



# Illinois Environmental Protection Agency

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## 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)

Original copy submitted to Springfield. Electronic copies submitted separately directly to Collinsville FOS

(Ali Al-Janabi), Amy Butler, and Visal Poornaka.

July 31, 2024

Ms. Jacqueline M Cooperider, PE  
Manager, Permit Section  
Division of Land Pollution Control  
Illinois Environmental Protection Agency  
Bureau of Land  
1021 North Grand Avenue East  
Springfield, Illinois 62702

**Groundwater Monitoring Report – 2<sup>nd</sup> Quarter 2024****Roxana, Illinois****1191150002 – Madison County****Equilon Enterprises LLC d/b/a Shell Oil Products US****Log No. B-43R-CA-21**

Dear Ms. Cooperider:

On behalf of Shell Oil Products US (Shell), AECOM Technical Services, Inc. (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.

Electronic copies of the referenced report are being submitted separately directly to Ms. Amy Butler, Mr. Visal Poornaka, and IEPA Collinsville FOS (Ali Al-Janabi) with Illinois Environmental Protection Agency (IEPA).

If you have any questions during your review, please contact Leroy (Buddy) Bealer, Shell Principal Program Manager, at [leroy.bealer@shell.com](mailto:leroy.bealer@shell.com) (484/632-7955), or Wendy Pennington at [wendy.pennington@aecom.com](mailto:wendy.pennington@aecom.com) (314/452-8929).

Yours sincerely,

AECOM, on behalf of Shell Oil Products US



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**Enclosures:** 2<sup>nd</sup> Quarter 2024 Report, Roxana Interim Groundwater Monitoring Program  
RCRA Facility Groundwater, Leachate and Gas Reporting Form

**cc:** Leroy (Buddy) Bealer, Shell  
Megan Lipscomb, Phillips 66  
Amy Butler, IEPA, Springfield  
Visal Poornaka, IEPA, Springfield  
IEPA Collinsville FOS (Ali Al-Janabi), IEPA, Collinsville  
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Ryan Mohr, Fox Smith LLC  
Repositories - Roxana Public Library, website



# 2<sup>nd</sup> Quarter 2024 Report





Roxana Interim Groundwater Monitoring Program

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

Project number: 60721927

July 2024

## Quality information

Prepared by	Checked by	Verified by	Approved by
			
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## Revision History

Revision	Revision date	Details	Authorized	Name	Position

## Distribution List

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1 – original	No	Ms. Jacqueline M Cooperider, PE IEPA, Springfield
None	Yes	Ms. Megan Lipscomb Phillips 66
None	Yes	Ms. Amy Butler IEPA, Springfield
None	Yes	Mr. Visal Poornaka IEPA, Springfield
None	Yes	IEPA Collinsville FOS IEPA, Collinsville
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None	Yes	Roxana Public Library
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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 (Shell) for the 2<sup>nd</sup> Quarter 2024 (2Q24) groundwater monitoring well gauging and sampling conducted in the Village of Roxana, Illinois (**Figure 1**). The Interim Groundwater Monitoring Program (Program) was established based on direction from Illinois Environmental Protection Agency (IEPA) dated August 5, 2010 (IEPA, 2010a). 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.”

The bulleted list below summarizes regulatory-related correspondence between AECOM, on behalf of Shell, and the IEPA during this reporting period (April 2024 through June 2024); prior regulatory-related correspondence which has not yet been addressed by IEPA can be found in **Appendix A**.

- On April 9, 2024, IEPA approved the July 6, 2023 Request to Change Due Dates of Roxana Interim Groundwater Monitoring Reports, extending due dates by approximately two weeks.
- On April 22, 2024, IEPA approved with conditions the Response to 1/26/2023 IEPA letter dated February 23, 2024 as well as another submittal *Former Public Works Yard Steam Enhanced Extraction – Pre-SEE Additional Sampling Results* dated March 4, 2024.

Groundwater samples were collected and analyzed during 2Q24 to meet the requirements of the Interim Groundwater Monitoring Program, as specified in the guidance presented in **Appendix A**. **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) described in **Section 1**, and as modified based on other correspondence described in **Appendix A**. Groundwater samples and gauging data were collected using the most current AECOM standard operating procedures (SOPs) for the project.

### 2.1 Health & Safety

The quarterly sampling activities were performed in general accordance with the project-specific Health and Safety Plan (HASP), dated January 16, 2024 (AECOM, 2024).

### 2.2 Additional Activities or Modifications

As required by Condition 1 of the Illinois Environmental Protection Agency's (IEPA's) letter dated August 1, 2023, gauging and sampling of the groundwater monitoring wells in the Interim Groundwater Monitoring Network was performed on a monthly basis until a replacement for W-85 was installed and "capable of operating and contributing to the required combined minimum pumping rate of 3,000 gallons per minute." Drilling and installation for the new water production well W-92 was completed in November 2023. Well W-92 went online on April 30, 2024, at 12:50 pm. This well is operating and contributing to the combined minimum pumping rate of 3,000 gpm. As Condition 1 of the IEPA August 1, 2023, letter has been satisfied, the monthly gauging and sampling of the groundwater monitoring wells in the Interim Groundwater Monitoring Network and submittal of reports thusly is no longer required.

Due to previously scheduled site activities and staff availability, February and March monthly sampling events were combined. February/March 2024 (Feb/Mar 24) sampling was performed from February 29 – March 11, 2024. Finalized Feb/Mar 24 analytical results, lab reports, and figures for monthly reports are included in **Appendix E**.

### 2.3 Groundwater Monitoring Well Gauging and Sampling

#### Groundwater Monitoring Well Gauging

The comprehensive quarterly groundwater monitoring well gauging event was conducted between April 1<sup>st</sup> and 3<sup>rd</sup>, 2024. The gauging activities were conducted in conjunction with the 2Q24 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 recorded. Quarterly groundwater monitoring well gauging results can be found in **Table 1**. The groundwater gauging data table also includes well-head PID (photoionization detector) results.

#### Low-Flow Groundwater Purging and Sampling

Groundwater samples were collected from groundwater monitoring wells between April 4<sup>th</sup> through 9<sup>th</sup> and April 11<sup>th</sup> through 22<sup>nd</sup>, 2024. Groundwater samples were collected using the most current low-flow groundwater purging and sampling related SOPs, which have previously been provided to IEPA. Data are included in this report and discussed in **Section 3**.

Groundwater monitoring wells MW-1 through MW-7, MW-9 through MW-14; MW-16; MW-22 through MW-28; P-54; P-56 through P-59; P-74; P-93A, B, and C; 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 stainless-steel submersible pump (pump), low-flow controller, and designated<sup>1</sup> polyethylene tubing.

<sup>1</sup> All designated tubing is stored in a sealed bag designated for a particular groundwater monitoring well between sampling events; designated tubing used with stainless steel submersible pumps is replaced annually prior to the first quarter sampling event.

Groundwater monitoring well P-93D was purged and sampled using a dedicated stainless-steel QED Environmental Systems (QED) Well Wizard® groundwater sampling pump and dedicated bonded polyethylene tubing.

For both sampling methods pumping was performed at a low flow rate ( $\leq 300$  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 after every flow-through cell volume. Once stabilization was achieved or a maximum purge time of two hours was reached, 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, P-66, and P-68, contained LNAPL when gauged 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**.

## 2.4 Decontamination and Investigation-Derived Waste

### Decontamination

Field personnel and equipment underwent decontamination procedures in accordance with project SOPs previously provided to IEPA 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 using the most current decontamination SOPs.

### Investigation-Derived Waste

Investigation-derived waste (IDW), such as purge water and decontamination fluid generated during groundwater sampling activities, was collected, staged, 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, and MW-25 are managed as hazardous waste based on prior characterization in conjunction with generator knowledge, and decontamination fluid and purge water from other groundwater monitoring wells in the Village are managed as non-hazardous waste based on prior characterization in conjunction with generator knowledge; both hazardous and non-hazardous waste were 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).

## 2.5 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 Eurofins Environment Testing America Southeast, LLC (EETA Southeast) in Pensacola, Florida for analysis.

Samples were analyzed by EETA Southeast 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.

## 2.6 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 Organic Superfund Methods Data Review (USEPA, 2020). 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.



## 3 Groundwater Sampling Results

This section presents the results of the 2Q24 groundwater gauging and sampling event.

### 3.1 Groundwater Monitoring Well Gauging Results

The comprehensive quarterly groundwater monitoring well gauging for the 2Q24 event was conducted between April 1<sup>st</sup> and April 3<sup>rd</sup>, 2024. 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 wells in the vicinity of the West Fenceline have fallen approximately 0.6 foot since the 1Q24 gauging event. Groundwater levels in wells in the central and eastern portions of the WRR have fallen approximately 0.8 foot since the 1Q24 gauging event. Water levels are above the top of the screens in the majority of the wells gauged during the 2Q24 event. The potentiometric surface observed during the 2Q24 groundwater monitoring well gauging (**Figures 3a** and **3b**) illustrates an inward gradient with groundwater flow toward the WRR groundwater production wells.

During the 2Q24 quarterly groundwater monitoring well gauging event, LNAPL was detected in three Interim Groundwater Monitoring Program groundwater monitoring wells (P-55R, P-66, and P-68) (**Table 1**). These monitoring wells are located in the WRR. In these wells, LNAPL thicknesses ranged from 0.15 to 0.57 foot. LNAPL was not observed in groundwater monitoring wells located in the Village (**Table 1**). **Figures 4a** and **4b** illustrate the measured LNAPL thickness observed along the West Fenceline and inside the refinery, respectively, during the 2Q24 gauging event. Measured LNAPL thickness and the number of locations where it was observed during the 2Q24 quarterly gauging events was generally comparable to that observed in 1Q24.

The Illinois Emergency Management Agency (IEMA) was notified on November 22, 2020 of a release of gasoline from a Buckeye Partners (Wood River Pipeline, LLC) pipeline located to the south of well P-58 along the WRR West Fenceline, and to the north of well P-66 on WRR Main Property as indicated on **Figures 2, 3b, 4a, and 5**. The release is associated with IEPA Violation Notice L-2021-00084, LPC #1190905036 – Madison County. Groundwater monitoring wells P-58 and P-66 have yielded some anomalous observations/detections since the reported release; LNAPL has been detected in P-66 since 2Q22, however LNAPL was previously last detected in P-66 during 4Q12. These wells will be gauged, and sampled in the absence of LNAPL, during the quarterly Roxana Interim Groundwater Monitoring program.

During 2Q24, LNAPL was observed in groundwater monitoring wells P-55R, P-66, and P-68 located on WRR property at a thickness greater than 0.10 feet and was removed using bailers<sup>2</sup>. The recovered LNAPL was placed in a metal drum and will be sent for reuse of in accordance with RCRA, Illinois and United States Department of Transportation (DOT) regulations.

### 3.2 Data Quality Review Results

A total of 15 sample delivery groups (SDGs) were prepared and sent to EETA Southeast for the 2Q24 event. Fifty-one different groundwater sample sets were prepared and analyzed for VOCs and SVOCs (including PAHs). The 51 samples included 40 different investigative sample sets, five field duplicate sets, and three matrix spike/matrix spike duplicate (MS/MSD) sets. SDGs for 2Q24 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. Five 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 15 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.

<sup>2</sup> LNAPL > 0.10 feet is a project specific criterion for removal, based on practicality with the removal technique.

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 Sand aquifer wells. These results are consistent with those observed in the 1Q24 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)(1) of the Permit for the WRB Refining LP Wood River Refinery<sup>3</sup>. 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) (IEPA, 2023). 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 11 groundwater monitoring wells in the Interim Groundwater Monitoring Program (three in the Village, eight in the WRR along the West Fenceline) exhibited exceedances of the groundwater screening criteria for one or more of the following constituents:

- Benzene
- Benzo(a)anthracene
- Phenol

**Figure 5** presents concentrations of analytes that exceeded the indicated screening criteria for 2Q24. These findings are generally consistent with the results from previous sampling events.

**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-1** contains benzene concentration trend plots for selected monitoring wells<sup>4</sup> to represent groundwater conditions in the 4<sup>th</sup> Street area and Public Works Yard area, respectively:

- 4<sup>th</sup> 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

Beginning in 2Q21, a Mann-Kendall analysis of the analytical benzene results from the eight sampled groundwater wells in the 4<sup>th</sup> Street and Public Works Yard areas was conducted. The Mann-Kendall analysis was performed using GWSDAT (GroundWater Spatio-Temporal Data Analysis Tool). As of 2Q24, statistically significant downward trends were displayed for seven wells, no wells displayed statistically significant increasing trends, and the remaining well displayed a trend that is not statistically significant<sup>5</sup>. Results from the Mann-Kendall analysis conducted via GWSDAT are presented in **Appendix D-2**.

<sup>3</sup> IEPA requested that the Interim Groundwater Monitoring Program be consistent with the RCRA Part B Permit.

<sup>4</sup> In a meeting with IEPA on April 5, 2018, the AECOM presentation included benzene concentration trend plots pertinent to GMZ discussion. IEPA verbally requested that benzene concentration trend plots for selected monitoring wells be incorporated into Roxana Program quarterly reports.

<sup>5</sup> Results are significant if p value is equal to or below 0.05.

## 4 Summary and Conclusions

AECOM conducted the 2Q24 Interim Groundwater Monitoring Program, and the following conclusions are based on the data and information collected as part of this program:

- During 2Q24, groundwater level data indicate groundwater flow from the Investigation Area is moving toward groundwater production wells at the WRR. Groundwater levels in most wells in the vicinity of the West Fenceline have fallen approximately 0.6 foot since the 1Q24 gauging event. Groundwater levels in most wells in the central and eastern portion of the WRR have fallen approximately 0.8 foot since the 1Q24 gauging event.
- Measured LNAPL thickness and the number of locations where it was observed during the 2Q24 quarterly gauging events was generally comparable to that observed in 1Q24. LNAPL has been detected in P-66 since 2Q22, LNAPL was previously last detected in P-66 during 4Q12. WRB/P66 notified IEMA on November 22, 2020 of a release of gasoline from a Buckeye Partners (Wood River Pipeline, LLC) pipeline located to the south of well P-58 along the WRR West Fenceline, and to the north of well P-66 on WRR Main Property. Wells P-58 and P-66 will be gauged and sampled in the absence of LNAPL during the 3Q24 Roxana Interim Groundwater Monitoring program.
- The analytical results from 2Q24 are generally consistent with the results from previous sampling events.
- Benzene concentration plots presented in **Appendix D-1** continue to show stable or decreasing trends.
- GWSDAT charts presented in **Appendix D-2** show statistically significant downward trends displayed for seven wells, no wells displayed statistically significant increasing trends, and the remaining well displayed a trend that is not statistically significant.
- The data and observations presented in this groundwater monitoring report provide further support for the conclusions and requested course of action presented in the proposed Groundwater Management Zone (GMZ) (AECOM 2016b).

### 4.1 Limitations

Shell 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. Shell 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 Shell 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.

## 5 References

AECOM, 2015 (AECOM, 2015); *Demonstration to Verify the Extent of Groundwater Contamination Has Been Delineated Roxana, Illinois*. Prepared for Shell Oil Products US (Shell), dated April 16, 2015.

AECOM, 2016 (AECOM, 2016a); *Additional Information – Groundwater Management Zone*. Prepared for Shell Oil Products US (Shell), dated January 29, 2016.

AECOM, 2016 (AECOM, 2016b); *Proposed Groundwater Management Zone*. Prepared for Shell Oil Products US (Shell), dated May 19, 2016.

AECOM, 2016 (AECOM, 2016c); *Response to IEPA Letter dated July 27, 2016 – Groundwater Conditions near East 3<sup>rd</sup> and Chaffer Streets*. Prepared for Shell Oil Products US (Shell), dated October 14, 2016.

AECOM, 2018 (AECOM, 2018a); *Response to IEPA Emails dated October 4-23, 2017 – GMZ Response to Comments*. Prepared for Shell Oil Products US (Shell), dated January 2, 2018.

AECOM, 2018 (AECOM, 2018b); *Groundwater Management Zone – Additional Information*. Prepared for Shell Oil Products US (Shell), dated September 26, 2018.

AECOM, 2020 (AECOM, 2020a); *Response to IEPA Notice of Permit Renewal Application Incompleteness*. Prepared for Shell Oil Products US (Shell) and WRB Refining LP (WRB) Wood River Refinery (WRR), dated September 4, 2020.

AECOM, 2020 (AECOM, 2020b); *Class 1\* Permit Modification – Response to Condition 4.b. in Attachment A and Condition V.D.3. of the 12/20/2019 IEPA Letter with Modified Permit*. Prepared for Shell Oil Products US (Shell), dated October 12, 2020.

AECOM, 2022 (AECOM, 2022a); *Public Works Yard (PWY) Steam Enhanced Extraction (SEE) Workplan*. Prepared for Shell Oil Products US (Shell), dated January 31, 2022.

AECOM, 2022 (AECOM, 2022b); *Additional Information Supplemental to the Proposed Groundwater Management Zone*. Prepared for Shell Oil Products US (Shell), dated March 18, 2022.

AECOM, 2022 (AECOM, 2022c); *Old Public Works Yard Steam Enhanced Extraction – Response to 8/22/22 Letter and Final Design Report & Construction Work Plan*. Prepared for Shell Oil Products US (Shell), dated December 16, 2022.

AECOM, 2023 (AECOM, 2023); *Additional Information to Log No. B-43R-CA-109 (PWY SEE – Response to 8/22/22 Letter & FDRCWP)*. Prepared for Shell Oil Products US (Shell), dated January 30, 2023.

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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 (elev.)	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID (ppm)	COMMENTS
<b>MW-01</b>											
3Q23	442.83	7/6/2023	NE	40.51	NA	NA	NA	402.32	394.03 - 384.03 (48.80 - 58.80)	0.0	*
4Q23		10/2/2023	NE	41.06	NA	NA	NA	401.77		0.0	*
1Q24		1/3/2024	NE	42.11	NA	NA	NA	400.72		0.0	*
2Q24		4/1/2024	NE	42.63	NA	NA	NA	400.20		0.0	*
<b>MW-02</b>											
3Q23	443.93	7/5/2023	NE	41.71	NA	NA	NA	402.22	394.06 - 384.06 (49.87 - 59.87)	0.0	*
4Q23		10/2/2023	NE	42.27	NA	NA	NA	401.66		28.6	*
1Q24		1/2/2024	NE	43.38	NA	NA	NA	400.55		66.0	*
2Q24		4/1/2024	NE	43.83	NA	NA	NA	400.10		149.6	*
<b>MW-03</b>											
3Q23	430.23	7/6/2023	NE	27.75	NA	NA	NA	402.48	395.56 - 385.56 (34.67 - 44.67)	0.0	*
4Q23		10/2/2023	NE	28.48	NA	NA	NA	401.75		0.0	*
1Q24		1/3/2024	NE	29.46	NA	NA	NA	400.77		0.0	*
2Q24		4/1/2024	NE	29.97	NA	NA	NA	400.26		0.0	*
<b>MW-04</b>											
3Q23	441.31	7/6/2023	NE	38.96	NA	NA	NA	402.35	396.25 - 386.25 (45.06 - 55.06)	0.0	*
4Q23		10/2/2023	NE	39.57	NA	NA	NA	401.74		0.0	*
1Q24		1/3/2024	NE	40.55	NA	NA	NA	400.76		0.0	*
2Q24		4/1/2024	NE	41.08	NA	NA	NA	400.23		0.0	*
<b>MW-05</b>											
3Q23	429.98	7/6/2023	NE	27.53	NA	NA	NA	402.45	396.01 - 386.01 (33.97 - 43.97)	0.0	*
4Q23		10/2/2023	NE	28.16	NA	NA	NA	401.82		0.0	*
1Q24		1/3/2024	NE	29.11	NA	NA	NA	400.87		0.0	*
2Q24		4/1/2024	NE	29.60	NA	NA	NA	400.38		0.0	*
<b>MW-06A</b>											
3Q23	432.33	7/6/2023	NE	29.64	NA	NA	NA	402.69	398.48 - 388.48 (33.85 - 43.85)	0.0	*
4Q23		10/2/2023	NE	30.39	NA	NA	NA	401.94		0.0	*
1Q24		1/3/2024	NE	31.36	NA	NA	NA	400.97		0.0	*
2Q24		4/1/2024	NE	31.73	NA	NA	NA	400.60		0.0	*
<b>MW-06B</b>											
3Q23	432.37	7/6/2023	NE	29.71	NA	NA	NA	402.66	368.32 - 363.32 (64.05 - 69.05)	0.0	*
4Q23		10/2/2023	NE	30.41	NA	NA	NA	401.96		0.0	*
1Q24		1/3/2024	NE	31.30	NA	NA	NA	401.07		0.0	*
2Q24		4/1/2024	NE	31.76	NA	NA	NA	400.61		0.0	*
<b>MW-06C</b>											
3Q23	432.18	7/6/2023	NE	29.52	NA	NA	NA	402.66	347.23 - 342.23 (84.95 - 89.95)	0.0	*
4Q23		10/2/2023	NE	30.20	NA	NA	NA	401.98		0.0	*
1Q24		1/3/2024	NE	31.10	NA	NA	NA	401.08		0.0	*
2Q24		4/1/2024	NE	31.55	NA	NA	NA	400.63		0.0	*
<b>MW-06D</b>											
3Q23	432.06	7/6/2023	NE	29.37	NA	NA	NA	402.69	327.34 - 322.34 (104.72 - 109.72)	0.0	*
4Q23		10/2/2023	NE	30.07	NA	NA	NA	401.99		0.0	*
1Q24		1/3/2024	NE	30.30	NA	NA	NA	401.76		0.0	*
2Q24		4/1/2024	NE	31.43	NA	NA	NA	400.63		0.0	*
<b>MW-07</b>											
3Q23	443.31	7/5/2023	NE	40.97	NA	NA	NA	402.34	400.39 - 390.39 (42.92 - 52.92)	33.8	*
4Q23		10/2/2023	NE	41.63	NA	NA	NA	401.68		0.0	*
1Q24		1/2/2024	NE	42.58	NA	NA	NA	400.73		0.0	*
2Q24		4/1/2024	NE	43.03	NA	NA	NA	400.28		0.0	*
<b>MW-09</b>											
3Q23	445.28	7/5/2023	NE	42.43	NA	NA	NA	402.85	399.24 - 389.24 (46.04 - 56.04)	0.0	*
4Q23		10/2/2023	NE	43.11	NA	NA	NA	402.17		0.0	*
1Q24		1/2/2024	NE	44.07	NA	NA	NA	401.21		0.0	*
2Q24		4/1/2024	NE	44.77	NA	NA	NA	400.51		0.0	*
<b>MW-10</b>											
3Q23	445.06	7/5/2023	NE	42.43	NA	NA	NA	402.63	400.63 - 390.63 (44.43 - 54.43)	0.0	*
4Q23		10/2/2023	NE	42.98	NA	NA	NA	402.08		0.0	*
1Q24		1/2/2024	NE	43.93	NA	NA	NA	401.13		0.0	*
2Q24		4/1/2024	NE	44.68	NA	NA	NA	400.38		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 (elev.)	SCREENED INTERVAL (elev. (ft btoc)	WELL HEAD PID (ppm)	COMMENTS
<b>MW-11</b>											
3Q23	442.38	7/5/2023	NE	39.86	NA	NA	NA	402.52	400.72 - 390.72 (41.66 - 51.66)	0.0	*
4Q23		10/2/2023	NE	40.67	NA	NA	NA	401.71		0.0	*
1Q24		1/2/2024	NE	41.73	NA	NA	NA	400.65		0.0	
2Q24		4/2/2024	NE	42.33	NA	NA	NA	400.05		0.0	
<b>MW-12</b>											
3Q23	442.64	7/6/2023	NE	40.24	NA	NA	NA	402.40	400.72 - 390.72 (41.92 - 51.92)	0.0	*
4Q23		10/2/2023	NE	40.81	NA	NA	NA	401.83		0.0	*
1Q24		1/3/2024	NE	41.88	NA	NA	NA	400.76		0.0	*
2Q24		4/1/2024	NE	42.41	NA	NA	NA	400.23		0.0	
<b>MW-13</b>											
3Q23	430.30	7/6/2023	NE	27.46	NA	NA	NA	402.84	405.50 - 395.50 (24.80 - 34.80)	0.0	
4Q23		10/3/2023	NE	28.36	NA	NA	NA	401.94		0.0	
1Q24		1/3/2024	NE	29.21	NA	NA	NA	401.09		0.0	
2Q24		4/2/2024	NE	29.53	NA	NA	NA	400.77		0.0	
<b>MW-14</b>											
3Q23	434.61	7/7/2023	NE	31.86	NA	NA	NA	402.75	401.19 - 391.19 (33.42 - 43.42)	52.1	*
4Q23		10/4/2023	NE	32.52	NA	NA	NA	402.09		28.8	*
1Q24		1/4/2024	NE	33.47	NA	NA	NA	401.14		26.9	
2Q24		4/3/2024	NE	33.85	NA	NA	NA	400.76		19.0	
<b>MW-16</b>											
3Q23	443.60	7/7/2023	NE	41.33	NA	NA	NA	402.27	406.10 - 396.10 (37.50 - 47.50)	0.0	
4Q23		10/2/2023	NE	41.76	NA	NA	NA	401.84		0.0	
1Q24		1/3/2024	NE	42.88	NA	NA	NA	400.72		0.0	
2Q24		4/1/2024	NE	43.42	NA	NA	NA	400.18		0.0	
<b>MW-17</b>											
3Q23	441.78	7/5/2023	NE	39.52	NA	NA	NA	402.26	407.49 - 392.49 (34.29 - 49.29)	0.0	
4Q23		10/2/2023	NE	39.91	NA	NA	NA	401.87		0.0	
1Q24		1/2/2024	NE	41.07	NA	NA	NA	400.71		0.0	
2Q24		4/1/2024	NE	41.65	NA	NA	NA	400.13		0.0	
<b>MW-18</b>											
3Q23	442.24	7/5/2023	NE	40.08	NA	NA	NA	402.16	407.32 - 392.32 (34.92 - 49.92)	0.0	
4Q23		10/2/2023	NE	40.43	NA	NA	NA	401.81		0.0	
1Q24		1/2/2024	NE	41.63	NA	NA	NA	400.61		0.0	
2Q24		4/1/2024	NE	42.18	NA	NA	NA	400.06		0.0	
<b>MW-19</b>											
3Q23	442.98	7/5/2023	NE	40.74	NA	NA	NA	402.24	406.64 - 391.64 (36.34 - 51.34)	0.0	
4Q23		10/2/2023	NE	41.20	NA	NA	NA	401.78		0.0	
1Q24		1/2/2024	NE	42.43	NA	NA	NA	400.55		0.0	
2Q24		4/1/2024	NE	42.93	NA	NA	NA	400.05		0.0	
<b>MW-20</b>											
3Q23	443.86	7/5/2023	NE	41.72	NA	NA	NA	402.14	407.98 - 392.98 (35.88 - 50.88)	0.0	
4Q23		10/2/2023	NE	42.15	NA	NA	NA	401.71		0.0	
1Q24		1/2/2024	NE	43.34	NA	NA	NA	400.52		0.0	
2Q24		4/1/2024	NE	43.83	NA	NA	NA	400.03		0.0	
<b>MW-21</b>											
3Q23	444.01	7/5/2023	NE	41.91	NA	NA	NA	402.10	409.00 - 394.00 (35.01 - 50.01)	0.0	
4Q23		10/2/2023	NE	42.37	NA	NA	NA	401.64		0.0	
1Q24		1/2/2024	NE	43.39	NA	NA	NA	400.62		0.0	
2Q24		4/1/2024	NE	43.85	NA	NA	NA	400.16		0.0	
<b>MW-22</b>											
3Q23	442.38	7/6/2023	NE	40.04	NA	NA	NA	402.34	403.95 - 393.95 (38.43 - 48.43)	0.0	
4Q23		10/2/2023	NE	40.53	NA	NA	NA	401.85		0.0	
1Q24		1/11/2024	NE	41.71	NA	NA	NA	400.67		0.0	
2Q24		4/1/2024	NE	42.15	NA	NA	NA	400.23		0.0	
<b>MW-23</b>											
3Q23	431.57	7/6/2023	NE	29.00	NA	NA	NA	402.57	402.55 - 392.55 (29.02 - 39.02)	0.2	*
4Q23		10/3/2023	NE	29.81	NA	NA	NA	401.76		0.0	
1Q24		1/3/2024	NE	30.71	NA	NA	NA	400.86		0.0	
2Q24		4/1/2024	NE	31.17	NA	NA	NA	400.40		0.0	

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<b>MW-24</b>											
3Q23	443.65	7/5/2023	NE	41.12	NA	NA	NA	402.53	404.04 - 394.04 (39.61 - 49.61)	0.0	
4Q23		10/2/2023	NE	41.76	NA	NA	NA	401.89		0.0	
1Q24		1/2/2024	NE	42.77	NA	NA	NA	400.88		0.0	
2Q24		4/1/2024	NE	43.38	NA	NA	NA	400.27		0.0	
<b>MW-25</b>											
3Q23	438.53	7/6/2023	NE	36.11	NA	NA	NA	402.42	402.94 - 392.94 (35.59 - 45.59)	141.2	
4Q23		10/2/2023	NE	36.74	NA	NA	NA	401.79		82.3	
1Q24		1/3/2024	NE	37.71	NA	NA	NA	400.82		88.4	
2Q24		4/1/2024	NE	38.22	NA	NA	NA	400.31		0.0	
<b>MW-26</b>											
3Q23	441.23	7/6/2023	NE	38.88	NA	NA	NA	402.35	403.08 - 393.08 (38.15 - 48.15)	0.0	
4Q23		10/2/2023	NE	39.45	NA	NA	NA	401.78		0.0	
1Q24		1/3/2024	NE	40.47	NA	NA	NA	400.76		0.0	
2Q24		4/1/2024	NE	40.98	NA	NA	NA	400.25		0.0	
<b>MW-27</b>											
3Q23	443.60	7/5/2023	NE	40.32	NA	NA	NA	403.28	403.81 - 393.81 (39.79 - 49.79)	0.0	
4Q23		10/2/2023	NE	40.70	NA	NA	NA	402.90		0.0	
1Q24		1/2/2024	NE	41.70	NA	NA	NA	401.90		0.0	
2Q24		4/1/2024	NE	42.55	NA	NA	NA	401.05		0.0	
<b>MW-28</b>											
3Q23	443.55	7/5/2023	NE	39.82	NA	NA	NA	403.73	409.94 - 399.94 (33.61 - 43.61)	0.0	
4Q23		10/2/2023	NE	39.98	NA	NA	NA	403.57		0.0	
1Q24		1/2/2024	NE	40.72	NA	NA	NA	402.83		0.0	
2Q24		4/1/2024	NE	41.57	NA	NA	NA	401.98		0.0	
<b>P-01</b>											
3Q23	442.98	7/7/2023	NE	34.40	NA	NA	NA	408.58	380.76 - 375.76 (62.22 - 67.22)	0.0	*
4Q23		10/3/2023	NE	35.76	NA	NA	NA	407.22		0.0	*
1Q24		1/4/2024	NE	37.34	NA	NA	NA	405.64		0.0	*
2Q24		4/10/2024	NE	37.92	NA	NA	NA	405.06		0.0	*
<b>P-4U</b>											
3Q23	442.74	7/6/2023	NE	35.70	NA	NA	NA	407.04	361.59 - 359.59 (81.15 - 83.15)	0.0	*
4Q23		10/3/2023	NE	36.88	NA	NA	NA	405.86		0.0	*
1Q24		1/4/2024	NE	38.46	NA	NA	NA	404.28		0.0	*
2Q24		4/3/2024	NE	39.30	NA	NA	NA	403.44		0.0	*
<b>P-5L</b>											
3Q23	444.01	7/7/2023	NE	35.75	NA	NA	NA	408.26	303.61 - 301.61 (140.40 - 142.40)	0.0	*
4Q23		10/3/2023	NE	37.12	NA	NA	NA	406.89		0.0	*
1Q24		1/4/2024	NE	38.57	NA	NA	NA	405.44		0.0	*
2Q24		4/3/2024	NE	39.15	NA	NA	NA	404.86		0.0	*
<b>P-5U</b>											
3Q23	444.42	7/7/2023	NE	36.85	NA	NA	NA	407.57	313.79 - 311.79 (130.63 - 132.63)	0.0	*
4Q23		10/3/2023	NE	38.22	NA	NA	NA	406.20		0.0	*
1Q24		1/4/2024	NE	39.94	NA	NA	NA	404.48		0.0	*
2Q24		4/3/2024	NE	40.32	NA	NA	NA	404.10		0.0	*
<b>P-6U</b>											
3Q23	443.63	7/6/2023	NE	36.46	NA	NA	NA	407.17	363.13 - 361.13 (80.50 - 82.50)	0.0	*
4Q23		10/3/2023	NE	37.56	NA	NA	NA	406.07		0.0	*
1Q24		1/4/2024	NE	39.11	NA	NA	NA	404.52		0.0	*
2Q24		4/3/2024	NE	39.95	NA	NA	NA	403.68		0.0	*
<b>P-7U</b>											
3Q23	444.08	7/7/2023	NE	36.70	NA	NA	NA	407.38	383.00 - 381.00 (61.08 - 63.08)	0.0	*
4Q23		10/3/2023	NE	37.83	NA	NA	NA	406.25		0.0	*
1Q24		1/4/2024	NE	39.32	NA	NA	NA	404.76		0.0	*
2Q24		4/3/2024	NE	40.18	NA	NA	NA	403.90		0.0	*
<b>P-8U</b>											
3Q23	442.07	7/7/2023	NE	36.75	NA	NA	NA	405.32	382.72 - 380.72 (59.35 - 61.35)	0.0	*
4Q23		10/3/2023	NE	37.71	NA	NA	NA	404.36		0.0	*
1Q24		1/2/2024	NE	39.04	NA	NA	NA	403.03		0.0	*
2Q24		4/3/2024	NE	40.18	NA	NA	NA	401.89		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 (elev.)	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID (ppm)	COMMENTS
<b>P-9U</b>											
3Q23	445.20	7/7/2023	NE	41.42	NA	NA	NA	403.78	344.61 - 342.61 (100.59 - 102.59)	0.0	*
4Q23		10/3/2023	NE	42.19	NA	NA	NA	403.01		0.0	*
1Q24		1/2/2024	NE	43.68	NA	NA	NA	401.52		0.0	*
2Q24		4/2/2024	NE	44.61	NA	NA	NA	400.59		0.0	*
<b>P-11L</b>											
3Q23	442.76	7/6/2023	NE	37.50	NA	NA	NA	405.26	332.55 - 330.55 (110.21 - 112.21)	0.0	*
4Q23		10/3/2023	NE	38.56	NA	NA	NA	404.20		0.0	*
1Q24		1/4/2024	NE	40.10	NA	NA	NA	402.66		0.0	*
2Q24		4/3/2024	NE	41.08	NA	NA	NA	401.68		0.0	*
<b>P-11U</b>											
3Q23	443.38	7/6/2023	NE	38.13	NA	NA	NA	405.25	343.46 - 341.46 (99.92 - 101.92)	0.0	*
4Q23		10/3/2023	NE	39.17	NA	NA	NA	404.21		0.0	*
1Q24		1/4/2024	NE	40.74	NA	NA	NA	402.64		0.0	*
2Q24		4/3/2024	NE	41.68	NA	NA	NA	401.70		0.0	*
<b>P-14</b>											
3Q23	443.01	7/7/2023	NE	34.50	NA	NA	NA	408.51	395.54 - 385.54 (47.47 - 57.47)	0.0	*
4Q23		10/3/2023	NE	35.85	NA	NA	NA	407.16		4.1	*
1Q24		1/4/2024	NE	37.39	NA	NA	NA	405.62		0.0	*
2Q24		4/10/2024	NE	38.02	NA	NA	NA	404.99		0.0	*
<b>P-15</b>											
3Q23	443.88	7/6/2023	NE	36.30	NA	NA	NA	407.58	398.43 - 388.43 (45.45 - 55.45)	0.0	*
4Q23		10/3/2023	NE	37.52	NA	NA	NA	406.36		0.0	*
1Q24		1/4/2024	NE	39.04	NA	NA	NA	404.84		0.0	*
2Q24		4/3/2024	NE	39.88	NA	NA	NA	404.00		0.0	*
<b>P-16</b>											
3Q23	442.84	7/6/2023	NE	35.36	NA	NA	NA	407.48	397.10 - 387.10 (45.74 - 55.74)	0.0	*
4Q23		10/3/2023	NE	36.50	NA	NA	NA	406.34		0.0	*
1Q24		1/4/2024	NE	38.03	NA	NA	NA	404.81		0.0	*
2Q24		4/3/2024	NE	38.85	NA	NA	NA	403.99		0.0	*
<b>P-43</b>											
3Q23	444.62	7/6/2023	NE	39.00	NA	NA	NA	405.62	381.06 - 371.06 (63.56 - 73.56)	0.0	*
4Q23		10/3/2023	NE	40.73	NA	NA	NA	403.89		0.0	*
1Q24		1/4/2024	NE	41.60	NA	NA	NA	403.02		0.0	*
2Q24		4/3/2024	NE	42.55	NA	NA	NA	402.07		0.0	*
<b>P-53</b>											
3Q23	446.57	7/6/2023	NE	42.50	NA	NA	NA	404.07	406.26 - 381.26 (40.31 - 65.31)	0.0	*
4Q23		10/3/2023	NE	43.10	NA	NA	NA	403.47		0.0	*
1Q24		1/2/2024	NE	43.97	NA	NA	NA	402.60		0.0	*
2Q24		4/1/2024	NE	44.83	NA	NA	NA	401.74		0.0	*
<b>P-54</b>											
3Q23	442.52	7/5/2023	NE	39.90	NA	NA	NA	402.62	404.52 - 379.52 (38.00 - 63.00)	0.0	*
4Q23		10/2/2023	NE	40.60	NA	NA	NA	401.92		0.0	*
1Q24		1/5/2024	NE	41.60	NA	NA	NA	400.92		0.0	*
2Q24		4/1/2024	NE	42.22	NA	NA	NA	400.30		0.0	*
<b>P-55R</b>											
3Q23	444.01	7/5/2023		39.91	39.92	404.09	404.10	0.01	404.10	74.4	*
4Q23		10/2/2023		40.35	40.37	403.64	403.66	0.02	403.66	119.6	*
1Q24		1/2/2024		41.11	41.13	402.88	402.90	0.02	402.90	114.7	*
2Q24		4/1/2024		41.74	41.96	402.05	402.27	0.22	402.23	58.4	*
<b>P-56</b>											
3Q23	446.32	7/5/2023	NE	44.20	NA	NA	NA	402.12	405.50 - 380.50 (40.82 - 65.82)	0.0	*
4Q23		10/2/2023	NE	44.54	NA	NA	NA	401.78		13.8	*
1Q24		1/2/2024	NE	45.87	NA	NA	NA	400.45		5.2	*
2Q24		4/1/2024	NE	46.26	NA	NA	NA	400.06		0.4	*
<b>P-57</b>											
3Q23	447.15	7/5/2023	NE	44.92	NA	NA	NA	402.23	402.96 - 392.96 (44.19 - 54.19)	8.1	*
4Q23		10/2/2023	NE	45.43	NA	NA	NA	401.72		0.5	*
1Q24		1/2/2024	NE	46.53	NA	NA	NA	400.62		0.0	*
2Q24		4/1/2024	NE	46.96	NA	NA	NA	400.19		0.2	*

**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 (elev.)	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID (ppm)	COMMENTS
<b>P-58</b>											
3Q23	445.16	7/5/2023	NE	42.82	NA	NA	NA	402.34	404.95 - 379.95 (40.21 - 65.21)	0.0	
4Q23		10/2/2023	NE	43.42	NA	NA	NA	401.74		0.0	
1Q24		1/2/2024	NE	44.42	NA	NA	NA	400.74		0.0	
2Q24		4/1/2024	NE	44.83	NA	NA	NA	400.33		0.0	
<b>P-59</b>											
3Q23	447.07	7/5/2023	NE	44.91	NA	NA	NA	402.16	399.16 - 374.16 (47.91 - 72.91)	161.8	*
4Q23		10/2/2023	NE	45.22	NA	NA	NA	401.85		205.6	*
1Q24		1/2/2024	NE	46.53	NA	NA	NA	400.54		302.5	*
2Q24		4/1/2024	NE	47.04	NA	NA	NA	400.03		82.1	*
<b>P-60</b>											
3Q23	446.88	7/5/2023	NE	44.60	NA	NA	NA	402.28	402.23 - 382.23 (44.65 - 64.65)	0.0	*
4Q23		10/2/2023	NE	44.97	NA	NA	NA	401.91		0.4	
1Q24		1/2/2024	NE	46.13	NA	NA	NA	400.75		20.8	
2Q24		4/1/2024	NE	46.75	NA	NA	NA	400.13		31.4	
<b>P-61</b>											
3Q23	444.66	7/5/2023	NE	43.19	NA	NA	NA	401.47	398.99 - 373.99 (45.68 - 70.68)	19.5	*
4Q23		10/3/2023	NE	43.22	NA	NA	NA	401.44		24.5	*
1Q24		1/3/2024	44.25	46.50	398.16	400.41	2.25	399.96		392.8	*
2Q24		4/2/2024	44.64	47.06	397.60	400.02	2.42	399.54		13.2	*
<b>P-62</b>											
3Q23	442.60	7/6/2023	NE	41.60	NA	NA	NA	401.00	401.13 - 376.13 (41.47 - 66.47)	0.0	
4Q23		10/2/2023	40.95	42.01	400.59	401.65	1.06	401.44		0.0	*
1Q24		1/3/2024	42.06	43.34	399.26	400.54	1.28	400.28		3.8	
2Q24		4/2/2024	42.56	43.74	398.86	400.04	1.18	399.80		132.6	
<b>P-63</b>											
3Q23	446.06	7/6/2023	NE	45.10	NA	NA	NA	400.96	398.77 - 373.77 (47.29 - 72.29)	1.4	*
4Q23		10/2/2023	45.41	45.56	400.50	400.65	0.15	400.62		0.0	*
1Q24		1/3/2024	NE	46.19	NA	NA	NA	399.87		45.2	*
2Q24		4/2/2024	NE	46.70	NA	NA	NA	399.36		36.3	*
<b>P-64</b>											
3Q23	446.78	7/6/2023	44.09	44.12	402.66	402.69	0.03	402.68	399.55 - 374.55 (47.23 - 72.23)	72.0	* Results anomalous
4Q23		10/3/2023	46.71	46.85	399.93	400.07	0.14	400.04		264.4	*
1Q24		1/3/2024	47.34	47.45	399.33	399.44	0.11	399.42		420.5	
2Q24		4/3/2024	47.96	49.33	397.45	398.82	1.37	398.55		20.1	
<b>P-65</b>											
3Q23	444.77	7/5/2023	NE	43.32	NA	NA	NA	401.45	397.75 - 372.75 (47.02 - 72.02)	3.4	*
4Q23		10/2/2023	44.00	44.06	400.71	400.77	0.06	400.76		0.0	*
1Q24		1/3/2024	NE	44.82	NA	NA	NA	399.95		38.2	*
2Q24		4/1/2024	NE	45.45	NA	NA	NA	399.32		3.2	*
<b>P-66</b>											
3Q23	437.00	7/7/2023	34.52	35.02	401.98	402.48	0.50	402.38	402.28 - 377.28 (34.72 - 59.72)	21.3	*
4Q23		10/4/2023	34.91	36.35	400.65	402.09	1.44	401.80		0.0	
1Q24		1/4/2024	35.97	37.00	400.00	401.03	1.03	400.82		197.7	
2Q24		4/3/2024	36.50	37.07	399.93	400.50	0.57	400.39		2.5	
<b>P-67</b>											
3Q23	444.30	7/7/2023	41.07	41.11	403.19	403.23	0.04	403.22	402.33 - 377.33 (41.98 - 66.98)	0.7	*
4Q23		10/4/2023	41.75	41.76	402.54	402.55	0.01	402.55		0.0	*
1Q24		1/4/2024	NE	42.73	NA	NA	NA	401.57		0.9	
2Q24		4/3/2024	NE	43.13	NA	NA	NA	401.17		0.0	
<b>P-68</b>											
3Q23	445.38	7/5/2023	43.17	43.19	402.19	402.21	0.02	402.21	401.62 - 376.62 (43.76 - 68.76)	114.3	*
4Q23		10/2/2023	43.41	43.47	401.91	401.97	0.06	401.96		0.0	*
1Q24		1/3/2024	44.57	44.64	400.74	400.81	0.07	400.80		202.7	
2Q24		4/1/2024	45.18	45.33	400.05	400.20	0.15	400.17		172.6	
<b>P-69</b>											
3Q23	443.77	7/5/2023	NE	42.87	NA	NA	NA	400.90	402.95 - 377.95 (40.82 - 65.82)	0.0	
4Q23		10/2/2023	NE	42.06	NA	NA	NA	401.71		0.0	
1Q24		1/3/2024	NE	43.56	NA	NA	NA	400.21		0.0	
2Q24		4/1/2024	NE	43.97	NA	NA	NA	399.80		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 (elev.)	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID (ppm)	COMMENTS
<b>P-70</b>											
3Q23	443.11	7/5/2023	41.00	41.40	401.71	402.11	0.40	402.03	398.44 - 373.44 (44.67 - 69.67)	55.7	*
4Q23		10/3/2023	NE	41.53	NA	NA	NA	401.58		171.8	*
1Q24		1/3/2024	NE	42.82	NA	NA	NA	400.29		160.1	*
2Q24		4/2/2024	NE	43.31	NA	NA	NA	399.80		113.2	*
<b>P-71</b>											
3Q23	445.09	7/5/2023	NE	42.71	NA	NA	NA	402.38	402.48 - 377.48 (42.61 - 67.61)	46.9	
4Q23		10/2/2023	NE	43.14	NA	NA	NA	401.95		0.0	
1Q24		1/3/2024	NE	44.17	NA	NA	NA	400.92		112.5	
2Q24		4/1/2024	NE	44.52	NA	NA	NA	400.57		0.0	
<b>P-72</b>											
3Q23	444.70	7/5/2023	NE	42.20	NA	NA	NA	402.50	398.93 - 373.93 (45.77 - 70.77)	0.1	*
4Q23		10/2/2023	NE	42.73	NA	NA	NA	401.97		0.0	*
1Q24		1/3/2024	NE	43.71	NA	NA	NA	400.99		82.6	*
2Q24		4/1/2024	NE	44.11	NA	NA	NA	400.59		2.3	*
<b>P-73</b>											
3Q23	444.02	7/6/2023	NE	42.25	NA	NA	NA	401.77	402.43 - 377.43 (41.60 - 66.60)	25.3	
4Q23		10/3/2023	NE	42.56	NA	NA	NA	401.46		0.0	
1Q24		1/3/2024	NE	43.56	NA	NA	NA	400.46		0.0	
2Q24		4/2/2024	NE	43.89	NA	NA	NA	400.13		20.9	
<b>P-74</b>											
3Q23	442.93	7/5/2023	NE	40.91	NA	NA	NA	402.02	399.10 - 374.10 (43.83 - 68.83)	10.6	*
4Q23		10/2/2023	NE	41.11	NA	NA	NA	401.82		0.0	*
1Q24		1/3/2024	NE	42.44	NA	NA	NA	400.49		0.0	*
2Q24		4/1/2024	NE	43.00	NA	NA	NA	399.93		0.0	*
<b>P-75</b>											
3Q23	446.68	7/7/2023	NE	44.65	NA	NA	NA	402.03	403.55 - 378.55 (43.13 - 68.13)	0.2	
4Q23		10/4/2023	NE	44.95	NA	NA	NA	401.73		0.0	
1Q24		1/4/2024	NE	45.93	NA	NA	NA	400.75		0.7	
2Q24		4/3/2024	NE	46.38	NA	NA	NA	400.30		0.0	
<b>P-82A</b>											
3Q23	434.94	7/19/2023	NE	29.28	NA	NA	NA	405.66	401.73 - 386.73 (33.21 - 48.21)	0.0	*
4Q23		10/3/2023	NE	30.05	NA	NA	NA	404.89		0.0	*
1Q24		1/4/2024	NE	31.02	NA	NA	NA	403.92		0.0	*
2Q24		4/2/2024	NE	31.20	NA	NA	NA	403.74		0.0	*
<b>P-82B</b>											
3Q23	434.68	7/19/2023	NE	29.01	NA	NA	NA	405.67	371.88 - 369.88 (62.80 - 64.80)	0.0	*
4Q23		10/3/2023	NE	29.76	NA	NA	NA	404.92		0.0	*
1Q24		1/4/2024	NE	30.74	NA	NA	NA	403.94		0.0	*
2Q24		4/2/2024	NE	30.93	NA	NA	NA	403.75		0.0	*
<b>P-82C</b>											
3Q23	434.41	7/19/2023	NE	28.71	NA	NA	NA	405.70	351.64 - 349.64 (82.77 - 84.77)	0.0	*
4Q23		10/3/2023	NE	29.48	NA	NA	NA	404.93		0.0	*
1Q24		1/4/2024	NE	30.45	NA	NA	NA	403.96		0.0	*
2Q24		4/2/2024	NE	30.85	NA	NA	NA	403.56		0.0	*
<b>P-82D</b>											
3Q23	435.09	7/19/2023	NE	29.50	NA	NA	NA	405.59	323.55 - 321.55 (111.54 - 113.54)	0.0	*
4Q23		10/3/2023	NE	30.25	NA	NA	NA	404.84		0.0	*
1Q24		1/4/2024	NE	31.21	NA	NA	NA	403.88		0.0	*
2Q24		4/2/2024	NE	31.40	NA	NA	NA	403.69		0.0	*
<b>P-83A</b>											
3Q23	445.54	7/6/2023	NE	43.46	NA	NA	NA	402.08	398.14 - 383.14 (47.40 - 62.40)	0.0	*
4Q23		10/3/2023	NE	43.94	NA	NA	NA	401.60		0.0	*
1Q24		1/2/2024	NE	44.82	NA	NA	NA	400.72		0.0	*
2Q24		4/2/2024	NE	45.44	NA	NA	NA	400.10		0.0	*
<b>P-83B</b>											
3Q23	445.77	7/6/2023	NE	43.73	NA	NA	NA	402.04	371.97 - 369.97 (73.80 - 75.80)	0.0	*
4Q23		10/3/2023	NE	44.20	NA	NA	NA	401.57		0.0	*
1Q24		1/2/2024	NE	44.90	NA	NA	NA	400.87		0.0	*
2Q24		4/2/2024	NE	45.71	NA	NA	NA	400.06		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 (elev.)	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID (ppm)	COMMENTS
<b>P-83C</b>											
3Q23	445.95	7/6/2023	NE	43.87	NA	NA	NA	402.08	353.56 - 351.56 (92.39 - 94.39)	0.0	*
4Q23		10/3/2023	NE	44.35	NA	NA	NA	401.60		0.0	*
1Q24		1/2/2024	NE	45.20	NA	NA	NA	400.75		0.0	*
2Q24		4/2/2024	NE	45.83	NA	NA	NA	400.12		0.0	*
<b>P-83D</b>											
3Q23	445.86	7/6/2023	NE	43.85	NA	NA	NA	402.01	312.06 - 310.06 (133.80 - 135.80)	0.0	*
4Q23		10/3/2023	NE	45.30	NA	NA	NA	400.56		0.0	*
1Q24		1/2/2024	NE	44.98	NA	NA	NA	400.88		0.0	*
2Q24		4/2/2024	NE	46.81	NA	NA	NA	399.05		0.0	*
<b>P-84A</b>											
3Q23	446.63	7/7/2023	NE	43.51	NA	NA	NA	403.12	397.71 - 382.71 (48.92 - 63.92)	0.0	*
4Q23		10/3/2023	NE	44.44	NA	NA	NA	402.19		0.0	*
1Q24		1/3/2024	NE	44.84	NA	NA	NA	401.79		0.0	*
2Q24		4/3/2024	NE	45.78	NA	NA	NA	400.85		0.0	*
<b>P-84B</b>											
3Q23	446.35	7/7/2023	NE	43.23	NA	NA	NA	403.12	372.85 - 370.85 (73.50 - 75.50)	0.0	*
4Q23		10/3/2023	NE	43.78	NA	NA	NA	402.57		0.0	*
1Q24		1/3/2024	NE	44.57	NA	NA	NA	401.78		0.0	*
2Q24		4/3/2024	NE	45.40	NA	NA	NA	400.95		0.0	*
<b>P-84C</b>											
3Q23	446.37	7/7/2023	NE	43.26	NA	NA	NA	403.11	352.32 - 350.32 (94.05 - 96.05)	0.0	*
4Q23		10/3/2023	NE	43.78	NA	NA	NA	402.59		0.0	*
1Q24		1/3/2024	NE	44.57	NA	NA	NA	401.80		0.0	*
2Q24		4/3/2024	NE	45.42	NA	NA	NA	400.95		0.0	*
<b>P-84D</b>											
3Q23	446.38	7/7/2023	NE	43.24	NA	NA	NA	403.14	325.55 - 323.55 (120.83 - 122.83)	0.0	*
4Q23		10/3/2023	NE	43.78	NA	NA	NA	402.60		0.0	*
1Q24		1/3/2024	NE	44.57	NA	NA	NA	401.81		0.0	*
2Q24		4/3/2024	NE	45.42	NA	NA	NA	400.96		0.0	*
<b>P-88A</b>											
3Q23	443.27	7/7/2023	NE	35.08	NA	NA	NA	408.19	404.87 - 389.87 (38.40 - 53.40)	0.0	*
4Q23		10/3/2023	NE	35.86	NA	NA	NA	407.41		0.0	*
1Q24		1/4/2024	NE	36.97	NA	NA	NA	406.30		0.0	*
2Q24		4/3/2024	NE	37.75	NA	NA	NA	405.52		0.0	*
<b>P-88B</b>											
3Q23	443.35	7/7/2023	NE	35.11	NA	NA	NA	408.24	371.70 - 369.70 (71.65 - 73.65)	0.0	*
4Q23		10/3/2023	NE	35.93	NA	NA	NA	407.42		0.0	*
1Q24		1/4/2024	NE	37.03	NA	NA	NA	406.32		0.0	*
2Q24		4/3/2024	NE	37.83	NA	NA	NA	405.52		0.0	*
<b>P-88C</b>											
3Q23	443.31	7/7/2023	NE	35.09	NA	NA	NA	408.22	351.01 - 349.01 (92.30 - 94.30)	0.0	*
4Q23		10/3/2023	NE	35.88	NA	NA	NA	407.43		0.0	*
1Q24		1/4/2024	NE	36.99	NA	NA	NA	406.32		0.0	*
2Q24		4/3/2024	NE	37.80	NA	NA	NA	405.51		0.0	*
<b>P-88D</b>											
3Q23	443.38	7/7/2023	NE	35.20	NA	NA	NA	408.18	331.21 - 329.21 (112.17 - 114.17)	0.0	*
4Q23		10/3/2023	NE	35.97	NA	NA	NA	407.41		0.0	*
1Q24		1/4/2024	NE	37.10	NA	NA	NA	406.28		0.0	*
2Q24		4/3/2024	NE	37.85	NA	NA	NA	405.53		0.0	*
<b>P-89B</b>											
3Q23	447.64	7/6/2023	NE	44.16	NA	NA	NA	403.48	370.28 - 368.28 (77.36 - 79.36)	0.0	*
4Q23		10/3/2023	NE	44.98	NA	NA	NA	402.66		0.6	*
1Q24		1/3/2024	NE	46.47	NA	NA	NA	401.17		0.0	*
2Q24		4/2/2024	NE	47.62	NA	NA	NA	400.02		0.0	*
<b>P-89C</b>											
3Q23	447.96	7/6/2023	NE	44.50	NA	NA	NA	403.46	351.56 - 349.56 (96.40 - 98.40)	0.0	*
4Q23		10/3/2023	NE	45.34	NA	NA	NA	402.62		103.6	*
1Q24		1/3/2024	NE	46.86	NA	NA	NA	401.10		0.0	*
2Q24		4/2/2024	NE	47.98	NA	NA	NA	399.98		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 (elev.)	SCREENED INTERVAL (elev. (ft btoc)	WELL HEAD PID (ppm)	COMMENTS	
<b>P-89D</b>												
3Q23	447.83	7/6/2023	NE	44.60	NA	NA	NA	403.23	309.33 - 307.33 (138.50 - 140.50)	0.0	*	
4Q23		10/3/2023	NE	45.36	NA	NA	NA	402.47		0.0	*	
1Q24		1/3/2024	NE	46.88	NA	NA	NA	400.95		0.0	*	
2Q24		4/2/2024	NE	47.99	NA	NA	NA	399.84		0.0	*	
<b>P-91A</b>												
3Q23	447.43	7/6/2023	NE	48.30	NA	NA	NA	399.13	395.92 - 380.92 (51.52 - 66.52)	8.4	*	
4Q23		10/3/2023	NE	47.99	399.37	399.44	0.07	399.43		3.2	*	
1Q24		1/2/2024	NE	48.75	48.76	398.67	398.68	0.01		398.68	1.7	*
2Q24		4/2/2024	NE	49.31	49.33	398.10	398.12	0.02		398.12	2.8	*
<b>P-91B</b>												
3Q23	447.47	7/6/2023	NE	48.45	NA	NA	NA	399.02	372.78 - 370.78 (74.69 - 76.69)	0.1	*	
4Q23		10/3/2023	NE	48.02	NA	NA	NA	399.45		3.3	*	
1Q24		1/2/2024	NE	48.78	NA	NA	NA	398.69		0.0	*	
2Q24		4/2/2024	NE	49.31	49.31	NA	NA	398.16		0.0	*	
<b>P-91C</b>												
3Q23	447.27	7/6/2023	NE	48.20	NA	NA	NA	399.07	352.54 - 350.54 (94.73 - 96.73)	0.0	*	
4Q23		10/3/2023	NE	47.76	NA	NA	NA	399.51		0.0	*	
1Q24		1/2/2024	NE	48.54	NA	NA	NA	398.73		0.0	*	
2Q24		4/2/2024	NE	49.11	49.11	NA	NA	398.16		0.0	*	
<b>P-91D</b>												
3Q23	447.26	7/6/2023	NE	48.20	NA	NA	NA	399.06	278.94 - 276.94 (168.32 - 170.32)	0.0	*	
4Q23		10/3/2023	NE	47.76	NA	NA	NA	399.50		2.2	*	
1Q24		1/2/2024	NE	48.81	NA	NA	NA	398.45		8.2	*	
2Q24		4/2/2024	NE	49.14	49.14	NA	NA	398.12		0.0	*	
<b>P-92A</b>												
3Q23	446.39	7/6/2023	NE	45.61	400.63	400.78	0.15	400.75	398.82 - 383.82 (47.57 - 62.57)	55.8	*	
4Q23		10/2/2023	NE	46.16	NA	NA	NA	400.23		0.0	*	
1Q24		1/3/2024	NE	46.84	46.87	399.52	399.55	0.03		399.54	132.9	*
2Q24		4/1/2024	NE	47.56	47.59	398.80	398.83	0.03		398.82	88.6	*
<b>P-92B</b>												
3Q23	446.33	7/6/2023	NE	45.54	NA	NA	NA	400.79	371.92 - 369.92 (74.41 - 76.41)	0.0	*	
4Q23		10/2/2023	NE	46.10	NA	NA	NA	400.23		0.0	*	
1Q24		1/3/2024	NE	46.81	NA	NA	NA	399.52		0.0	*	
2Q24		4/1/2024	NE	47.51	47.51	NA	NA	398.82		0.2	*	
<b>P-92C</b>												
3Q23	446.34	7/6/2023	NE	45.52	NA	NA	NA	400.82	353.38 - 348.38 (92.96 - 97.96)	1.5	*	
4Q23		10/2/2023	NE	46.12	NA	NA	NA	400.22		0.0	*	
1Q24		1/3/2024	NE	46.79	NA	NA	NA	399.55		0.0	*	
2Q24		4/1/2024	NE	47.55	47.55	NA	NA	398.79		0.3	*	
<b>P-92D</b>												
3Q23	446.15	7/6/2023	NE	45.42	NA	NA	NA	400.73	305.15 - 303.15 (141.00 - 143.00)	0.6	*	
4Q23		10/2/2023	NE	45.99	NA	NA	NA	400.16		0.0	*	
1Q24		1/3/2024	NE	45.68	NA	NA	NA	400.47		0.0	*	
2Q24		4/1/2024	NE	47.41	47.41	NA	NA	398.74		0.0	*	
<b>P-93A</b>												
3Q23	445.37	7/5/2023	NE	43.10	NA	NA	NA	402.27	402.30 - 392.30 (43.07 - 53.07)	0.0	*	
4Q23		10/2/2023	NE	43.64	NA	NA	NA	401.73		0.0	*	
1Q24		1/2/2024	NE	46.07	NA	NA	NA	399.30		0.4	*	
2Q24		4/1/2024	NE	45.12	45.12	NA	NA	400.25		0.0	*	
<b>P-93B</b>												
3Q23	446.70	7/5/2023	NE	44.43	NA	NA	NA	402.27	371.92 - 369.92 (74.78 - 76.78)	0.0	*	
4Q23		10/2/2023	NE	44.98	NA	NA	NA	401.72		0.0	*	
1Q24		1/2/2024	NE	46.07	NA	NA	NA	400.63		0.0	*	
2Q24		4/1/2024	NE	46.49	46.49	NA	NA	400.21		0.0	*	
<b>P-93C</b>												
3Q23	446.55	7/5/2023	NE	44.30	NA	NA	NA	402.25	353.67 - 348.67 (92.88 - 97.88)	0.0	*	
4Q23		10/2/2023	NE	44.83	NA	NA	NA	401.72		0.0	*	
1Q24		1/2/2024	NE	45.90	45.90	NA	NA	400.65		99.2	*	
2Q24		4/1/2024	NE	46.33	46.33	NA	NA	400.22		5.4	*	



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 (elev.)	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID (ppm)	COMMENTS
<b>P-93D</b>											
3Q23	446.97	7/5/2023	NE	44.64	NA	NA	NA	402.33	321.31 - 319.31 (125.66 - 127.66)	0.0	*
4Q23		10/2/2023	NE	45.21	NA	NA	NA	401.76		0.0	*
1Q24		1/2/2024	NE	46.26	NA	NA	NA	400.71		0.0	*
2Q24		4/1/2024	NE	46.70	NA	NA	NA	400.27		0.0	*
<b>P-94</b>											
3Q23	445.04	7/6/2023	NE	40.34	NA	NA	NA	404.70	398.80 - 383.80 (46.24 - 61.24)	0.0	*
4Q23		10/3/2023	NE	41.17	NA	NA	NA	403.87		0.0	*
1Q24		1/2/2024	NE	42.39	NA	NA	NA	402.65		0.0	*
2Q24		4/2/2024	NE	43.26	NA	NA	NA	401.78		0.0	*
<b>P-95</b>											
3Q23	443.95	7/7/2023	NE	33.21	NA	NA	NA	410.74	407.43 - 392.43 (36.52 - 51.52)	0.0	*
4Q23		10/3/2023	NE	34.04	NA	NA	NA	409.91		0.0	*
1Q24		1/4/2024	NE	35.25	NA	NA	NA	408.70		0.0	*
2Q24		4/2/2024	NE	36.15	NA	NA	NA	407.80		0.0	*
<b>P-102</b>											
3Q23	445.14	7/7/2023	NE	37.07	NA	NA	NA	408.07	402.39 - 382.39 (42.75 - 62.75)	19.1	*
4Q23		10/3/2023	NE	38.18	NA	NA	NA	406.96		2.9	*
1Q24		1/4/2024	NE	39.48	NA	NA	NA	405.66		2.3	*
2Q24		4/2/2024	NE	40.37	NA	NA	NA	404.77		0.0	*
<b>P-114R</b>											
3Q23	429.48	7/6/2023	NE	26.50	NA	NA	NA	402.98	406.47 - 396.47 (23.01 - 33.01)	0.0	*
4Q23		10/3/2023	NE	27.65	NA	NA	NA	401.83		0.0	*
1Q24		1/3/2024	NE	28.45	NA	NA	NA	401.03		37.0	*
2Q24		4/2/2024	NE	28.71	NA	NA	NA	400.77		16.8	*
<b>P-115</b>											
3Q23	433.54	7/6/2023	NE	30.61	NA	NA	NA	402.93	401.24 - 381.24 (32.30 - 52.30)	0.0	*
4Q23		10/3/2023	NE	31.71	NA	NA	NA	401.83		0.0	*
1Q24		1/4/2024	NE	32.65	NA	NA	NA	400.89		0.0	*
2Q24		4/2/2024	NE	32.65	NA	NA	NA	400.89		24.9	*
<b>P-116</b>											
3Q23	436.79	7/6/2023	NE	34.00	NA	NA	NA	402.79	399.35 - 379.35 (37.44 - 57.44)	0.1	*
4Q23		10/3/2023	NE	35.16	NA	NA	NA	401.63		0.0	*
1Q24		1/4/2024	NE	36.09	NA	NA	NA	400.70		0.0	*
2Q24		4/2/2024	NE	36.08	NA	NA	NA	400.71		0.0	*
<b>P-117</b>											
3Q23	432.87	7/6/2023	NE	30.22	NA	NA	NA	402.65	399.94 - 379.94 (32.93 - 52.93)	0.0	*
4Q23		10/3/2023	NE	31.38	NA	NA	NA	401.49		0.0	*
1Q24		1/3/2024	NE	32.15	NA	NA	NA	400.72		0.0	*
2Q24		4/2/2024	NE	32.32	NA	NA	NA	400.55		0.0	*
<b>P-118</b>											
3Q23	431.48	7/6/2023	NE	29.10	NA	NA	NA	402.38	400.36 - 384.43 (31.12 - 47.05)	0.2	*
4Q23		10/3/2023	NE	30.41	NA	NA	NA	401.07		0.0	*
1Q24		1/4/2024	NE	31.33	NA	NA	NA	400.15		0.0	*
2Q24		4/2/2024	NE	31.28	NA	NA	NA	400.20		0.0	*
<b>P-119</b>											
3Q23	432.11	7/6/2023	NE	28.90	NA	NA	NA	403.21	401.44 - 385.51 (30.67 - 46.60)	0.0	*
4Q23		10/3/2023	NE	29.85	NA	NA	NA	402.26		0.0	*
1Q24		1/4/2024	NE	30.79	NA	NA	NA	401.32		0.0	*
2Q24		4/2/2024	NE	30.95	NA	NA	NA	401.16		0.0	*
<b>P-120</b>											
3Q23	433.00	7/6/2023	NE	29.31	NA	NA	NA	403.69	401.62 - 385.69 (31.38 - 47.31)	0.0	*
4Q23		10/3/2023	NE	30.38	NA	NA	NA	402.62		0.0	*
1Q24		1/4/2024	NE	31.32	NA	NA	NA	401.68		0.0	*
2Q24		4/2/2024	NE	31.30	NA	NA	NA	401.70		0.0	*
<b>P-129</b>											
3Q23	432.66	7/6/2023	NE	31.41	NA	NA	NA	401.25	400.69 - 384.76 (31.97 - 47.90)	0.0	*
4Q23		10/3/2023	NE	32.78	NA	NA	NA	399.88		1.3	*
1Q24		1/3/2024	NE	33.41	NA	NA	NA	399.25		5.7	*
2Q24		4/2/2024	NE	33.32	NA	NA	NA	399.34		63.1	*

