11:24	1000
1,1,2,2-Tetrachloroethane	ND		1000	500	ug/L			04/22/18 11:24	1000
Tetrachloroethene	ND		1000	580	ug/L			04/22/18 11:24	1000
Toluene	ND		1000	700	ug/L			04/22/18 11:24	1000
trans-1,2-Dichloroethene	ND		1000	500	ug/L			04/22/18 11:24	1000
trans-1,3-Dichloropropene	ND		5000	500	ug/L			04/22/18 11:24	1000
1,2,3-Trichlorobenzene	ND		1000	700	ug/L			04/22/18 11:24	1000
1,2,4-Trichlorobenzene	ND		1000	820	ug/L			04/22/18 11:24	1000
1,1,1-Trichloroethane	ND		1000	500	ug/L			04/22/18 11:24	1000
1,1,2-Trichloroethane	ND		5000	500	ug/L			04/22/18 11:24	1000
Trichloroethene	ND		1000	500	ug/L			04/22/18 11:24	1000
Trichlorofluoromethane	ND		1000	520	ug/L			04/22/18 11:24	1000
1,2,3-Trichloropropane	ND		5000	840	ug/L			04/22/18 11:24	1000
1,2,4-Trimethylbenzene	ND		1000	820	ug/L			04/22/18 11:24	1000
1,3,5-Trimethylbenzene	ND		1000	560	ug/L			04/22/18 11:24	1000
Vinyl acetate	ND		25000	2000	ug/L			04/22/18 11:24	1000
Vinyl chloride	ND		1000	500	ug/L			04/22/18 11:24	1000
Xylenes, Total	ND		10000	1600	ug/L			04/22/18 11:24	1000
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		78 - 118					04/22/18 11:24	1000
Dibromofluoromethane	103		81 - 121					04/22/18 11:24	1000
Toluene-d8 (Surr)	102		80 - 120					04/22/18 11:24	1000

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/20/18 23:52	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/20/18 23:52	1
Anthracene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/20/18 23:52	1
Benzo[a]anthracene	ND		0.20	0.039	ug/L		04/19/18 11:51	04/20/18 23:52	1
Benzo[a]pyrene	ND		0.20	0.039	ug/L		04/19/18 11:51	04/20/18 23:52	1
Benzo[b]fluoranthene	ND		0.20	0.039	ug/L		04/19/18 11:51	04/20/18 23:52	1
Benzo[g,h,i]perylene	ND		0.20	0.039	ug/L		04/19/18 11:51	04/20/18 23:52	1
Benzo[k]fluoranthene	ND		0.20	0.039	ug/L		04/19/18 11:51	04/20/18 23:52	1
Chrysene	ND		0.20	0.039	ug/L		04/19/18 11:51	04/20/18 23:52	1
Dibenz(a,h)anthracene	ND		0.20	0.039	ug/L		04/19/18 11:51	04/20/18 23:52	1
Fluoranthene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/20/18 23:52	1
Fluorene	ND		0.20	0.021	ug/L		04/19/18 11:51	04/20/18 23:52	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.039	ug/L		04/19/18 11:51	04/20/18 23:52	1
Phenanthrene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/20/18 23:52	1
Pyrene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/20/18 23:52	1
1-Methylnaphthalene	0.045	J	0.20	0.020	ug/L		04/19/18 11:51	04/20/18 23:52	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/20/18 23:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	87		33 - 138				04/19/18 11:51	04/20/18 23:52	1
2-Fluorobiphenyl	79		15 - 122				04/19/18 11:51	04/20/18 23:52	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Client Sample ID: P93B-ROX-041218-DUP

Lab Sample ID: 400-152229-5

Date Collected: 04/12/18 14:25

Matrix: Water

Date Received: 04/13/18 09:10

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	72		19 - 130	04/19/18 11:51	04/20/18 23:52	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	3.7	ug/L		04/19/18 11:51	04/20/18 22:00	1
Benzenethiol	ND		9.8	1.7	ug/L		04/19/18 11:51	04/20/18 22:00	1
Benzoic acid	ND		29	7.2	ug/L		04/19/18 11:51	04/20/18 22:00	1
Benzyl alcohol	ND		9.8	2.0	ug/L		04/19/18 11:51	04/20/18 22:00	1
Bis(2-chloroethoxy)methane	ND		9.8	0.68	ug/L		04/19/18 11:51	04/20/18 22:00	1
Bis(2-chloroethyl)ether	ND		9.8	0.73	ug/L		04/19/18 11:51	04/20/18 22:00	1
bis (2-chloroisopropyl) ether	ND		9.8	0.79	ug/L		04/19/18 11:51	04/20/18 22:00	1
Bis(2-ethylhexyl) phthalate	ND		9.8	2.2	ug/L		04/19/18 11:51	04/20/18 22:00	1
4-Bromophenyl phenyl ether	ND		9.8	0.31	ug/L		04/19/18 11:51	04/20/18 22:00	1
Butyl benzyl phthalate	ND		9.8	0.68	ug/L		04/19/18 11:51	04/20/18 22:00	1
4-Chloroaniline	ND		9.8	3.3	ug/L		04/19/18 11:51	04/20/18 22:00	1
4-Chloro-3-methylphenol	ND		9.8	3.7	ug/L		04/19/18 11:51	04/20/18 22:00	1
2-Chloronaphthalene	ND		9.8	0.51	ug/L		04/19/18 11:51	04/20/18 22:00	1
2-Chlorophenol	ND		9.8	2.2	ug/L		04/19/18 11:51	04/20/18 22:00	1
4-Chlorophenyl phenyl ether	ND		9.8	2.0	ug/L		04/19/18 11:51	04/20/18 22:00	1
Dibenz[a,h]acridine	ND		9.8	2.9	ug/L		04/19/18 11:51	04/20/18 22:00	1
Dibenzofuran	ND		9.8	0.51	ug/L		04/19/18 11:51	04/20/18 22:00	1
3,3'-Dichlorobenzidine	ND		9.8	2.6	ug/L		04/19/18 11:51	04/20/18 22:00	1
2,4-Dichlorophenol	ND		9.8	2.9	ug/L		04/19/18 11:51	04/20/18 22:00	1
Diethyl phthalate	ND		9.8	0.69	ug/L		04/19/18 11:51	04/20/18 22:00	1
2,4-Dimethylphenol	ND		9.8	3.4	ug/L		04/19/18 11:51	04/20/18 22:00	1
Dimethyl phthalate	ND		9.8	0.59	ug/L		04/19/18 11:51	04/20/18 22:00	1
Di-n-butyl phthalate	ND		9.8	2.6	ug/L		04/19/18 11:51	04/20/18 22:00	1
4,6-Dinitro-ortho-cresol	ND		9.8	2.0	ug/L		04/19/18 11:51	04/20/18 22:00	1
2,4-Dinitrophenol	ND		29	3.3	ug/L		04/19/18 11:51	04/20/18 22:00	1
2,4-Dinitrotoluene	ND		9.8	1.9	ug/L		04/19/18 11:51	04/20/18 22:00	1
2,6-Dinitrotoluene	ND		9.8	1.9	ug/L		04/19/18 11:51	04/20/18 22:00	1
Di-n-octyl phthalate	ND		9.8	0.43	ug/L		04/19/18 11:51	04/20/18 22:00	1
1,4-Dioxane	ND		9.8	0.98	ug/L		04/19/18 11:51	04/20/18 22:00	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	0.98	ug/L		04/19/18 11:51	04/20/18 22:00	1
Hexachlorobenzene	ND		9.8	0.25	ug/L		04/19/18 11:51	04/20/18 22:00	1
Hexachlorocyclopentadiene	ND	UJ	20	2.6	ug/L		04/19/18 11:51	04/20/18 22:00	1
Hexachloroethane	ND		9.8	4.1	ug/L		04/19/18 11:51	04/20/18 22:00	1
Indene	ND	UJ	9.8	0.98	ug/L		04/19/18 11:51	04/20/18 22:00	1
Isophorone	ND		9.8	0.56	ug/L		04/19/18 11:51	04/20/18 22:00	1
2-Methylphenol	ND		9.8	1.8	ug/L		04/19/18 11:51	04/20/18 22:00	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/19/18 11:51	04/20/18 22:00	1
2-Nitroaniline	ND		9.8	2.2	ug/L		04/19/18 11:51	04/20/18 22:00	1
3-Nitroaniline	ND		9.8	1.8	ug/L		04/19/18 11:51	04/20/18 22:00	1
4-Nitroaniline	ND		9.8	2.4	ug/L		04/19/18 11:51	04/20/18 22:00	1
Nitrobenzene	ND		9.8	0.54	ug/L		04/19/18 11:51	04/20/18 22:00	1
2-Nitrophenol	ND		9.8	0.64	ug/L		04/19/18 11:51	04/20/18 22:00	1
4-Nitrophenol	ND		9.8	2.1	ug/L		04/19/18 11:51	04/20/18 22:00	1
N-Nitrosodimethylamine	ND		9.8	3.4	ug/L		04/19/18 11:51	04/20/18 22:00	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Client Sample ID: P93B-ROX-041218-DUP

Lab Sample ID: 400-152229-5

Date Collected: 04/12/18 14:25

Matrix: Water

Date Received: 04/13/18 09:10

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.8	3.2	ug/L		04/19/18 11:51	04/20/18 22:00	1
N-Nitrosodiphenylamine	ND		9.8	0.46	ug/L		04/19/18 11:51	04/20/18 22:00	1
Pentachlorophenol	ND		20	1.8	ug/L		04/19/18 11:51	04/20/18 22:00	1
Pyridine	ND		9.8	3.1	ug/L		04/19/18 11:51	04/20/18 22:00	1
Quinoline	ND		9.8	5.9	ug/L		04/19/18 11:51	04/20/18 22:00	1
2,4,5-Trichlorophenol	ND		9.8	3.6	ug/L		04/19/18 11:51	04/20/18 22:00	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		04/19/18 11:51	04/20/18 22:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	50		34 - 120	04/19/18 11:51	04/20/18 22:00	1
2-Fluorophenol	35		10 - 120	04/19/18 11:51	04/20/18 22:00	1
Nitrobenzene-d5	46		27 - 120	04/19/18 11:51	04/20/18 22:00	1
Phenol-d5	43		10 - 120	04/19/18 11:51	04/20/18 22:00	1
Terphenyl-d14	55		53 - 125	04/19/18 11:51	04/20/18 22:00	1
2,4,6-Tribromophenol	62		15 - 135	04/19/18 11:51	04/20/18 22:00	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	350		49	13	ug/L		04/19/18 11:51	04/23/18 21:41	5

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND	*	0.028	0.0051	ug/L		04/20/18 15:34	04/23/18 15:34	1
1,2-Dibromoethane	ND		0.019	0.0046	ug/L		04/20/18 15:34	04/23/18 15:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	139		51 - 149	04/20/18 15:34	04/23/18 15:34	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
 SDG: (2Q18)

Client Sample ID: T12-ROX-041218-EB

Lab Sample ID: 400-152229-6

Date Collected: 04/12/18 15:40

Matrix: Water

Date Received: 04/13/18 09:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/22/18 09:11	1
Acrolein	ND		20	10	ug/L			04/22/18 09:11	1
Acrylonitrile	ND		10	2.8	ug/L			04/22/18 09:11	1
Benzene	ND		1.0	0.38	ug/L			04/22/18 09:11	1
Bromobenzene	ND		1.0	0.54	ug/L			04/22/18 09:11	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/22/18 09:11	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/22/18 09:11	1
Bromoform	ND		5.0	0.71	ug/L			04/22/18 09:11	1
Bromomethane	ND		1.0	0.98	ug/L			04/22/18 09:11	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/22/18 09:11	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/22/18 09:11	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/22/18 09:11	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/22/18 09:11	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/22/18 09:11	1
Chloroethane	ND		1.0	0.76	ug/L			04/22/18 09:11	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/22/18 09:11	1
Chloroform	ND		1.0	0.60	ug/L			04/22/18 09:11	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/22/18 09:11	1
Chloromethane	ND		1.0	0.83	ug/L			04/22/18 09:11	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/22/18 09:11	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/22/18 09:11	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/22/18 09:11	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/22/18 09:11	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/22/18 09:11	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/22/18 09:11	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/22/18 09:11	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/22/18 09:11	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/22/18 09:11	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/22/18 09:11	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/22/18 09:11	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/22/18 09:11	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/22/18 09:11	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/22/18 09:11	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/22/18 09:11	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/22/18 09:11	1
2-Hexanone	ND		25	3.1	ug/L			04/22/18 09:11	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/22/18 09:11	1
Methylene bromide	ND		5.0	0.59	ug/L			04/22/18 09:11	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/22/18 09:11	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/22/18 09:11	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/22/18 09:11	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/22/18 09:11	1
Naphthalene	ND		1.0	1.0	ug/L			04/22/18 09:11	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/22/18 09:11	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/22/18 09:11	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/22/18 09:11	1
o-Xylene	ND		5.0	0.60	ug/L			04/22/18 09:11	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/22/18 09:11	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/22/18 09:11	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
 SDG: (2Q18)

Client Sample ID: T12-ROX-041218-EB

Lab Sample ID: 400-152229-6

Date Collected: 04/12/18 15:40

Matrix: Water

Date Received: 04/13/18 09:10

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/22/18 09:11	1
Styrene	ND		1.0	1.0	ug/L			04/22/18 09:11	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/22/18 09:11	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/22/18 09:11	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/22/18 09:11	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/22/18 09:11	1
Toluene	ND		1.0	0.70	ug/L			04/22/18 09:11	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/22/18 09:11	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/22/18 09:11	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/22/18 09:11	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/22/18 09:11	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/22/18 09:11	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/22/18 09:11	1
Trichloroethene	ND		1.0	0.50	ug/L			04/22/18 09:11	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/22/18 09:11	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/22/18 09:11	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/22/18 09:11	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/22/18 09:11	1
Vinyl acetate	ND		25	2.0	ug/L			04/22/18 09:11	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/22/18 09:11	1
Xylenes, Total	ND		10	1.6	ug/L			04/22/18 09:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		78 - 118		04/22/18 09:11	1
Dibromofluoromethane	100		81 - 121		04/22/18 09:11	1
Toluene-d8 (Surr)	101		80 - 120		04/22/18 09:11	1

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/21/18 00:10	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/21/18 00:10	1
Anthracene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/21/18 00:10	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/19/18 11:51	04/21/18 00:10	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/19/18 11:51	04/21/18 00:10	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/19/18 11:51	04/21/18 00:10	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/19/18 11:51	04/21/18 00:10	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		04/19/18 11:51	04/21/18 00:10	1
Fluoranthene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/21/18 00:10	1
Fluorene	ND		0.20	0.021	ug/L		04/19/18 11:51	04/21/18 00:10	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/19/18 11:51	04/21/18 00:10	1
Phenanthrene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/21/18 00:10	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/21/18 00:10	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/21/18 00:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	101		15 - 122	04/19/18 11:51	04/21/18 00:10	1
Nitrobenzene-d5	81		19 - 130	04/19/18 11:51	04/21/18 00:10	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Client Sample ID: T12-ROX-041218-EB

Lab Sample ID: 400-152229-6

Date Collected: 04/12/18 15:40

Matrix: Water

Date Received: 04/13/18 09:10

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/19/18 11:51	04/24/18 12:51	1
Chrysene	ND		0.20	0.040	ug/L		04/19/18 11:51	04/24/18 12:51	1
Pyrene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/24/18 12:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	96		33 - 138				04/19/18 11:51	04/24/18 12:51	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.9	3.8	ug/L		04/19/18 11:51	04/20/18 22:24	1
Benzenethiol	ND		9.9	1.7	ug/L		04/19/18 11:51	04/20/18 22:24	1
Benzoic acid	ND		30	7.2	ug/L		04/19/18 11:51	04/20/18 22:24	1
Benzyl alcohol	13		9.9	2.0	ug/L		04/19/18 11:51	04/20/18 22:24	1
Bis(2-chloroethoxy)methane	ND		9.9	0.68	ug/L		04/19/18 11:51	04/20/18 22:24	1
Bis(2-chloroethyl)ether	ND		9.9	0.73	ug/L		04/19/18 11:51	04/20/18 22:24	1
bis (2-chloroisopropyl) ether	ND		9.9	0.80	ug/L		04/19/18 11:51	04/20/18 22:24	1
Bis(2-ethylhexyl) phthalate	ND		9.9	2.2	ug/L		04/19/18 11:51	04/20/18 22:24	1
4-Bromophenyl phenyl ether	ND		9.9	0.32	ug/L		04/19/18 11:51	04/20/18 22:24	1
Butyl benzyl phthalate	ND		9.9	0.68	ug/L		04/19/18 11:51	04/20/18 22:24	1
4-Chloroaniline	ND		9.9	3.4	ug/L		04/19/18 11:51	04/20/18 22:24	1
4-Chloro-3-methylphenol	ND		9.9	3.8	ug/L		04/19/18 11:51	04/20/18 22:24	1
2-Chloronaphthalene	ND		9.9	0.52	ug/L		04/19/18 11:51	04/20/18 22:24	1
2-Chlorophenol	ND		9.9	2.2	ug/L		04/19/18 11:51	04/20/18 22:24	1
4-Chlorophenyl phenyl ether	ND		9.9	2.0	ug/L		04/19/18 11:51	04/20/18 22:24	1
Dibenz[a,h]acridine	ND		9.9	3.0	ug/L		04/19/18 11:51	04/20/18 22:24	1
Dibenzofuran	ND		9.9	0.52	ug/L		04/19/18 11:51	04/20/18 22:24	1
3,3'-Dichlorobenzidine	ND		9.9	2.6	ug/L		04/19/18 11:51	04/20/18 22:24	1
2,4-Dichlorophenol	ND		9.9	3.0	ug/L		04/19/18 11:51	04/20/18 22:24	1
Diethyl phthalate	ND		9.9	0.69	ug/L		04/19/18 11:51	04/20/18 22:24	1
2,4-Dimethylphenol	ND		9.9	3.5	ug/L		04/19/18 11:51	04/20/18 22:24	1
Dimethyl phthalate	ND		9.9	0.60	ug/L		04/19/18 11:51	04/20/18 22:24	1
Di-n-butyl phthalate	ND		9.9	2.7	ug/L		04/19/18 11:51	04/20/18 22:24	1
4,6-Dinitro-ortho-cresol	ND		9.9	2.0	ug/L		04/19/18 11:51	04/20/18 22:24	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/19/18 11:51	04/20/18 22:24	1
2,4-Dinitrotoluene	ND		9.9	1.9	ug/L		04/19/18 11:51	04/20/18 22:24	1
2,6-Dinitrotoluene	ND		9.9	1.9	ug/L		04/19/18 11:51	04/20/18 22:24	1
Di-n-octyl phthalate	ND		9.9	0.44	ug/L		04/19/18 11:51	04/20/18 22:24	1
1,4-Dioxane	ND		9.9	0.99	ug/L		04/19/18 11:51	04/20/18 22:24	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	0.99	ug/L		04/19/18 11:51	04/20/18 22:24	1
Hexachlorobenzene	ND		9.9	0.25	ug/L		04/19/18 11:51	04/20/18 22:24	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/19/18 11:51	04/20/18 22:24	1
Hexachloroethane	ND		9.9	4.2	ug/L		04/19/18 11:51	04/20/18 22:24	1
Indene	ND		9.9	0.99	ug/L		04/19/18 11:51	04/20/18 22:24	1
Isophorone	ND		9.9	0.57	ug/L		04/19/18 11:51	04/20/18 22:24	1
2-Methylphenol	ND		9.9	1.8	ug/L		04/19/18 11:51	04/20/18 22:24	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/19/18 11:51	04/20/18 22:24	1
2-Nitroaniline	ND		9.9	2.2	ug/L		04/19/18 11:51	04/20/18 22:24	1
3-Nitroaniline	ND		9.9	1.8	ug/L		04/19/18 11:51	04/20/18 22:24	1
4-Nitroaniline	ND		9.9	2.5	ug/L		04/19/18 11:51	04/20/18 22:24	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
 SDG: (2Q18)

Client Sample ID: T12-ROX-041218-EB

Lab Sample ID: 400-152229-6

Date Collected: 04/12/18 15:40

Matrix: Water

Date Received: 04/13/18 09:10

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		9.9	0.55	ug/L		04/19/18 11:51	04/20/18 22:24	1
2-Nitrophenol	ND		9.9	0.64	ug/L		04/19/18 11:51	04/20/18 22:24	1
4-Nitrophenol	ND		9.9	2.1	ug/L		04/19/18 11:51	04/20/18 22:24	1
N-Nitrosodimethylamine	ND		9.9	3.5	ug/L		04/19/18 11:51	04/20/18 22:24	1
N-Nitrosodi-n-propylamine	ND		9.9	3.3	ug/L		04/19/18 11:51	04/20/18 22:24	1
N-Nitrosodiphenylamine	ND		9.9	0.47	ug/L		04/19/18 11:51	04/20/18 22:24	1
Pentachlorophenol	ND		20	1.8	ug/L		04/19/18 11:51	04/20/18 22:24	1
Phenol	ND		9.9	2.6	ug/L		04/19/18 11:51	04/20/18 22:24	1
Pyridine	ND		9.9	3.2	ug/L		04/19/18 11:51	04/20/18 22:24	1
Quinoline	ND		9.9	6.0	ug/L		04/19/18 11:51	04/20/18 22:24	1
2,4,5-Trichlorophenol	ND		9.9	3.7	ug/L		04/19/18 11:51	04/20/18 22:24	1
2,4,6-Trichlorophenol	ND		9.9	3.5	ug/L		04/19/18 11:51	04/20/18 22:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	63		34 - 120	04/19/18 11:51	04/20/18 22:24	1
2-Fluorophenol	45		10 - 120	04/19/18 11:51	04/20/18 22:24	1
Nitrobenzene-d5	59		27 - 120	04/19/18 11:51	04/20/18 22:24	1
Phenol-d5	55		10 - 120	04/19/18 11:51	04/20/18 22:24	1
Terphenyl-d14	78		53 - 125	04/19/18 11:51	04/20/18 22:24	1
2,4,6-Tribromophenol	65		15 - 135	04/19/18 11:51	04/20/18 22:24	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND	*	0.026	0.0048	ug/L		04/20/18 15:34	04/23/18 15:54	1
1,2-Dibromoethane	ND		0.017	0.0044	ug/L		04/20/18 15:34	04/23/18 15:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	114	p	51 - 149	04/20/18 15:34	04/23/18 15:54	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
 SDG: (2Q18)

Client Sample ID: T12-ROX-041218

Lab Sample ID: 400-152229-7

Date Collected: 04/12/18 16:00

Matrix: Water

Date Received: 04/13/18 09:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		250	100	ug/L			04/22/18 09:55	10
Acrolein	ND		200	100	ug/L			04/22/18 09:55	10
Acrylonitrile	ND		100	28	ug/L			04/22/18 09:55	10
Benzene	1700		10	3.8	ug/L			04/22/18 09:55	10
Bromobenzene	ND		10	5.4	ug/L			04/22/18 09:55	10
Bromochloromethane	ND		10	5.2	ug/L			04/22/18 09:55	10
Bromodichloromethane	ND		10	5.0	ug/L			04/22/18 09:55	10
Bromoform	ND		50	7.1	ug/L			04/22/18 09:55	10
Bromomethane	12		10	9.8	ug/L			04/22/18 09:55	10
2-Butanone (MEK)	ND		250	26	ug/L			04/22/18 09:55	10
Carbon disulfide	ND		10	5.0	ug/L			04/22/18 09:55	10
Carbon tetrachloride	ND		10	5.0	ug/L			04/22/18 09:55	10
Chlorobenzene	ND		10	5.0	ug/L			04/22/18 09:55	10
Dibromochloromethane	ND		10	5.0	ug/L			04/22/18 09:55	10
Chloroethane	ND		10	7.6	ug/L			04/22/18 09:55	10
2-Chloroethyl vinyl ether	ND		50	20	ug/L			04/22/18 09:55	10
Chloroform	ND		10	6.0	ug/L			04/22/18 09:55	10
1-Chlorohexane	ND		10	7.0	ug/L			04/22/18 09:55	10
Chloromethane	ND		10	8.3	ug/L			04/22/18 09:55	10
cis-1,2-Dichloroethene	ND		10	5.0	ug/L			04/22/18 09:55	10
cis-1,3-Dichloropropene	ND		50	5.0	ug/L			04/22/18 09:55	10
1,2-Dichlorobenzene	ND		10	5.0	ug/L			04/22/18 09:55	10
1,3-Dichlorobenzene	ND		10	5.4	ug/L			04/22/18 09:55	10
1,4-Dichlorobenzene	ND		10	6.4	ug/L			04/22/18 09:55	10
Dichlorodifluoromethane	ND		10	8.5	ug/L			04/22/18 09:55	10
1,1-Dichloroethane	ND		10	5.0	ug/L			04/22/18 09:55	10
1,2-Dichloroethane	ND		10	5.0	ug/L			04/22/18 09:55	10
1,1-Dichloroethene	ND		10	5.0	ug/L			04/22/18 09:55	10
1,2-Dichloropropane	ND		10	5.0	ug/L			04/22/18 09:55	10
1,3-Dichloropropane	ND		10	5.0	ug/L			04/22/18 09:55	10
2,2-Dichloropropane	ND		10	5.0	ug/L			04/22/18 09:55	10
1,1-Dichloropropene	ND		10	5.0	ug/L			04/22/18 09:55	10
Ethylbenzene	95		10	5.0	ug/L			04/22/18 09:55	10
Ethyl methacrylate	ND		10	6.0	ug/L			04/22/18 09:55	10
Hexachlorobutadiene	ND		50	9.0	ug/L			04/22/18 09:55	10
2-Hexanone	ND		250	31	ug/L			04/22/18 09:55	10
Isopropylbenzene	18		10	5.3	ug/L			04/22/18 09:55	10
Methylene bromide	ND		50	5.9	ug/L			04/22/18 09:55	10
Methylene Chloride	ND		50	30	ug/L			04/22/18 09:55	10
4-Methyl-2-pentanone (MIBK)	ND		250	18	ug/L			04/22/18 09:55	10
Methyl tert-butyl ether	16		10	7.4	ug/L			04/22/18 09:55	10
m-Xylene & p-Xylene	340		50	16	ug/L			04/22/18 09:55	10
Naphthalene	87		10	10	ug/L			04/22/18 09:55	10
n-Butylbenzene	ND		10	7.6	ug/L			04/22/18 09:55	10
N-Propylbenzene	22		10	6.9	ug/L			04/22/18 09:55	10
o-Chlorotoluene	ND		10	5.7	ug/L			04/22/18 09:55	10
o-Xylene	11 J		50	6.0	ug/L			04/22/18 09:55	10
p-Chlorotoluene	ND		10	5.6	ug/L			04/22/18 09:55	10
p-Isopropyltoluene	ND		10	7.1	ug/L			04/22/18 09:55	10