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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 (elev.)	SCREENED INTERVAL (elev. (ft btoc)	WELL HEAD PID (ppm)	COMMENTS
<b>ROST-3-MW</b>											
3Q23	442.52	7/5/2023	NE	40.00	NA	NA	NA	402.52	404.71 - 394.71 (37.81 - 47.81)	0.0	
4Q23		10/2/2023	NE	40.44	NA	NA	NA	402.08		0.0	
1Q24		1/2/2024	NE	41.47	NA	NA	NA	401.05		0.0	
2Q24		4/2/2024	NE	42.12	NA	NA	NA	400.40		0.0	
<b>ROST-4-PZ</b>											
3Q23	442.15	7/5/2023	NE	39.10	NA	NA	NA	403.05	407.22 - 397.22 (34.93 - 44.93)	0.0	
4Q23		10/2/2023	NE	39.48	NA	NA	NA	402.67		0.0	
1Q24		1/2/2024	NE	40.10	NA	NA	NA	402.05		0.0	
2Q24		4/1/2024	NE	41.02	NA	NA	NA	401.13		0.0	
<b>ROST-4-PZ(A)</b>											
3Q23	442.15	7/5/2023	NE	38.56	NA	NA	NA	403.59	407.38 - 397.38 (34.77 - 44.77)	0.0	
4Q23		10/2/2023	NE	39.06	NA	NA	NA	403.09		0.0	
1Q24		1/2/2024	NE	40.34	NA	NA	NA	401.81		0.0	
2Q24		4/1/2024	NE	41.20	NA	NA	NA	400.95		0.0	
<b>ROST-4-PZ(B)</b>											
3Q23	442.40	7/5/2023	NE	39.15	NA	NA	NA	403.25	407.35 - 397.35 (35.06 - 45.06)	0.0	
4Q23		10/2/2023	NE	39.50	NA	NA	NA	402.90		0.0	
1Q24		1/2/2024	NE	40.35	NA	NA	NA	402.05		0.0	
2Q24		4/1/2024	NE	41.05	NA	NA	NA	401.35		0.0	
<b>ROST-4-PZ(C)</b>											
3Q23	442.97	7/5/2023	NE	40.10	NA	NA	NA	402.87	408.02 - 398.02 (34.95 - 44.95)	0.0	
4Q23		10/2/2023	NE	39.55	NA	NA	NA	403.42		0.0	
1Q24		1/2/2024	NE	41.36	NA	NA	NA	401.61		0.0	
2Q24		4/2/2024	NE	42.03	NA	NA	NA	400.94		0.0	
<b>ROST-4-PZ(D)</b>											
3Q23	442.92	7/5/2023	NE	40.05	NA	NA	NA	402.87	407.95 - 397.95 (34.97 - 44.97)	0.0	
4Q23		10/2/2023	NE	40.30	NA	NA	NA	402.62		0.0	
1Q24		1/2/2024	NE	41.10	NA	NA	NA	401.82		0.0	
2Q24		4/2/2024	NE	41.80	NA	NA	NA	401.12		0.0	
<b>ROST-4-PZ(E)</b>											
3Q23	441.98	7/5/2023	NE	38.96	NA	NA	NA	403.02	407.23 - 397.23 (34.75 - 44.75)	0.0	
4Q23		10/2/2023	NE	39.29	NA	NA	NA	402.69		0.0	
1Q24		1/2/2024	NE	39.80	NA	NA	NA	402.18		0.0	
2Q24		4/1/2024	NE	40.35	NA	NA	NA	401.63		0.0	
<b>ROST-4-PZ(F)</b>											
3Q23	442.12	7/5/2023	NE	39.07	NA	NA	NA	403.05	407.59 - 397.59 (34.53 - 44.53)	0.0	
4Q23		10/2/2023	NE	39.35	NA	NA	NA	402.77		0.0	
1Q24		1/2/2024	NE	39.80	NA	NA	NA	402.32		0.0	
2Q24		4/1/2024	NE	40.23	NA	NA	NA	401.89		0.0	
<b>ROST-4-PZ(G)</b>											
3Q23	442.20	7/5/2023	NE	39.82	NA	NA	NA	402.38	407.92 - 397.92 (34.28 - 44.28)	0.0	
4Q23		10/2/2023	NE	40.26	NA	NA	NA	401.94		0.0	
1Q24		1/2/2024	NE	41.35	NA	NA	NA	400.85		0.0	
2Q24		4/2/2024	NE	41.95	NA	NA	NA	400.25		0.0	
<b>S-1</b>											
3Q23	444.06	7/5/2023		42.18	42.20	401.86	401.88	0.02	401.88	Unknown	102.3
4Q23		10/2/2023		42.67	42.71	401.35	401.39	0.04	401.38		0.0
1Q24		1/3/2024		43.66	43.68	400.38	400.40	0.02	400.40		274.6
2Q24		4/1/2024		44.22	44.34	399.72	399.84	0.12	399.82		96.8
<b>T-1</b>											
3Q23	445.61	7/5/2023	NE	42.90	NA	NA	NA	402.71	398.61 - 388.61 (47.00 - 57.00)	0.0	*
4Q23		10/2/2023	NE	43.33	NA	NA	NA	402.28		0.0	*
1Q24		1/2/2024	NE	44.33	NA	NA	NA	401.28		0.0	*
2Q24		4/1/2024	NE	45.06	NA	NA	NA	400.55		0.0	*
<b>T-2</b>											
3Q23	443.40	7/6/2023	NE	41.35	NA	NA	NA	402.05	392.91 - 372.76 (50.50 - 70.65)	0.2	*
4Q23		10/2/2023	NE	41.66	NA	NA	NA	401.74		0.0	*
1Q24		1/2/2024	NE	42.49	NA	NA	NA	400.91		0.0	*
2Q24		4/2/2024	NE	43.14	NA	NA	NA	400.26		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 (elev.)	SCREENED INTERVAL (elev.) (ft btoc)	WELL HEAD PID (ppm)	COMMENTS
<b>T-3</b>											
3Q23	449.21	7/6/2023	NE	48.60	NA	NA	NA	400.61	403.99 - 388.99 (45.22 - 60.22)	0.0	
4Q23		10/3/2023	NE	48.85	NA	NA	NA	400.36		0.0	
1Q24		1/2/2024	NE	49.59	NA	NA	NA	399.62		0.0	
2Q24		4/2/2024	NE	50.14	NA	NA	NA	399.07		0.0	
<b>T-4</b>											
3Q23	446.82	7/6/2023	NE	47.45	NA	NA	NA	399.37	396.80 - 381.80 (50.02 - 65.02)	0.0	*
4Q23		10/3/2023	NE	48.07	NA	NA	NA	398.75		0.0	*
1Q24		1/2/2024	NE	48.21	NA	NA	NA	398.61		0.0	*
2Q24		4/2/2024	NE	50.09	NA	NA	NA	396.73		0.0	*
<b>T-5</b>											
3Q23	443.66	7/5/2023	NE	41.31	NA	NA	NA	402.35	395.33 - 378.78 (48.33 - 64.88)	5.6	*
4Q23		10/2/2023	NE	42.13	NA	NA	NA	401.53		0.0	*
1Q24		1/3/2024	NE	43.01	NA	NA	NA	400.65		54.8	*
2Q24		4/2/2024	NE	43.49	NA	NA	NA	400.17		2.0	*
<b>T-6</b>											
3Q23	446.78	7/5/2023	NE	44.61	NA	NA	NA	402.17	394.27 - 380.02 (52.51 - 66.76)	0.0	*
4Q23		10/2/2023	NE	45.07	NA	NA	NA	401.71		2.4	*
1Q24		1/2/2024	NE	46.19	NA	NA	NA	400.59		0.7	*
2Q24		4/1/2024	NE	46.82	NA	NA	NA	399.96		1.4	*
<b>T-7</b>											
3Q23	444.26	7/7/2023	NE	41.50	NA	NA	NA	402.76	395.54 - 380.54 (48.72 - 63.72)	1.3	*
4Q23		10/4/2023	NE	41.73	NA	NA	NA	402.53		3.2	*
1Q24		1/4/2024	NE	42.70	NA	NA	NA	401.56		12.0	*
2Q24		4/3/2024	NE	43.13	NA	NA	NA	401.13		1.2	*
<b>T-12</b>											
3Q23	444.99	7/5/2023	NE	42.74	NA	NA	NA	402.25	398.16 - 372.16 (46.83 - 72.83)	0.0	*
4Q23		10/2/2023	NE	43.09	NA	NA	NA	401.90		0.3	*
1Q24		1/2/2024	NE	44.32	NA	NA	NA	400.67		1.7	*
2Q24		4/1/2024	NE	44.87	NA	NA	NA	400.12		0.3	*
<b>T-13</b>											
3Q23	443.76	7/5/2023	NE	40.81	NA	NA	NA	402.95	399.95 - 373.95 (43.81 - 69.81)	0.0	*
4Q23		10/2/2023	NE	41.41	NA	NA	NA	402.35		0.0	*
1Q24		1/2/2024	NE	42.31	NA	NA	NA	401.45		0.0	*
2Q24		4/1/2024	NE	43.08	NA	NA	NA	400.68		0.0	*
<b>T-15</b>											
3Q23	445.35	7/6/2023	NE	43.45	NA	NA	NA	401.90	396.95 - 370.95 (48.40 - 74.40)	0.1	*
4Q23		10/3/2023	NE	43.79	NA	NA	NA	401.56		0.0	*
1Q24		1/2/2024	NE	44.56	NA	NA	NA	400.79		0.0	*
2Q24		4/2/2024	NE	45.21	NA	NA	NA	400.14		0.0	*
<b>T-17</b>											
3Q23	446.19	7/7/2023	NE	43.35	NA	NA	NA	402.84	401.72 - 375.72 (44.47 - 70.47)	0.0	*
4Q23		10/3/2023	NE	44.00	NA	NA	NA	402.19		0.0	*
1Q24		1/2/2024	NE	45.11	NA	NA	NA	401.08		0.0	*
2Q24		4/2/2024	NE	46.00	NA	NA	NA	400.19		0.0	*
<b>T-19</b>											
3Q23	446.99	7/6/2023	NE	47.46	NA	NA	NA	399.53	396.22 - 370.22 (50.77 - 76.77)	14.8	*
4Q23		10/3/2023	NE	48.06	NA	NA	NA	398.93		92.6	*
1Q24		1/2/2024	NE	48.38	NA	NA	NA	398.61		55.2	*
2Q24		4/2/2024	NE	50.06	NA	NA	NA	396.93		24.7	*
<b>T-21</b>											
3Q23	444.22	7/7/2023	NE	33.54	NA	NA	NA	410.68	412.26 - 386.26 (31.96 - 57.96)	0.0	
4Q23		10/3/2023	NE	34.42	NA	NA	NA	409.80		0.0	
1Q24		1/4/2024	NE	35.67	NA	NA	NA	408.55		0.0	
2Q24		4/3/2024	NE	36.63	NA	NA	NA	407.59		0.0	
<b>T-22</b>											
3Q23	442.37	7/7/2023	NE	34.96	NA	NA	NA	407.41	410.82 - 385.12 (31.55 - 57.25)	0.0	
4Q23		10/3/2023	NE	35.73	NA	NA	NA	406.64		0.0	
1Q24		1/4/2024	NE	36.77	NA	NA	NA	405.60		0.0	
2Q24		4/2/2024	NE	37.35	NA	NA	NA	405.02		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 (elev.)	SCREENED INTERVAL (elev. - (ft btoc))	WELL HEAD PID (ppm)	COMMENTS
<b>T-23</b>											
3Q23	432.90	7/6/2023	NE	27.53	NA	NA	NA	405.37	405.67 - 379.67 (27.23 - 53.23)	0.0	
4Q23		10/3/2023	NE	28.43	NA	NA	NA	404.47		0.0	
1Q24		1/4/2024	NE	29.42	NA	NA	NA	403.48		0.0	
2Q24		4/2/2024	NE	29.55	NA	NA	NA	403.35		0.0	
<b>T-24</b>											
3Q23	444.00	7/5/2023	NE	42.21	NA	NA	NA	401.79	402.50 - 376.85 (41.50 - 67.15)	0.0	
4Q23		10/2/2023	NE	42.40	NA	NA	NA	401.60		0.0	
1Q24		1/3/2024	43.17	45.03	398.97	400.83	1.86	400.46		25.6	
2Q24		4/2/2024	43.60	45.76	398.24	400.40	2.16	399.97		0.8	
<b>T-28</b>											
3Q23	444.56	7/6/2023	NE	42.65	NA	NA	NA	401.91	Unknown	0.0	
4Q23		10/3/2023	NE	43.14	NA	NA	NA	401.42		0.0	
1Q24		1/2/2024	NE	43.90	NA	NA	NA	400.66		0.0	
2Q24		4/2/2024	NE	44.81	NA	NA	NA	399.75		0.0	
<b>T-37</b>											
3Q23	447.44	7/6/2023	NE	44.00	NA	NA	NA	403.44	398.59 - 379.59 (48.86 - 68.86)	0.0	*
4Q23		10/6/2023	NE	44.97	NA	NA	NA	402.47		0.6	*
1Q24		1/3/2024	NE	46.33	NA	NA	NA	401.11		0.0	*
2Q24		4/2/2024	NE	47.46	NA	NA	NA	399.98		0.1	*
<b>T-38</b>											
3Q23	445.89	7/7/2023	NE	40.74	NA	NA	NA	405.15	398.75 - 376.75 (49.14 - 69.14)	0.0	*
4Q23		10/3/2023	NE	42.02	NA	NA	NA	403.87		1.2	*
1Q24		1/3/2024	NE	43.44	NA	NA	NA	402.45		0.0	*
2Q24		4/2/2024	NE	44.36	NA	NA	NA	401.53		0.0	*
<b>T-62</b>											
3Q23	432.16	7/6/2023	NE	28.68	NA	NA	NA	403.48	412.45 - 382.45 (19.71 - 49.71)	0.2	
4Q23		10/3/2023	NE	29.68	NA	NA	NA	402.48		0.0	
1Q24		1/4/2024	NE	30.86	NA	NA	NA	401.30		0.0	
2Q24		4/2/2024	NE	30.90	NA	NA	NA	401.26		0.0	
<b>T-63</b>											
3Q23	431.55	7/6/2023	NE	28.34	NA	NA	NA	403.21	411.57 - 381.57 (19.98 - 49.98)	0.1	
4Q23		10/3/2023	NE	29.36	NA	NA	NA	402.19		0.0	
1Q24		1/4/2024	NE	30.53	NA	NA	NA	401.02		0.0	
2Q24		4/2/2024	NE	30.30	NA	NA	NA	401.25		0.0	
<b>T-64</b>											
3Q23	429.10	7/6/2023	NE	26.32	NA	NA	NA	402.78	409.29 - 379.29 (19.81 - 49.81)	0.0	
4Q23		10/3/2023	NE	27.50	NA	NA	NA	401.60		0.0	
1Q24		1/4/2024	NE	27.58	NA	NA	NA	401.52		0.0	
2Q24		4/2/2024	NE	28.25	NA	NA	NA	400.85		0.0	

**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 4 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 the first quarter of each year.
- 8) Top of casing and screened interval for the groundwater monitoring wells in the Roxana Interim Groundwater Monitoring Program and the WRR Program were adjusted based on surveying conducted in 2Q19, in accordance with Permit Condition IV.J.9, which requires wells be surveyed every five (5) years.

**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
<b>MW-01</b>							
3Q23	6.85	20.80	0.903	4.07	0.54	-6.30	
4Q23	6.76	18.88	0.851	7.05	1.80	104.51	
1Q24	6.59	15.56	0.922	0.00	0.42	124.54	
2Q24	6.69	16.53	0.922	2.19	1.28	169.19	
<b>MW-02</b>							
3Q23	7.09	20.40	0.881	2.97	0.59	-136.02	
4Q23	7.22	19.57	0.941	19.98	0.51	-151.93	
1Q24	7.25	18.27	0.887	0.00	0.37	38.16	
2Q24	7.06	22.42	0.798	16.62	0.53	19.94	
<b>MW-03</b>							
3Q23	6.82	21.14	1.155	42.16	1.16	-168.80	
4Q23	6.95	20.07	1.021	0.03	0.60	-120.38	
1Q24	6.80	16.50	1.161	0.00	0.32	94.44	
2Q24	6.83	19.07	1.278	0.00	0.68	-72.63	
<b>MW-04</b>							
3Q23	6.75	20.00	0.999	6.26	0.55	-137.25	
4Q23	6.69	18.39	0.953	0.55	0.59	35.63	
1Q24	6.68	15.80	1.044	0.00	0.43	129.98	
2Q24	6.77	18.18	0.973	5.60	0.73	88.34	
<b>MW-05</b>							
3Q23	6.80	20.87	1.160	6.31	0.58	-140.50	
4Q23	6.44	18.18	1.188	0.00	0.57	-39.24	
1Q24	6.65	16.54	0.995	0.00	0.33	94.93	
2Q24	6.74	18.96	0.978	1.17	0.71	-70.26	
<b>MW-06A</b>							
3Q23	6.74	22.54	0.966	37.03	1.02	-154.44	
4Q23	6.80	19.67	0.913	14.00	0.66	-27.45	
1Q24	8.10	16.00	0.086	44.02	8.55*	-8.10	
2Q24	6.87	19.02	0.262	3.40	3.29*	84.22	
<b>MW-06B</b>							
3Q23	7.05	21.62	0.720	41.14	0.76	-149.21	
4Q23	7.04	19.58	0.814	3.33	0.61	-57.38	
1Q24	7.20	17.08	0.788	0.00	0.21	-48.44	
2Q24	7.00	18.60	0.681	11.92	0.62	16.74	
<b>MW-06C</b>							
3Q23	7.03	20.68	0.839	19.48	1.13	-157.77	
4Q23	6.93	18.44	0.819	27.31	0.59	-84.37	
1Q24	7.21	15.71	0.823	0.00	0.27	-103.72	
2Q24	7.03	19.80	0.700	3.44	0.66	-56.60	
<b>MW-06D</b>							
3Q23	6.97	20.35	0.980	0.31	0.58	-133.68	
4Q23	7.04	19.49	1.249	9.03	0.60	-83.34	
1Q24	7.09	14.98	1.307	44.00	0.28	-37.82	
2Q24	6.94	18.70	1.119	32.77	0.61	-59.40	

**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
<b>MW-07</b>							
3Q23	6.80	20.63	1.189	2.98	0.56	-113.44	
4Q23	6.68	19.45	1.116	0.00	0.59	12.36	
1Q24	6.67	16.76	1.034	0.00	0.36	86.03	
2Q24	6.95	19.06	0.744	0.45	0.70	1.84	
<b>MW-09</b>							
3Q23	6.77	19.72	0.967	28.91	0.57	-92.74	
4Q23	6.72	18.21	1.020	0.00	0.62	-47.63	
1Q24	6.97	16.34	1.026	2.46	0.26	-47.01	
2Q24	6.91	21.20	0.996	3.31	0.52	-2.81	
<b>MW-10</b>							
3Q23	6.89	20.15	1.351	40.74	0.53	-132.65	
4Q23	6.77	19.35	1.431	19.63	0.58	-77.60	
1Q24	7.09	14.65	1.305	23.10	0.46	-93.32	
2Q24	6.86	16.65	1.404	17.51	1.34	-26.88	
<b>MW-11</b>							
3Q23	6.78	19.42	1.371	27.92	0.54	-93.02	
4Q23	6.64	17.60	1.395	1.62	0.61	-12.31	
1Q24	6.67	14.86	1.426	2.04	0.40	108.78	
2Q24	6.68	17.21	1.317	16.32	0.68	-17.82	
<b>MW-12</b>							
3Q23	6.83	20.09	0.967	5.42	0.57	140.14	
4Q23	6.87	19.36	0.862	0.64	0.64	40.61	
1Q24	6.64	17.48	0.812	0.00	0.46	121.32	
2Q24	6.87	18.17	0.761	1.03	0.87	40.01	
<b>MW-13</b>							
3Q23	6.65	23.38	1.203	46.91	0.47	-125.85	
4Q23	6.26	20.78	1.209	1.73	0.55	-18.65	
1Q24	6.53	18.20	0.963	9.20	0.32	117.08	
2Q24	6.68	21.90	0.997	32.02	0.47	-59.83	
<b>MW-14</b>							
3Q23	6.59	20.61	1.066	0.00	0.56	-103.45	
4Q23	6.75	19.51	1.026	25.36	0.58	-76.88	
1Q24	6.49	16.50	1.081	0.00	0.43	61.91	
2Q24	6.55	19.56	1.125	0.96	0.70	-18.84	
<b>MW-16</b>							
3Q23	6.62	19.26	0.770	12.65	1.26	-97.39	
4Q23	6.54	18.64	0.806	0.00	0.71	89.08	
1Q24	6.97	15.27	0.800	0.00	0.30	-91.29	
2Q24	6.66	18.6	0.85	10.00	0.55	-35.1	

**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
<b>MW-22</b>							
3Q23	6.97	20.84	1.229	17.42	0.56	73.27	
4Q23	6.77	19.26	1.307	0.00	0.64	-57.24	
1Q24	6.72	17.41	1.126	16.68	0.39	109.66	
2Q24	6.73	19.25	1.256	20.81	0.80	76.63	
<b>MW-23</b>							
3Q23	6.61	21.81	0.945	45.04	0.39	-130.90	
4Q23	6.41	19.14	1.140	15.65	0.60	-33.78	
1Q24	6.54	18.40	0.928	7.32	0.27	114.54	
2Q24	6.50	19.30	0.883	22.82	0.55	5.80	
<b>MW-24</b>							
3Q23	6.68	20.38	1.572	44.93	1.29	170.98	
4Q23	6.66	18.71	1.764	1.18	0.72	147.60	
1Q24	6.53	15.88	1.750	0.00	0.38	127.53	
2Q24	6.86	19.93	1.798	3.34	0.74	191.98	
<b>MW-25</b>							
3Q23	6.90	22.56	0.898	5.94	0.56	-118.47	
4Q23	6.69	19.14	0.898	22.65	0.75	9.98	
1Q24	6.44	16.90	0.954	0.00	0.40	117.25	
2Q24	6.65	19.72	0.904	0.00	0.72	15.68	
<b>MW-26</b>							
3Q23	6.81	20.74	1.133	12.39	1.41	65.37	
4Q23	6.72	19.86	1.167	1.71	1.96	111.12	
1Q24	6.67	16.37	0.916	6.84	0.44	125.17	
2Q24	6.94	17.49	0.831	5.69	1.31	156.49	
<b>MW-27</b>							
3Q23	6.61	19.07	0.781	1.14	0.86	135.89	
4Q23	6.61	16.91	0.741	0.00	2.22	96.44	
1Q24	6.81	15.25	0.760	0.00	4.78*	108.38	
2Q24	6.99	15.31	0.782	5.62	3.66	121.86	
<b>MW-28</b>							
2Q23	6.75	19.14	1.484	8.15	0.77	-49.26	
3Q23	6.75	21.65	1.235	0.00	0.59	-61.00	
4Q23	6.77	20.31	1.282	3.90	0.67	16.06	
2Q24	6.55	18.32	2.112	24.23	0.64	-5.67	
<b>P-54</b>							
3Q23	6.86	22.89	1.029	12.28	1.84	40.10	
4Q23	6.87	19.17	1.283	1.36	4.28*	94.48	
1Q24	6.69	14.85	1.260	0.00	2.60	125.23	
2Q24	6.66	19.57	1.262	48.73	2.42	158.75	
<b>P-55R</b>							
3Q23	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
4Q23	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
1Q24	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
2Q24	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
<b>P-56</b>							
3Q23	7.27	25.70	1.270	26.93	0.48	-160.20	
4Q23	7.27	20.45	1.214	5.50	0.31	-128.05	
1Q24	7.25	16.89	1.207	0.00	0.21	-5.74	
2Q24	7.17	20.30	0.989	8.54	0.69	-151.90	
<b>P-57</b>							
3Q23	6.90	20.97	1.010	4.98	0.50	12.83	
4Q23	6.48	19.15	1.006	0.00	0.51	-23.89	
1Q24	6.82	15.98	1.006	0.00	0.40	-50.52	
2Q24	6.66	19.70	0.930	1.07	0.76	41.37	
<b>P-58</b>							
3Q23	6.69	22.78	1.393	1.36	0.65	70.16	
4Q23	6.61	21.37	1.500	16.50	0.49	-74.73	
1Q24	6.85	17.32	1.731	13.58	0.31	-85.95	
2Q24	6.53	21.41	1.494	23.42	0.47	6.96	
<b>P-59</b>							
3Q23	6.55	23.76	1.413	7.83	0.51	115.37	
4Q23	6.71	23.09	1.501	0.00	0.26	-108.90	
1Q24	6.75	18.34	1.546	3.93	0.22	-74.07	
2Q24	6.63	20.00	1.535	9.34	0.61	-114.50	
<b>P-66</b>							
3Q23	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
4Q23	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
1Q24	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
2Q24	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
<b>P-68</b>							
3Q23	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
4Q23	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
1Q24	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
2Q24	NM	NM	NM	NM	NM	NM	LNAPL encountered in well. No sample collected.
<b>P-74</b>							
3Q23	6.38	24.36	0.370	10.51	0.54	72.48	
4Q23	6.17	19.39	0.584	0.00	0.61	11.13	
1Q24	NM	NM	NM	NM	NM	NM	Inaccessible due to refinery construction.
2Q24	6.34	20.41	0.176	15.38	0.77	48.64	
<b>P-93A</b>							
3Q23	6.64	21.03	1.299	0.00	0.60	150.23	
4Q23	6.82	20.09	1.208	0.00	0.43	46.42	
1Q24	6.77	16.91	1.172	0.00	0.27	21.28	
2Q24	6.71	19.60	1.118	2.00	0.76	-44.30	
<b>P-93B</b>							
3Q23	6.75	19.87	1.332	17.00	0.53	125.35	
4Q23	6.85	18.34	1.439	0.00	0.23	-131.21	
1Q24	6.95	14.90	1.386	5.66	0.20	-92.02	
2Q24	6.70	17.50	1.270	4.92	0.74	-81.80	



**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
<b>P-93C</b>							
3Q23	6.88	21.07	1.072	29.84	0.58	40.13	
4Q23	7.04	19.16	1.069	17.26	0.44	-95.38	
1Q24	6.81	14.55	1.396	0.00	0.40	44.23	
2Q24	6.81	17.20	1.266	12.46	0.81	-91.10	
<b>P-93D</b>							
3Q23	6.99	19.51	1.062	0.00	0.73	135.80	
4Q23	7.16	18.50	0.945	0.00	0.22	-89.26	
1Q24	7.09	15.87	1.003	0.00	0.68	0.20	
2Q24	7.01	17.83	0.969	0.00	1.31	38.26	
<b>P-114R</b>							
3Q23	6.72	23.97	0.841	34.73	0.40	-162.87	
4Q23	6.50	22.58	0.861	38.90	0.46	-99.25	
1Q24	6.69	18.81	0.912	40.01	0.19	10.99	
2Q24	6.64	23.83	1.384	14.91	0.52	-33.99	
<b>ROST-3-MW</b>							
3Q23	6.80	19.78	1.143	0.27	0.55	-124.48	
4Q23	6.77	18.14	1.124	7.45	0.64	-92.31	
1Q24	6.65	16.16	1.053	7.03	0.36	86.14	
2Q24	6.34	20.50	1.089	1.55	0.62	-6.00	
<b>ROST-4-PZ(C)</b>							
3Q23	6.96	20.80	1.190	4.80	0.56	77.93	
4Q23	6.58	17.64	1.158	0.00	0.61	39.01	
1Q24	6.78	14.12	1.121	0.00	0.33	-49.08	
2Q24	6.69	19.70	1.411	0.78	0.64	-63.30	
<b>ROST-4-PZ(E)</b>							
3Q23	6.76	21.39	2.224	20.45	0.59	95.27	
4Q23	6.75	19.90	1.858	4.81	0.71	-21.86	
1Q24	6.81	21.49	1.829	0.00	1.16	102.38	
2Q24	6.66	21.80	1.612	0.29	0.89	-47.80	
<b>ROST-4-PZ(G)</b>							
3Q23	7.02	20.50	1.340	29.57	0.44	-161.40	
4Q23	6.93	20.28	1.347	0.00	0.64	-73.40	
1Q24	7.07	16.43	1.383	0.00	0.24	-93.22	
2Q24	7.02	19.36	1.319	18.24	0.61	-100.53	
<b>T-12</b>							
3Q23	6.90	22.44	1.760	8.75	0.45	84.33	
4Q23	6.83	20.64	2.010	2.36	0.28	-138.55	
1Q24	6.91	17.99	1.797	0.00	0.32	-90.34	
2Q24	6.65	19.50	1.620	1.20	0.65	-131.80	

## NOTES:

- 1) Field parameters were collected using a YSI ProDSS.
- 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**

			VOCs																				
			Acetone	Benzene	2-Butanone	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Carbon disulfide	Carbon tetrachloride	Chloroform	Chloromethane	Cymene (p-isopropyltoluene)	cis-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene (Cumene)	4-Methyl-2-pentanone (Methyl Isobutyl Ketone)	Methyl tert-Butyl Ether (MTBE)	Naphthalene	n-Propylbenzene	Tetrachloroethene	Toluene	
Screening Values (mg/L)			6.3 <sup>1</sup>	0.005 <sup>1</sup>	4.2 <sup>1</sup>	0.35 <sup>3</sup>	0.7 <sup>3</sup>	0.7 <sup>3</sup>	0.7 <sup>1</sup>	0.005 <sup>1</sup>	0.07 <sup>1</sup>			0.07 <sup>1</sup>	0.7 <sup>1</sup>	0.7 <sup>1</sup>	0.56 <sup>3</sup>	0.7 <sup>1</sup>	0.14 <sup>1</sup>	0.7 <sup>3</sup>	0.005 <sup>1</sup>	1.0 <sup>1</sup>	
Location	Sample ID	Sample Date	Analytical Results (mg/L)																				
MW-09	MW9-ROX-071823	7/18/2023	< 0.025	0.0038	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	
	MW9-ROX-101623	10/16/2023	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	
	MW9-ROX-010524	1/5/2024	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	0.00090 J	
	MW9-ROX-041524	4/15/2024	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010
MW-10	MW10-ROX-071823	7/18/2023	< 0.025	0.00063 J	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	MW10-ROX-101323	10/13/2023	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	MW10-ROX-010524	1/5/2024	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	MW10-ROX-040424	4/4/2024	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010
MW-11	MW11-ROX-071223	7/12/2023	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	MW11-ROX-100623	10/6/2023	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	MW11-ROX-010524	1/5/2024	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	MW11-ROX-040524	4/5/2024	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010
MW-12	MW12-ROX-071223	7/12/2023	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	MW12-ROX-101023	10/10/2023	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	0.0014	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	MW12-ROX-011124	1/11/2024	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	MW12-ROX-041224	4/12/2024	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010
MW-13	MW13-ROX-071423	7/14/2023	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	0.0011	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	MW13-ROX-101823	10/18/2023	0.013 J	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	0.00070 J	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	MW13-ROX-011024	1/10/2024	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	0.00053 J	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	MW13-ROX-041524	4/15/2024	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	0.00070 J	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010
MW-14	MW14-ROX-071723	7/17/2023	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	MW14-ROX-100923	10/9/2023	< 0.025 UJ	0.011	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	0.0033 F1 J
	MW14-ROX-011724	1/17/2024	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	MW14-ROX-041124	4/11/2024	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010
MW-16	MW16-ROX-071123	7/11/2023	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	MW16-ROX-101823	10/18/2023	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	MW16-ROX-101823-DUP	10/18/2023	0.011 J	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	MW16-ROX-010824	1/8/2024	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010
MW-22	MW16-ROX-040924	4/9/2024	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	MW22-ROX-071323	7/13/2023	0.023 J	0.0076	< 0.05	0.0019 J J	< 0.0020	0.0025	< 0.0020	< 0.0020	< 0.0020	< 0.0020 UJ	< 0.0020	< 0.0020	0.031	0.013	< 0.05	< 0.0020	0.043	0.023	< 0.0020	0.0093	
	MW22-ROX-101623	10/16/2023	< 0.025	0.0061	< 0.025	0.0029	0.0015	0.0043	< 0.0010	< 0.0010	< 0.0010	< 0.0010	0.0019	< 0.0010	0.022	0.014	< 0.025	< 0.0010	0.034	0.027	< 0.0010	0.0088	
	MW22-ROX-011224	1/12/2024	< 0.13	0.13	< 0.13	0.0093	0.0053	0.01	< 0.0050	< 0.0050	< 0.0050	< 0.0050	0.0048 J	< 0.0050	0.34	0.06	< 0.13	0.0013 J	0.14	0.11	< 0.0050	0.06	
	MW22-ROX-011224-DUP	1/12/2024	< 0.13	0.12	< 0.13	0.0078	0.0045 J	0.0087	< 0.0050	< 0.0050	< 0.0050	< 0.0050	0.0039 J	< 0.0050	0.29	0.051	< 0.13	< 0.0050	0.13	0.086	< 0.0050	0.052	
	MW22-ROX-041824	4/18/2024	< 0.13	0.057	< 0.13	< 0.0050																	



**TABLE 3  
SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL DETECTIONS AND EXCEEDANCES**

			VOCs																							
			Acetone	Benzene	2-Butanone	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Carbon disulfide	Carbon tetrachloride	Chloroform	Chloromethane	Cymene (p-isopropyltoluene)	cis-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene (Cumene)	4-Methyl-2-pentanone (Methyl Isobutyl Ketone)	Methyl tert-Butyl Ether (MTBE)	Naphthalene	n-Propylbenzene	Tetrachloroethene	Toluene				
Screening Values (mg/L)			6.3 <sup>1</sup>	0.005 <sup>1</sup>	4.2 <sup>1</sup>	0.35 <sup>3</sup>	0.7 <sup>3</sup>	0.7 <sup>3</sup>	0.7 <sup>1</sup>	0.005 <sup>1</sup>	0.07 <sup>1</sup>						0.07 <sup>1</sup>	0.7 <sup>1</sup>	0.7 <sup>1</sup>	0.56 <sup>3</sup>	0.7 <sup>1</sup>	0.14 <sup>1</sup>	0.7 <sup>3</sup>	0.005 <sup>1</sup>	1.0 <sup>1</sup>	
Location	Sample ID	Sample Date	Analytical Results (mg/L)																							
P-93C	P93C-ROX-071423	7/14/2023	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	0.0028	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
	P93C-ROX-101623	10/16/2023	< 0.025	0.013	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	0.0025	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010
	P93C-ROX-011124	1/11/2024	< 13 UJ	490	< 13 UJ	< 0.5 UJ	< 0.5 UJ	< 0.5 UJ	< 0.5 UJ	< 0.5 UJ	< 0.5 UJ	< 0.5 UJ	< 0.5 UJ	< 0.5 UJ	< 0.5 UJ	< 0.5 UJ	< 13 UJ	< 0.5 UJ	< 2.5 UJ	< 0.5 UJ	< 0.5 UJ	< 0.5 UJ	< 0.5 UJ	< 0.5 UJ	< 0.5 UJ	< 0.5 UJ
	P93C-ROX-041924	4/19/2024	< 25	180	< 25	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 25	< 1	< 5	< 1	< 1	< 1	< 1	< 1	< 1	< 1
P-93D	P93D-ROX-071123	7/11/2023	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010 UJ	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	0.00072 J	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
	P93D-ROX-101623	10/16/2023	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	0.00053 J	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
	P93D-ROX-011024	1/10/2024	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	0.00047 J	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
	P93D-ROX-042224	4/22/2024	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	0.0012	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
P-114R	P114R-ROX-071423	7/14/2023	0.013 J	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	0.0018	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
	P114R-ROX-101823	10/18/2023	0.019 J	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	0.0015	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
	P114R-ROX-011024	1/10/2024	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	0.0018	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
	P114R-ROX-041524	4/15/2024	< 0.025	0.0021	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010 UJ	< 0.0010	< 0.0010	< 0.0010	< 0.025	0.00066 J	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
ROST-3-MW	ROST3MW-ROX-071723	7/17/2023	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
	ROST3MW-ROX-071723-DUP	7/17/2023	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
	ROST3MW-ROX-100623	10/6/2023	0.038	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
	ROST3MW-ROX-010824	1/8/2024	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
	ROST3MW-ROX-041624	4/16/2024	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
ROST-4-PZ(C)	ROST4PZC-ROX-071123	7/11/2023	< 0.025	0.0022	0.016 J	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010 UJ	< 0.0010	< 0.0010	0.0020	0.0030	< 0.025	< 0.0010	0.035	0.0056	< 0.0010	< 0.0010	< 0.0010	0.0064	< 0.0010	
	ROST4PZ(C)-ROX-101623	10/16/2023	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
	ROST4PZ(C)-ROX-101623-DUP	10/16/2023	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
	ROST4PZ(C)-ROX-010824	1/8/2024	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
	ROST4PZ(C)-ROX-041624	4/16/2024	< 0.025	0.0020	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	0.00053 J	0.0013	< 0.025	< 0.0010	< 0.0050	0.0025	< 0.0010	< 0.0010	0.0019	< 0.0010	
ROST-4-PZ(E)	ROST4PZ(E)-ROX-071223	7/12/2023	< 0.025	0.00074 J	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010 UJ	< 0.0010	< 0.0010	0.0046	0.00089 J	< 0.025	< 0.0010	0.0058	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
	ROST4PZ(E)-ROX-101323	10/13/2023	0.062	0.00061 J	0.0082 J	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	0.0054	0.00076 J	< 0.025	< 0.0010	0.0031 J	0.00075 J	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
	ROST4PZ(E)-ROX-011124	1/11/2024	< 0.025	0.00095 J	0.0086 J	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	0.0087	0.00095 J	< 0.025	< 0.0010	< 0.0050	0.00085 J	< 0.0010	< 0.0010	0.00090 J	< 0.0010	< 0.0010	
	ROST4PZ(E)-ROX-041624	4/16/2024	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
ROST-4-PZ(G)	ROST4PZ(G)-ROX-071023	7/10/2023	0.011 J	< 0.0010	0.0030 J	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
	ROST4PZ(G)-ROX-101223	10/12/2023	0.033	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010 UJ	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
	ROST4PZ(G)-ROX-010824	1/8/2024	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
	ROST4PZ(G)-ROX-040524	4/5/2024	< 0.025	< 0.0010	0.0066 J	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	0.00075 J	< 0.0010	< 0.0010 UJ	< 0.0010	< 0.0010	< 0.025	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	
T-12	T12-ROX-071423	7/14/2023	< 0.25	1.5	< 0.25	< 0.01	< 0.01	&																		







**TABLE 3  
SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL DETECTIONS AND EXCEEDANCES**

			VOCs						SVOCs													
Screening Values (mg/L)			0.005	0.07 <sup>3</sup>	0.07 <sup>3</sup>	10 <sup>1</sup>	10 <sup>1</sup>	0.42 <sup>1</sup>	0.42 <sup>3</sup>	2.1 <sup>1</sup>	0.00013 <sup>1</sup>	0.0002 <sup>1</sup>	0.00018 <sup>1</sup>	0.21 <sup>3</sup>	0.00017 <sup>1</sup>	28 <sup>1</sup>	0.006 <sup>1</sup>	1.4 <sup>2</sup>	0.012 <sup>1</sup>			
Location	Sample ID	Sample Date	Analytical Results (mg/L)																			
			Trichloroethene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	m,p-Xylenes	o-Xylenes	Xylenes (total)	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic Acid	bis(2-Ethylhexyl)phthalate	Butyl benzyl phthalate	Chrysene (1,2-Benzophenanthracene)	Dibenzo(e,h)acridine	Dibenzo(e,h)anthracene
MW-26	MW26-ROX-071023	7/10/2023	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.029	< 0.0097	< 0.0097	< 0.00019	< 0.0097	< 0.00019
	MW26-ROX-100523	10/5/2023	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	< 0.00011	< 0.00011	< 0.00011	< 0.00011	< 0.00011	< 0.00011	< 0.00011	< 0.00011	< 0.017	< 0.0057	< 0.0057	< 0.00011	< 0.0057	< 0.00011
	MW26-ROX-010524	1/5/2024	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.03	< 0.0099	< 0.0099	< 0.00020	< 0.0099	< 0.00020
	MW26-ROX-040424	4/4/2024	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.029	< 0.0097	< 0.0097	< 0.00019	< 0.0097	< 0.00019
MW-27	MW27-ROX-071823	7/18/2023	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.031	< 0.01	0.00026 J	< 0.00021	< 0.01	< 0.00021
	MW27-ROX-101823	10/18/2023	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.029	< 0.0098	< 0.0098	< 0.00020	< 0.0098	< 0.00020
	MW27-ROX-010824	1/8/2024	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.028	< 0.0095	< 0.0095	< 0.00019	< 0.0095	< 0.00019
	MW27-ROX-040424	4/4/2024	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.03	< 0.0098	< 0.0098	< 0.00020	< 0.0098	< 0.00020
MW-28	MW28-ROX-071223	7/12/2023	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.029	< 0.0097	< 0.0097	< 0.00019	< 0.0097	< 0.00019
	MW28-ROX-101223	10/12/2023	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.03	< 0.01	< 0.01	< 0.00020 UJ	< 0.01	< 0.00020
	MW28-ROX-010524	1/5/2024	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	< 0.00022	< 0.00022	< 0.00022	< 0.00022	< 0.00022	< 0.00022	< 0.00022	< 0.00022	< 0.033	< 0.011	< 0.011	< 0.00022	< 0.011	< 0.00022
	MW28-ROX-041224	4/12/2024	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.029	< 0.0097	< 0.0097	< 0.00019	< 0.0097	< 0.00019
P-54	P54-ROX-071223	7/12/2023	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.03	< 0.01	< 0.01	< 0.00020	< 0.01	< 0.00020
	P54-ROX-100623	10/6/2023	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	< 0.00011	< 0.00011	< 0.00011	< 0.00011	< 0.00011	< 0.00011	< 0.00011	< 0.00011	0.000036 J	< 0.0011	< 0.0011	< 0.017	< 0.0057	< 0.00011
	P54-ROX-010824	1/8/2024	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.03	< 0.0098	< 0.0098	< 0.00020	< 0.0098	< 0.00020
	P54-ROX-040824	4/8/2024	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.029	< 0.0096	< 0.0096	< 0.00019	< 0.0096	< 0.00019
P-56	P56-ROX-071023	7/10/2023	< 0.0010	0.021	0.0068	0.039	0.0011 J	0.04	0.00044	< 0.00020	0.000091 J	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.03	< 0.01	< 0.01	< 0.00020	< 0.01	< 0.00020
	P56-ROX-101823	10/18/2023	< 0.0010	< 0.0010	< 0.0010	0.0015 J	< 0.0050	< 0.01	0.00043	< 0.00021	0.000072 J	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.031	< 0.01	< 0.01	< 0.00021	< 0.01	< 0.00021
	P56-ROX-011024	1/10/2024	< 0.0010	< 0.0010	< 0.0010	0.0025 J	< 0.0050	0.0025 J	0.00067	< 0.00019	0.00011 J J	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.028	< 0.0095	< 0.0095	< 0.00019	< 0.0095	< 0.00019
	P56-ROX-041824	4/18/2024	< 0.0010	< 0.0010	< 0.0010	0.0014 J	< 0.0050	< 0.01	0.00037	< 0.00022	0.000061 J	< 0.00022	< 0.00022	< 0.00022	< 0.00022	< 0.00022 UJ	< 0.033	< 0.011	< 0.011	< 0.00022	< 0.011 UJ	< 0.00022
P-57	P57-ROX-071323	7/13/2023	0.00044 JB	< 0.0020	< 0.0020	0.0015 J	< 0.01	< 0.02	0.00021 J	< 0.00022	< 0.00022	< 0.00022	< 0.00022	< 0.00022	< 0.00022	< 0.00022	< 0.033	< 0.011	< 0.011	< 0.00022	< 0.011	< 0.00022
	P57-ROX-071323-DUP	7/13/2023	< 0.0020	< 0.0020	< 0.0020	0.0019 J	< 0.01	< 0.02	0.00022	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.03	< 0.0099	< 0.0099	< 0.00020	< 0.0099	< 0.00020
	P57-ROX-101723	10/17/2023	< 0.0010	< 0.0010	< 0.0010	0.00075 J	< 0.0050	< 0.01	0.00022	< 0.00020	0.00014 J	< 0.00020 U	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.03	< 0.0099	< 0.0099	< 0.00020	< 0.0099	< 0.00020
	P57-ROX-011124	1/11/2024	< 0.0010	< 0.0010	< 0.0010	0.00067 J	< 0.0050	< 0.01	0.00032	< 0.00021	0.00017 J J	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.032	< 0.011	< 0.011	< 0.00021	< 0.011	< 0.00021
	P57-ROX-011124-DUP	1/11/2024	< 0.0010	< 0.0010	< 0.0010	0.00082 J	< 0.0050	< 0.01	0.00032	< 0.00021	0.00016 J J	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.032	< 0.011	< 0.011	< 0.00021	< 0.011	< 0.00021
	P57-ROX-041824	4/18/2024	< 0.0010	< 0.0010	< 0.0010	0.00099 J	< 0.0050	< 0.01	0.00029	0.000052 J	0.00018 J	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021 UJ	< 0.032	< 0.011	< 0.011	< 0.00021	< 0.011 UJ	< 0.00021
P57-ROX-041824-DUP	4/18/2024	< 0.0010	< 0.0010	< 0.0010	0.00065 J	< 0.0050	< 0.01	0.00023	< 0.00022	0.000074 J	< 0.00022	< 0.00022	< 0.00022	< 0.00022 UJ	< 0.033	< 0.011	< 0.011	< 0.00022	< 0.011 UJ	< 0.00022		
P-58	P58-ROX-071823	7/18/2023	< 1	< 1	< 1	< 5	< 5	< 10	0.00062	< 0.00020	0.00019 J	0.00014 J	0.000099 J	0.000053 J	< 0.00020	< 0.00020	< 0.03	< 0.01	< 0.01	0.00014 J	< 0.01	< 0.00020
	P58-ROX-071823-DUP	7/18/2023	< 1	< 1	< 1	< 5	< 5	< 10	0.00053	< 0.00020	0.000097 J	0.000065 J	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.029	< 0.0098	< 0.0098	< 0.00020	< 0.0098	< 0.00020
	P58-ROX-101723	10/17/2023	< 1 UJ	< 1 UJ	< 1 UJ	< 5 UJ	< 5 UJ	< 10 UJ	0.00046	< 0.00020	0.00018 J	< 0.00020 U	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.03	< 0.0099	< 0.0099	0.000043 J	< 0.0099	< 0.00020
	P58-ROX-011224	1/12/2024	< 1	< 1	< 1	< 5	< 5	< 10	0.00058	< 0.00021	0.00036	0.00034	0.00029	0.00016 J	0.00013 J	< 0.00021	< 0.031	< 0.01	< 0.01	0.00056	< 0.01	0.000071 J
	P58-ROX-011224-DUP	1/12/2024	< 1	< 1	< 1	< 5	< 5	< 10	0.00060	< 0.00020	0.00046	0.00033	0.00028	0.00018 J	0.00012 J	< 0.00020	< 0.031	< 0.01	< 0.01	0.00061	< 0.01	0.000087 J
	P58-ROX-041724	4/17/2024	< 0.5	< 0.5	< 0.5	< 2.5	< 2.5	< 5	0.00063	< 0.00020	0.00030	0.00023	0.00013 J	0.000072 J	0.000038 J	< 0.00020	< 0.03	< 0.01	< 0.01	0.00028	< 0.01 UJ	< 0.00020 UJ
P-59	P59-ROX-071823	7/18/2023	< 0.0050	0.0090	0.0095	0.052	< 0.025	0.054	0.00039	< 0.00020	< 0.00020	0.000091 J	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.031	< 0.01	< 0.01	0.000082 J	< 0.01	< 0.00020
	P59-ROX-101823	10/18/2023	&																			



**TABLE 3  
SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL DETECTIONS AND EXCEEDANCES**

			VOCs						SVOCs														
Screening Values (mg/L)			Trichloroethene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	m,p-Xylenes	o-Xylenes	Xylenes (total)	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Benzoic Acid	bis(2-Ethylhexyl)phthalate	Butyl benzyl phthalate	Chrysene (1,2-Benzophenanthracene)	Dibenzo(e,h)acridine	Dibenzo(e,h)anthracene	
Location	Sample ID	Sample Date	Analytical Results (mg/L)																				
			0.005	0.07 <sup>3</sup>	0.07 <sup>3</sup>	10 <sup>1</sup>	10 <sup>1</sup>	0.42 <sup>1</sup>	0.42 <sup>3</sup>	2.1 <sup>1</sup>	0.00013 <sup>1</sup>	0.0002 <sup>1</sup>	0.00018 <sup>1</sup>	0.21 <sup>3</sup>	0.00017 <sup>1</sup>	28 <sup>1</sup>	0.006 <sup>1</sup>	1.4 <sup>2</sup>	0.012 <sup>1</sup>			0.0003 <sup>1</sup>	
P-93C	P93C-ROX-071423	7/14/2023	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.031	< 0.01	< 0.01	< 0.00021	< 0.01	< 0.00021	< 0.00021	
	P93C-ROX-101623	10/16/2023	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	< 0.00021	0.00018 J	< 0.00021	< 0.00020 U	< 0.00021	< 0.00021	< 0.00021	< 0.031	< 0.01	< 0.01	< 0.00021	< 0.01	< 0.00021	< 0.00021	
	P93C-ROX-011124	1/11/2024	< 0.5 UJ	< 0.5 UJ	< 0.5 UJ	< 2.5 UJ	< 2.5 UJ	< 5 UJ	0.00012 J	0.00033	< 0.00021 UJ	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.031	< 0.01	< 0.01	< 0.00021	< 0.01	< 0.00021	< 0.00021	
	P93C-ROX-041924	4/19/2024	< 1	< 1	< 1	< 5	< 5	< 10	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.032	< 0.011	< 0.011	< 0.00021 UJ	< 0.011	< 0.00021	< 0.00021	
P-93D	P93D-ROX-071123	7/11/2023	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.03	< 0.01	< 0.01	< 0.00020	< 0.01	< 0.00020	< 0.00020	
	P93D-ROX-101623	10/16/2023	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	< 0.00020	< 0.00020	< 0.00020	< 0.00020 U	< 0.00020	< 0.00020	< 0.00020	< 0.031	< 0.01	< 0.01	< 0.00020 U	< 0.01	< 0.00020	< 0.00020	
	P93D-ROX-011024	1/10/2024	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	< 0.00019	0.00016 J	< 0.00019 UJ	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.029	< 0.0095	< 0.0095	< 0.00019	< 0.0095	< 0.00019	< 0.00019	
	P93D-ROX-042224	4/22/2024	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	< 0.00020	< 0.00020	< 0.00020	< 0.00020 UJ	< 0.00020 UJ	< 0.00020 UJ	< 0.00020 UJ	< 0.00020 UJ	< 0.03	< 0.01	< 0.01	< 0.00020 UJ	< 0.01	< 0.00020 UJ	< 0.00020 UJ
P-114R	P114R-ROX-071423	7/14/2023	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	0.00048	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.03	< 0.0099	< 0.0099	< 0.00020	< 0.0099	< 0.00020	< 0.00020	
	P114R-ROX-101823	10/18/2023	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	0.00099	< 0.00020	0.000085 J	< 0.00020 U	< 0.00020	< 0.00020	< 0.00020	< 0.029	< 0.0099 H UJ	< 0.0098	< 0.00020	< 0.0098	< 0.00020	< 0.00020	
	P114R-ROX-011024	1/10/2024	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	0.00076	0.00026	< 0.00020 UJ	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.029	< 0.0095	< 0.0095	< 0.00020	< 0.0095	< 0.00020	< 0.00020	
	P114R-ROX-041524	4/15/2024	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	0.00022	0.000064 J	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.03	< 0.0099	< 0.0099	< 0.00020	0.00038 J	< 0.00020	< 0.00020	
ROST-3-MW	ROST3MW-ROX-071723	7/17/2023	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.031	< 0.01	< 0.01	< 0.00021	< 0.01	< 0.00021	< 0.00021	
	ROST3MW-ROX-071723-DUP	7/17/2023	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.03	< 0.01	< 0.01	< 0.00020	< 0.01	< 0.00020	< 0.00020	
	ROST3MW-ROX-100623	10/6/2023	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	< 0.00011	< 0.00011	< 0.00011	< 0.00011	< 0.00011	< 0.00011	0.000024 J	< 0.00011	< 0.00011	< 0.017	< 0.0057	< 0.00011	< 0.0057	< 0.00011	
	ROST3MW-ROX-010824	1/8/2024	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	0.00014 J	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.029	< 0.0096 UJ	< 0.0096 UJ	< 0.00019	< 0.0096	< 0.00019	< 0.00019	
ROST-4-PZ(C)	ROST4PZC-ROX-071123	7/11/2023	< 0.0010	0.0057	0.00067 J	0.023	0.0017 J	0.024	0.00069	< 0.00021	0.00032	0.000036 J	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.031	< 0.01	< 0.01	< 0.00021	< 0.01	< 0.00021	< 0.00021
	ROST4PZ(C)-ROX-101623	10/16/2023	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	0.00057	< 0.00019	0.00025	< 0.00019 U	< 0.00019	< 0.00019	< 0.00019	< 0.029	< 0.0097	< 0.0097	< 0.00019	< 0.0097	< 0.00019	< 0.00019	
	ROST4PZ(C)-ROX-101623-DUP	10/16/2023	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	0.00060	< 0.00019	0.00024	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.029	< 0.0096	< 0.0096	< 0.00019 UJ	< 0.0096	< 0.00019	< 0.00019	
	ROST4PZ(C)-ROX-010824	1/8/2024	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	0.00010 J	< 0.00020	0.00014 J	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.031	< 0.01	< 0.01	< 0.00020	< 0.01	< 0.00020	< 0.00020	
	ROST4PZ(C)-ROX-041624	4/16/2024	< 0.0010	0.0014	< 0.0010	0.0014 J	< 0.0050	0.0016 J	0.00029	< 0.00019	0.00031	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.029	< 0.0097	< 0.0097	< 0.00019	< 0.0097	< 0.00019	< 0.00019	
ROST-4-PZ(E)	ROST4PZ(E)-ROX-071223	7/12/2023	< 0.0010	0.016	< 0.0010	0.0063	0.0012 J	0.0075 J	0.0013	< 0.00020	0.0010	0.000067 J	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.03	< 0.0099	< 0.0099	0.000042 J	< 0.0099	< 0.00020	< 0.00020
	ROST4PZ(E)-ROX-101323	10/13/2023	< 0.0010	0.01	< 0.0010	0.0048 J	< 0.0050	0.0053 J	0.00048	< 0.00020	0.00082	< 0.00020 U	< 0.00020	< 0.00020	< 0.00020	< 0.029	< 0.0098	< 0.0098	< 0.00020 U	< 0.0098	< 0.00020	< 0.00020	
	ROST4PZ(E)-ROX-011124	1/11/2024	< 0.0010	0.01	< 0.0010	0.0054	0.00061 J	0.0060 J	0.00082	< 0.00020	0.0015 J	0.000085 J	< 0.00020	< 0.00020	< 0.00020	< 0.03	< 0.01	< 0.01	0.00011 J	< 0.01	< 0.00020	< 0.00020	
	ROST4PZ(E)-ROX-041624	4/16/2024	< 0.0010	0.0024	< 0.0010	< 0.0050	< 0.0050	< 0.01	0.00017 J	< 0.00019	0.00024	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.029	< 0.0096	< 0.0096	< 0.00019	< 0.0096	< 0.00019	< 0.00019	
ROST-4-PZ(G)	ROST4PZ(G)-ROX-071023	7/10/2023	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.03	< 0.01	< 0.01	< 0.00020	< 0.01	< 0.00020	< 0.00020	
	ROST4PZ(G)-ROX-101223	10/12/2023	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	< 0.00020	< 0.00020	< 0.00020	< 0.00020 U	< 0.00020	< 0.00020	< 0.00020	< 0.03	< 0.0099	< 0.0099	< 0.00020 UJ	< 0.0099	< 0.00020	< 0.00020	
	ROST4PZ(G)-ROX-010824	1/8/2024	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.031	< 0.01	< 0.01	< 0.00021	< 0.01	< 0.00021	< 0.00021	
	ROST4PZ(G)-ROX-040524	4/5/2024	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.029	< 0.0097	< 0.0097	< 0.00019	< 0.0097	< 0.00019	< 0.00019	
T-12	T12-ROX-071423	7/14/2023	< 0.01	< 0.01	< 0.01	0.028 J	< 0.05	0.028 J	0.00024	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.03	< 0.01	< 0.01	< 0.00020	< 0.01	< 0.00020	< 0.00020	
	T12-ROX-101923	10/19/2023	< 0.01	< 0.01	< 0.01	0.042 J	< 0.05	0.045 J	0.00029	< 0.00020	0.00014 J	< 0.00020 U	< 0.00020	< 0.00020	< 0.00020	< 0.029	< 0.0098	< 0.0098	< 0.00020	< 0.0098	< 0.00020	< 0.00020	
	T12-ROX-011124	1/11/2024	< 0.01	< 0.01	< 0.01	0.031 J	< 0.05	0.034 J	0.00037	< 0.00020	0.00015 J J	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.031	< 0.01	< 0.01	< 0.00020	< 0.01	< 0.00020	< 0.00020	
	T12-ROX-041924	4/19/2024	< 0.01	< 0.01	< 0.01	0.017 J	< 0.05	0.017 J	0.00040	< 0.00022	0.00011 J	< 0.00022	< 0.00022	< 0.00022	< 0.00022	< 0.033	< 0.011	< 0.011	< 0.00022 UJ	< 0.011	< 0.00022	< 0.00022	

**TABLE 3  
SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL DETECTIONS AND EXCEEDANCES**

			SVOCs																		
Screening Values (mg/L)			Dibenzofuran	Diethyl phthalate	2,4-Dimethylphenol	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Fluoranthene	Fluorene	Indene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	2-Methylphenol (o-Cresol)	3&4-Methylphenol	N-Nitrosodiphenylamine	Pentachlorophenol	Phenanthrene	Phenol	Pyrene
Location	Sample ID	Sample Date	Analytical Results (mg/L)																		
			0.007 <sup>3</sup>	5.6 <sup>1</sup>	0.14 <sup>2</sup>		0.7 <sup>1</sup>	0.14 <sup>2</sup>	0.28 <sup>1</sup>	0.28 <sup>1</sup>		0.00043 <sup>1</sup>	0.49 <sup>3</sup>	0.028 <sup>1</sup>	0.35 <sup>1</sup>	0.14 <sup>3</sup>	0.0032 <sup>2</sup>	0.001 <sup>1</sup>	0.21 <sup>3</sup>	0.1 <sup>1</sup>	0.21 <sup>1</sup>
MW-01	MW1-ROX-071023	7/10/2023	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0020	< 0.0020	< 0.0099	< 0.0020	< 0.0020	< 0.0020	< 0.0099	< 0.02	< 0.0099	< 0.02	< 0.0020	< 0.0099	< 0.0020 UJ
	MW1-ROX-100523	10/5/2023	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0057	0.000049 J	< 0.0011	< 0.0057	< 0.0011	< 0.0011	< 0.0011	< 0.0057	< 0.011 UJ	< 0.0057	< 0.011	< 0.0011	< 0.0057 UJ	< 0.0011
	MW1-ROX-010524	1/5/2024	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0020	< 0.0020	< 0.0098	< 0.0020	< 0.0020	< 0.0020	< 0.0098	< 0.02	< 0.0098	< 0.02	< 0.0020	< 0.0098	< 0.0020
MW-02	MW2-ROX-071823	7/18/2023	< 0.01	0.00062 J	< 0.01	< 0.01	< 0.01	< 0.01	< 0.0020	< 0.0020	< 0.01	< 0.0020	0.0090	0.017	< 0.01	< 0.02	< 0.01	< 0.02	< 0.0020	< 0.01	< 0.0020
	MW2-ROX-101323	10/13/2023	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099 UJ	< 0.0020	< 0.0099 UJ	< 0.0099	< 0.0020	0.0082	0.015	< 0.0099	< 0.02	< 0.0099	< 0.02	< 0.0020	< 0.0099	< 0.0020
	MW2-ROX-011124	1/11/2024	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0020 UJ	< 0.0020	< 0.0098	< 0.0020	0.0069	0.0091	< 0.0098	< 0.02	< 0.0098	< 0.02	< 0.0020	< 0.0098	< 0.0020
MW-03	MW3-ROX-071023	7/10/2023	< 0.01	0.00065 J	< 0.01	< 0.01	< 0.01	< 0.01	< 0.0020	< 0.0020	< 0.01	< 0.0020	< 0.0020 UJ	< 0.0020 UJ	< 0.01	< 0.01	< 0.01	< 0.02	< 0.0020	< 0.01	< 0.0020 UJ
	MW3-ROX-101223	10/12/2023	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0020	< 0.0020	< 0.0098	< 0.0020	< 0.0020	< 0.0020	< 0.0098	< 0.02	< 0.0098	< 0.02	< 0.0020	< 0.0098	< 0.0020
	MW3-ROX-101223-DUP	10/12/2023	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0020	< 0.0020	< 0.0098	< 0.0020	< 0.0020	< 0.0020	< 0.0098	< 0.02	< 0.0098	< 0.02	< 0.0020	< 0.0098	< 0.0020
	MW3-ROX-010924	1/9/2024	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0020	< 0.0020	< 0.0099	< 0.0020	< 0.0020	< 0.0020	< 0.0099	< 0.02	< 0.0099	< 0.02	< 0.0020	< 0.0099	< 0.0020
	MW3-ROX-010924-DUP	1/9/2024	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.0020	< 0.0020	< 0.01	< 0.0020	< 0.0020	< 0.0020	< 0.01	< 0.02	< 0.01	< 0.02	< 0.0020	< 0.01	< 0.0020
MW-04	MW4-ROX-071323	7/13/2023	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.0021	< 0.0021	< 0.01	< 0.0021	< 0.0021	< 0.0021	< 0.01	< 0.02	< 0.01	< 0.021	< 0.0021	< 0.01	< 0.0021 UJ
	MW4-ROX-102023	10/20/2023	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.0022	< 0.0022	< 0.011	< 0.0022	< 0.0022	< 0.0022	< 0.011	< 0.022	< 0.011	< 0.022	< 0.0022	< 0.011	< 0.0022
	MW4-ROX-011724	1/17/2024	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.0023	< 0.0023	< 0.011	< 0.0023	< 0.0023	< 0.0023	< 0.011	< 0.023	< 0.011	< 0.023	< 0.0023	< 0.011	< 0.0023
	MW4-ROX-041924	4/19/2024	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0020	< 0.0020	< 0.0098	< 0.0020	0.00033	< 0.0048 U	< 0.0098	< 0.02	< 0.0098	< 0.02	< 0.0020	< 0.0098	< 0.0020 UJ
MW-05	MW5-ROX-071723	7/17/2023	< 0.01	0.00027 J	< 0.01	< 0.01	< 0.01	< 0.01	< 0.0021	< 0.0021	< 0.01	< 0.0021	0.00017 J	0.00026	< 0.01	< 0.019	< 0.01	< 0.021	< 0.0021	< 0.01	< 0.0021
	MW5-ROX-101623	10/16/2023	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.0020	< 0.0020	< 0.01	< 0.0020	< 0.0020	< 0.0020	< 0.01	< 0.02	< 0.01	< 0.02	< 0.0020	< 0.01	< 0.0020
	MW5-ROX-010924	1/9/2024	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0020	< 0.0020	< 0.0098	< 0.0020	< 0.0020	< 0.0020	< 0.0098	< 0.02	< 0.0098	< 0.02	< 0.0020	< 0.0098	< 0.0020
MW-06A	MW6A-ROX-071123	7/11/2023	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.0020	< 0.0020	< 0.01	< 0.0020 H UJ	< 0.0020	< 0.0020	< 0.01	< 0.02	< 0.01	< 0.02	< 0.0020	< 0.01	< 0.0020 UJ
	MW6A-ROX-101023	10/10/2023	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0019 U	< 0.0019	< 0.0095	< 0.0019	< 0.0019	< 0.0019	< 0.0095	< 0.019	< 0.0095	< 0.019	< 0.0019	< 0.0095	< 0.0019
	MW6A-ROX-010924	1/9/2024	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.000073 J	< 0.0021	< 0.01	0.000043 J	< 0.0021	< 0.0021	< 0.01	< 0.021	< 0.01	< 0.021	0.00011 J	< 0.01	0.000091 J
	MW6A-ROX-041124	4/11/2024	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0019	< 0.0019	< 0.0097	< 0.0019	< 0.0019	< 0.0019	< 0.0097	< 0.019	< 0.0097	< 0.019	< 0.0019	< 0.0097	< 0.0019
MW-06B	MW6B-ROX-071123	7/11/2023	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.0021	< 0.0021	< 0.01	< 0.0021 H UJ	< 0.0021	< 0.0021	< 0.01	< 0.02	< 0.01	< 0.021	< 0.0021	< 0.01	< 0.0021 UJ
	MW6B-ROX-071123-DUP	7/11/2023	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.0021	< 0.0021	< 0.01	< 0.0021	< 0.0021	< 0.0021	< 0.01	< 0.02	< 0.01	< 0.021	< 0.0021	< 0.01	< 0.0021 UJ
	MW6B-ROX-101023	10/10/2023	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0094	< 0.0019 U	< 0.0019	< 0.0094	< 0.0019	< 0.0019	< 0.0019	< 0.0094	< 0.019	< 0.0094	< 0.019	< 0.0019	< 0.0094	< 0.0019
	MW6B-ROX-010924	1/9/2024	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.0021	< 0.0021	< 0.011	< 0.0021	< 0.0021	< 0.0021	< 0.011	< 0.021	< 0.011	< 0.021	< 0.0021	< 0.011	< 0.0021
	MW6B-ROX-041124	4/11/2024	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0019	< 0.0019	< 0.0097	< 0.0019	< 0.0019	< 0.0019	< 0.0097	< 0.019	< 0.0097	< 0.019	< 0.0019	< 0.0097	< 0.0019
MW-06C	MW6C-ROX-071123	7/11/2023	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.0020	< 0.0020	< 0.01	< 0.0020	< 0.0020 UJ	< 0.0020 UJ	< 0.01	< 0.02	< 0.01	< 0.02	< 0.0020	< 0.01	< 0.0020 UJ
	MW6C-ROX-101023	10/10/2023	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0019 U	< 0.0019	< 0.0095	0.000032 J	< 0.0019	< 0.0019	< 0.0095	< 0.019	< 0.0095	< 0.019	< 0.0019	< 0.0095	< 0.0019
	MW6C-ROX-010924	1/9/2024	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.0021	< 0.0021	< 0.01	< 0.0021	< 0.0021	< 0.0021	< 0.01	< 0.021	< 0.01	< 0.021	< 0.0021	< 0.01	< 0.0021
	MW6C-ROX-040924	4/9/2024	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0019	< 0.0019	< 0.0096	< 0.0019	< 0.0019	< 0.0019	< 0.0096	< 0.019	< 0.0096	< 0.019	< 0.0019	< 0.0096	< 0.0019
MW-06D	MW6D-ROX-071223	7/12/2023	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0020	< 0.0020	< 0.0098	< 0.0020	< 0.0020	< 0.0020	< 0.0098	< 0.019	< 0.0098	< 0.02	< 0.0020	< 0.0098	< 0.0020 UJ
	MW6D-ROX-100923	10/9/2023	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0020	< 0.0020	< 0.0098	< 0.0020	< 0.0020	< 0.0020	< 0.0098	< 0.02	< 0.0098	< 0.02	< 0.0020	< 0.0098	< 0.0020
	MW6D-ROX-010924	1/9/2024	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.0020	< 0.0020	< 0.01	< 0.0020	< 0.0020	< 0.0020	< 0.01	< 0.02	< 0.01	< 0.02	< 0.0020	< 0.01	< 0.0020
	MW6D-ROX-040924	4/9/2024	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	0.00054	0.00099	< 0.0099	< 0.0020	< 0.00079 U	< 0.0011 U	< 0.0099	< 0.02	< 0.0099	< 0.02	0.00097	< 0.0099	0.00049
MW-07	MW7-ROX-071323	7/13/2023	< 0.011	0.00044 J	< 0.011	< 0.011	< 0.011	< 0.011	< 0.0021	< 0.0021	< 0.011	< 0.0021	0.00088	0.0013	< 0.011	< 0.02	< 0.011	< 0.021	0.00011 J	0.12 J	< 0.0021 UJ
	MW7-ROX-071323-DUP	7/13/2023	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0020												

**TABLE 3  
SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL DETECTIONS AND EXCEEDANCES**

			SVOCs																		
Screening Values (mg/L)			Dibenzofuran	Diethyl phthalate	2,4-Dimethylphenol	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Fluoranthene	Fluorene	Indene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	2-Methylphenol (o-Cresol)	3&4-Methylphenol	N-Nitrosodiphenylamine	Pentachlorophenol	Phenanthrene	Phenol	Pyrene
Location	Sample ID	Sample Date	Analytical Results (mg/L)																		
			0.007 <sup>3</sup>	5.6 <sup>1</sup>	0.14 <sup>2</sup>		0.7 <sup>1</sup>	0.14 <sup>2</sup>	0.28 <sup>1</sup>	0.28 <sup>1</sup>		0.00043 <sup>1</sup>	0.49 <sup>3</sup>	0.028 <sup>1</sup>	0.35 <sup>1</sup>	0.14 <sup>3</sup>	0.0032 <sup>2</sup>	0.001 <sup>1</sup>	0.21 <sup>3</sup>	0.1 <sup>1</sup>	0.21 <sup>1</sup>
MW-09	MW9-ROX-071823	7/18/2023	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.00020	< 0.00020	< 0.01	< 0.00020	< 0.00020	< 0.00020	< 0.01	< 0.019	< 0.01	< 0.02	< 0.00020	< 0.01	< 0.00020
	MW9-ROX-101623	10/16/2023	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099 UJ	< 0.0099	< 0.00020	< 0.00020	< 0.0099	< 0.00020	< 0.00020	< 0.00020	< 0.0099	< 0.02	< 0.0099	< 0.02	< 0.00020	< 0.0099	< 0.00020
	MW9-ROX-010524	1/5/2024	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.00021	< 0.00021	< 0.011	< 0.00021	< 0.00021	0.000093 J	< 0.011	< 0.021	< 0.011	< 0.021	< 0.00021	< 0.011	< 0.00021
	MW9-ROX-041524	4/15/2024	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.00020	< 0.00020	< 0.0098	< 0.00020	< 0.00020	< 0.00020	< 0.0098	< 0.02	< 0.0098	< 0.02	< 0.00020	< 0.0098	< 0.00020
MW-10	MW10-ROX-071823	7/18/2023	< 0.0098	0.00031 J	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.00020	< 0.00020	< 0.0098	< 0.00020	< 0.00020	< 0.00020	< 0.0098	< 0.02	< 0.0098	< 0.02	< 0.00020	< 0.0098	< 0.00020
	MW10-ROX-101323	10/13/2023	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099 UJ	< 0.00020	< 0.00020	< 0.0099	< 0.00020	< 0.00020	< 0.00020	< 0.0099	< 0.02	< 0.0099	< 0.02	< 0.00020	< 0.0099	< 0.00020
	MW10-ROX-010524	1/5/2024	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.00021	< 0.00021	< 0.011	< 0.00021	< 0.00021	< 0.00021	< 0.011	< 0.021	< 0.011	< 0.021	< 0.00021	< 0.011	< 0.00021
	MW10-ROX-040424	4/4/2024	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.00019	< 0.00019	< 0.0095	< 0.00019	< 0.00019	< 0.00019 U	< 0.0095	< 0.019	< 0.0095	< 0.019	< 0.00019	< 0.0095	< 0.00019
MW-11	MW11-ROX-071223	7/12/2023	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.00020	< 0.00020	< 0.0099	< 0.00020	< 0.00020	< 0.00020	< 0.0099	< 0.02	< 0.0099	< 0.02	< 0.00020	< 0.0099	< 0.00020 UJ
	MW11-ROX-100623	10/6/2023	< 0.0058	< 0.0058	< 0.0058	< 0.0058	< 0.0058	< 0.0058	< 0.00012	< 0.00012	< 0.0058	< 0.00012	< 0.00012 UJ	< 0.00012 UJ	< 0.0058	< 0.012 UJ	< 0.0058	< 0.012	< 0.00012	< 0.0058 UJ	< 0.00012
	MW11-ROX-010524	1/5/2024	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.00021	< 0.00021	< 0.01	< 0.00021	< 0.00021	< 0.00021	< 0.01	< 0.021	< 0.01	< 0.021	< 0.00021	< 0.01	< 0.00021
	MW11-ROX-040524	4/5/2024	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.00020	< 0.00020	< 0.0098	< 0.00020	< 0.00020	< 0.00020	< 0.0098	< 0.02	< 0.0098	< 0.02	< 0.00020	< 0.0098	< 0.00020
MW-12	MW12-ROX-071223	7/12/2023	< 0.01	0.00078 J	< 0.01	< 0.01	< 0.01	< 0.01	< 0.00020	< 0.00020	< 0.01	< 0.00020	< 0.00020	< 0.00020	< 0.01	< 0.02	< 0.01	< 0.02	< 0.00020	< 0.01	< 0.00020 UJ
	MW12-ROX-101023	10/10/2023	< 0.0094	0.00028 J	< 0.0094	0.00049 J	< 0.0094	< 0.0094	< 0.00019 U	< 0.00019	< 0.0094	0.000073 J	< 0.00019	< 0.00019	< 0.0094	< 0.019	< 0.0094	< 0.019	< 0.00019	< 0.0094	< 0.00019
	MW12-ROX-011124	1/11/2024	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	0.000034 J J	< 0.00019	< 0.0097	< 0.00019	< 0.00019	< 0.00019	< 0.0097	< 0.019	< 0.0097	< 0.019	< 0.00019	< 0.0097	< 0.00019
	MW12-ROX-041224	4/12/2024	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.00020	< 0.00020	< 0.0098	< 0.00020	< 0.00020	< 0.00020	< 0.0098	< 0.02	< 0.0098	< 0.02	< 0.00020	< 0.0098	< 0.00020
MW-13	MW13-ROX-071423	7/14/2023	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.00020	< 0.00020 UJ	< 0.0099	< 0.00020	< 0.00020	< 0.00020	< 0.0099	< 0.02	< 0.0099	< 0.02	< 0.00020	< 0.0099 UJ	< 0.00020
	MW13-ROX-101823	10/18/2023	< 0.0099	< 0.0099	< 0.0099 UJ	< 0.0099	< 0.0099	< 0.0099	< 0.00020	< 0.00020	< 0.0099	< 0.00020	< 0.00020	< 0.00020	< 0.0099 UJ	< 0.02 UJ	< 0.0099	< 0.02 UJ	< 0.00020	< 0.0099 UJ	< 0.00020
	MW13-ROX-011024	1/10/2024	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.00020 UJ	< 0.00020	< 0.0098	< 0.00020	< 0.00020	< 0.00020	< 0.0098	< 0.02	< 0.0098	< 0.02	< 0.00020	< 0.0098	< 0.00020
	MW13-ROX-041524	4/15/2024	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.00020	< 0.00020	< 0.0098	< 0.00020	< 0.00020	< 0.00020	< 0.0098	< 0.02	< 0.0098	< 0.02	< 0.00020	< 0.0098	< 0.00020
MW-14	MW14-ROX-071723	7/17/2023	< 0.011 UJ	< 0.011 UJ	< 0.0099	< 0.011 UJ	< 0.0099	< 0.0097 UJ	< 0.00022 UJ	< 0.00022 UJ	< 0.0097 UJ	< 0.00022 UJ	< 0.00022 UJ	< 0.00022 UJ	< 0.011	< 0.019	< 0.011	< 0.022	< 0.00022 UJ	< 0.0099	< 0.00022 UJ
	MW14-ROX-100923	10/9/2023	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.00020	< 0.00020	< 0.0098	< 0.00020	< 0.00020	< 0.00020	0.00018 J	0.00011 J	< 0.0098	< 0.02	< 0.00020	0.00047 J	< 0.00020
	MW14-ROX-011724	1/17/2024	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.00022	< 0.00022	< 0.011	< 0.00022	< 0.00022	< 0.00022	< 0.011	< 0.022	< 0.011	< 0.022	< 0.00022	< 0.011	< 0.00022
	MW14-ROX-041124	4/11/2024	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.00019	< 0.00019	< 0.0096	< 0.00019	< 0.00019	< 0.00019	< 0.0096	< 0.019	< 0.0096	< 0.019	< 0.00019	< 0.0096	< 0.00019
MW-16	MW16-ROX-071123	7/11/2023	< 0.0099	0.00061 J	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.00020	< 0.00020	< 0.0099	< 0.00020	< 0.00020	< 0.00020	< 0.0099	< 0.02	< 0.0099	< 0.02	< 0.00020	< 0.0099	< 0.00020 UJ
	MW16-ROX-101823	10/18/2023	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.00020	< 0.00020	< 0.01	< 0.00020	< 0.00020	< 0.00020	< 0.01	< 0.02	< 0.01	< 0.02	< 0.00020	< 0.01	< 0.00020
	MW16-ROX-101823-DUP	10/18/2023	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.00020 U	< 0.00020	< 0.0098	< 0.00020 U	< 0.00020 U	< 0.00020	< 0.0098	< 0.02	< 0.0098	< 0.02	< 0.00020	< 0.0098	< 0.00020
	MW16-ROX-010824	1/8/2024	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.00021	< 0.00021	< 0.01	< 0.00021	< 0.00021	< 0.00021	< 0.01	< 0.021	< 0.01	< 0.021	< 0.00021	< 0.01	< 0.00021
MW-22	MW22-ROX-040924	4/9/2024	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.00020	< 0.00020	< 0.01	< 0.00020	< 0.00020	< 0.00020 UJ	< 0.01	< 0.02	< 0.01 UJ	< 0.02	< 0.00020	< 0.01 UJ	< 0.00020
	MW22-ROX-071323	7/13/2023	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.00020	< 0.00020	< 0.01	< 0.00020	0.0059	0.0073	< 0.01	< 0.02	< 0.01	< 0.02	< 0.00020	< 0.01	< 0.00020
	MW22-ROX-101623	10/16/2023	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098 UJ	< 0.00020	0.00014 J	< 0.0098	< 0.00020	0.0037	0.0039	< 0.0098	< 0.02	< 0.0098	< 0.02	< 0.00020	< 0.0098	< 0.00020
	MW22-ROX-011224	1/12/2024	< 0.0098	< 0.0098	0.010 J	< 0.0098	< 0.0098	< 0.0098	< 0.00020	< 0.00020	< 0.0098	< 0.00020	0.012	0.017	< 0.0098	< 0.02	< 0.0098	< 0.02	< 0.00020	< 0.0098	< 0.00020
	MW22-ROX-011224-DUP	1/12/2024	< 0.0096	< 0.0096	0.011 J	< 0.0096	< 0.0096	< 0.0096	< 0.00019	0.000090 J	< 0.0096	< 0.00019	0.013	0.018	< 0.0096	< 0.019	< 0.0096	< 0.019	< 0.00019	< 0.0096	< 0.00019
	MW22-ROX-041824	4/18/2024	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.00022	0.00013 J	< 0.011	< 0.00022	0.0076	0.01	< 0.011	< 0.022	< 0.011	< 0.022	< 0.00022	< 0.011	< 0.00022
MW-23	MW22-ROX-041824-DUP	4/18/2024	< 0.01	< 0.01	0.0054 J	< 0.01	< 0.01	< 0.01	< 0.00021	< 0.00021	< 0.01	< 0.00021	0.0084	0.011	< 0.01	< 0.021	< 0.01	< 0.021	< 0.00021	< 0.01	< 0.00021
	MW23-ROX-071423	7/14/2023	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.000												

**TABLE 3  
SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL DETECTIONS AND EXCEEDANCES**

			SVOCs																						
Screening Values (mg/L)			Dibenzofuran	Diethyl phthalate	2,4-Dimethylphenol	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Fluoranthene	Fluorene	Indene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	2-Methylphenol (o-Cresol)	3&4-Methylphenol	N-Nitrosodiphenylamine	Pentachlorophenol	Phenanthrene	Phenol	Pyrene				
Location	Sample ID	Sample Date	Analytical Results (mg/L)																						
			0.007 <sup>3</sup>	5.6 <sup>1</sup>	0.14 <sup>2</sup>		0.7 <sup>1</sup>	0.14 <sup>2</sup>	0.28 <sup>1</sup>	0.28 <sup>1</sup>		0.00043 <sup>1</sup>	0.49 <sup>3</sup>	0.028 <sup>1</sup>	0.35 <sup>1</sup>	0.14 <sup>3</sup>	0.0032 <sup>2</sup>	0.001 <sup>1</sup>	0.21 <sup>3</sup>	0.1 <sup>1</sup>	0.21 <sup>1</sup>				
MW-26	MW26-ROX-071023	7/10/2023	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0019	< 0.0019	< 0.0097	< 0.0019	< 0.0019	< 0.0019	< 0.0097	< 0.019	< 0.0097	< 0.019	< 0.00019	< 0.0097	< 0.00019	UJ			
	MW26-ROX-100523	10/5/2023	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0011	< 0.0011	< 0.0057	< 0.0011	< 0.0011	< 0.0011	< 0.0057	< 0.011	UJ	< 0.0057	< 0.011	< 0.00011	< 0.0057	UJ	< 0.00011		
	MW26-ROX-010524	1/5/2024	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0020	< 0.0020	< 0.0099	< 0.0020	< 0.0020	< 0.0020	< 0.0099	< 0.02	< 0.0099	< 0.02	< 0.00020	< 0.0099	UJ	< 0.00020			
	MW26-ROX-040424	4/4/2024	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0019	< 0.0019	< 0.0097	< 0.0019	< 0.0019	< 0.0019	< 0.0097	< 0.019	< 0.0097	< 0.019	< 0.00019	< 0.0097	< 0.00019	< 0.00019	UJ		
MW-27	MW27-ROX-071823	7/18/2023	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.0021	< 0.0021	< 0.01	< 0.0021	< 0.0021	< 0.0021	< 0.01	< 0.02	< 0.01	< 0.021	< 0.00021	< 0.01	< 0.00021	< 0.00021			
	MW27-ROX-101823	10/18/2023	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0020	< 0.0020	< 0.0098	< 0.0020	< 0.0020	< 0.0020	< 0.0098	< 0.02	< 0.0098	< 0.02	< 0.00020	< 0.0098	< 0.00020	< 0.00020			
	MW27-ROX-010824	1/8/2024	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0019	< 0.0019	< 0.0095	< 0.0019	< 0.0019	< 0.0019	< 0.0095	< 0.019	< 0.0095	< 0.019	< 0.00019	< 0.0095	< 0.00019	< 0.00019			
	MW27-ROX-040424	4/4/2024	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0020	< 0.0020	< 0.0098	< 0.0020	< 0.0020	< 0.0020	U	< 0.0098	< 0.02	< 0.0098	< 0.02	< 0.00020	< 0.0098	< 0.00020			
MW-28	MW28-ROX-071223	7/12/2023	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0019	< 0.0019	< 0.0097	< 0.0019	< 0.0019	< 0.0019	< 0.0097	< 0.02	< 0.0097	< 0.019	< 0.00019	< 0.0097	< 0.00019	UJ			
	MW28-ROX-101223	10/12/2023	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	UJ	< 0.0020	< 0.0020	< 0.0020	< 0.0020	< 0.01	< 0.02	< 0.01	< 0.02	< 0.00020	< 0.01	< 0.00020	< 0.00020			
	MW28-ROX-010524	1/5/2024	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.0022	< 0.0022	< 0.011	< 0.0022	< 0.0022	< 0.011	< 0.022	< 0.011	< 0.022	< 0.00022	< 0.011	< 0.00022	< 0.00022			
	MW28-ROX-041224	4/12/2024	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0019	< 0.0019	< 0.0097	< 0.0019	< 0.0019	< 0.0019	< 0.0097	< 0.019	< 0.0097	< 0.019	< 0.00019	< 0.0097	< 0.00019	< 0.00019			
P-54	P54-ROX-071223	7/12/2023	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.0020	< 0.0020	< 0.01	< 0.0020	< 0.0020	< 0.0020	< 0.01	< 0.019	< 0.01	< 0.02	< 0.00020	< 0.01	< 0.00020	UJ			
	P54-ROX-100623	10/6/2023	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0011	< 0.0011	< 0.0057	0.000020	J	< 0.00011	UJ	< 0.00011	UJ	< 0.0057	< 0.011	< 0.00011	< 0.0057	UJ	< 0.00011		
	P54-ROX-010824	1/8/2024	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0020	< 0.0020	< 0.0099	< 0.0020	< 0.0020	< 0.0020	< 0.0099	< 0.02	< 0.0099	< 0.02	< 0.00020	< 0.0099	< 0.00020	< 0.00020			
	P54-ROX-040824	4/8/2024	< 0.0096	< 0.0096	< 0.0096	UJ	< 0.0096	< 0.0096	< 0.0019	< 0.0019	< 0.0096	< 0.0019	< 0.0019	H	UJ	< 0.0019	H	UJ	< 0.0096	UJ	< 0.0019	< 0.0096	UJ	< 0.00019	
P-56	P56-ROX-071023	7/10/2023	0.00049	J	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.0020	0.00022	< 0.01	< 0.0020	0.0088	0.0074	< 0.01	< 0.02	< 0.01	< 0.02	0.00063	< 0.01	< 0.00020	UJ		
	P56-ROX-101823	10/18/2023	0.00025	J	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.0021	0.00023	< 0.01	< 0.0021	0.0032	0.0017	< 0.01	< 0.021	< 0.01	< 0.021	0.00036	< 0.01	< 0.00021	< 0.00021		
	P56-ROX-011024	1/10/2024	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0019	UJ	0.00034	< 0.0095	< 0.0019	0.0068	0.0048	< 0.0095	< 0.019	< 0.0095	< 0.019	0.00052	< 0.0095	< 0.00019	< 0.00019		
	P56-ROX-041824	4/18/2024	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.0022	0.00022	< 0.011	< 0.0022	0.0026	0.00087	< 0.011	< 0.022	< 0.011	< 0.022	0.00029	< 0.011	< 0.00022	< 0.00022			
P-57	P57-ROX-071323	7/13/2023	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.0022	0.00033	< 0.011	< 0.0022	0.018	0.022	< 0.011	< 0.02	< 0.011	< 0.022	< 0.011	< 0.022	0.00030	0.0079	J	< 0.00022	
	P57-ROX-071323-DUP	7/13/2023	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0020	0.00041	< 0.0099	< 0.0020	0.022	0.026	< 0.0099	< 0.02	< 0.0099	< 0.02	0.00034	0.0072	J	< 0.00020	< 0.00020		
	P57-ROX-101723	10/17/2023	0.00051	J	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0020	U	0.00038	< 0.0099	< 0.0020	U	0.021	0.014	< 0.0099	< 0.02	< 0.0099	< 0.02	0.00033	0.0061	J	< 0.00020
	P57-ROX-011124	1/11/2024	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.0021	UJ	0.00054	< 0.011	< 0.0021	0.027	0.022	< 0.011	< 0.022	< 0.011	< 0.022	0.00040	< 0.011	< 0.00021	< 0.00021		
	P57-ROX-011124-DUP	1/11/2024	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.0021	UJ	0.00051	< 0.011	< 0.0021	0.025	0.019	< 0.011	< 0.021	< 0.011	< 0.021	0.00037	< 0.011	< 0.00021	< 0.00021		
	P57-ROX-041824	4/18/2024	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.0022	0.00044	J	0.00042	< 0.011	< 0.0021	0.015	0.0014	< 0.011	< 0.021	< 0.011	< 0.021	0.00025	< 0.011	< 0.00021	< 0.00021	
P57-ROX-041824-DUP	4/18/2024	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.0022	0.00036	< 0.011	< 0.0022	0.015	0.0015	< 0.011	< 0.022	< 0.011	< 0.022	0.00019	J	< 0.011	< 0.00022	< 0.00022			
P-58	P58-ROX-071823	7/18/2023	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.000069	J	0.0014	< 0.01	< 0.0020	0.065	J	0.034	< 0.01	< 0.02	< 0.01	< 0.02	0.0012	0.51	J	0.00032	
	P58-ROX-071823-DUP	7/18/2023	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0020	0.0011	< 0.0098	< 0.0020	0.038	J	0.027	< 0.0098	< 0.02	< 0.0098	< 0.02	0.00080	0.25	J	0.00069	J	
	P58-ROX-101723	10/17/2023	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0020	U	0.0010	< 0.0099	< 0.0020	U	0.035	0.025	< 0.0099	< 0.02	0.00044	J	< 0.02	0.00079	0.22	0.00013	J
	P58-ROX-011224	1/12/2024	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.0020	J	0.0014	< 0.01	0.000073	J	0.058	0.019	< 0.01	< 0.021	< 0.01	< 0.021	0.0021	0.31	0.00088	0.00088	
	P58-ROX-011224-DUP	1/12/2024	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.00019	J	0.0014	< 0.01	0.000070	J	0.058	0.019	< 0.01	< 0.02	< 0.01	< 0.02	0.0021	0.28	0.00094
	P58-ROX-041724	4/17/2024	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.00016	J	0.0013	< 0.01	UJ	< 0.0020	0.031	0.013	B	< 0.01	< 0.02	< 0.01	< 0.02	0.0011	0.19	0.00045
P-59	P59-ROX-071823	7/18/2023	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.000086	J	0.00022	< 0.01	< 0.0020	0.0099	0.013	< 0.01	< 0.04	< 0.01	< 0.02	0.00059	< 0.01	0.00029	0.00029		
	P59-ROX-101823	10/18/2023	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.0021	U	0.00040	< 0.01	< 0.0021	0.0098	0.013	< 0.01	< 0.021	< 0.01	0.00088	J*1	0.00065	0.013	0.00043	0.00043	
	P59-ROX-011224	1/12/2024	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.0021	J	0.00025	< 0.011	< 0.0021	0.0082	0.011	< 0.011	< 0.021	< 0.011	< 0.021	0.00071	0.017	0.00036	0.00036		
	P59-ROX-041924	4/19/2024	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.0021	U	0.00037	< 0.011	< 0.0021	0.0090	0.012	< 0.011	< 0.021	< 0.011	< 0.021	0.00073	0.0071	J	0.00063	0.00063	
P-74	P74-ROX-071223	7/12/2023	< 0.01	0.0010	J	< 0.01	< 0.01	< 0.01	< 0.0020	< 0.0020	< 0.01	< 0.0020	0.00020	0.000											

**TABLE 3  
SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL DETECTIONS AND EXCEEDANCES**

			SVOCs																			
			Dibenzofuran	Diethyl phthalate	2,4-Dimethylphenol	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Fluoranthene	Fluorene	Indene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	2-Methylphenol (o-Cresol)	3&4-Methylphenol	N-Nitrosodiphenylamine	Pentachlorophenol	Phenanthrene	Phenol	Pyrene	
Screening Values (mg/L)			0.007 <sup>3</sup>	5.6 <sup>1</sup>	0.14 <sup>2</sup>		0.7 <sup>1</sup>	0.14 <sup>2</sup>	0.28 <sup>1</sup>	0.28 <sup>1</sup>		0.00043 <sup>1</sup>	0.49 <sup>3</sup>	0.028 <sup>1</sup>	0.35 <sup>1</sup>	0.14 <sup>3</sup>	0.0032 <sup>2</sup>	0.001 <sup>1</sup>	0.21 <sup>3</sup>	0.1 <sup>1</sup>	0.21 <sup>1</sup>	
Location	Sample ID	Sample Date	Analytical Results (mg/L)																			
P-93C	P93C-ROX-071423	7/14/2023	< 0.01	0.00029 J	< 0.01	< 0.01	< 0.01	< 0.01	< 0.00021	< 0.00021	< 0.01	< 0.00021	< 0.00021	< 0.00021	< 0.01	< 0.02	< 0.01	< 0.021	< 0.00021	< 0.01 UJ	< 0.00021	
	P93C-ROX-101623	10/16/2023	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01 UJ	< 0.00021	< 0.00021	< 0.01	< 0.00021	< 0.00021	< 0.00021	< 0.01	< 0.021	< 0.01	< 0.021	< 0.00021	< 0.01	< 0.00021	
	P93C-ROX-011124	1/11/2024	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.00021 UJ	< 0.00021	< 0.01	< 0.00021	< 0.00021	< 0.00021	0.000095 J	< 0.01	< 0.021	< 0.01	< 0.021	< 0.00021	0.063	< 0.00021
	P93C-ROX-041924	4/19/2024	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.00021	< 0.00021	< 0.011	< 0.00021	< 0.00021	< 0.00021	< 0.011	< 0.021	< 0.011	< 0.021	< 0.00021	0.059	< 0.00021 UJ	
P-93D	P93D-ROX-071123	7/11/2023	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.00020	< 0.00020	< 0.01	< 0.00020	< 0.00020 UJ	< 0.00020 UJ	< 0.01	< 0.01	< 0.01	< 0.02	< 0.00020	< 0.01	< 0.00020 UJ	
	P93D-ROX-101623	10/16/2023	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01 UJ	< 0.00020 U	< 0.00020	< 0.01	< 0.00020	< 0.00020	< 0.00020	< 0.01	< 0.01	< 0.01	< 0.02	< 0.00020	< 0.01	0.000043 J	
	P93D-ROX-011024	1/10/2024	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.00019 UJ	< 0.00019	< 0.0095	< 0.00019	< 0.00019	< 0.00019	< 0.0095	< 0.0095	< 0.0095	< 0.019	< 0.00019	< 0.0095	< 0.00019	
	P93D-ROX-042224	4/22/2024	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.00020	< 0.00020	< 0.01	< 0.00020 UJ	0.000086 J	0.000094 J	< 0.01	< 0.02	< 0.01	< 0.02	< 0.00020	< 0.01	< 0.00020 UJ	
P-114R	P114R-ROX-071423	7/14/2023	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.00020	< 0.00020	< 0.0099	< 0.00020	< 0.00020	< 0.00020	< 0.0099	< 0.02	< 0.0099	< 0.02	< 0.00020	< 0.0099 UJ	< 0.00020	
	P114R-ROX-101823	10/18/2023	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.00020 U	< 0.00020	< 0.0098	< 0.00020	0.00025	< 0.00020	< 0.0098	< 0.02	< 0.0098	< 0.02	< 0.00020	< 0.0098	< 0.00020	
	P114R-ROX-011024	1/10/2024	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.0095	< 0.00020	< 0.00020	< 0.0095	< 0.00020	0.000065 J J	< 0.00020	< 0.0095	< 0.019	< 0.0095	< 0.019	< 0.00020	< 0.0095	< 0.00020	
	P114R-ROX-041524	4/15/2024	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.00020	< 0.00020	< 0.0099	< 0.00020	< 0.00020	< 0.00020	< 0.0099	< 0.02	< 0.0099	< 0.02	< 0.00020	< 0.0099	< 0.00020	
ROST-3-MW	ROST3MW-ROX-071723	7/17/2023	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.00021	< 0.00021	< 0.01	< 0.00021	< 0.00021	< 0.00021	< 0.01	< 0.02	< 0.01	< 0.021	< 0.00021	< 0.01	< 0.00021	
	ROST3MW-ROX-071723-DUP	7/17/2023	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.00020	< 0.00020	< 0.01	< 0.00020	< 0.00020	< 0.00020	< 0.01	< 0.02	< 0.01	< 0.02	< 0.00020	< 0.01	< 0.00020	
	ROST3MW-ROX-100623	10/6/2023	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.0057	< 0.00011	< 0.00011	< 0.0057	< 0.00011	0.000072 J	< 0.00011	< 0.0057	< 0.011 UJ	< 0.0057	< 0.011	< 0.00011	< 0.0057 UJ	< 0.00011	
	ROST3MW-ROX-010824	1/8/2024	< 0.0096	< 0.0096 UJ	< 0.0096	< 0.0096 UJ	< 0.0096	< 0.0096	< 0.00019	0.00015 J	< 0.0096 UJ	< 0.00019	0.00029 J	< 0.00019 UJ	< 0.0096 UJ	< 0.019 UJ	< 0.0096 UJ	< 0.019 UJ	0.000087 J	< 0.0096 UJ	< 0.00019	
ROST-4-PZ(C)	ROST4PZC-ROX-071123	7/11/2023	0.00060 J	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.00011 J	0.00059	< 0.01	< 0.00021	0.014	0.0016	< 0.01	< 0.019	< 0.01	< 0.021	0.0015	< 0.01	0.000070 J J	
	ROST4PZ(C)-ROX-101623	10/16/2023	0.00054 J	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.00019 U	0.00057	< 0.0097	< 0.00019	0.0081	0.00018 J	< 0.0097	< 0.019	< 0.0097	< 0.019	0.0010	< 0.0097	< 0.00019	
	ROST4PZ(C)-ROX-101623-DUP	10/16/2023	0.00060 J	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096 UJ	< 0.00019	0.00061	< 0.0096	< 0.00019	0.0094	0.00028	< 0.0096	< 0.019	< 0.0096	< 0.019	0.0012	< 0.0096	< 0.00019	
	ROST4PZ(C)-ROX-041624	4/16/2024	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	0.000042 J	0.00036	< 0.0097	< 0.00019	0.0021	< 0.00019 U	< 0.0097	< 0.019	< 0.0097	< 0.019	0.00010 J	< 0.0097	0.000039 J	
	ROST4PZ(C)-ROX-041624-DUP	4/16/2024	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	0.000051 J	0.00036	< 0.0098	< 0.00020	0.0023	< 0.00020 U	< 0.0098	< 0.02	< 0.0098	< 0.02	0.00013 J	< 0.0098	0.000046 J	
	ROST4PZ(E)-ROX-071223	7/12/2023	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	0.00026	0.0011	< 0.0099	< 0.00020	0.02	0.0041	< 0.0099	< 0.019	< 0.0099	< 0.02	0.0051	< 0.0099	0.00048	
ROST-4-PZ(E)	ROST4PZ(E)-ROX-101323	10/13/2023	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098 UJ	< 0.00020	0.00059 B	< 0.0098	< 0.00020	0.0079	0.0032	< 0.0098	< 0.02	< 0.0098	< 0.02	0.0042	< 0.0098	0.00013 J	
	ROST4PZ(E)-ROX-011124	1/11/2024	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.00037 J	0.00064	< 0.01	< 0.00020	0.0092	0.0026	< 0.01	< 0.02	< 0.01	< 0.02	0.0047	< 0.01	0.00049	
	ROST4PZ(E)-ROX-041624	4/16/2024	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	< 0.0096	0.000054 J	0.00021	< 0.0096	< 0.00019	0.0019	0.00082 B	< 0.0096	< 0.019	< 0.0096	< 0.019	0.00074	< 0.0096	0.000084 J	
ROST-4-PZ(G)	ROST4PZ(G)-ROX-071023	7/10/2023	< 0.01	0.00029 J	< 0.01	< 0.01	< 0.01	< 0.01	< 0.00020	< 0.00020	< 0.01	< 0.00020	< 0.00020	< 0.00020	< 0.01	< 0.02	< 0.01	< 0.02	< 0.00020	< 0.01	< 0.00020 UJ	
	ROST4PZ(G)-ROX-101223	10/12/2023	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099	< 0.0099 UJ	< 0.00020	< 0.00020	< 0.0099	< 0.00020	< 0.00020	< 0.00020	< 0.0099	< 0.02	< 0.0099	< 0.02	< 0.00020	< 0.0099	< 0.00020	
	ROST4PZ(G)-ROX-010824	1/8/2024	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.00021	< 0.00021	< 0.01	< 0.00021	< 0.00021	< 0.00021	< 0.01	< 0.021	< 0.01	< 0.021	< 0.00021	< 0.01	< 0.00021	
	ROST4PZ(G)-ROX-040524	4/5/2024	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.0097	< 0.00019	< 0.00019	< 0.0097	< 0.00019	< 0.00019	< 0.00019	< 0.0097	< 0.019	< 0.0097	< 0.019	< 0.00019	< 0.0097	< 0.00019	
T-12	T12-ROX-071423	7/14/2023	< 0.01	0.0011 J	< 0.01	< 0.01	< 0.01	< 0.01	< 0.00020	0.00023	< 0.01	< 0.00020	0.015	0.023	< 0.01	< 0.02	< 0.01	< 0.02	0.00042	0.05 J	< 0.00020	
	T12-ROX-101923	10/19/2023	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.0098	< 0.00020 U	0.00029	< 0.0098	< 0.00020	0.016	0.022	< 0.0098	0.00065 J	< 0.0098	< 0.02	0.00050	0.049	< 0.00020	
	T12-ROX-011124	1/11/2024	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.000037 J J	0.00028	< 0.01	< 0.00020	0.016	0.024	< 0.01	< 0.021	< 0.01	< 0.021	0.00052	0.03	0.000039 J	
	T12-ROX-041924	4/19/2024	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.011	< 0.00022	0.00035	< 0.011	< 0.00022	0.016	0.023	< 0.011	< 0.022	< 0.011	< 0.022	0.00054	0.032	< 0.00022 UJ	

**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).

Groundwater monitoring wells designated for sampling in the Interim Groundwater Monitoring Program, P-55R, P-66, and P-68, contained LNAPL; therefore, these wells were not sampled.

Well P-74 was inaccessible during the 1Q24 quarterly sampling event due to construction activities in the WRR.

The screened interval for certain monitoring wells was adjusted based on an evaluation of the results of annual bottom depth gauging conducted in the first quarter of each year.

**LABORATORY QUALIFIERS**

- J = The analyte was detected below the reporting limit. Result is estimated.
- B = Target analyte was identified in the method blank, indicating possible lab contamination.
- H = Analyzed or extracted out of holding time criteria.
- F1 = Indicates MS/MSD is outside acceptance limit.
- \*+ = Indicates LCS and/or LCSD is outside acceptance limit, high biased
- \*1 = LCS/LCSD RPD is outside control limit
- <#.#.# Indicates the analyte was not detected above the given reporting limit.

Analyses that were non-detect across all sampling locations during the four quarter reporting period are not presented on the Analytical table.

	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 or the analyte was not analyzed.
--	Empty cell without a value indicates current quarter analyte result was rejected or the analyte was not analyzed.

**AECOM QUALIFIERS**

- J = The result is estimated.
- UJ = Estimated non-detect.</

# Figures

The following MVS Descriptions and Assumptions apply to **Figure 6**. C Tech Development Corporation's Mining Visualization System, Version 9.94 (MVS 9.94) was used to model the estimated distribution of benzene in the groundwater.

## ***MVS 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.

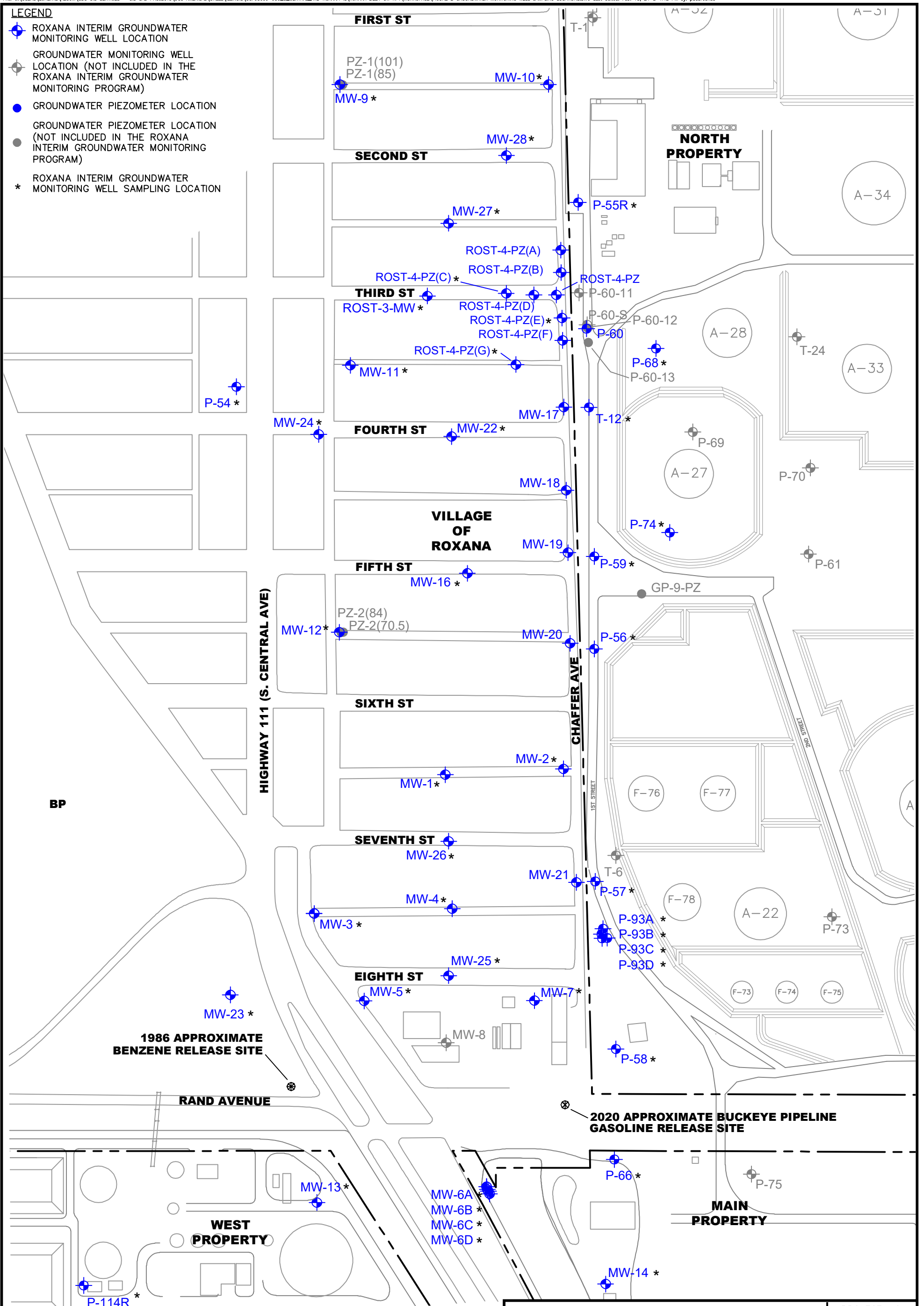




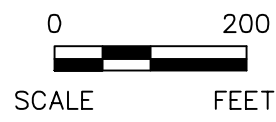


**LEGEND**

-  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



EQUILON ENTERPRISES LLC dba SHELL OIL PRODUCTS US INTERIM GROUNDWATER MONITORING PROGRAM ROXANA, ILLINOIS	PROJECT NO. 60721927
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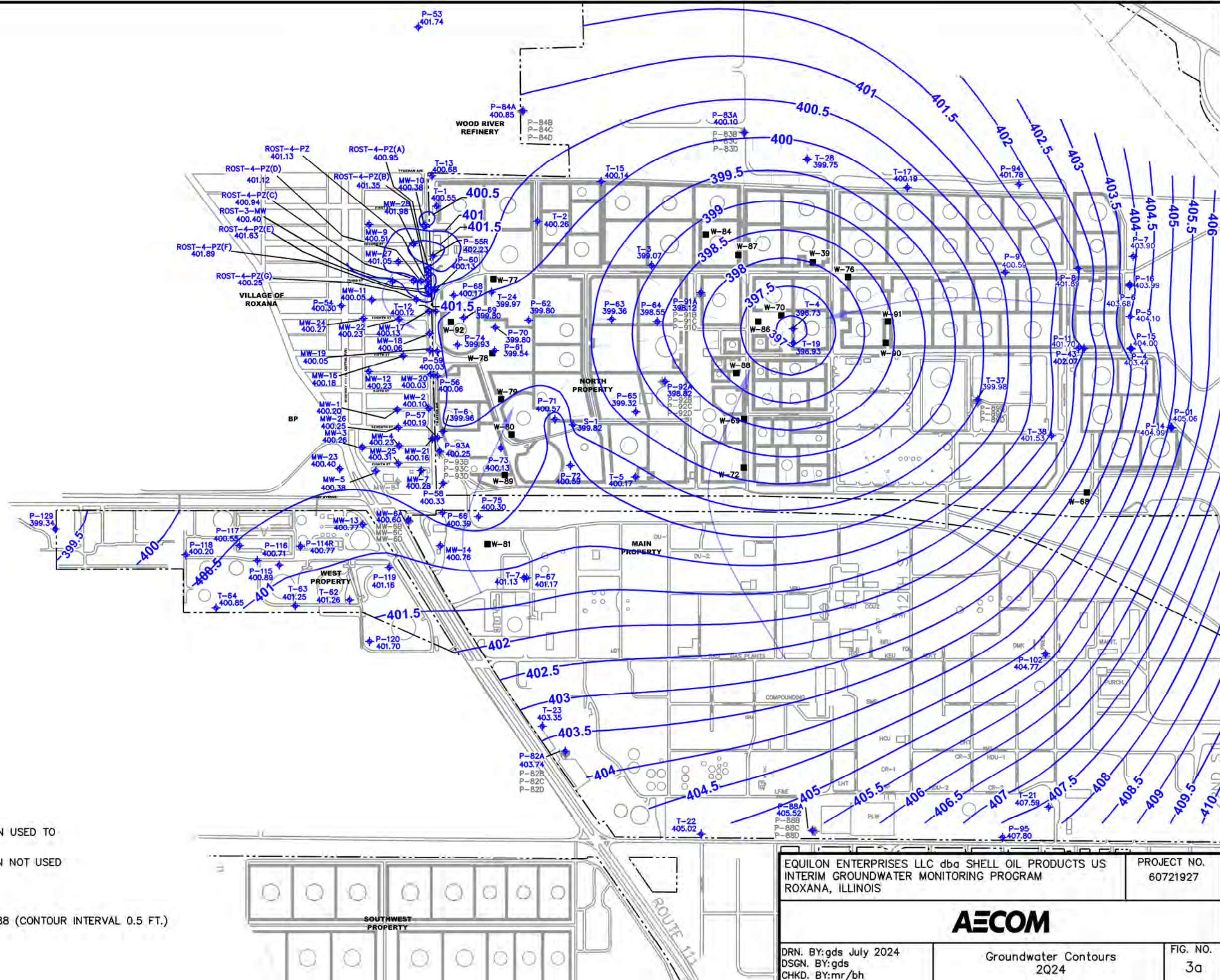


DRN. BY:gds July 2024 DSGN. BY:mr CHKD. BY:wmp	Roxana Interim Groundwater Monitoring Well Locations	FIG. NO. 2
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**NOTES:**

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 1-3, 2024.
4. WELLS P-01 AND P-14 WERE MEASURED ON APRIL 10, 2024 DUE TO INACCESSIBILITY DURING THE COMPREHENSIVE GROUNDWATER GAUGING EVENT DUE TO FLOODING.








**LEGEND**

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

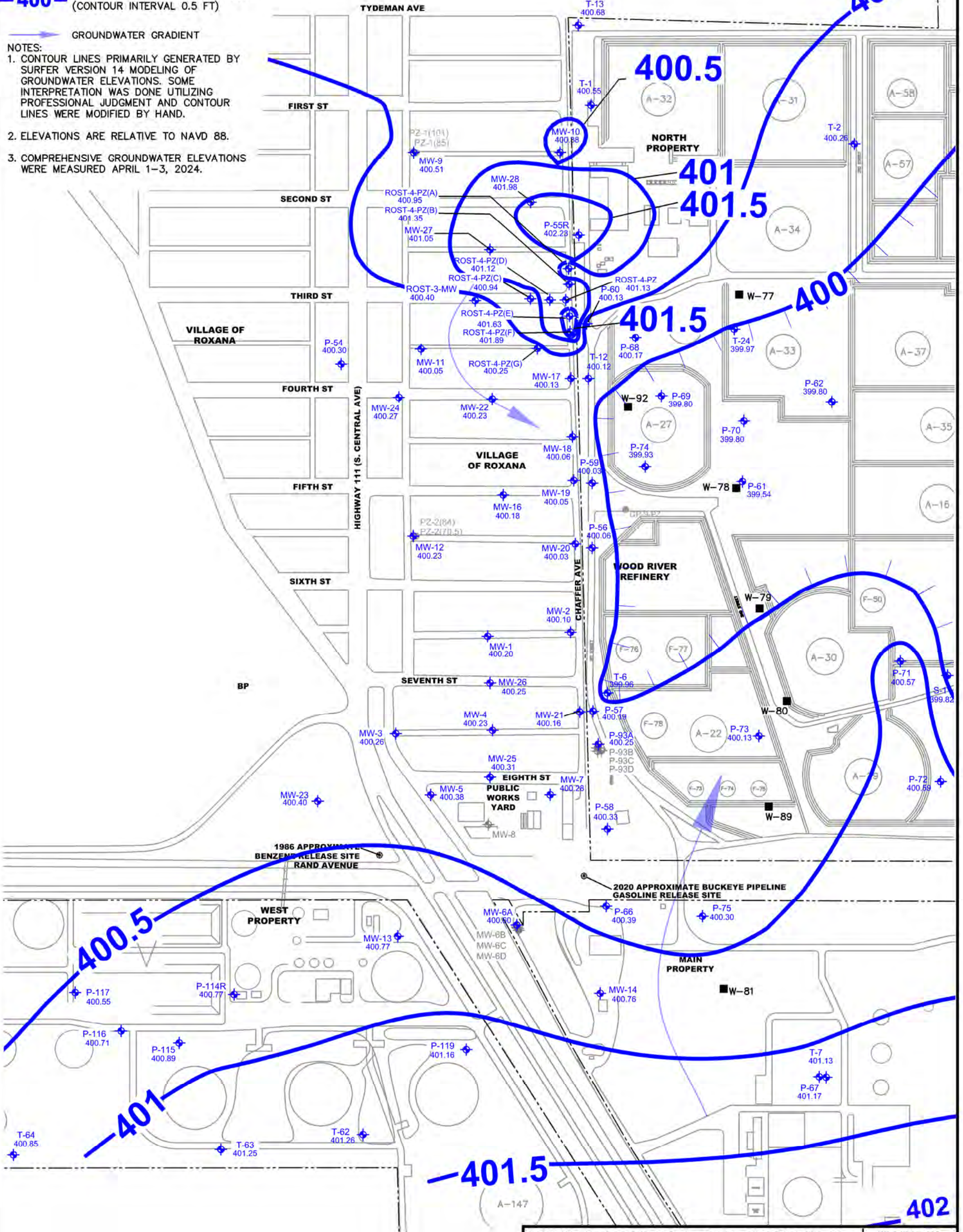
EQUILON ENTERPRISES LLC dba SHELL OIL PRODUCTS US INTERIM GROUNDWATER MONITORING PROGRAM ROXANA, ILLINOIS		PROJECT NO. 60721927
<b>AECOM</b>		
DRN. BY:gds July 2024 DSGN. BY:gds CHKD. BY:mr/bh	Groundwater Contours 2024	FIG. NO. 3a



**LEGEND**

-  GROUNDWATER MONITORING WELL LOCATION USED TO GENERATE GROUNDWATER CONTOURS
-  GROUNDWATER MONITORING WELL LOCATION NOT USED TO GENERATE GROUNDWATER CONTOURS
-  WRR GROUNDWATER PRODUCTION WELL
-  **400** GROUNDWATER SURFACE CONTOUR (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 1-3, 2024.



EQUILON ENTERPRISES LLC dba SHELL OIL PRODUCTS US INTERIM GROUNDWATER MONITORING PROGRAM ROXANA, ILLINOIS		PROJECT NO. 60721927
<b>AECOM</b>		
DRN. BY: gds July 2024 DSGN. BY: gds CHKD. BY: mr/bh	Groundwater Contours 2024- West Fenceline	FIG. NO. 3b



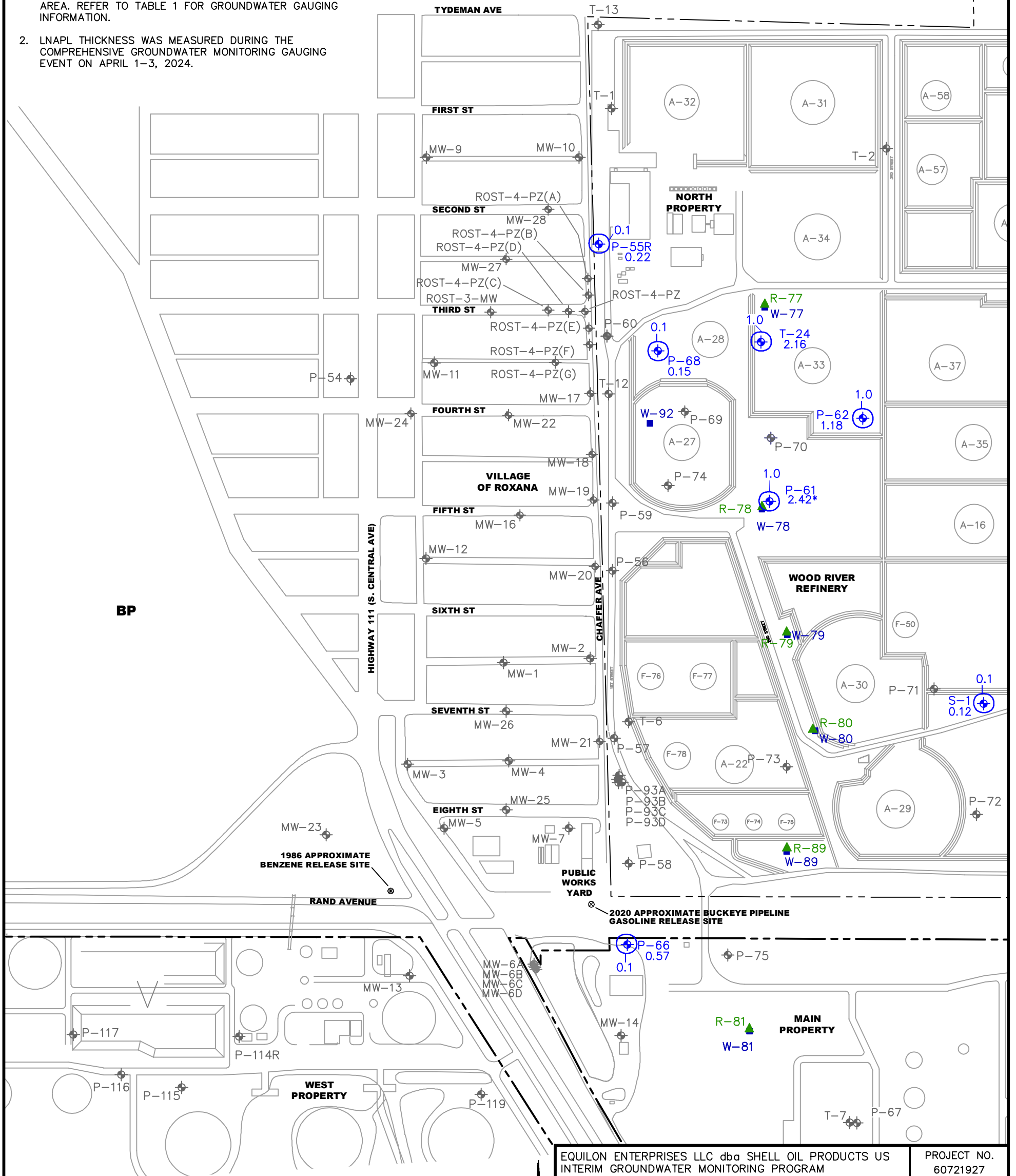


**LEGEND**

- 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

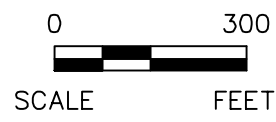
**NOTE:**

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 1-3, 2024.



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 INTERIM GROUNDWATER MONITORING PROGRAM  
 ROXANA, ILLINOIS

PROJECT NO.  
 60721927



DRN. BY:gds July 2024  
 DSGN. BY:mr  
 CHKD. BY:bh

2Q24 Thickness of LNAPL -  
 West Fenceline

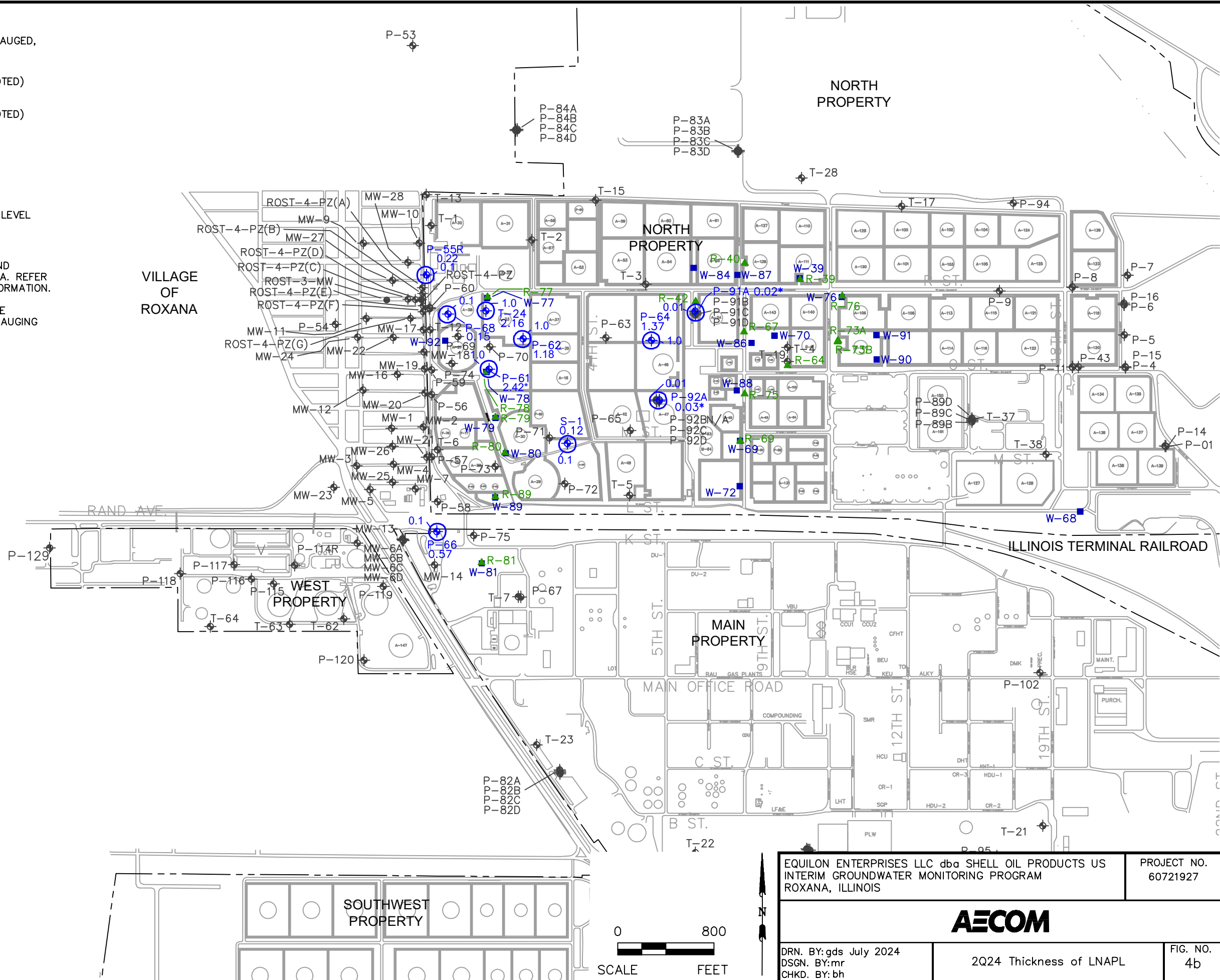
FIG. NO.  
 4a

**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 1-3, 2024.



P:\C:\USERS\LORENTE\AECOM\GIS SERVICES - GIS CAD PROJECTS\DES AMERICAS\SHELL\ILLINOIS\USF00686-900\_S\_CENTRAL\_AVE-ROXANA-IL\ROXANA\_2024\_GW\_RPT\WORKSPACE\FIGURE 4B\_THICKNESS OF LNAPL (REFINERY) 2024.DWG Last edited: Jun. 04, 24 @ 10:46 AM by: lorente

EQUILON ENTERPRISES LLC dba SHELL OIL PRODUCTS US INTERIM GROUNDWATER MONITORING PROGRAM ROXANA, ILLINOIS		PROJECT NO. 60721927
<b>AECOM</b>		
DRN. BY: gds July 2024 DSGN. BY: mr CHKD. BY: bh	2Q24 Thickness of LNAPL	FIG. NO. 4b



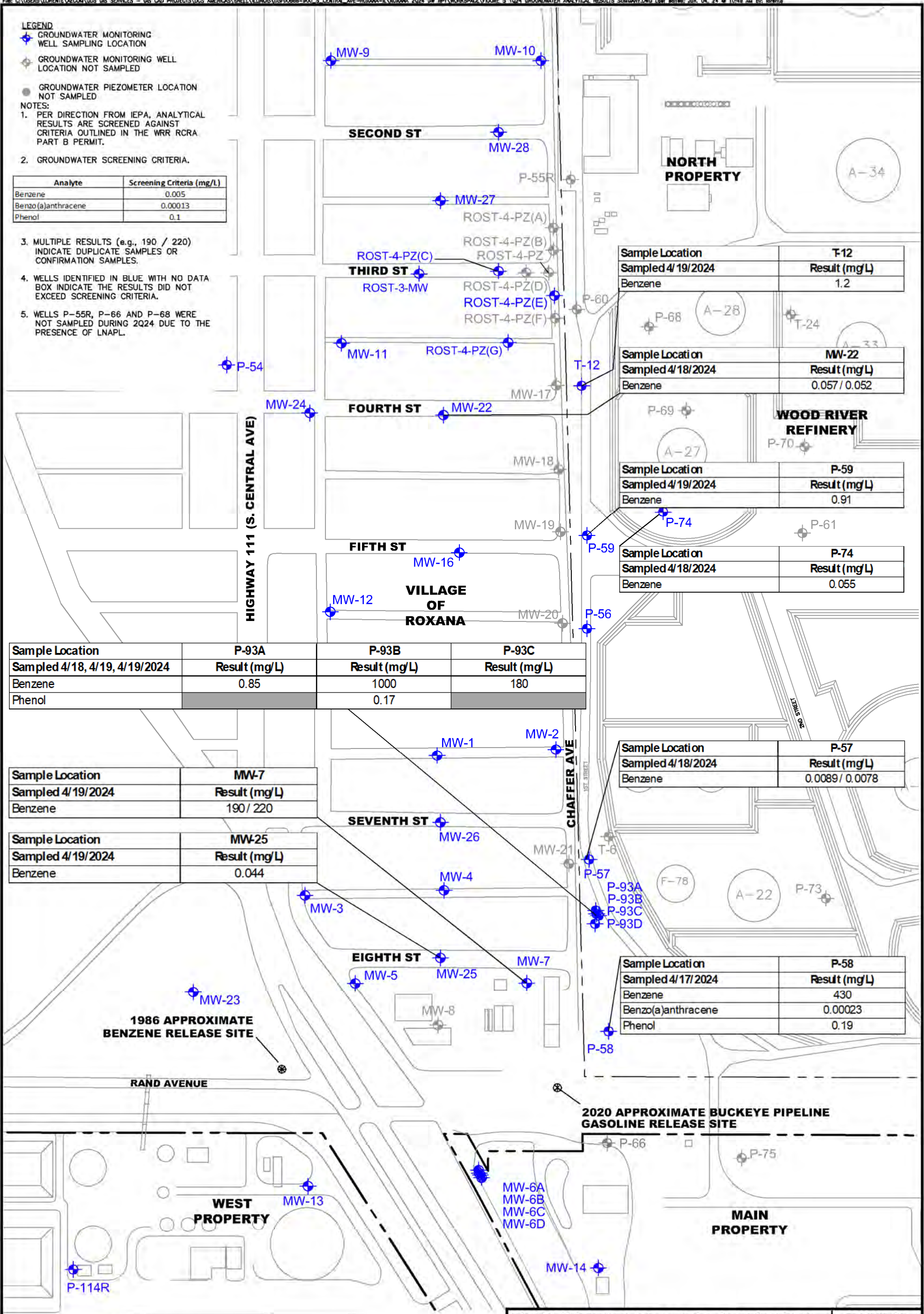


**LEGEND**  
 ◆ GROUNDWATER MONITORING WELL SAMPLING LOCATION  
 ◆ GROUNDWATER MONITORING WELL LOCATION NOT SAMPLED  
 ● GROUNDWATER PIEZOMETER LOCATION NOT SAMPLED

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

Analyte	Screening Criteria (mg/L)
Benzene	0.005
Benzo(a)anthracene	0.00013
Phenol	0.1

3. MULTIPLE RESULTS (e.g., 190 / 220) INDICATE DUPLICATE SAMPLES OR CONFIRMATION SAMPLES.  
 4. WELLS IDENTIFIED IN BLUE WITH NO DATA BOX INDICATE THE RESULTS DID NOT EXCEED SCREENING CRITERIA.  
 5. WELLS P-55R, P-66 AND P-68 WERE NOT SAMPLED DURING 2Q24 DUE TO THE PRESENCE OF LNAPL.