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Client Sample ID: T12-ROX-041218

Lab Sample ID: 400-152229-7

Date Collected: 04/12/18 16:00

Matrix: Water

Date Received: 04/13/18 09:10

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		10	7.0	ug/L			04/22/18 09:55	10
Styrene	ND		10	10	ug/L			04/22/18 09:55	10
tert-Butylbenzene	ND		10	6.3	ug/L			04/22/18 09:55	10
1,1,1,2-Tetrachloroethane	ND		10	5.2	ug/L			04/22/18 09:55	10
1,1,2,2-Tetrachloroethane	ND		10	5.0	ug/L			04/22/18 09:55	10
Tetrachloroethene	ND		10	5.8	ug/L			04/22/18 09:55	10
Toluene	85		10	7.0	ug/L			04/22/18 09:55	10
trans-1,2-Dichloroethene	ND		10	5.0	ug/L			04/22/18 09:55	10
trans-1,3-Dichloropropene	ND		50	5.0	ug/L			04/22/18 09:55	10
1,2,3-Trichlorobenzene	ND		10	7.0	ug/L			04/22/18 09:55	10
1,2,4-Trichlorobenzene	ND		10	8.2	ug/L			04/22/18 09:55	10
1,1,1-Trichloroethane	ND		10	5.0	ug/L			04/22/18 09:55	10
1,1,2-Trichloroethane	ND		50	5.0	ug/L			04/22/18 09:55	10
Trichloroethene	ND		10	5.0	ug/L			04/22/18 09:55	10
Trichlorofluoromethane	ND		10	5.2	ug/L			04/22/18 09:55	10
1,2,3-Trichloropropane	ND		50	8.4	ug/L			04/22/18 09:55	10
1,2,4-Trimethylbenzene	47		10	8.2	ug/L			04/22/18 09:55	10
1,3,5-Trimethylbenzene	7.4	J	10	5.6	ug/L			04/22/18 09:55	10
Vinyl acetate	ND		250	20	ug/L			04/22/18 09:55	10
Vinyl chloride	ND		10	5.0	ug/L			04/22/18 09:55	10
Xylenes, Total	350		100	16	ug/L			04/22/18 09:55	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		78 - 118		04/22/18 09:55	10
Dibromofluoromethane	100		81 - 121		04/22/18 09:55	10
Toluene-d8 (Surr)	103		80 - 120		04/22/18 09:55	10

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.26		0.20	0.020	ug/L		04/19/18 11:52	04/21/18 00:27	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/19/18 11:52	04/21/18 00:27	1
Anthracene	0.15	J	0.20	0.020	ug/L		04/19/18 11:52	04/21/18 00:27	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/19/18 11:52	04/21/18 00:27	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/19/18 11:52	04/21/18 00:27	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/19/18 11:52	04/21/18 00:27	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/19/18 11:52	04/21/18 00:27	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/19/18 11:52	04/21/18 00:27	1
Chrysene	ND		0.20	0.040	ug/L		04/19/18 11:52	04/21/18 00:27	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		04/19/18 11:52	04/21/18 00:27	1
Fluoranthene	ND		0.20	0.020	ug/L		04/19/18 11:52	04/21/18 00:27	1
Fluorene	0.31		0.20	0.021	ug/L		04/19/18 11:52	04/21/18 00:27	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/19/18 11:52	04/21/18 00:27	1
Phenanthrene	0.80		0.20	0.020	ug/L		04/19/18 11:52	04/21/18 00:27	1
Pyrene	ND		0.20	0.020	ug/L		04/19/18 11:52	04/21/18 00:27	1
1-Methylnaphthalene	33		0.20	0.020	ug/L		04/19/18 11:52	04/21/18 00:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	108		33 - 138	04/19/18 11:52	04/21/18 00:27	1
2-Fluorobiphenyl	71		15 - 122	04/19/18 11:52	04/21/18 00:27	1
Nitrobenzene-d5	103		19 - 130	04/19/18 11:52	04/21/18 00:27	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Client Sample ID: T12-ROX-041218

Lab Sample ID: 400-152229-7

Date Collected: 04/12/18 16:00

Matrix: Water

Date Received: 04/13/18 09:10

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	36		0.99	0.099	ug/L		04/19/18 11:52	04/24/18 02:25	5

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.9	3.8	ug/L		04/19/18 11:52	04/20/18 22:48	1
Benzenethiol	ND		9.9	1.7	ug/L		04/19/18 11:52	04/20/18 22:48	1
Benzoic acid	ND		30	7.3	ug/L		04/19/18 11:52	04/20/18 22:48	1
Benzyl alcohol	ND		9.9	2.0	ug/L		04/19/18 11:52	04/20/18 22:48	1
Bis(2-chloroethoxy)methane	ND		9.9	0.69	ug/L		04/19/18 11:52	04/20/18 22:48	1
Bis(2-chloroethyl)ether	ND		9.9	0.74	ug/L		04/19/18 11:52	04/20/18 22:48	1
bis (2-chloroisopropyl) ether	ND		9.9	0.81	ug/L		04/19/18 11:52	04/20/18 22:48	1
Bis(2-ethylhexyl) phthalate	ND		9.9	2.2	ug/L		04/19/18 11:52	04/20/18 22:48	1
4-Bromophenyl phenyl ether	ND		9.9	0.32	ug/L		04/19/18 11:52	04/20/18 22:48	1
Butyl benzyl phthalate	ND		9.9	0.69	ug/L		04/19/18 11:52	04/20/18 22:48	1
4-Chloroaniline	ND		9.9	3.4	ug/L		04/19/18 11:52	04/20/18 22:48	1
4-Chloro-3-methylphenol	ND		9.9	3.8	ug/L		04/19/18 11:52	04/20/18 22:48	1
2-Chloronaphthalene	ND		9.9	0.52	ug/L		04/19/18 11:52	04/20/18 22:48	1
2-Chlorophenol	ND		9.9	2.2	ug/L		04/19/18 11:52	04/20/18 22:48	1
4-Chlorophenyl phenyl ether	ND		9.9	2.0	ug/L		04/19/18 11:52	04/20/18 22:48	1
Dibenz[a,h]acridine	ND		9.9	3.0	ug/L		04/19/18 11:52	04/20/18 22:48	1
Dibenzofuran	ND		9.9	0.52	ug/L		04/19/18 11:52	04/20/18 22:48	1
3,3'-Dichlorobenzidine	ND		9.9	2.6	ug/L		04/19/18 11:52	04/20/18 22:48	1
2,4-Dichlorophenol	ND		9.9	3.0	ug/L		04/19/18 11:52	04/20/18 22:48	1
Diethyl phthalate	ND		9.9	0.70	ug/L		04/19/18 11:52	04/20/18 22:48	1
2,4-Dimethylphenol	ND		9.9	3.5	ug/L		04/19/18 11:52	04/20/18 22:48	1
Dimethyl phthalate	ND		9.9	0.60	ug/L		04/19/18 11:52	04/20/18 22:48	1
Di-n-butyl phthalate	ND		9.9	2.7	ug/L		04/19/18 11:52	04/20/18 22:48	1
4,6-Dinitro-ortho-cresol	ND		9.9	2.0	ug/L		04/19/18 11:52	04/20/18 22:48	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/19/18 11:52	04/20/18 22:48	1
2,4-Dinitrotoluene	ND		9.9	1.9	ug/L		04/19/18 11:52	04/20/18 22:48	1
2,6-Dinitrotoluene	ND		9.9	1.9	ug/L		04/19/18 11:52	04/20/18 22:48	1
Di-n-octyl phthalate	ND		9.9	0.44	ug/L		04/19/18 11:52	04/20/18 22:48	1
1,4-Dioxane	ND		9.9	0.99	ug/L		04/19/18 11:52	04/20/18 22:48	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	0.99	ug/L		04/19/18 11:52	04/20/18 22:48	1
Hexachlorobenzene	ND		9.9	0.25	ug/L		04/19/18 11:52	04/20/18 22:48	1
Hexachlorocyclopentadiene	ND	UJ	20	2.6	ug/L		04/19/18 11:52	04/20/18 22:48	1
Hexachloroethane	ND		9.9	4.2	ug/L		04/19/18 11:52	04/20/18 22:48	1
Indene	ND	UJ	9.9	0.99	ug/L		04/19/18 11:52	04/20/18 22:48	1
Isophorone	ND		9.9	0.57	ug/L		04/19/18 11:52	04/20/18 22:48	1
2-Methylphenol	ND		9.9	1.8	ug/L		04/19/18 11:52	04/20/18 22:48	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/19/18 11:52	04/20/18 22:48	1
2-Nitroaniline	ND		9.9	2.2	ug/L		04/19/18 11:52	04/20/18 22:48	1
3-Nitroaniline	ND		9.9	1.8	ug/L		04/19/18 11:52	04/20/18 22:48	1
4-Nitroaniline	ND		9.9	2.5	ug/L		04/19/18 11:52	04/20/18 22:48	1
Nitrobenzene	ND		9.9	0.55	ug/L		04/19/18 11:52	04/20/18 22:48	1
2-Nitrophenol	ND		9.9	0.65	ug/L		04/19/18 11:52	04/20/18 22:48	1
4-Nitrophenol	ND		9.9	2.1	ug/L		04/19/18 11:52	04/20/18 22:48	1
N-Nitrosodimethylamine	ND		9.9	3.5	ug/L		04/19/18 11:52	04/20/18 22:48	1
N-Nitrosodi-n-propylamine	ND		9.9	3.3	ug/L		04/19/18 11:52	04/20/18 22:48	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
 SDG: (2Q18)

Client Sample ID: T12-ROX-041218

Lab Sample ID: 400-152229-7

Date Collected: 04/12/18 16:00

Matrix: Water

Date Received: 04/13/18 09:10

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodiphenylamine	ND		9.9	0.47	ug/L		04/19/18 11:52	04/20/18 22:48	1
Pentachlorophenol	ND		20	1.8	ug/L		04/19/18 11:52	04/20/18 22:48	1
Phenol	37		9.9	2.6	ug/L		04/19/18 11:52	04/20/18 22:48	1
Pyridine	ND		9.9	3.2	ug/L		04/19/18 11:52	04/20/18 22:48	1
Quinoline	ND		9.9	6.0	ug/L		04/19/18 11:52	04/20/18 22:48	1
2,4,5-Trichlorophenol	ND		9.9	3.7	ug/L		04/19/18 11:52	04/20/18 22:48	1
2,4,6-Trichlorophenol	ND		9.9	3.5	ug/L		04/19/18 11:52	04/20/18 22:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	49		34 - 120	04/19/18 11:52	04/20/18 22:48	1
2-Fluorophenol	27		10 - 120	04/19/18 11:52	04/20/18 22:48	1
Nitrobenzene-d5	47		27 - 120	04/19/18 11:52	04/20/18 22:48	1
Phenol-d5	45		10 - 120	04/19/18 11:52	04/20/18 22:48	1
Terphenyl-d14	59		53 - 125	04/19/18 11:52	04/20/18 22:48	1
2,4,6-Tribromophenol	69		15 - 135	04/19/18 11:52	04/20/18 22:48	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.028	0.0051	ug/L		04/20/18 15:34	04/23/18 16:13	1
1,2-Dibromoethane	ND		0.019	0.0046	ug/L		04/20/18 15:34	04/23/18 16:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	108		51 - 149	04/20/18 15:34	04/23/18 16:13	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
 SDG: (2Q18)

Client Sample ID: P59-ROX-041218

Lab Sample ID: 400-152229-8

Date Collected: 04/12/18 17:10

Matrix: Water

Date Received: 04/13/18 09:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		500	200	ug/L			04/22/18 15:06	20
Acrolein	ND		400	200	ug/L			04/22/18 15:06	20
Acrylonitrile	ND		200	56	ug/L			04/22/18 15:06	20
Benzene	3200		20	7.6	ug/L			04/22/18 15:06	20
Bromobenzene	ND		20	11	ug/L			04/22/18 15:06	20
Bromochloromethane	ND		20	10	ug/L			04/22/18 15:06	20
Bromodichloromethane	ND		20	10	ug/L			04/22/18 15:06	20
Bromoform	ND		100	14	ug/L			04/22/18 15:06	20
Bromomethane	20		20	20	ug/L			04/22/18 15:06	20
2-Butanone (MEK)	ND		500	52	ug/L			04/22/18 15:06	20
Carbon disulfide	ND		20	10	ug/L			04/22/18 15:06	20
Carbon tetrachloride	ND		20	10	ug/L			04/22/18 15:06	20
Chlorobenzene	ND		20	10	ug/L			04/22/18 15:06	20
Dibromochloromethane	ND		20	10	ug/L			04/22/18 15:06	20
Chloroethane	ND		20	15	ug/L			04/22/18 15:06	20
2-Chloroethyl vinyl ether	ND		100	40	ug/L			04/22/18 15:06	20
Chloroform	ND		20	12	ug/L			04/22/18 15:06	20
1-Chlorohexane	ND		20	14	ug/L			04/22/18 15:06	20
Chloromethane	ND		20	17	ug/L			04/22/18 15:06	20
cis-1,2-Dichloroethene	ND		20	10	ug/L			04/22/18 15:06	20
cis-1,3-Dichloropropene	ND		100	10	ug/L			04/22/18 15:06	20
1,2-Dichlorobenzene	ND		20	10	ug/L			04/22/18 15:06	20
1,3-Dichlorobenzene	ND		20	11	ug/L			04/22/18 15:06	20
1,4-Dichlorobenzene	ND		20	13	ug/L			04/22/18 15:06	20
Dichlorodifluoromethane	ND		20	17	ug/L			04/22/18 15:06	20
1,1-Dichloroethane	ND		20	10	ug/L			04/22/18 15:06	20
1,2-Dichloroethane	ND		20	10	ug/L			04/22/18 15:06	20
1,1-Dichloroethene	ND		20	10	ug/L			04/22/18 15:06	20
1,2-Dichloropropane	ND		20	10	ug/L			04/22/18 15:06	20
1,3-Dichloropropane	ND		20	10	ug/L			04/22/18 15:06	20
2,2-Dichloropropane	ND		20	10	ug/L			04/22/18 15:06	20
1,1-Dichloropropene	ND		20	10	ug/L			04/22/18 15:06	20
Ethylbenzene	770		20	10	ug/L			04/22/18 15:06	20
Ethyl methacrylate	ND		20	12	ug/L			04/22/18 15:06	20
Hexachlorobutadiene	ND		100	18	ug/L			04/22/18 15:06	20
2-Hexanone	ND		500	62	ug/L			04/22/18 15:06	20
Isopropylbenzene	29		20	11	ug/L			04/22/18 15:06	20
Methylene bromide	ND		100	12	ug/L			04/22/18 15:06	20
Methylene Chloride	ND		100	60	ug/L			04/22/18 15:06	20
4-Methyl-2-pentanone (MIBK)	ND		500	36	ug/L			04/22/18 15:06	20
Methyl tert-butyl ether	ND		20	15	ug/L			04/22/18 15:06	20
m-Xylene & p-Xylene	1100		100	32	ug/L			04/22/18 15:06	20
Naphthalene	150		20	20	ug/L			04/22/18 15:06	20
n-Butylbenzene	ND		20	15	ug/L			04/22/18 15:06	20
N-Propylbenzene	52		20	14	ug/L			04/22/18 15:06	20
o-Chlorotoluene	ND		20	11	ug/L			04/22/18 15:06	20
o-Xylene	82	J	100	12	ug/L			04/22/18 15:06	20
p-Chlorotoluene	ND		20	11	ug/L			04/22/18 15:06	20
p-Isopropyltoluene	ND		20	14	ug/L			04/22/18 15:06	20

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Client Sample ID: P59-ROX-041218

Lab Sample ID: 400-152229-8

Date Collected: 04/12/18 17:10

Matrix: Water

Date Received: 04/13/18 09:10

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		20	14	ug/L			04/22/18 15:06	20
Styrene	ND		20	20	ug/L			04/22/18 15:06	20
tert-Butylbenzene	ND		20	13	ug/L			04/22/18 15:06	20
1,1,1,2-Tetrachloroethane	ND		20	10	ug/L			04/22/18 15:06	20
1,1,2,2-Tetrachloroethane	ND		20	10	ug/L			04/22/18 15:06	20
Tetrachloroethene	ND		20	12	ug/L			04/22/18 15:06	20
Toluene	460		20	14	ug/L			04/22/18 15:06	20
trans-1,2-Dichloroethene	ND		20	10	ug/L			04/22/18 15:06	20
trans-1,3-Dichloropropene	ND		100	10	ug/L			04/22/18 15:06	20
1,2,3-Trichlorobenzene	ND		20	14	ug/L			04/22/18 15:06	20
1,2,4-Trichlorobenzene	ND		20	16	ug/L			04/22/18 15:06	20
1,1,1-Trichloroethane	ND		20	10	ug/L			04/22/18 15:06	20
1,1,2-Trichloroethane	ND		100	10	ug/L			04/22/18 15:06	20
Trichloroethene	ND		20	10	ug/L			04/22/18 15:06	20
Trichlorofluoromethane	ND		20	10	ug/L			04/22/18 15:06	20
1,2,3-Trichloropropane	ND		100	17	ug/L			04/22/18 15:06	20
1,2,4-Trimethylbenzene	320		20	16	ug/L			04/22/18 15:06	20
1,3,5-Trimethylbenzene	45		20	11	ug/L			04/22/18 15:06	20
Vinyl acetate	ND		500	40	ug/L			04/22/18 15:06	20
Vinyl chloride	ND		20	10	ug/L			04/22/18 15:06	20
Xylenes, Total	1200		200	32	ug/L			04/22/18 15:06	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		78 - 118		04/22/18 15:06	20
Dibromofluoromethane	101		81 - 121		04/22/18 15:06	20
Toluene-d8 (Surr)	99		80 - 120		04/22/18 15:06	20

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.14	J	0.20	0.020	ug/L		04/19/18 11:52	04/21/18 00:44	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/19/18 11:52	04/21/18 00:44	1
Anthracene	0.093	J	0.20	0.020	ug/L		04/19/18 11:52	04/21/18 00:44	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/19/18 11:52	04/21/18 00:44	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/19/18 11:52	04/21/18 00:44	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/19/18 11:52	04/21/18 00:44	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/19/18 11:52	04/21/18 00:44	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/19/18 11:52	04/21/18 00:44	1
Chrysene	ND		0.20	0.040	ug/L		04/19/18 11:52	04/21/18 00:44	1
Dibenz[a,h]anthracene	ND		0.20	0.040	ug/L		04/19/18 11:52	04/21/18 00:44	1
Fluoranthene	0.050	J	0.20	0.020	ug/L		04/19/18 11:52	04/21/18 00:44	1
Fluorene	0.17	J	0.20	0.021	ug/L		04/19/18 11:52	04/21/18 00:44	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/19/18 11:52	04/21/18 00:44	1
Phenanthrene	0.56		0.20	0.020	ug/L		04/19/18 11:52	04/21/18 00:44	1
Pyrene	0.10	J	0.20	0.020	ug/L		04/19/18 11:52	04/21/18 00:44	1
1-Methylnaphthalene	20		0.20	0.020	ug/L		04/19/18 11:52	04/21/18 00:44	1
2-Methylnaphthalene	36		0.20	0.020	ug/L		04/19/18 11:52	04/21/18 00:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	39		33 - 138	04/19/18 11:52	04/21/18 00:44	1
2-Fluorobiphenyl	49		15 - 122	04/19/18 11:52	04/21/18 00:44	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
 SDG: (2Q18)

Client Sample ID: P59-ROX-041218

Lab Sample ID: 400-152229-8

Date Collected: 04/12/18 17:10

Matrix: Water

Date Received: 04/13/18 09:10

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	63		19 - 130	04/19/18 11:52	04/21/18 00:44	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	3.8	ug/L		04/19/18 11:52	04/20/18 23:12	1
Benzenethiol	ND		10	1.7	ug/L		04/19/18 11:52	04/20/18 23:12	1
Benzoic acid	ND		30	7.3	ug/L		04/19/18 11:52	04/20/18 23:12	1
Benzyl alcohol	ND		10	2.0	ug/L		04/19/18 11:52	04/20/18 23:12	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		04/19/18 11:52	04/20/18 23:12	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		04/19/18 11:52	04/20/18 23:12	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		04/19/18 11:52	04/20/18 23:12	1
Bis(2-ethylhexyl) phthalate	ND		10	2.3	ug/L		04/19/18 11:52	04/20/18 23:12	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		04/19/18 11:52	04/20/18 23:12	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		04/19/18 11:52	04/20/18 23:12	1
4-Chloroaniline	ND		10	3.4	ug/L		04/19/18 11:52	04/20/18 23:12	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		04/19/18 11:52	04/20/18 23:12	1
2-Chloronaphthalene	ND		10	0.52	ug/L		04/19/18 11:52	04/20/18 23:12	1
2-Chlorophenol	ND		10	2.2	ug/L		04/19/18 11:52	04/20/18 23:12	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		04/19/18 11:52	04/20/18 23:12	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		04/19/18 11:52	04/20/18 23:12	1
Dibenzofuran	ND		10	0.52	ug/L		04/19/18 11:52	04/20/18 23:12	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		04/19/18 11:52	04/20/18 23:12	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		04/19/18 11:52	04/20/18 23:12	1
Diethyl phthalate	ND		10	0.70	ug/L		04/19/18 11:52	04/20/18 23:12	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		04/19/18 11:52	04/20/18 23:12	1
Dimethyl phthalate	ND		10	0.60	ug/L		04/19/18 11:52	04/20/18 23:12	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		04/19/18 11:52	04/20/18 23:12	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		04/19/18 11:52	04/20/18 23:12	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/19/18 11:52	04/20/18 23:12	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		04/19/18 11:52	04/20/18 23:12	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		04/19/18 11:52	04/20/18 23:12	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		04/19/18 11:52	04/20/18 23:12	1
1,4-Dioxane	ND		10	1.0	ug/L		04/19/18 11:52	04/20/18 23:12	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		04/19/18 11:52	04/20/18 23:12	1
Hexachlorobenzene	ND		10	0.25	ug/L		04/19/18 11:52	04/20/18 23:12	1
Hexachlorocyclopentadiene	ND	UJ	20	2.6	ug/L		04/19/18 11:52	04/20/18 23:12	1
Hexachloroethane	ND		10	4.2	ug/L		04/19/18 11:52	04/20/18 23:12	1
Indene	4.8	J J	10	1.0	ug/L		04/19/18 11:52	04/20/18 23:12	1
Isophorone	ND		10	0.57	ug/L		04/19/18 11:52	04/20/18 23:12	1
2-Methylphenol	ND		10	1.8	ug/L		04/19/18 11:52	04/20/18 23:12	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/19/18 11:52	04/20/18 23:12	1
2-Nitroaniline	ND		10	2.2	ug/L		04/19/18 11:52	04/20/18 23:12	1
3-Nitroaniline	ND		10	1.8	ug/L		04/19/18 11:52	04/20/18 23:12	1
4-Nitroaniline	ND		10	2.5	ug/L		04/19/18 11:52	04/20/18 23:12	1
Nitrobenzene	ND		10	0.55	ug/L		04/19/18 11:52	04/20/18 23:12	1
2-Nitrophenol	ND		10	0.65	ug/L		04/19/18 11:52	04/20/18 23:12	1
4-Nitrophenol	ND		10	2.1	ug/L		04/19/18 11:52	04/20/18 23:12	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		04/19/18 11:52	04/20/18 23:12	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
 SDG: (2Q18)

Client Sample ID: P59-ROX-041218

Lab Sample ID: 400-152229-8

Date Collected: 04/12/18 17:10

Matrix: Water

Date Received: 04/13/18 09:10

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		04/19/18 11:52	04/20/18 23:12	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		04/19/18 11:52	04/20/18 23:12	1
Pentachlorophenol	ND		20	1.8	ug/L		04/19/18 11:52	04/20/18 23:12	1
Phenol	15		10	2.6	ug/L		04/19/18 11:52	04/20/18 23:12	1
Pyridine	ND		10	3.2	ug/L		04/19/18 11:52	04/20/18 23:12	1
Quinoline	ND		10	6.0	ug/L		04/19/18 11:52	04/20/18 23:12	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		04/19/18 11:52	04/20/18 23:12	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/19/18 11:52	04/20/18 23:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	47		34 - 120	04/19/18 11:52	04/20/18 23:12	1
2-Fluorophenol	21		10 - 120	04/19/18 11:52	04/20/18 23:12	1
Nitrobenzene-d5	41		27 - 120	04/19/18 11:52	04/20/18 23:12	1
Phenol-d5	41		10 - 120	04/19/18 11:52	04/20/18 23:12	1
Terphenyl-d14	30		53 - 125	04/19/18 11:52	04/20/18 23:12	1
2,4,6-Tribromophenol	56		15 - 135	04/19/18 11:52	04/20/18 23:12	1

Method: 8011 - EDB and DBCP in Water by Microextraction

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	0.032	p *	0.027	0.0049	ug/L		04/20/18 15:34	04/23/18 16:33	1
1,2-Dibromoethane	ND		0.018	0.0045	ug/L		04/20/18 15:34	04/23/18 16:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	117	p	51 - 149	04/20/18 15:34	04/23/18 16:33	1

Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F2	MS/MSD RPD exceeds control limits

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate is outside control limits

GC Semi VOA

Qualifier	Qualifier Description
*	RPD of the LCS and LCSD exceeds the control limits
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▣	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)



Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (78-118)	DBFM (81-121)	TOL (80-120)
400-152229-2	TB-ROX-041218-8260-SS	103	101	100
400-152229-3	P93D-ROX-041218	101	103	101
400-152229-4	P93B-ROX-041218	98	101	108
400-152229-5	P93B-ROX-041218-DUP	102	103	102
400-152229-6	T12-ROX-041218-EB	102	100	101
400-152229-7	T12-ROX-041218	99	100	103
400-152229-8	P59-ROX-041218	98	101	99
400-152470-A-2 MS	Matrix Spike	97	103	97
400-152470-A-2 MSD	Matrix Spike Duplicate	98	102	97
LCS 400-394772/1002	Lab Control Sample	102	100	96
MB 400-394772/4	Method Blank	102	101	100