Sample Location	T-12
Sampled 4/19/2024	Result (mg/L)
Benzene	1.2

Sample Location	MW-22
Sampled 4/18/2024	Result (mg/L)
Benzene	0.057 / 0.052

Sample Location	P-59
Sampled 4/19/2024	Result (mg/L)
Benzene	0.91

Sample Location	P-74
Sampled 4/18/2024	Result (mg/L)
Benzene	0.055

Sample Location	P-93A	P-93B	P-93C
Sampled 4/18, 4/19, 4/19/2024	Result (mg/L)	Result (mg/L)	Result (mg/L)
Benzene	0.85	1000	180
Phenol		0.17	

Sample Location	MW-7
Sampled 4/19/2024	Result (mg/L)
Benzene	190 / 220

Sample Location	MW-25
Sampled 4/19/2024	Result (mg/L)
Benzene	0.044

Sample Location	P-57
Sampled 4/18/2024	Result (mg/L)
Benzene	0.0089 / 0.0078

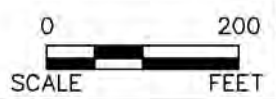
Sample Location	P-58
Sampled 4/17/2024	Result (mg/L)
Benzene	430
Benzo(a)anthracene	0.00023
Phenol	0.19

1986 APPROXIMATE BENZENE RELEASE SITE

2020 APPROXIMATE BUCKEYE PIPELINE GASOLINE RELEASE SITE

EQUILON ENTERPRISES LLC dba SHELL OIL PRODUCTS US INTERIM GROUNDWATER MONITORING PROGRAM ROXANA, ILLINOIS PROJECT NO. 60721927

**AECOM**



DRN. BY:gds July 2024  
 DSGN. BY:mr  
 CHKD. BY:bh

2Q24 Groundwater Monitoring Well Analytical Exceedances FIG. NO. 5

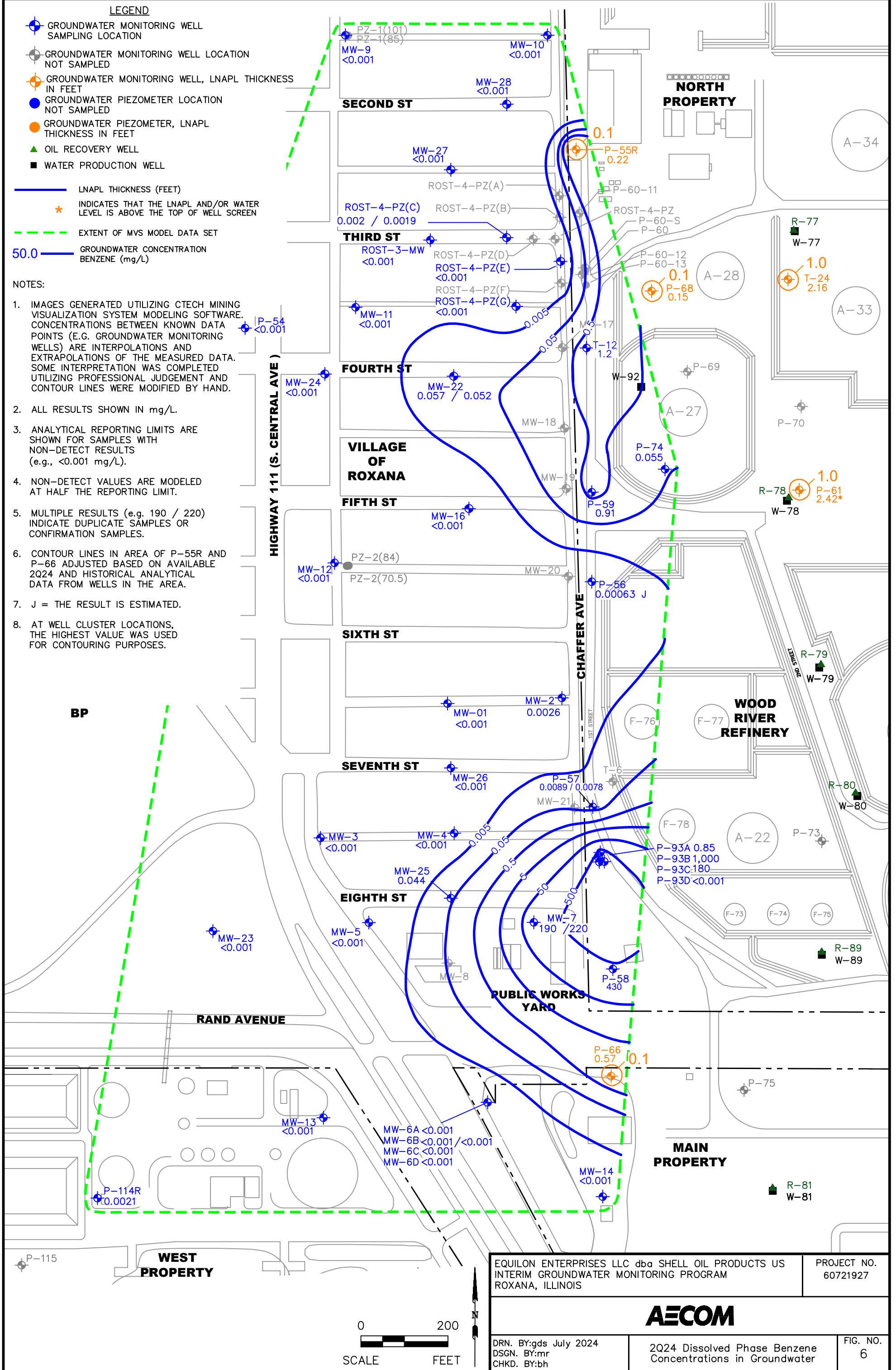


**LEGEND**

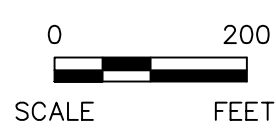
- GROUNDWATER MONITORING WELL SAMPLING LOCATION
- GROUNDWATER MONITORING WELL LOCATION NOT SAMPLED
- GROUNDWATER MONITORING WELL, LNAPL THICKNESS IN FEET
- GROUNDWATER PIEZOMETER LOCATION NOT SAMPLED
- GROUNDWATER PIEZOMETER, LNAPL THICKNESS IN FEET
- OIL RECOVERY WELL
- WATER PRODUCTION WELL
- LNAPL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

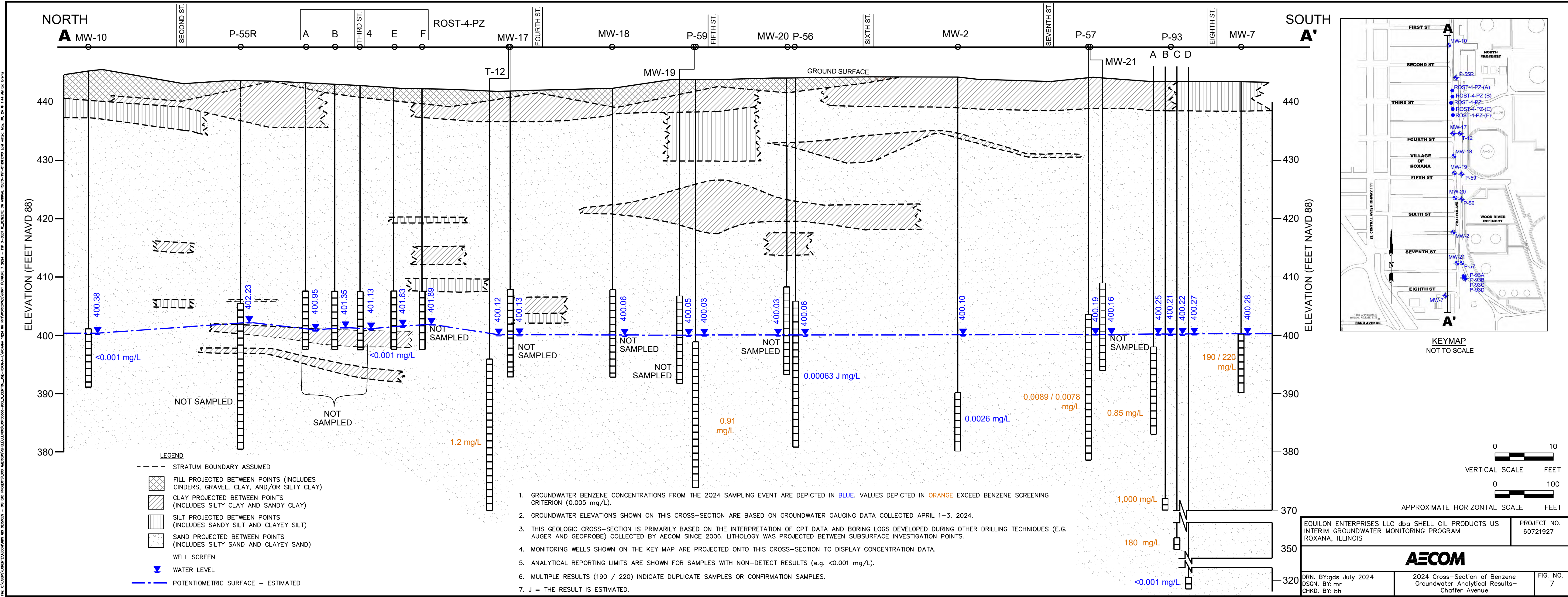
**NOTES:**

1. IMAGES GENERATED UTILIZING CTECH MINING 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. 190 / 220) INDICATE DUPLICATE SAMPLES OR CONFIRMATION SAMPLES.
6. CONTOUR LINES IN AREA OF P-55R AND P-66 ADJUSTED BASED ON AVAILABLE 2Q24 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.

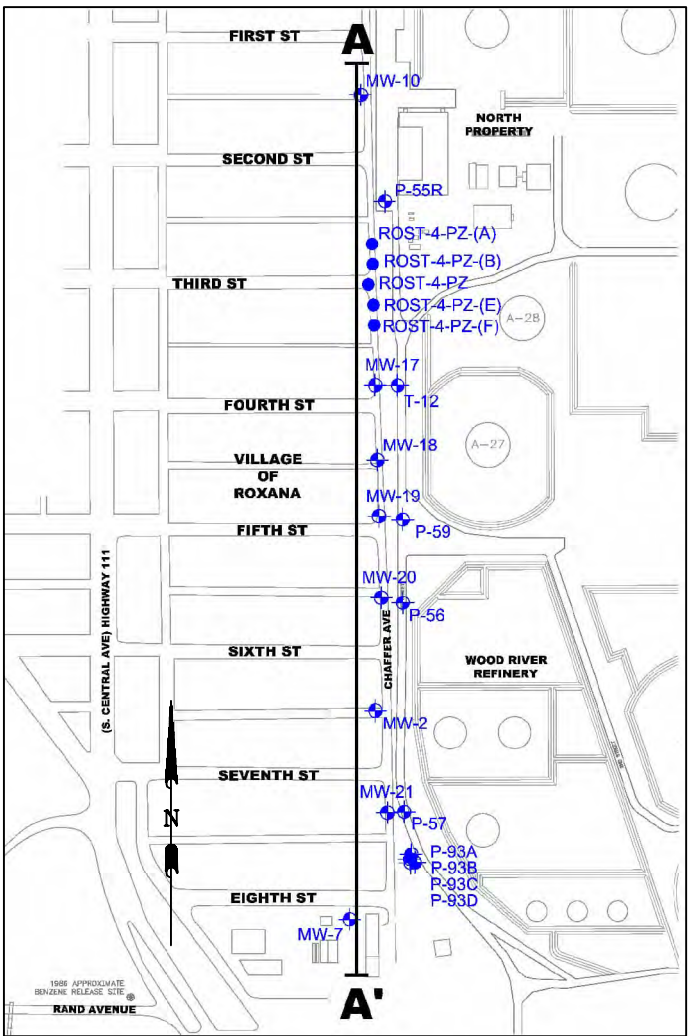


EQUILON ENTERPRISES LLC dba SHELL OIL PRODUCTS US INTERIM GROUNDWATER MONITORING PROGRAM ROXANA, ILLINOIS		PROJECT NO. 60721927
<b>AECOM</b>		
DRN. BY:gds July 2024 DSGN. BY:mr CHKD. BY:bh	2Q24 Dissolved Phase Benzene Concentrations in Groundwater	FIG. NO. 6





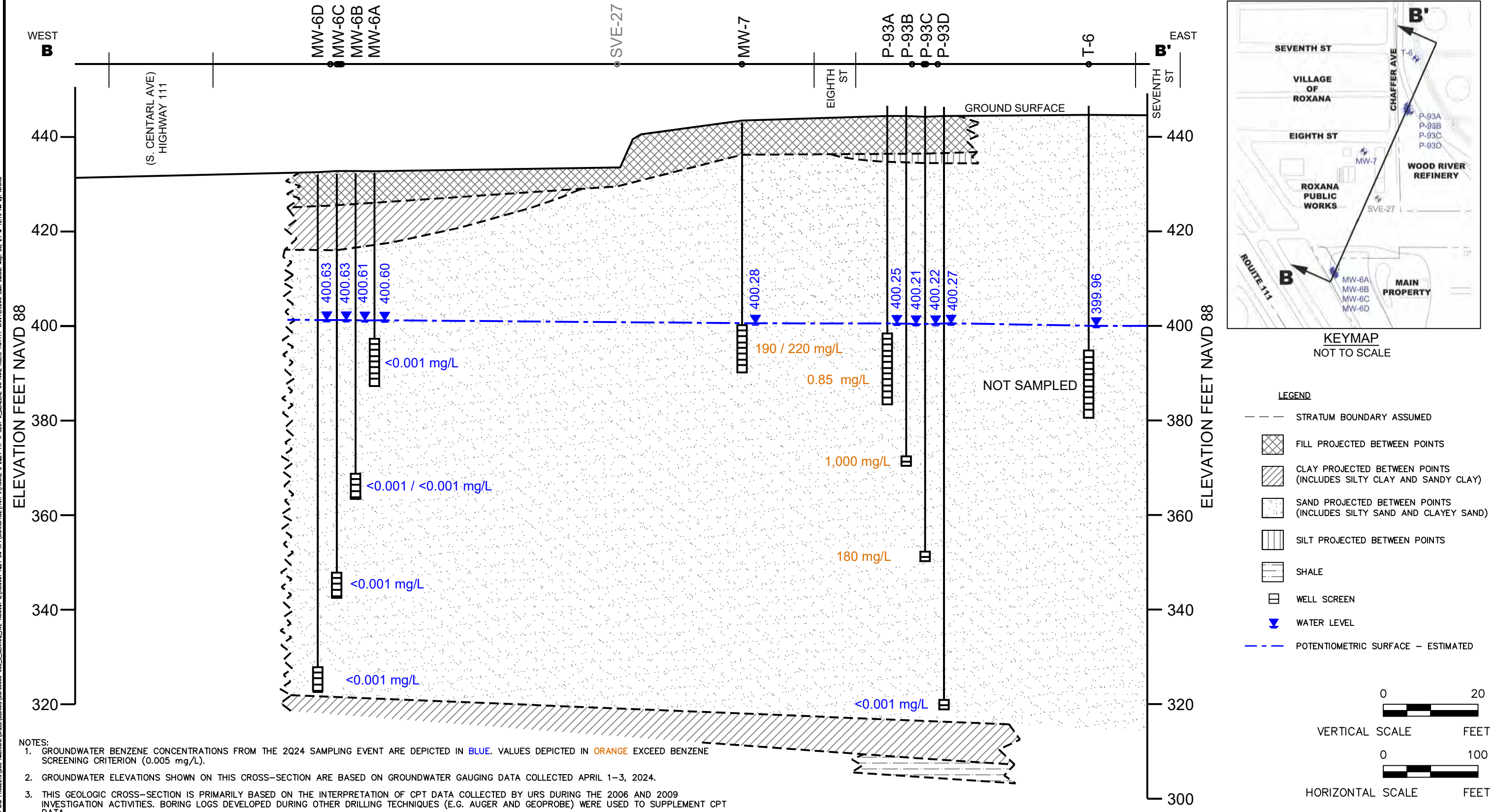
FH: C:\USERS\LAURENTE\AECOM\GDS\PROJECTS\ROXANA\ROXANA\_024\GWT\WORKSPACE\PART\FIGURE 7 2024 - TYP X-SECT W\_BENZENE OF ANNUAL RISKS-15T-ANALYSIS\DWG Laid without: May 30, 24 @ 1:14:41 AM by: lauren



EQUILON ENTERPRISES LLC dba SHELL OIL PRODUCTS US INTERIM GROUNDWATER MONITORING PROGRAM ROXANA, ILLINOIS		PROJECT NO. 60721927
<b>AECOM</b>		FIG. NO. 7
DRN. BY: gds July 2024 DSGN. BY: mr CHKD. BY: bh	2024 Cross-Section of Benzene Groundwater Analytical Results- Chaffer Avenue	



CROSS SECTION LINE - SOME FEATURES HAVE BEEN PROJECTED



- NOTES:**
- GROUNDWATER BENZENE CONCENTRATIONS FROM THE 2024 SAMPLING EVENT ARE DEPICTED IN BLUE. VALUES DEPICTED IN ORANGE EXCEED BENZENE SCREENING CRITERION (0.005 mg/L).
  - GROUNDWATER ELEVATIONS SHOWN ON THIS CROSS-SECTION ARE BASED ON GROUNDWATER GAUGING DATA COLLECTED APRIL 1-3, 2024.
  - 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.
  - 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.
  - LITHOLOGICAL INFORMATION FROM SVE-27 WAS OBTAINED FROM BORING LOG TO SUPPLEMENT SITE GEOLOGY ONLY.
  - HISTORIC BORING LOG IS NOT AVAILABLE FOR T-6.
  - ANALYTICAL REPORTING LIMITS ARE SHOWN FOR SAMPLES WITH NON-DETECT RESULTS (e.g. <0.001 mg/L).
  - MULTIPLE RESULTS (190 / 220) INDICATE DUPLICATE SAMPLES OR CONFIRMATION SAMPLES.

EQUILON ENTERPRISES LLC dba SHELL OIL PRODUCTS US  
 INTERIM GROUNDWATER MONITORING PROGRAM  
 ROXANA, ILLINOIS

PROJECT NO.  
 60721927



DRN. BY:gds July 2024  
 DSGN. BY:mr  
 CHKD. BY:bh

2024 Cross-Section of Benzene  
 Groundwater Analytical Results-  
 Roxana Public Works Yard

FIG. NO.  
 8

File: C:\USERS\LORENTE\WORK\GIS SERVICES - GIS CAD PROJECTS\GIS AMERICAS\SHELL\ILLINOIS\USF0666-900\_S\_CENTRAL\_AVE-ROXANA-IL\ROXANA\_1024\_GW\_RPT\WORKSPACE\PART II\FIGURE 8 2024\_TIP\_X-SECT\_W\_BENZENE\_GW\_ANAL\_RESULTS-HW111-CHAFFER.DWG Last edited: May\_30\_24 @ 12:19 PM by: lorente



# Appendix A

## Regulatory History

# Appendix A

## Regulatory History

The Interim Groundwater Monitoring Program (Program) began in the 4<sup>th</sup> 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 Equilon Enterprises LLC d/b/a Shell Oil Products US (SOPUS), Illinois Environmental Protection Agency (IEPA), and URS Corporation (URS) to discuss the Program and IEPA's general comments on the 4Q10 report. Subsequent report modifications were incorporated during 1<sup>st</sup> Quarter 2011 (1Q11) and 2<sup>nd</sup> Quarter 2011 (2Q11). Additional items and comments regarding the Program were presented by IEPA on June 16, 2011 (IEPA, 2011a) and August 31, 2011 (IEPA, 2011b) letters. These items and comments were addressed in the 3<sup>rd</sup> Quarter 2011 (3Q11) and 4<sup>th</sup> 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 2<sup>nd</sup> 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 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 IEPA's 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 of Roxana (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 4<sup>th</sup> Quarter 2012 (4Q12) and incorporated into the Program beginning in 1<sup>st</sup> 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 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). On March 11, 2024 a replacement RCRA form with wet signatures was submitted to IEPA. A response to this July 27, 2016 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 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 3<sup>rd</sup> 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 Program in 4<sup>th</sup> 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 Program in 1<sup>st</sup> 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 December 20, 2019) (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 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 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 Program in 4<sup>th</sup> Quarter 2017.

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 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, 2018a). Meetings with SOPUS, AECOM and IEPA representatives were held on April 5, 2018 and July 19, 2018 in order to provide additional information regarding the proposed GMZ. On September 26, 2018, AECOM, on behalf of SOPUS, submitted *Groundwater Management Zone – Additional Information* to present information requested via email dated September 5, 2018 (AECOM, 2018b). On March 18, 2022, AECOM, on behalf of Shell, submitted Additional Information Supplemental to the Proposed Groundwater Management Zone in response to phone conversations with IEPA in December 2021 through February 2022 (AECOM, 2022b). A response to the proposed GMZ is still pending as of the date of this report.

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 Program quarterly reports. This information is discussed in **Section 3** of the Program quarterly report. These trend plots were first included with the 2<sup>nd</sup> Quarter 2018 (2Q18) monitoring report.

On October 25, 2019, IEPA approved the Roxana Groundwater Ordinance for use as an institutional control in accordance with Title 35 of the Illinois Administrative Code Part 742 (35 IAC 742) to restrict access to groundwater (IEPA, 2019).

SOPUS's current Resource Conservation and Recovery Act (RCRA) Permit at the WRR was issued by IEPA on September 23, 2010 and expired October 28, 2020 (IEPA, 2010b). A Permit renewal application was submitted to IEPA on April 29, 2020 in accordance with Condition VI(B)(6) of the Permit and a letter from IEPA dated November 6, 2019. A timely filing of the renewal application was made and, therefore the conditions of the Permit are stayed. On June 30, 2020, IEPA issued a Notice of Incompleteness letter after conducting a completeness review of the Permit renewal application (IEPA, 2020a); AECOM submitted the Permit Application Completeness Response to IEPA on September 4, 2020 (AECOM, 2020a). IEPA issued a letter on October 30, 2020 indicating they have determined the application to be complete (IEPA, 2020b).

On October 12, 2020, AECOM, on behalf of SOPUS, requested a Class 1\* Permit Modification (AECOM, 2020b) in response to an IEPA issued letter dated December 20, 2019. The December 20, 2019 letter issued approval and comments related to several Hazardous Waste Management Post-Closure Permit (Permit) Modifications requests and included a modified Permit. The letter included a condition requesting the installation of a new B-level groundwater monitoring well to be added to the Roxana Interim Groundwater Monitoring Program to intercept potential groundwater contamination observed at P-93B. The October 12<sup>th</sup> AECOM response indicated the B-level impact observed in P-93B has been delineated to the west and, therefore the installation of a new groundwater monitoring well does not appear to be necessary at this time and as such is not proposed. A response to this letter is still pending as of the date of this report.

On August 22, 2022, IEPA approved with conditions the Public Works Yard (PWY) Steam Enhanced Extraction (SEE) Workplan. The PWY SEE Workplan was submitted to IEPA on January 31, 2022, and provided the system design as well as the plan and schedule for construction, operation, post-shutdown monitoring, and decommissioning for the proposed SEE system at the Roxana old PWY.

- In a September 21, 2022 meeting attended by AECOM, Shell, McMillan-McGee, and IEPA, comments pertaining to the IEPA's August 22, 2022 letter were discussed, including additional PWY sampling.

Condition 2 of IEPA's August 22, 2022 letter stated that a Roxana Public Works Yard (PWY) Steam Enhanced Extraction (SEE) - Final Design Report and Construction Work Plan (FDRCWP) was due within 90 days of the date of the letter (i.e. November 20, 2022). On October 14, 2022, AECOM, on behalf of Shell, requested the due date for the FDRCWP be extended to December 20, 2022 to allow for adequate preparation.

On December 16, 2022, AECOM, on behalf of Shell, submitted the Roxana PWY SEE – FDRCWP (2022d) to IEPA in fulfillment of Phase II of the Corrective Measures Program (CMP); the Roxana PWY SEE – FDRCWP describes the additional sampling discussed in the September 21, 2022 meeting that will be collected prior to, and during, the

construction of the SEE system. The Roxana PWY SEE – FDRCWP responded to conditions in IEPA's August 22, 2022 letter.

On January 30, 2023, AECOM, on behalf of Shell, submitted Additional Information to Log No. B-43R-CA-109 (PWY SEE – Response to 8/22/22 Letter & FDRCWP) (AECOM, 2023) in response to questions and specific requests by IEPA during a virtual discussion on January 5, 2023, to help facilitate IEPA review and respond to the Roxana Public Works Yard (PWY) Steam Enhanced Extraction (SEE) – Final Design Report and Construction Work Plan (FDRCWP) (AECOM, 2022d). The PWY SEE FDRCWP was submitted to IEPA by AECOM, on behalf of Shell, on December 16, 2022 to satisfy Phase II of the Corrective Measures Program (CMP) and respond to conditions in IEPA's August 22, 2022 letter. The IEPA August 22, 2022 letter approved, with conditions, the PWY SEE Workplan, which was submitted to IEPA by AECOM, on behalf of Shell, on January 31, 2022. A meeting on September 21, 2022 was held with AECOM, Shell, McMillan-McGee and IEPA to discuss comments pertaining to IEPA's August 22, 2022 letter, including additional PWY sampling.

On January 30, 2023, AECOM, on behalf of Shell, also submitted the Application for Water Pollution Control Permit to IEPA for the PWY SEE system. This was submitted after receipt of IEPA's July 11, 2022 contained-in concurrence letter. On March 2, 2022, AECOM, on behalf of Shell, submitted the Contained-In Determination Request Form to IEPA that was inadvertently left out of the Contained-In Determination submitted February 21, 2022. The February 21, 2022 Contained-In Determination stated groundwater generated during operation of the proposed SEE system is expected to no longer contain hazardous waste after treatment.

On February 23, 2023, AECOM, on behalf of Shell, submitted the Former Public Works Yard (FPWY) Class V Injection Well Inventory Form for the PWY SEE system.

On April 4, 2023, IEPA approved with conditions the FPWY Construction and Operation of Steam Enhanced Extraction Pretreatment System permit. The operational portion of this permit expires February 28, 2028.

On May 5, 2023, IEPA approved with conditions the PWY Final Design Report and Construction Work Plan (FDRCWP) for in-situ thermal remediation (ISTR), specifically Steam Enhanced Extraction (SEE), to reduce and remediate benzene as well as other VOCs present in the treatment target zone (TIZ) of SEE at the PWY.

On August 3, 2023, AECOM, on behalf of Shell, submitted a response to the IEPA letter dated May 5, 2023. The May 5, 2023, letter was in response to the Final Design Report and Construction Work Plan (FDRCWP) dated December 16, 2023; as well as a smaller submittal with additional information supplementing the FDRCWP, dated January 30, 2023.

On August 10, 2023, a virtual meeting was held between IEPA, Shell, and AECOM to clarify and discuss the conditions of the IEPA August 1, 2023 letter.

On August 11, 2023, AECOM on behalf of Shell, submitted a Class 1\* Permit Modification in accordance with Condition IV(K)(2) of Shell's RCRA Post-Closure Permit, issued September 23, 2010, and most recently modified October 31, 2022. The Class 1\* Permit Modification included further discussion of well W-85 notification timeline, W-85 removal, and proposal for new water production well W-92.

On November 8, 2023, IEPA issued a Violation Notice (VN L-2023-00369), in response to the triennial site inspection performed in July 2023. The alleged violations included in this violation notice were related to monitoring well labels and construction. A meeting was held between AECOM, Shell and IEPA on January 4, 2024. A request for extension to submit a response to the Violation Notice was submitted to IEPA on January 15, 2024, and was approved by IEPA in an email dated January 24, 2024. AECOM, on behalf of Shell, submitted a Response to Violation Notice L-2023-00370 on February 16, 2024. IEPA issued a Proposed Compliance Commitment Agreement, which was dated March 21, 2024, and received by AECOM on March 25, 2024.

On January 26, 2024, IEPA approved with conditions the Response to 5/5/2023 Illinois EPA Letter as well as two Additional Information submittals related to the FPWY SEE FDRCWP. On February 23, 2024, AECOM, on behalf of Shell, submitted a response to the IEPA letter dated 1/26/2024. On March 14, 2024, a virtual meeting was held between IEPA, Shell and AECOM to provide an update on the SEE prior to startup and facilitate an open forum for any questions.

On March 4, 2024, AECOM, on behalf of Shell, submitted the *Former Public Works Yard Steam Enhanced Extraction – Pre-SEE Additional Sampling Results* in response to conditions from the IEPA May 5, 2023 letter.

On March 22, 2024, AECOM, on behalf of Shell, submitted a replacement RCRA Corrective Action Certification form for the October 14, 2016 Response to IEPA comments in a 7/27/2016 letter. This submittal is related to the proposed GMZ and the replacement form was requested by IEPA in an email dated March 6, 2024.

# Appendix B

## Low Flow Groundwater Sampling Data Sheets



**LOW FLOW GROUNDWATER SAMPLING DATA SHEET**

PROJECT NAME: Roxana 2Q24 GW PROJECT NUMBER: 60721927 - 3.2.1/2/3 FIELD PERSONNEL: mmasa Jenkins  
 DATE: 4/4/24 WEATHER: overcast 39°

MONITORING WELL ID: MW-1 SAMPLE ID: MW1-ROX-040424

**INITIAL DATA**

Well Diameter): <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN: <u>53.80</u> ft btoc	Volume of Flow Through Cell : <u>320*</u> mL
Total Well Depth (btoc): <u>59.13</u> ft		Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>42.48</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>NV</u> ft		Wellbore PID/FID Reading: <u>0.0</u> ppm
Depth to Top of Screen (btoc): <u>48.80</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>11.65</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 1 FT BELOW TOP OF SCREEN OR WATER (WHICHEVER IS DEEPER): _____ ft btoc	

**PURGE DATA**

Pump Type: Stainless Steel Submersible Pump STABLE: (over 4 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	0948	42.80	clear	none	15.1	2.99	0.916 mS/cm uS/cm	6.47	184.26	1.7
300	0949	42.80			15.1	2.90	0.923 mS/cm uS/cm	6.51	182.55	1.6
600	0950	42.80			15.3	2.56	0.923 mS/cm uS/cm	6.55	180.97	1.5
900	0951				15.5	2.08	0.925 mS/cm uS/cm	6.57	179.64	1.3
1200	0952				15.7	2.06	0.925 mS/cm uS/cm	6.60	177.81	2.3
1500	0953				15.8	1.89	0.927 mS/cm uS/cm	6.62	176.27	2.3
1800	0954				15.9	1.75	0.920 mS/cm uS/cm	6.64	175.01	2.6
2100	0955				16.0	1.65	0.922 mS/cm uS/cm	6.65	174.01	2.6
2400	0956				16.1	1.55	0.921 mS/cm uS/cm	6.66	172.85	2.6
2700	0957				16.0	1.46	0.921 mS/cm uS/cm	6.67	171.73	2.5
3000	0958				16.3	1.40	0.922 mS/cm uS/cm	6.67	170.94	2.4
3300	0959				16.5	1.34	0.918 mS/cm uS/cm	6.68	170.04	2.3
3600	1000				16.5	1.28	0.921 mS/cm uS/cm	6.68	169.13	2.1
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			

Start Time: 0948 Elapsed Time (min): 12 Water Quality Meter ID & SN: YSI ProDSS -- 029218/45720  
 Stop Time: 1000 Average Purge Rate (mL/min): 300 Date Calibrated: 4-4-24

**SAMPLING DATA**

Sample Date: 4-4-24 Sample Time: 1005 Lab Analysis: VOC, SVOC, PAH  
 Sample Method: Stainless Steel Submersible Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: EB  
 VOA Vials, No Headspace  Initials: mm

**COMMENTS:**

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

Estimated Total Purge Volume: 3600 mL



LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q24 GW

PROJECT NUMBER: 60721927 - 3.2.1/2/3

FIELD PERSONNEL: M. Massa-Turkington

DATE: 4/17/24

WEATHER: clear 74°

MONITORING WELL ID: MW-2

SAMPLE ID: MW2-Rox-041724

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>54.87</u> ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>43.85</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>—</u> ft btoc	Wellbore PID/FID Reading: <u>168.6</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	
Screen Length: <u>10</u> ft	(WHICHEVER IS DEEPER): <u>—</u> ft btoc	
Water Column Height (not including NAPL): <u>16.35</u> 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 1 FT BELOW TOP OF SCREEN OR WATER (WHICHEVER IS DEEPER):	<u>—</u> ft btoc

PURGE DATA

Pump Type: Stainless Steel Submersible Pump STABLE: (over 4 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	1320	<u>43.88</u>	<u>clear</u>	<u>strong HO</u>	<u>21.6</u>	<u>1.47</u>	<u>0.809</u> mS/cm uS/cm	<u>7.48</u>	<u>132.06</u>	<u>13.0</u>
300	1321	<u>43.88</u>			<u>21.6</u>	<u>1.25</u>	<u>0.809</u> mS/cm uS/cm	<u>7.34</u>	<u>122.74</u>	<u>12.6</u>
600	1322	<u>43.88</u>			<u>21.6</u>	<u>1.04</u>	<u>0.806</u> mS/cm uS/cm	<u>7.32</u>	<u>107.96</u>	<u>12.3</u>
900	1323				<u>22.0</u>	<u>0.86</u>	<u>0.805</u> mS/cm uS/cm	<u>7.14</u>	<u>93.06</u>	<u>13.1</u>
1200	1324				<u>22.3</u>	<u>0.78</u>	<u>0.809</u> mS/cm uS/cm	<u>7.10</u>	<u>87.83</u>	<u>13.4</u>
1500	1325				<u>22.5</u>	<u>0.73</u>	<u>0.805</u> mS/cm uS/cm	<u>7.08</u>	<u>72.66</u>	<u>13.6</u>
1800	1326				<u>22.4</u>	<u>0.69</u>	<u>0.806</u> mS/cm uS/cm	<u>7.07</u>	<u>63.29</u>	<u>13.5</u>
2100	1327				<u>22.1</u>	<u>0.66</u>	<u>0.805</u> mS/cm uS/cm	<u>7.08</u>	<u>54.20</u>	<u>14.0</u>
2400	1328				<u>22.1</u>	<u>0.61</u>	<u>0.802</u> mS/cm uS/cm	<u>7.07</u>	<u>46.42</u>	<u>14.8</u>
2700	1329				<u>22.2</u>	<u>0.59</u>	<u>0.801</u> mS/cm uS/cm	<u>7.07</u>	<u>39.12</u>	<u>15.0</u>
3000	1330				<u>22.2</u>	<u>0.57</u>	<u>0.800</u> mS/cm uS/cm	<u>7.06</u>	<u>32.07</u>	<u>15.6</u>
3300	1331				<u>22.3</u>	<u>0.54</u>	<u>0.799</u> mS/cm uS/cm	<u>7.06</u>	<u>25.61</u>	<u>16.8</u>
3600	1332				<u>22.4</u>	<u>0.53</u>	<u>0.798</u> mS/cm uS/cm	<u>7.06</u>	<u>19.84</u>	<u>16.4</u>
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			

Start Time: 1300

Elapsed Time (min): 12

Water Quality Meter ID & SN: YSI ProDSS -- 043907/43906

Stop Time: 1332

Average Purge Rate (mL/min): 300

Date Calibrated: 4-17-24

SAMPLING DATA

Sample Date: 4-17-24

Sample Time: 1335

Lab Analysis: VOC, SVOC, PAH

Sample Method: Stainless Steel Submersible Pump / Low Flow

Sample Flow Rate (mL/min): 300

QA/QC Samples: EB

VOA Vials, No Headspace  Initials: MM

COMMENTS:

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

Estimated Total Purge Volume: 3600 mL



**LOW FLOW GROUNDWATER SAMPLING DATA SHEET**

PROJECT NAME: Roxana 2Q24 GW

PROJECT NUMBER: 60721927 - 3.2.1/2/3

FIELD PERSONNEL: mmama Jenkins

DATE: 4-12-24

WEATHER: partly cloudy 58°

MONITORING WELL ID: MW-3

SAMPLE ID: MW3-Rox-041224

**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>39.67</u> ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>30.05</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>N/A</u> ft	<u>—</u> ft btoc	Wellbore PID/FID Reading: <u>0.0</u> ppm
Depth to Top of Screen (btoc): <u>34.67</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>10</u> ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	<u>—</u> ft btoc
Water Column Height (not including NAPL): <u>14.95</u> ft	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT 1 FT BELOW TOP OF SCREEN OR WATER (WHICHEVER IS DEEPER):	<u>—</u> ft btoc

**PURGE DATA**

Pump Type: Stainless Steel Submersible Pump      STABLE: (over 4 readings)      +0.2 mg/L or +10%      +5% or +2 uS/cm      Monitor Temp.      +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	1156	30.07	clear	slight H <sub>2</sub> O	18.4	1.49	1.251 mS/cm uS/cm	6.79	-9.55	0.52
300	1157	30.07	↓	↓	18.5	1.36	1.254 mS/cm uS/cm	6.79	-15.96	0.32
600	1158	30.07	↓	↓	18.7	1.15	1.252 mS/cm uS/cm	6.79	-28.09	0.31
900	1159	↓	↓	↓	18.6	1.01	1.256 mS/cm uS/cm	6.79	-38.58	0.83
1200	1200	↓	↓	↓	18.8	0.90	1.260 mS/cm uS/cm	6.80	-47.60	0.58
1500	1201	↓	↓	↓	18.6	0.82	1.266 mS/cm uS/cm	6.80	-54.42	0.84
1800	1202	↓	↓	↓	18.9	0.76	1.270 mS/cm uS/cm	6.81	-61.35	0.0
2100	1203	↓	↓	↓	19.0	0.72	1.274 mS/cm uS/cm	6.82	-66.73	0.0
2400	1204	↓	↓	↓	19.0	0.69	1.277 mS/cm uS/cm	6.82	-72.63	0.0
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			

Start Time: 1156

Elapsed Time (min): 8

Water Quality Meter ID & SN: YSI ProDSS -- 49551/43900

Stop Time: 1204

Average Purge Rate (mL/min): 300

Date Calibrated: 4-12-24

**SAMPLING DATA**

Sample Date: 4-12-24

Sample Time: 1210

Lab Analysis: VOC, SVOC, PAH

Sample Method: Stainless Steel Submersible Pump / Low Flow

Sample Flow Rate (mL/min): 300

QA/QCSamples: None

VOA Vials, No Headspace  Initials: mm

**COMMENTS:**

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

Estimated Total Purge Volume: 2400 mL



LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q24 GW PROJECT NUMBER: 60721927 - 3.2.1/2/3 FIELD PERSONNEL: Mmeissa Jenkins

DATE: 4/19/24 WEATHER: partly cloudy 50°

MONITORING WELL ID: MW-4 SAMPLE ID: MWA-Rox-041924

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>41.22</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>NR</u> ft	<u>      </u> ft btoc	Wellbore PID/FID Reading: <u>19.6</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 (WHICHEVER IS DEEPER):	<u>      </u> ft btoc
Screen Length: <u>10</u> ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	<u>      </u> ft btoc
Water Column Height (not including NAPL): <u>14.17</u> ft	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT 1 FT BELOW TOP OF SCREEN OR WATER (WHICHEVER IS DEEPER):	<u>      </u> ft btoc

PURGE DATA

Pump Type: Stainless Steel Submersible Pump STABLE: (over 4 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	1000	41.25	clear	mod. HO	17.6	1.51	0.968 mS/cm uS/cm	6.68	135.67	2.1
300	1001	41.25	↓	↓	17.9	1.25	0.968 mS/cm uS/cm	6.69	130.54	2.8
600	1002	41.25	↓	↓	18.2	1.09	0.972 mS/cm uS/cm	6.70	124.55	5.9
900	1003	↓	↓	↓	18.4	1.00	0.971 mS/cm uS/cm	6.71	120.11	5.9
1200	1004	↓	↓	↓	18.5	0.91	0.968 mS/cm uS/cm	6.72	114.15	6.0
1500	1005	↓	↓	↓	18.6	0.81	0.967 mS/cm uS/cm	6.74	106.84	5.8
1800	1006	↓	↓	↓	18.4	0.77	0.968 mS/cm uS/cm	6.75	101.31	5.9
2100	1007	↓	↓	↓	18.2	0.75	0.970 mS/cm uS/cm	6.76	94.42	5.7
2400	1008	↓	↓	↓	18.1	0.73	0.973 mS/cm uS/cm	6.77	88.34	5.5
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			

*[Handwritten signature]* 4/19/24

Start Time: 1000 Elapsed Time (min): 8 Water Quality Meter ID & SN: YSI ProDSS -- 043907/43906  
 Stop Time: 1008 Average Purge Rate (mL/min): 300 Date Calibrated: 4/19/24

SAMPLING DATA

Sample Date: 4-19-24 Sample Time: 1015 Lab Analysis: VOC, SVOC, PAH  
 Sample Method: Stainless Steel Submersible Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QCSamples: BB  
 VOA Vials, No Headspace  Initials: MM

COMMENTS:

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

Estimated Total Purge Volume: 2400 mL



**LOW FLOW GROUNDWATER SAMPLING DATA SHEET**

PROJECT NAME: Roxana 2Q24 GW PROJECT NUMBER: 60721927 - 3.2.1/2/3 FIELD PERSONNEL: Mmassa Tinkins

DATE: 4-12-24 WEATHER: partly cloudy 62°

MONITORING WELL ID: MW-5 SAMPLE ID: MW5-ROX-041224

**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>44.30</u> ft	<u>38.97</u> ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>29.68</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>NL</u> ft	ft btoc	Wellbore PID/FID Reading: <u>0.0</u> ppm
Depth to Top of Screen (btoc): <u>33.97</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>14.67</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 1 FT BELOW TOP OF SCREEN OR WATER (WHICHEVER IS DEEPER):	ft btoc

**PURGE DATA**

Pump Type: Stainless Steel Submersible Pump STABLE: (over 4 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	1256	29.70	clear	slight HO	18.6	1.77	0.952 mS/cm uS/cm	6.78	5.32	1.2
300	1257	29.70	↓	↓	18.5	1.92	0.961 mS/cm uS/cm	6.76	-7.75	0.9
600	1258	29.70	↓	↓	18.7	1.18	0.968 mS/cm uS/cm	6.75	-33.72131	0.6
900	1259	↓	↓	↓	18.7	1.02	0.975 mS/cm uS/cm	6.74	-33.57	0.5
1200	1300	↓	↓	↓	18.8	0.91	0.977 mS/cm uS/cm	6.73	-43.23	0.6
1500	1301	↓	↓	↓	18.8	0.82	0.978 mS/cm uS/cm	6.73	-52.15	0.8
1800	1302	↓	↓	↓	18.9	0.78	0.978 mS/cm uS/cm	6.73	-58.49	1.1
2100	1303	↓	↓	↓	18.9	0.73	0.977 mS/cm uS/cm	6.74	-64.68	1.2
2400	1304	↓	↓	↓	18.9	0.70	0.978 mS/cm uS/cm	6.74	-70.26	1.1
							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: 1256 Elapsed Time (min): 8 Water Quality Meter ID & SN: YSI ProDSS - 49551/43906  
 Stop Time: 1304 Average Purge Rate (mL/min): 300 Date Calibrated: 4-12-24

**SAMPLING DATA**

Sample Date: 4-12-24 Sample Time: 1310 Lab Analysis: VOC, SVOC, PAH  
 Sample Method: Stainless Steel Submersible Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: none  
 VOA Vials, No Headspace  Initials: MM

**COMMENTS:**

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

Estimated Total Purge Volume: 2400 mL



**LOW FLOW GROUNDWATER SAMPLING DATA SHEET**

PROJECT NAME: Roxana 2Q24 GW

PROJECT NUMBER: 60721927 - 3.2.1/2/3

FIELD PERSONNEL: Mmassa Jenkins

DATE: 4/11/24

WEATHER: overcast 53°

MONITORING WELL ID: MW-6A

SAMPLE ID: MW6A-Rox-041124

**INITIAL DATA**

Well Diameter): <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN: <u>38.85</u> ft btoc	Volume of Flow Through Cell : <u>320*</u> mL
Total Well Depth (btoc): <u>44.18</u> ft		Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>21.60</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>NL</u> ft		Wellbore PID/FID Reading: <u>0.0</u> ppm
Depth to Top of Screen (btoc): <u>33.85</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>12.58</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 1 FT BELOW TOP OF SCREEN OR WATER (WHICHEVER IS DEEPER): _____ ft btoc	

**PURGE DATA**

Pump Type: Stainless Steel Submersible Pump      STABLE: (over 4 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	0924	31.63	<u>Slight Cloudy</u>	<u>NONE</u>	18.0	8.49	0.143 mS/cm uS/cm	6.96	134.86	46.7
300	0925	31.62			18.1	8.37	0.142 mS/cm uS/cm	6.87	132.87	41.8
600	0926	31.62			18.3	8.24	0.142 mS/cm uS/cm	6.96	133.19	37.4
900	0927				18.7	8.05	0.141 mS/cm uS/cm	7.07	132.82	32.6
1200	0928				18.9	7.87	0.141 mS/cm uS/cm	7.07	132.87	36.6
1500	0929				19.2	7.70	0.142 mS/cm uS/cm	7.11	132.90	32.0
1800	0930				19.3	7.49	0.144 mS/cm uS/cm	7.16	132.92	28.4
2100	0931				19.2	7.34	0.146 mS/cm uS/cm	7.20	132.96	24.7
2400	0932				19.3	7.10	0.149 mS/cm uS/cm	7.22	132.30	20.5
2700	0933				19.2	6.87	0.154 mS/cm uS/cm	7.23	133.64	17.8
3000	0934				19.2	6.68	0.153 mS/cm uS/cm	7.23	134.14	16.3
3300	0935				19.6	6.50	0.163 mS/cm uS/cm	7.23	134.72	14.6
3600	0936				19.0	6.36	0.166 mS/cm uS/cm	7.22	134.95	12.6
3900	0937				19.0	6.24	0.168 mS/cm uS/cm	7.21	135.09	11.3
4200	0938				19.0	6.14	0.173 mS/cm uS/cm	7.19	135.53	10.5
4500	0939				19.0	6.03	0.177 mS/cm uS/cm	7.17	135.78	9.7

Start Time: 0924

Elapsed Time (min): 46

Water Quality Meter ID & SN: YSI ProDSS - 49651/43906

Stop Time: 1010

Average Purge Rate (mL/min): 300

Date Calibrated: 4-11-24

**SAMPLING DATA**

Sample Date: 4-11-24

Sample Time: 1015

Lab Analysis: VOC, SVOC, PAH

Sample Method: Stainless Steel Submersible Pump / Low Flow

Sample Flow Rate (mL/min): 300

QA/QC Samples: EP

VOA Vials, No Headspace  Initials: MM

**COMMENTS:**

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

\* DO results suspect

Estimated Total Purge Volume: 13800 mL







LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q24 GW

PROJECT NUMBER: 60721927 - 3.2.1/2/3

FIELD PERSONNEL: Mmassa Jenking

DATE: 4-11-24

WEATHER: partly cloudy 56°

MONITORING WELL ID: MW-6B

SAMPLE ID: MW6B-Rox-041124

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>31.65</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>NP</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>37.73</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 1 FT BELOW TOP OF SCREEN OR WATER (WHICHEVER IS DEEPER): <u>        </u> ft btoc	

PURGE DATA

Pump Type: Stainless Steel Submersible Pump STABLE: (over 4 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	1054	31.68	clear	none	18.3	1.32	0.683 mS/cm uS/cm	6.97	105.90	45.6
300	1055	31.68			18.3	1.07	0.684 mS/cm uS/cm	6.96	94.37	39.3
600	1056	31.68			18.3	0.95	0.683 mS/cm uS/cm	6.96	85.91	32.9
900	1057				18.3	0.90	0.684 mS/cm uS/cm	6.97	76.39	34.1
1200	1058				18.4	0.80	0.682 mS/cm uS/cm	6.97	67.04	30.2
1500	1059				18.4	0.75	0.682 mS/cm uS/cm	6.97	58.55	26.7
1800	1100				18.3	0.72	0.682 mS/cm uS/cm	6.98	50.74	22.5
2100	1101				18.3	0.69	0.682 mS/cm uS/cm	6.99	42.90	20.6
2400	1102				18.4	0.67	0.682 mS/cm uS/cm	6.99	35.79	18.7
2700	1103				18.5	0.65	0.681 mS/cm uS/cm	6.99	29.35	16.1
3000	1104				18.5	0.63	0.681 mS/cm uS/cm	6.99	22.55	13.8
3300	1105				18.5	0.61	0.681 mS/cm uS/cm	6.99	16.74	11.9
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			

Start Time: 1054 Elapsed Time (min): 11 Water Quality Meter ID & SN: YSI ProDSS -- 49551/43706  
 Stop Time: 1105 Average Purge Rate (mL/min): 300 Date Calibrated: 4-11-24

SAMPLING DATA

Sample Date: 4-11-24 Sample Time: 1105 Lab Analysis: VOC, SVOC, PAH  
 Sample Method: Stainless Steel Submersible Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QCSamples: DUP  
 VOA Vials, No Headspace  Initials: mm

COMMENTS:

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

Estimated Total Purge Volume: 9600 mL









LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q24 GW

PROJECT NUMBER: 60721927 - 3.2.1/2/3

FIELD PERSONNEL: Mmassa T Jenkins

DATE: 4-19-24

WEATHER: clear 56°

MONITORING WELL ID: MW-7

SAMPLE ID: MW7-ROX-041924

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>52.92</u> ft	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL	
Depth to Water (btoc): <u>43.15</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>N/A</u> ft	<u>48.04</u> ft btoc	Wellbore PID/FID Reading: <u>0.0</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): _____ ft btoc	
Screen Length: <u>10</u> ft		
Water Column Height (not including NAPL): <u>9.77</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 1 FT BELOW TOP OF SCREEN OR WATER (WHICHEVER IS DEEPER): _____ ft btoc	

PURGE DATA

Pump Type: Stainless Steel Submersible Pump STABLE: (over 4 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	1238	43.20	clear	Strong HO	18.1	1.85	0.678 mS/cm uS/cm	7.08	66.01	3.0
300	1239	43.20			18.4	1.39	0.693 mS/cm uS/cm	7.02	61.62	2.5
600	1240	43.20			18.5	1.16	0.702 mS/cm uS/cm	6.99	55.62	2.1
900	1241				18.5	1.03	0.708 mS/cm uS/cm	6.98	49.77	1.8
1200	1242				18.6	0.93	0.713 mS/cm uS/cm	6.98	47.45	2.0
1500	1243				18.6	0.86	0.717 mS/cm uS/cm	6.97	35.51	1.6
1800	1244				18.8	0.82	0.723 mS/cm uS/cm	6.96	28.31	1.3
2100	1245				18.7	0.77	0.729 mS/cm uS/cm	6.96	21.10	1.1
2400	1246				18.7	0.74	0.734 mS/cm uS/cm	6.96	14.20	0.8
2700	1247				18.8	0.72	0.738 mS/cm uS/cm	6.95	8.05	0.7
3000	1248				19.0	0.69	0.744 mS/cm uS/cm	6.94	1.84	0.4
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			

Start Time: 1238 Elapsed Time (min): 10 Water Quality Meter ID & SN: YSI ProDSS -- 043907/43906  
 Stop Time: 1248 Average Purge Rate (mL/min): 300 Date Calibrated: 4-19-24

SAMPLING DATA

Sample Date: 4-19-24 Sample Time: 1255 Lab Analysis: VOC, SVOC, PAH  
 Sample Method: Stainless Steel Submersible Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QCSamples: Dup  
 VOA Vials, No Headspace  Initials: mm

COMMENTS:

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

Estimated Total Purge Volume: 3000 mL



LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q24 GW

PROJECT NUMBER: 60721927 - 3.2.1/2/3

FIELD PERSONNEL: MMaya Jenkins

DATE: 4/15/24

WEATHER: clear 82°

MONITORING WELL ID: MW-9

SAMPLE ID: MWA-ROX-041524

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	ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>44.85</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>51.04</u> ft btoc	Wellbore PID/FID Reading: <u>0.0</u> ppm
Depth to Top of Screen (btoc): <u>46.04</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>11.52</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 1 FT BELOW TOP OF SCREEN OR WATER (WHICHEVER IS DEEPER):	ft btoc

PURGE DATA

Pump Type: Stainless Steel Submersible Pump STABLE: (over 4 readings) Monitor Temp. +0.2 mg/L or +10% +0.5% 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	1325	44.93	clear	none	21.0	0.98	0.994 mS/cm uS/cm	7.30	133.69	0.0
300	1326	44.93			21.0	0.85	0.996 mS/cm uS/cm	7.11	112.81	0.0
600	1327	44.93			21.1	0.77	0.995 mS/cm uS/cm	7.03	94.56	0.0
900	1328				21.1	0.70	0.996 mS/cm uS/cm	6.98	76.71	0.0
1200	1329				21.2	0.65	0.994 mS/cm uS/cm	6.95	60.15	0.09
1500	1330				21.2	0.62	0.995 mS/cm uS/cm	6.93	48.08	0.4
1800	1331				20.8	0.60	0.994 mS/cm uS/cm	6.93	36.29	0.8
2100	1332				20.7	0.57	0.995 mS/cm uS/cm	6.92	24.98	0.6
2400	1333				20.9	0.55	0.993 mS/cm uS/cm	6.92	17.15	1.0
2700	1334				21.1	0.54	0.994 mS/cm uS/cm	6.91	10.04	2.1
3000	1335				21.1	0.53	0.996 mS/cm uS/cm	6.90	2.96	2.5
3300	1336				21.2	0.52	0.996 mS/cm uS/cm	6.90	-2.81	3.3
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			

Start Time: 1325

Elapsed Time (min): 11

Water Quality Meter ID & SN: YSI ProDSS -- 50633/43096

Stop Time: 1336

Average Purge Rate (mL/min): 300

Date Calibrated: 4/15/24

SAMPLING DATA

Sample Date: 4/15/24

Sample Time: 1340

Lab Analysis: VOC, SVOC, PAH

Sample Method: Stainless Steel Submersible Pump / Low Flow

Sample Flow Rate (mL/min): 300

QA/QC Samples: MS/MSD

VOA Vials, No Headspace  Initials: MM

COMMENTS:

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

Estimated Total Purge Volume: 6400 mL



LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q24 GW

PROJECT NUMBER: 60721927 - 3.2.1/2/3

FIELD PERSONNEL: M. Maffa Benkino

DATE: 4-4-24

WEATHER: OVERCAST 43°

MONITORING WELL ID: MW-10

SAMPLE ID: MW10-ROX-040424

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	ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>44.83</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>NA</u> ft	<u>44.78</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):	ft btoc
Screen Length: <u>10</u> ft	ft btoc	
Water Column Height (not including NAPL): <u>9.46</u> ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	ft btoc
	ft btoc	
	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT 1 FT BELOW TOP OF SCREEN OR WATER (WHICHEVER IS DEEPER):	ft btoc

PURGE DATA

Pump Type: Stainless Steel Submersible Pump STABLE: (over 4 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	1221	44.83	Slight cloudy	none	16.0	2.72	1.405 mS/cm uS/cm	6.78	73.85	33.82
300	1222	44.83			16.2	2.37	1.401 mS/cm uS/cm	6.79	55.76	31.87
600	1223	44.83			16.3	2.11	1.405 mS/cm uS/cm	6.79	35.16	40.60
900	1224				16.4	1.92	1.401 mS/cm uS/cm	6.80	18.87	33.17
1200	1225				16.3	1.77	1.406 mS/cm uS/cm	6.81	6.82	27.94
1500	1226				16.5	1.64	1.400 mS/cm uS/cm	6.83	-3.26	28.79
1800	1227				16.5	1.52	1.405 mS/cm uS/cm	6.83	-12.31	24.44
2100	1228				16.5	1.40	1.400 mS/cm uS/cm	6.84	-17.26	23.14
2400	1229				16.6	1.39	1.400 mS/cm uS/cm	6.85	-22.50	19.85
2700	1230				16.6	1.34	1.403 mS/cm uS/cm	6.85	-26.82	17.51
							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: 1221

Elapsed Time (min): 9

Water Quality Meter ID & SN: YSI ProDSS - 029218/45720

Stop Time: 1230

Average Purge Rate (mL/min): 300

Date Calibrated: 4/4/24

SAMPLING DATA

Sample Date: 4-4-24

Sample Time: 1235

Lab Analysis: VOC, SVOC, PAH

Sample Method: Stainless Steel Submersible Pump / Low Flow

Sample Flow Rate (mL/min): 300

QA/QCSamples: NONE

VOA Vials, No Headspace  Initials: MM

COMMENTS:

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

Estimated Total Purge Volume: 2700 mL



**LOW FLOW GROUNDWATER SAMPLING DATA SHEET**

PROJECT NAME: Roxana 2Q24 GW PROJECT NUMBER: 60721927 - 3.2.1/2/3 FIELD PERSONNEL: Maggie Tomkins

DATE: 4/5/24 WEATHER: Mostly cloudy 51°

MONITORING WELL ID: MW-11 SAMPLE ID: MMW-Rox-040524

INITIAL DATA		IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN:		Volume of Flow Through Cell : <u>320*</u> mL	
Well Diameter: <u>2</u> in					Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Total Well Depth (btoc): <u>51.99</u> ft					
Depth to Water (btoc): <u>42.54</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>ND</u> ft			<u>47.20</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					
Water Column Height (not including NAPL): <u>9.46</u> 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 1 FT BELOW TOP OF SCREEN OR WATER (WHICHEVER IS DEEPER):			

**PURGE DATA**  
 Pump Type: Stainless Steel Submersible Pump STABLE: (over 4 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	1315	42.58	clear	none	15.9	1.99	1.297 mS/cm uS/cm	6.74	52.91	24.5
300	1316	42.58			15.9	1.68	1.281 mS/cm uS/cm	6.76	52.91	21.9
600	1317	42.58			15.9	1.45	1.290 mS/cm uS/cm	6.74	44.69	20.3
900	1318	42.58			16.1	1.22	1.297 mS/cm uS/cm	6.72	34.23	18.4
1200	1319				16.3	1.05	1.205 mS/cm uS/cm	6.70	23.80	19.3
1500	1320				16.7	0.92	1.309 mS/cm uS/cm	6.69	14.25	20.0
1800	1321				17.0	0.82	1.311 mS/cm uS/cm	6.68	4.00	20.6
2100	1322				17.1	0.77	1.312 mS/cm uS/cm	6.68	-2.31	21.1
2400	1323				17.0	0.73	1.314 mS/cm uS/cm	6.68	-8.72	19.0
2700	1324				17.1	0.70	1.315 mS/cm uS/cm	6.68	-13.96	17.7
3000	1325				17.2	0.68	1.317 mS/cm uS/cm	6.68	-17.82	16.3
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			

Start Time: 1315 Elapsed Time (min): 10 Water Quality Meter ID & SN: YSI ProDSS -- 049551/43906  
 Stop Time: 1325 Average Purge Rate (mL/min): 300 Date Calibrated: 4/5/24

**SAMPLING DATA**  
 Sample Date: 4/5/24 Sample Time: 1330 Lab Analysis: VOC, SVOC, PAH  
 Sample Method: Stainless Steel Submersible Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: MS/MS & NONE  
 VOA Vials, No Headspace  Initials: mm

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

Estimated Total Purge Volume: 3000 mL



**LOW FLOW GROUNDWATER SAMPLING DATA SHEET**

PROJECT NAME: Roxana 2Q24 GW PROJECT NUMBER: 60721927 - 3.2.1/2/3 FIELD PERSONNEL: Mmassa Tdenking

DATE: 4-12-24 WEATHER: clear, windy 56°

MONITORING WELL ID: MW-12 SAMPLE ID: MW12-ROX-041224

INITIAL DATA		IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN:		Volume of Flow Through Cell : <u>320*</u> mL	
Well Diameter): <u>2</u> in			ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL	
Total Well Depth (btoc): <u>52.25</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 Water (btoc): <u>42.55</u> ft			<u>47.40</u> ft btoc	Wellbore PID/FID Reading: <u>0.0</u> ppm	
Depth to LNAPL/DNAPL (btoc): <u>NL</u> ft		IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHICHEVER IS DEEPER):			
Depth to Top of Screen (btoc): <u>41.92</u> ft			ft btoc		
Screen Length: <u>10</u> ft		IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:			
Water Column Height (not including NAPL): <u>9.90</u> ft			ft btoc		
		IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT – PUMP INTAKE AT 1 FT BELOW TOP OF SCREEN OR WATER (WHICHEVER IS DEEPER):			
			ft btoc		

**PURGE DATA**  
 Pump Type: Stainless Steel Submersible Pump STABLE: (over 4 readings) Monitor Temp. +0.2 mg/L or +10% +1.5% 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	1056	42.62	clear	none	17.4	2.33	0.754 mS/cm uS/cm	7.00	36.56	4.8
200	1057	42.62			17.4	1.84	0.754 mS/cm uS/cm	6.97	37.85	2.8
400	1058	42.60			17.6	1.45	0.754 mS/cm uS/cm	6.93	39.13	1.8
600	1059	42.60			17.8	1.27	0.754 mS/cm uS/cm	6.91	39.75	1.4
1200	1100	42.60			17.9	1.08	0.758 mS/cm uS/cm	6.89	40.30	1.5
1500	1101				17.9	1.05	0.757 mS/cm uS/cm	6.88	40.36	1.7
1800	1102				17.9	0.97	0.758 mS/cm uS/cm	6.88	40.31	1.2
2100	1103				18.1	0.92	0.758 mS/cm uS/cm	6.87	40.18	0.9
2400	1104				18.1	0.80	0.760 mS/cm uS/cm	6.87	40.01	1.0
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			

*Mmassa Tdenking* 4/12/24

Start Time: 1056 Elapsed Time (min): 8 Water Quality Meter ID & SN: YSI ProDSS - 49551/43906  
 Stop Time: 1104 Average Purge Rate (mL/min): 300 Date Calibrated: 4-12-24

**SAMPLING DATA**  
 Sample Date: 4-12-24 Sample Time: 1110 Lab Analysis: VOC, SVOC, PAH  
 Sample Method: Stainless Steel Submersible Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QCSamples: none  
 VOA Vials, No Headspace  Initials: MT

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

Estimated Total Purge Volume: 2400 mL



**LOW FLOW GROUNDWATER SAMPLING DATA SHEET**

PROJECT NAME: Roxana 2Q24 GW

PROJECT NUMBER: 60721927 - 3.2.1/2/3

FIELD PERSONNEL: M. Mayer Jenkins

DATE: 4/15/24

WEATHER: Clear 74°

MONITORING WELL ID: MW-13

SAMPLE ID: MW13-Rox-041524

**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	ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>29.33</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>32.19</u> ft btoc	Wellbore PID/FID Reading: <u>0.0</u> ppm
Depth to Top of Screen (btoc): <u>24.80</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>5.72</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 1 FT BELOW TOP OF SCREEN OR WATER (WHICHEVER IS DEEPER):	ft btoc