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (34-120)	2FP (10-120)	NBZ (27-120)	PHL (10-120)	TPHL (53-125)	TBP (15-135)
400-152229-3	P93D-ROX-041218	50	38	44	41	54	54
400-152229-4	P93B-ROX-041218	49	38	46	43	52 X	60
400-152229-5	P93B-ROX-041218-DUP	50	35	46	43	55	62
400-152229-6	T12-ROX-041218-EB	63	45	59	55	78	65
400-152229-7	T12-ROX-041218	49	27	47	45	59	69
400-152229-8	P59-ROX-041218	47	21	41	41	30 X	56
LCS 400-394488/18-A	Lab Control Sample	62	57	63	60	81	66
LCS 400-394488/2-A	Lab Control Sample	90	78	90	87	105	122
LCSD 400-394488/19-A	Lab Control Sample Dup	65	58	64	57	82	67
LCSD 400-394488/3-A	Lab Control Sample Dup	90	76	90	85	107	119
MB 400-394488/1-A	Method Blank	46	41	45	45	57	46

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPHL = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TPHL (33-138)	FBP (15-122)	NBZ (19-130)
400-152229-3	P93D-ROX-041218	88	78	64

TestAmerica Pensacola

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TPHL (33-138)	FBP (15-122)	NBZ (19-130)
400-152229-4	P93B-ROX-041218	91	83	73
400-152229-5	P93B-ROX-041218-DUP	87	79	72
400-152229-6	T12-ROX-041218-EB		101	81
400-152229-6 - RA	T12-ROX-041218-EB	96		
400-152229-7	T12-ROX-041218	108	71	103
400-152229-8	P59-ROX-041218	39	49	63
LCS 400-394488/2-A	Lab Control Sample	94	97	84
LCS 400-394488/3-A	Lab Control Sample Dup	92	90	74
MB 400-394488/1-A	Method Blank	91	84	72

Surrogate Legend

TPHL = Terphenyl-d14
FBP = 2-Fluorobiphenyl
NBZ = Nitrobenzene-d5

Method: 8011 - EDB and DBCP in Water by Microextraction

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		BFB2 (51-149)
400-152229-1	TB-ROX-041218-8011-SS	137 p
400-152229-3	P93D-ROX-041218	108 p
400-152229-4	P93B-ROX-041218	110
400-152229-5	P93B-ROX-041218-DUP	139
400-152229-6	T12-ROX-041218-EB	114 p
400-152229-7	T12-ROX-041218	108
400-152229-8	P59-ROX-041218	117 p
LCS 400-394696/2-A	Lab Control Sample	120
LCS 400-394696/3-A	Lab Control Sample Dup	130
MB 400-394696/1-A	Method Blank	124

Surrogate Legend

BFB = 4-Bromofluorobenzene

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL PEN
8270D LL	Semivolatile Organic Compounds by GC/MS - Low Level	SW846	TAL PEN
8011	EDB and DBCP in Water by Microextraction	EPA	TAL PEN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN
8011	Microextraction	SW846	TAL PEN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Client Sample ID: TB-ROX-041218-8011-SS

Lab Sample ID: 400-152229-1

Date Collected: 04/12/18 00:00
Date Received: 04/13/18 09:10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			39.7 mL	35 mL	394696	04/20/18 15:34	SAB	TAL PEN
Total/NA	Analysis	8011		1			394851	04/23/18 14:14	SAB	TAL PEN

Client Sample ID: TB-ROX-041218-8260-SS

Lab Sample ID: 400-152229-2

Date Collected: 04/12/18 00:00
Date Received: 04/13/18 09:10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394772	04/22/18 12:53	WPD	TAL PEN

Client Sample ID: P93D-ROX-041218

Lab Sample ID: 400-152229-3

Date Collected: 04/12/18 13:05
Date Received: 04/13/18 09:10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394772	04/22/18 13:15	WPD	TAL PEN
Total/NA	Prep	3520C			999.8 mL	1.0 mL	394488	04/19/18 11:51	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	394711	04/20/18 21:12	S1K	TAL PEN
Total/NA	Prep	3520C			999.8 mL	1.0 mL	394488	04/19/18 11:51	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			394686	04/20/18 23:18	PP1	TAL PEN
Total/NA	Prep	8011			39.3 mL	35 mL	394696	04/20/18 15:34	SAB	TAL PEN
Total/NA	Analysis	8011		1			394851	04/23/18 14:34	SAB	TAL PEN

Client Sample ID: P93B-ROX-041218

Lab Sample ID: 400-152229-4

Date Collected: 04/12/18 14:25
Date Received: 04/13/18 09:10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1000	5 mL	5 mL	394772	04/22/18 11:02	WPD	TAL PEN
Total/NA	Prep	3520C			1011.2 mL	1.0 mL	394488	04/19/18 11:51	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	394711	04/20/18 21:36	S1K	TAL PEN
Total/NA	Prep	3520C	DL		1011.2 mL	1.0 mL	394488	04/19/18 11:51	NTH	TAL PEN
Total/NA	Analysis	8270D	DL	5			394846	04/23/18 21:07	S1B	TAL PEN
Total/NA	Prep	3520C			1011.2 mL	1.0 mL	394488	04/19/18 11:51	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			394686	04/20/18 23:35	PP1	TAL PEN
Total/NA	Prep	8011			37.4 mL	35 mL	394696	04/20/18 15:34	SAB	TAL PEN
Total/NA	Analysis	8011		1			394851	04/23/18 14:54	SAB	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
 SDG: (2Q18)

Client Sample ID: P93B-ROX-041218-DUP

Lab Sample ID: 400-152229-5

Date Collected: 04/12/18 14:25

Matrix: Water

Date Received: 04/13/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1000	5 mL	5 mL	394772	04/22/18 11:24	WPD	TAL PEN
Total/NA	Prep	3520C			1019 mL	1.0 mL	394488	04/19/18 11:51	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	394711	04/20/18 22:00	S1K	TAL PEN
Total/NA	Prep	3520C	DL		1019 mL	1.0 mL	394488	04/19/18 11:51	NTH	TAL PEN
Total/NA	Analysis	8270D	DL	5			394846	04/23/18 21:41	S1B	TAL PEN
Total/NA	Prep	3520C			1019 mL	1.0 mL	394488	04/19/18 11:51	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			394686	04/20/18 23:52	PP1	TAL PEN
Total/NA	Prep	8011			37.7 mL	35 mL	394696	04/20/18 15:34	SAB	TAL PEN
Total/NA	Analysis	8011		1			394851	04/23/18 15:34	SAB	TAL PEN

Client Sample ID: T12-ROX-041218-EB

Lab Sample ID: 400-152229-6

Date Collected: 04/12/18 15:40

Matrix: Water

Date Received: 04/13/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394772	04/22/18 09:11	WPD	TAL PEN
Total/NA	Prep	3520C			1008.4 mL	1.0 mL	394488	04/19/18 11:51	NTH	TAL PEN
Total/NA	Analysis	8270D		1	0.4 mL	1.0 mL	394711	04/20/18 22:24	S1K	TAL PEN
Total/NA	Prep	3520C			1008.4 mL	1.0 mL	394488	04/19/18 11:51	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			394686	04/21/18 00:10	PP1	TAL PEN
Total/NA	Prep	3520C	RA		1008.4 mL	1.0 mL	394488	04/19/18 11:51	NTH	TAL PEN
Total/NA	Analysis	8270D LL	RA	1			394995	04/24/18 12:51	RM	TAL PEN
Total/NA	Prep	8011			40.1 mL	35 mL	394696	04/20/18 15:34	SAB	TAL PEN
Total/NA	Analysis	8011		1			394851	04/23/18 15:54	SAB	TAL PEN

Client Sample ID: T12-ROX-041218

Lab Sample ID: 400-152229-7

Date Collected: 04/12/18 16:00

Matrix: Water

Date Received: 04/13/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	5 mL	5 mL	394772	04/22/18 09:55	WPD	TAL PEN
Total/NA	Prep	3520C			1005.8 mL	1.0 mL	394488	04/19/18 11:52	NTH	TAL PEN
Total/NA	Analysis	8270D		1			394711	04/20/18 22:48	S1K	TAL PEN
Total/NA	Prep	3520C			1005.8 mL	1.0 mL	394488	04/19/18 11:52	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			394686	04/21/18 00:27	PP1	TAL PEN
Total/NA	Prep	3520C	DL		1005.8 mL	1.0 mL	394488	04/19/18 11:52	NTH	TAL PEN
Total/NA	Analysis	8270D LL	DL	5			394992	04/24/18 02:25	KJA	TAL PEN
Total/NA	Prep	8011			37.8 mL	35 mL	394696	04/20/18 15:34	SAB	TAL PEN
Total/NA	Analysis	8011		1			394851	04/23/18 16:13	SAB	TAL PEN



Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Client Sample ID: P59-ROX-041218

Lab Sample ID: 400-152229-8

Date Collected: 04/12/18 17:10

Matrix: Water

Date Received: 04/13/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		20	5 mL	5 mL	394772	04/22/18 15:06	WPD	TAL PEN
Total/NA	Prep	3520C			998.2 mL	1.0 mL	394488	04/19/18 11:52	NTH	TAL PEN
Total/NA	Analysis	8270D		1			394711	04/20/18 23:12	S1K	TAL PEN
Total/NA	Prep	3520C			998.2 mL	1.0 mL	394488	04/19/18 11:52	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			394686	04/21/18 00:44	PP1	TAL PEN
Total/NA	Prep	8011			39.1 mL	35 mL	394696	04/20/18 15:34	SAB	TAL PEN
Total/NA	Analysis	8011		1			394851	04/23/18 16:33	SAB	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-394488/1-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	394488	04/19/18 11:51	NTH	TAL PEN
Total/NA	Analysis	8270D		1			394711	04/20/18 18:49	S1K	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	394488	04/19/18 11:51	NTH	TAL PEN
Total/NA	Analysis	8270D LL		1			394686	04/20/18 22:26	PP1	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-394696/1-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35 mL	35 mL	394696	04/20/18 15:34	SAB	TAL PEN
Total/NA	Analysis	8011		1			394741	04/21/18 03:23	SAB	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-394772/4

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394772	04/22/18 08:27	WPD	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-394488/18-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	394488	04/19/18 11:53	NTH	TAL PEN
Total/NA	Analysis	8270D		1			394711	04/20/18 20:00	S1K	TAL PEN

TestAmerica Pensacola



Lab Chronicle

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
 SDG: (2Q18)

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-394488/2-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	394488	04/19/18 11:51	NTH	TAL PEN
Total/NA	Analysis	8270D		1			395214	04/25/18 13:01	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	394488	04/19/18 11:51	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			394686	04/20/18 22:44	PP1	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-394696/2-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35 mL	35 mL	394696	04/20/18 15:34	SAB	TAL PEN
Total/NA	Analysis	8011		1			394741	04/21/18 03:43	SAB	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-394772/1002

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394772	04/22/18 07:42	WPD	TAL PEN

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-394488/19-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	394488	04/19/18 11:53	NTH	TAL PEN
Total/NA	Analysis	8270D		1			394711	04/20/18 20:24	S1K	TAL PEN

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-394488/3-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1000 mL	1.0 mL	394488	04/19/18 11:51	NTH	TAL PEN
Total/NA	Analysis	8270D		1			395214	04/25/18 13:34	VC1	TAL PEN
Total/NA	Prep	3520C			1000 mL	1.0 mL	394488	04/19/18 11:51	NTH	TAL PEN
Total/NA	Analysis	8270D LL		5			394686	04/20/18 23:01	PP1	TAL PEN

Lab Chronicle

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
 SDG: (2Q18)

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-394696/3-A

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35 mL	35 mL	394696	04/20/18 15:34	SAB	TAL PEN
Total/NA	Analysis	8011		1			394851	04/23/18 11:55	SAB	TAL PEN

Client Sample ID: Matrix Spike

Lab Sample ID: 400-152470-A-2 MS

Date Collected: 04/09/18 15:45

Matrix: Water

Date Received: 04/14/18 10:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394772	04/22/18 11:46	WPD	TAL PEN

Client Sample ID: Matrix Spike Duplicate

Lab Sample ID: 400-152470-A-2 MSD

Date Collected: 04/09/18 15:45

Matrix: Water

Date Received: 04/14/18 10:24

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	394772	04/22/18 12:09	WPD	TAL PEN

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001



QC Association Summary

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
 SDG: (2Q18)

GC/MS VOA

Analysis Batch: 394772

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152229-2	TB-ROX-041218-8260-SS	Total/NA	Water	8260B	
400-152229-3	P93D-ROX-041218	Total/NA	Water	8260B	
400-152229-4	P93B-ROX-041218	Total/NA	Water	8260B	
400-152229-5	P93B-ROX-041218-DUP	Total/NA	Water	8260B	
400-152229-6	T12-ROX-041218-EB	Total/NA	Water	8260B	
400-152229-7	T12-ROX-041218	Total/NA	Water	8260B	
400-152229-8	P59-ROX-041218	Total/NA	Water	8260B	
MB 400-394772/4	Method Blank	Total/NA	Water	8260B	
LCS 400-394772/1002	Lab Control Sample	Total/NA	Water	8260B	
400-152470-A-2 MS	Matrix Spike	Total/NA	Water	8260B	
400-152470-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 394488

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152229-3	P93D-ROX-041218	Total/NA	Water	3520C	
400-152229-4	P93B-ROX-041218	Total/NA	Water	3520C	
400-152229-4 - DL	P93B-ROX-041218	Total/NA	Water	3520C	
400-152229-5	P93B-ROX-041218-DUP	Total/NA	Water	3520C	
400-152229-5 - DL	P93B-ROX-041218-DUP	Total/NA	Water	3520C	
400-152229-6	T12-ROX-041218-EB	Total/NA	Water	3520C	
400-152229-6 - RA	T12-ROX-041218-EB	Total/NA	Water	3520C	
400-152229-7	T12-ROX-041218	Total/NA	Water	3520C	
400-152229-7 - DL	T12-ROX-041218	Total/NA	Water	3520C	
400-152229-8	P59-ROX-041218	Total/NA	Water	3520C	
MB 400-394488/1-A	Method Blank	Total/NA	Water	3520C	
LCS 400-394488/18-A	Lab Control Sample	Total/NA	Water	3520C	
LCS 400-394488/2-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 400-394488/19-A	Lab Control Sample Dup	Total/NA	Water	3520C	
LCSD 400-394488/3-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 394686

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152229-3	P93D-ROX-041218	Total/NA	Water	8270D LL	394488
400-152229-4	P93B-ROX-041218	Total/NA	Water	8270D LL	394488
400-152229-5	P93B-ROX-041218-DUP	Total/NA	Water	8270D LL	394488
400-152229-6	T12-ROX-041218-EB	Total/NA	Water	8270D LL	394488
400-152229-7	T12-ROX-041218	Total/NA	Water	8270D LL	394488
400-152229-8	P59-ROX-041218	Total/NA	Water	8270D LL	394488
MB 400-394488/1-A	Method Blank	Total/NA	Water	8270D LL	394488
LCS 400-394488/2-A	Lab Control Sample	Total/NA	Water	8270D LL	394488
LCSD 400-394488/3-A	Lab Control Sample Dup	Total/NA	Water	8270D LL	394488

Analysis Batch: 394711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152229-3	P93D-ROX-041218	Total/NA	Water	8270D	394488
400-152229-4	P93B-ROX-041218	Total/NA	Water	8270D	394488
400-152229-5	P93B-ROX-041218-DUP	Total/NA	Water	8270D	394488
400-152229-6	T12-ROX-041218-EB	Total/NA	Water	8270D	394488

TestAmerica Pensacola



QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

GC/MS Semi VOA (Continued)

Analysis Batch: 394711 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152229-7	T12-ROX-041218	Total/NA	Water	8270D	394488
400-152229-8	P59-ROX-041218	Total/NA	Water	8270D	394488
MB 400-394488/1-A	Method Blank	Total/NA	Water	8270D	394488
LCS 400-394488/18-A	Lab Control Sample	Total/NA	Water	8270D	394488
LCSD 400-394488/19-A	Lab Control Sample Dup	Total/NA	Water	8270D	394488

Analysis Batch: 394846

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152229-4 - DL	P93B-ROX-041218	Total/NA	Water	8270D	394488
400-152229-5 - DL	P93B-ROX-041218-DUP	Total/NA	Water	8270D	394488

Analysis Batch: 394992

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152229-7 - DL	T12-ROX-041218	Total/NA	Water	8270D LL	394488

Analysis Batch: 394995

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152229-6 - RA	T12-ROX-041218-EB	Total/NA	Water	8270D LL	394488

Analysis Batch: 395214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-394488/2-A	Lab Control Sample	Total/NA	Water	8270D	394488
LCSD 400-394488/3-A	Lab Control Sample Dup	Total/NA	Water	8270D	394488

GC Semi VOA

Prep Batch: 394696

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152229-1	TB-ROX-041218-8011-SS	Total/NA	Water	8011	
400-152229-3	P93D-ROX-041218	Total/NA	Water	8011	
400-152229-4	P93B-ROX-041218	Total/NA	Water	8011	
400-152229-5	P93B-ROX-041218-DUP	Total/NA	Water	8011	
400-152229-6	T12-ROX-041218-EB	Total/NA	Water	8011	
400-152229-7	T12-ROX-041218	Total/NA	Water	8011	
400-152229-8	P59-ROX-041218	Total/NA	Water	8011	
MB 400-394696/1-A	Method Blank	Total/NA	Water	8011	
LCS 400-394696/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 400-394696/3-A	Lab Control Sample Dup	Total/NA	Water	8011	

Analysis Batch: 394741

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-394696/1-A	Method Blank	Total/NA	Water	8011	394696
LCS 400-394696/2-A	Lab Control Sample	Total/NA	Water	8011	394696

Analysis Batch: 394851

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152229-1	TB-ROX-041218-8011-SS	Total/NA	Water	8011	394696
400-152229-3	P93D-ROX-041218	Total/NA	Water	8011	394696
400-152229-4	P93B-ROX-041218	Total/NA	Water	8011	394696
400-152229-5	P93B-ROX-041218-DUP	Total/NA	Water	8011	394696

TestAmerica Pensacola



QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

GC Semi VOA (Continued)

Analysis Batch: 394851 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-152229-6	T12-ROX-041218-EB	Total/NA	Water	8011	394696
400-152229-7	T12-ROX-041218	Total/NA	Water	8011	394696
400-152229-8	P59-ROX-041218	Total/NA	Water	8011	394696
LCSD 400-394696/3-A	Lab Control Sample Dup	Total/NA	Water	8011	394696



QC Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
 SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-394772/4
 Matrix: Water
 Analysis Batch: 394772

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acetone	ND		25	10	ug/L			04/22/18 08:27	1
Acrolein	ND		20	10	ug/L			04/22/18 08:27	1
Acrylonitrile	ND		10	2.8	ug/L			04/22/18 08:27	1
Benzene	ND		1.0	0.38	ug/L			04/22/18 08:27	1
Bromobenzene	ND		1.0	0.54	ug/L			04/22/18 08:27	1
Bromochloromethane	ND		1.0	0.52	ug/L			04/22/18 08:27	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/22/18 08:27	1
Bromoform	ND		5.0	0.71	ug/L			04/22/18 08:27	1
Bromomethane	ND		1.0	0.98	ug/L			04/22/18 08:27	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/22/18 08:27	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/22/18 08:27	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			04/22/18 08:27	1
Chlorobenzene	ND		1.0	0.50	ug/L			04/22/18 08:27	1
Dibromochloromethane	ND		1.0	0.50	ug/L			04/22/18 08:27	1
Chloroethane	ND		1.0	0.76	ug/L			04/22/18 08:27	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/22/18 08:27	1
Chloroform	ND		1.0	0.60	ug/L			04/22/18 08:27	1
1-Chlorohexane	ND		1.0	0.70	ug/L			04/22/18 08:27	1
Chloromethane	ND		1.0	0.83	ug/L			04/22/18 08:27	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/22/18 08:27	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/22/18 08:27	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/22/18 08:27	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/22/18 08:27	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/22/18 08:27	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/22/18 08:27	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/22/18 08:27	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			04/22/18 08:27	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/22/18 08:27	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/22/18 08:27	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/22/18 08:27	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/22/18 08:27	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/22/18 08:27	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/22/18 08:27	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/22/18 08:27	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/22/18 08:27	1
2-Hexanone	ND		25	3.1	ug/L			04/22/18 08:27	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/22/18 08:27	1
Methylene bromide	ND		5.0	0.59	ug/L			04/22/18 08:27	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/22/18 08:27	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/22/18 08:27	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			04/22/18 08:27	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			04/22/18 08:27	1
Naphthalene	ND		1.0	1.0	ug/L			04/22/18 08:27	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/22/18 08:27	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/22/18 08:27	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/22/18 08:27	1
o-Xylene	ND		5.0	0.60	ug/L			04/22/18 08:27	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/22/18 08:27	1

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
 SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-394772/4
 Matrix: Water
 Analysis Batch: 394772

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/22/18 08:27	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/22/18 08:27	1
Styrene	ND		1.0	1.0	ug/L			04/22/18 08:27	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/22/18 08:27	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			04/22/18 08:27	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/22/18 08:27	1
Tetrachloroethene	ND		1.0	0.58	ug/L			04/22/18 08:27	1
Toluene	ND		1.0	0.70	ug/L			04/22/18 08:27	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/22/18 08:27	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/22/18 08:27	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			04/22/18 08:27	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/22/18 08:27	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			04/22/18 08:27	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			04/22/18 08:27	1
Trichloroethene	ND		1.0	0.50	ug/L			04/22/18 08:27	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/22/18 08:27	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/22/18 08:27	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/22/18 08:27	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/22/18 08:27	1
Vinyl acetate	ND		25	2.0	ug/L			04/22/18 08:27	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/22/18 08:27	1
Xylenes, Total	ND		10	1.6	ug/L			04/22/18 08:27	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene	102		78 - 118		04/22/18 08:27	1
Dibromofluoromethane	101		81 - 121		04/22/18 08:27	1
Toluene-d8 (Surr)	100		80 - 120		04/22/18 08:27	1

Lab Sample ID: LCS 400-394772/1002
 Matrix: Water
 Analysis Batch: 394772

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Acetone	200	186		ug/L		93	43 - 160
Acrolein	500	379		ug/L		76	38 - 160
Acrylonitrile	500	465		ug/L		93	64 - 142
Benzene	50.0	43.5		ug/L		87	70 - 130
Bromobenzene	50.0	46.1		ug/L		92	70 - 132
Bromochloromethane	50.0	45.8		ug/L		92	70 - 130
Bromodichloromethane	50.0	49.0		ug/L		98	67 - 133
Bromoform	50.0	55.1		ug/L		110	57 - 140
Bromomethane	50.0	39.2		ug/L		78	10 - 160
2-Butanone (MEK)	200	205		ug/L		103	61 - 145
Carbon disulfide	50.0	47.3		ug/L		95	61 - 137
Carbon tetrachloride	50.0	48.7		ug/L		97	61 - 137
Chlorobenzene	50.0	44.4		ug/L		89	70 - 130
Dibromochloromethane	50.0	49.2		ug/L		98	67 - 135
Chloroethane	50.0	42.1		ug/L		84	55 - 141

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
 SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-394772/1002
 Matrix: Water
 Analysis Batch: 394772

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Chloroethyl vinyl ether	50.0	51.4		ug/L		103	10 - 160
Chloroform	50.0	43.4		ug/L		87	69 - 130
1-Chlorohexane	50.0	44.4		ug/L		89	69 - 130
Chloromethane	50.0	39.4		ug/L		79	58 - 137
cis-1,2-Dichloroethene	50.0	42.8		ug/L		86	68 - 130
cis-1,3-Dichloropropene	50.0	56.7		ug/L		113	69 - 132
1,2-Dichlorobenzene	50.0	45.3		ug/L		91	67 - 130
1,3-Dichlorobenzene	50.0	44.6		ug/L		89	70 - 130
1,4-Dichlorobenzene	50.0	43.6		ug/L		87	70 - 130
Dichlorodifluoromethane	50.0	35.9		ug/L		72	41 - 146
1,1-Dichloroethane	50.0	42.4		ug/L		85	70 - 130
1,2-Dichloroethane	50.0	44.1		ug/L		88	69 - 130
1,1-Dichloroethene	50.0	44.8		ug/L		90	63 - 134
1,2-Dichloropropane	50.0	43.9		ug/L		88	70 - 130
1,3-Dichloropropane	50.0	44.9		ug/L		90	70 - 130
2,2-Dichloropropane	50.0	49.8		ug/L		100	52 - 135
1,1-Dichloropropene	50.0	44.6		ug/L		89	70 - 130
Ethylbenzene	50.0	44.4		ug/L		89	70 - 130
Ethyl methacrylate	50.0	54.8		ug/L		110	68 - 130
Hexachlorobutadiene	50.0	47.7		ug/L		95	53 - 140
2-Hexanone	200	215		ug/L		108	65 - 137
Isopropylbenzene	50.0	47.0		ug/L		94	70 - 130
Methylene bromide	50.0	46.8		ug/L		94	70 - 130
Methylene Chloride	50.0	43.5		ug/L		87	66 - 135
4-Methyl-2-pentanone (MIBK)	200	223		ug/L		112	69 - 138
Methyl tert-butyl ether	50.0	48.9		ug/L		98	66 - 130
m-Xylene & p-Xylene	50.0	45.2		ug/L		90	70 - 130
Naphthalene	50.0	54.7		ug/L		109	47 - 149
n-Butylbenzene	50.0	45.2		ug/L		90	67 - 130
N-Propylbenzene	50.0	47.4		ug/L		95	70 - 130
o-Chlorotoluene	50.0	45.2		ug/L		90	70 - 130
o-Xylene	50.0	45.1		ug/L		90	70 - 130
p-Chlorotoluene	50.0	45.7		ug/L		91	70 - 130
p-Isopropyltoluene	50.0	48.1		ug/L		96	65 - 130
sec-Butylbenzene	50.0	46.3		ug/L		93	66 - 130
Styrene	50.0	47.0		ug/L		94	70 - 130
tert-Butylbenzene	50.0	47.6		ug/L		95	64 - 139
1,1,1,2-Tetrachloroethane	50.0	48.0		ug/L		96	67 - 131
1,1,2,2-Tetrachloroethane	50.0	46.9		ug/L		94	70 - 131
Tetrachloroethene	50.0	42.2		ug/L		84	65 - 130
Toluene	50.0	43.0		ug/L		86	70 - 130
trans-1,2-Dichloroethene	50.0	44.3		ug/L		89	70 - 130
trans-1,3-Dichloropropene	50.0	55.9		ug/L		112	63 - 130
1,2,3-Trichlorobenzene	50.0	49.3		ug/L		99	60 - 138
1,2,4-Trichlorobenzene	50.0	48.0		ug/L		96	60 - 140
1,1,1-Trichloroethane	50.0	47.5		ug/L		95	68 - 130
1,1,2-Trichloroethane	50.0	43.9		ug/L		88	70 - 130
Trichloroethene	50.0	45.6		ug/L		91	70 - 130