**PURGE DATA**

Pump Type: Stainless Steel Submersible Pump      STABLE: (over 4 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	1105	29.60	Cloudy	mod. H <sub>2</sub> O	21.7	0.96	0.968 mS/cm uS/cm	6.72	39.82	142.5
300	1106	29.60	↓	↓	21.8	0.83	0.969 mS/cm uS/cm	6.69	23.82	120.6
600	1107	29.60	↓	↓	22.0	0.74	0.971 mS/cm uS/cm	6.67	8.66	153.6
900	1108	↓	↓	↓	22.0	0.66	0.975 mS/cm uS/cm	6.66	-7.66	118.5
1200	1109	↓	↓	↓	22.1	0.62	0.976 mS/cm uS/cm	6.66	-16.04	109.1
1500	1110	↓	↓	↓	22.0	0.60	0.980 mS/cm uS/cm	6.66	-24.09	92.5
1800	1111	↓	Clearer	↓	22.0	0.57	0.981 mS/cm uS/cm	6.67	-31.49	80.8
2100	1112	↓	↓	↓	22.0	0.59	0.984 mS/cm uS/cm	6.67	-38.34	67.6
2400	1113	↓	↓	↓	22.0	0.57	0.990 mS/cm uS/cm	6.67	-43.31	60.6
2700	1114	↓	↓	↓	22.0	0.51	0.988 mS/cm uS/cm	6.67	-48.39	51.7
3000	1115	↓	↓	↓	22.0	0.49	0.991 mS/cm uS/cm	6.67	-53.09	43.4
3300	1116	↓	↓	↓	21.9	0.48	0.995 mS/cm uS/cm	6.67	-56.66	37.8
3600	1117	↓	↓	↓	21.8	0.46	0.996 mS/cm uS/cm	6.67	-59.83	32.0
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			

Start Time: 1105

Elapsed Time (min): 12

Water Quality Meter ID & SN: YSI ProDSS -- 50633/43096

Stop Time: 1117

Average Purge Rate (mL/min): 300

Date Calibrated: 4/15/24

**SAMPLING DATA**

Sample Date: 4/15/24

Sample Time: 1125

Lab Analysis: VOC, SVOC, PAH

Sample Method: Stainless Steel Submersible Pump / Low Flow

Sample Flow Rate (mL/min): 300

QA/QC Samples: NONE

VOA Vials, No Headspace  Initials: MA

**COMMENTS:**

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

Estimated Total Purge Volume: 3600 mL



**LOW FLOW GROUNDWATER SAMPLING DATA SHEET**

PROJECT NAME: Roxana 2Q24 GW PROJECT NUMBER: 60721927 - 3.2.1/2/3 FIELD PERSONNEL: Mmassa Thinking

DATE: 4-11-24 WEATHER: partly cloudy b20

MONITORING WELL ID: MW-14 SAMPLE ID: MW14-ROX-041124

**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>44.00</u> ft		Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>33.78</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>NP</u> ft		Wellbore PID/FID Reading: <u>12.6</u> ppm
Depth to Top of Screen (btoc): <u>33.42</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>10.27</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 1 FT BELOW TOP OF SCREEN OR WATER (WHICHEVER IS DEEPER): _____ ft btoc	

**PURGE DATA**

Pump Type: Stainless Steel Submersible Pump STABLE: (over 4 readings) Monitor Temp. STABLE +/-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	1227	33.78	clear	NOV. HD	18.9	1.83	1.109 mS/cm uS/cm	6.63	22.26	1.4
500	1228	33.78			19.0	1.40	1.112 mS/cm uS/cm	6.59	12.76	1.7
600	1229	33.78			19.3	0.99	1.117 mS/cm uS/cm	6.56	-0.08	1.9
900	1230				19.3	0.99	1.119 mS/cm uS/cm	6.56	-2.91	1.9
1200	1231				19.4	0.84	1.120 mS/cm uS/cm	6.55	-6.78	1.5
1500	1232				19.4	0.82	1.120 mS/cm uS/cm	6.55	-8.24	1.6
1800	1233				19.5	0.79	1.123 mS/cm uS/cm	6.54	-16.03	1.1
2100	1234				19.5	0.70	1.124 mS/cm uS/cm	6.54	-18.94	0.9
							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: 1227 Elapsed Time (min): 7 Water Quality Meter ID & SN: YSI ProDSS -- 49551 / 43906  
 Stop Time: 1234 Average Purge Rate (mL/min): 300 Date Calibrated: 1-11-24

**SAMPLING DATA**

Sample Date: 4-11-24 Sample Time: 1240 Lab Analysis: VOC, SVOC, PAH  
 Sample Method: Stainless Steel Submersible Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: NONE  
 VOA Vials, No Headspace  Initials: mm

**COMMENTS:**

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

Estimated Total Purge Volume: 2100 mL



LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q24 GW PROJECT NUMBER: 60721927 - 3.2.1/2/3 FIELD PERSONNEL: Tony Jones, Travis Jenkins  
 DATE: 4/9/24 WEATHER: 57°F, Overcast

MONITORING WELL ID: MW-16 SAMPLE ID: MW16-Rox-040924

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>47.75</u> ft	ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>43.58</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>45.67 43.58 51.92</u> ft btoc	Wellbore PID/FID Reading: <u>0.0</u> ppm
Depth to Top of Screen (btoc): <u>37.50</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>4.17</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 1 FT BELOW TOP OF SCREEN OR WATER (WHICHEVER IS DEEPER):	ft btoc

PURGE DATA

Pump Type: Stainless Steel Submersible Pump STABLE: (over 4 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	1013	43.62	cloudy	slight	20.46	9.08	0.003 mS/cm uS/cm	5.21	265.85	9.33
300	1014	43.62	↓	↓	18.86	1.11	0.860 mS/cm uS/cm	6.57	21.73	50.11
600	1015	43.62	↓	↓	18.85	0.99	0.860 mS/cm uS/cm	6.58	12.81	44.67
900	1016	43.62	↓	↓	18.68	0.85	0.858 mS/cm uS/cm	6.60	-2.48	35.16
1200	1017	43.62	↓	↓	18.50	0.79	0.858 mS/cm uS/cm	6.61	-10.42	30.54
1500	1018	43.62	↓	↓	18.47	0.71	0.858 mS/cm uS/cm	6.63	-21.76	24.09
1800	1019	43.62	↓	↓	18.47	0.69	0.853 mS/cm uS/cm	6.63	-27.02	22.54
2100	1020	43.62	↓	↓	18.47	0.66	0.852 mS/cm uS/cm	6.64	-31.91	20.11
2400	1021	43.62	↓	↓	18.6	0.55	0.85 mS/cm uS/cm	6.66	-35.1	10
							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: 1013 Elapsed Time (min): 8 Water Quality Meter ID & SN: YSI ProDSS -- 49551/43906  
 Stop Time: 1021 Average Purge Rate (mL/min): 300 Date Calibrated: 4/9/24

SAMPLING DATA

Sample Date: 4/9/24 Sample Time: 1030 Lab Analysis: VOC, SVOC, PAH  
 Sample Method: Stainless Steel Submersible Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: MS/MSD  
 VOA Vials, No Headspace  Initials: TJ, TJ

COMMENTS:

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

Estimated Total Purge Volume: 2400 mL



**LOW FLOW GROUNDWATER SAMPLING DATA SHEET**

PROJECT NAME: Roxana 2Q24 GW PROJECT NUMBER: 60721927 - 3.2.1/2/3 FIELD PERSONNEL: M. Massa Echollant

DATE: 4-18-24 WEATHER: Overcast 65°

MONITORING WELL ID: MW-22 SAMPLE ID: MW22-Rox-041824

**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>48.68</u> ft		Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>42.30</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: <u>45.49</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>0.1</u> ppm
Depth to Top of Screen (btoc): <u>38.43</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>6.38</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 1 FT BELOW TOP OF SCREEN OR WATER (WHICHEVER IS DEEPER): _____ ft btoc	

**PURGE DATA**

Pump Type: Stainless Steel Submersible Pump STABLE: (over 4 readings) Monitor Temp. STABLE +/-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	0922	42.36	clear	strong HO	18.5	1.71	1.240 mS/cm uS/cm	6.65	111.75	36.7
300	0923	42.36	↓	↓	18.7	1.29	1.242 mS/cm uS/cm	6.66	105.94	32.5
600	0924	40.26	↓	↓	18.8	1.09	1.243 mS/cm uS/cm	6.68	100.63	30.3
900	0925	↓	↓	↓	18.9	0.98	1.247 mS/cm uS/cm	6.69	94.65	28.2
1200	0926	↓	↓	↓	19.0	0.90	1.247 mS/cm uS/cm	6.71	82.410	26.8
1500	0927	↓	↓	↓	19.1	0.84	1.250 mS/cm uS/cm	6.72	82.10	22.5
1800	0928	↓	↓	↓	19.2	0.80	1.256 mS/cm uS/cm	6.73	76.69	20.8
							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			

*M. Massa* 4/18/24

Start Time: 0922 Elapsed Time (min): 6 Water Quality Meter ID & SN: YSI ProDSS -- 043987/43906  
 Stop Time: 0928 Average Purge Rate (mL/min): 300 Date Calibrated: 4-18-24

**SAMPLING DATA**

Sample Date: 4-18-24 Sample Time: 0935 Lab Analysis: VOC, SVOC, PAH  
 Sample Method: Stainless Steel Submersible Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: Dup  
 VOA Vials, No Headspace  Initials: M

**COMMENTS:**

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

Estimated Total Purge Volume: 1800 mL







LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q24 GW

PROJECT NUMBER: 60721927 - 3.2.1/2/3

FIELD PERSONNEL: J. Mayer T. Jenkins

DATE: 4-8-2024

WEATHER: 77° F Clear

MONITORING WELL ID: MW-24

SAMPLE ID: MW24-Rox-040824

INITIAL DATA

Well Diameter: <u>2</u> in	IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN – PUMP INTAKE AT MIDPOINT OF SCREEN: <u>NA</u> ft btoc	Volume of Flow Through Cell : <u>320*</u> mL
Total Well Depth (btoc): <u>49.86</u> ft		Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>43.48</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: <u>46.67</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>39.61</u> ft	IF SCREEN & WATER COLUMN >10 FT – PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHICHEVER IS DEEPER): _____ ft btoc	
Screen Length: <u>10</u> ft		
Water Column Height (not including NAPL): <u>6.38</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 1 FT BELOW TOP OF SCREEN OR WATER (WHICHEVER IS DEEPER): _____ ft btoc	

PURGE DATA

Pump Type: Stainless Steel Submersible Pump STABLE: (over 4 readings) Monitor Temp. STABLE +/-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	1202	43.55	Clear	none	19.8	1.12	1.796 mS/cm uS/cm	7.21	189.5	3.55
300	1203	↓	↓	↓	19.8	0.96	1.795 mS/cm uS/cm	7.07	197.5	3.06
600	1204	↓	↓	↓	19.8	0.86	1.797 mS/cm uS/cm	6.94	195.7	3.73
900	1205	↓	↓	↓	19.9	0.80	1.798 mS/cm uS/cm	6.90	194.2	3.26
1200	1206	↓	↓	↓	20.2	0.76	1.796 mS/cm uS/cm	6.88	193.0	3.27
1500	1207	↓	↓	↓	19.9	0.74	1.798 mS/cm uS/cm	6.86	192.0	3.34
							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			
							mS/cm uS/cm			

Start Time: 1202  
Stop Time: 1207

Elapsed Time (min): 5  
Average Purge Rate (mL/min): 300

Water Quality Meter ID & SN: YSI ProDSS - 49551 / 43906  
Date Calibrated: 4-8-24

SAMPLING DATA

Sample Date: 4-8-24  
Sample Method: Stainless Steel Submersible Pump / Low Flow  
VOA Vials, No Headspace  Initials: JM

Sample Time: 1215  
Sample Flow Rate (mL/min): 300

Lab Analysis: VOC, SVOC, PAH  
QA/QC Samples: none

COMMENTS:

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

Estimated Total Purge Volume: 1500 mL



**LOW FLOW GROUNDWATER SAMPLING DATA SHEET**

PROJECT NAME: Roxana 2Q24 GW

PROJECT NUMBER: 60721927 - 3.2.1/2/3

FIELD PERSONNEL: Mmama Jenkins

DATE: 4/19/24

WEATHER: partly cloudy 91°

MONITORING WELL ID: MW-25

SAMPLE ID: MW 25 - ROX - 041924

**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>38.33</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>NL</u> ft	<u>42.09</u> ft btoc	Wellbore PID/FID Reading: <u>3.2</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>7.51</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 1 FT BELOW TOP OF SCREEN OR WATER (WHICHEVER IS DEEPER): _____ ft btoc	

**PURGE DATA**

Pump Type: Stainless Steel Submersible Pump      STABLE: (over 4 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	1115	38.40	Clear	Med-H0	19.7	1.82	0.898 mS/cm uS/cm	6.58	65.98	0.0
300	1116	38.40	↓	↓	19.5	1.43	0.901 mS/cm uS/cm	6.57	60.97	0.0
600	1117	38.40	↓	↓	19.3	1.19	0.904 mS/cm uS/cm	6.59	54.56	0.0
900	1118	↓	↓	↓	19.5	1.00	0.905 mS/cm uS/cm	6.59	48.81	0.0
1200	1119	↓	↓	↓	19.6	0.94	0.906 mS/cm uS/cm	6.60	41.06	0.0
1500	1120	↓	↓	↓	19.4	0.87	0.905 mS/cm uS/cm	6.62	35.05	0.0
1800	1121	↓	↓	↓	19.4	0.80	0.905 mS/cm uS/cm	6.63	27.73	0.0
2100	1122	↓	↓	↓	19.6	0.75	0.904 mS/cm uS/cm	6.64	21.68	0.0
2400	1123	↓	↓	↓	19.7	0.72	0.904 mS/cm uS/cm	6.64	15.68	0.0
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			

Start Time: 1115      Elapsed Time (min): 8      Water Quality Meter ID & SN: YSI ProDSS -- 043907/43906  
 Stop Time: 1123      Average Purge Rate (mL/min): 300      Date Calibrated: 4-19-24

**SAMPLING DATA**

Sample Date: 4-19-24      Sample Time: 1130      Lab Analysis: VOC, SVOC, PAH  
 Sample Method: Stainless Steel Submersible Pump / Low Flow      Sample Flow Rate (mL/min): 300      QA/QC Samples: NONE  
 VOA Vials, No Headspace  Initials: MM

**COMMENTS:**

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

Estimated Total Purge Volume: 2400 mL



LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q24 GW

PROJECT NUMBER: 60721927 - 3.2.1/2/3

FIELD PERSONNEL: Mmassa DenKing

DATE: 4-4-24

WEATHER: overcast 41°

MONITORING WELL ID: MW-26

SAMPLE ID: MW26-ROX-040424

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>48.40</u> ft		Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>41.13</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN – PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: _____ ft btoc	Ambient PID/FID Reading: <u>0.0</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>ND</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): _____ ft btoc	
Screen Length: <u>10</u> ft		
Water Column Height (not including NAPL): <u>7.30</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 1 FT BELOW TOP OF SCREEN OR WATER (WHICHEVER IS DEEPER): _____ ft btoc	

PURGE DATA

Pump Type: Stainless Steel Submersible Pump STABLE: (over 4 readings) Monitor Temp. STABLE ±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	41.13	clear	none	15.6	2.90	0.837 mS/cm uS/cm	6.95	161.10	2.2-2
300	1111	41.13			16.2	3.11	0.840 mS/cm uS/cm	6.91	161.86	21.5
600	1112	41.13			16.7	2.66	0.839 mS/cm uS/cm	6.89	161.45	20.6
900	1113				16.8	2.34	0.840 mS/cm uS/cm	6.89	161.00	19.1
1200	1114				16.9	2.07	0.839 mS/cm uS/cm	6.90	159.90	16.3
1500	1115				16.9	1.92	0.839 mS/cm uS/cm	6.91	158.88	15.4
1800	1116				17.0	1.78	0.841 mS/cm uS/cm	6.92	157.94	14.1
2100	1117				17.0	1.64	0.838 mS/cm uS/cm	6.93	157.25	11.8
2400	1118				17.2	1.57	0.838 mS/cm uS/cm	6.93	157.04	10.4
2700	1119				17.1	1.50	0.838 mS/cm uS/cm	6.93	156.79	9.5
3000	1120				17.1	1.42	0.834 mS/cm uS/cm	6.93	156.58	8.2
3300	1121				17.4	1.25	0.832 mS/cm uS/cm	6.93	156.50	6.3
3600	1122				17.4	1.30	0.831 mS/cm uS/cm	6.93	156.49	5.6
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			

Start Time: 1110

Elapsed Time (min): 12

Water Quality Meter ID & SN: YSI ProDSS -- 029218/45720

Stop Time: 1122

Average Purge Rate (mL/min): 300

Date Calibrated: 4/4/24

SAMPLING DATA

Sample Date: 4-4-24

Sample Time: 1125

Lab Analysis: VOC, SVOC, PAH

Sample Method: Stainless Steel Submersible Pump / Low Flow

Sample Flow Rate (mL/min): 300

QA/QC Samples: NONE

VOA Vials, No Headspace  Initials: mm

COMMENTS:

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

Estimated Total Purge Volume: 3600 mL



**LOW FLOW GROUNDWATER SAMPLING DATA SHEET**

PROJECT NAME: Roxana 2Q24 GW

PROJECT NUMBER: 60721927 - 3.2.1/2/3

FIELD PERSONNEL: Mmassa Tdenkins

DATE: 4/4/24

WEATHER: overcast 44°

MONITORING WELL ID: MW-27

SAMPLE ID: MW27-Rox-040424

**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>50.04</u> ft	ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>42.68</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>46.36</u> ft btoc	Wellbore PID/FID Reading: <u>0.0</u> ppm
Depth to Top of Screen (btoc): <u>39.79</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>7.36</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 1 FT BELOW TOP OF SCREEN OR WATER (WHICHEVER IS DEEPER):	ft btoc

**PURGE DATA**

Pump Type: Stainless Steel Submersible Pump      STABLE: (over 4 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	1325	43.52	Slight cloudy	none	15.1	5.76	0.767 mS/cm uS/cm	7.15	114.18	30.6
500	1326	43.65			15.2	5.32	0.766 mS/cm uS/cm	7.10	115.58	24.4
1000	1327	43.82			15.7	5.05	0.764 mS/cm uS/cm	7.07	116.71	21.4
1500	1328	43.95			15.8	4.88	0.764 mS/cm uS/cm	7.05	117.54	19.0
2000	1329	44.10			15.9	4.71	0.765 mS/cm uS/cm	7.03	118.36	16.3
2500	1330	44.30			15.9	4.56	0.766 mS/cm uS/cm	7.02	119.00	14.0
3000	1331	44.45			16.0	4.35	0.770 mS/cm uS/cm	7.01	119.66	11.9
3500	1332	44.53			15.6	4.19	0.775 mS/cm uS/cm	7.01	120.01	10.0
4000	1333	44.53			15.8	4.03	0.774 mS/cm uS/cm	7.00	120.43	9.4
4500	1334	44.78			15.9	3.84	0.775 mS/cm uS/cm	6.99	120.90	8.7
5000	1335	44.78			16.2	3.78	0.776 mS/cm uS/cm	6.98	121.29	7.3
5500	1336	44.78			16.0	3.72	0.782 mS/cm uS/cm	6.98	121.49	6.6
6000	1337				15.4	3.69	0.784 mS/cm uS/cm	6.99	121.64	6.1
6500	1338				15.5	3.66	0.782 mS/cm uS/cm	6.99	121.86	5.6

Start Time: 1325  
Stop Time: 1338

Elapsed Time (min): 13  
Average Purge Rate (mL/min): 300

Water Quality Meter ID & SN: YSI ProDSS - 029218/43720  
Date Calibrated: 4/4/24

**SAMPLING DATA**

Sample Date: 4-4-24  
Sample Method: Stainless Steel Submersible Pump / Low Flow  
VOA Vials, No Headspace  Initials: MM

Sample Time: 1345  
Sample Flow Rate (mL/min): 300

Lab Analysis: VOC, SVOC, PAH  
QA/QC Samples: None

**COMMENTS:**

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

Estimated Total Purge Volume: 5900 mL



**LOW FLOW GROUNDWATER SAMPLING DATA SHEET**

PROJECT NAME: Roxana 2Q24 GW

PROJECT NUMBER: 60721927 - 3.2.1/2/3

FIELD PERSONNEL: M. Masser Jenkins

DATE: 4-12-24

WEATHER: clear, Windy Sk<sup>o</sup>

MONITORING WELL ID: MW-28

SAMPLE ID: MW28-Rox-041224

**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>43.86</u> ft		Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>41.75</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>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): _____ ft btoc	
Screen Length: <u>10</u> ft		
Water Column Height (not including NAPL): <u>2.11</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 1 FT BELOW TOP OF SCREEN OR WATER (WHICHEVER IS DEEPER): <u>42.75</u> ft btoc	

**PURGE DATA**

Pump Type: Stainless Steel Submersible Pump      STABLE: (over 4 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	0936	41.83	cloudy	mod. HO	17.9	1.06	2.016 mS/cm uS/cm	6.43	55.57	115.6
300	0939	41.83	↓	↓	18.2	0.92	2.042 mS/cm uS/cm	6.44	45.49	95.5
600	0938	41.83	↓	↓	18.3	0.85	2.071 mS/cm uS/cm	6.46	36.18	65.4
900	0939	↓	↓	↓	18.3	0.79	2.090 mS/cm uS/cm	6.48	27.12	46.6
1200	0940	↓	↓	↓	18.1	0.75	2.112 mS/cm uS/cm	6.56	19.08	46.4
1500	0941	↓	↓	↓	18.3	0.72	2.102 mS/cm uS/cm	6.51	11.77	53.6
1800	0942	↓	↓	↓	18.3	0.69	2.189 mS/cm uS/cm	6.52	5.50	45.4
2100	0943	↓	↓	↓	18.3	0.65	2.109 mS/cm uS/cm	6.53	-0.88	34.2
2400	0944	↓	↓	↓	18.3	0.63	2.111 mS/cm uS/cm	6.54	-5.67	24.2
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			

*M. Masser* 4/12/24

Start Time: 0936

Elapsed Time (min): 8

Water Quality Meter ID & SN: YSI ProDSS -- 49551/43906

Stop Time: 0944

Average Purge Rate (mL/min): 300

Date Calibrated: 4-12-24

**SAMPLING DATA**

Sample Date: 4-12-24

Sample Time: 0950

Lab Analysis: VOC, SVOC, PAH

Sample Method: Stainless Steel Submersible Pump / Low Flow

Sample Flow Rate (mL/min): 300

QA/QCSamples: none

VOA Vials, No Headspace  Initials: MM

**COMMENTS:**

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

Estimated Total Purge Volume: 2400 mL



LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q24 GW

PROJECT NUMBER: 60721927 - 3.2.1/2/3

FIELD PERSONNEL: J. Mayer T. Jenkins

DATE: 4-8-2024

WEATHER: 68°F Clear

MONITORING WELL ID: P-54

SAMPLE ID: PS4-ROX-040824

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>63.00</u> ft		Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>42.32</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>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>47.32</u> ft btoc	
Screen Length: <u>25</u> ft		
Water Column Height (not including NAPL): <u>20 - 68</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 1 FT BELOW TOP OF SCREEN OR WATER (WHICHEVER IS DEEPER): _____ ft btoc	

PURGE DATA

Pump Type: Stainless Steel Submersible Pump STABLE: (over 4 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	1043	42.36	Clear	None	19.6	2.27	1.301 mS/cm uS/cm	6.75	141.7	79.53
300	1044	42.55	↓	↓	19.7	2.13	1.295 mS/cm uS/cm	6.67	149.0	76.57
600	1045	↓	↓	↓	19.8	2.14	1.289 mS/cm uS/cm	6.67	131.3	73.67
900	1046	↓	↓	↓	19.9	2.16	1.286 mS/cm uS/cm	6.66	132.8	69.41
1200	1047	↓	↓	↓	19.9	2.22	1.275 mS/cm uS/cm	6.66	154.4	63.88
1500	1048	↓	↓	↓	19.9	2.27	1.273 mS/cm uS/cm	6.66	155.1	60.16
1800	1049	↓	↓	↓	19.9	2.33	1.269 mS/cm uS/cm	6.66	155.7	58.29
2100	1050	↓	↓	↓	19.8	2.37	1.264 mS/cm uS/cm	6.67	156.4	56.17
2400	1051	↓	↓	↓	19.7	2.40	1.263 mS/cm uS/cm	6.67	157.3	53.36
2700	1052	↓	↓	↓	19.6	2.42	1.262 mS/cm uS/cm	6.66	158.8	48.73
							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: 1043  
Stop Time: 1052

Elapsed Time (min): 9  
Average Purge Rate (mL/min): 300

Water Quality Meter ID & SN: YSI ProDSS 49551/43906  
Date Calibrated: 4-8-24

SAMPLING DATA

Sample Date: 4-8-2024  
Sample Method: Stainless Steel Submersible Pump / Low Flow  
VOA Vials, No Headspace  Initials: JM

Sample Time: 1100  
Sample Flow Rate (mL/min): 300

Lab Analysis: VOC, SVOC, PAH  
QA/QC Samples: MS/MSD

COMMENTS:

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

Estimated Total Purge Volume: 2700 mL











**LOW FLOW GROUNDWATER SAMPLING DATA SHEET**

PROJECT NAME: Roxana 2Q24 GW

PROJECT NUMBER: 60721927 - 3.2.1/2/3

FIELD PERSONNEL: Mmeysa Echara

DATE: 4-18-24

WEATHER: overcast 69°

MONITORING WELL ID: P-57

SAMPLE ID: P57-Rox-041824

**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>54.19</u> ft	ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>47.06</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>50.63</u> ft btoc	Wellbore PID/FID Reading: <u>0.7</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	ft btoc	
Water Column Height (not including NAPL): <u>7.13</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 1 FT BELOW TOP OF SCREEN OR WATER (WHICHEVER IS DEEPER):	ft btoc

**PURGE DATA**

Pump Type: Stainless Steel Submersible Pump STABLE: (over 4 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	1044	47.46	Clear	Strong HO	19.2	1.48	0.928 mS/cm uS/cm	6.66	79.44	1.6
300	1045	47.50	↓	↓	19.2	1.25	0.928 mS/cm uS/cm	6.65	75.82	1.6
600	1046	47.50	↓	↓	19.4	1.05	0.928 mS/cm uS/cm	6.64	69.80	1.4
900	1047	47.50	↓	↓	19.6	0.91	0.929 mS/cm uS/cm	6.64	59.76	1.9
1200	1048	↓	↓	↓	19.5	0.87	0.929 mS/cm uS/cm	6.65	55.42	1.7
1500	1049	↓	↓	↓	19.6	0.81	0.929 mS/cm uS/cm	6.65	48.23	1.5
1800	1050	↓	↓	↓	19.6	0.76	0.929 mS/cm uS/cm	6.65	41.37	1.0
							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: 1044

Elapsed Time (min): 6

Water Quality Meter ID & SN: YSI ProDSS -- 043907/43906

Stop Time: 1050

Average Purge Rate (mL/min): 300

Date Calibrated: 4-18-24

**SAMPLING DATA**

Sample Date: 4-18-24

Sample Time: 1055

Lab Analysis: VOC, SVOC, PAH

Sample Method: Stainless Steel Submersible Pump / Low Flow

Sample Flow Rate (mL/min): 300

QA/QCSamples: DUP

VOA Vials, No Headspace  Initials: mm

**COMMENTS:**

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

Estimated Total Purge Volume: 1800 mL



**LOW FLOW GROUNDWATER SAMPLING DATA SHEET**

PROJECT NAME: Roxana 2Q24 GW PROJECT NUMBER: 60721927 - 3.2.1/2/3 FIELD PERSONNEL: Mmana Tanking

DATE: 4/17/24 WEATHER: clear, windy 65°

MONITORING WELL ID: P-58 SAMPLE ID: P58-ROX-041724

**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>65.21</u> ft	ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>44.83</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>Nil</u> ft	ft btoc	Wellbore PID/FID Reading: <u>0.0</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>49.83</u> ft btoc	
Screen Length: <u>25</u> ft		
Water Column Height (not including NAPL): <u>20.38</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 1 FT BELOW TOP OF SCREEN OR WATER (WHICHEVER IS DEEPER): _____ ft btoc	

**PURGE DATA**

Pump Type: Stainless Steel Submersible Pump STABLE: (over 4 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	0920	44.93	slight cloudy black	Strong HO	20.5	1.86	1.481 mS/cm uS/cm	6.57	106.09	32.6
300	0921	44.93			20.7	1.17	1.481 mS/cm uS/cm	6.53	117.52	36.9
600	0922	44.93			20.8	0.93	1.483 mS/cm uS/cm	6.52	97.95	35.5
900	0923				21.0	0.83	1.484 mS/cm uS/cm	6.50	83.05	34.3
1200	0924				21.1	0.77	1.483 mS/cm uS/cm	6.50	72.56	34.1
1500	0925				21.2	0.71	1.486 mS/cm uS/cm	6.50	61.56	31.6
1800	0926				21.1	0.60	1.482 mS/cm uS/cm	6.50	51.53	28.3
2100	0927				21.2	0.61	1.487 mS/cm uS/cm	6.50	42.57	27.6
2400	0928				21.7	0.55	1.488 mS/cm uS/cm	6.50	33.91	27.3
2700	0929				21.9	0.51	1.492 mS/cm uS/cm	6.50	26.48	27.4
3000	0930				21.9	0.50	1.494 mS/cm uS/cm	6.50	19.28	27.9
3300	0931				21.4	0.48	1.493 mS/cm uS/cm	6.52	12.21	24.5
3600	0932				21.4	0.46	1.494 mS/cm uS/cm	6.52	6.95	23.4
							mS/cm uS/cm			
							mS/cm uS/cm			

Start Time: 0920 Elapsed Time (min): 12 Water Quality Meter ID & SN: YSI ProDSS -- 043907/42906  
 Stop Time: 0932 Average Purge Rate (mL/min): 300 Date Calibrated: 4-17-24

**SAMPLING DATA**

Sample Date: 4-17-24 Sample Time: 0935 Lab Analysis: VOC, SVOC, PAH  
 Sample Method: Stainless Steel Submersible Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: NONE  
 VOA Vials, No Headspace  Initials: mm

**COMMENTS:**

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

Estimated Total Purge Volume: 3600 mL























**LOW FLOW GROUNDWATER SAMPLING DATA SHEET**

PROJECT NAME: Roxana 2Q24 GW PROJECT NUMBER: 60721927 - 3.2.1/2/3 FIELD PERSONNEL: J. Mayer ; E. Chalfant  
 DATE: 04/19/24 WEATHER: 60°, Clear

MONITORING WELL ID: P-93B SAMPLE ID: P93B-ROX-041924 / P93B-WRR-041924

**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>76.78</u> ft	ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>46.60</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	ft btoc	Wellbore PID/FID Reading: <u>0.0</u> ppm
Depth to Top of Screen (btoc): <u>74.78</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	ft btoc	
Water Column Height (not including NAPL): <u>30.18</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 1 FT BELOW TOP OF SCREEN OR WATER (WHICHEVER IS DEEPER):	<u>75.78</u> ft btoc

**PURGE DATA**

Pump Type: Stainless Steel Submersible Pump STABLE: (over 4 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	1258	46.63	clear	slight	17.5	1.98	1.762 (mS/cm) uS/cm	6.73	-34.1	9.54
300	1259	↓	↓	↓	17.6	1.11	1.271 (mS/cm) uS/cm	6.69	-51.2	5.83
600	1300	↓	↓	↓	17.6	0.91	1.271 (mS/cm) uS/cm	6.69	-62.9	4.98
900	1301	↓	↓	↓	17.5	0.83	1.272 (mS/cm) uS/cm	6.69	-69.9	4.84
1200	1302	↓	↓	↓	17.5	0.77	1.271 (mS/cm) uS/cm	6.69	-76.2	4.80
1500	1303	↓	↓	↓	17.5	0.74	1.270 (mS/cm) uS/cm	6.70	-81.8	4.92
							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			

*606 04/19/24*

Start Time: 1258 Elapsed Time (min): 5 min. Water Quality Meter ID & SN: YSI ProDSS - 50033/45985  
 Stop Time: 1303 Average Purge Rate (mL/min): 300 Date Calibrated: 04-19-24

**SAMPLING DATA**

Sample Date: 04/19/24 Sample Time: 1310 Lab Analysis: VOC, SVOC, PAH  
 Sample Method: Stainless Steel Submersible Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: N/A  
 VOA Vials, No Headspace  Initials: EOC

**COMMENTS:**

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

Estimated Total Purge Volume: 1500 mL







LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q24 GW PROJECT NUMBER: 60721927 - 3.2.1/2/3 FIELD PERSONNEL: M. Masse, Jenkins  
 DATE: 4/22/24 WEATHER: clear 51°

MONITORING WELL ID: P-93D SAMPLE ID: P93D - ROX - 042224

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>127.91</u> ft	ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL
Depth to Water (btoc): <u>46.72</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>NL</u> ft	ft btoc	Wellbore PID/FID Reading: <u>0.0</u> ppm
Depth to Top of Screen (btoc): <u>125.66</u> ft	IF SCREEN & WATER COLUMN >10 FT - PUMP INTAKE AT 5 FT BELOW TOP OF SCREEN OR TOP OF WATER (WHICHEVER IS DEEPER):	ft btoc
Screen Length: <u>2</u> ft	IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT - PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	ft btoc
Water Column Height (not including NAPL): <u>81.19</u> ft	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT - PUMP INTAKE AT 1 FT BELOW TOP OF SCREEN OR WATER (WHICHEVER IS DEEPER):	<u>126.66</u> ft btoc

PURGE DATA

Pump Type: Dedicated Well Wizard STABLE: (over 4 readings) Monitor Temp. +/-10% +/-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	1034	<u>46.72</u>	<u>clear</u>	<u>slight HO</u>	<u>17.7</u>	<u>1.73</u>	<u>0.951</u> mS/cm uS/cm	<u>7.00</u>	<u>48.47</u>	<u>1.5</u>
300	1035	↓	↓	↓	<u>17.7</u>	<u>1.62</u>	<u>0.952</u> mS/cm uS/cm	<u>7.00</u>	<u>47.14</u>	<u>1.2</u>
600	1030	↓	↓	↓	<u>17.7</u>	<u>1.51</u>	<u>0.954</u> mS/cm uS/cm	<u>7.00</u>	<u>45.43</u>	<u>0.9</u>
900	1037	↓	↓	↓	<u>17.7</u>	<u>1.45</u>	<u>0.956</u> mS/cm uS/cm	<u>7.01</u>	<u>43.75</u>	<u>0.6</u>
1200	1038	↓	↓	↓	<u>17.8</u>	<u>1.39</u>	<u>0.960</u> mS/cm uS/cm	<u>7.01</u>	<u>42.02</u>	<u>0.7</u>
1500	1039	↓	↓	↓	<u>17.7</u>	<u>1.26</u>	<u>0.963</u> mS/cm uS/cm	<u>7.01</u>	<u>40.60</u>	<u>0.7</u>
1800	1040	↓	↓	↓	<u>17.8</u>	<u>1.30</u>	<u>0.964</u> mS/cm uS/cm	<u>7.01</u>	<u>38.26</u>	<u>0.0</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			

Start Time: 1034 Elapsed Time (min): 6 Water Quality Meter ID & SN: YSI ProDSS - 043907/43906  
 Stop Time: 1040 Average Purge Rate (mL/min): 300 Date Calibrated: 4/22/24

SAMPLING DATA

Sample Date: 4/22/24 Sample Time: 1045 Lab Analysis: VOC, SVOC, PAH  
 Sample Method: Bladder Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QCSamples: None  
 VOA Vials, No Headspace  Initials: mm

COMMENTS:

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

Estimated Total Purge Volume: 1800 mL



**LOW FLOW GROUNDWATER SAMPLING DATA SHEET**

PROJECT NAME: Roxana 2Q24 GW PROJECT NUMBER: 60721927 - 3.2.1/2/3 FIELD PERSONNEL: Nmaysa Hanklar  
 DATE: 4/15/24 WEATHER: Clear 77°

MONITORING WELL ID: P-114R SAMPLE ID: P114R-Rox-041524

INITIAL DATA		IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN - PUMP INTAKE AT MIDPOINT OF SCREEN:		Volume of Flow Through Cell : <u>320*</u> mL	
Well Diameter): <u>2</u> in				Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL	
Total Well Depth (btoc): <u>33.31</u> ft				Ambient PID/FID Reading: <u>0.0</u> ppm	
Depth to Water (btoc): <u>28.65</u> ft		IF SCREEN ≤10 FT & WATER WITHIN SCREEN - PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	<u>31.00</u> ft btoc	Wellbore PID/FID Reading: <u>0.7</u> ppm	
Depth to LNAPL/DNAPL (btoc): <u>NE</u> ft					
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):	<u>—</u> ft btoc		
Screen Length: <u>10</u> ft					
Water Column Height (not including NAPL): <u>4.63</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 1 FT BELOW TOP OF SCREEN OR WATER (WHICHEVER IS DEEPER):	<u>—</u> ft btoc		

**PURGE DATA**  
 Pump Type: Stainless Steel Submersible Pump STABLE: (over 4 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	1210	28.85	Slight cloudy	mod. HO	23.6	1.00	1.466 mS/cm uS/cm	6.82	30.78	37.5
300	1211	28.85	↓	↓	23.6	0.82	1.449 mS/cm uS/cm	6.76	14.20	29.9
600	1212	28.85	↓	↓	23.5	0.71	1.440 mS/cm uS/cm	6.71	1.51	26.9
900	1213	↓	↓	↓	23.6	0.64	1.427 mS/cm uS/cm	6.68	-8.70	25.0
1200	1214	↓	↓	↓	23.7	0.60	1.418 mS/cm uS/cm	6.65	-10.90	23.0
1500	1215	↓	↓	↓	23.7	0.57	1.406 mS/cm uS/cm	6.64	-23.47	19.9
1800	1216	↓	↓	↓	23.8	0.54	1.395 mS/cm uS/cm	6.63	-29.41	17.8
2100	1217	↓	↓	↓	23.8	0.52	1.384 mS/cm uS/cm	6.63	-33.99	14.9
							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			

*Nmaysa Hanklar* 4/15/24

Start Time: 1210 Elapsed Time (min): 7 Water Quality Meter ID & SN: YSI ProDSS -- 50633/43096  
 Stop Time: 1217 Average Purge Rate (mL/min): 300 Date Calibrated: 4/15/24

**SAMPLING DATA**  
 Sample Date: 4/15/24 Sample Time: 1225 Lab Analysis: VOC, SVOC, PAH  
 Sample Method: Stainless Steel Submersible Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QCSamples: NONE  
 VOA Vials, No Headspace  Initials: MM

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

Estimated Total Purge Volume: 2100 mL



**LOW FLOW GROUNDWATER SAMPLING DATA SHEET**

PROJECT NAME: Roxana 2Q24 GW PROJECT NUMBER: 60721927 - 3.2.1/2/3 FIELD PERSONNEL: T. Jenkins, E. Chalfant  
 DATE: 04/16 WEATHER: 75°, WINDY / OVERCAST

MONITORING WELL ID: ROST-3-MW SAMPLE ID: ROST3MW-ROX-041624

INITIAL DATA		IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN - PUMP INTAKE AT MIDPOINT OF SCREEN:		Volume of Flow Through Cell: <u>320*</u> mL	
Well Diameter): <u>2</u> in			ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL	
Total Well Depth (btoc): <u>48.06</u> ft		IF SCREEN ≤10 FT & WATER WITHIN SCREEN - PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	<u>42.81</u> ft btoc	Ambient PID/FID Reading: <u>0.0</u> ppm	
Depth to Water (btoc): <u>42.23</u> ft				Wellbore PID/FID Reading: <u>0.0</u> ppm	
Depth to LNAPL/DNAPL (btoc): <u>NE</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		
Depth to Top of Screen (btoc): <u>37.81</u> ft					
Screen Length: <u>10</u> ft		IF SCREEN >10 FT & WATER COLUMN HEIGHT <10 FT - PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT:	ft btoc		
Water Column Height (not including NAPL): <u>10.15</u> ft		IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT - PUMP INTAKE AT 1 FT BELOW TOP OF SCREEN OR WATER (WHICHEVER IS DEEPER):	ft btoc		

**PURGE DATA**  
 Pump Type: Stainless Steel Submersible Pump STABLE: (over 4 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	1005	42.38	clear	none	19.6	1.03	1.096 mS/cm uS/cm	6.29	41.1	5.66
300	1006				19.8	0.88	1.098 mS/cm uS/cm	6.26	33.1	5.03
600	1007				20.1	0.80	1.090 mS/cm uS/cm	6.30	25.9	5.51
900	1009				20.1	0.73	1.091 mS/cm uS/cm	6.30	18.4	3.18
1200	1010				20.2	0.69	1.099 mS/cm uS/cm	6.31	11.6	3.05
1500	1011				20.3	0.66	1.090 mS/cm uS/cm	6.32	5.3	2.59
1800	1012				20.4	0.64	1.091 mS/cm uS/cm	6.33	-0.7	1.93
2100	1013				20.5	0.62	1.089 mS/cm uS/cm	6.34	-0.0	1.55
							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: 1005 Elapsed Time (min): 8 min Water Quality Meter ID & SN: YSI ProDSS -- 049551/43906  
 Stop Time: 1013 Average Purge Rate (mL/min): 300 Date Calibrated: 04-16-24

**SAMPLING DATA**  
 Sample Date: 04-16-24 Sample Time: 1020 Lab Analysis: VOC, SVOC, PAH  
 Sample Method: Stainless Steel Submersible Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: NS  
 VOA Vials, No Headspace  Initials: EL

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

Estimated Total Purge Volume: 2100 mL



**LOW FLOW GROUNDWATER SAMPLING DATA SHEET**

PROJECT NAME: Roxana 2Q24 GW PROJECT NUMBER: 60721927 - 3.2.1/2/3 FIELD PERSONNEL: T. Jenkins, E. Phalfant

DATE: 04/16/24 WEATHER: 70°, Overcast

MONITORING WELL ID: ROST-4-PZ(C) SAMPLE ID: ROST4PZC-ROX-041624

**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>42.20</u> ft	IF SCREEN ≤10 FT & WATER WITHIN SCREEN - PUMP INTAKE AT MIDPOINT OF WATER COLUMN HEIGHT: <u>43.7</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 (WHICHEVER IS DEEPER): _____ ft btoc	
Screen Length: <u>10</u> ft		
Water Column Height (not including NAPL): <u>3.0</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 1 FT BELOW TOP OF SCREEN OR WATER (WHICHEVER IS DEEPER): _____ ft btoc	

**PURGE DATA**

Pump Type: Stainless Steel Submersible Pump STABLE: (over 4 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	11:59	42.50	clear	strong	20.7	1.73	1.639 (mS/cm) uS/cm	6.66	-29.8	17.7
300	12:00				20.7	1.28	1.608 (mS/cm) uS/cm	6.64	-45.9	9.73
600	12:01				20.8	1.06	1.578 (mS/cm) uS/cm	6.64	-52.9	7.85
900	12:02				20.6	0.87	1.526 (mS/cm) uS/cm	6.65	-57.4	6.55
1200	12:03				20.1	0.78	1.482 (mS/cm) uS/cm	6.67	-59.5	4.23
1500	12:04				19.8	0.71	1.451 (mS/cm) uS/cm	6.68	-61.1	2.41
1800	12:05				19.7	0.66	1.419 (mS/cm) uS/cm	6.68	-62.4	1.72
2100	12:06				19.7	0.64	1.411 (mS/cm) uS/cm	6.69	-63.3	0.78
							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: 11:59 Elapsed Time (min): \_\_\_\_\_ Water Quality Meter ID & SN: YSI ProDSS ..049551/43906  
 Stop Time: 12:06 Average Purge Rate (mL/min): 300 Date Calibrated: 04-16-24

**SAMPLING DATA**

Sample Date: 04/16/24 Sample Time: 12:15 Lab Analysis: VOC, SVOC, PAH  
 Sample Method: Stainless Steel Submersible Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: DUP  
 VOA Vials, No Headspace  Initials: sol

**COMMENTS:**

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

Estimated Total Purge Volume: 2100 mL



LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2Q24 GW

PROJECT NUMBER: 60721927 - 3.2.1/2/3

FIELD PERSONNEL: T. Jenkins ; E. Chalford

DATE: 04/16/24

WEATHER: 75°, WINDY

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

SAMPLE ID: ROST4PZE-ROX-041624

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>45.00</u> ft		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: _____ ft btoc	Ambient PID/FID Reading: <u>0.0</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>NE</u> ft	<u>41.75</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): _____ ft btoc	
Screen Length: <u>10</u> ft		
Water Column Height (not including NAPL): <u>4.50</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 1 FT BELOW TOP OF SCREEN OR WATER (WHICHEVER IS DEEPER): _____ ft btoc	

PURGE DATA

Pump Type: Stainless Steel Submersible Pump STABLE: (over 4 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. (mS/cm uS/cm)	pH	ORP (mV)	Turb (NTU)
0	<del>1320</del> 1324	41.4	clear	moderate	21.9	2.44	1.570 (mS/cm uS/cm)	6.80	99.2	8.7
300	13 22				21.7	1.95	1.588 (mS/cm uS/cm)	6.75	73.9	7.09
600	13 22				22.2	1.56	1.515 (mS/cm uS/cm)	6.67	41.6	6.73
900	13 24				22.1	1.32	1.608 (mS/cm uS/cm)	6.67	11.5	4.65
1200	13 25				21.9	1.19	1.607 (mS/cm uS/cm)	6.67	-6.6	4.61
1500	13 26				21.9	1.07	1.608 (mS/cm uS/cm)	6.67	-18.5	3.71
1800	<del>13 27</del> 13 27				21.9	1.03	1.606 (mS/cm uS/cm)	6.67	-28.1	2.89
2100	13 28				21.9	0.99	1.607 (mS/cm uS/cm)	6.66	-35.7	1.74
2400	13 29				21.9	0.94	1.609 (mS/cm uS/cm)	6.66	-42.9	0.99
2700	13 30				21.8	0.89	1.612 (mS/cm uS/cm)	6.66	-47.8	0.29
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			

Start Time: 1320 1324

Elapsed Time (min): 9 min

Water Quality Meter ID & SN: YSI ProDSS ..49551/23906

Stop Time: 1330

Average Purge Rate (mL/min): 300

Date Calibrated: 04/16/24

SAMPLING DATA

Sample Date: 04/16/24

Sample Time: 1340

Lab Analysis: VOC, SVOC, PAH

Sample Method: Stainless Steel Submersible Pump / Low Flow

Sample Flow Rate (mL/min): 300

QA/QCSamples: NS

VOA Vials, No Headspace  Initials: GC

COMMENTS:

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

Estimated Total Purge Volume: 2700 mL



LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Roxana 2424 GW PROJECT NUMBER: 6071921-3.2 FIELD PERSONNEL: M. Massa T. Jenkins  
 DATE: 4-5-24 WEATHER: partly cloudy 48°

MONITORING WELL ID: ROST 4PZG SAMPLE ID: ROST 4PZG-ROX-040524

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>44.53</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>42.23</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	Ambient PID/FID Reading: <u>0.0</u> ppm
Depth to LNAPL/DNAPL (btoc): <u>NL</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>0.0</u> ppm
Depth to Top of Screen (btoc): <u>34.28</u> ft	IF SCREEN AND/OR WATER COLUMN HEIGHT <4 FT - PUMP INTAKE AT 1 FT BELOW TOP OF SCREEN OR WATER (WHICHEVER IS DEEPER): <u>43.23</u> ft btoc	
Screen Length: <u>10</u> ft		
Water Column Height (not including NAPL): <u>2.20</u> ft		

PURGE DATA

Pump Type: Stainless Steel Submersible Pump STABLE: (over 4 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	12:23	12.15	Bright cloudy	Mud. 190	19.5	0.88	1,323 mS/cm uS/cm	7.04	-63.45	24.2
300	12:16	42.23	↓	↓	19.3	0.77	1,323 mS/cm uS/cm	7.03	-75.79	21.0
600	12:17	42.23	↓	↓	19.2	0.72	1,319 mS/cm uS/cm	7.02	-84.59	17.8
900	12:18	↓	↓	↓	19.3	0.67	1,319 mS/cm uS/cm	7.02	-90.91	17.8
1200	12:19	↓	↓	↓	19.2	0.64	1,320 mS/cm uS/cm	7.02	-96.02	18.4
1500	12:20	↓	↓	↓	19.3	0.60	1,219 mS/cm uS/cm	7.02	-100.53	18.2
							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: 12:15 Elapsed Time (min): 5 Water Quality Meter ID & SN: YSI ProDSS -- 049551/43900  
 Stop Time: 12:20 Average Purge Rate (mL/min): 300 Date Calibrated: 4/5/24

SAMPLING DATA

Sample Date: 4/5/24 Sample Time: 12:25 Lab Analysis: VOC, SVOC, PAH  
 Sample Method: Stainless Steel Submersible Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QC Samples: None EB  
 VOA Vials, No Headspace  Initials: MM

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 2Q24 GW PROJECT NUMBER: 60721927 - 3.2.1/2/3 FIELD PERSONNEL: J. Mayer, E. Chalfant  
 DATE: 04-19-24 WEATHER: 60°, Clear

MONITORING WELL ID: T-12 SAMPLE ID: T12-ROX-041924 / T12-WR2-041924

INITIAL DATA		IF SCREEN ≤10 FT & WATER ABOVE TOP OF SCREEN - PUMP INTAKE AT MIDPOINT OF SCREEN:		Volume of Flow Through Cell : <u>320*</u> mL	
Well Diameter): <u>6</u> in			ft btoc	Minimum Purge Volume = (3 x Flow Cell Volume): <u>960</u> mL	
Total Well Depth (btoc): <u>72.83</u> ft			ft btoc	Ambient PID/FID Reading: <u>0.0</u> ppm	
Depth to Water (btoc): <u>45.19</u> ft			ft btoc	Wellbore PID/FID Reading: <u>0.4</u> ppm	
Depth to LNAPL/DNAPL (btoc): <u>N/A</u> ft			ft btoc		
Depth to Top of Screen (btoc): <u>46.83</u> ft			ft btoc		
Screen Length: <u>26</u> ft			ft btoc		
Water Column Height (not including NAPL): <u>11.7</u> ft			ft btoc		
			ft btoc		
			ft btoc		

PURGE DATA  
 Pump Type: Stainless Steel Submersible Pump STABLE: (over 4 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	0930	45.19	clear	moderate	19.4	0.78	1.62 (mS/cm) uS/cm	6.57	-94.2	0.73
300	0931	↓	↓	↓	19.5	0.73	1.622 (mS/cm) uS/cm	6.57	-104.5	0.88
600	0932	↓	↓	↓	19.5	0.70	1.621 (mS/cm) uS/cm	6.59	-112.8	1.39
900	0933	↓	↓	↓	19.4	0.68	1.621 (mS/cm) uS/cm	6.61	-120.2	1.38
1200	0934	↓	↓	↓	19.5	0.66	1.620 (mS/cm) uS/cm	6.62	-125.8	1.23
1500	0935	↓	↓	↓	19.5	0.65	1.620 (mS/cm) uS/cm	6.65	-131.8	1.20
							mS/cm uS/cm			
							mS/cm uS/cm			
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							mS/cm uS/cm			
							mS/cm uS/cm			
							mS/cm uS/cm			

90L 04/19/24

Start Time: 0930 Elapsed Time (min): 5 min Water Quality Meter ID & SN: YSI ProDSS - 50633/45985  
 Stop Time: 0935 Average Purge Rate (mL/min): 300 Date Calibrated: 04-19-24

SAMPLING DATA  
 Sample Date: 04-19-24 Sample Time: 0940 Lab Analysis: VOC, SVOC, PAH  
 Sample Method: Stainless Steel Submersible Pump / Low Flow Sample Flow Rate (mL/min): 300 QA/QCSamples: NS  
 VOA Vials, No Headspace  Initials: gol

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

Estimated Total Purge Volume: 1500 mL

# Appendix C

## Data Review/Validation Forms and Laboratory Analytical Reports

# Roxana Groundwater Quarterly – 2<sup>nd</sup> Quarter 2024 Data Review

Laboratory SDG: 400-253923-1

Data Reviewer: Andreia Vladimirescu

Peer Reviewer: Cheyana Cokley

Date Reviewed: 05/15/2024

Guidance: USEPA National Functional Guidelines for Organic Superfund Methods Data Review 2020

Sample Identification	Sample Identification
TB-ROX-040424-8260	TB-ROX-040424-8011
MW1-ROX-040424-EB	MW1-ROX-040424
MW26-ROX-040424	MW10-ROX-040424
MW27-ROX-040424	-

## 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 that PAHs in samples MW1-ROX-040424, MW10-ROX-040424 and MW27-ROX-040424 were re-extracted outside extraction time criteria. 2-Methylnaphthalene was detected in a PAH method blank. LCS recovery for pyridine was outside evaluation criteria. The continuing calibration verifications (CCV) for several analytes were outside evaluation criteria, biased low. These issues are addressed further in the appropriate sections of this data review.

Three of 70 (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?*

No, PAHs in samples MW1-ROX-040424, MW10-ROX-040424 and MW27-ROX-040424 were re-extracted 7 days outside of extraction time criteria (7 days) for confirmation due to method blank detections. Holding time exceedances were not greater than two times (2X) criteria. The results for the re-extracted and re-analyzed samples were comparable to the initial results; both sets of data are reported. Based on professional judgement, the results from the initial analysis were used for the purposes of this report.

## 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 400-667656/1-A	PAHs	2-Methylnaphthalene	0.0893 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
MW1-ROX-040424	PAHs	2-Methylnaphthalene	-	U
MW10-ROX-040424	PAHs	2-Methylnaphthalene	-	U
MW27-ROX-040424	PAHs	2-Methylnaphthalene	-	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 400-667656/2-A	SVOCs	Pyridine	6	NA	10-82

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 pyridine below evaluation criteria; pyridine has been identified as poor performing analytes under Method 8270.

Sample ID	Parameter	Analyte	Qualification
MW1-ROX-040424	SVOCs	Pyridine	UJ
MW26-ROX-040424	SVOCs	Pyridine	UJ
MW10-ROX-040424	SVOCs	Pyridine	UJ
MW27-ROX-040424	SVOCs	Pyridine	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?*

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 (CCV) for several analytes, were outside evaluation criteria, biased low. Pyridine in samples MW1-ROX-040424, MW26-ROX-040424, MW10-ROX-040424, and MW27-ROX-040424 was previously qualified in Section 5.0 of this data review due to laboratory control sample recoveries outside criteria. Analytes are qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
MW1-ROX-040424	VOCs by 8011	1,2-Dibromo-3-Chloropropane	UJ
MW1-ROX-040424	VOCs by 8011	1,2-Dibromoethane	UJ
MW26-ROX-040424	VOCs by 8011	1,2-Dibromo-3-Chloropropane	UJ
MW26-ROX-040424	VOCs by 8011	1,2-Dibromoethane	UJ
MW10-ROX-040424	VOCs by 8011	1,2-Dibromo-3-Chloropropane	UJ
MW10-ROX-040424	VOCs by 8011	1,2-Dibromoethane	UJ
MW27-ROX-040424	VOCs by 8011	1,2-Dibromo-3-Chloropropane	UJ
MW27-ROX-040424	VOCs by 8011	1,2-Dibromoethane	UJ



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Melissa Remiger  
AECOM Technical Services Inc.  
100 N. Broadway  
20th Floor  
St. Louis, Missouri 63102

Generated 4/19/2024 6:34:16 PM

## JOB DESCRIPTION

ROXANA QUARTERLY GW

## JOB NUMBER

400-253923-1

Reviewed 05/15/2024  
VA



# Eurofins Pensacola

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

## Authorization



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# Case Narrative

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

Job ID: 400-253923-1

**Job ID: 400-253923-1**

**Eurofins Pensacola**

## Job Narrative 400-253923-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 4/5/2024 9:31 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 0.0°C, 0.0°C and 0.2°C.

### GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-668071 recovered above the upper control limit for 1,1-Dichloroethane, 1,2-Dichloropropane, Acrolein and cis-1,3-Dichloropropene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The preservative used in the sample containers provided is not compatible with one of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-ROX-040424-8260 (400-253923-1), MW1-ROX-040424-EB (400-253923-3), MW1-ROX-040424 (400-253923-4), MW26-ROX-040424 (400-253923-5), MW10-ROX-040424 (400-253923-6) and MW27-ROX-040424 (400-253923-7). The requested target analyte list includes 2-Chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrades 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 8270E: The initial calibration verification (ICV) analyzed in batch 400-663332 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 8270E: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-667656 and analytical batch 400-667806 recovered outside control limits for the following analyte(s): Pyridine. Pyridine has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method 8270E: The continuing calibration verification (CCV) associated with batch 400-667808 recovered outside acceptance criteria, low biased, for Pyridine. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8270E\_SIM: The method blank for preparation batch 400-667656 and analytical batch 400-667751 contained 2-Methylnaphthalene above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8270E\_SIM: The continuing calibration verification (CCV) associated with batch 400-668080 recovered above the upper control limit for Anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene and Benzo[k]fluoranthene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 400-668080/6).

Method 8270E\_SIM: The following samples were re-prepared outside of preparation holding time due to method blank contamination: MW1-ROX-040424 (400-253923-4), MW10-ROX-040424 (400-253923-6) and MW27-ROX-040424 (400-253923-7). Both sets of data are reported.

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

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# Case Narrative

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

Job ID: 400-253923-1

**Job ID: 400-253923-1 (Continued)**

**Eurofins Pensacola**

## GC Semi VOA

Method 8011: The continuing calibration verification (CCV) associated with batch 400-667378 recovered outside acceptance criteria, low biased, for 1,2-Dibromo-3-Chloropropane and 1,2-Dibromoethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

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

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# Sample Summary

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

Job ID: 400-253923-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-253923-1	TB-ROX-040424-8260	Water	04/04/24 00:00	04/05/24 09:31
400-253923-2	TB-ROX-040424-8011	Water	04/04/24 00:00	04/05/24 09:31
400-253923-3	MW1-ROX-040424-EB	Water	04/04/24 08:45	04/05/24 09:31
400-253923-4	MW1-ROX-040424	Water	04/04/24 10:05	04/05/24 09:31
400-253923-5	MW26-ROX-040424	Water	04/04/24 11:25	04/05/24 09:31
400-253923-6	MW10-ROX-040424	Water	04/04/24 12:35	04/05/24 09:31
400-253923-7	MW27-ROX-040424	Water	04/04/24 13:45	04/05/24 09:31

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# Detection Summary

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

Job ID: 400-253923-1

**Client Sample ID: TB-ROX-040424-8260**

**Lab Sample ID: 400-253923-1**

No Detections.

**Client Sample ID: TB-ROX-040424-8011**

**Lab Sample ID: 400-253923-2**

No Detections.

**Client Sample ID: MW1-ROX-040424-EB**

**Lab Sample ID: 400-253923-3**

No Detections.

**Client Sample ID: MW1-ROX-040424**

**Lab Sample ID: 400-253923-4**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Anthracene	0.051	J	0.20	0.047	ug/L	1		8270E SIM	Total/NA
Fluoranthene	0.036	J	0.20	0.034	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	0.10	J B <b>U</b>	0.20	0.066	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene - RERA	0.17	J H	0.20	0.065	ug/L	1		8270E SIM	Total/NA

**Client Sample ID: MW26-ROX-040424**

**Lab Sample ID: 400-253923-5**

No Detections.

**Client Sample ID: MW10-ROX-040424**

**Lab Sample ID: 400-253923-6**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Methylnaphthalene	0.076	J B <b>U</b>	0.19	0.063	ug/L	1		8270E SIM	Total/NA

**Client Sample ID: MW27-ROX-040424**

**Lab Sample ID: 400-253923-7**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Methylnaphthalene	0.085	J B <b>U</b>	0.20	0.065	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene - RERA	0.082	J H	0.19	0.064	ug/L	1		8270E SIM	Total/NA

This Detection Summary does not include radiochemical test results.