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-394772/1002
Matrix: Water
Analysis Batch: 394772

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	50.0	41.0		ug/L		82	65 - 138
1,2,3-Trichloropropane	50.0	50.3		ug/L		101	70 - 130
1,2,4-Trimethylbenzene	50.0	46.9		ug/L		94	70 - 130
1,3,5-Trimethylbenzene	50.0	47.0		ug/L		94	69 - 130
Vinyl acetate	100	102		ug/L		102	26 - 160
Vinyl chloride	50.0	41.4		ug/L		83	59 - 136
Xylenes, Total	100	90.3		ug/L		90	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	102		78 - 118
Dibromofluoromethane	100		81 - 121
Toluene-d8 (Surr)	96		80 - 120

Lab Sample ID: 400-152470-A-2 MS
Matrix: Water
Analysis Batch: 394772

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	ND		200	158		ug/L		79	43 - 150
Acrolein	ND		500	369		ug/L		74	38 - 150
Acrylonitrile	ND		500	408		ug/L		82	62 - 149
Benzene	ND		50.0	41.5		ug/L		83	56 - 142
Bromobenzene	ND		50.0	40.8		ug/L		82	59 - 136
Bromochloromethane	ND		50.0	43.0		ug/L		86	64 - 140
Bromodichloromethane	ND		50.0	44.4		ug/L		89	59 - 143
Bromoform	ND		50.0	48.2		ug/L		96	50 - 140
Bromomethane	ND		50.0	23.6		ug/L		47	10 - 150
2-Butanone (MEK)	ND		200	176		ug/L		88	55 - 150
Carbon disulfide	ND		50.0	45.0		ug/L		90	48 - 150
Carbon tetrachloride	ND		50.0	46.0		ug/L		92	55 - 145
Chlorobenzene	ND		50.0	41.8		ug/L		84	64 - 130
Dibromochloromethane	ND		50.0	46.3		ug/L		93	56 - 143
Chloroethane	ND		50.0	37.6		ug/L		75	50 - 150
2-Chloroethyl vinyl ether	ND	F2	50.0	23.3		ug/L		47	10 - 150
Chloroform	ND		50.0	41.3		ug/L		83	60 - 141
1-Chlorohexane	ND		50.0	42.4		ug/L		85	56 - 136
Chloromethane	ND		50.0	32.6		ug/L		65	49 - 148
cis-1,2-Dichloroethene	ND		50.0	40.4		ug/L		81	59 - 143
cis-1,3-Dichloropropene	ND		50.0	52.4		ug/L		105	57 - 140
1,2-Dichlorobenzene	ND		50.0	41.0		ug/L		82	52 - 137
1,3-Dichlorobenzene	ND		50.0	40.7		ug/L		81	54 - 135
1,4-Dichlorobenzene	ND		50.0	39.6		ug/L		79	53 - 135
Dichlorodifluoromethane	ND		50.0	33.7		ug/L		67	16 - 150
1,1-Dichloroethane	ND		50.0	40.5		ug/L		81	61 - 144
1,2-Dichloroethane	ND		50.0	41.1		ug/L		82	60 - 141
1,1-Dichloroethene	ND		50.0	41.9		ug/L		84	54 - 147
1,2-Dichloropropane	ND		50.0	40.6		ug/L		81	66 - 137
1,3-Dichloropropane	ND		50.0	41.2		ug/L		82	66 - 133

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-152470-A-2 MS

Matrix: Water

Analysis Batch: 394772

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
2,2-Dichloropropane	ND		50.0	46.0		ug/L		92	42 - 144
1,1-Dichloropropene	ND		50.0	42.0		ug/L		84	65 - 136
Ethylbenzene	ND		50.0	41.9		ug/L		84	58 - 131
Ethyl methacrylate	ND		50.0	48.5		ug/L		97	64 - 130
Hexachlorobutadiene	ND		50.0	42.9		ug/L		86	31 - 149
2-Hexanone	ND		200	183		ug/L		92	65 - 140
Isopropylbenzene	ND		50.0	43.8		ug/L		88	56 - 133
Methylene bromide	ND		50.0	42.8		ug/L		86	63 - 138
Methylene Chloride	ND		50.0	40.2		ug/L		80	60 - 146
4-Methyl-2-pentanone (MIBK)	ND		200	190		ug/L		95	63 - 146
Methyl tert-butyl ether	ND		50.0	43.8		ug/L		88	59 - 137
m-Xylene & p-Xylene	ND		50.0	42.3		ug/L		85	57 - 130
Naphthalene	ND		50.0	46.9		ug/L		94	25 - 150
n-Butylbenzene	ND		50.0	40.5		ug/L		81	41 - 142
N-Propylbenzene	ND		50.0	42.2		ug/L		84	51 - 138
o-Chlorotoluene	ND		50.0	40.4		ug/L		81	53 - 134
o-Xylene	ND		50.0	42.6		ug/L		85	61 - 130
p-Chlorotoluene	ND		50.0	41.7		ug/L		83	54 - 133
p-Isopropyltoluene	ND		50.0	43.7		ug/L		87	48 - 139
sec-Butylbenzene	ND		50.0	42.0		ug/L		84	50 - 138
Styrene	ND		50.0	44.3		ug/L		89	58 - 131
tert-Butylbenzene	ND		50.0	42.9		ug/L		86	54 - 146
1,1,1,2-Tetrachloroethane	ND		50.0	44.4		ug/L		89	59 - 137
1,1,2,2-Tetrachloroethane	ND		50.0	40.8		ug/L		82	66 - 135
Tetrachloroethene	ND		50.0	39.4		ug/L		79	52 - 133
Toluene	ND		50.0	40.1		ug/L		80	65 - 130
trans-1,2-Dichloroethene	ND		50.0	42.7		ug/L		85	61 - 143
trans-1,3-Dichloropropene	ND		50.0	50.7		ug/L		101	53 - 133
1,2,3-Trichlorobenzene	ND		50.0	43.3		ug/L		87	43 - 145
1,2,4-Trichlorobenzene	ND		50.0	41.9		ug/L		84	39 - 148
1,1,1-Trichloroethane	ND		50.0	45.0		ug/L		90	57 - 142
1,1,2-Trichloroethane	ND		50.0	41.0		ug/L		82	66 - 131
Trichloroethene	ND		50.0	42.7		ug/L		85	64 - 136
Trichlorofluoromethane	ND		50.0	37.1		ug/L		74	54 - 150
1,2,3-Trichloropropane	ND		50.0	42.7		ug/L		85	65 - 133
1,2,4-Trimethylbenzene	ND		50.0	42.4		ug/L		85	50 - 139
1,3,5-Trimethylbenzene	ND		50.0	42.3		ug/L		85	52 - 135
Vinyl acetate	ND		100	89.0		ug/L		89	26 - 150
Vinyl chloride	ND		50.0	34.5		ug/L		69	46 - 150
Xylenes, Total	ND		100	84.9		ug/L		85	59 - 130

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	97		78 - 118
Dibromofluoromethane	103		81 - 121
Toluene-d8 (Surr)	97		80 - 120

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
 SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-152470-A-2 MSD
 Matrix: Water
 Analysis Batch: 394772

Client Sample ID: Matrix Spike Duplicate
 Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
Acetone	ND		200	162		ug/L		81	43 - 150	2	30
Acrolein	ND		500	399		ug/L		80	38 - 150	8	31
Acrylonitrile	ND		500	404		ug/L		81	62 - 149	1	30
Benzene	ND		50.0	37.1		ug/L		74	56 - 142	11	30
Bromobenzene	ND		50.0	35.2		ug/L		70	59 - 136	15	30
Bromochloromethane	ND		50.0	39.3		ug/L		79	64 - 140	9	30
Bromodichloromethane	ND		50.0	40.0		ug/L		80	59 - 143	10	30
Bromoform	ND		50.0	43.2		ug/L		86	50 - 140	11	30
Bromomethane	ND		50.0	29.3		ug/L		59	10 - 150	21	50
2-Butanone (MEK)	ND		200	179		ug/L		89	55 - 150	2	30
Carbon disulfide	ND		50.0	40.5		ug/L		81	48 - 150	10	30
Carbon tetrachloride	ND		50.0	42.3		ug/L		85	55 - 145	8	30
Chlorobenzene	ND		50.0	36.2		ug/L		72	64 - 130	14	30
Dibromochloromethane	ND		50.0	42.0		ug/L		84	56 - 143	10	30
Chloroethane	ND		50.0	36.2		ug/L		72	50 - 150	4	30
2-Chloroethyl vinyl ether	ND	F2	50.0	10.2	F2	ug/L		20	10 - 150	79	50
Chloroform	ND		50.0	37.0		ug/L		74	60 - 141	11	30
1-Chlorohexane	ND		50.0	36.7		ug/L		73	56 - 136	14	30
Chloromethane	ND		50.0	35.2		ug/L		70	49 - 148	7	31
cis-1,2-Dichloroethene	ND		50.0	36.7		ug/L		73	59 - 143	9	30
cis-1,3-Dichloropropene	ND		50.0	46.9		ug/L		94	57 - 140	11	30
1,2-Dichlorobenzene	ND		50.0	34.7		ug/L		69	52 - 137	17	30
1,3-Dichlorobenzene	ND		50.0	34.1		ug/L		68	54 - 135	18	30
1,4-Dichlorobenzene	ND		50.0	32.9		ug/L		66	53 - 135	19	30
Dichlorodifluoromethane	ND		50.0	33.3		ug/L		67	16 - 150	1	31
1,1-Dichloroethane	ND		50.0	36.5		ug/L		73	61 - 144	11	30
1,2-Dichloroethane	ND		50.0	37.1		ug/L		74	60 - 141	10	30
1,1-Dichloroethene	ND		50.0	38.7		ug/L		77	54 - 147	8	30
1,2-Dichloropropane	ND		50.0	36.4		ug/L		73	66 - 137	11	30
1,3-Dichloropropane	ND		50.0	37.6		ug/L		75	66 - 133	9	30
2,2-Dichloropropane	ND		50.0	42.5		ug/L		85	42 - 144	8	31
1,1-Dichloropropene	ND		50.0	37.4		ug/L		75	65 - 136	12	30
Ethylbenzene	ND		50.0	36.4		ug/L		73	58 - 131	14	30
Ethyl methacrylate	ND		50.0	45.7		ug/L		91	64 - 130	6	30
Hexachlorobutadiene	ND		50.0	34.8		ug/L		70	31 - 149	21	36
2-Hexanone	ND		200	187		ug/L		93	65 - 140	2	30
Isopropylbenzene	ND		50.0	38.3		ug/L		77	56 - 133	13	30
Methylene bromide	ND		50.0	38.5		ug/L		77	63 - 138	11	30
Methylene Chloride	ND		50.0	36.2		ug/L		72	60 - 146	11	32
4-Methyl-2-pentanone (MIBK)	ND		200	192		ug/L		96	63 - 146	1	30
Methyl tert-butyl ether	ND		50.0	41.4		ug/L		83	59 - 137	6	30
m-Xylene & p-Xylene	ND		50.0	36.5		ug/L		73	57 - 130	15	30
Naphthalene	ND		50.0	42.9		ug/L		86	25 - 150	9	30
n-Butylbenzene	ND		50.0	34.2		ug/L		68	41 - 142	17	31
N-Propylbenzene	ND		50.0	35.9		ug/L		72	51 - 138	16	30
o-Chlorotoluene	ND		50.0	34.8		ug/L		70	53 - 134	15	30
o-Xylene	ND		50.0	36.8		ug/L		74	61 - 130	15	30
p-Chlorotoluene	ND		50.0	34.7		ug/L		69	54 - 133	18	30

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-152470-A-2 MSD
Matrix: Water
Analysis Batch: 394772

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
p-Isopropyltoluene	ND		50.0	36.2		ug/L		72	48 - 139	19	30
sec-Butylbenzene	ND		50.0	36.0		ug/L		72	50 - 138	15	30
Styrene	ND		50.0	37.9		ug/L		76	58 - 131	16	30
tert-Butylbenzene	ND		50.0	36.6		ug/L		73	54 - 146	16	30
1,1,1,2-Tetrachloroethane	ND		50.0	39.5		ug/L		79	59 - 137	12	30
1,1,2,2-Tetrachloroethane	ND		50.0	37.9		ug/L		76	66 - 135	7	30
Tetrachloroethene	ND		50.0	35.5		ug/L		71	52 - 133	10	30
Toluene	ND		50.0	35.8		ug/L		72	65 - 130	11	30
trans-1,2-Dichloroethene	ND		50.0	38.2		ug/L		76	61 - 143	11	30
trans-1,3-Dichloropropene	ND		50.0	46.1		ug/L		92	53 - 133	10	30
1,2,3-Trichlorobenzene	ND		50.0	36.1		ug/L		72	43 - 145	18	30
1,2,4-Trichlorobenzene	ND		50.0	34.4		ug/L		69	39 - 148	20	30
1,1,1-Trichloroethane	ND		50.0	40.8		ug/L		82	57 - 142	10	30
1,1,2-Trichloroethane	ND		50.0	37.9		ug/L		76	66 - 131	8	30
Trichloroethene	ND		50.0	38.6		ug/L		77	64 - 136	10	30
Trichlorofluoromethane	ND		50.0	36.8		ug/L		74	54 - 150	1	30
1,2,3-Trichloropropane	ND		50.0	41.2		ug/L		82	65 - 133	3	30
1,2,4-Trimethylbenzene	ND		50.0	36.1		ug/L		72	50 - 139	16	30
1,3,5-Trimethylbenzene	ND		50.0	35.9		ug/L		72	52 - 135	17	30
Vinyl acetate	ND		100	95.7		ug/L		96	26 - 150	7	33
Vinyl chloride	ND		50.0	36.3		ug/L		73	46 - 150	5	30
Xylenes, Total	ND		100	73.3		ug/L		73	59 - 130	15	30

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	98		78 - 118
Dibromofluoromethane	102		81 - 121
Toluene-d8 (Surr)	97		80 - 120

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-394488/1-A
Matrix: Water
Analysis Batch: 394711

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 394488

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aniline	ND		10	3.8	ug/L		04/19/18 11:51	04/20/18 18:49	1
Benzenethiol	ND		10	1.7	ug/L		04/19/18 11:51	04/20/18 18:49	1
Benzoic acid	ND		30	7.3	ug/L		04/19/18 11:51	04/20/18 18:49	1
Benzyl alcohol	ND		10	2.0	ug/L		04/19/18 11:51	04/20/18 18:49	1
Bis(2-chloroethoxy)methane	ND		10	0.69	ug/L		04/19/18 11:51	04/20/18 18:49	1
Bis(2-chloroethyl)ether	ND		10	0.74	ug/L		04/19/18 11:51	04/20/18 18:49	1
bis (2-chloroisopropyl) ether	ND		10	0.81	ug/L		04/19/18 11:51	04/20/18 18:49	1
Bis(2-ethylhexyl) phthalate	ND		10	2.3	ug/L		04/19/18 11:51	04/20/18 18:49	1
4-Bromophenyl phenyl ether	ND		10	0.32	ug/L		04/19/18 11:51	04/20/18 18:49	1
Butyl benzyl phthalate	ND		10	0.69	ug/L		04/19/18 11:51	04/20/18 18:49	1
4-Chloroaniline	ND		10	3.4	ug/L		04/19/18 11:51	04/20/18 18:49	1
4-Chloro-3-methylphenol	ND		10	3.8	ug/L		04/19/18 11:51	04/20/18 18:49	1
2-Chloronaphthalene	ND		10	0.52	ug/L		04/19/18 11:51	04/20/18 18:49	1

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-394488/1-A
Matrix: Water
Analysis Batch: 394711

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 394488

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
2-Chlorophenol	ND		10	2.2	ug/L		04/19/18 11:51	04/20/18 18:49	1
4-Chlorophenyl phenyl ether	ND		10	2.0	ug/L		04/19/18 11:51	04/20/18 18:49	1
Dibenz[a,h]acridine	ND		10	3.0	ug/L		04/19/18 11:51	04/20/18 18:49	1
Dibenzofuran	ND		10	0.52	ug/L		04/19/18 11:51	04/20/18 18:49	1
3,3'-Dichlorobenzidine	ND		10	2.6	ug/L		04/19/18 11:51	04/20/18 18:49	1
2,4-Dichlorophenol	ND		10	3.0	ug/L		04/19/18 11:51	04/20/18 18:49	1
Diethyl phthalate	ND		10	0.70	ug/L		04/19/18 11:51	04/20/18 18:49	1
2,4-Dimethylphenol	ND		10	3.5	ug/L		04/19/18 11:51	04/20/18 18:49	1
Dimethyl phthalate	ND		10	0.60	ug/L		04/19/18 11:51	04/20/18 18:49	1
Di-n-butyl phthalate	ND		10	2.7	ug/L		04/19/18 11:51	04/20/18 18:49	1
4,6-Dinitro-ortho-cresol	ND		10	2.0	ug/L		04/19/18 11:51	04/20/18 18:49	1
2,4-Dinitrophenol	ND		30	3.4	ug/L		04/19/18 11:51	04/20/18 18:49	1
2,4-Dinitrotoluene	ND		10	1.9	ug/L		04/19/18 11:51	04/20/18 18:49	1
2,6-Dinitrotoluene	ND		10	1.9	ug/L		04/19/18 11:51	04/20/18 18:49	1
Di-n-octyl phthalate	ND		10	0.44	ug/L		04/19/18 11:51	04/20/18 18:49	1
1,4-Dioxane	ND		10	1.0	ug/L		04/19/18 11:51	04/20/18 18:49	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	1.0	ug/L		04/19/18 11:51	04/20/18 18:49	1
Hexachlorobenzene	ND		10	0.25	ug/L		04/19/18 11:51	04/20/18 18:49	1
Hexachlorocyclopentadiene	ND		20	2.6	ug/L		04/19/18 11:51	04/20/18 18:49	1
Hexachloroethane	ND		10	4.2	ug/L		04/19/18 11:51	04/20/18 18:49	1
Indene	ND		10	1.0	ug/L		04/19/18 11:51	04/20/18 18:49	1
Isophorone	ND		10	0.57	ug/L		04/19/18 11:51	04/20/18 18:49	1
2-Methylphenol	ND		10	1.8	ug/L		04/19/18 11:51	04/20/18 18:49	1
3 & 4 Methylphenol	ND		20	1.0	ug/L		04/19/18 11:51	04/20/18 18:49	1
2-Nitroaniline	ND		10	2.2	ug/L		04/19/18 11:51	04/20/18 18:49	1
3-Nitroaniline	ND		10	1.8	ug/L		04/19/18 11:51	04/20/18 18:49	1
4-Nitroaniline	ND		10	2.5	ug/L		04/19/18 11:51	04/20/18 18:49	1
Nitrobenzene	ND		10	0.55	ug/L		04/19/18 11:51	04/20/18 18:49	1
2-Nitrophenol	ND		10	0.65	ug/L		04/19/18 11:51	04/20/18 18:49	1
4-Nitrophenol	ND		10	2.1	ug/L		04/19/18 11:51	04/20/18 18:49	1
N-Nitrosodimethylamine	ND		10	3.5	ug/L		04/19/18 11:51	04/20/18 18:49	1
N-Nitrosodi-n-propylamine	ND		10	3.3	ug/L		04/19/18 11:51	04/20/18 18:49	1
N-Nitrosodiphenylamine	ND		10	0.47	ug/L		04/19/18 11:51	04/20/18 18:49	1
Pentachlorophenol	ND		20	1.8	ug/L		04/19/18 11:51	04/20/18 18:49	1
Phenol	ND		10	2.6	ug/L		04/19/18 11:51	04/20/18 18:49	1
Pyridine	ND		10	3.2	ug/L		04/19/18 11:51	04/20/18 18:49	1
Quinoline	ND		10	6.0	ug/L		04/19/18 11:51	04/20/18 18:49	1
2,4,5-Trichlorophenol	ND		10	3.7	ug/L		04/19/18 11:51	04/20/18 18:49	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/19/18 11:51	04/20/18 18:49	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2-Fluorobiphenyl	46		34 - 120	04/19/18 11:51	04/20/18 18:49	1
2-Fluorophenol	41		10 - 120	04/19/18 11:51	04/20/18 18:49	1
Nitrobenzene-d5	45		27 - 120	04/19/18 11:51	04/20/18 18:49	1
Phenol-d5	45		10 - 120	04/19/18 11:51	04/20/18 18:49	1
Terphenyl-d14	57		53 - 125	04/19/18 11:51	04/20/18 18:49	1
2,4,6-Tribromophenol	46		15 - 135	04/19/18 11:51	04/20/18 18:49	1

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Lab Sample ID: LCS 400-394488/18-A
Matrix: Water
Analysis Batch: 394711

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 394488

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzenethiol	30.0	13.7		ug/L		46	10 - 120
LCS LCS							
Surrogate	%Recovery	Qualifier	Limits				
2-Fluorobiphenyl	62		34 - 120				
2-Fluorophenol	57		10 - 120				
Nitrobenzene-d5	63		27 - 120				
Phenol-d5	60		10 - 120				
Terphenyl-d14	81		53 - 125				
2,4,6-Tribromophenol	66		15 - 135				

Lab Sample ID: LCS 400-394488/2-A
Matrix: Water
Analysis Batch: 395214

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 394488

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aniline	30.0	22.1		ug/L		74	29 - 120
Benzoic acid	119	15.6	J	ug/L		13	10 - 150
Benzyl alcohol	30.0	27.5		ug/L		92	19 - 125
Bis(2-chloroethoxy)methane	30.0	26.3		ug/L		88	45 - 120
Bis(2-chloroethyl)ether	30.0	24.5		ug/L		82	48 - 120
bis (2-chloroisopropyl) ether	30.0	21.2		ug/L		71	30 - 125
Bis(2-ethylhexyl) phthalate	30.0	31.3		ug/L		104	48 - 150
4-Bromophenyl phenyl ether	30.0	30.8		ug/L		103	55 - 122
Butyl benzyl phthalate	30.0	32.7		ug/L		109	46 - 145
4-Chloroaniline	30.0	23.4		ug/L		78	30 - 120
4-Chloro-3-methylphenol	30.0	33.2		ug/L		111	39 - 140
2-Chloronaphthalene	30.0	23.2		ug/L		77	52 - 120
2-Chlorophenol	30.0	27.3		ug/L		91	34 - 120
4-Chlorophenyl phenyl ether	30.0	30.1		ug/L		100	58 - 124
Dibenz[a,h]acridine	30.0	31.0		ug/L		103	46 - 149
Dibenzofuran	30.0	30.3		ug/L		101	58 - 123
3,3'-Dichlorobenzidine	40.0	49.2		ug/L		123	39 - 135
2,4-Dichlorophenol	30.0	30.9		ug/L		103	39 - 128
Diethyl phthalate	30.0	32.9		ug/L		110	44 - 146
2,4-Dimethylphenol	30.0	30.6		ug/L		102	44 - 120
Dimethyl phthalate	30.0	31.1		ug/L		104	50 - 131
Di-n-butyl phthalate	30.0	30.8		ug/L		103	55 - 131
4,6-Dinitro-ortho-cresol	60.0	63.4		ug/L		106	10 - 150
2,4-Dinitrophenol	60.0	65.4		ug/L		109	10 - 150
2,4-Dinitrotoluene	30.0	34.0		ug/L		113	58 - 140
2,6-Dinitrotoluene	30.0	31.0		ug/L		103	57 - 130
Di-n-octyl phthalate	30.0	29.6		ug/L		99	50 - 150
1,4-Dioxane	30.0	19.5		ug/L		65	25 - 120
1,2-Diphenylhydrazine (as Azobenzene)	30.0	27.4		ug/L		91	47 - 123
Hexachlorobenzene	30.0	32.5		ug/L		108	52 - 131
Hexachlorocyclopentadiene	30.0	7.73	J	ug/L		26	10 - 129
Hexachloroethane	30.0	23.6		ug/L		79	41 - 120
Indene	30.0	26.9		ug/L		90	47 - 120
Isophorone	30.0	27.7		ug/L		92	49 - 120

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-394488/2-A
Matrix: Water
Analysis Batch: 395214

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 394488

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Methylphenol	30.0	28.9		ug/L		96	39 - 123
3 & 4 Methylphenol	30.0	28.0		ug/L		93	38 - 121
2-Nitroaniline	30.0	29.5		ug/L		98	47 - 150
3-Nitroaniline	30.0	33.4		ug/L		111	34 - 132
4-Nitroaniline	30.0	33.5		ug/L		112	41 - 135
Nitrobenzene	30.0	27.6		ug/L		92	47 - 120
2-Nitrophenol	30.0	30.2		ug/L		101	28 - 136
4-Nitrophenol	60.0	63.0		ug/L		105	10 - 150
N-Nitrosodimethylamine	30.0	22.1		ug/L		74	22 - 148
N-Nitrosodi-n-propylamine	30.0	27.9		ug/L		93	44 - 120
N-Nitrosodiphenylamine	29.8	30.0		ug/L		101	56 - 120
Pentachlorophenol	60.0	53.3		ug/L		89	15 - 141
Phenol	30.0	25.6		ug/L		85	33 - 120
Pyridine	60.0	31.4		ug/L		52	26 - 120
Quinoline	30.0	28.0		ug/L		93	51 - 129
2,4,5-Trichlorophenol	30.0	30.5		ug/L		102	38 - 147
2,4,6-Trichlorophenol	30.0	32.3		ug/L		108	36 - 139

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	90		34 - 120
2-Fluorophenol	78		10 - 120
Nitrobenzene-d5	90		27 - 120
Phenol-d5	87		10 - 120
Terphenyl-d14	105		53 - 125
2,4,6-Tribromophenol	122		15 - 135

Lab Sample ID: LCSD 400-394488/19-A
Matrix: Water
Analysis Batch: 394711

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 394488

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzenethiol	30.0	13.5		ug/L		45	10 - 120	1	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	65		34 - 120
2-Fluorophenol	58		10 - 120
Nitrobenzene-d5	64		27 - 120
Phenol-d5	57		10 - 120
Terphenyl-d14	82		53 - 125
2,4,6-Tribromophenol	67		15 - 135

Lab Sample ID: LCSD 400-394488/3-A
Matrix: Water
Analysis Batch: 395214

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 394488

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Aniline	30.0	22.6		ug/L		75	29 - 120	2	30
Benzoic acid	119	16.1	J	ug/L		14	10 - 150	3	30

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-394488/3-A
Matrix: Water
Analysis Batch: 395214

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 394488

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Added	Result	Qualifier				Limits		Limit
Benzyl alcohol	30.0	27.7		ug/L		92	19 - 125	1	30
Bis(2-chloroethoxy)methane	30.0	26.4		ug/L		88	45 - 120	0	30
Bis(2-chloroethyl)ether	30.0	24.9		ug/L		83	48 - 120	1	30
bis (2-chloroisopropyl) ether	30.0	21.1		ug/L		70	30 - 125	1	30
Bis(2-ethylhexyl) phthalate	30.0	31.1		ug/L		104	48 - 150	1	30
4-Bromophenyl phenyl ether	30.0	30.8		ug/L		103	55 - 122	0	30
Butyl benzyl phthalate	30.0	33.3		ug/L		111	46 - 145	2	30
4-Chloroaniline	30.0	23.5		ug/L		78	30 - 120	1	30
4-Chloro-3-methylphenol	30.0	32.9		ug/L		110	39 - 140	1	30
2-Chloronaphthalene	30.0	23.5		ug/L		78	52 - 120	1	30
2-Chlorophenol	30.0	27.3		ug/L		91	34 - 120	0	30
4-Chlorophenyl phenyl ether	30.0	29.8		ug/L		99	58 - 124	1	30
Dibenz[a,h]acridine	30.0	30.7		ug/L		102	46 - 149	1	30
Dibenzofuran	30.0	30.3		ug/L		101	58 - 123	0	30
3,3'-Dichlorobenzidine	40.0	48.7		ug/L		122	39 - 135	1	30
2,4-Dichlorophenol	30.0	30.8		ug/L		103	39 - 128	0	30
Diethyl phthalate	30.0	32.9		ug/L		110	44 - 146	0	30
2,4-Dimethylphenol	30.0	30.4		ug/L		101	44 - 120	1	30
Dimethyl phthalate	30.0	31.0		ug/L		103	50 - 131	0	30
Di-n-butyl phthalate	30.0	30.9		ug/L		103	55 - 131	0	30
4,6-Dinitro-ortho-cresol	60.0	65.9		ug/L		110	10 - 150	4	30
2,4-Dinitrophenol	60.0	64.2		ug/L		107	10 - 150	2	30
2,4-Dinitrotoluene	30.0	33.6		ug/L		112	58 - 140	1	30
2,6-Dinitrotoluene	30.0	31.0		ug/L		103	57 - 130	0	30
Di-n-octyl phthalate	30.0	29.4		ug/L		98	50 - 150	1	30
1,4-Dioxane	30.0	19.3		ug/L		64	25 - 120	1	30
1,2-Diphenylhydrazine (as Azobenzene)	30.0	27.2		ug/L		91	47 - 123	1	30
Hexachlorobenzene	30.0	31.9		ug/L		106	52 - 131	2	30
Hexachlorocyclopentadiene	30.0	7.85	J	ug/L		26	10 - 129	2	30
Hexachloroethane	30.0	23.4		ug/L		78	41 - 120	1	30
Indene	30.0	27.0		ug/L		90	47 - 120	0	30
Isophorone	30.0	27.7		ug/L		92	49 - 120	0	30
2-Methylphenol	30.0	29.1		ug/L		97	39 - 123	1	30
3 & 4 Methylphenol	30.0	28.0		ug/L		93	38 - 121	0	30
2-Nitroaniline	30.0	29.6		ug/L		99	47 - 150	0	30
3-Nitroaniline	30.0	34.1		ug/L		114	34 - 132	2	30
4-Nitroaniline	30.0	33.7		ug/L		112	41 - 135	1	30
Nitrobenzene	30.0	27.7		ug/L		92	47 - 120	0	30
2-Nitrophenol	30.0	30.7		ug/L		102	28 - 136	2	30
4-Nitrophenol	60.0	61.8		ug/L		103	10 - 150	2	30
N-Nitrosodimethylamine	30.0	21.4		ug/L		71	22 - 148	3	30
N-Nitrosodi-n-propylamine	30.0	27.9		ug/L		93	44 - 120	0	30
N-Nitrosodiphenylamine	29.8	30.0		ug/L		101	56 - 120	0	30
Pentachlorophenol	60.0	52.8		ug/L		88	15 - 141	1	30
Phenol	30.0	25.6		ug/L		85	33 - 120	0	30
Pyridine	60.0	31.3		ug/L		52	26 - 120	0	30
Quinoline	30.0	28.0		ug/L		93	51 - 129	0	30

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-394488/3-A
Matrix: Water
Analysis Batch: 395214

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 394488

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4,5-Trichlorophenol	30.0	30.9		ug/L		103	38 - 147	1	30
2,4,6-Trichlorophenol	30.0	32.3		ug/L		108	36 - 139	0	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	90		34 - 120
2-Fluorophenol	76		10 - 120
Nitrobenzene-d5	90		27 - 120
Phenol-d5	85		10 - 120
Terphenyl-d14	107		53 - 125
2,4,6-Tribromophenol	119		15 - 135

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level

Lab Sample ID: MB 400-394488/1-A
Matrix: Water
Analysis Batch: 394686

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 394488

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/20/18 22:26	1
Acenaphthylene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/20/18 22:26	1
Anthracene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/20/18 22:26	1
Benzo[a]anthracene	ND		0.20	0.040	ug/L		04/19/18 11:51	04/20/18 22:26	1
Benzo[a]pyrene	ND		0.20	0.040	ug/L		04/19/18 11:51	04/20/18 22:26	1
Benzo[b]fluoranthene	ND		0.20	0.040	ug/L		04/19/18 11:51	04/20/18 22:26	1
Benzo[g,h,i]perylene	ND		0.20	0.040	ug/L		04/19/18 11:51	04/20/18 22:26	1
Benzo[k]fluoranthene	ND		0.20	0.040	ug/L		04/19/18 11:51	04/20/18 22:26	1
Chrysene	ND		0.20	0.040	ug/L		04/19/18 11:51	04/20/18 22:26	1
Dibenz(a,h)anthracene	ND		0.20	0.040	ug/L		04/19/18 11:51	04/20/18 22:26	1
Fluoranthene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/20/18 22:26	1
Fluorene	ND		0.20	0.021	ug/L		04/19/18 11:51	04/20/18 22:26	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.040	ug/L		04/19/18 11:51	04/20/18 22:26	1
Phenanthrene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/20/18 22:26	1
Pyrene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/20/18 22:26	1
1-Methylnaphthalene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/20/18 22:26	1
2-Methylnaphthalene	ND		0.20	0.020	ug/L		04/19/18 11:51	04/20/18 22:26	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	91		33 - 138	04/19/18 11:51	04/20/18 22:26	1
2-Fluorobiphenyl	84		15 - 122	04/19/18 11:51	04/20/18 22:26	1
Nitrobenzene-d5	72		19 - 130	04/19/18 11:51	04/20/18 22:26	1

Lab Sample ID: LCS 400-394488/2-A
Matrix: Water
Analysis Batch: 394686

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 394488

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthene	30.0	31.9		ug/L		106	41 - 120

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCS 400-394488/2-A
Matrix: Water
Analysis Batch: 394686

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 394488

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acenaphthylene	30.0	28.3		ug/L		94	44 - 120
Anthracene	30.0	30.9		ug/L		103	49 - 120
Benzo[a]anthracene	30.0	29.3		ug/L		98	61 - 135
Benzo[a]pyrene	30.0	29.8		ug/L		99	52 - 120
Benzo[b]fluoranthene	30.0	29.5		ug/L		98	53 - 134
Benzo[g,h,i]perylene	30.0	21.7		ug/L		72	47 - 133
Benzo[k]fluoranthene	30.0	34.5		ug/L		115	57 - 134
Chrysene	30.0	29.7		ug/L		99	55 - 122
Dibenz(a,h)anthracene	30.0	24.4		ug/L		81	48 - 146
Fluoranthene	30.0	20.9		ug/L		70	54 - 128
Fluorene	30.0	34.7		ug/L		116	45 - 125
Indeno[1,2,3-cd]pyrene	30.0	26.5		ug/L		88	43 - 142
Phenanthrene	30.0	32.3		ug/L		108	48 - 120
Pyrene	30.0	27.1		ug/L		90	48 - 132
1-Methylnaphthalene	30.0	33.7		ug/L		112	41 - 120
2-Methylnaphthalene	30.0	28.9		ug/L		96	32 - 124

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	94		33 - 138
2-Fluorobiphenyl	97		15 - 122
Nitrobenzene-d5	84		19 - 130

Lab Sample ID: LCSD 400-394488/3-A
Matrix: Water
Analysis Batch: 394686

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 394488

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Acenaphthene	30.0	30.4		ug/L		101	41 - 120	5	56
Acenaphthylene	30.0	27.0		ug/L		90	44 - 120	5	56
Anthracene	30.0	28.3		ug/L		94	49 - 120	9	51
Benzo[a]anthracene	30.0	27.6		ug/L		92	61 - 135	6	49
Benzo[a]pyrene	30.0	29.6		ug/L		99	52 - 120	1	50
Benzo[b]fluoranthene	30.0	28.2		ug/L		94	53 - 134	5	54
Benzo[g,h,i]perylene	30.0	22.2		ug/L		74	47 - 133	2	50
Benzo[k]fluoranthene	30.0	34.4		ug/L		115	57 - 134	0	52
Chrysene	30.0	28.5		ug/L		95	55 - 122	4	50
Dibenz(a,h)anthracene	30.0	23.8		ug/L		79	48 - 146	3	50
Fluoranthene	30.0	28.4		ug/L		95	54 - 128	31	52
Fluorene	30.0	33.7		ug/L		112	45 - 125	3	56
Indeno[1,2,3-cd]pyrene	30.0	26.2		ug/L		87	43 - 142	1	51
Phenanthrene	30.0	30.2		ug/L		101	48 - 120	7	56
Pyrene	30.0	29.9		ug/L		100	48 - 132	10	52
1-Methylnaphthalene	30.0	29.6		ug/L		99	41 - 120	13	55
2-Methylnaphthalene	30.0	28.7		ug/L		96	32 - 124	1	57

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Terphenyl-d14	92		33 - 138

TestAmerica Pensacola



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
SDG: (2Q18)

Method: 8270D LL - Semivolatile Organic Compounds by GC/MS - Low Level (Continued)

Lab Sample ID: LCSD 400-394488/3-A
Matrix: Water
Analysis Batch: 394686

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 394488

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	90		15 - 122
Nitrobenzene-d5	74		19 - 130

Method: 8011 - EDB and DBCP in Water by Microextraction

Lab Sample ID: MB 400-394696/1-A
Matrix: Water
Analysis Batch: 394741

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 394696

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2-Dibromo-3-Chloropropane	ND		0.030	0.0055	ug/L		04/20/18 15:34	04/21/18 03:23	1
1,2-Dibromoethane	ND		0.020	0.0050	ug/L		04/20/18 15:34	04/21/18 03:23	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene	124		51 - 149	04/20/18 15:34	04/21/18 03:23	1

Lab Sample ID: LCS 400-394696/2-A
Matrix: Water
Analysis Batch: 394741

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 394696

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
1,2-Dibromo-3-Chloropropane	0.100	0.104		ug/L		104	60 - 140
1,2-Dibromoethane	0.100	0.112		ug/L		112	60 - 140

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	120		51 - 149

Lab Sample ID: LCSD 400-394696/3-A
Matrix: Water
Analysis Batch: 394851

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 394696

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec. Limits	RPD	Limit
		Result	Qualifier						
1,2-Dibromo-3-Chloropropane	0.100	0.113	*	ug/L		113	60 - 140	47	30
1,2-Dibromoethane	0.100	0.110		ug/L		110	60 - 140	1	30

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	130		51 - 149

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-152229-1

SDG Number: (2Q18)

Login Number: 152229

List Source: TestAmerica Pensacola

List Number: 1

Creator: Perez, Trina M

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.3°C, 2.0°C, 4.2°C IR-7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY GW

TestAmerica Job ID: 400-152229-1
 SDG: (2Q18)

Laboratory: TestAmerica Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-18
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State Program	9	AZ0710	01-12-19
Arkansas DEQ	State Program	6	88-0689	09-01-18
California	ELAP	9	2510	03-31-18 *
Florida	NELAP	4	E81010	06-30-18
Georgia	State Program	4	N/A	06-30-18
Illinois	NELAP	5	200041	10-09-18
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-18
Kentucky (UST)	State Program	4	53	06-30-18
Kentucky (WW)	State Program	4	98030	12-31-18
Louisiana	NELAP	6	30976	06-30-18
Louisiana (DW)	NELAP	6	LA170005	12-31-18
Maryland	State Program	3	233	09-30-18
Massachusetts	State Program	1	M-FL094	06-30-18
Michigan	State Program	5	9912	06-30-18
New Jersey	NELAP	2	FL006	06-30-18
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-18
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
South Carolina	State Program	4	96026	06-30-18
Tennessee	State Program	4	TN02907	06-30-18
Texas	NELAP	6	T104704286-17-12	09-30-18
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-18
Washington	State Program	10	C915	05-15-18
West Virginia DEP	State Program	3	136	06-30-18

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



Roxana Groundwater Quarterly – 2nd Quarter 2018 Data Review

Laboratory SDG: 400-154130-1

Data Reviewer: Melissa Remiger

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 5/31/2018

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2017

Sample Identification	Sample Identification
P93A-ROX-052218-EB	P93A-ROX-052218
TB-ROX-052218-SS	

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated benzene was detected in the equipment blank. VOCs in sample P93A-ROX-052218 were diluted to bring target analytes into calibration range of the instrument. These issues are addressed further in the appropriate sections of this data review.

Three of 69 (2-chloroethyl vinyl ether, acrolein, and acrylonitrile) 8260 VOCs are acid-reactive compounds; results may be biased low due to the presence of HCl in the preservative.

The cooler receipt form indicated samples were collected as part of a shared sample set with the WRR Semiannual Groundwater Sampling program, reported in SDG #400-154128-1; no qualification of data was required.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/ Amount
P93A-ROX-052218-EB	VOCs	Benzene	0.58 µg/L

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not require qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples analyzed as part of this SDG?

No

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples analyzed as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

11.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

12.0 Additional Qualifications

Were additional qualifications applied?

No

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pensacola

3355 McLemore Drive

Pensacola, FL 32514

Tel: (850)474-1001

TestAmerica Job ID: 400-154130-1

Client Project/Site: ROXANA QUARTERLY (2Q18)

For:

AECOM Technical Services Inc.

100 N. Broadway

20th Floor

St. Louis, Missouri 63102

Attn: Elizabeth Kunkel



Authorized for release by:

5/29/2018 5:16:35 PM

Cathy Upton, Project Manager I

(713)690-4444

cathy.upton@testamericainc.com

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Reviewed 5/31/18
MR

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY (2Q18)

TestAmerica Job ID: 400-154130-1

Job ID: 400-154130-1

Laboratory: TestAmerica Pensacola

Narrative

Job Narrative
400-154130-1

Comments

No additional comments.

Receipt

The samples were received on 5/23/2018 3:59 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.0° C.

Receipt Exceptions

1 container was received for this job and job 400-154128 for the following samples:

P93A-ROX-052218-EB (400-154130-1), P93A-ROX-052218 (400-154130-2) and TB-ROX-052218-SS (400-154130-3)

GC/MS VOA

Method(s) 8260B: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: P93A-ROX-052218-EB (400-154130-1), P93A-ROX-052218 (400-154130-2) and TB-ROX-052218-SS (400-154130-3). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

Method(s) 8260B: Sample P93A-ROX-052218-EB (400-154130-1) contains Benzene above the method detection limit. Reanalysis was performed with concurring results.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-398934 were outside control limits for 2-Chloroethyl vinyl ether due to the acidic nature of the parent sample.

Method(s) 8260B: The RPD for the matrix spike / matrix spike duplicate (MS/MSD) for 2-Chloroethyl vinyl ether was not calculable for analytical batch 400-398934 because the recoveries were below the reporting limit due to the acidic nature of the parent sample.

Method(s) 8260B: The following sample was diluted to bring the concentration of target analytes within the calibration range: P93A-ROX-052218 (400-154130-2). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY (2Q18)

TestAmerica Job ID: 400-154130-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-154130-1	P93A-ROX-052218-EB ✓	Water	05/22/18 09:34	05/23/18 15:59
400-154130-2	P93A-ROX-052218 ✓	Water	05/22/18 10:00	05/23/18 15:59
400-154130-3	TB-ROX-052218-SS ✓	Water	05/22/18 00:00	05/23/18 15:59

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Detection Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY (2Q18)

TestAmerica Job ID: 400-154130-1

Client Sample ID: P93A-ROX-052218-EB

Lab Sample ID: 400-154130-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene - RA	0.58	J	1.0	0.38	ug/L	1		8260B	Total/NA

Client Sample ID: P93A-ROX-052218

Lab Sample ID: 400-154130-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	43000		200	76	ug/L	200		8260B	Total/NA

Client Sample ID: TB-ROX-052218-SS

Lab Sample ID: 400-154130-3

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Pensacola



Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY (2Q18)

TestAmerica Job ID: 400-154130-1

Client Sample ID: P93A-ROX-052218-EB

Lab Sample ID: 400-154130-1

Date Collected: 05/22/18 09:34

Matrix: Water

Date Received: 05/23/18 15:59

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			05/25/18 13:56	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			05/25/18 13:56	1
Naphthalene	ND		1.0	1.0	ug/L			05/25/18 13:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107		78 - 118		05/25/18 13:56	1
Dibromofluoromethane	102		81 - 121		05/25/18 13:56	1
Toluene-d8 (Surr)	100		80 - 120		05/25/18 13:56	1

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			05/25/18 16:12	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			05/25/18 16:12	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			05/25/18 16:12	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			05/25/18 16:12	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			05/25/18 16:12	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			05/25/18 16:12	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			05/25/18 16:12	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			05/25/18 16:12	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			05/25/18 16:12	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			05/25/18 16:12	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			05/25/18 16:12	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			05/25/18 16:12	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			05/25/18 16:12	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			05/25/18 16:12	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			05/25/18 16:12	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			05/25/18 16:12	1
1-Chlorohexane	ND		1.0	0.70	ug/L			05/25/18 16:12	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			05/25/18 16:12	1
2-Butanone (MEK)	ND		25	2.6	ug/L			05/25/18 16:12	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			05/25/18 16:12	1
2-Hexanone	ND		25	3.1	ug/L			05/25/18 16:12	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			05/25/18 16:12	1
Acetone	ND		25	10	ug/L			05/25/18 16:12	1
Acrolein	ND		20	10	ug/L			05/25/18 16:12	1
Acrylonitrile	ND		10	2.8	ug/L			05/25/18 16:12	1
Benzene	0.58	J	1.0	0.38	ug/L			05/25/18 16:12	1
Bromobenzene	ND		1.0	0.54	ug/L			05/25/18 16:12	1
Bromochloromethane	ND		1.0	0.52	ug/L			05/25/18 16:12	1
Bromodichloromethane	ND		1.0	0.50	ug/L			05/25/18 16:12	1
Bromoform	ND		5.0	0.71	ug/L			05/25/18 16:12	1
Bromomethane	ND		1.0	0.98	ug/L			05/25/18 16:12	1
Carbon disulfide	ND		1.0	0.50	ug/L			05/25/18 16:12	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			05/25/18 16:12	1
Chlorobenzene	ND		1.0	0.50	ug/L			05/25/18 16:12	1
Chloroethane	ND		1.0	0.76	ug/L			05/25/18 16:12	1
Chloroform	ND		1.0	0.60	ug/L			05/25/18 16:12	1
Chloromethane	ND		1.0	0.83	ug/L			05/25/18 16:12	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			05/25/18 16:12	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			05/25/18 16:12	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY (2Q18)

TestAmerica Job ID: 400-154130-1

Client Sample ID: P93A-ROX-052218-EB

Lab Sample ID: 400-154130-1

Date Collected: 05/22/18 09:34

Matrix: Water

Date Received: 05/23/18 15:59

Method: 8260B - Volatile Organic Compounds (GC/MS) - RA (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromochloromethane	ND		1.0	0.50	ug/L			05/25/18 16:12	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			05/25/18 16:12	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			05/25/18 16:12	1
Ethylbenzene	ND		1.0	0.50	ug/L			05/25/18 16:12	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			05/25/18 16:12	1
Isopropylbenzene	ND		1.0	0.53	ug/L			05/25/18 16:12	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			05/25/18 16:12	1
Methylene bromide	ND		5.0	0.59	ug/L			05/25/18 16:12	1
Methylene Chloride	ND		5.0	3.0	ug/L			05/25/18 16:12	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			05/25/18 16:12	1
n-Butylbenzene	ND		1.0	0.76	ug/L			05/25/18 16:12	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/25/18 16:12	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			05/25/18 16:12	1
o-Xylene	ND		5.0	0.60	ug/L			05/25/18 16:12	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			05/25/18 16:12	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			05/25/18 16:12	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			05/25/18 16:12	1
Styrene	ND		1.0	1.0	ug/L			05/25/18 16:12	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			05/25/18 16:12	1
Tetrachloroethene	ND		1.0	0.58	ug/L			05/25/18 16:12	1
Toluene	ND		1.0	0.70	ug/L			05/25/18 16:12	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			05/25/18 16:12	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			05/25/18 16:12	1
Trichloroethene	ND		1.0	0.50	ug/L			05/25/18 16:12	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			05/25/18 16:12	1
Vinyl acetate	ND		25	2.0	ug/L			05/25/18 16:12	1
Vinyl chloride	ND		1.0	0.50	ug/L			05/25/18 16:12	1
Xylenes, Total	ND		10	1.6	ug/L			05/25/18 16:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107		78 - 118		05/25/18 16:12	1
Dibromofluoromethane	102		81 - 121		05/25/18 16:12	1
Toluene-d8 (Surr)	102		80 - 120		05/25/18 16:12	1

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY (2Q18)

TestAmerica Job ID: 400-154130-1

Client Sample ID: P93A-ROX-052218

Lab Sample ID: 400-154130-2

Date Collected: 05/22/18 10:00

Matrix: Water

Date Received: 05/23/18 15:59

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		200	100	ug/L			05/25/18 14:23	200
1,1,1-Trichloroethane	ND		200	100	ug/L			05/25/18 14:23	200
1,1,2,2-Tetrachloroethane	ND		200	100	ug/L			05/25/18 14:23	200
1,1,2-Trichloroethane	ND		1000	100	ug/L			05/25/18 14:23	200
1,1-Dichloroethane	ND		200	100	ug/L			05/25/18 14:23	200
1,1-Dichloroethene	ND		200	100	ug/L			05/25/18 14:23	200
1,1-Dichloropropene	ND		200	100	ug/L			05/25/18 14:23	200
1,2,3-Trichlorobenzene	ND		200	140	ug/L			05/25/18 14:23	200
1,2,3-Trichloropropane	ND		1000	170	ug/L			05/25/18 14:23	200
1,2,4-Trichlorobenzene	ND		200	160	ug/L			05/25/18 14:23	200
1,2,4-Trimethylbenzene	ND		200	160	ug/L			05/25/18 14:23	200
1,2-Dichlorobenzene	ND		200	100	ug/L			05/25/18 14:23	200
1,2-Dichloroethane	ND		200	100	ug/L			05/25/18 14:23	200
1,2-Dichloropropane	ND		200	100	ug/L			05/25/18 14:23	200
1,3,5-Trimethylbenzene	ND		200	110	ug/L			05/25/18 14:23	200
1,3-Dichlorobenzene	ND		200	110	ug/L			05/25/18 14:23	200
1,3-Dichloropropane	ND		200	100	ug/L			05/25/18 14:23	200
1,4-Dichlorobenzene	ND		200	130	ug/L			05/25/18 14:23	200
1-Chlorohexane	ND		200	140	ug/L			05/25/18 14:23	200
2,2-Dichloropropane	ND		200	100	ug/L			05/25/18 14:23	200
2-Butanone (MEK)	ND		5000	520	ug/L			05/25/18 14:23	200
2-Chloroethyl vinyl ether	ND		1000	400	ug/L			05/25/18 14:23	200
2-Hexanone	ND		5000	620	ug/L			05/25/18 14:23	200
4-Methyl-2-pentanone (MIBK)	ND		5000	360	ug/L			05/25/18 14:23	200
Acetone	ND		5000	2000	ug/L			05/25/18 14:23	200
Acrolein	ND		4000	2000	ug/L			05/25/18 14:23	200
Acrylonitrile	ND		2000	560	ug/L			05/25/18 14:23	200
Benzene	43000		200	76	ug/L			05/25/18 14:23	200
Bromobenzene	ND		200	110	ug/L			05/25/18 14:23	200
Bromochloromethane	ND		200	100	ug/L			05/25/18 14:23	200
Bromodichloromethane	ND		200	100	ug/L			05/25/18 14:23	200
Bromoform	ND		1000	140	ug/L			05/25/18 14:23	200
Bromomethane	ND		200	200	ug/L			05/25/18 14:23	200
Carbon disulfide	ND		200	100	ug/L			05/25/18 14:23	200
Carbon tetrachloride	ND		200	100	ug/L			05/25/18 14:23	200
Chlorobenzene	ND		200	100	ug/L			05/25/18 14:23	200
Chloroethane	ND		200	150	ug/L			05/25/18 14:23	200
Chloroform	ND		200	120	ug/L			05/25/18 14:23	200
Chloromethane	ND		200	170	ug/L			05/25/18 14:23	200
cis-1,2-Dichloroethene	ND		200	100	ug/L			05/25/18 14:23	200
cis-1,3-Dichloropropene	ND		1000	100	ug/L			05/25/18 14:23	200
Dibromochloromethane	ND		200	100	ug/L			05/25/18 14:23	200
Dichlorodifluoromethane	ND		200	170	ug/L			05/25/18 14:23	200
Ethyl methacrylate	ND		200	120	ug/L			05/25/18 14:23	200
Ethylbenzene	ND		200	100	ug/L			05/25/18 14:23	200
Hexachlorobutadiene	ND		1000	180	ug/L			05/25/18 14:23	200
Isopropylbenzene	ND		200	110	ug/L			05/25/18 14:23	200
Methyl tert-butyl ether	ND		200	150	ug/L			05/25/18 14:23	200
Methylene bromide	ND		1000	120	ug/L			05/25/18 14:23	200