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# Client Sample Results

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

Job ID: 400-253923-1

**Client Sample ID: TB-ROX-040424-8260**

**Lab Sample ID: 400-253923-1**

**Date Collected: 04/04/24 00:00**

**Matrix: Water**

**Date Received: 04/05/24 09:31**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/16/24 15:45	1
Acrolein	ND		20	3.3	ug/L			04/16/24 15:45	1
Acrylonitrile	ND		10	2.8	ug/L			04/16/24 15:45	1
Benzene	ND		1.0	0.50	ug/L			04/16/24 15:45	1
Bromobenzene	ND		1.0	0.54	ug/L			04/16/24 15:45	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/16/24 15:45	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/16/24 15:45	1
Bromoform	ND		5.0	0.25	ug/L			04/16/24 15:45	1
Bromomethane	ND		1.0	0.98	ug/L			04/16/24 15:45	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/16/24 15:45	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/16/24 15:45	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/16/24 15:45	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/16/24 15:45	1
Chloroethane	ND		1.0	0.76	ug/L			04/16/24 15:45	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/16/24 15:45	1
Chloroform	ND		1.0	0.90	ug/L			04/16/24 15:45	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/16/24 15:45	1
Chloromethane	ND		1.0	0.90	ug/L			04/16/24 15:45	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/16/24 15:45	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/24 15:45	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/16/24 15:45	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/16/24 15:45	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/16/24 15:45	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/16/24 15:45	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/16/24 15:45	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/16/24 15:45	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/16/24 15:45	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/16/24 15:45	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 15:45	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 15:45	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 15:45	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/16/24 15:45	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/16/24 15:45	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/16/24 15:45	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/16/24 15:45	1
2-Hexanone	ND		25	1.4	ug/L			04/16/24 15:45	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/16/24 15:45	1
Methylene bromide	ND		5.0	0.22	ug/L			04/16/24 15:45	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/16/24 15:45	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/16/24 15:45	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/16/24 15:45	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/16/24 15:45	1
Naphthalene	ND		5.0	3.0	ug/L			04/16/24 15:45	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/16/24 15:45	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/16/24 15:45	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/16/24 15:45	1
o-Xylene	ND		5.0	0.60	ug/L			04/16/24 15:45	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/16/24 15:45	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/16/24 15:45	1

# Client Sample Results

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

Job ID: 400-253923-1

**Client Sample ID: TB-ROX-040424-8260**

**Lab Sample ID: 400-253923-1**

**Date Collected: 04/04/24 00:00**

**Matrix: Water**

**Date Received: 04/05/24 09:31**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/16/24 15:45	1
Styrene	ND		1.0	1.0	ug/L			04/16/24 15:45	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/16/24 15:45	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/16/24 15:45	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/16/24 15:45	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/16/24 15:45	1
Toluene	ND		1.0	0.90	ug/L			04/16/24 15:45	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/24 15:45	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/16/24 15:45	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/16/24 15:45	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/16/24 15:45	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/16/24 15:45	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/16/24 15:45	1
Trichloroethene	ND		1.0	0.15	ug/L			04/16/24 15:45	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/16/24 15:45	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/16/24 15:45	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/16/24 15:45	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/16/24 15:45	1
Vinyl acetate	ND		25	0.93	ug/L			04/16/24 15:45	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/16/24 15:45	1
Xylenes, Total	ND		10	1.6	ug/L			04/16/24 15:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	100		72 - 130		04/16/24 15:45	1
Dibromofluoromethane	107		75 - 126		04/16/24 15:45	1
Toluene-d8 (Surr)	90		64 - 132		04/16/24 15:45	1

# Client Sample Results

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

Job ID: 400-253923-1

**Client Sample ID: TB-ROX-040424-8011**

**Lab Sample ID: 400-253923-2**

**Date Collected: 04/04/24 00:00**

**Matrix: Water**

**Date Received: 04/05/24 09:31**

**Method: EPA 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	0.017	ug/L		04/09/24 10:03	04/09/24 16:54	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		04/09/24 10:03	04/09/24 16:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	69	p	51 - 149				04/09/24 10:03	04/09/24 16:54	1

- 1
- 2
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- 14
- 15



# Client Sample Results

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

Job ID: 400-253923-1

**Client Sample ID: MW1-ROX-040424-EB**

**Lab Sample ID: 400-253923-3**

Date Collected: 04/04/24 08:45

Matrix: Water

Date Received: 04/05/24 09:31

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/16/24 16:10	1
Acrolein	ND		20	3.3	ug/L			04/16/24 16:10	1
Acrylonitrile	ND		10	2.8	ug/L			04/16/24 16:10	1
Benzene	ND		1.0	0.50	ug/L			04/16/24 16:10	1
Bromobenzene	ND		1.0	0.54	ug/L			04/16/24 16:10	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/16/24 16:10	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/16/24 16:10	1
Bromoform	ND		5.0	0.25	ug/L			04/16/24 16:10	1
Bromomethane	ND		1.0	0.98	ug/L			04/16/24 16:10	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/17/24 10:22	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/16/24 16:10	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/16/24 16:10	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/16/24 16:10	1
Chloroethane	ND		1.0	0.76	ug/L			04/16/24 16:10	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/16/24 16:10	1
Chloroform	ND		1.0	0.90	ug/L			04/16/24 16:10	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/16/24 16:10	1
Chloromethane	ND		1.0	0.90	ug/L			04/16/24 16:10	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/16/24 16:10	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/24 16:10	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/16/24 16:10	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/16/24 16:10	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/16/24 16:10	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/16/24 16:10	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/16/24 16:10	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/16/24 16:10	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/16/24 16:10	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/16/24 16:10	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 16:10	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 16:10	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 16:10	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/16/24 16:10	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/16/24 16:10	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/16/24 16:10	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/16/24 16:10	1
2-Hexanone	ND		25	1.4	ug/L			04/16/24 16:10	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/16/24 16:10	1
Methylene bromide	ND		5.0	0.22	ug/L			04/16/24 16:10	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/16/24 16:10	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/16/24 16:10	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/16/24 16:10	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/16/24 16:10	1
Naphthalene	ND		5.0	3.0	ug/L			04/16/24 16:10	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/16/24 16:10	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/16/24 16:10	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/16/24 16:10	1
o-Xylene	ND		5.0	0.60	ug/L			04/16/24 16:10	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/16/24 16:10	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/16/24 16:10	1

# Client Sample Results

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

Job ID: 400-253923-1

**Client Sample ID: MW1-ROX-040424-EB**

**Lab Sample ID: 400-253923-3**

Date Collected: 04/04/24 08:45

Matrix: Water

Date Received: 04/05/24 09:31

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/16/24 16:10	1
Styrene	ND		1.0	1.0	ug/L			04/16/24 16:10	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/16/24 16:10	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/16/24 16:10	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/16/24 16:10	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/16/24 16:10	1
Toluene	ND		1.0	0.90	ug/L			04/16/24 16:10	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/24 16:10	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/16/24 16:10	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/16/24 16:10	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/16/24 16:10	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/16/24 16:10	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/16/24 16:10	1
Trichloroethene	ND		1.0	0.15	ug/L			04/16/24 16:10	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/16/24 16:10	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/16/24 16:10	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/16/24 16:10	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/16/24 16:10	1
Vinyl acetate	ND		25	0.93	ug/L			04/16/24 16:10	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/16/24 16:10	1
Xylenes, Total	ND		10	1.6	ug/L			04/16/24 16:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		72 - 130		04/16/24 16:10	1
4-Bromofluorobenzene	100		72 - 130		04/17/24 10:22	1
Dibromofluoromethane	108		75 - 126		04/16/24 16:10	1
Dibromofluoromethane	109		75 - 126		04/17/24 10:22	1
Toluene-d8 (Surr)	91		64 - 132		04/16/24 16:10	1
Toluene-d8 (Surr)	90		64 - 132		04/17/24 10:22	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.096	ug/L		04/11/24 11:12	04/12/24 17:09	1
Acenaphthylene	ND		0.19	0.043	ug/L		04/11/24 11:12	04/12/24 17:09	1
Anthracene	ND		0.19	0.045	ug/L		04/11/24 11:12	04/12/24 17:09	1
Benzo[a]anthracene	ND		0.19	0.033	ug/L		04/11/24 11:12	04/12/24 17:09	1
Benzo[a]pyrene	ND		0.19	0.062	ug/L		04/11/24 11:12	04/12/24 17:09	1
Benzo[b]fluoranthene	ND		0.19	0.036	ug/L		04/11/24 11:12	04/12/24 17:09	1
Benzo[g,h,i]perylene	ND		0.19	0.026	ug/L		04/11/24 11:12	04/12/24 17:09	1
Benzo[k]fluoranthene	ND		0.19	0.060	ug/L		04/11/24 11:12	04/12/24 17:09	1
Chrysene	ND		0.19	0.032	ug/L		04/11/24 11:12	04/12/24 17:09	1
Dibenz(a,h)anthracene	ND		0.19	0.046	ug/L		04/11/24 11:12	04/12/24 17:09	1
Fluoranthene	ND		0.19	0.033	ug/L		04/11/24 11:12	04/12/24 17:09	1
Fluorene	ND		0.19	0.086	ug/L		04/11/24 11:12	04/12/24 17:09	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.033	ug/L		04/11/24 11:12	04/12/24 17:09	1
Phenanthrene	ND		0.19	0.087	ug/L		04/11/24 11:12	04/12/24 17:09	1
Pyrene	ND		0.19	0.038	ug/L		04/11/24 11:12	04/12/24 17:09	1
1-Methylnaphthalene	ND		0.19	0.077	ug/L		04/11/24 11:12	04/12/24 17:09	1
2-Methylnaphthalene	ND		0.19	0.064	ug/L		04/11/24 11:12	04/12/24 17:09	1

# Client Sample Results

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

Job ID: 400-253923-1

**Client Sample ID: MW1-ROX-040424-EB**

**Lab Sample ID: 400-253923-3**

**Date Collected: 04/04/24 08:45**

**Matrix: Water**

**Date Received: 04/05/24 09:31**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	72		18 - 147	04/11/24 11:12	04/12/24 17:09	1
2-Fluorobiphenyl	51		15 - 128	04/11/24 11:12	04/12/24 17:09	1
Nitrobenzene-d5	50		10 - 144	04/11/24 11:12	04/12/24 17:09	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	8.4	ug/L		04/11/24 11:12	04/12/24 18:06	1
Benzenethiol	ND		9.7	9.6	ug/L		04/11/24 11:12	04/12/24 18:06	1
Benzoic acid	ND		29	23	ug/L		04/11/24 11:12	04/12/24 18:06	1
Benzyl alcohol	ND		9.7	7.1	ug/L		04/11/24 11:12	04/12/24 18:06	1
Bis(2-chloroethoxy)methane	ND		9.7	4.5	ug/L		04/11/24 11:12	04/12/24 18:06	1
Bis(2-chloroethyl)ether	ND		9.7	3.8	ug/L		04/11/24 11:12	04/12/24 18:06	1
bis (2-chloroisopropyl) ether	ND		9.7	1.7	ug/L		04/11/24 11:12	04/12/24 18:06	1
Bis(2-ethylhexyl) phthalate	ND		9.7	8.6	ug/L		04/11/24 11:12	04/12/24 18:06	1
4-Bromophenyl phenyl ether	ND		9.7	8.3	ug/L		04/11/24 11:12	04/12/24 18:06	1
Butyl benzyl phthalate	ND		9.7	5.6	ug/L		04/11/24 11:12	04/12/24 18:06	1
4-Chloroaniline	ND		9.7	4.5	ug/L		04/11/24 11:12	04/12/24 18:06	1
4-Chloro-3-methylphenol	ND		9.7	5.1	ug/L		04/11/24 11:12	04/12/24 18:06	1
2-Chloronaphthalene	ND		9.7	3.7	ug/L		04/11/24 11:12	04/12/24 18:06	1
2-Chlorophenol	ND		9.7	4.0	ug/L		04/11/24 11:12	04/12/24 18:06	1
4-Chlorophenyl phenyl ether	ND		9.7	3.6	ug/L		04/11/24 11:12	04/12/24 18:06	1
Dibenz[a,h]acridine	ND		9.7	2.7	ug/L		04/11/24 11:12	04/12/24 18:06	1
Dibenzofuran	ND		9.7	3.9	ug/L		04/11/24 11:12	04/12/24 18:06	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/11/24 11:12	04/12/24 18:06	1
2,4-Dichlorophenol	ND		9.7	4.2	ug/L		04/11/24 11:12	04/12/24 18:06	1
Diethyl phthalate	ND		9.7	4.3	ug/L		04/11/24 11:12	04/12/24 18:06	1
2,4-Dimethylphenol	ND		9.7	5.0	ug/L		04/11/24 11:12	04/12/24 18:06	1
Dimethyl phthalate	ND		9.7	4.1	ug/L		04/11/24 11:12	04/12/24 18:06	1
Di-n-butyl phthalate	ND		9.7	4.5	ug/L		04/11/24 11:12	04/12/24 18:06	1
4,6-Dinitro-ortho-cresol	ND		9.7	9.7	ug/L		04/11/24 11:12	04/12/24 18:06	1
2,4-Dinitrophenol	ND		29	4.5	ug/L		04/11/24 11:12	04/12/24 18:06	1
2,4-Dinitrotoluene	ND		9.7	4.9	ug/L		04/11/24 11:12	04/12/24 18:06	1
2,6-Dinitrotoluene	ND		9.7	3.8	ug/L		04/11/24 11:12	04/12/24 18:06	1
Di-n-octyl phthalate	ND		9.7	5.8	ug/L		04/11/24 11:12	04/12/24 18:06	1
1,4-Dioxane	ND		9.7	4.2	ug/L		04/11/24 11:12	04/12/24 18:06	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	3.2	ug/L		04/11/24 11:12	04/12/24 18:06	1
Hexachlorobenzene	ND		9.7	9.4	ug/L		04/11/24 11:12	04/12/24 18:06	1
Hexachlorocyclopentadiene	ND		19	4.4	ug/L		04/11/24 11:12	04/12/24 18:06	1
Hexachloroethane	ND		9.7	5.0	ug/L		04/11/24 11:12	04/12/24 18:06	1
Indene	ND		9.7	3.5	ug/L		04/11/24 11:12	04/12/24 18:06	1
Isophorone	ND		9.7	5.0	ug/L		04/11/24 11:12	04/12/24 18:06	1
2-Methylphenol	ND		9.7	3.1	ug/L		04/11/24 11:12	04/12/24 18:06	1
3 & 4 Methylphenol	ND		19	4.5	ug/L		04/11/24 11:12	04/12/24 18:06	1
2-Nitroaniline	ND		9.7	4.8	ug/L		04/11/24 11:12	04/12/24 18:06	1
3-Nitroaniline	ND		9.7	4.5	ug/L		04/11/24 11:12	04/12/24 18:06	1
4-Nitroaniline	ND		9.7	4.0	ug/L		04/11/24 11:12	04/12/24 18:06	1
Nitrobenzene	ND		9.7	4.5	ug/L		04/11/24 11:12	04/12/24 18:06	1
2-Nitrophenol	ND		9.7	4.5	ug/L		04/11/24 11:12	04/12/24 18:06	1
4-Nitrophenol	ND		9.7	3.2	ug/L		04/11/24 11:12	04/12/24 18:06	1



# Client Sample Results

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

Job ID: 400-253923-1

**Client Sample ID: MW1-ROX-040424-EB**

**Lab Sample ID: 400-253923-3**

**Date Collected: 04/04/24 08:45**

**Matrix: Water**

**Date Received: 04/05/24 09:31**

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodimethylamine	ND		9.7	2.1	ug/L		04/11/24 11:12	04/12/24 18:06	1
N-Nitrosodi-n-propylamine	ND		9.7	2.4	ug/L		04/11/24 11:12	04/12/24 18:06	1
N-Nitrosodiphenylamine	ND		9.7	3.6	ug/L		04/11/24 11:12	04/12/24 18:06	1
Pentachlorophenol	ND		19	12	ug/L		04/11/24 11:12	04/12/24 18:06	1
Phenol	ND		9.7	4.1	ug/L		04/11/24 11:12	04/12/24 18:06	1
Pyridine	ND	*	9.7	9.7	ug/L		04/11/24 11:12	04/12/24 18:06	1
Quinoline	ND		9.7	2.3	ug/L		04/11/24 11:12	04/12/24 18:06	1
2,4,5-Trichlorophenol	ND		9.7	3.9	ug/L		04/11/24 11:12	04/12/24 18:06	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		04/11/24 11:12	04/12/24 18:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	64		21 - 114	04/11/24 11:12	04/12/24 18:06	1
2-Fluorophenol	39		10 - 105	04/11/24 11:12	04/12/24 18:06	1
Nitrobenzene-d5	55		16 - 127	04/11/24 11:12	04/12/24 18:06	1
Phenol-d5	29		10 - 129	04/11/24 11:12	04/12/24 18:06	1
Terphenyl-d14	87		13 - 150	04/11/24 11:12	04/12/24 18:06	1
2,4,6-Tribromophenol	69		10 - 150	04/11/24 11:12	04/12/24 18:06	1

**Method: EPA 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	0.017	ug/L		04/09/24 10:03	04/09/24 17:16	1
1,2-Dibromoethane	ND		0.019	0.015	ug/L		04/09/24 10:03	04/09/24 17:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	72	p	51 - 149	04/09/24 10:03	04/09/24 17:16	1

# Client Sample Results

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

Job ID: 400-253923-1

**Client Sample ID: MW1-ROX-040424**

**Lab Sample ID: 400-253923-4**

Date Collected: 04/04/24 10:05

Matrix: Water

Date Received: 04/05/24 09:31

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/16/24 16:34	1
Acrolein	ND		20	3.3	ug/L			04/16/24 16:34	1
Acrylonitrile	ND		10	2.8	ug/L			04/16/24 16:34	1
Benzene	ND		1.0	0.50	ug/L			04/16/24 16:34	1
Bromobenzene	ND		1.0	0.54	ug/L			04/16/24 16:34	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/16/24 16:34	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/16/24 16:34	1
Bromoform	ND		5.0	0.25	ug/L			04/16/24 16:34	1
Bromomethane	ND		1.0	0.98	ug/L			04/16/24 16:34	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/16/24 16:34	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/16/24 16:34	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/16/24 16:34	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/16/24 16:34	1
Chloroethane	ND		1.0	0.76	ug/L			04/16/24 16:34	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/16/24 16:34	1
Chloroform	ND		1.0	0.90	ug/L			04/16/24 16:34	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/16/24 16:34	1
Chloromethane	ND		1.0	0.90	ug/L			04/16/24 16:34	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/16/24 16:34	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/24 16:34	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/16/24 16:34	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/16/24 16:34	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/16/24 16:34	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/16/24 16:34	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/16/24 16:34	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/16/24 16:34	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/16/24 16:34	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/16/24 16:34	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 16:34	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 16:34	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 16:34	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/16/24 16:34	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/16/24 16:34	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/16/24 16:34	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/16/24 16:34	1
2-Hexanone	ND		25	1.4	ug/L			04/16/24 16:34	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/16/24 16:34	1
Methylene bromide	ND		5.0	0.22	ug/L			04/16/24 16:34	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/16/24 16:34	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/16/24 16:34	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/16/24 16:34	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/16/24 16:34	1
Naphthalene	ND		5.0	3.0	ug/L			04/16/24 16:34	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/16/24 16:34	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/16/24 16:34	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/16/24 16:34	1
o-Xylene	ND		5.0	0.60	ug/L			04/16/24 16:34	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/16/24 16:34	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/16/24 16:34	1

# Client Sample Results

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

Job ID: 400-253923-1

**Client Sample ID: MW1-ROX-040424**

**Lab Sample ID: 400-253923-4**

Date Collected: 04/04/24 10:05

Matrix: Water

Date Received: 04/05/24 09:31

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/16/24 16:34	1
Styrene	ND		1.0	1.0	ug/L			04/16/24 16:34	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/16/24 16:34	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/16/24 16:34	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/16/24 16:34	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/16/24 16:34	1
Toluene	ND		1.0	0.90	ug/L			04/16/24 16:34	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/24 16:34	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/16/24 16:34	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/16/24 16:34	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/16/24 16:34	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/16/24 16:34	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/16/24 16:34	1
Trichloroethene	ND		1.0	0.15	ug/L			04/16/24 16:34	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/16/24 16:34	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/16/24 16:34	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/16/24 16:34	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/16/24 16:34	1
Vinyl acetate	ND		25	0.93	ug/L			04/16/24 16:34	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/16/24 16:34	1
Xylenes, Total	ND		10	1.6	ug/L			04/16/24 16:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		72 - 130		04/16/24 16:34	1
Dibromofluoromethane	109		75 - 126		04/16/24 16:34	1
Toluene-d8 (Surr)	91		64 - 132		04/16/24 16:34	1

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.099	ug/L		04/11/24 11:12	04/12/24 17:30	1
Acenaphthylene	ND		0.20	0.044	ug/L		04/11/24 11:12	04/12/24 17:30	1
<b>Anthracene</b>	<b>0.051</b>	<b>J</b>	0.20	0.047	ug/L		04/11/24 11:12	04/12/24 17:30	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		04/11/24 11:12	04/12/24 17:30	1
Benzo[a]pyrene	ND		0.20	0.064	ug/L		04/11/24 11:12	04/12/24 17:30	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		04/11/24 11:12	04/12/24 17:30	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		04/11/24 11:12	04/12/24 17:30	1
Benzo[k]fluoranthene	ND		0.20	0.062	ug/L		04/11/24 11:12	04/12/24 17:30	1
Chrysene	ND		0.20	0.033	ug/L		04/11/24 11:12	04/12/24 17:30	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		04/11/24 11:12	04/12/24 17:30	1
<b>Fluoranthene</b>	<b>0.036</b>	<b>J</b>	0.20	0.034	ug/L		04/11/24 11:12	04/12/24 17:30	1
Fluorene	ND		0.20	0.089	ug/L		04/11/24 11:12	04/12/24 17:30	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		04/11/24 11:12	04/12/24 17:30	1
Phenanthrene	ND		0.20	0.090	ug/L		04/11/24 11:12	04/12/24 17:30	1
Pyrene	ND		0.20	0.039	ug/L		04/11/24 11:12	04/12/24 17:30	1
1-Methylnaphthalene	ND		0.20	0.080	ug/L		04/11/24 11:12	04/12/24 17:30	1
<b>2-Methylnaphthalene</b>	<b>0.10</b>	<b>J B U</b>	0.20	0.066	ug/L		04/11/24 11:12	04/12/24 17:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	69		18 - 147	04/11/24 11:12	04/12/24 17:30	1
2-Fluorobiphenyl	56		15 - 128	04/11/24 11:12	04/12/24 17:30	1

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# Client Sample Results

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

Job ID: 400-253923-1

**Client Sample ID: MW1-ROX-040424**

**Lab Sample ID: 400-253923-4**

Date Collected: 04/04/24 10:05

Matrix: Water

Date Received: 04/05/24 09:31

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	55		10 - 144	04/11/24 11:12	04/12/24 17:30	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) - RERA**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.17	J H	0.20	0.065	ug/L		04/18/24 10:15	04/18/24 17:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	77		18 - 147	04/18/24 10:15	04/18/24 17:52	1
2-Fluorobiphenyl	63		15 - 128	04/18/24 10:15	04/18/24 17:52	1
Nitrobenzene-d5	67		10 - 144	04/18/24 10:15	04/18/24 17:52	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	8.7	ug/L		04/11/24 11:12	04/12/24 18:29	1
Benzenethiol	ND		10	9.9	ug/L		04/11/24 11:12	04/12/24 18:29	1
Benzoic acid	ND		30	24	ug/L		04/11/24 11:12	04/12/24 18:29	1
Benzyl alcohol	ND		10	7.3	ug/L		04/11/24 11:12	04/12/24 18:29	1
Bis(2-chloroethoxy)methane	ND		10	4.6	ug/L		04/11/24 11:12	04/12/24 18:29	1
Bis(2-chloroethyl)ether	ND		10	3.9	ug/L		04/11/24 11:12	04/12/24 18:29	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		04/11/24 11:12	04/12/24 18:29	1
Bis(2-ethylhexyl) phthalate	ND		10	8.9	ug/L		04/11/24 11:12	04/12/24 18:29	1
4-Bromophenyl phenyl ether	ND		10	8.6	ug/L		04/11/24 11:12	04/12/24 18:29	1
Butyl benzyl phthalate	ND		10	5.8	ug/L		04/11/24 11:12	04/12/24 18:29	1
4-Chloroaniline	ND		10	4.7	ug/L		04/11/24 11:12	04/12/24 18:29	1
4-Chloro-3-methylphenol	ND		10	5.3	ug/L		04/11/24 11:12	04/12/24 18:29	1
2-Chloronaphthalene	ND		10	3.8	ug/L		04/11/24 11:12	04/12/24 18:29	1
2-Chlorophenol	ND		10	4.1	ug/L		04/11/24 11:12	04/12/24 18:29	1
4-Chlorophenyl phenyl ether	ND		10	3.7	ug/L		04/11/24 11:12	04/12/24 18:29	1
Dibenz[a,h]acridine	ND		10	2.8	ug/L		04/11/24 11:12	04/12/24 18:29	1
Dibenzofuran	ND		10	4.0	ug/L		04/11/24 11:12	04/12/24 18:29	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/11/24 11:12	04/12/24 18:29	1
2,4-Dichlorophenol	ND		10	4.3	ug/L		04/11/24 11:12	04/12/24 18:29	1
Diethyl phthalate	ND		10	4.4	ug/L		04/11/24 11:12	04/12/24 18:29	1
2,4-Dimethylphenol	ND		10	5.2	ug/L		04/11/24 11:12	04/12/24 18:29	1
Dimethyl phthalate	ND		10	4.2	ug/L		04/11/24 11:12	04/12/24 18:29	1
Di-n-butyl phthalate	ND		10	4.6	ug/L		04/11/24 11:12	04/12/24 18:29	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		04/11/24 11:12	04/12/24 18:29	1
2,4-Dinitrophenol	ND		30	4.6	ug/L		04/11/24 11:12	04/12/24 18:29	1
2,4-Dinitrotoluene	ND		10	5.1	ug/L		04/11/24 11:12	04/12/24 18:29	1
2,6-Dinitrotoluene	ND		10	3.9	ug/L		04/11/24 11:12	04/12/24 18:29	1
Di-n-octyl phthalate	ND		10	6.0	ug/L		04/11/24 11:12	04/12/24 18:29	1
1,4-Dioxane	ND		10	4.3	ug/L		04/11/24 11:12	04/12/24 18:29	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.3	ug/L		04/11/24 11:12	04/12/24 18:29	1
Hexachlorobenzene	ND		10	9.7	ug/L		04/11/24 11:12	04/12/24 18:29	1
Hexachlorocyclopentadiene	ND		20	4.5	ug/L		04/11/24 11:12	04/12/24 18:29	1
Hexachloroethane	ND		10	5.2	ug/L		04/11/24 11:12	04/12/24 18:29	1
Indene	ND		10	3.6	ug/L		04/11/24 11:12	04/12/24 18:29	1
Isophorone	ND		10	5.2	ug/L		04/11/24 11:12	04/12/24 18:29	1
2-Methylphenol	ND		10	3.2	ug/L		04/11/24 11:12	04/12/24 18:29	1

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# Client Sample Results

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

Job ID: 400-253923-1

**Client Sample ID: MW1-ROX-040424**

**Lab Sample ID: 400-253923-4**

Date Collected: 04/04/24 10:05

Matrix: Water

Date Received: 04/05/24 09:31

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		20	4.6	ug/L		04/11/24 11:12	04/12/24 18:29	1
2-Nitroaniline	ND		10	5.0	ug/L		04/11/24 11:12	04/12/24 18:29	1
3-Nitroaniline	ND		10	4.7	ug/L		04/11/24 11:12	04/12/24 18:29	1
4-Nitroaniline	ND		10	4.1	ug/L		04/11/24 11:12	04/12/24 18:29	1
Nitrobenzene	ND		10	4.7	ug/L		04/11/24 11:12	04/12/24 18:29	1
2-Nitrophenol	ND		10	4.6	ug/L		04/11/24 11:12	04/12/24 18:29	1
4-Nitrophenol	ND		10	3.3	ug/L		04/11/24 11:12	04/12/24 18:29	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		04/11/24 11:12	04/12/24 18:29	1
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		04/11/24 11:12	04/12/24 18:29	1
N-Nitrosodiphenylamine	ND		10	3.7	ug/L		04/11/24 11:12	04/12/24 18:29	1
Pentachlorophenol	ND		20	12	ug/L		04/11/24 11:12	04/12/24 18:29	1
Phenol	ND		10	4.2	ug/L		04/11/24 11:12	04/12/24 18:29	1
Pyridine	ND	*- UJ	10	10	ug/L		04/11/24 11:12	04/12/24 18:29	1
Quinoline	ND		10	2.4	ug/L		04/11/24 11:12	04/12/24 18:29	1
2,4,5-Trichlorophenol	ND		10	4.0	ug/L		04/11/24 11:12	04/12/24 18:29	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/11/24 11:12	04/12/24 18:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	71		21 - 114	04/11/24 11:12	04/12/24 18:29	1
2-Fluorophenol	45		10 - 105	04/11/24 11:12	04/12/24 18:29	1
Nitrobenzene-d5	59		16 - 127	04/11/24 11:12	04/12/24 18:29	1
Phenol-d5	33		10 - 129	04/11/24 11:12	04/12/24 18:29	1
Terphenyl-d14	91		13 - 150	04/11/24 11:12	04/12/24 18:29	1
2,4,6-Tribromophenol	70		10 - 150	04/11/24 11:12	04/12/24 18:29	1

**Method: EPA 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	UJ	0.028	0.016	ug/L		04/09/24 10:03	04/09/24 17:37	1
1,2-Dibromoethane	ND	UJ	0.019	0.014	ug/L		04/09/24 10:03	04/09/24 17:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	67	p	51 - 149	04/09/24 10:03	04/09/24 17:37	1

# Client Sample Results

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

Job ID: 400-253923-1

**Client Sample ID: MW26-ROX-040424**

**Lab Sample ID: 400-253923-5**

Date Collected: 04/04/24 11:25

Matrix: Water

Date Received: 04/05/24 09:31

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/16/24 16:58	1
Acrolein	ND		20	3.3	ug/L			04/16/24 16:58	1
Acrylonitrile	ND		10	2.8	ug/L			04/16/24 16:58	1
Benzene	ND		1.0	0.50	ug/L			04/16/24 16:58	1
Bromobenzene	ND		1.0	0.54	ug/L			04/16/24 16:58	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/16/24 16:58	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/16/24 16:58	1
Bromoform	ND		5.0	0.25	ug/L			04/16/24 16:58	1
Bromomethane	ND		1.0	0.98	ug/L			04/16/24 16:58	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/16/24 16:58	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/16/24 16:58	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/16/24 16:58	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/16/24 16:58	1
Chloroethane	ND		1.0	0.76	ug/L			04/16/24 16:58	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/16/24 16:58	1
Chloroform	ND		1.0	0.90	ug/L			04/16/24 16:58	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/16/24 16:58	1
Chloromethane	ND		1.0	0.90	ug/L			04/16/24 16:58	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/16/24 16:58	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/24 16:58	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/16/24 16:58	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/16/24 16:58	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/16/24 16:58	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/16/24 16:58	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/16/24 16:58	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/16/24 16:58	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/16/24 16:58	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/16/24 16:58	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 16:58	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 16:58	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 16:58	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/16/24 16:58	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/16/24 16:58	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/16/24 16:58	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/16/24 16:58	1
2-Hexanone	ND		25	1.4	ug/L			04/16/24 16:58	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/16/24 16:58	1
Methylene bromide	ND		5.0	0.22	ug/L			04/16/24 16:58	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/16/24 16:58	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/16/24 16:58	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/16/24 16:58	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/16/24 16:58	1
Naphthalene	ND		5.0	3.0	ug/L			04/16/24 16:58	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/16/24 16:58	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/16/24 16:58	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/16/24 16:58	1
o-Xylene	ND		5.0	0.60	ug/L			04/16/24 16:58	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/16/24 16:58	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/16/24 16:58	1



# Client Sample Results

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

Job ID: 400-253923-1

**Client Sample ID: MW26-ROX-040424**

**Lab Sample ID: 400-253923-5**

Date Collected: 04/04/24 11:25

Matrix: Water

Date Received: 04/05/24 09:31

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/16/24 16:58	1
Styrene	ND		1.0	1.0	ug/L			04/16/24 16:58	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/16/24 16:58	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/16/24 16:58	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/16/24 16:58	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/16/24 16:58	1
Toluene	ND		1.0	0.90	ug/L			04/16/24 16:58	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/24 16:58	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/16/24 16:58	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/16/24 16:58	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/16/24 16:58	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/16/24 16:58	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/16/24 16:58	1
Trichloroethene	ND		1.0	0.15	ug/L			04/16/24 16:58	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/16/24 16:58	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/16/24 16:58	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/16/24 16:58	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/16/24 16:58	1
Vinyl acetate	ND		25	0.93	ug/L			04/16/24 16:58	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/16/24 16:58	1
Xylenes, Total	ND		10	1.6	ug/L			04/16/24 16:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		72 - 130		04/16/24 16:58	1
Dibromofluoromethane	109		75 - 126		04/16/24 16:58	1
Toluene-d8 (Surr)	91		64 - 132		04/16/24 16:58	1

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.096	ug/L		04/11/24 11:12	04/12/24 17:51	1
Acenaphthylene	ND		0.19	0.043	ug/L		04/11/24 11:12	04/12/24 17:51	1
Anthracene	ND		0.19	0.046	ug/L		04/11/24 11:12	04/12/24 17:51	1
Benzo[a]anthracene	ND		0.19	0.033	ug/L		04/11/24 11:12	04/12/24 17:51	1
Benzo[a]pyrene	ND		0.19	0.062	ug/L		04/11/24 11:12	04/12/24 17:51	1
Benzo[b]fluoranthene	ND		0.19	0.036	ug/L		04/11/24 11:12	04/12/24 17:51	1
Benzo[g,h,i]perylene	ND		0.19	0.026	ug/L		04/11/24 11:12	04/12/24 17:51	1
Benzo[k]fluoranthene	ND		0.19	0.060	ug/L		04/11/24 11:12	04/12/24 17:51	1
Chrysene	ND		0.19	0.032	ug/L		04/11/24 11:12	04/12/24 17:51	1
Dibenz(a,h)anthracene	ND		0.19	0.046	ug/L		04/11/24 11:12	04/12/24 17:51	1
Fluoranthene	ND		0.19	0.033	ug/L		04/11/24 11:12	04/12/24 17:51	1
Fluorene	ND		0.19	0.086	ug/L		04/11/24 11:12	04/12/24 17:51	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.033	ug/L		04/11/24 11:12	04/12/24 17:51	1
Phenanthrene	ND		0.19	0.087	ug/L		04/11/24 11:12	04/12/24 17:51	1
Pyrene	ND		0.19	0.038	ug/L		04/11/24 11:12	04/12/24 17:51	1
1-Methylnaphthalene	ND		0.19	0.077	ug/L		04/11/24 11:12	04/12/24 17:51	1
2-Methylnaphthalene	ND		0.19	0.064	ug/L		04/11/24 11:12	04/12/24 17:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	77		18 - 147	04/11/24 11:12	04/12/24 17:51	1
2-Fluorobiphenyl	56		15 - 128	04/11/24 11:12	04/12/24 17:51	1

Eurofins Pensacola

# Client Sample Results

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

Job ID: 400-253923-1

**Client Sample ID: MW26-ROX-040424**

**Lab Sample ID: 400-253923-5**

Date Collected: 04/04/24 11:25

Matrix: Water

Date Received: 04/05/24 09:31

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	55		10 - 144	04/11/24 11:12	04/12/24 17:51	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	8.4	ug/L		04/11/24 11:12	04/12/24 18:51	1
Benzenethiol	ND		9.7	9.6	ug/L		04/11/24 11:12	04/12/24 18:51	1
Benzoic acid	ND		29	23	ug/L		04/11/24 11:12	04/12/24 18:51	1
Benzyl alcohol	ND		9.7	7.1	ug/L		04/11/24 11:12	04/12/24 18:51	1
Bis(2-chloroethoxy)methane	ND		9.7	4.5	ug/L		04/11/24 11:12	04/12/24 18:51	1
Bis(2-chloroethyl)ether	ND		9.7	3.8	ug/L		04/11/24 11:12	04/12/24 18:51	1
bis (2-chloroisopropyl) ether	ND		9.7	1.7	ug/L		04/11/24 11:12	04/12/24 18:51	1
Bis(2-ethylhexyl) phthalate	ND		9.7	8.6	ug/L		04/11/24 11:12	04/12/24 18:51	1
4-Bromophenyl phenyl ether	ND		9.7	8.3	ug/L		04/11/24 11:12	04/12/24 18:51	1
Butyl benzyl phthalate	ND		9.7	5.6	ug/L		04/11/24 11:12	04/12/24 18:51	1
4-Chloroaniline	ND		9.7	4.6	ug/L		04/11/24 11:12	04/12/24 18:51	1
4-Chloro-3-methylphenol	ND		9.7	5.1	ug/L		04/11/24 11:12	04/12/24 18:51	1
2-Chloronaphthalene	ND		9.7	3.7	ug/L		04/11/24 11:12	04/12/24 18:51	1
2-Chlorophenol	ND		9.7	4.0	ug/L		04/11/24 11:12	04/12/24 18:51	1
4-Chlorophenyl phenyl ether	ND		9.7	3.6	ug/L		04/11/24 11:12	04/12/24 18:51	1
Dibenz[a,h]acridine	ND		9.7	2.7	ug/L		04/11/24 11:12	04/12/24 18:51	1
Dibenzofuran	ND		9.7	3.9	ug/L		04/11/24 11:12	04/12/24 18:51	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/11/24 11:12	04/12/24 18:51	1
2,4-Dichlorophenol	ND		9.7	4.2	ug/L		04/11/24 11:12	04/12/24 18:51	1
Diethyl phthalate	ND		9.7	4.3	ug/L		04/11/24 11:12	04/12/24 18:51	1
2,4-Dimethylphenol	ND		9.7	5.0	ug/L		04/11/24 11:12	04/12/24 18:51	1
Dimethyl phthalate	ND		9.7	4.1	ug/L		04/11/24 11:12	04/12/24 18:51	1
Di-n-butyl phthalate	ND		9.7	4.5	ug/L		04/11/24 11:12	04/12/24 18:51	1
4,6-Dinitro-ortho-cresol	ND		9.7	9.7	ug/L		04/11/24 11:12	04/12/24 18:51	1
2,4-Dinitrophenol	ND		29	4.5	ug/L		04/11/24 11:12	04/12/24 18:51	1
2,4-Dinitrotoluene	ND		9.7	4.9	ug/L		04/11/24 11:12	04/12/24 18:51	1
2,6-Dinitrotoluene	ND		9.7	3.8	ug/L		04/11/24 11:12	04/12/24 18:51	1
Di-n-octyl phthalate	ND		9.7	5.8	ug/L		04/11/24 11:12	04/12/24 18:51	1
1,4-Dioxane	ND		9.7	4.2	ug/L		04/11/24 11:12	04/12/24 18:51	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	3.2	ug/L		04/11/24 11:12	04/12/24 18:51	1
Hexachlorobenzene	ND		9.7	9.4	ug/L		04/11/24 11:12	04/12/24 18:51	1
Hexachlorocyclopentadiene	ND		19	4.4	ug/L		04/11/24 11:12	04/12/24 18:51	1
Hexachloroethane	ND		9.7	5.0	ug/L		04/11/24 11:12	04/12/24 18:51	1
Indene	ND		9.7	3.5	ug/L		04/11/24 11:12	04/12/24 18:51	1
Isophorone	ND		9.7	5.0	ug/L		04/11/24 11:12	04/12/24 18:51	1
2-Methylphenol	ND		9.7	3.1	ug/L		04/11/24 11:12	04/12/24 18:51	1
3 & 4 Methylphenol	ND		19	4.5	ug/L		04/11/24 11:12	04/12/24 18:51	1
2-Nitroaniline	ND		9.7	4.8	ug/L		04/11/24 11:12	04/12/24 18:51	1
3-Nitroaniline	ND		9.7	4.6	ug/L		04/11/24 11:12	04/12/24 18:51	1
4-Nitroaniline	ND		9.7	4.0	ug/L		04/11/24 11:12	04/12/24 18:51	1
Nitrobenzene	ND		9.7	4.6	ug/L		04/11/24 11:12	04/12/24 18:51	1
2-Nitrophenol	ND		9.7	4.5	ug/L		04/11/24 11:12	04/12/24 18:51	1
4-Nitrophenol	ND		9.7	3.2	ug/L		04/11/24 11:12	04/12/24 18:51	1
N-Nitrosodimethylamine	ND		9.7	2.1	ug/L		04/11/24 11:12	04/12/24 18:51	1

# Client Sample Results

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

Job ID: 400-253923-1

**Client Sample ID: MW26-ROX-040424**

**Lab Sample ID: 400-253923-5**

Date Collected: 04/04/24 11:25

Matrix: Water

Date Received: 04/05/24 09:31

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.7	2.4	ug/L		04/11/24 11:12	04/12/24 18:51	1
N-Nitrosodiphenylamine	ND		9.7	3.6	ug/L		04/11/24 11:12	04/12/24 18:51	1
Pentachlorophenol	ND		19	12	ug/L		04/11/24 11:12	04/12/24 18:51	1
Phenol	ND		9.7	4.1	ug/L		04/11/24 11:12	04/12/24 18:51	1
Pyridine	ND	*- UJ	9.7	9.7	ug/L		04/11/24 11:12	04/12/24 18:51	1
Quinoline	ND		9.7	2.3	ug/L		04/11/24 11:12	04/12/24 18:51	1
2,4,5-Trichlorophenol	ND		9.7	3.9	ug/L		04/11/24 11:12	04/12/24 18:51	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		04/11/24 11:12	04/12/24 18:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	68		21 - 114	04/11/24 11:12	04/12/24 18:51	1
2-Fluorophenol	39		10 - 105	04/11/24 11:12	04/12/24 18:51	1
Nitrobenzene-d5	59		16 - 127	04/11/24 11:12	04/12/24 18:51	1
Phenol-d5	28		10 - 129	04/11/24 11:12	04/12/24 18:51	1
Terphenyl-d14	88		13 - 150	04/11/24 11:12	04/12/24 18:51	1
2,4,6-Tribromophenol	67		10 - 150	04/11/24 11:12	04/12/24 18:51	1

**Method: EPA 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	UJ	0.030	0.017	ug/L		04/09/24 10:03	04/09/24 17:58	1
1,2-Dibromoethane	ND	UJ	0.020	0.015	ug/L		04/09/24 10:03	04/09/24 17:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	75	p	51 - 149	04/09/24 10:03	04/09/24 17:58	1



# Client Sample Results

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

Job ID: 400-253923-1

**Client Sample ID: MW10-ROX-040424**

**Lab Sample ID: 400-253923-6**

Date Collected: 04/04/24 12:35

Matrix: Water

Date Received: 04/05/24 09:31

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/16/24 17:23	1
Acrolein	ND		20	3.3	ug/L			04/16/24 17:23	1
Acrylonitrile	ND		10	2.8	ug/L			04/16/24 17:23	1
Benzene	ND		1.0	0.50	ug/L			04/16/24 17:23	1
Bromobenzene	ND		1.0	0.54	ug/L			04/16/24 17:23	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/16/24 17:23	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/16/24 17:23	1
Bromoform	ND		5.0	0.25	ug/L			04/16/24 17:23	1
Bromomethane	ND		1.0	0.98	ug/L			04/16/24 17:23	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/16/24 17:23	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/16/24 17:23	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/16/24 17:23	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/16/24 17:23	1
Chloroethane	ND		1.0	0.76	ug/L			04/16/24 17:23	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/16/24 17:23	1
Chloroform	ND		1.0	0.90	ug/L			04/16/24 17:23	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/16/24 17:23	1
Chloromethane	ND		1.0	0.90	ug/L			04/16/24 17:23	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/16/24 17:23	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/24 17:23	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/16/24 17:23	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/16/24 17:23	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/16/24 17:23	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/16/24 17:23	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/16/24 17:23	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/16/24 17:23	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/16/24 17:23	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/16/24 17:23	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 17:23	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 17:23	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 17:23	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/16/24 17:23	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/16/24 17:23	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/16/24 17:23	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/16/24 17:23	1
2-Hexanone	ND		25	1.4	ug/L			04/16/24 17:23	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/16/24 17:23	1
Methylene bromide	ND		5.0	0.22	ug/L			04/16/24 17:23	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/16/24 17:23	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/16/24 17:23	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/16/24 17:23	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/16/24 17:23	1
Naphthalene	ND		5.0	3.0	ug/L			04/16/24 17:23	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/16/24 17:23	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/16/24 17:23	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/16/24 17:23	1
o-Xylene	ND		5.0	0.60	ug/L			04/16/24 17:23	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/16/24 17:23	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/16/24 17:23	1

# Client Sample Results

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

Job ID: 400-253923-1

**Client Sample ID: MW10-ROX-040424**

**Lab Sample ID: 400-253923-6**

Date Collected: 04/04/24 12:35

Matrix: Water

Date Received: 04/05/24 09:31

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/16/24 17:23	1
Styrene	ND		1.0	1.0	ug/L			04/16/24 17:23	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/16/24 17:23	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/16/24 17:23	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/16/24 17:23	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/16/24 17:23	1
Toluene	ND		1.0	0.90	ug/L			04/16/24 17:23	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/24 17:23	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/16/24 17:23	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/16/24 17:23	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/16/24 17:23	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/16/24 17:23	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/16/24 17:23	1
Trichloroethene	ND		1.0	0.15	ug/L			04/16/24 17:23	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/16/24 17:23	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/16/24 17:23	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/16/24 17:23	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/16/24 17:23	1
Vinyl acetate	ND		25	0.93	ug/L			04/16/24 17:23	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/16/24 17:23	1
Xylenes, Total	ND		10	1.6	ug/L			04/16/24 17:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		72 - 130		04/16/24 17:23	1
Dibromofluoromethane	108		75 - 126		04/16/24 17:23	1
Toluene-d8 (Surr)	91		64 - 132		04/16/24 17:23	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.094	ug/L		04/11/24 11:12	04/12/24 18:12	1
Acenaphthylene	ND		0.19	0.042	ug/L		04/11/24 11:12	04/12/24 18:12	1
Anthracene	ND		0.19	0.045	ug/L		04/11/24 11:12	04/12/24 18:12	1
Benzo[a]anthracene	ND		0.19	0.032	ug/L		04/11/24 11:12	04/12/24 18:12	1
Benzo[a]pyrene	ND		0.19	0.061	ug/L		04/11/24 11:12	04/12/24 18:12	1
Benzo[b]fluoranthene	ND		0.19	0.035	ug/L		04/11/24 11:12	04/12/24 18:12	1
Benzo[g,h,i]perylene	ND		0.19	0.026	ug/L		04/11/24 11:12	04/12/24 18:12	1
Benzo[k]fluoranthene	ND		0.19	0.059	ug/L		04/11/24 11:12	04/12/24 18:12	1
Chrysene	ND		0.19	0.031	ug/L		04/11/24 11:12	04/12/24 18:12	1
Dibenz(a,h)anthracene	ND		0.19	0.046	ug/L		04/11/24 11:12	04/12/24 18:12	1
Fluoranthene	ND		0.19	0.032	ug/L		04/11/24 11:12	04/12/24 18:12	1
Fluorene	ND		0.19	0.085	ug/L		04/11/24 11:12	04/12/24 18:12	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.032	ug/L		04/11/24 11:12	04/12/24 18:12	1
Phenanthrene	ND		0.19	0.086	ug/L		04/11/24 11:12	04/12/24 18:12	1
Pyrene	ND		0.19	0.037	ug/L		04/11/24 11:12	04/12/24 18:12	1
1-Methylnaphthalene	ND		0.19	0.076	ug/L		04/11/24 11:12	04/12/24 18:12	1
<b>2-Methylnaphthalene</b>	<b>0.076</b>	<b>J B U</b>	0.19	0.063	ug/L		04/11/24 11:12	04/12/24 18:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	74		18 - 147	04/11/24 11:12	04/12/24 18:12	1
2-Fluorobiphenyl	56		15 - 128	04/11/24 11:12	04/12/24 18:12	1

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# Client Sample Results

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

Job ID: 400-253923-1

**Client Sample ID: MW10-ROX-040424**

**Lab Sample ID: 400-253923-6**

Date Collected: 04/04/24 12:35

Matrix: Water

Date Received: 04/05/24 09:31

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	55		10 - 144	04/11/24 11:12	04/12/24 18:12	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) - RERA**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	ND	H	0.19	0.064	ug/L		04/18/24 10:15	04/18/24 18:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	83		18 - 147	04/18/24 10:15	04/18/24 18:13	1
2-Fluorobiphenyl	68		15 - 128	04/18/24 10:15	04/18/24 18:13	1
Nitrobenzene-d5	73		10 - 144	04/18/24 10:15	04/18/24 18:13	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.5	8.3	ug/L		04/11/24 11:12	04/12/24 19:14	1
Benzenethiol	ND		9.5	9.4	ug/L		04/11/24 11:12	04/12/24 19:14	1
Benzoic acid	ND		29	23	ug/L		04/11/24 11:12	04/12/24 19:14	1
Benzyl alcohol	ND		9.5	7.0	ug/L		04/11/24 11:12	04/12/24 19:14	1
Bis(2-chloroethoxy)methane	ND		9.5	4.4	ug/L		04/11/24 11:12	04/12/24 19:14	1
Bis(2-chloroethyl)ether	ND		9.5	3.7	ug/L		04/11/24 11:12	04/12/24 19:14	1
bis (2-chloroisopropyl) ether	ND		9.5	1.7	ug/L		04/11/24 11:12	04/12/24 19:14	1
Bis(2-ethylhexyl) phthalate	ND		9.5	8.5	ug/L		04/11/24 11:12	04/12/24 19:14	1
4-Bromophenyl phenyl ether	ND		9.5	8.2	ug/L		04/11/24 11:12	04/12/24 19:14	1
Butyl benzyl phthalate	ND		9.5	5.5	ug/L		04/11/24 11:12	04/12/24 19:14	1
4-Chloroaniline	ND		9.5	4.5	ug/L		04/11/24 11:12	04/12/24 19:14	1
4-Chloro-3-methylphenol	ND		9.5	5.1	ug/L		04/11/24 11:12	04/12/24 19:14	1
2-Chloronaphthalene	ND		9.5	3.6	ug/L		04/11/24 11:12	04/12/24 19:14	1
2-Chlorophenol	ND		9.5	3.9	ug/L		04/11/24 11:12	04/12/24 19:14	1
4-Chlorophenyl phenyl ether	ND		9.5	3.5	ug/L		04/11/24 11:12	04/12/24 19:14	1
Dibenz[a,h]acridine	ND		9.5	2.7	ug/L		04/11/24 11:12	04/12/24 19:14	1
Dibenzofuran	ND		9.5	3.8	ug/L		04/11/24 11:12	04/12/24 19:14	1
3,3'-Dichlorobenzidine	ND		10	10	ug/L		04/11/24 11:12	04/12/24 19:14	1
2,4-Dichlorophenol	ND		9.5	4.1	ug/L		04/11/24 11:12	04/12/24 19:14	1
Diethyl phthalate	ND		9.5	4.2	ug/L		04/11/24 11:12	04/12/24 19:14	1
2,4-Dimethylphenol	ND		9.5	5.0	ug/L		04/11/24 11:12	04/12/24 19:14	1
Dimethyl phthalate	ND		9.5	4.0	ug/L		04/11/24 11:12	04/12/24 19:14	1
Di-n-butyl phthalate	ND		9.5	4.4	ug/L		04/11/24 11:12	04/12/24 19:14	1
4,6-Dinitro-ortho-cresol	ND		9.5	9.5	ug/L		04/11/24 11:12	04/12/24 19:14	1
2,4-Dinitrophenol	ND		29	4.4	ug/L		04/11/24 11:12	04/12/24 19:14	1
2,4-Dinitrotoluene	ND		9.5	4.9	ug/L		04/11/24 11:12	04/12/24 19:14	1
2,6-Dinitrotoluene	ND		9.5	3.7	ug/L		04/11/24 11:12	04/12/24 19:14	1
Di-n-octyl phthalate	ND		9.5	5.7	ug/L		04/11/24 11:12	04/12/24 19:14	1
1,4-Dioxane	ND		9.5	4.1	ug/L		04/11/24 11:12	04/12/24 19:14	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.5	3.1	ug/L		04/11/24 11:12	04/12/24 19:14	1
Hexachlorobenzene	ND		9.5	9.2	ug/L		04/11/24 11:12	04/12/24 19:14	1
Hexachlorocyclopentadiene	ND		19	4.3	ug/L		04/11/24 11:12	04/12/24 19:14	1
Hexachloroethane	ND		9.5	5.0	ug/L		04/11/24 11:12	04/12/24 19:14	1
Indene	ND		9.5	3.4	ug/L		04/11/24 11:12	04/12/24 19:14	1
Isophorone	ND		9.5	5.0	ug/L		04/11/24 11:12	04/12/24 19:14	1
2-Methylphenol	ND		9.5	3.1	ug/L		04/11/24 11:12	04/12/24 19:14	1

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# Client Sample Results

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

Job ID: 400-253923-1

**Client Sample ID: MW10-ROX-040424**

**Lab Sample ID: 400-253923-6**

Date Collected: 04/04/24 12:35

Matrix: Water

Date Received: 04/05/24 09:31

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		19	4.4	ug/L		04/11/24 11:12	04/12/24 19:14	1
2-Nitroaniline	ND		9.5	4.8	ug/L		04/11/24 11:12	04/12/24 19:14	1
3-Nitroaniline	ND		9.5	4.5	ug/L		04/11/24 11:12	04/12/24 19:14	1
4-Nitroaniline	ND		9.5	3.9	ug/L		04/11/24 11:12	04/12/24 19:14	1
Nitrobenzene	ND		9.5	4.5	ug/L		04/11/24 11:12	04/12/24 19:14	1
2-Nitrophenol	ND		9.5	4.4	ug/L		04/11/24 11:12	04/12/24 19:14	1
4-Nitrophenol	ND		9.5	3.1	ug/L		04/11/24 11:12	04/12/24 19:14	1
N-Nitrosodimethylamine	ND		9.5	2.1	ug/L		04/11/24 11:12	04/12/24 19:14	1
N-Nitrosodi-n-propylamine	ND		9.5	2.4	ug/L		04/11/24 11:12	04/12/24 19:14	1
N-Nitrosodiphenylamine	ND		9.5	3.5	ug/L		04/11/24 11:12	04/12/24 19:14	1
Pentachlorophenol	ND		19	11	ug/L		04/11/24 11:12	04/12/24 19:14	1
Phenol	ND		9.5	4.0	ug/L		04/11/24 11:12	04/12/24 19:14	1
Pyridine	ND	*- UJ	9.5	9.5	ug/L		04/11/24 11:12	04/12/24 19:14	1
Quinoline	ND		9.5	2.3	ug/L		04/11/24 11:12	04/12/24 19:14	1
2,4,5-Trichlorophenol	ND		9.5	3.8	ug/L		04/11/24 11:12	04/12/24 19:14	1
2,4,6-Trichlorophenol	ND		9.5	3.3	ug/L		04/11/24 11:12	04/12/24 19:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	71		21 - 114	04/11/24 11:12	04/12/24 19:14	1
2-Fluorophenol	45		10 - 105	04/11/24 11:12	04/12/24 19:14	1
Nitrobenzene-d5	60		16 - 127	04/11/24 11:12	04/12/24 19:14	1
Phenol-d5	33		10 - 129	04/11/24 11:12	04/12/24 19:14	1
Terphenyl-d14	87		13 - 150	04/11/24 11:12	04/12/24 19:14	1
2,4,6-Tribromophenol	70		10 - 150	04/11/24 11:12	04/12/24 19:14	1

**Method: EPA 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	UJ	0.029	0.016	ug/L		04/09/24 10:03	04/09/24 18:20	1
1,2-Dibromoethane	ND	UJ	0.019	0.014	ug/L		04/09/24 10:03	04/09/24 18:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	67	p	51 - 149	04/09/24 10:03	04/09/24 18:20	1

# Client Sample Results

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

Job ID: 400-253923-1

**Client Sample ID: MW27-ROX-040424**

**Lab Sample ID: 400-253923-7**

**Date Collected: 04/04/24 13:45**

**Matrix: Water**

**Date Received: 04/05/24 09:31**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/16/24 17:47	1
Acrolein	ND		20	3.3	ug/L			04/16/24 17:47	1
Acrylonitrile	ND		10	2.8	ug/L			04/16/24 17:47	1
Benzene	ND		1.0	0.50	ug/L			04/16/24 17:47	1
Bromobenzene	ND		1.0	0.54	ug/L			04/16/24 17:47	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/16/24 17:47	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/16/24 17:47	1
Bromoform	ND		5.0	0.25	ug/L			04/16/24 17:47	1
Bromomethane	ND		1.0	0.98	ug/L			04/16/24 17:47	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/16/24 17:47	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/16/24 17:47	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/16/24 17:47	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/16/24 17:47	1
Chloroethane	ND		1.0	0.76	ug/L			04/16/24 17:47	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/16/24 17:47	1
Chloroform	ND		1.0	0.90	ug/L			04/16/24 17:47	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/16/24 17:47	1
Chloromethane	ND		1.0	0.90	ug/L			04/16/24 17:47	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/16/24 17:47	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/24 17:47	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/16/24 17:47	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/16/24 17:47	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/16/24 17:47	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/16/24 17:47	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/16/24 17:47	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/16/24 17:47	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/16/24 17:47	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/16/24 17:47	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 17:47	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 17:47	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 17:47	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/16/24 17:47	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/16/24 17:47	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/16/24 17:47	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/16/24 17:47	1
2-Hexanone	ND		25	1.4	ug/L			04/16/24 17:47	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/16/24 17:47	1
Methylene bromide	ND		5.0	0.22	ug/L			04/16/24 17:47	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/16/24 17:47	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/16/24 17:47	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/16/24 17:47	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/16/24 17:47	1
Naphthalene	ND		5.0	3.0	ug/L			04/16/24 17:47	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/16/24 17:47	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/16/24 17:47	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/16/24 17:47	1
o-Xylene	ND		5.0	0.60	ug/L			04/16/24 17:47	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/16/24 17:47	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/16/24 17:47	1

# Client Sample Results

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

Job ID: 400-253923-1

**Client Sample ID: MW27-ROX-040424**

**Lab Sample ID: 400-253923-7**

Date Collected: 04/04/24 13:45

Matrix: Water

Date Received: 04/05/24 09:31

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/16/24 17:47	1
Styrene	ND		1.0	1.0	ug/L			04/16/24 17:47	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/16/24 17:47	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/16/24 17:47	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/16/24 17:47	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/16/24 17:47	1
Toluene	ND		1.0	0.90	ug/L			04/16/24 17:47	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/24 17:47	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/16/24 17:47	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/16/24 17:47	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/16/24 17:47	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/16/24 17:47	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/16/24 17:47	1
Trichloroethene	ND		1.0	0.15	ug/L			04/16/24 17:47	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/16/24 17:47	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/16/24 17:47	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/16/24 17:47	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/16/24 17:47	1
Vinyl acetate	ND		25	0.93	ug/L			04/16/24 17:47	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/16/24 17:47	1
Xylenes, Total	ND		10	1.6	ug/L			04/16/24 17:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		72 - 130		04/16/24 17:47	1
Dibromofluoromethane	109		75 - 126		04/16/24 17:47	1
Toluene-d8 (Surr)	92		64 - 132		04/16/24 17:47	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.097	ug/L		04/11/24 11:14	04/12/24 18:33	1
Acenaphthylene	ND		0.20	0.043	ug/L		04/11/24 11:14	04/12/24 18:33	1
Anthracene	ND		0.20	0.046	ug/L		04/11/24 11:14	04/12/24 18:33	1
Benzo[a]anthracene	ND		0.20	0.033	ug/L		04/11/24 11:14	04/12/24 18:33	1
Benzo[a]pyrene	ND		0.20	0.063	ug/L		04/11/24 11:14	04/12/24 18:33	1
Benzo[b]fluoranthene	ND		0.20	0.036	ug/L		04/11/24 11:14	04/12/24 18:33	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		04/11/24 11:14	04/12/24 18:33	1
Benzo[k]fluoranthene	ND		0.20	0.061	ug/L		04/11/24 11:14	04/12/24 18:33	1
Chrysene	ND		0.20	0.032	ug/L		04/11/24 11:14	04/12/24 18:33	1
Dibenz(a,h)anthracene	ND		0.20	0.047	ug/L		04/11/24 11:14	04/12/24 18:33	1
Fluoranthene	ND		0.20	0.033	ug/L		04/11/24 11:14	04/12/24 18:33	1
Fluorene	ND		0.20	0.088	ug/L		04/11/24 11:14	04/12/24 18:33	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.033	ug/L		04/11/24 11:14	04/12/24 18:33	1
Phenanthrene	ND		0.20	0.089	ug/L		04/11/24 11:14	04/12/24 18:33	1
Pyrene	ND		0.20	0.038	ug/L		04/11/24 11:14	04/12/24 18:33	1
1-Methylnaphthalene	ND		0.20	0.079	ug/L		04/11/24 11:14	04/12/24 18:33	1
<b>2-Methylnaphthalene</b>	<b>0.085</b>	<b>J B U</b>	0.20	0.065	ug/L		04/11/24 11:14	04/12/24 18:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	72		18 - 147	04/11/24 11:14	04/12/24 18:33	1
2-Fluorobiphenyl	57		15 - 128	04/11/24 11:14	04/12/24 18:33	1

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# Client Sample Results

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

Job ID: 400-253923-1

**Client Sample ID: MW27-ROX-040424**

**Lab Sample ID: 400-253923-7**

Date Collected: 04/04/24 13:45

Matrix: Water

Date Received: 04/05/24 09:31

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	58		10 - 144	04/11/24 11:14	04/12/24 18:33	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) - RERA**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	0.082	J H	0.19	0.064	ug/L		04/18/24 10:15	04/18/24 18:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	85		18 - 147	04/18/24 10:15	04/18/24 18:35	1
2-Fluorobiphenyl	63		15 - 128	04/18/24 10:15	04/18/24 18:35	1
Nitrobenzene-d5	66		10 - 144	04/18/24 10:15	04/18/24 18:35	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	8.6	ug/L		04/11/24 11:14	04/12/24 19:36	1
Benzenethiol	ND		9.8	9.7	ug/L		04/11/24 11:14	04/12/24 19:36	1
Benzoic acid	ND		30	24	ug/L		04/11/24 11:14	04/12/24 19:36	1
Benzyl alcohol	ND		9.8	7.2	ug/L		04/11/24 11:14	04/12/24 19:36	1
Bis(2-chloroethoxy)methane	ND		9.8	4.5	ug/L		04/11/24 11:14	04/12/24 19:36	1
Bis(2-chloroethyl)ether	ND		9.8	3.8	ug/L		04/11/24 11:14	04/12/24 19:36	1
bis (2-chloroisopropyl) ether	ND		9.8	1.8	ug/L		04/11/24 11:14	04/12/24 19:36	1
Bis(2-ethylhexyl) phthalate	ND		9.8	8.8	ug/L		04/11/24 11:14	04/12/24 19:36	1
4-Bromophenyl phenyl ether	ND		9.8	8.5	ug/L		04/11/24 11:14	04/12/24 19:36	1
Butyl benzyl phthalate	ND		9.8	5.7	ug/L		04/11/24 11:14	04/12/24 19:36	1
4-Chloroaniline	ND		9.8	4.6	ug/L		04/11/24 11:14	04/12/24 19:36	1
4-Chloro-3-methylphenol	ND		9.8	5.2	ug/L		04/11/24 11:14	04/12/24 19:36	1
2-Chloronaphthalene	ND		9.8	3.7	ug/L		04/11/24 11:14	04/12/24 19:36	1
2-Chlorophenol	ND		9.8	4.0	ug/L		04/11/24 11:14	04/12/24 19:36	1
4-Chlorophenyl phenyl ether	ND		9.8	3.6	ug/L		04/11/24 11:14	04/12/24 19:36	1
Dibenz[a,h]acridine	ND		9.8	2.8	ug/L		04/11/24 11:14	04/12/24 19:36	1
Dibenzofuran	ND		9.8	3.9	ug/L		04/11/24 11:14	04/12/24 19:36	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/11/24 11:14	04/12/24 19:36	1
2,4-Dichlorophenol	ND		9.8	4.2	ug/L		04/11/24 11:14	04/12/24 19:36	1
Diethyl phthalate	ND		9.8	4.3	ug/L		04/11/24 11:14	04/12/24 19:36	1
2,4-Dimethylphenol	ND		9.8	5.1	ug/L		04/11/24 11:14	04/12/24 19:36	1
Dimethyl phthalate	ND		9.8	4.1	ug/L		04/11/24 11:14	04/12/24 19:36	1
Di-n-butyl phthalate	ND		9.8	4.5	ug/L		04/11/24 11:14	04/12/24 19:36	1
4,6-Dinitro-ortho-cresol	ND		9.8	9.8	ug/L		04/11/24 11:14	04/12/24 19:36	1
2,4-Dinitrophenol	ND		30	4.5	ug/L		04/11/24 11:14	04/12/24 19:36	1
2,4-Dinitrotoluene	ND		9.8	5.0	ug/L		04/11/24 11:14	04/12/24 19:36	1
2,6-Dinitrotoluene	ND		9.8	3.8	ug/L		04/11/24 11:14	04/12/24 19:36	1
Di-n-octyl phthalate	ND		9.8	5.9	ug/L		04/11/24 11:14	04/12/24 19:36	1
1,4-Dioxane	ND		9.8	4.2	ug/L		04/11/24 11:14	04/12/24 19:36	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	3.2	ug/L		04/11/24 11:14	04/12/24 19:36	1
Hexachlorobenzene	ND		9.8	9.5	ug/L		04/11/24 11:14	04/12/24 19:36	1
Hexachlorocyclopentadiene	ND		20	4.4	ug/L		04/11/24 11:14	04/12/24 19:36	1
Hexachloroethane	ND		9.8	5.1	ug/L		04/11/24 11:14	04/12/24 19:36	1
Indene	ND		9.8	3.5	ug/L		04/11/24 11:14	04/12/24 19:36	1
Isophorone	ND		9.8	5.1	ug/L		04/11/24 11:14	04/12/24 19:36	1
2-Methylphenol	ND		9.8	3.1	ug/L		04/11/24 11:14	04/12/24 19:36	1

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# Client Sample Results

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

Job ID: 400-253923-1

**Client Sample ID: MW27-ROX-040424**

**Lab Sample ID: 400-253923-7**

Date Collected: 04/04/24 13:45

Matrix: Water

Date Received: 04/05/24 09:31

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3 & 4 Methylphenol	ND		20	4.5	ug/L		04/11/24 11:14	04/12/24 19:36	1
2-Nitroaniline	ND		9.8	4.9	ug/L		04/11/24 11:14	04/12/24 19:36	1
3-Nitroaniline	ND		9.8	4.6	ug/L		04/11/24 11:14	04/12/24 19:36	1
4-Nitroaniline	ND		9.8	4.0	ug/L		04/11/24 11:14	04/12/24 19:36	1
Nitrobenzene	ND		9.8	4.6	ug/L		04/11/24 11:14	04/12/24 19:36	1
2-Nitrophenol	ND		9.8	4.5	ug/L		04/11/24 11:14	04/12/24 19:36	1
4-Nitrophenol	ND		9.8	3.2	ug/L		04/11/24 11:14	04/12/24 19:36	1
N-Nitrosodimethylamine	ND		9.8	2.2	ug/L		04/11/24 11:14	04/12/24 19:36	1
N-Nitrosodi-n-propylamine	ND		9.8	2.5	ug/L		04/11/24 11:14	04/12/24 19:36	1
N-Nitrosodiphenylamine	ND		9.8	3.6	ug/L		04/11/24 11:14	04/12/24 19:36	1
Pentachlorophenol	ND		20	12	ug/L		04/11/24 11:14	04/12/24 19:36	1
Phenol	ND		9.8	4.1	ug/L		04/11/24 11:14	04/12/24 19:36	1
Pyridine	ND	*- UJ	9.8	9.8	ug/L		04/11/24 11:14	04/12/24 19:36	1
Quinoline	ND		9.8	2.4	ug/L		04/11/24 11:14	04/12/24 19:36	1
2,4,5-Trichlorophenol	ND		9.8	3.9	ug/L		04/11/24 11:14	04/12/24 19:36	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		04/11/24 11:14	04/12/24 19:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	73		21 - 114	04/11/24 11:14	04/12/24 19:36	1
2-Fluorophenol	41		10 - 105	04/11/24 11:14	04/12/24 19:36	1
Nitrobenzene-d5	62		16 - 127	04/11/24 11:14	04/12/24 19:36	1
Phenol-d5	29		10 - 129	04/11/24 11:14	04/12/24 19:36	1
Terphenyl-d14	88		13 - 150	04/11/24 11:14	04/12/24 19:36	1
2,4,6-Tribromophenol	69		10 - 150	04/11/24 11:14	04/12/24 19:36	1

**Method: EPA 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	UJ	0.029	0.017	ug/L		04/09/24 10:03	04/09/24 18:42	1
1,2-Dibromoethane	ND	UJ	0.020	0.015	ug/L		04/09/24 10:03	04/09/24 18:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	75	p	51 - 149	04/09/24 10:03	04/09/24 18:42	1

# Definitions/Glossary

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

Job ID: 400-253923-1

## Qualifiers

### GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
B	Compound was found in the blank and sample.
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### 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.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count