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY (2Q18)

TestAmerica Job ID: 400-154130-1

Client Sample ID: P93A-ROX-052218

Lab Sample ID: 400-154130-2

Date Collected: 05/22/18 10:00

Matrix: Water

Date Received: 05/23/18 15:59

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		1000	600	ug/L			05/25/18 14:23	200
m-Xylene & p-Xylene	ND		1000	320	ug/L			05/25/18 14:23	200
Naphthalene	ND		200	200	ug/L			05/25/18 14:23	200
n-Butylbenzene	ND		200	150	ug/L			05/25/18 14:23	200
N-Propylbenzene	ND		200	140	ug/L			05/25/18 14:23	200
o-Chlorotoluene	ND		200	110	ug/L			05/25/18 14:23	200
o-Xylene	ND		1000	120	ug/L			05/25/18 14:23	200
p-Chlorotoluene	ND		200	110	ug/L			05/25/18 14:23	200
p-Isopropyltoluene	ND		200	140	ug/L			05/25/18 14:23	200
sec-Butylbenzene	ND		200	140	ug/L			05/25/18 14:23	200
Styrene	ND		200	200	ug/L			05/25/18 14:23	200
tert-Butylbenzene	ND		200	130	ug/L			05/25/18 14:23	200
Tetrachloroethene	ND		200	120	ug/L			05/25/18 14:23	200
Toluene	ND		200	140	ug/L			05/25/18 14:23	200
trans-1,2-Dichloroethene	ND		200	100	ug/L			05/25/18 14:23	200
trans-1,3-Dichloropropene	ND		1000	100	ug/L			05/25/18 14:23	200
Trichloroethene	ND		200	100	ug/L			05/25/18 14:23	200
Trichlorofluoromethane	ND		200	100	ug/L			05/25/18 14:23	200
Vinyl acetate	ND		5000	400	ug/L			05/25/18 14:23	200
Vinyl chloride	ND		200	100	ug/L			05/25/18 14:23	200
Xylenes, Total	ND		2000	320	ug/L			05/25/18 14:23	200
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	103		78 - 118					05/25/18 14:23	200
Dibromofluoromethane	101		81 - 121					05/25/18 14:23	200
Toluene-d8 (Surr)	101		80 - 120					05/25/18 14:23	200

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY (2Q18)

TestAmerica Job ID: 400-154130-1

Client Sample ID: TB-ROX-052218-SS

Lab Sample ID: 400-154130-3

Date Collected: 05/22/18 00:00

Matrix: Water

Date Received: 05/23/18 15:59

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			05/25/18 13:02	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			05/25/18 13:02	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			05/25/18 13:02	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			05/25/18 13:02	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			05/25/18 13:02	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			05/25/18 13:02	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			05/25/18 13:02	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			05/25/18 13:02	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			05/25/18 13:02	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			05/25/18 13:02	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			05/25/18 13:02	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			05/25/18 13:02	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			05/25/18 13:02	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			05/25/18 13:02	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			05/25/18 13:02	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			05/25/18 13:02	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			05/25/18 13:02	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			05/25/18 13:02	1
1-Chlorohexane	ND		1.0	0.70	ug/L			05/25/18 13:02	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			05/25/18 13:02	1
2-Butanone (MEK)	ND		25	2.6	ug/L			05/25/18 13:02	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			05/25/18 13:02	1
2-Hexanone	ND		25	3.1	ug/L			05/25/18 13:02	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			05/25/18 13:02	1
Acetone	ND		25	10	ug/L			05/25/18 13:02	1
Acrolein	ND		20	10	ug/L			05/25/18 13:02	1
Acrylonitrile	ND		10	2.8	ug/L			05/25/18 13:02	1
Benzene	ND		1.0	0.38	ug/L			05/25/18 13:02	1
Bromobenzene	ND		1.0	0.54	ug/L			05/25/18 13:02	1
Bromochloromethane	ND		1.0	0.52	ug/L			05/25/18 13:02	1
Bromodichloromethane	ND		1.0	0.50	ug/L			05/25/18 13:02	1
Bromoform	ND		5.0	0.71	ug/L			05/25/18 13:02	1
Bromomethane	ND		1.0	0.98	ug/L			05/25/18 13:02	1
Carbon disulfide	ND		1.0	0.50	ug/L			05/25/18 13:02	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			05/25/18 13:02	1
Chlorobenzene	ND		1.0	0.50	ug/L			05/25/18 13:02	1
Chloroethane	ND		1.0	0.76	ug/L			05/25/18 13:02	1
Chloroform	ND		1.0	0.60	ug/L			05/25/18 13:02	1
Chloromethane	ND		1.0	0.83	ug/L			05/25/18 13:02	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			05/25/18 13:02	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			05/25/18 13:02	1
Dibromochloromethane	ND		1.0	0.50	ug/L			05/25/18 13:02	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			05/25/18 13:02	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			05/25/18 13:02	1
Ethylbenzene	ND		1.0	0.50	ug/L			05/25/18 13:02	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			05/25/18 13:02	1
Isopropylbenzene	ND		1.0	0.53	ug/L			05/25/18 13:02	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			05/25/18 13:02	1
Methylene bromide	ND		5.0	0.59	ug/L			05/25/18 13:02	1

TestAmerica Pensacola

Client Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY (2Q18)

TestAmerica Job ID: 400-154130-1

Client Sample ID: TB-ROX-052218-SS

Lab Sample ID: 400-154130-3

Date Collected: 05/22/18 00:00

Matrix: Water

Date Received: 05/23/18 15:59

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		5.0	3.0	ug/L			05/25/18 13:02	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			05/25/18 13:02	1
Naphthalene	ND		1.0	1.0	ug/L			05/25/18 13:02	1
n-Butylbenzene	ND		1.0	0.76	ug/L			05/25/18 13:02	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/25/18 13:02	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			05/25/18 13:02	1
o-Xylene	ND		5.0	0.60	ug/L			05/25/18 13:02	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			05/25/18 13:02	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			05/25/18 13:02	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			05/25/18 13:02	1
Styrene	ND		1.0	1.0	ug/L			05/25/18 13:02	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			05/25/18 13:02	1
Tetrachloroethene	ND		1.0	0.58	ug/L			05/25/18 13:02	1
Toluene	ND		1.0	0.70	ug/L			05/25/18 13:02	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			05/25/18 13:02	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			05/25/18 13:02	1
Trichloroethene	ND		1.0	0.50	ug/L			05/25/18 13:02	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			05/25/18 13:02	1
Vinyl acetate	ND		25	2.0	ug/L			05/25/18 13:02	1
Vinyl chloride	ND		1.0	0.50	ug/L			05/25/18 13:02	1
Xylenes, Total	ND		10	1.6	ug/L			05/25/18 13:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107		78 - 118		05/25/18 13:02	1
Dibromofluoromethane	103		81 - 121		05/25/18 13:02	1
Toluene-d8 (Surr)	101		80 - 120		05/25/18 13:02	1



Definitions/Glossary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY (2Q18)

TestAmerica Job ID: 400-154130-1

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Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▣	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Surrogate Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY (2Q18)

TestAmerica Job ID: 400-154130-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (78-118)	DBFM (81-121)	TOL (80-120)
400-153836-A-1 MS	Matrix Spike	97	102	99
400-153836-A-1 MSD	Matrix Spike Duplicate	99	103	100
400-154130-1	P93A-ROX-052218-EB	107	102	100
400-154130-1 - RA	P93A-ROX-052218-EB	107	102	102
400-154130-2	P93A-ROX-052218	103	101	101
400-154130-3	TB-ROX-052218-SS	107	103	101
LCS 400-398934/1006	Lab Control Sample	97	100	100
MB 400-398934/30	Method Blank	106	101	100

Surrogate Legend

BFB = 4-Bromofluorobenzene

DBFM = Dibromofluoromethane

TOL = Toluene-d8 (Surr)

Method Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY (2Q18)

TestAmerica Job ID: 400-154130-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PEN
5030B	Purge and Trap	SW846	TAL PEN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001



Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY (2Q18)

TestAmerica Job ID: 400-154130-1

Client Sample ID: P93A-ROX-052218-EB

Lab Sample ID: 400-154130-1

Date Collected: 05/22/18 09:34

Matrix: Water

Date Received: 05/23/18 15:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	398934	05/25/18 13:56	RS	TAL PEN
Total/NA	Analysis	8260B	RA	1	5 mL	5 mL	398934	05/25/18 16:12	RS	TAL PEN

Client Sample ID: P93A-ROX-052218

Lab Sample ID: 400-154130-2

Date Collected: 05/22/18 10:00

Matrix: Water

Date Received: 05/23/18 15:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		200	5 mL	5 mL	398934	05/25/18 14:23	RS	TAL PEN

Client Sample ID: TB-ROX-052218-SS

Lab Sample ID: 400-154130-3

Date Collected: 05/22/18 00:00

Matrix: Water

Date Received: 05/23/18 15:59

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	398934	05/25/18 13:02	RS	TAL PEN

Client Sample ID: Method Blank

Lab Sample ID: MB 400-398934/30

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	398934	05/25/18 13:28	RS	TAL PEN

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-398934/1006

Date Collected: N/A

Matrix: Water

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	398934	05/25/18 09:28	RS	TAL PEN

Client Sample ID: Matrix Spike

Lab Sample ID: 400-153836-A-1 MS

Date Collected: 05/17/18 08:45

Matrix: Water

Date Received: 05/18/18 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	398934	05/25/18 14:51	RS	TAL PEN

TestAmerica Pensacola

Lab Chronicle

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY (2Q18)

TestAmerica Job ID: 400-154130-1

Client Sample ID: Matrix Spike Duplicate

Lab Sample ID: 400-153836-A-1 MSD

Date Collected: 05/17/18 08:45

Matrix: Water

Date Received: 05/18/18 08:45

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5 mL	5 mL	398934	05/25/18 15:18	RS	TAL PEN

Laboratory References:

TAL PEN = TestAmerica Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

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QC Association Summary

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY (2Q18)

TestAmerica Job ID: 400-154130-1

GC/MS VOA

Analysis Batch: 398934

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-154130-1	P93A-ROX-052218-EB	Total/NA	Water	8260B	
400-154130-1 - RA	P93A-ROX-052218-EB	Total/NA	Water	8260B	
400-154130-2	P93A-ROX-052218	Total/NA	Water	8260B	
400-154130-3	TB-ROX-052218-SS	Total/NA	Water	8260B	
MB 400-398934/30	Method Blank	Total/NA	Water	8260B	
LCS 400-398934/1006	Lab Control Sample	Total/NA	Water	8260B	
400-153836-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
400-153836-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

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QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY (2Q18)

TestAmerica Job ID: 400-154130-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-398934/30

Matrix: Water

Analysis Batch: 398934

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1,2-Tetrachloroethane	ND		1.0	0.52	ug/L			05/25/18 13:28	1
1,1,1-Trichloroethane	ND		1.0	0.50	ug/L			05/25/18 13:28	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			05/25/18 13:28	1
1,1,2-Trichloroethane	ND		5.0	0.50	ug/L			05/25/18 13:28	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			05/25/18 13:28	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			05/25/18 13:28	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			05/25/18 13:28	1
1,2,3-Trichlorobenzene	ND		1.0	0.70	ug/L			05/25/18 13:28	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			05/25/18 13:28	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			05/25/18 13:28	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			05/25/18 13:28	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			05/25/18 13:28	1
1,2-Dichloroethane	ND		1.0	0.50	ug/L			05/25/18 13:28	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			05/25/18 13:28	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			05/25/18 13:28	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			05/25/18 13:28	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			05/25/18 13:28	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			05/25/18 13:28	1
1-Chlorohexane	ND		1.0	0.70	ug/L			05/25/18 13:28	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			05/25/18 13:28	1
2-Butanone (MEK)	ND		25	2.6	ug/L			05/25/18 13:28	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			05/25/18 13:28	1
2-Hexanone	ND		25	3.1	ug/L			05/25/18 13:28	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			05/25/18 13:28	1
Acetone	ND		25	10	ug/L			05/25/18 13:28	1
Acrolein	ND		20	10	ug/L			05/25/18 13:28	1
Acrylonitrile	ND		10	2.8	ug/L			05/25/18 13:28	1
Benzene	ND		1.0	0.38	ug/L			05/25/18 13:28	1
Bromobenzene	ND		1.0	0.54	ug/L			05/25/18 13:28	1
Bromochloromethane	ND		1.0	0.52	ug/L			05/25/18 13:28	1
Bromodichloromethane	ND		1.0	0.50	ug/L			05/25/18 13:28	1
Bromoform	ND		5.0	0.71	ug/L			05/25/18 13:28	1
Bromomethane	ND		1.0	0.98	ug/L			05/25/18 13:28	1
Carbon disulfide	ND		1.0	0.50	ug/L			05/25/18 13:28	1
Carbon tetrachloride	ND		1.0	0.50	ug/L			05/25/18 13:28	1
Chlorobenzene	ND		1.0	0.50	ug/L			05/25/18 13:28	1
Chloroethane	ND		1.0	0.76	ug/L			05/25/18 13:28	1
Chloroform	ND		1.0	0.60	ug/L			05/25/18 13:28	1
Chloromethane	ND		1.0	0.83	ug/L			05/25/18 13:28	1
cis-1,2-Dichloroethene	ND		1.0	0.50	ug/L			05/25/18 13:28	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			05/25/18 13:28	1
Dibromochloromethane	ND		1.0	0.50	ug/L			05/25/18 13:28	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			05/25/18 13:28	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			05/25/18 13:28	1
Ethylbenzene	ND		1.0	0.50	ug/L			05/25/18 13:28	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			05/25/18 13:28	1
Isopropylbenzene	ND		1.0	0.53	ug/L			05/25/18 13:28	1
Methyl tert-butyl ether	ND		1.0	0.74	ug/L			05/25/18 13:28	1

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY (2Q18)

TestAmerica Job ID: 400-154130-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-398934/30
 Matrix: Water
 Analysis Batch: 398934

Client Sample ID: Method Blank
 Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Methylene bromide	ND		5.0	0.59	ug/L			05/25/18 13:28	1
Methylene Chloride	ND		5.0	3.0	ug/L			05/25/18 13:28	1
m-Xylene & p-Xylene	ND		5.0	1.6	ug/L			05/25/18 13:28	1
Naphthalene	ND		1.0	1.0	ug/L			05/25/18 13:28	1
n-Butylbenzene	ND		1.0	0.76	ug/L			05/25/18 13:28	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/25/18 13:28	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			05/25/18 13:28	1
o-Xylene	ND		5.0	0.60	ug/L			05/25/18 13:28	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			05/25/18 13:28	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			05/25/18 13:28	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			05/25/18 13:28	1
Styrene	ND		1.0	1.0	ug/L			05/25/18 13:28	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			05/25/18 13:28	1
Tetrachloroethene	ND		1.0	0.58	ug/L			05/25/18 13:28	1
Toluene	ND		1.0	0.70	ug/L			05/25/18 13:28	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			05/25/18 13:28	1
trans-1,3-Dichloropropene	ND		5.0	0.50	ug/L			05/25/18 13:28	1
Trichloroethene	ND		1.0	0.50	ug/L			05/25/18 13:28	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			05/25/18 13:28	1
Vinyl acetate	ND		25	2.0	ug/L			05/25/18 13:28	1
Vinyl chloride	ND		1.0	0.50	ug/L			05/25/18 13:28	1
Xylenes, Total	ND		10	1.6	ug/L			05/25/18 13:28	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene	106		78 - 118		05/25/18 13:28	1
Dibromofluoromethane	101		81 - 121		05/25/18 13:28	1
Toluene-d8 (Surr)	100		80 - 120		05/25/18 13:28	1

Lab Sample ID: LCS 400-398934/1006
 Matrix: Water
 Analysis Batch: 398934

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
1,1,1,2-Tetrachloroethane	50.0	48.0		ug/L		96	67 - 131
1,1,1-Trichloroethane	50.0	50.4		ug/L		101	68 - 130
1,1,2,2-Tetrachloroethane	50.0	43.0		ug/L		86	70 - 131
1,1,2-Trichloroethane	50.0	45.8		ug/L		92	70 - 130
1,1-Dichloroethane	50.0	48.4		ug/L		97	70 - 130
1,1-Dichloroethene	50.0	48.9		ug/L		98	63 - 134
1,1-Dichloropropene	50.0	48.8		ug/L		98	70 - 130
1,2,3-Trichlorobenzene	50.0	44.1		ug/L		88	60 - 138
1,2,3-Trichloropropane	50.0	44.6		ug/L		89	70 - 130
1,2,4-Trichlorobenzene	50.0	41.9		ug/L		84	60 - 140
1,2,4-Trimethylbenzene	50.0	48.2		ug/L		96	70 - 130
1,2-Dichlorobenzene	50.0	45.3		ug/L		91	67 - 130
1,2-Dichloroethane	50.0	46.0		ug/L		92	69 - 130
1,2-Dichloropropane	50.0	46.1		ug/L		92	70 - 130
1,3,5-Trimethylbenzene	50.0	47.8		ug/L		96	69 - 130

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY (2Q18)

TestAmerica Job ID: 400-154130-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-398934/1006
 Matrix: Water
 Analysis Batch: 398934

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichlorobenzene	50.0	46.2		ug/L		92	70 - 130
1,3-Dichloropropane	50.0	47.5		ug/L		95	70 - 130
1,4-Dichlorobenzene	50.0	45.7		ug/L		91	70 - 130
1-Chlorohexane	50.0	48.2		ug/L		96	69 - 130
2,2-Dichloropropane	50.0	49.6		ug/L		99	52 - 135
2-Butanone (MEK)	200	184		ug/L		92	61 - 145
2-Chloroethyl vinyl ether	50.0	44.0		ug/L		88	10 - 160
2-Hexanone	200	184		ug/L		92	65 - 137
4-Methyl-2-pentanone (MIBK)	200	184		ug/L		92	69 - 138
Acetone	200	190		ug/L		95	43 - 160
Acrolein	500	473		ug/L		95	38 - 160
Acrylonitrile	500	458		ug/L		92	64 - 142
Benzene	50.0	47.9		ug/L		96	70 - 130
Bromobenzene	50.0	45.9		ug/L		92	70 - 132
Bromochloromethane	50.0	46.4		ug/L		93	70 - 130
Bromodichloromethane	50.0	45.8		ug/L		92	67 - 133
Bromoform	50.0	44.0		ug/L		88	57 - 140
Bromomethane	50.0	51.0		ug/L		102	10 - 160
Carbon disulfide	50.0	49.0		ug/L		98	61 - 137
Carbon tetrachloride	50.0	49.7		ug/L		99	61 - 137
Chlorobenzene	50.0	48.8		ug/L		98	70 - 130
Chloroethane	50.0	48.9		ug/L		98	55 - 141
Chloroform	50.0	47.8		ug/L		96	69 - 130
Chloromethane	50.0	46.9		ug/L		94	58 - 137
cis-1,2-Dichloroethene	50.0	47.1		ug/L		94	68 - 130
cis-1,3-Dichloropropene	50.0	47.6		ug/L		95	69 - 132
Dibromochloromethane	50.0	46.5		ug/L		93	67 - 135
Dichlorodifluoromethane	50.0	51.7		ug/L		103	41 - 146
Ethyl methacrylate	50.0	47.0		ug/L		94	68 - 130
Ethylbenzene	50.0	49.7		ug/L		99	70 - 130
Hexachlorobutadiene	50.0	46.3		ug/L		93	53 - 140
Isopropylbenzene	50.0	49.4		ug/L		99	70 - 130
Methyl tert-butyl ether	50.0	44.9		ug/L		90	66 - 130
Methylene bromide	50.0	45.8		ug/L		92	70 - 130
Methylene Chloride	50.0	43.2		ug/L		86	66 - 135
m-Xylene & p-Xylene	50.0	48.6		ug/L		97	70 - 130
Naphthalene	50.0	40.2		ug/L		80	47 - 149
n-Butylbenzene	50.0	47.6		ug/L		95	67 - 130
N-Propylbenzene	50.0	47.6		ug/L		95	70 - 130
o-Chlorotoluene	50.0	46.4		ug/L		93	70 - 130
o-Xylene	50.0	48.2		ug/L		96	70 - 130
p-Chlorotoluene	50.0	46.5		ug/L		93	70 - 130
p-Isopropyltoluene	50.0	47.8		ug/L		96	65 - 130
sec-Butylbenzene	50.0	47.9		ug/L		96	66 - 130
Styrene	50.0	47.1		ug/L		94	70 - 130
tert-Butylbenzene	50.0	46.1		ug/L		92	64 - 139
Tetrachloroethene	50.0	47.7		ug/L		95	65 - 130
Toluene	50.0	48.6		ug/L		97	70 - 130

TestAmerica Pensacola



QC Sample Results

Client: AECOM Technical Services Inc.
Project/Site: ROXANA QUARTERLY (2Q18)

TestAmerica Job ID: 400-154130-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-398934/1006
Matrix: Water
Analysis Batch: 398934

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,2-Dichloroethene	50.0	49.0		ug/L		98	70 - 130
trans-1,3-Dichloropropene	50.0	47.3		ug/L		95	63 - 130
Trichloroethene	50.0	48.7		ug/L		97	70 - 130
Trichlorofluoromethane	50.0	50.2		ug/L		100	65 - 138
Vinyl acetate	100	95.8		ug/L		96	26 - 160
Vinyl chloride	50.0	50.2		ug/L		100	59 - 136
Xylenes, Total	100	96.8		ug/L		97	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	97		78 - 118
Dibromofluoromethane	100		81 - 121
Toluene-d8 (Surr)	100		80 - 120

Lab Sample ID: 400-153836-A-1 MS
Matrix: Water
Analysis Batch: 398934

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		50.0	44.0		ug/L		88	59 - 137
1,1,1-Trichloroethane	ND		50.0	46.6		ug/L		93	57 - 142
1,1,2,2-Tetrachloroethane	ND		50.0	39.5		ug/L		79	66 - 135
1,1,2-Trichloroethane	ND		50.0	42.1		ug/L		84	66 - 131
1,1-Dichloroethane	ND		50.0	45.5		ug/L		91	61 - 144
1,1-Dichloroethene	ND		50.0	44.8		ug/L		90	54 - 147
1,1-Dichloropropene	ND		50.0	45.0		ug/L		90	65 - 136
1,2,3-Trichlorobenzene	0.84	J	50.0	37.3		ug/L		73	43 - 145
1,2,3-Trichloropropane	ND		50.0	41.2		ug/L		82	65 - 133
1,2,4-Trichlorobenzene	ND		50.0	35.5		ug/L		71	39 - 148
1,2,4-Trimethylbenzene	ND		50.0	43.0		ug/L		86	50 - 139
1,2-Dichlorobenzene	ND		50.0	41.5		ug/L		83	52 - 137
1,2-Dichloroethane	ND		50.0	44.6		ug/L		89	60 - 141
1,2-Dichloropropane	ND		50.0	45.7		ug/L		91	66 - 137
1,3,5-Trimethylbenzene	ND		50.0	41.2		ug/L		82	52 - 135
1,3-Dichlorobenzene	ND		50.0	41.4		ug/L		83	54 - 135
1,3-Dichloropropane	ND		50.0	44.9		ug/L		90	66 - 133
1,4-Dichlorobenzene	ND		50.0	42.5		ug/L		85	53 - 135
1-Chlorohexane	ND		50.0	41.9		ug/L		84	56 - 136
2,2-Dichloropropane	ND		50.0	45.0		ug/L		90	42 - 144
2-Butanone (MEK)	ND		200	166		ug/L		83	55 - 150
2-Chloroethyl vinyl ether	ND	F1	50.0	ND	F1	ug/L		0	10 - 150
2-Hexanone	ND		200	163		ug/L		81	65 - 140
4-Methyl-2-pentanone (MIBK)	ND		200	173		ug/L		86	63 - 146
Acetone	ND		200	178		ug/L		89	43 - 150
Acrolein	ND		500	441		ug/L		88	38 - 150
Acrylonitrile	ND		500	419		ug/L		84	62 - 149
Benzene	ND		50.0	46.0		ug/L		92	56 - 142
Bromobenzene	ND		50.0	42.1		ug/L		84	59 - 136
Bromochloromethane	ND		50.0	45.9		ug/L		92	64 - 140

TestAmerica Pensacola

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QC Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY (2Q18)

TestAmerica Job ID: 400-154130-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-153836-A-1 MS
 Matrix: Water
 Analysis Batch: 398934

Client Sample ID: Matrix Spike
 Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromodichloromethane	ND		50.0	44.2		ug/L		88	59 - 143
Bromoform	ND		50.0	39.7		ug/L		79	50 - 140
Bromomethane	ND		50.0	52.6		ug/L		105	10 - 150
Carbon disulfide	ND		50.0	44.2		ug/L		88	48 - 150
Carbon tetrachloride	ND		50.0	45.8		ug/L		92	55 - 145
Chlorobenzene	ND		50.0	43.9		ug/L		88	64 - 130
Chloroethane	ND		50.0	47.0		ug/L		94	50 - 150
Chloroform	ND		50.0	45.5		ug/L		91	60 - 141
Chloromethane	ND		50.0	45.2		ug/L		90	49 - 148
cis-1,2-Dichloroethene	ND		50.0	44.7		ug/L		89	59 - 143
cis-1,3-Dichloropropene	ND		50.0	46.2		ug/L		92	57 - 140
Dibromochloromethane	ND		50.0	43.0		ug/L		86	56 - 143
Dichlorodifluoromethane	ND		50.0	48.3		ug/L		97	16 - 150
Ethyl methacrylate	ND		50.0	43.8		ug/L		88	64 - 130
Ethylbenzene	ND		50.0	44.0		ug/L		88	58 - 131
Hexachlorobutadiene	ND		50.0	37.2		ug/L		74	31 - 149
Isopropylbenzene	ND		50.0	44.0		ug/L		88	56 - 133
Methyl tert-butyl ether	ND		50.0	44.8		ug/L		90	59 - 137
Methylene bromide	ND		50.0	44.2		ug/L		88	63 - 138
Methylene Chloride	ND		50.0	41.6		ug/L		83	60 - 146
m-Xylene & p-Xylene	ND		50.0	43.6		ug/L		87	57 - 130
Naphthalene	1.3		50.0	36.0		ug/L		69	25 - 150
n-Butylbenzene	ND		50.0	41.0		ug/L		82	41 - 142
N-Propylbenzene	ND		50.0	41.7		ug/L		83	51 - 138
o-Chlorotoluene	ND		50.0	41.7		ug/L		83	53 - 134
o-Xylene	ND		50.0	44.3		ug/L		89	61 - 130
p-Chlorotoluene	ND		50.0	42.0		ug/L		84	54 - 133
p-Isopropyltoluene	ND		50.0	41.3		ug/L		83	48 - 139
sec-Butylbenzene	ND		50.0	42.1		ug/L		84	50 - 138
Styrene	ND		50.0	43.3		ug/L		87	58 - 131
tert-Butylbenzene	ND		50.0	41.5		ug/L		83	54 - 146
Tetrachloroethene	ND		50.0	41.5		ug/L		83	52 - 133
Toluene	ND		50.0	43.4		ug/L		87	65 - 130
trans-1,2-Dichloroethene	ND		50.0	45.2		ug/L		90	61 - 143
trans-1,3-Dichloropropene	ND		50.0	43.3		ug/L		87	53 - 133
Trichloroethene	ND		50.0	45.5		ug/L		91	64 - 136
Trichlorofluoromethane	ND		50.0	46.8		ug/L		94	54 - 150
Vinyl acetate	ND		100	91.9		ug/L		92	26 - 150
Vinyl chloride	ND		50.0	47.3		ug/L		95	46 - 150
Xylenes, Total	ND		100	87.8		ug/L		88	59 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene	97		78 - 118
Dibromofluoromethane	102		81 - 121
Toluene-d8 (Surr)	99		80 - 120



QC Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY (2Q18)

TestAmerica Job ID: 400-154130-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-153836-A-1 MSD
 Matrix: Water
 Analysis Batch: 398934

Client Sample ID: Matrix Spike Duplicate
 Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
1,1,1,2-Tetrachloroethane	ND		50.0	47.9		ug/L		96	59 - 137	8	30
1,1,1-Trichloroethane	ND		50.0	49.0		ug/L		98	57 - 142	5	30
1,1,2,2-Tetrachloroethane	ND		50.0	44.1		ug/L		88	66 - 135	11	30
1,1,2-Trichloroethane	ND		50.0	45.7		ug/L		91	66 - 131	8	30
1,1-Dichloroethane	ND		50.0	48.3		ug/L		97	61 - 144	6	30
1,1-Dichloroethene	ND		50.0	46.5		ug/L		93	54 - 147	4	30
1,1-Dichloropropene	ND		50.0	47.5		ug/L		95	65 - 136	5	30
1,2,3-Trichlorobenzene	0.84	J	50.0	44.3		ug/L		87	43 - 145	17	30
1,2,3-Trichloropropane	ND		50.0	45.3		ug/L		91	65 - 133	10	30
1,2,4-Trichlorobenzene	ND		50.0	43.1		ug/L		86	39 - 148	19	30
1,2,4-Trimethylbenzene	ND		50.0	45.8		ug/L		92	50 - 139	6	30
1,2-Dichlorobenzene	ND		50.0	46.2		ug/L		92	52 - 137	11	30
1,2-Dichloroethane	ND		50.0	47.4		ug/L		95	60 - 141	6	30
1,2-Dichloropropane	ND		50.0	48.5		ug/L		97	66 - 137	6	30
1,3,5-Trimethylbenzene	ND		50.0	45.8		ug/L		92	52 - 135	10	30
1,3-Dichlorobenzene	ND		50.0	45.1		ug/L		90	54 - 135	8	30
1,3-Dichloropropane	ND		50.0	48.2		ug/L		96	66 - 133	7	30
1,4-Dichlorobenzene	ND		50.0	45.4		ug/L		91	53 - 135	7	30
1-Chlorohexane	ND		50.0	45.1		ug/L		90	56 - 136	7	30
2,2-Dichloropropane	ND		50.0	47.4		ug/L		95	42 - 144	5	31
2-Butanone (MEK)	ND		200	172		ug/L		86	55 - 150	3	30
2-Chloroethyl vinyl ether	ND	F1	50.0	ND	F1	ug/L		0	10 - 150	NC	50
2-Hexanone	ND		200	176		ug/L		88	65 - 140	8	30
4-Methyl-2-pentanone (MIBK)	ND		200	181		ug/L		90	63 - 146	5	30
Acetone	ND		200	191		ug/L		95	43 - 150	7	30
Acrolein	ND		500	435		ug/L		87	38 - 150	1	31
Acrylonitrile	ND		500	448		ug/L		90	62 - 149	7	30
Benzene	ND		50.0	48.0		ug/L		96	56 - 142	4	30
Bromobenzene	ND		50.0	46.7		ug/L		93	59 - 136	11	30
Bromochloromethane	ND		50.0	48.2		ug/L		96	64 - 140	5	30
Bromodichloromethane	ND		50.0	48.1		ug/L		96	59 - 143	8	30
Bromoform	ND		50.0	43.4		ug/L		87	50 - 140	9	30
Bromomethane	ND		50.0	53.2		ug/L		106	10 - 150	1	50
Carbon disulfide	ND		50.0	47.6		ug/L		95	48 - 150	7	30
Carbon tetrachloride	ND		50.0	49.0		ug/L		98	55 - 145	7	30
Chlorobenzene	ND		50.0	47.4		ug/L		95	64 - 130	8	30
Chloroethane	ND		50.0	44.6		ug/L		89	50 - 150	5	30
Chloroform	ND		50.0	48.3		ug/L		97	60 - 141	6	30
Chloromethane	ND		50.0	45.0		ug/L		90	49 - 148	1	31
cis-1,2-Dichloroethene	ND		50.0	47.4		ug/L		95	59 - 143	6	30
cis-1,3-Dichloropropene	ND		50.0	48.0		ug/L		96	57 - 140	4	30
Dibromochloromethane	ND		50.0	46.0		ug/L		92	56 - 143	7	30
Dichlorodifluoromethane	ND		50.0	46.3		ug/L		93	16 - 150	4	31
Ethyl methacrylate	ND		50.0	46.9		ug/L		94	64 - 130	7	30
Ethylbenzene	ND		50.0	47.9		ug/L		96	58 - 131	8	30
Hexachlorobutadiene	ND		50.0	43.5		ug/L		87	31 - 149	16	36
Isopropylbenzene	ND		50.0	47.4		ug/L		95	56 - 133	7	30
Methyl tert-butyl ether	ND		50.0	47.9		ug/L		96	59 - 137	7	30

TestAmerica Pensacola

QC Sample Results

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY (2Q18)

TestAmerica Job ID: 400-154130-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-153836-A-1 MSD
 Matrix: Water
 Analysis Batch: 398934

Client Sample ID: Matrix Spike Duplicate
 Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
Methylene bromide	ND		50.0	46.5		ug/L		93	63 - 138	5	30
Methylene Chloride	ND		50.0	45.8		ug/L		92	60 - 146	9	32
m-Xylene & p-Xylene	ND		50.0	47.0		ug/L		94	57 - 130	8	30
Naphthalene	1,3		50.0	46.7		ug/L		91	25 - 150	26	30
n-Butylbenzene	ND		50.0	45.8		ug/L		92	41 - 142	11	31
N-Propylbenzene	ND		50.0	45.3		ug/L		91	51 - 138	8	30
o-Chlorotoluene	ND		50.0	45.8		ug/L		92	53 - 134	9	30
o-Xylene	ND		50.0	47.5		ug/L		95	61 - 130	7	30
p-Chlorotoluene	ND		50.0	45.7		ug/L		91	54 - 133	8	30
p-Isopropyltoluene	ND		50.0	45.8		ug/L		92	48 - 139	10	30
sec-Butylbenzene	ND		50.0	46.5		ug/L		93	50 - 138	10	30
Styrene	ND		50.0	46.9		ug/L		94	58 - 131	8	30
tert-Butylbenzene	ND		50.0	46.0		ug/L		92	54 - 146	10	30
Tetrachloroethene	ND		50.0	43.9		ug/L		88	52 - 133	6	30
Toluene	ND		50.0	47.1		ug/L		94	65 - 130	8	30
trans-1,2-Dichloroethene	ND		50.0	47.6		ug/L		95	61 - 143	5	30
trans-1,3-Dichloropropene	ND		50.0	47.0		ug/L		94	53 - 133	8	30
Trichloroethene	ND		50.0	47.8		ug/L		96	64 - 136	5	30
Trichlorofluoromethane	ND		50.0	47.0		ug/L		94	54 - 150	0	30
Vinyl acetate	ND		100	84.8		ug/L		85	26 - 150	8	33
Vinyl chloride	ND		50.0	45.6		ug/L		91	46 - 150	4	30
Xylenes, Total	ND		100	94.5		ug/L		94	59 - 130	7	30

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	99		78 - 118
Dibromofluoromethane	103		81 - 121
Toluene-d8 (Surr)	100		80 - 120

Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-154130-1

Login Number: 154130

List Source: TestAmerica Pensacola

List Number: 1

Creator: Johnson, Jeremy N

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.0°C IR7
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Accreditation/Certification Summary

Client: AECOM Technical Services Inc.
 Project/Site: ROXANA QUARTERLY (2Q18)

TestAmerica Job ID: 400-154130-1

Laboratory: TestAmerica Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Alabama	State Program	4	40150	06-30-18
ANAB	ISO/IEC 17025		L2471	02-22-20
Arizona	State Program	9	AZ0710	01-12-19
Arkansas DEQ	State Program	6	88-0689	09-01-18
California	ELAP	9	2510	06-30-18
Florida	NELAP	4	E81010	06-30-18
Georgia	State Program	4	N/A	06-30-18
Illinois	NELAP	5	200041	10-09-18
Iowa	State Program	7	367	08-01-18
Kansas	NELAP	7	E-10253	10-31-18
Kentucky (UST)	State Program	4	53	06-30-18
Kentucky (WW)	State Program	4	98030	12-31-18
Louisiana	NELAP	6	30976	06-30-18
Louisiana (DW)	NELAP	6	LA170005	12-31-18
Maryland	State Program	3	233	09-30-18
Massachusetts	State Program	1	M-FL094	06-30-18
Michigan	State Program	5	9912	06-30-18
New Jersey	NELAP	2	FL006	06-30-18
North Carolina (WW/SW)	State Program	4	314	12-31-18
Oklahoma	State Program	6	9810	08-31-18
Pennsylvania	NELAP	3	68-00467	01-31-19
Rhode Island	State Program	1	LAO00307	12-30-18
South Carolina	State Program	4	96026	06-30-18
Tennessee	State Program	4	TN02907	06-30-18
Texas	NELAP	6	T104704286-17-12	09-30-18
USDA	Federal		P330-16-00172	05-24-19
Virginia	NELAP	3	460166	06-14-18
Washington	State Program	10	C915	05-15-19
West Virginia DEP	State Program	3	136	06-30-18

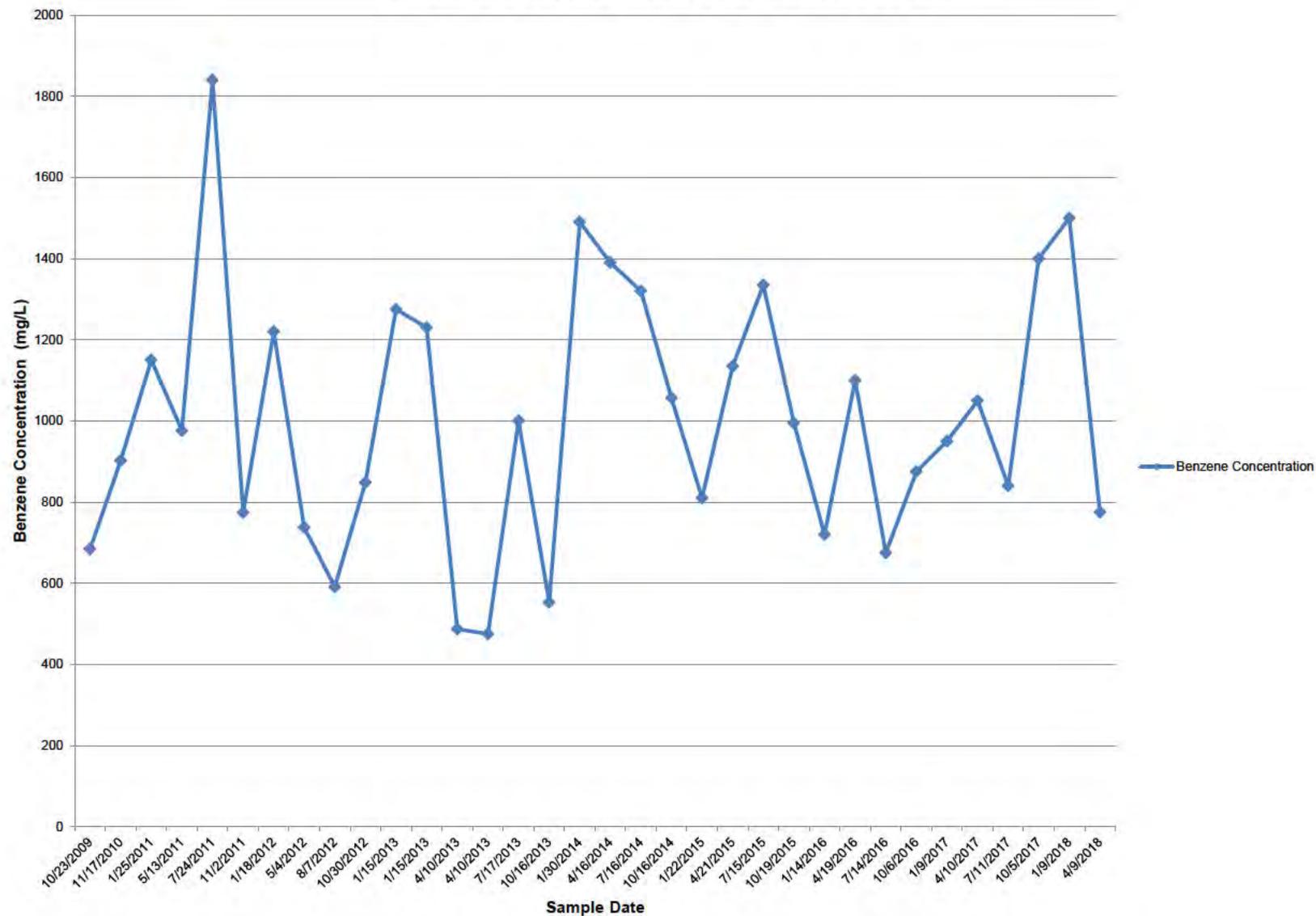


Appendix D

Charts – Benzene Concentrations Over Time – MW-7, MW-8, MW-22, MW-25, P-57, P-59, ROST-4-PZ(C), T-12

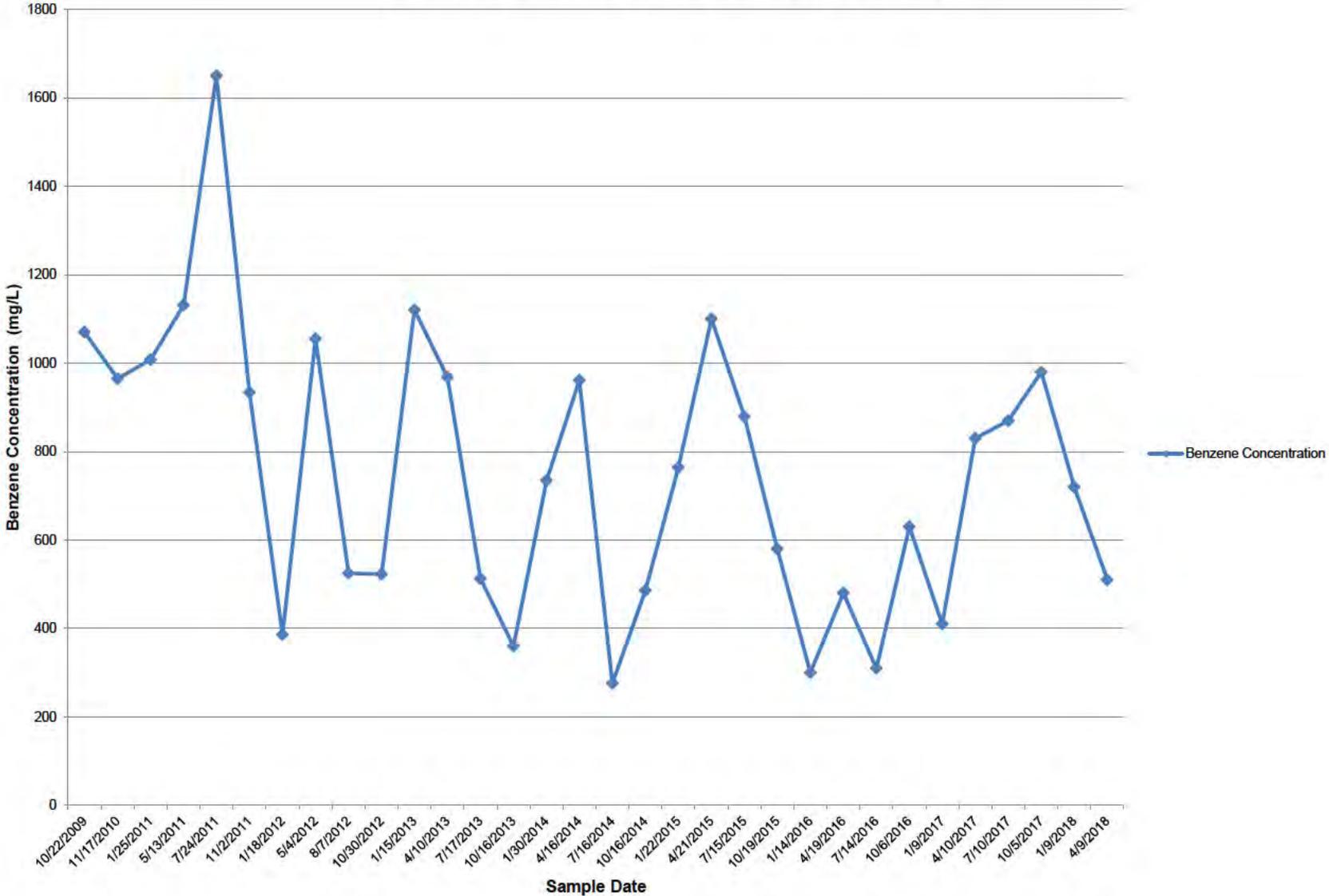
Table D1 - Historical Benzene Analytical Data for Select Groundwater Monitoring Wells

Benzene Concentrations Over Time - MW-07



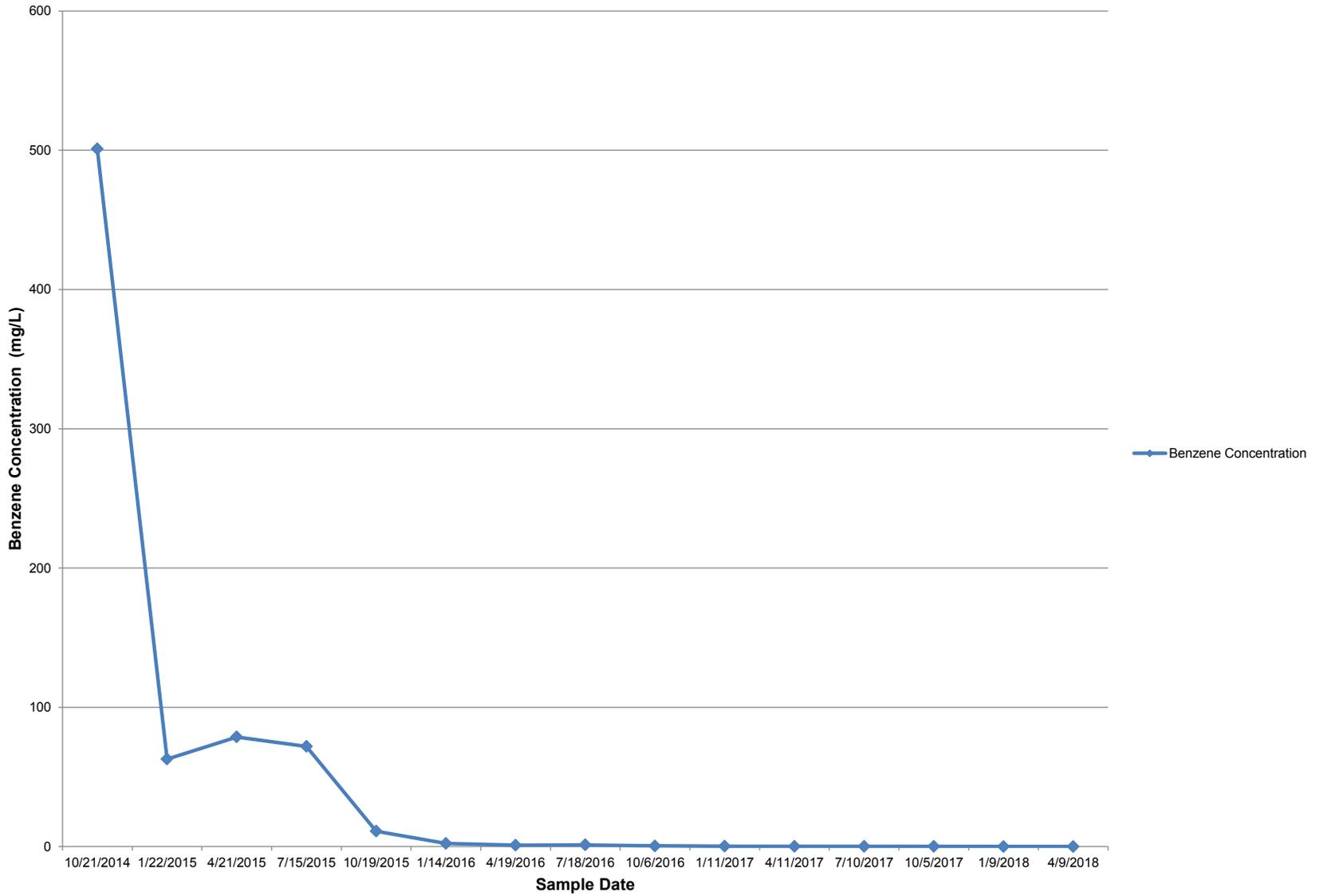
Notes:
mg/L = milligrams per liter
Duplicate values were averaged.
Timeframe specific to available data.

Benzene Concentrations Over Time - MW-08



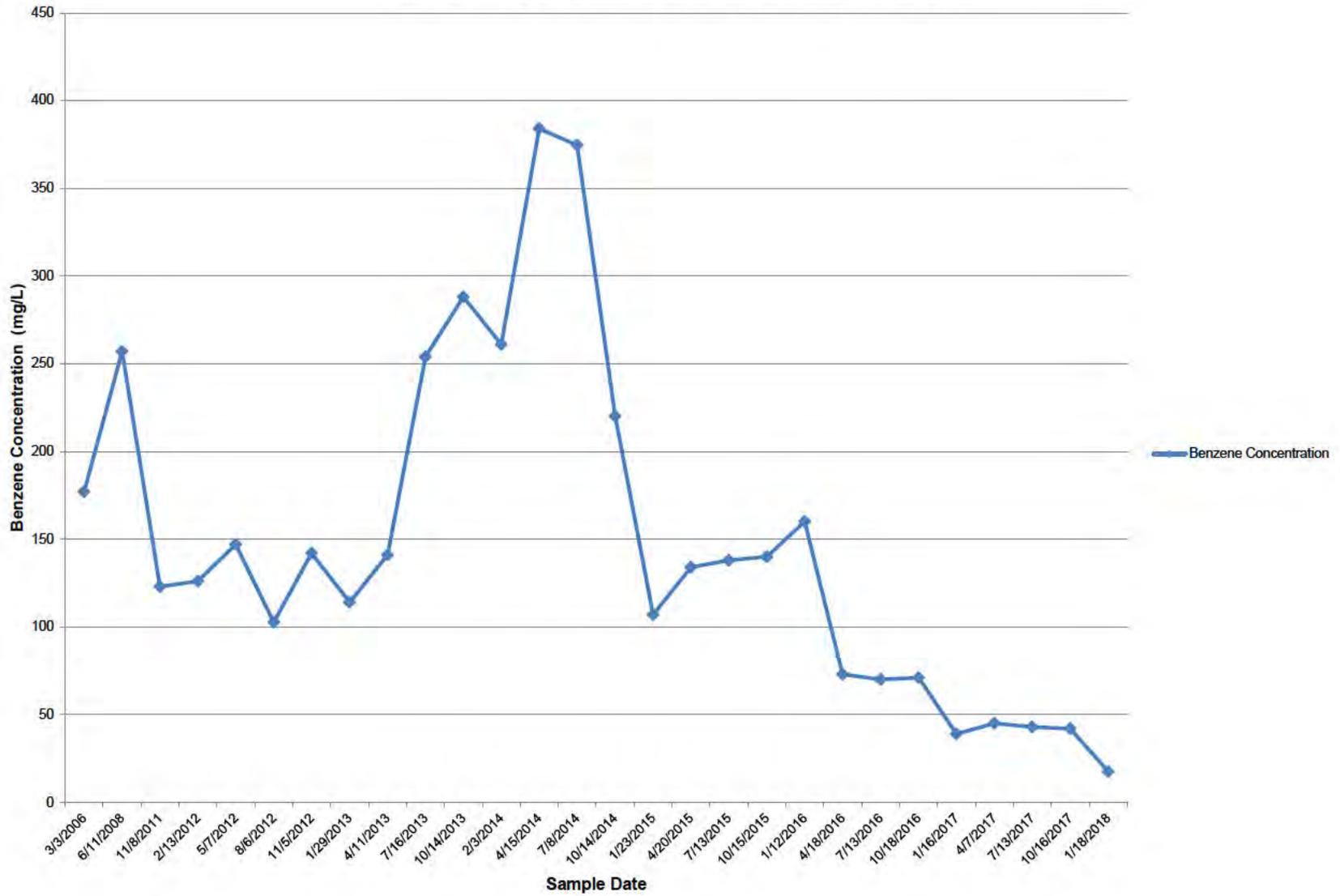
Notes:
mg/L = milligrams per liter
Duplicate values were averaged.
Timeframe specific to available data.