# Surrogate Summary

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

Job ID: 400-253923-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (72-130)	DBFM (75-126)	TOL (64-132)
400-253923-1	TB-ROX-040424-8260	100	107	90
400-253923-3	MW1-ROX-040424-EB	102	108	91
400-253923-3	MW1-ROX-040424-EB	100	109	90
400-253923-4	MW1-ROX-040424	102	109	91
400-253923-5	MW26-ROX-040424	102	109	91
400-253923-6	MW10-ROX-040424	102	108	91
400-253923-7	MW27-ROX-040424	101	109	92
LCS 400-668071/1002	Lab Control Sample	99	106	93
LCS 400-668233/1002	Lab Control Sample	100	107	91
MB 400-668071/4	Method Blank	101	104	94
MB 400-668233/4	Method Blank	100	107	90

**Surrogate Legend**  
 BFB = 4-Bromofluorobenzene  
 DBFM = Dibromofluoromethane  
 TOL = Toluene-d8 (Surr)

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (21-114)	2FP (10-105)	NBZ (16-127)	PHL (10-129)	TPHL (13-150)	TBP (10-150)
400-253923-3	MW1-ROX-040424-EB	64	39	55	29	87	69
400-253923-4	MW1-ROX-040424	71	45	59	33	91	70
400-253923-5	MW26-ROX-040424	68	39	59	28	88	67
400-253923-6	MW10-ROX-040424	71	45	60	33	87	70
400-253923-7	MW27-ROX-040424	73	41	62	29	88	69
LCS 400-667656/2-A	Lab Control Sample	75	65	70	55	99	90
LCS 400-667656/5-A	Lab Control Sample	75	57	71	45	91	75
LCS 400-667656/6-A	Lab Control Sample Dup	80	61	74	48	95	69
MB 400-667656/1-A	Method Blank	74	53	69	40	93	63

**Surrogate Legend**  
 FBP = 2-Fluorobiphenyl  
 2FP = 2-Fluorophenol  
 NBZ = Nitrobenzene-d5  
 PHL = Phenol-d5  
 TPHL = Terphenyl-d14  
 TBP = 2,4,6-Tribromophenol

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TPHL (18-147)	FBP (15-128)	NBZ (10-144)
400-253923-3	MW1-ROX-040424-EB	72	51	50
400-253923-4	MW1-ROX-040424	69	56	55
400-253923-4 - RERA	MW1-ROX-040424	77	63	67
400-253923-5	MW26-ROX-040424	77	56	55

# Surrogate Summary

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

Job ID: 400-253923-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TPHL (18-147)	FBP (15-128)	NBZ (10-144)
400-253923-6	MW10-ROX-040424	74	56	55
400-253923-6 - RERA	MW10-ROX-040424	83	68	73
400-253923-7	MW27-ROX-040424	72	57	58
400-253923-7 - RERA	MW27-ROX-040424	85	63	66
LCS 400-667656/2-A	Lab Control Sample	74	71	85
LCS 400-668437/2-A	Lab Control Sample	93	82	57
LCSD 400-668437/3-A	Lab Control Sample Dup	85	72	53
MB 400-667656/1-A	Method Blank	75	57	58
MB 400-668437/1-A	Method Blank	100	76	84

#### 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

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB2 (51-149)
400-253923-2	TB-ROX-040424-8011	69 p
400-253923-3	MW1-ROX-040424-EB	72 p
400-253923-4	MW1-ROX-040424	67 p
400-253923-5	MW26-ROX-040424	75 p
400-253923-6	MW10-ROX-040424	67 p
400-253923-7	MW27-ROX-040424	75 p
LCS 400-667350/2-A	Lab Control Sample	66
LCSD 400-667350/3-A	Lab Control Sample Dup	77
MB 400-667350/1-A	Method Blank	69

#### Surrogate Legend

BFB = 4-Bromofluorobenzene

# Method Summary

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

Job ID: 400-253923-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET PEN
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET PEN
8270E SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	EET PEN
8011	EDB and DBCP in Water by Microextraction	EPA	EET PEN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET PEN
5030C	Purge and Trap	SW846	EET PEN
8011	Microextraction	SW846	EET 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:**

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001



# Lab Chronicle

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

Job ID: 400-253923-1

**Client Sample ID: TB-ROX-040424-8260**

**Lab Sample ID: 400-253923-1**

Date Collected: 04/04/24 00:00

Matrix: Water

Date Received: 04/05/24 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	8260D		1	5 mL	5 mL	668071	04/16/24 15:45	WPD	EET PEN

**Client Sample ID: TB-ROX-040424-8011**

**Lab Sample ID: 400-253923-2**

Date Collected: 04/04/24 00:00

Matrix: Water

Date Received: 04/05/24 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			34.4 mL	35 mL	667350	04/09/24 10:03	PG	EET PEN
Total/NA	Analysis	8011		1			667378	04/09/24 16:54	PG	EET PEN

**Client Sample ID: MW1-ROX-040424-EB**

**Lab Sample ID: 400-253923-3**

Date Collected: 04/04/24 08:45

Matrix: Water

Date Received: 04/05/24 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	8260D		1	5 mL	5 mL	668071	04/16/24 16:10	WPD	EET PEN
Total/NA	Analysis	8260D		1	5 mL	5 mL	668233	04/17/24 10:22	KR	EET PEN
Total/NA	Prep	3510C			258.4 mL	1 mL	667656	04/11/24 11:12	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	667808	04/12/24 18:06	VC1	EET PEN
Total/NA	Prep	3510C			258.4 mL	1 mL	667656	04/11/24 11:12	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	667751	04/12/24 17:09	KJA	EET PEN
Total/NA	Prep	8011			35.9 mL	35 mL	667350	04/09/24 10:03	PG	EET PEN
Total/NA	Analysis	8011		1			667378	04/09/24 17:16	PG	EET PEN

**Client Sample ID: MW1-ROX-040424**

**Lab Sample ID: 400-253923-4**

Date Collected: 04/04/24 10:05

Matrix: Water

Date Received: 04/05/24 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	8260D		1	5 mL	5 mL	668071	04/16/24 16:34	WPD	EET PEN
Total/NA	Prep	3510C			249.6 mL	1 mL	667656	04/11/24 11:12	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	667808	04/12/24 18:29	VC1	EET PEN
Total/NA	Prep	3510C			249.6 mL	1 mL	667656	04/11/24 11:12	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	667751	04/12/24 17:30	KJA	EET PEN
Total/NA	Prep	3510C	RERA		252.2 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E SIM	RERA	1	0.4 mL	0.4 mL	668419	04/18/24 17:52	KJA	EET PEN
Total/NA	Prep	8011			37 mL	35 mL	667350	04/09/24 10:03	PG	EET PEN
Total/NA	Analysis	8011		1			667378	04/09/24 17:37	PG	EET PEN

**Client Sample ID: MW26-ROX-040424**

**Lab Sample ID: 400-253923-5**

Date Collected: 04/04/24 11:25

Matrix: Water

Date Received: 04/05/24 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	8260D		1	5 mL	5 mL	668071	04/16/24 16:58	WPD	EET PEN

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# Lab Chronicle

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

Job ID: 400-253923-1

**Client Sample ID: MW26-ROX-040424**

**Lab Sample ID: 400-253923-5**

**Date Collected: 04/04/24 11:25**

**Matrix: Water**

**Date Received: 04/05/24 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	3510C			258.2 mL	1 mL	667656	04/11/24 11:12	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	667808	04/12/24 18:51	VC1	EET PEN
Total/NA	Prep	3510C			258.2 mL	1 mL	667656	04/11/24 11:12	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	667751	04/12/24 17:51	KJA	EET PEN
Total/NA	Prep	8011			35.3 mL	35 mL	667350	04/09/24 10:03	PG	EET PEN
Total/NA	Analysis	8011		1			667378	04/09/24 17:58	PG	EET PEN

**Client Sample ID: MW10-ROX-040424**

**Lab Sample ID: 400-253923-6**

**Date Collected: 04/04/24 12:35**

**Matrix: Water**

**Date Received: 04/05/24 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	8260D		1	5 mL	5 mL	668071	04/16/24 17:23	WPD	EET PEN
Total/NA	Prep	3510C			262.2 mL	1 mL	667656	04/11/24 11:12	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	667808	04/12/24 19:14	VC1	EET PEN
Total/NA	Prep	3510C			262.2 mL	1 mL	667656	04/11/24 11:12	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	667751	04/12/24 18:12	KJA	EET PEN
Total/NA	Prep	3510C	RERA		257.2 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E SIM	RERA	1	0.4 mL	0.4 mL	668419	04/18/24 18:13	KJA	EET PEN
Total/NA	Prep	8011			36.4 mL	35 mL	667350	04/09/24 10:03	PG	EET PEN
Total/NA	Analysis	8011		1			667378	04/09/24 18:20	PG	EET PEN

**Client Sample ID: MW27-ROX-040424**

**Lab Sample ID: 400-253923-7**

**Date Collected: 04/04/24 13:45**

**Matrix: Water**

**Date Received: 04/05/24 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	8260D		1	5 mL	5 mL	668071	04/16/24 17:47	WPD	EET PEN
Total/NA	Prep	3510C			254 mL	1 mL	667656	04/11/24 11:14	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	667808	04/12/24 19:36	VC1	EET PEN
Total/NA	Prep	3510C			254 mL	1 mL	667656	04/11/24 11:14	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	667751	04/12/24 18:33	KJA	EET PEN
Total/NA	Prep	3510C	RERA		256.8 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E SIM	RERA	1	0.4 mL	0.4 mL	668419	04/18/24 18:35	KJA	EET PEN
Total/NA	Prep	8011			35.8 mL	35 mL	667350	04/09/24 10:03	PG	EET PEN
Total/NA	Analysis	8011		1			667378	04/09/24 18:42	PG	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-667350/1-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	667350	04/09/24 10:03	PG	EET PEN
Total/NA	Analysis	8011		1			667378	04/09/24 12:57	PG	EET PEN

# Lab Chronicle

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

Job ID: 400-253923-1

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-667656/1-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	3510C			250 mL	1 mL	667656	04/11/24 11:10	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	667806	04/12/24 22:46	VC1	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	667656	04/11/24 11:10	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	667751	04/12/24 15:25	KJA	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-668071/4**

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	8260D		1	5 mL	5 mL	668071	04/16/24 08:50	WPD	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-668233/4**

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	8260D		1	5 mL	5 mL	668233	04/17/24 09:58	KR	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-668437/1-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	3510C			250 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	668419	04/18/24 16:26	KJA	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-667350/2-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	667350	04/09/24 10:03	PG	EET PEN
Total/NA	Analysis	8011		1			667378	04/09/24 13:19	PG	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-667656/2-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	3510C			250 mL	1 mL	667656	04/11/24 11:10	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	667806	04/12/24 23:09	VC1	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	667656	04/11/24 11:10	STC	EET PEN
Total/NA	Analysis	8270E SIM		20	0.4 mL	0.4 mL	668080	04/16/24 09:24	KJA	EET PEN



# Lab Chronicle

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

Job ID: 400-253923-1

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-667656/5-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	3510C			250 mL	1 mL	667656	04/11/24 11:12	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	667806	04/13/24 00:15	VC1	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-668071/1002

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	8260D		1	5 mL	5 mL	668071	04/16/24 07:53	WPD	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-668233/1002

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	8260D		1	5 mL	5 mL	668233	04/17/24 08:56	KR	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-668437/2-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	3510C			250 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E SIM		100	0.4 mL	0.4 mL	668419	04/18/24 16:47	KJA	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-667350/3-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	667350	04/09/24 10:03	PG	EET PEN
Total/NA	Analysis	8011		1			667378	04/09/24 13:40	PG	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-667656/6-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	3510C			250 mL	1 mL	667656	04/11/24 11:12	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	667806	04/13/24 00:37	VC1	EET PEN

# Lab Chronicle

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

Job ID: 400-253923-1

**Client Sample ID: Lab Control Sample Dup**

**Lab Sample ID: LCSD 400-668437/3-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	3510C			250 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E SIM		100	0.4 mL	0.4 mL	668419	04/18/24 17:09	KJA	EET PEN

**Laboratory References:**

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001



# QC Association Summary

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

Job ID: 400-253923-1

## GC/MS VOA

### Analysis Batch: 668071

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-253923-1	TB-ROX-040424-8260	Total/NA	Water	8260D	
400-253923-3	MW1-ROX-040424-EB	Total/NA	Water	8260D	
400-253923-4	MW1-ROX-040424	Total/NA	Water	8260D	
400-253923-5	MW26-ROX-040424	Total/NA	Water	8260D	
400-253923-6	MW10-ROX-040424	Total/NA	Water	8260D	
400-253923-7	MW27-ROX-040424	Total/NA	Water	8260D	
MB 400-668071/4	Method Blank	Total/NA	Water	8260D	
LCS 400-668071/1002	Lab Control Sample	Total/NA	Water	8260D	

### Analysis Batch: 668233

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-253923-3	MW1-ROX-040424-EB	Total/NA	Water	8260D	
MB 400-668233/4	Method Blank	Total/NA	Water	8260D	
LCS 400-668233/1002	Lab Control Sample	Total/NA	Water	8260D	

## GC/MS Semi VOA

### Prep Batch: 667656

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-253923-3	MW1-ROX-040424-EB	Total/NA	Water	3510C	
400-253923-4	MW1-ROX-040424	Total/NA	Water	3510C	
400-253923-5	MW26-ROX-040424	Total/NA	Water	3510C	
400-253923-6	MW10-ROX-040424	Total/NA	Water	3510C	
400-253923-7	MW27-ROX-040424	Total/NA	Water	3510C	
MB 400-667656/1-A	Method Blank	Total/NA	Water	3510C	
LCS 400-667656/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 400-667656/5-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 400-667656/6-A	Lab Control Sample Dup	Total/NA	Water	3510C	

### Analysis Batch: 667751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-253923-3	MW1-ROX-040424-EB	Total/NA	Water	8270E SIM	667656
400-253923-4	MW1-ROX-040424	Total/NA	Water	8270E SIM	667656
400-253923-5	MW26-ROX-040424	Total/NA	Water	8270E SIM	667656
400-253923-6	MW10-ROX-040424	Total/NA	Water	8270E SIM	667656
400-253923-7	MW27-ROX-040424	Total/NA	Water	8270E SIM	667656
MB 400-667656/1-A	Method Blank	Total/NA	Water	8270E SIM	667656

### Analysis Batch: 667806

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-667656/1-A	Method Blank	Total/NA	Water	8270E	667656
LCS 400-667656/2-A	Lab Control Sample	Total/NA	Water	8270E	667656
LCS 400-667656/5-A	Lab Control Sample	Total/NA	Water	8270E	667656
LCSD 400-667656/6-A	Lab Control Sample Dup	Total/NA	Water	8270E	667656

### Analysis Batch: 667808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-253923-3	MW1-ROX-040424-EB	Total/NA	Water	8270E	667656
400-253923-4	MW1-ROX-040424	Total/NA	Water	8270E	667656
400-253923-5	MW26-ROX-040424	Total/NA	Water	8270E	667656
400-253923-6	MW10-ROX-040424	Total/NA	Water	8270E	667656

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# QC Association Summary

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

Job ID: 400-253923-1

## GC/MS Semi VOA (Continued)

### Analysis Batch: 667808 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-253923-7	MW27-ROX-040424	Total/NA	Water	8270E	667656

### Analysis Batch: 668080

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 400-667656/2-A	Lab Control Sample	Total/NA	Water	8270E SIM	667656

### Analysis Batch: 668419

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-253923-4 - RERA	MW1-ROX-040424	Total/NA	Water	8270E SIM	668437
400-253923-6 - RERA	MW10-ROX-040424	Total/NA	Water	8270E SIM	668437
400-253923-7 - RERA	MW27-ROX-040424	Total/NA	Water	8270E SIM	668437
MB 400-668437/1-A	Method Blank	Total/NA	Water	8270E SIM	668437
LCS 400-668437/2-A	Lab Control Sample	Total/NA	Water	8270E SIM	668437
LCSD 400-668437/3-A	Lab Control Sample Dup	Total/NA	Water	8270E SIM	668437

### Prep Batch: 668437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-253923-4 - RERA	MW1-ROX-040424	Total/NA	Water	3510C	
400-253923-6 - RERA	MW10-ROX-040424	Total/NA	Water	3510C	
400-253923-7 - RERA	MW27-ROX-040424	Total/NA	Water	3510C	
MB 400-668437/1-A	Method Blank	Total/NA	Water	3510C	
LCS 400-668437/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 400-668437/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

## GC Semi VOA

### Prep Batch: 667350

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-253923-2	TB-ROX-040424-8011	Total/NA	Water	8011	
400-253923-3	MW1-ROX-040424-EB	Total/NA	Water	8011	
400-253923-4	MW1-ROX-040424	Total/NA	Water	8011	
400-253923-5	MW26-ROX-040424	Total/NA	Water	8011	
400-253923-6	MW10-ROX-040424	Total/NA	Water	8011	
400-253923-7	MW27-ROX-040424	Total/NA	Water	8011	
MB 400-667350/1-A	Method Blank	Total/NA	Water	8011	
LCS 400-667350/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 400-667350/3-A	Lab Control Sample Dup	Total/NA	Water	8011	

### Analysis Batch: 667378

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-253923-2	TB-ROX-040424-8011	Total/NA	Water	8011	667350
400-253923-3	MW1-ROX-040424-EB	Total/NA	Water	8011	667350
400-253923-4	MW1-ROX-040424	Total/NA	Water	8011	667350
400-253923-5	MW26-ROX-040424	Total/NA	Water	8011	667350
400-253923-6	MW10-ROX-040424	Total/NA	Water	8011	667350
400-253923-7	MW27-ROX-040424	Total/NA	Water	8011	667350
MB 400-667350/1-A	Method Blank	Total/NA	Water	8011	667350
LCS 400-667350/2-A	Lab Control Sample	Total/NA	Water	8011	667350
LCSD 400-667350/3-A	Lab Control Sample Dup	Total/NA	Water	8011	667350

# QC Sample Results

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

Job ID: 400-253923-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 400-668071/4**  
**Matrix: Water**  
**Analysis Batch: 668071**

**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			04/16/24 08:50	1
Acrolein	ND		20	3.3	ug/L			04/16/24 08:50	1
Acrylonitrile	ND		10	2.8	ug/L			04/16/24 08:50	1
Benzene	ND		1.0	0.50	ug/L			04/16/24 08:50	1
Bromobenzene	ND		1.0	0.54	ug/L			04/16/24 08:50	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/16/24 08:50	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/16/24 08:50	1
Bromoform	ND		5.0	0.25	ug/L			04/16/24 08:50	1
Bromomethane	ND		1.0	0.98	ug/L			04/16/24 08:50	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/16/24 08:50	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/16/24 08:50	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/16/24 08:50	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/16/24 08:50	1
Chloroethane	ND		1.0	0.76	ug/L			04/16/24 08:50	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/16/24 08:50	1
Chloroform	ND		1.0	0.90	ug/L			04/16/24 08:50	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/16/24 08:50	1
Chloromethane	ND		1.0	0.90	ug/L			04/16/24 08:50	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/16/24 08:50	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/24 08:50	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/16/24 08:50	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/16/24 08:50	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/16/24 08:50	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/16/24 08:50	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/16/24 08:50	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/16/24 08:50	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/16/24 08:50	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/16/24 08:50	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 08:50	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 08:50	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 08:50	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/16/24 08:50	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/16/24 08:50	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/16/24 08:50	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/16/24 08:50	1
2-Hexanone	ND		25	1.4	ug/L			04/16/24 08:50	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/16/24 08:50	1
Methylene bromide	ND		5.0	0.22	ug/L			04/16/24 08:50	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/16/24 08:50	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/16/24 08:50	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/16/24 08:50	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/16/24 08:50	1
Naphthalene	ND		5.0	3.0	ug/L			04/16/24 08:50	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/16/24 08:50	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/16/24 08:50	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/16/24 08:50	1
o-Xylene	ND		5.0	0.60	ug/L			04/16/24 08:50	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/16/24 08:50	1

# QC Sample Results

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

Job ID: 400-253923-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-668071/4**  
**Matrix: Water**  
**Analysis Batch: 668071**

**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			04/16/24 08:50	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/16/24 08:50	1
Styrene	ND		1.0	1.0	ug/L			04/16/24 08:50	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/16/24 08:50	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/16/24 08:50	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/16/24 08:50	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/16/24 08:50	1
Toluene	ND		1.0	0.90	ug/L			04/16/24 08:50	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/24 08:50	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/16/24 08:50	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/16/24 08:50	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/16/24 08:50	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/16/24 08:50	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/16/24 08:50	1
Trichloroethene	ND		1.0	0.15	ug/L			04/16/24 08:50	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/16/24 08:50	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/16/24 08:50	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/16/24 08:50	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/16/24 08:50	1
Vinyl acetate	ND		25	0.93	ug/L			04/16/24 08:50	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/16/24 08:50	1
Xylenes, Total	ND		10	1.6	ug/L			04/16/24 08:50	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		72 - 130		04/16/24 08:50	1
Dibromofluoromethane	104		75 - 126		04/16/24 08:50	1
Toluene-d8 (Surr)	94		64 - 132		04/16/24 08:50	1

**Lab Sample ID: LCS 400-668071/1002**  
**Matrix: Water**  
**Analysis Batch: 668071**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	200	243		ug/L		122	43 - 160
Acrolein	500	640		ug/L		128	38 - 160
Acrylonitrile	500	576		ug/L		115	64 - 142
Benzene	50.0	58.7		ug/L		117	70 - 130
Bromobenzene	50.0	51.4		ug/L		103	70 - 132
Bromochloromethane	50.0	56.9		ug/L		114	70 - 130
Bromodichloromethane	50.0	59.4		ug/L		119	67 - 133
Bromoform	50.0	50.3		ug/L		101	57 - 140
Bromomethane	50.0	48.3		ug/L		97	10 - 160
2-Butanone (MEK)	200	240		ug/L		120	61 - 145
Carbon disulfide	50.0	53.4		ug/L		107	61 - 137
Carbon tetrachloride	50.0	55.8		ug/L		112	61 - 137
Chlorobenzene	50.0	52.3		ug/L		105	70 - 130
Chloroethane	50.0	51.6		ug/L		103	55 - 141
2-Chloroethyl vinyl ether	50.0	59.6		ug/L		119	10 - 160



# QC Sample Results

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

Job ID: 400-253923-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-668071/1002**  
**Matrix: Water**  
**Analysis Batch: 668071**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroform	50.0	57.9		ug/L		116	69 - 130
1-Chlorohexane	50.0	52.7		ug/L		105	69 - 130
Chloromethane	50.0	48.0		ug/L		96	58 - 137
cis-1,2-Dichloroethene	50.0	54.6		ug/L		109	68 - 130
cis-1,3-Dichloropropene	50.0	60.7		ug/L		121	69 - 132
Dibromochloromethane	50.0	51.8		ug/L		104	67 - 135
1,2-Dichlorobenzene	50.0	52.8		ug/L		106	67 - 130
1,3-Dichlorobenzene	50.0	53.1		ug/L		106	70 - 130
1,4-Dichlorobenzene	50.0	52.0		ug/L		104	70 - 130
Dichlorodifluoromethane	50.0	38.3		ug/L		77	41 - 146
1,1-Dichloroethane	50.0	64.1		ug/L		128	70 - 130
1,2-Dichloroethane	50.0	57.9		ug/L		116	69 - 130
1,1-Dichloroethene	50.0	55.9		ug/L		112	63 - 134
1,2-Dichloropropane	50.0	61.7		ug/L		123	70 - 130
1,3-Dichloropropane	50.0	51.7		ug/L		103	70 - 130
2,2-Dichloropropane	50.0	56.1		ug/L		112	52 - 135
1,1-Dichloropropene	50.0	58.5		ug/L		117	70 - 130
Ethylbenzene	50.0	52.6		ug/L		105	70 - 130
Ethyl methacrylate	50.0	51.1		ug/L		102	68 - 130
Hexachlorobutadiene	50.0	52.4		ug/L		105	53 - 140
2-Hexanone	200	200		ug/L		100	65 - 137
Isopropylbenzene	50.0	53.0		ug/L		106	70 - 130
Methylene bromide	50.0	57.4		ug/L		115	70 - 130
Methylene Chloride	50.0	55.8		ug/L		112	66 - 135
4-Methyl-2-pentanone (MIBK)	200	220		ug/L		110	69 - 138
Methyl tert-butyl ether	50.0	57.9		ug/L		116	66 - 130
m-Xylene & p-Xylene	50.0	53.0		ug/L		106	70 - 130
Naphthalene	50.0	43.5		ug/L		87	47 - 149
n-Butylbenzene	50.0	55.1		ug/L		110	67 - 130
N-Propylbenzene	50.0	55.1		ug/L		110	70 - 130
o-Chlorotoluene	50.0	52.2		ug/L		104	70 - 130
o-Xylene	50.0	52.4		ug/L		105	70 - 130
p-Chlorotoluene	50.0	53.4		ug/L		107	70 - 130
p-Isopropyltoluene	50.0	55.4		ug/L		111	65 - 130
sec-Butylbenzene	50.0	55.2		ug/L		110	66 - 130
Styrene	50.0	52.3		ug/L		105	70 - 130
tert-Butylbenzene	50.0	52.4		ug/L		105	64 - 139
1,1,1,2-Tetrachloroethane	50.0	52.0		ug/L		104	67 - 131
1,1,2,2-Tetrachloroethane	50.0	55.1		ug/L		110	70 - 131
Tetrachloroethene	50.0	46.8		ug/L		94	65 - 130
Toluene	50.0	52.0		ug/L		104	70 - 130
trans-1,2-Dichloroethene	50.0	57.3		ug/L		115	70 - 130
trans-1,3-Dichloropropene	50.0	51.9		ug/L		104	63 - 130
1,2,3-Trichlorobenzene	50.0	52.7		ug/L		105	60 - 138
1,2,4-Trichlorobenzene	50.0	52.5		ug/L		105	60 - 140
1,1,1-Trichloroethane	50.0	56.5		ug/L		113	68 - 130
1,1,2-Trichloroethane	50.0	53.3		ug/L		107	70 - 130
Trichloroethene	50.0	57.7		ug/L		115	70 - 130
Trichlorofluoromethane	50.0	54.3		ug/L		109	65 - 138

# QC Sample Results

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

Job ID: 400-253923-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID:** LCS 400-668071/1002  
**Matrix:** Water  
**Analysis Batch:** 668071

**Client Sample ID:** Lab Control Sample  
**Prep Type:** Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	50.0	51.1		ug/L		102	70 - 130
1,2,4-Trimethylbenzene	50.0	54.7		ug/L		109	70 - 130
1,3,5-Trimethylbenzene	50.0	54.7		ug/L		109	69 - 130
Vinyl acetate	100	116		ug/L		116	26 - 160
Vinyl chloride	50.0	53.1		ug/L		106	59 - 136
Xylenes, Total	100	105		ug/L		105	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	99		72 - 130
Dibromofluoromethane	106		75 - 126
Toluene-d8 (Surr)	93		64 - 132

**Lab Sample ID:** MB 400-668233/4  
**Matrix:** Water  
**Analysis Batch:** 668233

**Client Sample ID:** Method Blank  
**Prep Type:** Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Butanone (MEK)	ND		25	2.6	ug/L			04/17/24 09:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	100		72 - 130		04/17/24 09:58	1
Dibromofluoromethane	107		75 - 126		04/17/24 09:58	1
Toluene-d8 (Surr)	90		64 - 132		04/17/24 09:58	1

**Lab Sample ID:** LCS 400-668233/1002  
**Matrix:** Water  
**Analysis Batch:** 668233

**Client Sample ID:** Lab Control Sample  
**Prep Type:** Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2-Butanone (MEK)	200	225		ug/L		112	61 - 145

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	100		72 - 130
Dibromofluoromethane	107		75 - 126
Toluene-d8 (Surr)	91		64 - 132

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

**Lab Sample ID:** MB 400-667656/1-A  
**Matrix:** Water  
**Analysis Batch:** 667806

**Client Sample ID:** Method Blank  
**Prep Type:** Total/NA  
**Prep Batch:** 667656

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	8.7	ug/L		04/11/24 11:10	04/12/24 22:46	1
Benzenethiol	ND		10	9.9	ug/L		04/11/24 11:10	04/12/24 22:46	1
Benzoic acid	ND		30	24	ug/L		04/11/24 11:10	04/12/24 22:46	1
Benzyl alcohol	ND		10	7.3	ug/L		04/11/24 11:10	04/12/24 22:46	1
Bis(2-chloroethoxy)methane	ND		10	4.6	ug/L		04/11/24 11:10	04/12/24 22:46	1

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# QC Sample Results

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

Job ID: 400-253923-1

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

**Lab Sample ID: MB 400-667656/1-A**  
**Matrix: Water**  
**Analysis Batch: 667806**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 667656**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Bis(2-chloroethyl)ether	ND		10	3.9	ug/L		04/11/24 11:10	04/12/24 22:46	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		04/11/24 11:10	04/12/24 22:46	1
Bis(2-ethylhexyl) phthalate	ND		10	8.9	ug/L		04/11/24 11:10	04/12/24 22:46	1
4-Bromophenyl phenyl ether	ND		10	8.6	ug/L		04/11/24 11:10	04/12/24 22:46	1
Butyl benzyl phthalate	ND		10	5.8	ug/L		04/11/24 11:10	04/12/24 22:46	1
4-Chloroaniline	ND		10	4.7	ug/L		04/11/24 11:10	04/12/24 22:46	1
4-Chloro-3-methylphenol	ND		10	5.3	ug/L		04/11/24 11:10	04/12/24 22:46	1
2-Chloronaphthalene	ND		10	3.8	ug/L		04/11/24 11:10	04/12/24 22:46	1
2-Chlorophenol	ND		10	4.1	ug/L		04/11/24 11:10	04/12/24 22:46	1
4-Chlorophenyl phenyl ether	ND		10	3.7	ug/L		04/11/24 11:10	04/12/24 22:46	1
Dibenz[a,h]acridine	ND		10	2.8	ug/L		04/11/24 11:10	04/12/24 22:46	1
Dibenzofuran	ND		10	4.0	ug/L		04/11/24 11:10	04/12/24 22:46	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/11/24 11:10	04/12/24 22:46	1
2,4-Dichlorophenol	ND		10	4.3	ug/L		04/11/24 11:10	04/12/24 22:46	1
Diethyl phthalate	ND		10	4.4	ug/L		04/11/24 11:10	04/12/24 22:46	1
2,4-Dimethylphenol	ND		10	5.2	ug/L		04/11/24 11:10	04/12/24 22:46	1
Dimethyl phthalate	ND		10	4.2	ug/L		04/11/24 11:10	04/12/24 22:46	1
Di-n-butyl phthalate	ND		10	4.6	ug/L		04/11/24 11:10	04/12/24 22:46	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		04/11/24 11:10	04/12/24 22:46	1
2,4-Dinitrophenol	ND		30	4.6	ug/L		04/11/24 11:10	04/12/24 22:46	1
2,4-Dinitrotoluene	ND		10	5.1	ug/L		04/11/24 11:10	04/12/24 22:46	1
2,6-Dinitrotoluene	ND		10	3.9	ug/L		04/11/24 11:10	04/12/24 22:46	1
Di-n-octyl phthalate	ND		10	6.0	ug/L		04/11/24 11:10	04/12/24 22:46	1
1,4-Dioxane	ND		10	4.3	ug/L		04/11/24 11:10	04/12/24 22:46	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.3	ug/L		04/11/24 11:10	04/12/24 22:46	1
Hexachlorobenzene	ND		10	9.7	ug/L		04/11/24 11:10	04/12/24 22:46	1
Hexachlorocyclopentadiene	ND		20	4.5	ug/L		04/11/24 11:10	04/12/24 22:46	1
Hexachloroethane	ND		10	5.2	ug/L		04/11/24 11:10	04/12/24 22:46	1
Indene	ND		10	3.6	ug/L		04/11/24 11:10	04/12/24 22:46	1
Isophorone	ND		10	5.2	ug/L		04/11/24 11:10	04/12/24 22:46	1
2-Methylphenol	ND		10	3.2	ug/L		04/11/24 11:10	04/12/24 22:46	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		04/11/24 11:10	04/12/24 22:46	1
2-Nitroaniline	ND		10	5.0	ug/L		04/11/24 11:10	04/12/24 22:46	1
3-Nitroaniline	ND		10	4.7	ug/L		04/11/24 11:10	04/12/24 22:46	1
4-Nitroaniline	ND		10	4.1	ug/L		04/11/24 11:10	04/12/24 22:46	1
Nitrobenzene	ND		10	4.7	ug/L		04/11/24 11:10	04/12/24 22:46	1
2-Nitrophenol	ND		10	4.6	ug/L		04/11/24 11:10	04/12/24 22:46	1
4-Nitrophenol	ND		10	3.3	ug/L		04/11/24 11:10	04/12/24 22:46	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		04/11/24 11:10	04/12/24 22:46	1
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		04/11/24 11:10	04/12/24 22:46	1
N-Nitrosodiphenylamine	ND		10	3.7	ug/L		04/11/24 11:10	04/12/24 22:46	1
Pentachlorophenol	ND		20	12	ug/L		04/11/24 11:10	04/12/24 22:46	1
Phenol	ND		10	4.2	ug/L		04/11/24 11:10	04/12/24 22:46	1
Pyridine	ND		10	10	ug/L		04/11/24 11:10	04/12/24 22:46	1
Quinoline	ND		10	2.4	ug/L		04/11/24 11:10	04/12/24 22:46	1
2,4,5-Trichlorophenol	ND		10	4.0	ug/L		04/11/24 11:10	04/12/24 22:46	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/11/24 11:10	04/12/24 22:46	1



# QC Sample Results

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

Job ID: 400-253923-1

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

**Lab Sample ID: MB 400-667656/1-A**  
**Matrix: Water**  
**Analysis Batch: 667806**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 667656**

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2-Fluorobiphenyl	74		21 - 114	04/11/24 11:10	04/12/24 22:46	1
2-Fluorophenol	53		10 - 105	04/11/24 11:10	04/12/24 22:46	1
Nitrobenzene-d5	69		16 - 127	04/11/24 11:10	04/12/24 22:46	1
Phenol-d5	40		10 - 129	04/11/24 11:10	04/12/24 22:46	1
Terphenyl-d14	93		13 - 150	04/11/24 11:10	04/12/24 22:46	1
2,4,6-Tribromophenol	63		10 - 150	04/11/24 11:10	04/12/24 22:46	1

**Lab Sample ID: LCS 400-667656/2-A**  
**Matrix: Water**  
**Analysis Batch: 667806**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 667656**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzoic acid	492	281		ug/L		57	19 - 126
Benzyl alcohol	120	82.5		ug/L		69	17 - 109
Bis(2-chloroethoxy)methane	120	81.8		ug/L		68	24 - 125
Bis(2-chloroethyl)ether	120	80.9		ug/L		67	10 - 121
bis (2-chloroisopropyl) ether	120	65.1		ug/L		54	14 - 123
Bis(2-ethylhexyl) phthalate	120	112		ug/L		93	16 - 150
4-Bromophenyl phenyl ether	120	120		ug/L		100	17 - 150
Butyl benzyl phthalate	120	109		ug/L		91	21 - 150
4-Chloroaniline	120	65.8		ug/L		55	10 - 124
4-Chloro-3-methylphenol	120	99.0		ug/L		82	37 - 131
2-Chloronaphthalene	120	93.3		ug/L		78	24 - 132
2-Chlorophenol	120	95.1		ug/L		79	27 - 124
4-Chlorophenyl phenyl ether	120	106		ug/L		88	27 - 147
Dibenz[a,h]acridine	120	103		ug/L		86	40 - 140
Dibenzofuran	120	98.3		ug/L		82	30 - 135
3,3'-Dichlorobenzidine	160	132		ug/L		83	10 - 150
2,4-Dichlorophenol	120	86.2		ug/L		72	33 - 132
Diethyl phthalate	120	104		ug/L		87	37 - 145
2,4-Dimethylphenol	120	105		ug/L		88	38 - 132
Dimethyl phthalate	120	108		ug/L		90	32 - 137
Di-n-butyl phthalate	120	107		ug/L		89	27 - 150
4,6-Dinitro-ortho-cresol	240	252		ug/L		105	14 - 150
2,4-Dinitrophenol	240	260		ug/L		109	15 - 150
2,4-Dinitrotoluene	120	112		ug/L		94	35 - 136
2,6-Dinitrotoluene	120	112		ug/L		93	29 - 140
Di-n-octyl phthalate	120	107		ug/L		89	26 - 150
1,4-Dioxane	120	49.2		ug/L		41	10 - 87
1,2-Diphenylhydrazine (as Azobenzene)	120	92.9		ug/L		77	23 - 138
Hexachlorobenzene	120	118		ug/L		98	10 - 150
Hexachlorocyclopentadiene	120	102		ug/L		85	10 - 124
Hexachloroethane	120	78.7		ug/L		66	10 - 127
Indene	120	86.2		ug/L		72	18 - 150
Isophorone	120	76.1		ug/L		63	28 - 127
2-Methylphenol	120	91.4		ug/L		76	34 - 124
3 & 4 Methylphenol	120	87.9		ug/L		73	32 - 122

Eurofins Pensacola

# QC Sample Results

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

Job ID: 400-253923-1

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

**Lab Sample ID: LCS 400-667656/2-A**  
**Matrix: Water**  
**Analysis Batch: 667806**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 667656**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2-Nitroaniline	120	92.3		ug/L		77	24 - 139
3-Nitroaniline	120	88.1		ug/L		73	10 - 128
4-Nitroaniline	120	101		ug/L		84	28 - 118
Nitrobenzene	120	76.8		ug/L		64	29 - 120
2-Nitrophenol	120	87.5		ug/L		73	25 - 148
4-Nitrophenol	240	205		ug/L		85	12 - 129
N-Nitrosodimethylamine	120	54.9		ug/L		46	10 - 115
N-Nitrosodi-n-propylamine	120	76.1		ug/L		63	24 - 142
N-Nitrosodiphenylamine	119	103		ug/L		87	29 - 138
Pentachlorophenol	240	249		ug/L		104	19 - 150
Phenol	120	62.5		ug/L		52	11 - 95
Pyridine	240	14.9	*-	ug/L		6	10 - 82
Quinoline	120	77.5		ug/L		65	40 - 140
2,4,5-Trichlorophenol	120	112		ug/L		93	30 - 144
2,4,6-Trichlorophenol	120	107		ug/L		89	27 - 147

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	75		21 - 114
2-Fluorophenol	65		10 - 105
Nitrobenzene-d5	70		16 - 127
Phenol-d5	55		10 - 129
Terphenyl-d14	99		13 - 150
2,4,6-Tribromophenol	90		10 - 150

**Lab Sample ID: LCS 400-667656/5-A**  
**Matrix: Water**  
**Analysis Batch: 667806**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 667656**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzenethiol	120	92.7		ug/L		77	10 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	75		21 - 114
2-Fluorophenol	57		10 - 105
Nitrobenzene-d5	71		16 - 127
Phenol-d5	45		10 - 129
Terphenyl-d14	91		13 - 150
2,4,6-Tribromophenol	75		10 - 150

**Lab Sample ID: LCSD 400-667656/6-A**  
**Matrix: Water**  
**Analysis Batch: 667806**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 667656**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzenethiol	120	98.4		ug/L		82	10 - 140	6	40

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	80		21 - 114

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# QC Sample Results

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

Job ID: 400-253923-1

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

Lab Sample ID: LCSD 400-667656/6-A  
Matrix: Water  
Analysis Batch: 667806

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 667656

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
2-Fluorophenol	61		10 - 105
Nitrobenzene-d5	74		16 - 127
Phenol-d5	48		10 - 129
Terphenyl-d14	95		13 - 150
2,4,6-Tribromophenol	69		10 - 150

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 400-667656/1-A  
Matrix: Water  
Analysis Batch: 667751

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 667656

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acenaphthene	ND		0.20	0.099	ug/L		04/11/24 11:10	04/12/24 15:25	1
Acenaphthylene	ND		0.20	0.044	ug/L		04/11/24 11:10	04/12/24 15:25	1
Anthracene	ND		0.20	0.047	ug/L		04/11/24 11:10	04/12/24 15:25	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		04/11/24 11:10	04/12/24 15:25	1
Benzo[a]pyrene	ND		0.20	0.064	ug/L		04/11/24 11:10	04/12/24 15:25	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		04/11/24 11:10	04/12/24 15:25	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		04/11/24 11:10	04/12/24 15:25	1
Benzo[k]fluoranthene	ND		0.20	0.062	ug/L		04/11/24 11:10	04/12/24 15:25	1
Chrysene	ND		0.20	0.033	ug/L		04/11/24 11:10	04/12/24 15:25	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		04/11/24 11:10	04/12/24 15:25	1
Fluoranthene	ND		0.20	0.034	ug/L		04/11/24 11:10	04/12/24 15:25	1
Fluorene	ND		0.20	0.089	ug/L		04/11/24 11:10	04/12/24 15:25	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		04/11/24 11:10	04/12/24 15:25	1
Phenanthrene	ND		0.20	0.090	ug/L		04/11/24 11:10	04/12/24 15:25	1
Pyrene	ND		0.20	0.039	ug/L		04/11/24 11:10	04/12/24 15:25	1
1-Methylnaphthalene	ND		0.20	0.080	ug/L		04/11/24 11:10	04/12/24 15:25	1
2-Methylnaphthalene	0.0893	J	0.20	0.066	ug/L		04/11/24 11:10	04/12/24 15:25	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Terphenyl-d14	75		18 - 147	04/11/24 11:10	04/12/24 15:25	1
2-Fluorobiphenyl	57		15 - 128	04/11/24 11:10	04/12/24 15:25	1
Nitrobenzene-d5	58		10 - 144	04/11/24 11:10	04/12/24 15:25	1

Lab Sample ID: LCS 400-667656/2-A  
Matrix: Water  
Analysis Batch: 668080

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 667656

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthylene	120	105		ug/L		87	10 - 140
Anthracene	120	121		ug/L		101	19 - 140
Benzo[a]anthracene	120	117		ug/L		98	25 - 140
Benzo[a]pyrene	120	131		ug/L		109	24 - 140
Benzo[b]fluoranthene	120	144		ug/L		120	34 - 140
Benzo[g,h,i]perylene	120	109		ug/L		90	13 - 140

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# QC Sample Results

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

Job ID: 400-253923-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: LCS 400-667656/2-A**  
**Matrix: Water**  
**Analysis Batch: 668080**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 667656**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzo[k]fluoranthene	120	137		ug/L		114	21 - 140
Chrysene	120	106		ug/L		88	28 - 140
Dibenz(a,h)anthracene	120	136		ug/L		114	10 - 140
Fluoranthene	120	120		ug/L		100	18 - 140
Fluorene	120	110		ug/L		91	16 - 140
Indeno[1,2,3-cd]pyrene	120	134		ug/L		112	10 - 140
Phenanthrene	120	109		ug/L		90	22 - 140
Pyrene	120	103		ug/L		86	38 - 140
1-Methylnaphthalene	120	74.3		ug/L		62	10 - 140
2-Methylnaphthalene	120	74.0		ug/L		62	10 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	74		18 - 147
2-Fluorobiphenyl	71		15 - 128
Nitrobenzene-d5	85		10 - 144

**Lab Sample ID: MB 400-668437/1-A**  
**Matrix: Water**  
**Analysis Batch: 668419**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 668437**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylnaphthalene	ND		0.20	0.066	ug/L		04/18/24 10:15	04/18/24 16:26	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	100		18 - 147	04/18/24 10:15	04/18/24 16:26	1
2-Fluorobiphenyl	76		15 - 128	04/18/24 10:15	04/18/24 16:26	1
Nitrobenzene-d5	84		10 - 144	04/18/24 10:15	04/18/24 16:26	1

**Lab Sample ID: LCS 400-668437/2-A**  
**Matrix: Water**  
**Analysis Batch: 668419**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 668437**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2-Methylnaphthalene	120	74.5		ug/L		62	10 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	93		18 - 147
2-Fluorobiphenyl	82		15 - 128
Nitrobenzene-d5	57		10 - 144

**Lab Sample ID: LCSD 400-668437/3-A**  
**Matrix: Water**  
**Analysis Batch: 668419**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 668437**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
2-Methylnaphthalene	120	68.5		ug/L		57	10 - 140	8	40

# QC Sample Results

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

Job ID: 400-253923-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: LCSD 400-668437/3-A**  
**Matrix: Water**  
**Analysis Batch: 668419**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 668437**

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Terphenyl-d14	85		18 - 147
2-Fluorobiphenyl	72		15 - 128
Nitrobenzene-d5	53		10 - 144

## Method: 8011 - EDB and DBCP in Water by Microextraction

**Lab Sample ID: MB 400-667350/1-A**  
**Matrix: Water**  
**Analysis Batch: 667378**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 667350**

Analyte	MB MB		RL	MDL	Unit	D	Prepared		Analyzed		Dil Fac
	Result	Qualifier									
1,2-Dibromo-3-Chloropropane	ND		0.030	0.017	ug/L		04/09/24 10:03	04/09/24 12:57			1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		04/09/24 10:03	04/09/24 12:57			1

Surrogate	MB MB		Limits	Prepared		Analyzed		Dil Fac
	%Recovery	Qualifier						
4-Bromofluorobenzene	69		51 - 149	04/09/24 10:03	04/09/24 12:57			1

**Lab Sample ID: LCS 400-667350/2-A**  
**Matrix: Water**  
**Analysis Batch: 667378**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 667350**

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec	
		Result	Qualifier				Limits	
1,2-Dibromo-3-Chloropropane	0.101	0.0764		ug/L		76	60 - 140	
1,2-Dibromoethane	0.100	0.0855		ug/L		85	60 - 140	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	66		51 - 149

**Lab Sample ID: LCSD 400-667350/3-A**  
**Matrix: Water**  
**Analysis Batch: 667378**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 667350**

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec		RPD	
		Result	Qualifier				Limits	RPD	Limit	
1,2-Dibromo-3-Chloropropane	0.101	0.0793		ug/L		79	60 - 140	4	30	
1,2-Dibromoethane	0.100	0.0923		ug/L		92	60 - 140	8	30	

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	77		51 - 149

LAB (LOCATION)



Shell Oil Products US Chain Of Custody Record

AECOM

ACUTEST ( )  
 CALCULIENCE ( )  
 TESTAMERICA (TestAmerica Pensacola, 3355 McLemore Dr. Pensacola, FL 32514 (850-474-1001))  
 Other ( )

SGW FDG  
 CHEMICALS  
 TRANSPORTATION  
 PIPELINE  
 CONSULTANT  
 OTHER\_EWV\_SERVICES

Print Bill To Contact Name: Melissa Remiger  
 PO # 60721927 - 3.2.2  
 PlanNet Site or Project ID 25278  
 GSAP Project ID USPC/00114/R/02

DATE: 4/4/2024  
 PAGE: 1 of 1

CHECK IF NO INCIDENT # APPLIES

SAMPLING COMPANY: AECOM  
 ADDRESS: 100 N. Broadway, 20th Floor, ST. LOUIS, MO 63102, USA  
 PROJECT CONTACT (Hardcopy or PDF Report to): Melissa Remiger, Mary Massa, Brett Howell  
 TELEPHONE: 314-429-0100 FAX: 314-429-0462  
 BILL TO CONTACT E-MAIL: melissa.remiger@aecom.com

SITE ADDRESS: Street and City: 900 South Central Ave, ROXANA, IL  
 PHONE NO.: 314-802-1207  
 E-MAIL: melissa.remiger@aecom.com  
 AECOM Project / Task Number: 60721927 - 3.2.2  
 AECOM Other ID:

EDI DELIVERABLE TO (Name, Company, Office Location): Melissa Remiger - please see special instructions  
 SAMPLER NAME(S) (Print): M. Massa, T. Jenkins

TURNAROUND TIME (CALENDAR DAYS):  5 DAYS  2 DAYS  24 HOURS  WEEKEND  
 STANDARD (14 DAY)

LA - RVQCB REPORT FORMAT  
 LEVEL 1  LEVEL 2  LEVEL 3  LEVEL 4  
 OTHER (SPECIFY) EDD

DELIVERABLES:  COOLER #1  COOLER #2  COOLER #3

TEMPERATURE ON RECEIPT °C:

**SPECIAL INSTRUCTIONS OR NOTES :**  
 SHELL CONTRACT RATE APPLIES  
 STATE REIMBURSEMENT RATE APPLIES  
 EDD NOT NEEDED  
 RECEIPT VERIFICATION REQUESTED  
 PROVIDE LEED DISK

Email reports to: melissa.remiger@aecom.com; mary.mass@aecom.com; brett.howell@aecom.com  
 Please include "J" values on Reports.  
 Please provide sample receipt upon login.  
 Please send Equits EDDs to EDDSubmissions@aecomshell.com; Vlad.Virjan@aecom.com

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE			NO. OF CONT.
		DATE	TIME		HCL	H2SO4	NONE	
54	TB-ROX-040424-8260	4/4/2024	0000	Water	2			2
	TB-ROX-040424-8011	4/4/2024	0000	Water	2			2
	MW1-ROX-040424-EB	4/4/2024	0845	Water	6	2		8
	MW1-ROX-040424	4/4/2024	1005	Water	6	2		8
	MW26-ROX-040424	4/4/2024	1125	Water	6	2		8
	MW10-ROX-040424	4/4/2024	1235	Water	6	2		8
	MW27-ROX-040424	4/4/2024	1345	Water	6	2		8

REQUESTED ANALYSIS: 60721927 - 3.2.2  
 QR CODE: 400-253923 COC  
 CONTAINER PID READINGS OR LABORATORY NOTES:

RECEIVED BY (SIGNATURE): MARY MASSA  
 RECEIVED BY (SIGNATURE):  
 RECEIVED BY (SIGNATURE):

FEDEX: 6339 6595 3260, 6339 6595 3270, 6339 6595 3259  
 RECEIVED BY (SIGNATURE):  
 RECEIVED BY (SIGNATURE):

DATE: 4/4/2024  
 TIME: 1600  
 DATE: 4/5/2024  
 TIME: 0931

FIELD NOTES:  
 TEMPERATURE ON RECEIPT °C:  
 CUSTODY SEALS: 1599855, 1599854, 1599856, 1599857, 1599859, 1599858  
 Version: 2/26/23

0.0°C, 0.2°C, 0.2°C  
 4/19/2024





# Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-253923-1

**Login Number: 253923**

**List Source: Eurofins Pensacola**

**List Number: 1**

**Creator: Perez, Trina M**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> 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, 0.0°C, 0.2°C IR-10
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.	N/A	
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

Job ID: 400-253923-1

## Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-24
Kansas	NELAP	E-10253	10-31-24
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-24
North Carolina (WW/SW)	State	314	12-31-24
Oklahoma	NELAP	9810	08-31-24
Pennsylvania	NELAP	68-00467	01-31-25
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-24
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	P330-21-00056	05-17-24
USDA	US Federal Programs	FLGNV23001	01-08-26
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-25

# Roxana Groundwater Quarterly – 2<sup>nd</sup> Quarter 2024 Data Review

Laboratory SDG: 400-253926-1

Data Reviewer: Andreia Vladimirescu

Peer Reviewer: Cheyana Cokley

Date Reviewed: 05/16/2024

Guidance: USEPA National Functional Guidelines for Organic Superfund Methods Data Review 2020

Sample Identification	Sample Identification
TB-ROX-040524-8260	TB-ROX-040524-8011
ROST4PZG-ROX-040524-EB	ROST4PZG-ROX-040524
MW11-ROX-040524	-

## 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 continuing calibration verifications (CCV) for several analytes were outside evaluation criteria, biased low. This issue is addressed further in Section 12.0 of this data review.

Three of 70 (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?*

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; samples analyzed did not require dilution.

#### 12.0 Additional Qualifications

Were additional qualifications applied?

Yes, the continuing calibration verification (CCV) for chloromethane, chloroethane, trichlorofluoromethane, acrolein, pyridine, and bis(2-chloroethyl)ether were outside evaluation criteria, biased low. Analytes are qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
ROST4PZG-ROX-040524	VOCs	Chloromethane	UJ
ROST4PZG-ROX-040524	VOCs	Chloroethane	UJ
ROST4PZG-ROX-040524	VOCs	Trichlorofluoromethane	UJ
ROST4PZG-ROX-040524	VOCs	Acrolein	UJ
MW11-ROX-040524	VOCs	Chloromethane	UJ
MW11-ROX-040524	VOCs	Chloroethane	UJ
MW11-ROX-040524	VOCs	Trichlorofluoromethane	UJ
MW11-ROX-040524	VOCs	Acrolein	UJ
ROST4PZG-ROX-040524	SVOCs	Pyridine	UJ
ROST4PZG-ROX-040524	SVOCs	Bis(2-chloroethyl)ether	UJ
MW11-ROX-040524	SVOCs	Pyridine	UJ
MW11-ROX-040524	SVOCs	Bis(2-chloroethyl)ether	UJ



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Melissa Remiger  
AECOM Technical Services Inc.  
100 N. Broadway  
20th Floor  
St. Louis, Missouri 63102

Generated 4/19/2024 4:56:18 PM

## JOB DESCRIPTION

ROXANA QUARTERLY GW

## JOB NUMBER

400-253926-1

Reviewed 05/16/2024  
VA

# Eurofins Pensacola

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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## Authorization



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# Case Narrative

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

Job ID: 400-253926-1

**Job ID: 400-253926-1**

**Eurofins Pensacola**

## Job Narrative 400-253926-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 4/6/2024 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.0°C.

### GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-668070 recovered above the upper control limit for Hexachlorobutadiene, Tetrachloroethene and Trichloroethene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-668070 recovered outside acceptance criteria, low biased, for Acrolein, Chloroethane, Chloromethane and Trichlorofluoromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The preservative used in the sample containers provided is not compatible with one of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-ROX-040524-8260 (400-253926-1), ROST4PZG-ROX-040524-EB (400-253926-3), ROST4PZG-ROX-040524 (400-253926-4) and MW11-ROX-040524 (400-253926-5). The requested target analyte list includes 2-Chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrades 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 8270E: The continuing calibration verification (CCV) associated with batch 400-668023 recovered outside acceptance criteria, low biased, for Pyridine and bis (2-chloroisopropyl) ether. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8270E: The initial calibration curve analyzed in batch 400-668023 was outside method criteria for the following analyte(s): 2,4-Dinitrophenol. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered an estimated concentration.

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

### GC Semi VOA

Method 8011: The continuing calibration verification (CCV) associated with batch 400-667499 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.

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# Sample Summary

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

Job ID: 400-253926-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-253926-1	TB-ROX-040524-8260	Water	04/05/24 00:00	04/06/24 08:00
400-253926-2	TB-ROX-040524-8011	Water	04/05/24 00:00	04/06/24 08:00
400-253926-3	ROST4PZG-ROX-040524-EB	Water	04/05/24 11:25	04/06/24 08:00
400-253926-4	ROST4PZG-ROX-040524	Water	04/05/24 12:25	04/06/24 08:00
400-253926-5	MW11-ROX-040524	Water	04/05/24 13:30	04/06/24 08:00

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# Detection Summary

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

Job ID: 400-253926-1

**Client Sample ID: TB-ROX-040524-8260**

**Lab Sample ID: 400-253926-1**

No Detections.

**Client Sample ID: TB-ROX-040524-8011**

**Lab Sample ID: 400-253926-2**

No Detections.

**Client Sample ID: ROST4PZG-ROX-040524-EB**

**Lab Sample ID: 400-253926-3**

No Detections.

**Client Sample ID: ROST4PZG-ROX-040524**

**Lab Sample ID: 400-253926-4**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
2-Butanone (MEK)	6.6	J	25	2.6	ug/L	1			8260D	Total/NA
Carbon disulfide	0.75	J	1.0	0.50	ug/L	1			8260D	Total/NA

**Client Sample ID: MW11-ROX-040524**

**Lab Sample ID: 400-253926-5**

No Detections.

This Detection Summary does not include radiochemical test results.