Benzene Concentrations Over Time - MW-25



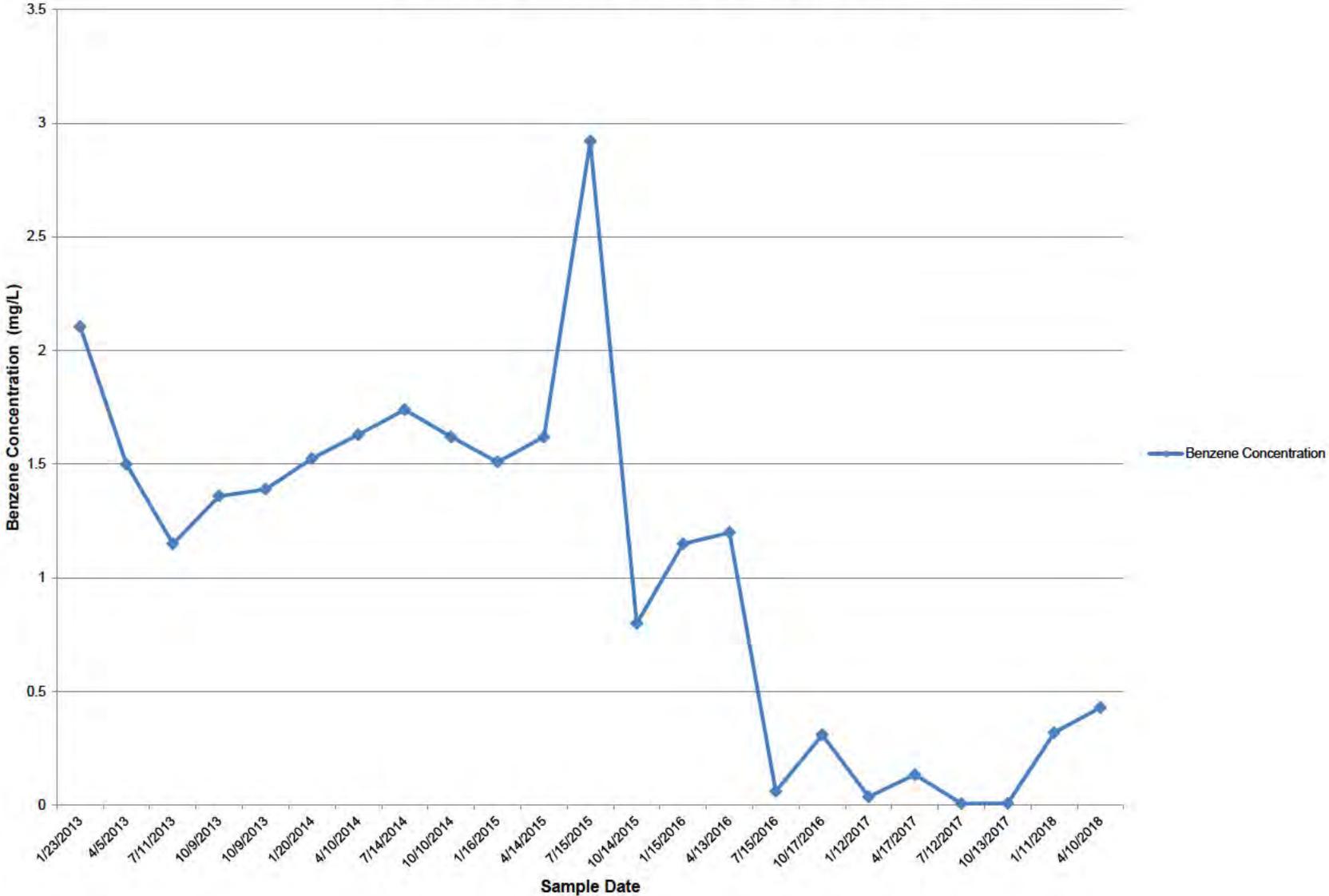
Notes:
mg/L = milligrams per liter
Duplicate values were averaged.
Timeframe specific to available data.

Benzene Concentrations Over Time - P-57



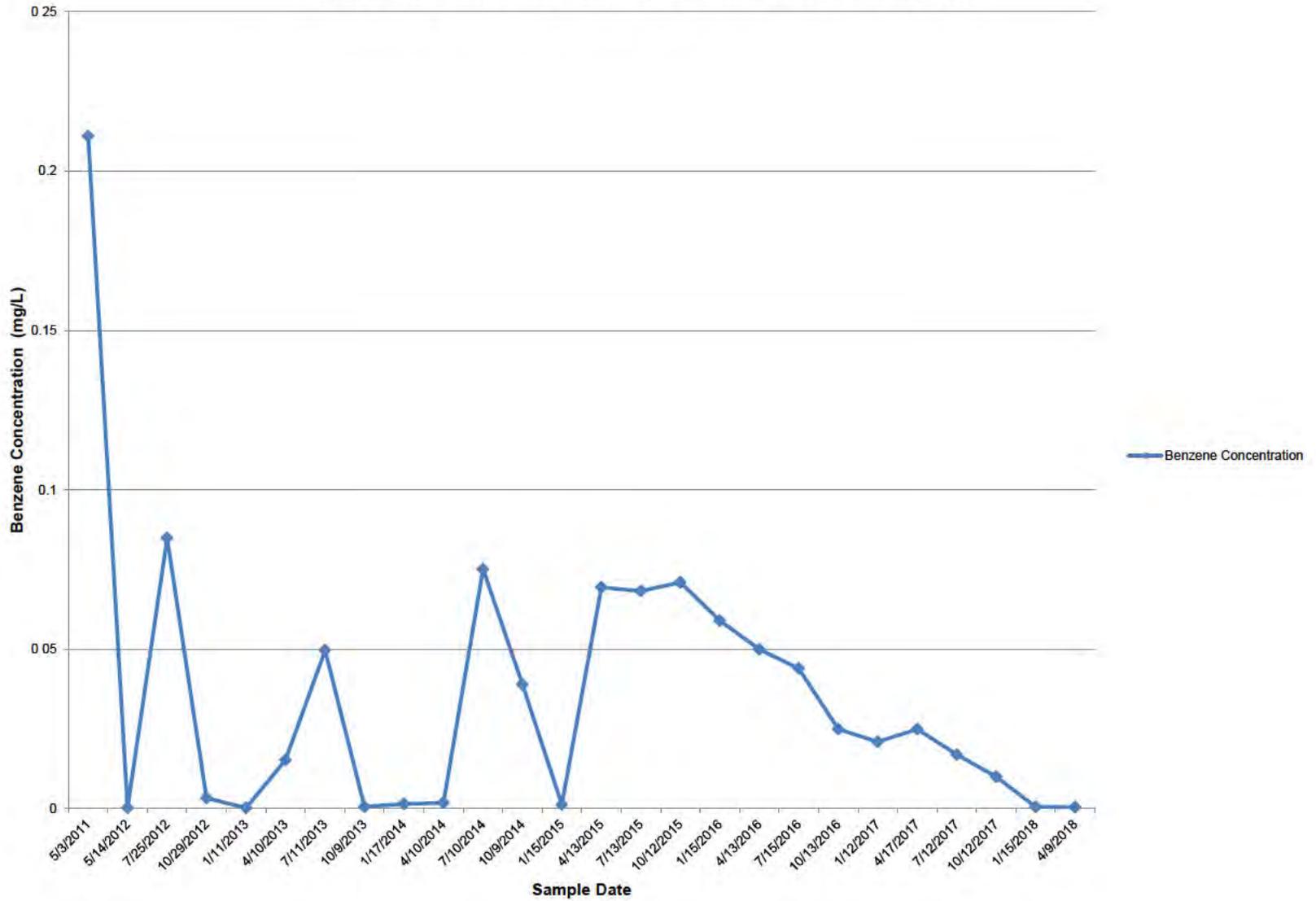
Notes:
mg/L = milligrams per liter
Duplicate values were averaged.
Timeframe specific to available data.

Benzene Concentrations Over Time - MW-22



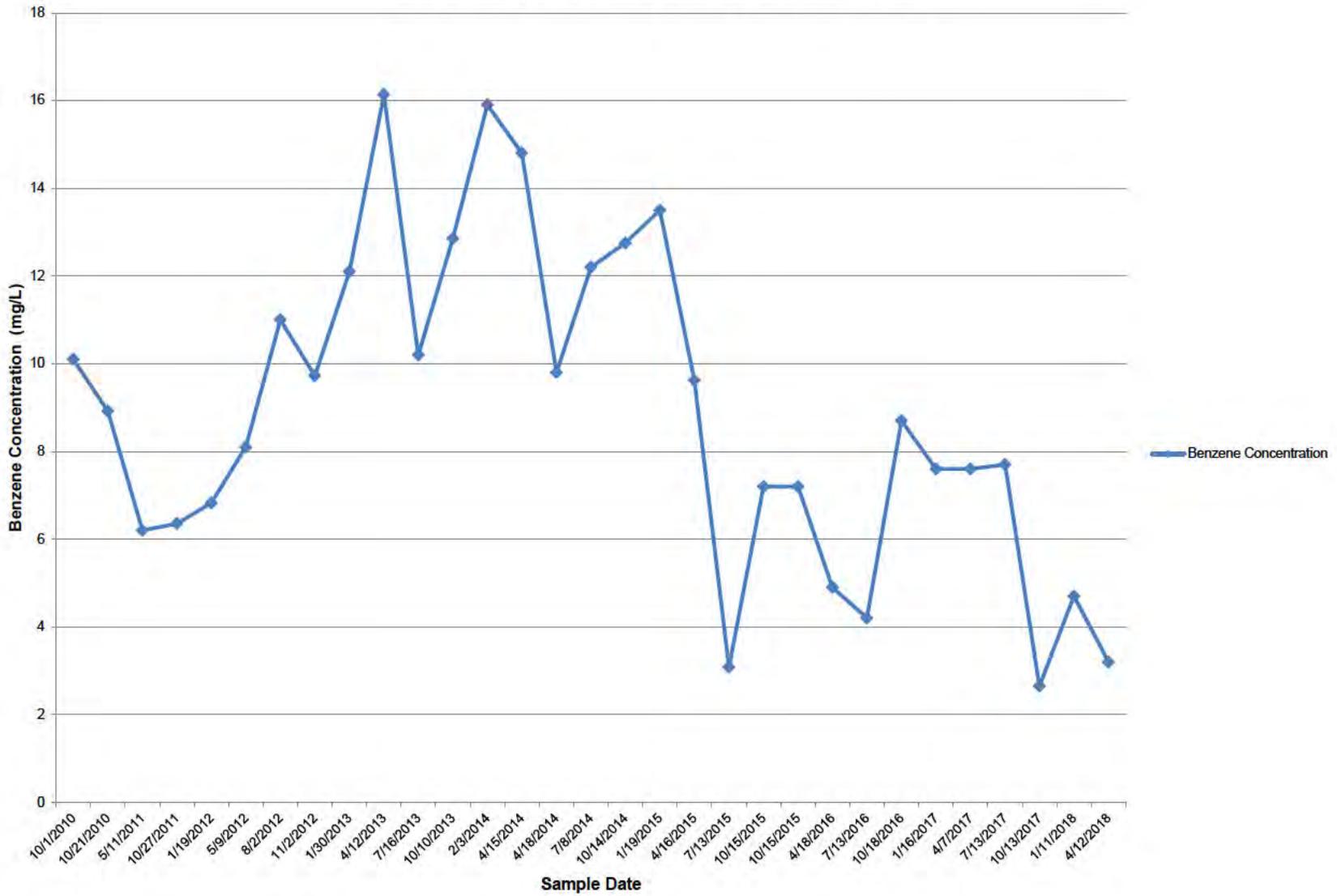
Notes:
mg/L = milligrams per liter
Duplicate values were averaged.
Timeframe specific to available data.

Benzene Concentrations Over Time - ROST-4-PZ(C)



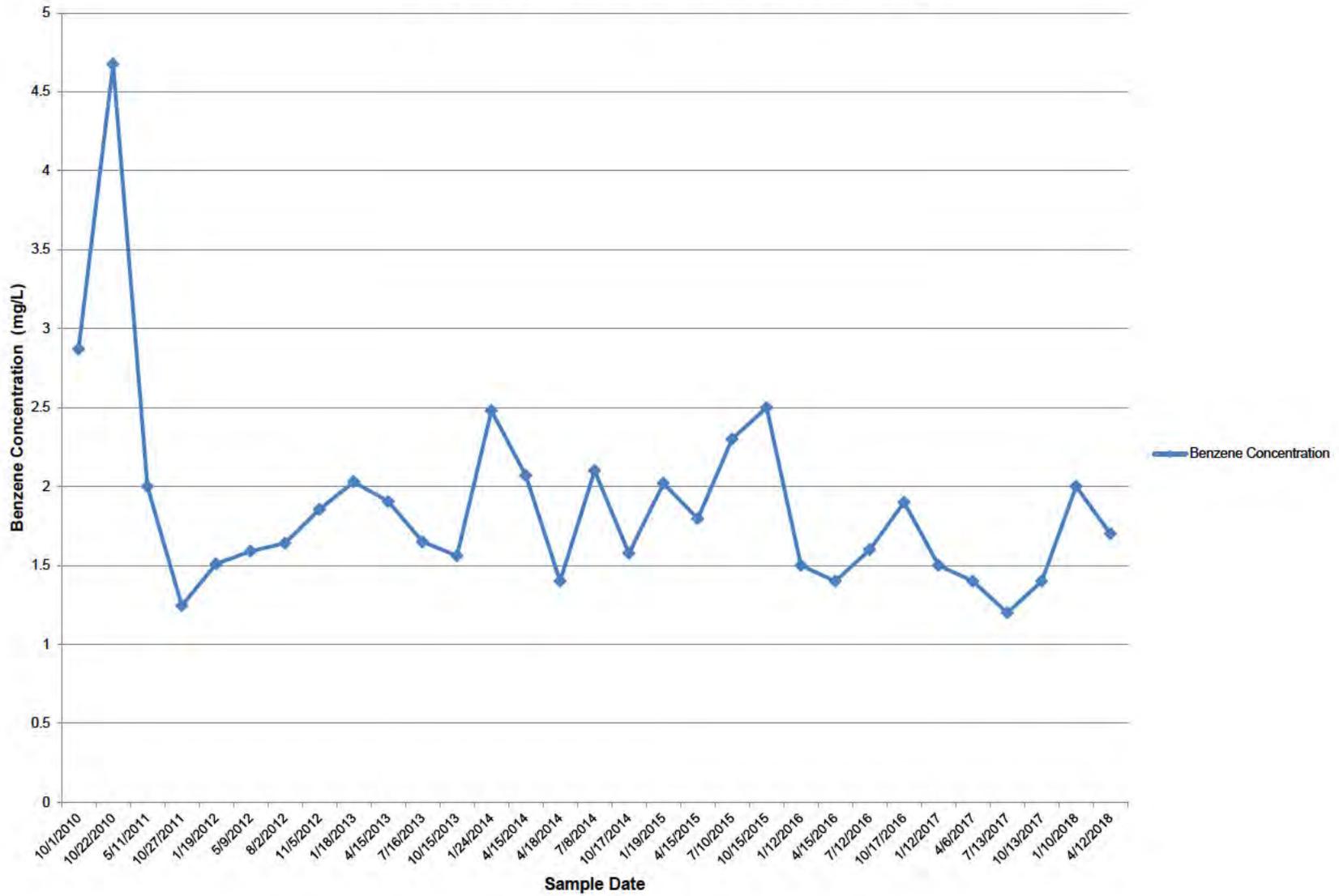
Notes:
mg/L - milligrams per liter
Duplicate values were averaged.
Timeframe specific to available data.
Non-detect values are shown at half the reporting limit.

Benzene Concentrations Over Time - P-59



Notes:
mg/L = milligrams per liter
Duplicate values were averaged.
Timeframe specific to available data.

Benzene Concentrations Over Time - T-12



Notes:
mg/L = milligrams per liter
Duplicate values were averaged.
Timeframe specific to available data.

**TABLE D-1
HISTORICAL BENZENE ANALYTICAL DATA FOR SELECT GROUNDWATER MONITORING WELLS**

Location	Sample Date	Result (ug/L)
MW-07	10/23/2009	684
	11/17/2010	876
	11/17/2010	928
	1/25/2011	1,150
	5/13/2011	1,030
	5/13/2011	922
	7/24/2011	1,840
	11/2/2011	774
	1/18/2012	1,330
	1/18/2012	1,110
	5/4/2012	738
	8/7/2012	591
	10/30/2012	863
	10/30/2012	833
	1/15/2013	1,320
	1/15/2013	1,230
	4/10/2013	499
	4/10/2013	475
	7/17/2013	1,000
	10/16/2013	553
	1/30/2014	1,490
	4/16/2014	1,390
	7/16/2014	1,270
	7/16/2014	1,370
	10/16/2014	1,130
	10/16/2014	984
	1/22/2015	799
	1/22/2015	821
	4/21/2015	1,110
	4/21/2015	1,160
	7/15/2015	1,370
	7/15/2015	1,300
	10/19/2015	1,000
	10/19/2015	990
	1/14/2016	740
	1/14/2016	700
	4/19/2016	1,100
	4/19/2016	1,100
	7/14/2016	670
	7/14/2016	680
	10/6/2016	910
10/6/2016	840	
1/9/2017	950	
4/10/2017	1,000	
4/10/2017	1,100	
7/11/2017	870	
7/11/2017	810	
10/5/2017	1,400	
1/9/2018	1,500	
4/9/2018	770	
4/9/2018	780	

**TABLE D-1
HISTORICAL BENZENE ANALYTICAL DATA FOR SELECT GROUNDWATER MONITORING WELLS**

Location	Sample Date	Result (ug/L)
MW-08	10/22/2009	1,010
	10/22/2009	1,130
	11/17/2010	965
	1/25/2011	1,030
	1/25/2011	986
	5/13/2011	1,310
	5/13/2011	952
	7/24/2011	1,650
	7/24/2011	1,860
	11/2/2011	934
	1/18/2012	386
	5/4/2012	1,070
	5/4/2012	1,040
	8/7/2012	653
	8/7/2012	397
	10/30/2012	523
	1/15/2013	1,120
	4/10/2013	969
	7/17/2013	494
	7/17/2013	532
	10/16/2013	360
	10/16/2013	351
	1/30/2014	748
	1/30/2014	721
	4/16/2014	862
	4/16/2014	1,060
	7/16/2014	276
	10/16/2014	486
	1/22/2015	764
	4/21/2015	1,100
	7/15/2015	879
	10/19/2015	580
	1/14/2016	300
4/19/2016	480	
7/14/2016	310	
10/6/2016	630	
1/9/2017	410	
4/10/2017	830	
7/10/2017	870	
10/5/2017	970	
10/5/2017	990	
1/9/2018	720	
4/9/2018	510	

TABLE D-1
HISTORICAL BENZENE ANALYTICAL DATA FOR SELECT GROUNDWATER MONITORING WELLS

Location	Sample Date	Result (ug/L)
MW-22	1/23/2013	2.12
	1/23/2013	2.09
	4/5/2013	1.5
	7/11/2013	1.11
	7/11/2013	1.19
	10/9/2013	1.33
	10/9/2013	1.39
	1/20/2014	1.47
	1/20/2014	1.58
	4/10/2014	1.56
	4/10/2014	1.7
	7/14/2014	1.74
	10/10/2014	1.62
	1/16/2015	1.51
	4/14/2015	1.62
	7/15/2015	2.92
	10/14/2015	0.8
	1/15/2016	1.1
	1/15/2016	1.2
	4/13/2016	1.2
	4/13/2016	1.2
	7/15/2016	0.062
	7/15/2016	0.061
	10/17/2016	0.31
	10/17/2016	0.31
	1/12/2017	0.036
	1/12/2017	0.039
	4/17/2017	0.14
	4/17/2017	0.13
	7/12/2017	0.0068
	7/12/2017	0.0079
	10/13/2017	0.0089
10/13/2017	0.0086	
1/11/2018	0.32	
1/11/2018	0.32	
4/10/2018	0.43	

**TABLE D-1
HISTORICAL BENZENE ANALYTICAL DATA FOR SELECT GROUNDWATER MONITORING WELLS**

Location	Sample Date	Result (ug/L)
MW-25	10/21/2014	501
	1/22/2015	62.8
	4/21/2015	78.7
	7/15/2015	71.9
	10/19/2015	11
	1/14/2016	2.2
	4/19/2016	0.99
	7/18/2016	1.2
	10/6/2016	0.37
	1/11/2017	0.28
	4/11/2017	0.19
	7/10/2017	0.056
	10/5/2017	0.065
	1/9/2018	0.028
4/9/2018	0.02	
P-57	3/3/2006	177
	6/11/2008	257
	11/8/2011	123
	2/13/2012	126
	5/7/2012	147
	8/6/2012	106
	8/6/2012	99.4
	11/5/2012	142
	1/29/2013	114
	4/11/2013	141
	7/16/2013	254
	10/14/2013	288
	2/3/2014	261
	4/15/2014	384
	7/8/2014	371
	7/8/2014	378
	10/14/2014	220
	10/14/2014	255
	1/23/2015	107
	4/20/2015	134
	7/13/2015	138
	10/15/2015	140
	1/12/2016	160
	4/18/2016	73
	7/13/2016	70
	10/18/2016	71
1/16/2017	39	
4/7/2017	45	
7/13/2017	43	
10/16/2017	42	
1/18/2018	15	
1/18/2018	20	
4/10/2018	8.8	

**TABLE D-1
HISTORICAL BENZENE ANALYTICAL DATA FOR SELECT GROUNDWATER MONITORING WELLS**

Location	Sample Date	Result (ug/L)
P-59	10/1/2010	10.1
	10/21/2010	8.637
	10/21/2010	9.201
	5/11/2011	6.2
	10/27/2011	6.01
	10/27/2011	6.7
	1/19/2012	7.04
	1/19/2012	6.61
	5/9/2012	8.1
	5/9/2012	7.86
	8/2/2012	11
	11/2/2012	9.8
	11/2/2012	8.3
	11/2/2012	10.3
	11/2/2012	10.5
	1/30/2013	12.1
	4/12/2013	20
	4/12/2013	13.4
	4/12/2013	15
	7/16/2013	10.2
	10/10/2013	11
	10/10/2013	14.7
	2/3/2014	15.9
	4/15/2014	14.8
	4/18/2014	9.8
	7/8/2014	12.2
	10/14/2014	12
	10/14/2014	12
	1/19/2015	13.5
	4/16/2015	9.8
	4/16/2015	9.43
	7/13/2015	3.08
	10/15/2015	7.2
	10/15/2015	7.2
	1/12/2016	5.4
	4/18/2016	4.9
	4/18/2016	4.9
	7/13/2016	4.2
	10/18/2016	8.7
	10/18/2016	8.7
1/16/2017	7.6	
4/7/2017	7.6	
4/7/2017	7.6	
7/13/2017	7.7	
10/13/2017	2.7	
10/13/2017	2.6	
10/13/2017	2.6	
10/13/2017	2.7	
1/11/2018	4.7	
4/12/2018	3.2	
4/12/2018	3.2	

TABLE D-1
HISTORICAL BENZENE ANALYTICAL DATA FOR SELECT GROUNDWATER MONITORING WELLS

Location	Sample Date	Result (ug/L)
ROST-4-PZ(C)	5/3/2011	0.211
	5/14/2012	ND (<0.0005)
	7/25/2012	0.0849
	10/29/2012	0.0033
	1/11/2013	ND (<0.0005)
	4/10/2013	0.0153
	7/11/2013	0.0497
	10/9/2013	0.00066
	1/17/2014	0.0015
	4/10/2014	0.0019
	7/10/2014	0.0751
	10/9/2014	0.039
	1/15/2015	0.0013
	4/13/2015	0.0694
	7/13/2015	0.0683
	10/12/2015	0.071
	1/15/2016	0.059
	4/13/2016	0.05
	7/15/2016	0.044
	10/13/2016	0.025
	1/12/2017	0.021
	4/17/2017	0.025
	7/12/2017	0.017
10/12/2017	0.01	
1/15/2018	0.00054	
4/9/2018	ND (<0.001)	

**TABLE D-1
HISTORICAL BENZENE ANALYTICAL DATA FOR SELECT GROUNDWATER MONITORING WELLS**

Location	Sample Date	Result (ug/L)
T-12	10/1/2010	2.87
	10/22/2010	4.674
	5/11/2011	2
	10/27/2011	1.09
	10/27/2011	1.4
	1/19/2012	1.51
	5/9/2012	1.7
	5/9/2012	1.48
	8/2/2012	1.64
	11/5/2012	2
	11/5/2012	2
	11/5/2012	1.71
	1/18/2013	2.03
	4/15/2013	2.2
	4/15/2013	2.2
	4/15/2013	1.61
	7/16/2013	1.65
	10/15/2013	1.1
	10/15/2013	2.02
	1/24/2014	2.48
	4/15/2014	2.07
	4/18/2014	1.4
	7/8/2014	2.1
	10/17/2014	1.5
	10/17/2014	1.4
	10/17/2014	1.83
	1/19/2015	2.02
	4/15/2015	2
	4/15/2015	1.7
	4/15/2015	1.69
	7/10/2015	2.3
	10/15/2015	2.5
	10/15/2015	2.5
	1/12/2016	1.5
	4/15/2016	1.4
	4/15/2016	1.4
	7/12/2016	1.6
	10/17/2016	1.7
	10/17/2016	2.1
	1/12/2017	1.5
4/6/2017	1.4	
4/6/2017	1.4	
7/13/2017	1.2	
10/13/2017	1.4	
10/13/2017	1.4	
1/10/2018	2	
4/12/2018	1.7	
4/12/2018	1.7	

Notes
 ft btoc = feet below top of casing
 mg/L = milligrams per liter
 ND = non-detect
 Dates specific to available data.