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# Client Sample Results

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

Job ID: 400-253926-1

**Client Sample ID: TB-ROX-040524-8260**

**Lab Sample ID: 400-253926-1**

**Date Collected: 04/05/24 00:00**

**Matrix: Water**

**Date Received: 04/06/24 08:00**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/16/24 14:57	1
Acrolein	ND		20	3.3	ug/L			04/16/24 14:57	1
Acrylonitrile	ND		10	2.8	ug/L			04/16/24 14:57	1
Benzene	ND		1.0	0.50	ug/L			04/16/24 14:57	1
Bromobenzene	ND		1.0	0.54	ug/L			04/16/24 14:57	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/16/24 14:57	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/16/24 14:57	1
Bromoform	ND		5.0	0.25	ug/L			04/16/24 14:57	1
Bromomethane	ND		1.0	0.98	ug/L			04/16/24 14:57	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/16/24 14:57	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/16/24 14:57	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/16/24 14:57	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/16/24 14:57	1
Chloroethane	ND		1.0	0.76	ug/L			04/16/24 14:57	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/16/24 14:57	1
Chloroform	ND		1.0	0.90	ug/L			04/16/24 14:57	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/16/24 14:57	1
Chloromethane	ND		1.0	0.90	ug/L			04/16/24 14:57	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/16/24 14:57	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/24 14:57	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/16/24 14:57	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/16/24 14:57	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/16/24 14:57	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/16/24 14:57	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/16/24 14:57	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/16/24 14:57	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/16/24 14:57	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/16/24 14:57	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 14:57	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 14:57	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 14:57	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/16/24 14:57	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/16/24 14:57	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/16/24 14:57	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/16/24 14:57	1
2-Hexanone	ND		25	1.4	ug/L			04/16/24 14:57	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/16/24 14:57	1
Methylene bromide	ND		5.0	0.22	ug/L			04/16/24 14:57	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/16/24 14:57	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/16/24 14:57	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/16/24 14:57	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/16/24 14:57	1
Naphthalene	ND		5.0	3.0	ug/L			04/16/24 14:57	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/16/24 14:57	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/16/24 14:57	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/16/24 14:57	1
o-Xylene	ND		5.0	0.60	ug/L			04/16/24 14:57	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/16/24 14:57	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/16/24 14:57	1

# Client Sample Results

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

Job ID: 400-253926-1

**Client Sample ID: TB-ROX-040524-8260**

**Lab Sample ID: 400-253926-1**

**Date Collected: 04/05/24 00:00**

**Matrix: Water**

**Date Received: 04/06/24 08:00**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/16/24 14:57	1
Styrene	ND		1.0	1.0	ug/L			04/16/24 14:57	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/16/24 14:57	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/16/24 14:57	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/16/24 14:57	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/16/24 14:57	1
Toluene	ND		1.0	0.90	ug/L			04/16/24 14:57	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/24 14:57	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/16/24 14:57	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/16/24 14:57	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/16/24 14:57	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/16/24 14:57	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/16/24 14:57	1
Trichloroethene	ND		1.0	0.15	ug/L			04/16/24 14:57	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/16/24 14:57	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/16/24 14:57	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/16/24 14:57	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/16/24 14:57	1
Vinyl acetate	ND		25	0.93	ug/L			04/16/24 14:57	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/16/24 14:57	1
Xylenes, Total	ND		10	1.6	ug/L			04/16/24 14:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	105		72 - 130		04/16/24 14:57	1
Dibromofluoromethane	106		75 - 126		04/16/24 14:57	1
Toluene-d8 (Surr)	90		64 - 132		04/16/24 14:57	1



# Client Sample Results

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

Job ID: 400-253926-1

**Client Sample ID: TB-ROX-040524-8011**

**Lab Sample ID: 400-253926-2**

**Date Collected: 04/05/24 00:00**

**Matrix: Water**

**Date Received: 04/06/24 08:00**

**Method: EPA 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	0.016	ug/L		04/10/24 08:05	04/10/24 17:55	1
1,2-Dibromoethane	ND		0.019	0.014	ug/L		04/10/24 08:05	04/10/24 17:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	148		51 - 149				04/10/24 08:05	04/10/24 17:55	1

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# Client Sample Results

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

Job ID: 400-253926-1

**Client Sample ID: ROST4PZG-ROX-040524-EB**

**Lab Sample ID: 400-253926-3**

Date Collected: 04/05/24 11:25

Matrix: Water

Date Received: 04/06/24 08:00

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/16/24 15:24	1
Acrolein	ND		20	3.3	ug/L			04/16/24 15:24	1
Acrylonitrile	ND		10	2.8	ug/L			04/16/24 15:24	1
Benzene	ND		1.0	0.50	ug/L			04/16/24 15:24	1
Bromobenzene	ND		1.0	0.54	ug/L			04/16/24 15:24	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/16/24 15:24	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/16/24 15:24	1
Bromoform	ND		5.0	0.25	ug/L			04/16/24 15:24	1
Bromomethane	ND		1.0	0.98	ug/L			04/16/24 15:24	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/16/24 15:24	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/16/24 15:24	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/16/24 15:24	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/16/24 15:24	1
Chloroethane	ND		1.0	0.76	ug/L			04/16/24 15:24	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/16/24 15:24	1
Chloroform	ND		1.0	0.90	ug/L			04/16/24 15:24	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/16/24 15:24	1
Chloromethane	ND		1.0	0.90	ug/L			04/16/24 15:24	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/16/24 15:24	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/24 15:24	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/16/24 15:24	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/16/24 15:24	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/16/24 15:24	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/16/24 15:24	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/16/24 15:24	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/16/24 15:24	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/16/24 15:24	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/16/24 15:24	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 15:24	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 15:24	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 15:24	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/16/24 15:24	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/16/24 15:24	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/16/24 15:24	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/16/24 15:24	1
2-Hexanone	ND		25	1.4	ug/L			04/16/24 15:24	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/16/24 15:24	1
Methylene bromide	ND		5.0	0.22	ug/L			04/16/24 15:24	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/16/24 15:24	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/16/24 15:24	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/16/24 15:24	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/16/24 15:24	1
Naphthalene	ND		5.0	3.0	ug/L			04/16/24 15:24	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/16/24 15:24	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/16/24 15:24	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/16/24 15:24	1
o-Xylene	ND		5.0	0.60	ug/L			04/16/24 15:24	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/16/24 15:24	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/16/24 15:24	1

# Client Sample Results

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

Job ID: 400-253926-1

**Client Sample ID: ROST4PZG-ROX-040524-EB**

**Lab Sample ID: 400-253926-3**

Date Collected: 04/05/24 11:25

Matrix: Water

Date Received: 04/06/24 08:00

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/16/24 15:24	1
Styrene	ND		1.0	1.0	ug/L			04/16/24 15:24	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/16/24 15:24	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/16/24 15:24	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/16/24 15:24	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/16/24 15:24	1
Toluene	ND		1.0	0.90	ug/L			04/16/24 15:24	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/24 15:24	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/16/24 15:24	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/16/24 15:24	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/16/24 15:24	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/16/24 15:24	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/16/24 15:24	1
Trichloroethene	ND		1.0	0.15	ug/L			04/16/24 15:24	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/16/24 15:24	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/16/24 15:24	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/16/24 15:24	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/16/24 15:24	1
Vinyl acetate	ND		25	0.93	ug/L			04/16/24 15:24	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/16/24 15:24	1
Xylenes, Total	ND		10	1.6	ug/L			04/16/24 15:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	103		72 - 130		04/16/24 15:24	1
Dibromofluoromethane	104		75 - 126		04/16/24 15:24	1
Toluene-d8 (Surr)	90		64 - 132		04/16/24 15:24	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.097	ug/L		04/12/24 16:54	04/17/24 13:11	1
Acenaphthylene	ND		0.20	0.043	ug/L		04/12/24 16:54	04/17/24 13:11	1
Anthracene	ND		0.20	0.046	ug/L		04/12/24 16:54	04/17/24 13:11	1
Benzo[a]anthracene	ND		0.20	0.033	ug/L		04/12/24 16:54	04/17/24 13:11	1
Benzo[a]pyrene	ND		0.20	0.063	ug/L		04/12/24 16:54	04/17/24 13:11	1
Benzo[b]fluoranthene	ND		0.20	0.036	ug/L		04/12/24 16:54	04/17/24 13:11	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		04/12/24 16:54	04/17/24 13:11	1
Benzo[k]fluoranthene	ND		0.20	0.061	ug/L		04/12/24 16:54	04/17/24 13:11	1
Chrysene	ND		0.20	0.032	ug/L		04/12/24 16:54	04/17/24 13:11	1
Dibenz(a,h)anthracene	ND		0.20	0.047	ug/L		04/12/24 16:54	04/17/24 13:11	1
Fluoranthene	ND		0.20	0.033	ug/L		04/12/24 16:54	04/17/24 13:11	1
Fluorene	ND		0.20	0.088	ug/L		04/12/24 16:54	04/17/24 13:11	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.033	ug/L		04/12/24 16:54	04/17/24 13:11	1
Phenanthrene	ND		0.20	0.089	ug/L		04/12/24 16:54	04/17/24 13:11	1
Pyrene	ND		0.20	0.038	ug/L		04/12/24 16:54	04/17/24 13:11	1
1-Methylnaphthalene	ND		0.20	0.079	ug/L		04/12/24 16:54	04/17/24 13:11	1
2-Methylnaphthalene	ND		0.20	0.065	ug/L		04/12/24 16:54	04/17/24 13:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	115		18 - 147	04/12/24 16:54	04/17/24 13:11	1
2-Fluorobiphenyl	72		15 - 128	04/12/24 16:54	04/17/24 13:11	1

Eurofins Pensacola

# Client Sample Results

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

Job ID: 400-253926-1

**Client Sample ID: ROST4PZG-ROX-040524-EB**

**Lab Sample ID: 400-253926-3**

Date Collected: 04/05/24 11:25

Matrix: Water

Date Received: 04/06/24 08:00

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	73		10 - 144	04/12/24 16:54	04/17/24 13:11	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	8.6	ug/L		04/12/24 16:54	04/15/24 20:24	1
Benzenethiol	ND		9.8	9.7	ug/L		04/12/24 16:54	04/15/24 20:24	1
Benzoic acid	ND		30	24	ug/L		04/12/24 16:54	04/15/24 20:24	1
Benzyl alcohol	ND		9.8	7.2	ug/L		04/12/24 16:54	04/15/24 20:24	1
Bis(2-chloroethoxy)methane	ND		9.8	4.5	ug/L		04/12/24 16:54	04/15/24 20:24	1
Bis(2-chloroethyl)ether	ND		9.8	3.8	ug/L		04/12/24 16:54	04/15/24 20:24	1
bis (2-chloroisopropyl) ether	ND		9.8	1.8	ug/L		04/12/24 16:54	04/15/24 20:24	1
Bis(2-ethylhexyl) phthalate	ND		9.8	8.8	ug/L		04/12/24 16:54	04/15/24 20:24	1
4-Bromophenyl phenyl ether	ND		9.8	8.5	ug/L		04/12/24 16:54	04/15/24 20:24	1
Butyl benzyl phthalate	ND		9.8	5.7	ug/L		04/12/24 16:54	04/15/24 20:24	1
4-Chloroaniline	ND		9.8	4.6	ug/L		04/12/24 16:54	04/15/24 20:24	1
4-Chloro-3-methylphenol	ND		9.8	5.2	ug/L		04/12/24 16:54	04/15/24 20:24	1
2-Chloronaphthalene	ND		9.8	3.7	ug/L		04/12/24 16:54	04/15/24 20:24	1
2-Chlorophenol	ND		9.8	4.0	ug/L		04/12/24 16:54	04/15/24 20:24	1
4-Chlorophenyl phenyl ether	ND		9.8	3.6	ug/L		04/12/24 16:54	04/15/24 20:24	1
Dibenz[a,h]acridine	ND		9.8	2.8	ug/L		04/12/24 16:54	04/15/24 20:24	1
Dibenzofuran	ND		9.8	3.9	ug/L		04/12/24 16:54	04/15/24 20:24	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/12/24 16:54	04/15/24 20:24	1
2,4-Dichlorophenol	ND		9.8	4.2	ug/L		04/12/24 16:54	04/15/24 20:24	1
Diethyl phthalate	ND		9.8	4.3	ug/L		04/12/24 16:54	04/15/24 20:24	1
2,4-Dimethylphenol	ND		9.8	5.1	ug/L		04/12/24 16:54	04/15/24 20:24	1
Dimethyl phthalate	ND		9.8	4.1	ug/L		04/12/24 16:54	04/15/24 20:24	1
Di-n-butyl phthalate	ND		9.8	4.5	ug/L		04/12/24 16:54	04/15/24 20:24	1
4,6-Dinitro-ortho-cresol	ND		9.8	9.8	ug/L		04/12/24 16:54	04/15/24 20:24	1
2,4-Dinitrophenol	ND		30	4.5	ug/L		04/12/24 16:54	04/15/24 20:24	1
2,4-Dinitrotoluene	ND		9.8	5.0	ug/L		04/12/24 16:54	04/15/24 20:24	1
2,6-Dinitrotoluene	ND		9.8	3.8	ug/L		04/12/24 16:54	04/15/24 20:24	1
Di-n-octyl phthalate	ND		9.8	5.9	ug/L		04/12/24 16:54	04/15/24 20:24	1
1,4-Dioxane	ND		9.8	4.2	ug/L		04/12/24 16:54	04/15/24 20:24	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	3.2	ug/L		04/12/24 16:54	04/15/24 20:24	1
Hexachlorobenzene	ND		9.8	9.5	ug/L		04/12/24 16:54	04/15/24 20:24	1
Hexachlorocyclopentadiene	ND		20	4.4	ug/L		04/12/24 16:54	04/15/24 20:24	1
Hexachloroethane	ND		9.8	5.1	ug/L		04/12/24 16:54	04/15/24 20:24	1
Indene	ND		9.8	3.5	ug/L		04/12/24 16:54	04/15/24 20:24	1
Isophorone	ND		9.8	5.1	ug/L		04/12/24 16:54	04/15/24 20:24	1
2-Methylphenol	ND		9.8	3.1	ug/L		04/12/24 16:54	04/15/24 20:24	1
3 & 4 Methylphenol	ND		20	4.5	ug/L		04/12/24 16:54	04/15/24 20:24	1
2-Nitroaniline	ND		9.8	4.9	ug/L		04/12/24 16:54	04/15/24 20:24	1
3-Nitroaniline	ND		9.8	4.6	ug/L		04/12/24 16:54	04/15/24 20:24	1
4-Nitroaniline	ND		9.8	4.0	ug/L		04/12/24 16:54	04/15/24 20:24	1
Nitrobenzene	ND		9.8	4.6	ug/L		04/12/24 16:54	04/15/24 20:24	1
2-Nitrophenol	ND		9.8	4.5	ug/L		04/12/24 16:54	04/15/24 20:24	1
4-Nitrophenol	ND		9.8	3.2	ug/L		04/12/24 16:54	04/15/24 20:24	1
N-Nitrosodimethylamine	ND		9.8	2.2	ug/L		04/12/24 16:54	04/15/24 20:24	1



# Client Sample Results

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

Job ID: 400-253926-1

**Client Sample ID: ROST4PZG-ROX-040524-EB**

**Lab Sample ID: 400-253926-3**

Date Collected: 04/05/24 11:25

Matrix: Water

Date Received: 04/06/24 08:00

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.8	2.5	ug/L		04/12/24 16:54	04/15/24 20:24	1
N-Nitrosodiphenylamine	ND		9.8	3.6	ug/L		04/12/24 16:54	04/15/24 20:24	1
Pentachlorophenol	ND		20	12	ug/L		04/12/24 16:54	04/15/24 20:24	1
Phenol	ND		9.8	4.1	ug/L		04/12/24 16:54	04/15/24 20:24	1
Pyridine	ND		9.8	9.8	ug/L		04/12/24 16:54	04/15/24 20:24	1
Quinoline	ND		9.8	2.4	ug/L		04/12/24 16:54	04/15/24 20:24	1
2,4,5-Trichlorophenol	ND		9.8	3.9	ug/L		04/12/24 16:54	04/15/24 20:24	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		04/12/24 16:54	04/15/24 20:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	62		21 - 114	04/12/24 16:54	04/15/24 20:24	1
2-Fluorophenol	42		10 - 105	04/12/24 16:54	04/15/24 20:24	1
Nitrobenzene-d5	53		16 - 127	04/12/24 16:54	04/15/24 20:24	1
Phenol-d5	31		10 - 129	04/12/24 16:54	04/15/24 20:24	1
Terphenyl-d14	86		13 - 150	04/12/24 16:54	04/15/24 20:24	1
2,4,6-Tribromophenol	66		10 - 150	04/12/24 16:54	04/15/24 20:24	1

**Method: EPA 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	0.016	ug/L		04/10/24 08:05	04/10/24 18:17	1
1,2-Dibromoethane	ND		0.019	0.015	ug/L		04/10/24 08:05	04/10/24 18:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	135		51 - 149	04/10/24 08:05	04/10/24 18:17	1

# Client Sample Results

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

Job ID: 400-253926-1

**Client Sample ID: ROST4PZG-ROX-040524**

**Lab Sample ID: 400-253926-4**

Date Collected: 04/05/24 12:25

Matrix: Water

Date Received: 04/06/24 08:00

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/16/24 18:07	1
Acrolein	ND	UJ	20	3.3	ug/L			04/16/24 18:07	1
Acrylonitrile	ND		10	2.8	ug/L			04/16/24 18:07	1
Benzene	ND		1.0	0.50	ug/L			04/16/24 18:07	1
Bromobenzene	ND		1.0	0.54	ug/L			04/16/24 18:07	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/16/24 18:07	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/16/24 18:07	1
Bromoform	ND		5.0	0.25	ug/L			04/16/24 18:07	1
Bromomethane	ND		1.0	0.98	ug/L			04/16/24 18:07	1
<b>2-Butanone (MEK)</b>	<b>6.6</b>	<b>J</b>	25	2.6	ug/L			04/16/24 18:07	1
<b>Carbon disulfide</b>	<b>0.75</b>	<b>J</b>	1.0	0.50	ug/L			04/16/24 18:07	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/16/24 18:07	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/16/24 18:07	1
Chloroethane	ND	UJ	1.0	0.76	ug/L			04/16/24 18:07	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/16/24 18:07	1
Chloroform	ND		1.0	0.90	ug/L			04/16/24 18:07	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/16/24 18:07	1
Chloromethane	ND	UJ	1.0	0.90	ug/L			04/16/24 18:07	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/16/24 18:07	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/24 18:07	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/16/24 18:07	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/16/24 18:07	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/16/24 18:07	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/16/24 18:07	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/16/24 18:07	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/16/24 18:07	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/16/24 18:07	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/16/24 18:07	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 18:07	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 18:07	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 18:07	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/16/24 18:07	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/16/24 18:07	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/16/24 18:07	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/16/24 18:07	1
2-Hexanone	ND		25	1.4	ug/L			04/16/24 18:07	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/16/24 18:07	1
Methylene bromide	ND		5.0	0.22	ug/L			04/16/24 18:07	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/16/24 18:07	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/16/24 18:07	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/16/24 18:07	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/16/24 18:07	1
Naphthalene	ND		5.0	3.0	ug/L			04/16/24 18:07	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/16/24 18:07	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/16/24 18:07	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/16/24 18:07	1
o-Xylene	ND		5.0	0.60	ug/L			04/16/24 18:07	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/16/24 18:07	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/16/24 18:07	1

# Client Sample Results

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

Job ID: 400-253926-1

**Client Sample ID: ROST4PZG-ROX-040524**

**Lab Sample ID: 400-253926-4**

Date Collected: 04/05/24 12:25

Matrix: Water

Date Received: 04/06/24 08:00

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/16/24 18:07	1
Styrene	ND		1.0	1.0	ug/L			04/16/24 18:07	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/16/24 18:07	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/16/24 18:07	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/16/24 18:07	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/16/24 18:07	1
Toluene	ND		1.0	0.90	ug/L			04/16/24 18:07	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/24 18:07	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/16/24 18:07	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/16/24 18:07	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/16/24 18:07	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/16/24 18:07	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/16/24 18:07	1
Trichloroethene	ND		1.0	0.15	ug/L			04/16/24 18:07	1
Trichlorofluoromethane	ND	UJ	1.0	0.52	ug/L			04/16/24 18:07	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/16/24 18:07	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/16/24 18:07	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/16/24 18:07	1
Vinyl acetate	ND		25	0.93	ug/L			04/16/24 18:07	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/16/24 18:07	1
Xylenes, Total	ND		10	1.6	ug/L			04/16/24 18:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	104		72 - 130		04/16/24 18:07	1
Dibromofluoromethane	102		75 - 126		04/16/24 18:07	1
Toluene-d8 (Surr)	92		64 - 132		04/16/24 18:07	1

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.096	ug/L		04/12/24 16:54	04/15/24 20:56	1
Acenaphthylene	ND		0.19	0.043	ug/L		04/12/24 16:54	04/15/24 20:56	1
Anthracene	ND		0.19	0.045	ug/L		04/12/24 16:54	04/15/24 20:56	1
Benzo[a]anthracene	ND		0.19	0.033	ug/L		04/12/24 16:54	04/15/24 20:56	1
Benzo[a]pyrene	ND		0.19	0.062	ug/L		04/12/24 16:54	04/15/24 20:56	1
Benzo[b]fluoranthene	ND		0.19	0.036	ug/L		04/12/24 16:54	04/15/24 20:56	1
Benzo[g,h,i]perylene	ND		0.19	0.026	ug/L		04/12/24 16:54	04/15/24 20:56	1
Benzo[k]fluoranthene	ND		0.19	0.060	ug/L		04/12/24 16:54	04/15/24 20:56	1
Chrysene	ND		0.19	0.032	ug/L		04/12/24 16:54	04/15/24 20:56	1
Dibenz(a,h)anthracene	ND		0.19	0.046	ug/L		04/12/24 16:54	04/15/24 20:56	1
Fluoranthene	ND		0.19	0.033	ug/L		04/12/24 16:54	04/15/24 20:56	1
Fluorene	ND		0.19	0.086	ug/L		04/12/24 16:54	04/15/24 20:56	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.033	ug/L		04/12/24 16:54	04/15/24 20:56	1
Phenanthrene	ND		0.19	0.087	ug/L		04/12/24 16:54	04/15/24 20:56	1
Pyrene	ND		0.19	0.038	ug/L		04/12/24 16:54	04/15/24 20:56	1
1-Methylnaphthalene	ND		0.19	0.077	ug/L		04/12/24 16:54	04/15/24 20:56	1
2-Methylnaphthalene	ND		0.19	0.064	ug/L		04/12/24 16:54	04/15/24 20:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	62		18 - 147	04/12/24 16:54	04/15/24 20:56	1
2-Fluorobiphenyl	50		15 - 128	04/12/24 16:54	04/15/24 20:56	1

Eurofins Pensacola

# Client Sample Results

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

Job ID: 400-253926-1

**Client Sample ID: ROST4PZG-ROX-040524**

**Lab Sample ID: 400-253926-4**

Date Collected: 04/05/24 12:25

Matrix: Water

Date Received: 04/06/24 08:00

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	54		10 - 144	04/12/24 16:54	04/15/24 20:56	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	8.4	ug/L		04/12/24 16:54	04/15/24 20:46	1
Benzenethiol	ND		9.7	9.6	ug/L		04/12/24 16:54	04/15/24 20:46	1
Benzoic acid	ND		29	23	ug/L		04/12/24 16:54	04/15/24 20:46	1
Benzyl alcohol	ND		9.7	7.1	ug/L		04/12/24 16:54	04/15/24 20:46	1
Bis(2-chloroethoxy)methane	ND		9.7	4.5	ug/L		04/12/24 16:54	04/15/24 20:46	1
Bis(2-chloroethyl)ether	ND	UJ	9.7	3.8	ug/L		04/12/24 16:54	04/15/24 20:46	1
bis (2-chloroisopropyl) ether	ND		9.7	1.7	ug/L		04/12/24 16:54	04/15/24 20:46	1
Bis(2-ethylhexyl) phthalate	ND		9.7	8.6	ug/L		04/12/24 16:54	04/15/24 20:46	1
4-Bromophenyl phenyl ether	ND		9.7	8.3	ug/L		04/12/24 16:54	04/15/24 20:46	1
Butyl benzyl phthalate	ND		9.7	5.6	ug/L		04/12/24 16:54	04/15/24 20:46	1
4-Chloroaniline	ND		9.7	4.5	ug/L		04/12/24 16:54	04/15/24 20:46	1
4-Chloro-3-methylphenol	ND		9.7	5.1	ug/L		04/12/24 16:54	04/15/24 20:46	1
2-Chloronaphthalene	ND		9.7	3.7	ug/L		04/12/24 16:54	04/15/24 20:46	1
2-Chlorophenol	ND		9.7	4.0	ug/L		04/12/24 16:54	04/15/24 20:46	1
4-Chlorophenyl phenyl ether	ND		9.7	3.6	ug/L		04/12/24 16:54	04/15/24 20:46	1
Dibenz[a,h]acridine	ND		9.7	2.7	ug/L		04/12/24 16:54	04/15/24 20:46	1
Dibenzofuran	ND		9.7	3.9	ug/L		04/12/24 16:54	04/15/24 20:46	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/12/24 16:54	04/15/24 20:46	1
2,4-Dichlorophenol	ND		9.7	4.2	ug/L		04/12/24 16:54	04/15/24 20:46	1
Diethyl phthalate	ND		9.7	4.3	ug/L		04/12/24 16:54	04/15/24 20:46	1
2,4-Dimethylphenol	ND		9.7	5.0	ug/L		04/12/24 16:54	04/15/24 20:46	1
Dimethyl phthalate	ND		9.7	4.1	ug/L		04/12/24 16:54	04/15/24 20:46	1
Di-n-butyl phthalate	ND		9.7	4.5	ug/L		04/12/24 16:54	04/15/24 20:46	1
4,6-Dinitro-ortho-cresol	ND		9.7	9.7	ug/L		04/12/24 16:54	04/15/24 20:46	1
2,4-Dinitrophenol	ND		29	4.5	ug/L		04/12/24 16:54	04/15/24 20:46	1
2,4-Dinitrotoluene	ND		9.7	4.9	ug/L		04/12/24 16:54	04/15/24 20:46	1
2,6-Dinitrotoluene	ND		9.7	3.8	ug/L		04/12/24 16:54	04/15/24 20:46	1
Di-n-octyl phthalate	ND		9.7	5.8	ug/L		04/12/24 16:54	04/15/24 20:46	1
1,4-Dioxane	ND		9.7	4.2	ug/L		04/12/24 16:54	04/15/24 20:46	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	3.2	ug/L		04/12/24 16:54	04/15/24 20:46	1
Hexachlorobenzene	ND		9.7	9.4	ug/L		04/12/24 16:54	04/15/24 20:46	1
Hexachlorocyclopentadiene	ND		19	4.4	ug/L		04/12/24 16:54	04/15/24 20:46	1
Hexachloroethane	ND		9.7	5.0	ug/L		04/12/24 16:54	04/15/24 20:46	1
Indene	ND		9.7	3.5	ug/L		04/12/24 16:54	04/15/24 20:46	1
Isophorone	ND		9.7	5.0	ug/L		04/12/24 16:54	04/15/24 20:46	1
2-Methylphenol	ND		9.7	3.1	ug/L		04/12/24 16:54	04/15/24 20:46	1
3 & 4 Methylphenol	ND		19	4.5	ug/L		04/12/24 16:54	04/15/24 20:46	1
2-Nitroaniline	ND		9.7	4.8	ug/L		04/12/24 16:54	04/15/24 20:46	1
3-Nitroaniline	ND		9.7	4.5	ug/L		04/12/24 16:54	04/15/24 20:46	1
4-Nitroaniline	ND		9.7	4.0	ug/L		04/12/24 16:54	04/15/24 20:46	1
Nitrobenzene	ND		9.7	4.5	ug/L		04/12/24 16:54	04/15/24 20:46	1
2-Nitrophenol	ND		9.7	4.5	ug/L		04/12/24 16:54	04/15/24 20:46	1
4-Nitrophenol	ND		9.7	3.2	ug/L		04/12/24 16:54	04/15/24 20:46	1
N-Nitrosodimethylamine	ND		9.7	2.1	ug/L		04/12/24 16:54	04/15/24 20:46	1



# Client Sample Results

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

Job ID: 400-253926-1

**Client Sample ID: ROST4PZG-ROX-040524**

**Lab Sample ID: 400-253926-4**

Date Collected: 04/05/24 12:25

Matrix: Water

Date Received: 04/06/24 08:00

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.7	2.4	ug/L		04/12/24 16:54	04/15/24 20:46	1
N-Nitrosodiphenylamine	ND		9.7	3.6	ug/L		04/12/24 16:54	04/15/24 20:46	1
Pentachlorophenol	ND		19	12	ug/L		04/12/24 16:54	04/15/24 20:46	1
Phenol	ND		9.7	4.1	ug/L		04/12/24 16:54	04/15/24 20:46	1
Pyridine	ND	UJ	9.7	9.7	ug/L		04/12/24 16:54	04/15/24 20:46	1
Quinoline	ND		9.7	2.3	ug/L		04/12/24 16:54	04/15/24 20:46	1
2,4,5-Trichlorophenol	ND		9.7	3.9	ug/L		04/12/24 16:54	04/15/24 20:46	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		04/12/24 16:54	04/15/24 20:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	85		21 - 114	04/12/24 16:54	04/15/24 20:46	1
2-Fluorophenol	60		10 - 105	04/12/24 16:54	04/15/24 20:46	1
Nitrobenzene-d5	79		16 - 127	04/12/24 16:54	04/15/24 20:46	1
Phenol-d5	46		10 - 129	04/12/24 16:54	04/15/24 20:46	1
Terphenyl-d14	124		13 - 150	04/12/24 16:54	04/15/24 20:46	1
2,4,6-Tribromophenol	89		10 - 150	04/12/24 16:54	04/15/24 20:46	1

**Method: EPA 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	0.017	ug/L		04/10/24 08:05	04/10/24 18:38	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		04/10/24 08:05	04/10/24 18:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	142		51 - 149	04/10/24 08:05	04/10/24 18:38	1

# Client Sample Results

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

Job ID: 400-253926-1

**Client Sample ID: MW11-ROX-040524**

**Lab Sample ID: 400-253926-5**

**Date Collected: 04/05/24 13:30**

**Matrix: Water**

**Date Received: 04/06/24 08:00**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/16/24 18:34	1
Acrolein	ND	UJ	20	3.3	ug/L			04/16/24 18:34	1
Acrylonitrile	ND		10	2.8	ug/L			04/16/24 18:34	1
Benzene	ND		1.0	0.50	ug/L			04/16/24 18:34	1
Bromobenzene	ND		1.0	0.54	ug/L			04/16/24 18:34	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/16/24 18:34	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/16/24 18:34	1
Bromoform	ND		5.0	0.25	ug/L			04/16/24 18:34	1
Bromomethane	ND		1.0	0.98	ug/L			04/16/24 18:34	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/16/24 18:34	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/16/24 18:34	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/16/24 18:34	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/16/24 18:34	1
Chloroethane	ND	UJ	1.0	0.76	ug/L			04/16/24 18:34	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/16/24 18:34	1
Chloroform	ND		1.0	0.90	ug/L			04/16/24 18:34	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/16/24 18:34	1
Chloromethane	ND	UJ	1.0	0.90	ug/L			04/16/24 18:34	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/16/24 18:34	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/24 18:34	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/16/24 18:34	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/16/24 18:34	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/16/24 18:34	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/16/24 18:34	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/16/24 18:34	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/16/24 18:34	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/16/24 18:34	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/16/24 18:34	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 18:34	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 18:34	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 18:34	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/16/24 18:34	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/16/24 18:34	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/16/24 18:34	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/16/24 18:34	1
2-Hexanone	ND		25	1.4	ug/L			04/16/24 18:34	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/16/24 18:34	1
Methylene bromide	ND		5.0	0.22	ug/L			04/16/24 18:34	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/16/24 18:34	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/16/24 18:34	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/16/24 18:34	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/16/24 18:34	1
Naphthalene	ND		5.0	3.0	ug/L			04/16/24 18:34	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/16/24 18:34	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/16/24 18:34	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/16/24 18:34	1
o-Xylene	ND		5.0	0.60	ug/L			04/16/24 18:34	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/16/24 18:34	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/16/24 18:34	1

# Client Sample Results

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

Job ID: 400-253926-1

**Client Sample ID: MW11-ROX-040524**

**Lab Sample ID: 400-253926-5**

Date Collected: 04/05/24 13:30

Matrix: Water

Date Received: 04/06/24 08:00

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/16/24 18:34	1
Styrene	ND		1.0	1.0	ug/L			04/16/24 18:34	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/16/24 18:34	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/16/24 18:34	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/16/24 18:34	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/16/24 18:34	1
Toluene	ND		1.0	0.90	ug/L			04/16/24 18:34	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/24 18:34	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/16/24 18:34	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/16/24 18:34	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/16/24 18:34	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/16/24 18:34	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/16/24 18:34	1
Trichloroethene	ND		1.0	0.15	ug/L			04/16/24 18:34	1
Trichlorofluoromethane	ND	UJ	1.0	0.52	ug/L			04/16/24 18:34	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/16/24 18:34	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/16/24 18:34	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/16/24 18:34	1
Vinyl acetate	ND		25	0.93	ug/L			04/16/24 18:34	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/16/24 18:34	1
Xylenes, Total	ND		10	1.6	ug/L			04/16/24 18:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	104		72 - 130		04/16/24 18:34	1
Dibromofluoromethane	106		75 - 126		04/16/24 18:34	1
Toluene-d8 (Surr)	89		64 - 132		04/16/24 18:34	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.097	ug/L		04/12/24 16:54	04/15/24 21:17	1
Acenaphthylene	ND		0.20	0.043	ug/L		04/12/24 16:54	04/15/24 21:17	1
Anthracene	ND		0.20	0.046	ug/L		04/12/24 16:54	04/15/24 21:17	1
Benzo[a]anthracene	ND		0.20	0.033	ug/L		04/12/24 16:54	04/15/24 21:17	1
Benzo[a]pyrene	ND		0.20	0.062	ug/L		04/12/24 16:54	04/15/24 21:17	1
Benzo[b]fluoranthene	ND		0.20	0.036	ug/L		04/12/24 16:54	04/15/24 21:17	1
Benzo[g,h,i]perylene	ND		0.20	0.026	ug/L		04/12/24 16:54	04/15/24 21:17	1
Benzo[k]fluoranthene	ND		0.20	0.060	ug/L		04/12/24 16:54	04/15/24 21:17	1
Chrysene	ND		0.20	0.032	ug/L		04/12/24 16:54	04/15/24 21:17	1
Dibenz(a,h)anthracene	ND		0.20	0.047	ug/L		04/12/24 16:54	04/15/24 21:17	1
Fluoranthene	ND		0.20	0.033	ug/L		04/12/24 16:54	04/15/24 21:17	1
Fluorene	ND		0.20	0.087	ug/L		04/12/24 16:54	04/15/24 21:17	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.033	ug/L		04/12/24 16:54	04/15/24 21:17	1
Phenanthrene	ND		0.20	0.088	ug/L		04/12/24 16:54	04/15/24 21:17	1
Pyrene	ND		0.20	0.038	ug/L		04/12/24 16:54	04/15/24 21:17	1
1-Methylnaphthalene	ND		0.20	0.078	ug/L		04/12/24 16:54	04/15/24 21:17	1
2-Methylnaphthalene	ND		0.20	0.064	ug/L		04/12/24 16:54	04/15/24 21:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	70		18 - 147	04/12/24 16:54	04/15/24 21:17	1
2-Fluorobiphenyl	52		15 - 128	04/12/24 16:54	04/15/24 21:17	1

Eurofins Pensacola

# Client Sample Results

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

Job ID: 400-253926-1

**Client Sample ID: MW11-ROX-040524**

**Lab Sample ID: 400-253926-5**

Date Collected: 04/05/24 13:30

Matrix: Water

Date Received: 04/06/24 08:00

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	56		10 - 144	04/12/24 16:54	04/15/24 21:17	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	8.5	ug/L		04/12/24 16:54	04/15/24 21:09	1
Benzenethiol	ND		9.8	9.7	ug/L		04/12/24 16:54	04/15/24 21:09	1
Benzoic acid	ND		29	23	ug/L		04/12/24 16:54	04/15/24 21:09	1
Benzyl alcohol	ND		9.8	7.1	ug/L		04/12/24 16:54	04/15/24 21:09	1
Bis(2-chloroethoxy)methane	ND		9.8	4.5	ug/L		04/12/24 16:54	04/15/24 21:09	1
Bis(2-chloroethyl)ether	ND	UJ	9.8	3.8	ug/L		04/12/24 16:54	04/15/24 21:09	1
bis (2-chloroisopropyl) ether	ND		9.8	1.8	ug/L		04/12/24 16:54	04/15/24 21:09	1
Bis(2-ethylhexyl) phthalate	ND		9.8	8.7	ug/L		04/12/24 16:54	04/15/24 21:09	1
4-Bromophenyl phenyl ether	ND		9.8	8.4	ug/L		04/12/24 16:54	04/15/24 21:09	1
Butyl benzyl phthalate	ND		9.8	5.7	ug/L		04/12/24 16:54	04/15/24 21:09	1
4-Chloroaniline	ND		9.8	4.6	ug/L		04/12/24 16:54	04/15/24 21:09	1
4-Chloro-3-methylphenol	ND		9.8	5.2	ug/L		04/12/24 16:54	04/15/24 21:09	1
2-Chloronaphthalene	ND		9.8	3.7	ug/L		04/12/24 16:54	04/15/24 21:09	1
2-Chlorophenol	ND		9.8	4.0	ug/L		04/12/24 16:54	04/15/24 21:09	1
4-Chlorophenyl phenyl ether	ND		9.8	3.6	ug/L		04/12/24 16:54	04/15/24 21:09	1
Dibenz[a,h]acridine	ND		9.8	2.7	ug/L		04/12/24 16:54	04/15/24 21:09	1
Dibenzofuran	ND		9.8	3.9	ug/L		04/12/24 16:54	04/15/24 21:09	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/12/24 16:54	04/15/24 21:09	1
2,4-Dichlorophenol	ND		9.8	4.2	ug/L		04/12/24 16:54	04/15/24 21:09	1
Diethyl phthalate	ND		9.8	4.3	ug/L		04/12/24 16:54	04/15/24 21:09	1
2,4-Dimethylphenol	ND		9.8	5.1	ug/L		04/12/24 16:54	04/15/24 21:09	1
Dimethyl phthalate	ND		9.8	4.1	ug/L		04/12/24 16:54	04/15/24 21:09	1
Di-n-butyl phthalate	ND		9.8	4.5	ug/L		04/12/24 16:54	04/15/24 21:09	1
4,6-Dinitro-ortho-cresol	ND		9.8	9.8	ug/L		04/12/24 16:54	04/15/24 21:09	1
2,4-Dinitrophenol	ND		29	4.5	ug/L		04/12/24 16:54	04/15/24 21:09	1
2,4-Dinitrotoluene	ND		9.8	5.0	ug/L		04/12/24 16:54	04/15/24 21:09	1
2,6-Dinitrotoluene	ND		9.8	3.8	ug/L		04/12/24 16:54	04/15/24 21:09	1
Di-n-octyl phthalate	ND		9.8	5.9	ug/L		04/12/24 16:54	04/15/24 21:09	1
1,4-Dioxane	ND		9.8	4.2	ug/L		04/12/24 16:54	04/15/24 21:09	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	3.2	ug/L		04/12/24 16:54	04/15/24 21:09	1
Hexachlorobenzene	ND		9.8	9.5	ug/L		04/12/24 16:54	04/15/24 21:09	1
Hexachlorocyclopentadiene	ND		20	4.4	ug/L		04/12/24 16:54	04/15/24 21:09	1
Hexachloroethane	ND		9.8	5.1	ug/L		04/12/24 16:54	04/15/24 21:09	1
Indene	ND		9.8	3.5	ug/L		04/12/24 16:54	04/15/24 21:09	1
Isophorone	ND		9.8	5.1	ug/L		04/12/24 16:54	04/15/24 21:09	1
2-Methylphenol	ND		9.8	3.1	ug/L		04/12/24 16:54	04/15/24 21:09	1
3 & 4 Methylphenol	ND		20	4.5	ug/L		04/12/24 16:54	04/15/24 21:09	1
2-Nitroaniline	ND		9.8	4.9	ug/L		04/12/24 16:54	04/15/24 21:09	1
3-Nitroaniline	ND		9.8	4.6	ug/L		04/12/24 16:54	04/15/24 21:09	1
4-Nitroaniline	ND		9.8	4.0	ug/L		04/12/24 16:54	04/15/24 21:09	1
Nitrobenzene	ND		9.8	4.6	ug/L		04/12/24 16:54	04/15/24 21:09	1
2-Nitrophenol	ND		9.8	4.5	ug/L		04/12/24 16:54	04/15/24 21:09	1
4-Nitrophenol	ND		9.8	3.2	ug/L		04/12/24 16:54	04/15/24 21:09	1
N-Nitrosodimethylamine	ND		9.8	2.1	ug/L		04/12/24 16:54	04/15/24 21:09	1



# Client Sample Results

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

Job ID: 400-253926-1

**Client Sample ID: MW11-ROX-040524**

**Lab Sample ID: 400-253926-5**

**Date Collected: 04/05/24 13:30**

**Matrix: Water**

**Date Received: 04/06/24 08:00**

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.8	2.4	ug/L		04/12/24 16:54	04/15/24 21:09	1
N-Nitrosodiphenylamine	ND		9.8	3.6	ug/L		04/12/24 16:54	04/15/24 21:09	1
Pentachlorophenol	ND		20	12	ug/L		04/12/24 16:54	04/15/24 21:09	1
Phenol	ND		9.8	4.1	ug/L		04/12/24 16:54	04/15/24 21:09	1
Pyridine	ND	UJ	9.8	9.8	ug/L		04/12/24 16:54	04/15/24 21:09	1
Quinoline	ND		9.8	2.3	ug/L		04/12/24 16:54	04/15/24 21:09	1
2,4,5-Trichlorophenol	ND		9.8	3.9	ug/L		04/12/24 16:54	04/15/24 21:09	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		04/12/24 16:54	04/15/24 21:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	64		21 - 114	04/12/24 16:54	04/15/24 21:09	1
2-Fluorophenol	44		10 - 105	04/12/24 16:54	04/15/24 21:09	1
Nitrobenzene-d5	57		16 - 127	04/12/24 16:54	04/15/24 21:09	1
Phenol-d5	34		10 - 129	04/12/24 16:54	04/15/24 21:09	1
Terphenyl-d14	85		13 - 150	04/12/24 16:54	04/15/24 21:09	1
2,4,6-Tribromophenol	71		10 - 150	04/12/24 16:54	04/15/24 21:09	1

**Method: EPA 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	0.016	ug/L		04/10/24 08:05	04/10/24 19:00	1
1,2-Dibromoethane	ND		0.019	0.014	ug/L		04/10/24 08:05	04/10/24 19:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	104		51 - 149	04/10/24 08:05	04/10/24 19:00	1

# Definitions/Glossary

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

Job ID: 400-253926-1

## 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.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

# Surrogate Summary

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

Job ID: 400-253926-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (72-130)	DBFM (75-126)	TOL (64-132)
400-253926-1	TB-ROX-040524-8260	105	106	90
400-253926-3	ROST4PZG-ROX-040524-EB	103	104	90
400-253926-4	ROST4PZG-ROX-040524	104	102	92
400-253926-5	MW11-ROX-040524	104	106	89
LCS 400-668070/1002	Lab Control Sample	102	100	92
MB 400-668070/30	Method Blank	104	104	91

#### Surrogate Legend

BFB = 4-Bromofluorobenzene  
DBFM = Dibromofluoromethane  
TOL = Toluene-d8 (Surr)

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

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	FBP (21-114)	2FP (10-105)	NBZ (16-127)	PHL (10-129)	TPHL (13-150)	TBP (10-150)
400-253926-3	ROST4PZG-ROX-040524-EB	62	42	53	31	86	66
400-253926-4	ROST4PZG-ROX-040524	85	60	79	46	124	89
400-253926-5	MW11-ROX-040524	64	44	57	34	85	71
LCS 400-667880/14-A	Lab Control Sample	72	67	68	69	85	66
LCS 400-667880/2-A	Lab Control Sample	61	60	65	64	78	78
LCSD 400-667880/15-A	Lab Control Sample Dup	66	61	62	63	77	64
LCSD 400-667880/3-A	Lab Control Sample Dup	67	65	71	69	82	81
MB 400-667880/1-A	Method Blank	65	59	61	62	74	63

#### Surrogate Legend

FBP = 2-Fluorobiphenyl  
2FP = 2-Fluorophenol  
NBZ = Nitrobenzene-d5  
PHL = Phenol-d5  
TPHL = Terphenyl-d14  
TBP = 2,4,6-Tribromophenol

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TPHL (18-147)	FBP (15-128)	NBZ (10-144)
400-253926-3	ROST4PZG-ROX-040524-EB	115	72	73
400-253926-4	ROST4PZG-ROX-040524	62	50	54
400-253926-5	MW11-ROX-040524	70	52	56
LCS 400-667880/2-A	Lab Control Sample	69	63	69
LCSD 400-667880/3-A	Lab Control Sample Dup	63	62	71
MB 400-667880/1-A	Method Blank	115	77	84

#### Surrogate Legend

TPHL = Terphenyl-d14  
FBP = 2-Fluorobiphenyl  
NBZ = Nitrobenzene-d5

# Surrogate Summary

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

Job ID: 400-253926-1

## 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	BFB1 (51-149)
400-253926-2	TB-ROX-040524-8011	148
400-253926-3	ROST4PZG-ROX-040524-EB	135
400-253926-4	ROST4PZG-ROX-040524	142
400-253926-5	MW11-ROX-040524	104
LCS 400-667487/2-A	Lab Control Sample	94
LCSD 400-667487/3-A	Lab Control Sample Dup	90
MB 400-667487/1-A	Method Blank	90

#### Surrogate Legend

BFB = 4-Bromofluorobenzene



# Method Summary

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

Job ID: 400-253926-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET PEN
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET PEN
8270E SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	EET PEN
8011	EDB and DBCP in Water by Microextraction	EPA	EET PEN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET PEN
5030C	Purge and Trap	SW846	EET PEN
8011	Microextraction	SW846	EET 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:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

# Lab Chronicle

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

Job ID: 400-253926-1

**Client Sample ID: TB-ROX-040524-8260**

**Lab Sample ID: 400-253926-1**

Date Collected: 04/05/24 00:00

Matrix: Water

Date Received: 04/06/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	668070	04/16/24 14:57	CAR	EET PEN

**Client Sample ID: TB-ROX-040524-8011**

**Lab Sample ID: 400-253926-2**

Date Collected: 04/05/24 00:00

Matrix: Water

Date Received: 04/06/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			36.6 mL	35 mL	667487	04/10/24 08:05	PG	EET PEN
Total/NA	Analysis	8011		1			667499	04/10/24 17:55	PG	EET PEN

**Client Sample ID: ROST4PZG-ROX-040524-EB**

**Lab Sample ID: 400-253926-3**

Date Collected: 04/05/24 11:25

Matrix: Water

Date Received: 04/06/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	668070	04/16/24 15:24	CAR	EET PEN
Total/NA	Prep	3510C			254 mL	1 mL	667880	04/12/24 16:54	YC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668023	04/15/24 20:24	VC1	EET PEN
Total/NA	Prep	3510C			254 mL	1 mL	667880	04/12/24 16:54	YC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	668265	04/17/24 13:11	KJA	EET PEN
Total/NA	Prep	8011			36.2 mL	35 mL	667487	04/10/24 08:05	PG	EET PEN
Total/NA	Analysis	8011		1			667499	04/10/24 18:17	PG	EET PEN

**Client Sample ID: ROST4PZG-ROX-040524**

**Lab Sample ID: 400-253926-4**

Date Collected: 04/05/24 12:25

Matrix: Water

Date Received: 04/06/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	668070	04/16/24 18:07	CAR	EET PEN
Total/NA	Prep	3510C			258.4 mL	1 mL	667880	04/12/24 16:54	YC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668023	04/15/24 20:46	VC1	EET PEN
Total/NA	Prep	3510C			258.4 mL	1 mL	667880	04/12/24 16:54	YC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	668002	04/15/24 20:56	KJA	EET PEN
Total/NA	Prep	8011			35.1 mL	35 mL	667487	04/10/24 08:05	PG	EET PEN
Total/NA	Analysis	8011		1			667499	04/10/24 18:38	PG	EET PEN

**Client Sample ID: MW11-ROX-040524**

**Lab Sample ID: 400-253926-5**

Date Collected: 04/05/24 13:30

Matrix: Water

Date Received: 04/06/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	668070	04/16/24 18:34	CAR	EET PEN
Total/NA	Prep	3510C			256.2 mL	1 mL	667880	04/12/24 16:54	YC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668023	04/15/24 21:09	VC1	EET PEN

# Lab Chronicle

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

Job ID: 400-253926-1

**Client Sample ID: MW11-ROX-040524**

**Lab Sample ID: 400-253926-5**

Date Collected: 04/05/24 13:30

Matrix: Water

Date Received: 04/06/24 08:00

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			256.2 mL	1 mL	667880	04/12/24 16:54	YC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	668002	04/15/24 21:17	KJA	EET PEN
Total/NA	Prep	8011			36.7 mL	35 mL	667487	04/10/24 08:05	PG	EET PEN
Total/NA	Analysis	8011		1			667499	04/10/24 19:00	PG	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-667487/1-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	667487	04/10/24 08:05	PG	EET PEN
Total/NA	Analysis	8011		1			667499	04/10/24 13:15	PG	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-667880/1-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	3510C			250 mL	1 mL	667880	04/12/24 16:54	YC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668023	04/15/24 18:31	VC1	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	667880	04/12/24 16:54	YC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	668080	04/16/24 17:35	KJA	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-668070/30**

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	8260D		1	5 mL	5 mL	668070	04/16/24 12:41	CAR	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-667487/2-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	667487	04/10/24 08:05	PG	EET PEN
Total/NA	Analysis	8011		1			667499	04/10/24 13:36	PG	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-667880/14-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	3510C			250 mL	1 mL	667880	04/13/24 09:40	YC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668023	04/15/24 19:38	VC1	EET PEN

# Lab Chronicle

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

Job ID: 400-253926-1

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-667880/2-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	3510C			250 mL	1 mL	667880	04/12/24 16:54	YC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668023	04/15/24 18:53	VC1	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	667880	04/12/24 16:54	YC	EET PEN
Total/NA	Analysis	8270E SIM		10	0.4 mL	0.4 mL	668080	04/16/24 11:30	KJA	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-668070/1002

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	8260D		1	5 mL	5 mL	668070	04/16/24 10:45	CAR	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-667487/3-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	667487	04/10/24 08:05	PG	EET PEN
Total/NA	Analysis	8011		1			667499	04/10/24 13:58	PG	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-667880/15-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	3510C			250 mL	1 mL	667880	04/13/24 09:40	YC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668023	04/15/24 20:01	VC1	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-667880/3-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	3510C			250 mL	1 mL	667880	04/12/24 16:54	YC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668023	04/15/24 19:16	VC1	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	667880	04/12/24 16:54	YC	EET PEN
Total/NA	Analysis	8270E SIM		10	0.4 mL	0.4 mL	668080	04/16/24 11:51	KJA	EET PEN

### Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001



# QC Association Summary

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

Job ID: 400-253926-1

## GC/MS VOA

### Analysis Batch: 668070

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-253926-1	TB-ROX-040524-8260	Total/NA	Water	8260D	
400-253926-3	ROST4PZG-ROX-040524-EB	Total/NA	Water	8260D	
400-253926-4	ROST4PZG-ROX-040524	Total/NA	Water	8260D	
400-253926-5	MW11-ROX-040524	Total/NA	Water	8260D	
MB 400-668070/30	Method Blank	Total/NA	Water	8260D	
LCS 400-668070/1002	Lab Control Sample	Total/NA	Water	8260D	

## GC/MS Semi VOA

### Prep Batch: 667880

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-253926-3	ROST4PZG-ROX-040524-EB	Total/NA	Water	3510C	
400-253926-4	ROST4PZG-ROX-040524	Total/NA	Water	3510C	
400-253926-5	MW11-ROX-040524	Total/NA	Water	3510C	
MB 400-667880/1-A	Method Blank	Total/NA	Water	3510C	
LCS 400-667880/14-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 400-667880/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 400-667880/15-A	Lab Control Sample Dup	Total/NA	Water	3510C	
LCSD 400-667880/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

### Analysis Batch: 668002

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-253926-4	ROST4PZG-ROX-040524	Total/NA	Water	8270E SIM	667880
400-253926-5	MW11-ROX-040524	Total/NA	Water	8270E SIM	667880

### Analysis Batch: 668023

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-253926-3	ROST4PZG-ROX-040524-EB	Total/NA	Water	8270E	667880
400-253926-4	ROST4PZG-ROX-040524	Total/NA	Water	8270E	667880
400-253926-5	MW11-ROX-040524	Total/NA	Water	8270E	667880
MB 400-667880/1-A	Method Blank	Total/NA	Water	8270E	667880
LCS 400-667880/14-A	Lab Control Sample	Total/NA	Water	8270E	667880
LCS 400-667880/2-A	Lab Control Sample	Total/NA	Water	8270E	667880
LCSD 400-667880/15-A	Lab Control Sample Dup	Total/NA	Water	8270E	667880
LCSD 400-667880/3-A	Lab Control Sample Dup	Total/NA	Water	8270E	667880

### Analysis Batch: 668080

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-667880/1-A	Method Blank	Total/NA	Water	8270E SIM	667880
LCS 400-667880/2-A	Lab Control Sample	Total/NA	Water	8270E SIM	667880
LCSD 400-667880/3-A	Lab Control Sample Dup	Total/NA	Water	8270E SIM	667880

### Analysis Batch: 668265

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-253926-3	ROST4PZG-ROX-040524-EB	Total/NA	Water	8270E SIM	667880

## GC Semi VOA

### Prep Batch: 667487

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-253926-2	TB-ROX-040524-8011	Total/NA	Water	8011	
400-253926-3	ROST4PZG-ROX-040524-EB	Total/NA	Water	8011	

Eurofins Pensacola

# QC Association Summary

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

Job ID: 400-253926-1

## GC Semi VOA (Continued)

### Prep Batch: 667487 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-253926-4	ROST4PZG-ROX-040524	Total/NA	Water	8011	
400-253926-5	MW11-ROX-040524	Total/NA	Water	8011	
MB 400-667487/1-A	Method Blank	Total/NA	Water	8011	
LCS 400-667487/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 400-667487/3-A	Lab Control Sample Dup	Total/NA	Water	8011	

### Analysis Batch: 667499

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-253926-2	TB-ROX-040524-8011	Total/NA	Water	8011	667487
400-253926-3	ROST4PZG-ROX-040524-EB	Total/NA	Water	8011	667487
400-253926-4	ROST4PZG-ROX-040524	Total/NA	Water	8011	667487
400-253926-5	MW11-ROX-040524	Total/NA	Water	8011	667487
MB 400-667487/1-A	Method Blank	Total/NA	Water	8011	667487
LCS 400-667487/2-A	Lab Control Sample	Total/NA	Water	8011	667487
LCSD 400-667487/3-A	Lab Control Sample Dup	Total/NA	Water	8011	667487

# QC Sample Results

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

Job ID: 400-253926-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 400-668070/30**  
**Matrix: Water**  
**Analysis Batch: 668070**

**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			04/16/24 12:41	1
Acrolein	ND		20	3.3	ug/L			04/16/24 12:41	1
Acrylonitrile	ND		10	2.8	ug/L			04/16/24 12:41	1
Benzene	ND		1.0	0.50	ug/L			04/16/24 12:41	1
Bromobenzene	ND		1.0	0.54	ug/L			04/16/24 12:41	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/16/24 12:41	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/16/24 12:41	1
Bromoform	ND		5.0	0.25	ug/L			04/16/24 12:41	1
Bromomethane	ND		1.0	0.98	ug/L			04/16/24 12:41	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/16/24 12:41	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/16/24 12:41	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/16/24 12:41	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/16/24 12:41	1
Chloroethane	ND		1.0	0.76	ug/L			04/16/24 12:41	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/16/24 12:41	1
Chloroform	ND		1.0	0.90	ug/L			04/16/24 12:41	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/16/24 12:41	1
Chloromethane	ND		1.0	0.90	ug/L			04/16/24 12:41	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/16/24 12:41	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/16/24 12:41	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/16/24 12:41	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/16/24 12:41	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/16/24 12:41	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/16/24 12:41	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/16/24 12:41	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/16/24 12:41	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/16/24 12:41	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/16/24 12:41	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 12:41	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 12:41	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/16/24 12:41	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/16/24 12:41	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/16/24 12:41	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/16/24 12:41	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/16/24 12:41	1
2-Hexanone	ND		25	1.4	ug/L			04/16/24 12:41	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/16/24 12:41	1
Methylene bromide	ND		5.0	0.22	ug/L			04/16/24 12:41	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/16/24 12:41	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/16/24 12:41	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/16/24 12:41	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/16/24 12:41	1
Naphthalene	ND		5.0	3.0	ug/L			04/16/24 12:41	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/16/24 12:41	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/16/24 12:41	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/16/24 12:41	1
o-Xylene	ND		5.0	0.60	ug/L			04/16/24 12:41	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/16/24 12:41	1

# QC Sample Results

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

Job ID: 400-253926-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-668070/30**  
**Matrix: Water**  
**Analysis Batch: 668070**

**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			04/16/24 12:41	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/16/24 12:41	1
Styrene	ND		1.0	1.0	ug/L			04/16/24 12:41	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/16/24 12:41	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/16/24 12:41	1
1,1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/16/24 12:41	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/16/24 12:41	1
Toluene	ND		1.0	0.90	ug/L			04/16/24 12:41	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/16/24 12:41	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/16/24 12:41	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/16/24 12:41	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/16/24 12:41	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/16/24 12:41	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/16/24 12:41	1
Trichloroethene	ND		1.0	0.15	ug/L			04/16/24 12:41	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/16/24 12:41	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/16/24 12:41	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/16/24 12:41	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/16/24 12:41	1
Vinyl acetate	ND		25	0.93	ug/L			04/16/24 12:41	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/16/24 12:41	1
Xylenes, Total	ND		10	1.6	ug/L			04/16/24 12:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	104		72 - 130		04/16/24 12:41	1
Dibromofluoromethane	104		75 - 126		04/16/24 12:41	1
Toluene-d8 (Surr)	91		64 - 132		04/16/24 12:41	1

**Lab Sample ID: LCS 400-668070/1002**  
**Matrix: Water**  
**Analysis Batch: 668070**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	200	153		ug/L		77	43 - 160
Acrolein	500	393		ug/L		79	38 - 160
Acrylonitrile	500	558		ug/L		112	64 - 142
Benzene	50.0	57.4		ug/L		115	70 - 130
Bromobenzene	50.0	50.7		ug/L		101	70 - 132
Bromochloromethane	50.0	57.1		ug/L		114	70 - 130
Bromodichloromethane	50.0	56.3		ug/L		113	67 - 133
Bromoform	50.0	47.5		ug/L		95	57 - 140
Bromomethane	50.0	37.7		ug/L		75	10 - 160
2-Butanone (MEK)	200	218		ug/L		109	61 - 145
Carbon disulfide	50.0	45.0		ug/L		90	61 - 137
Carbon tetrachloride	50.0	58.8		ug/L		118	61 - 137
Chlorobenzene	50.0	51.5		ug/L		103	70 - 130
Chloroethane	50.0	37.6		ug/L		75	55 - 141
2-Chloroethyl vinyl ether	50.0	57.0		ug/L		114	10 - 160



# QC Sample Results

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

Job ID: 400-253926-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-668070/1002**  
**Matrix: Water**  
**Analysis Batch: 668070**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroform	50.0	56.0		ug/L		112	69 - 130
1-Chlorohexane	50.0	54.3		ug/L		109	69 - 130
Chloromethane	50.0	33.2		ug/L		66	58 - 137
cis-1,2-Dichloroethene	50.0	58.9		ug/L		118	68 - 130
cis-1,3-Dichloropropene	50.0	58.1		ug/L		116	69 - 132
Dibromochloromethane	50.0	49.0		ug/L		98	67 - 135
1,2-Dichlorobenzene	50.0	48.8		ug/L		98	67 - 130
1,3-Dichlorobenzene	50.0	51.5		ug/L		103	70 - 130
1,4-Dichlorobenzene	50.0	50.0		ug/L		100	70 - 130
Dichlorodifluoromethane	50.0	36.8		ug/L		74	41 - 146
1,1-Dichloroethane	50.0	57.7		ug/L		115	70 - 130
1,2-Dichloroethane	50.0	53.7		ug/L		107	69 - 130
1,1-Dichloroethene	50.0	46.4		ug/L		93	63 - 134
1,2-Dichloropropane	50.0	56.7		ug/L		113	70 - 130
1,3-Dichloropropane	50.0	47.8		ug/L		96	70 - 130
2,2-Dichloropropane	50.0	55.5		ug/L		111	52 - 135
1,1-Dichloropropene	50.0	58.2		ug/L		116	70 - 130
Ethylbenzene	50.0	52.2		ug/L		104	70 - 130
Ethyl methacrylate	50.0	49.5		ug/L		99	68 - 130
Hexachlorobutadiene	50.0	68.6		ug/L		137	53 - 140
2-Hexanone	200	182		ug/L		91	65 - 137
Isopropylbenzene	50.0	54.3		ug/L		109	70 - 130
Methylene bromide	50.0	52.0		ug/L		104	70 - 130
Methylene Chloride	50.0	56.2		ug/L		112	66 - 135
4-Methyl-2-pentanone (MIBK)	200	210		ug/L		105	69 - 138
Methyl tert-butyl ether	50.0	54.2		ug/L		108	66 - 130
m-Xylene & p-Xylene	50.0	53.4		ug/L		107	70 - 130
Naphthalene	50.0	47.0		ug/L		94	47 - 149
n-Butylbenzene	50.0	50.4		ug/L		101	67 - 130
N-Propylbenzene	50.0	51.5		ug/L		103	70 - 130
o-Chlorotoluene	50.0	50.2		ug/L		100	70 - 130
o-Xylene	50.0	51.8		ug/L		104	70 - 130
p-Chlorotoluene	50.0	50.7		ug/L		101	70 - 130
p-Isopropyltoluene	50.0	53.6		ug/L		107	65 - 130
sec-Butylbenzene	50.0	53.2		ug/L		106	66 - 130
Styrene	50.0	51.3		ug/L		103	70 - 130
tert-Butylbenzene	50.0	52.0		ug/L		104	64 - 139
1,1,1,2-Tetrachloroethane	50.0	50.8		ug/L		102	67 - 131
1,1,1,2,2-Tetrachloroethane	50.0	43.3		ug/L		87	70 - 131
Tetrachloroethene	50.0	65.1		ug/L		130	65 - 130
Toluene	50.0	49.9		ug/L		100	70 - 130
trans-1,2-Dichloroethene	50.0	57.4		ug/L		115	70 - 130
trans-1,3-Dichloropropene	50.0	47.1		ug/L		94	63 - 130
1,2,3-Trichlorobenzene	50.0	55.7		ug/L		111	60 - 138
1,2,4-Trichlorobenzene	50.0	56.3		ug/L		113	60 - 140
1,1,1-Trichloroethane	50.0	56.7		ug/L		113	68 - 130
1,1,2-Trichloroethane	50.0	46.9		ug/L		94	70 - 130
Trichloroethene	50.0	60.9		ug/L		122	70 - 130
Trichlorofluoromethane	50.0	37.3		ug/L		75	65 - 138

# QC Sample Results

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

Job ID: 400-253926-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-668070/1002**  
**Matrix: Water**  
**Analysis Batch: 668070**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	50.0	44.4		ug/L		89	70 - 130
1,2,4-Trimethylbenzene	50.0	51.9		ug/L		104	70 - 130
1,3,5-Trimethylbenzene	50.0	51.7		ug/L		103	69 - 130
Vinyl acetate	100	101		ug/L		101	26 - 160
Vinyl chloride	50.0	43.6		ug/L		87	59 - 136
Xylenes, Total	100	105		ug/L		105	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	102		72 - 130
Dibromofluoromethane	100		75 - 126
Toluene-d8 (Surr)	92		64 - 132

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

**Lab Sample ID: MB 400-667880/1-A**  
**Matrix: Water**  
**Analysis Batch: 668023**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 667880**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	8.7	ug/L		04/12/24 16:54	04/15/24 18:31	1
Benzenethiol	ND		10	9.9	ug/L		04/12/24 16:54	04/15/24 18:31	1
Benzoic acid	ND		30	24	ug/L		04/12/24 16:54	04/15/24 18:31	1
Benzyl alcohol	ND		10	7.3	ug/L		04/12/24 16:54	04/15/24 18:31	1
Bis(2-chloroethoxy)methane	ND		10	4.6	ug/L		04/12/24 16:54	04/15/24 18:31	1
Bis(2-chloroethyl)ether	ND		10	3.9	ug/L		04/12/24 16:54	04/15/24 18:31	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		04/12/24 16:54	04/15/24 18:31	1
Bis(2-ethylhexyl) phthalate	ND		10	8.9	ug/L		04/12/24 16:54	04/15/24 18:31	1
4-Bromophenyl phenyl ether	ND		10	8.6	ug/L		04/12/24 16:54	04/15/24 18:31	1
Butyl benzyl phthalate	ND		10	5.8	ug/L		04/12/24 16:54	04/15/24 18:31	1
4-Chloroaniline	ND		10	4.7	ug/L		04/12/24 16:54	04/15/24 18:31	1
4-Chloro-3-methylphenol	ND		10	5.3	ug/L		04/12/24 16:54	04/15/24 18:31	1
2-Chloronaphthalene	ND		10	3.8	ug/L		04/12/24 16:54	04/15/24 18:31	1
2-Chlorophenol	ND		10	4.1	ug/L		04/12/24 16:54	04/15/24 18:31	1
4-Chlorophenyl phenyl ether	ND		10	3.7	ug/L		04/12/24 16:54	04/15/24 18:31	1
Dibenz[a,h]acridine	ND		10	2.8	ug/L		04/12/24 16:54	04/15/24 18:31	1
Dibenzofuran	ND		10	4.0	ug/L		04/12/24 16:54	04/15/24 18:31	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/12/24 16:54	04/15/24 18:31	1
2,4-Dichlorophenol	ND		10	4.3	ug/L		04/12/24 16:54	04/15/24 18:31	1
Diethyl phthalate	ND		10	4.4	ug/L		04/12/24 16:54	04/15/24 18:31	1
2,4-Dimethylphenol	ND		10	5.2	ug/L		04/12/24 16:54	04/15/24 18:31	1
Dimethyl phthalate	ND		10	4.2	ug/L		04/12/24 16:54	04/15/24 18:31	1
Di-n-butyl phthalate	ND		10	4.6	ug/L		04/12/24 16:54	04/15/24 18:31	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		04/12/24 16:54	04/15/24 18:31	1
2,4-Dinitrophenol	ND		30	4.6	ug/L		04/12/24 16:54	04/15/24 18:31	1
2,4-Dinitrotoluene	ND		10	5.1	ug/L		04/12/24 16:54	04/15/24 18:31	1
2,6-Dinitrotoluene	ND		10	3.9	ug/L		04/12/24 16:54	04/15/24 18:31	1
Di-n-octyl phthalate	ND		10	6.0	ug/L		04/12/24 16:54	04/15/24 18:31	1
1,4-Dioxane	ND		10	4.3	ug/L		04/12/24 16:54	04/15/24 18:31	1

# QC Sample Results

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

Job ID: 400-253926-1

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

**Lab Sample ID: MB 400-667880/1-A**  
**Matrix: Water**  
**Analysis Batch: 668023**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 667880**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.3	ug/L		04/12/24 16:54	04/15/24 18:31	1
Hexachlorobenzene	ND		10	9.7	ug/L		04/12/24 16:54	04/15/24 18:31	1
Hexachlorocyclopentadiene	ND		20	4.5	ug/L		04/12/24 16:54	04/15/24 18:31	1
Hexachloroethane	ND		10	5.2	ug/L		04/12/24 16:54	04/15/24 18:31	1
Indene	ND		10	3.6	ug/L		04/12/24 16:54	04/15/24 18:31	1
Isophorone	ND		10	5.2	ug/L		04/12/24 16:54	04/15/24 18:31	1
2-Methylphenol	ND		10	3.2	ug/L		04/12/24 16:54	04/15/24 18:31	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		04/12/24 16:54	04/15/24 18:31	1
2-Nitroaniline	ND		10	5.0	ug/L		04/12/24 16:54	04/15/24 18:31	1
3-Nitroaniline	ND		10	4.7	ug/L		04/12/24 16:54	04/15/24 18:31	1
4-Nitroaniline	ND		10	4.1	ug/L		04/12/24 16:54	04/15/24 18:31	1
Nitrobenzene	ND		10	4.7	ug/L		04/12/24 16:54	04/15/24 18:31	1
2-Nitrophenol	ND		10	4.6	ug/L		04/12/24 16:54	04/15/24 18:31	1
4-Nitrophenol	ND		10	3.3	ug/L		04/12/24 16:54	04/15/24 18:31	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		04/12/24 16:54	04/15/24 18:31	1
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		04/12/24 16:54	04/15/24 18:31	1
N-Nitrosodiphenylamine	ND		10	3.7	ug/L		04/12/24 16:54	04/15/24 18:31	1
Pentachlorophenol	ND		20	12	ug/L		04/12/24 16:54	04/15/24 18:31	1
Phenol	ND		10	4.2	ug/L		04/12/24 16:54	04/15/24 18:31	1
Pyridine	ND		10	10	ug/L		04/12/24 16:54	04/15/24 18:31	1
Quinoline	ND		10	2.4	ug/L		04/12/24 16:54	04/15/24 18:31	1
2,4,5-Trichlorophenol	ND		10	4.0	ug/L		04/12/24 16:54	04/15/24 18:31	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/12/24 16:54	04/15/24 18:31	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	65		21 - 114	04/12/24 16:54	04/15/24 18:31	1
2-Fluorophenol	59		10 - 105	04/12/24 16:54	04/15/24 18:31	1
Nitrobenzene-d5	61		16 - 127	04/12/24 16:54	04/15/24 18:31	1
Phenol-d5	62		10 - 129	04/12/24 16:54	04/15/24 18:31	1
Terphenyl-d14	74		13 - 150	04/12/24 16:54	04/15/24 18:31	1
2,4,6-Tribromophenol	63		10 - 150	04/12/24 16:54	04/15/24 18:31	1

**Lab Sample ID: LCS 400-667880/14-A**  
**Matrix: Water**  
**Analysis Batch: 668023**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 667880**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzenethiol	120	85.7		ug/L		71	10 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	72		21 - 114
2-Fluorophenol	67		10 - 105
Nitrobenzene-d5	68		16 - 127
Phenol-d5	69		10 - 129
Terphenyl-d14	85		13 - 150
2,4,6-Tribromophenol	66		10 - 150

# QC Sample Results

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

Job ID: 400-253926-1

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

**Lab Sample ID: LCS 400-667880/2-A**  
**Matrix: Water**  
**Analysis Batch: 668023**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 667880**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aniline	120	73.4		ug/L		61	10 - 127
Benzoic acid	492	294		ug/L		60	19 - 126
Benzyl alcohol	120	72.0		ug/L		60	17 - 109
Bis(2-chloroethoxy)methane	120	66.4		ug/L		55	24 - 125
Bis(2-chloroethyl)ether	120	53.3		ug/L		44	10 - 121
bis (2-chloroisopropyl) ether	120	62.4		ug/L		52	14 - 123
Bis(2-ethylhexyl) phthalate	120	92.6		ug/L		77	16 - 150
4-Bromophenyl phenyl ether	120	85.6		ug/L		71	17 - 150
Butyl benzyl phthalate	120	87.8		ug/L		73	21 - 150
4-Chloroaniline	120	65.7		ug/L		55	10 - 124
4-Chloro-3-methylphenol	120	78.7		ug/L		66	37 - 131
2-Chloronaphthalene	120	75.1		ug/L		63	24 - 132
2-Chlorophenol	120	73.1		ug/L		61	27 - 124
4-Chlorophenyl phenyl ether	120	80.2		ug/L		67	27 - 147
Dibenz[a,h]acridine	120	87.6		ug/L		73	40 - 140
Dibenzofuran	120	79.3		ug/L		66	30 - 135
3,3'-Dichlorobenzidine	160	115		ug/L		72	10 - 150
2,4-Dichlorophenol	120	76.3		ug/L		64	33 - 132
Diethyl phthalate	120	86.0		ug/L		72	37 - 145
2,4-Dimethylphenol	120	88.8		ug/L		74	38 - 132
Dimethyl phthalate	120	81.2		ug/L		68	32 - 137
Di-n-butyl phthalate	120	82.7		ug/L		69	27 - 150
4,6-Dinitro-ortho-cresol	240	197		ug/L		82	14 - 150
2,4-Dinitrophenol	240	295		ug/L		123	15 - 150
2,4-Dinitrotoluene	120	81.9		ug/L		68	35 - 136
2,6-Dinitrotoluene	120	76.3		ug/L		64	29 - 140
Di-n-octyl phthalate	120	82.2		ug/L		68	26 - 150
1,4-Dioxane	120	51.0		ug/L		42	10 - 87
1,2-Diphenylhydrazine (as Azobenzene)	120	80.5		ug/L		67	23 - 138
Hexachlorobenzene	120	87.4		ug/L		73	10 - 150
Hexachlorocyclopentadiene	120	93.9		ug/L		78	10 - 124
Hexachloroethane	120	70.0		ug/L		58	10 - 127
Indene	120	67.6		ug/L		56	18 - 150
Isophorone	120	66.1		ug/L		55	28 - 127
2-Methylphenol	120	75.0		ug/L		62	34 - 124
3 & 4 Methylphenol	120	75.6		ug/L		63	32 - 122
2-Nitroaniline	120	80.8		ug/L		67	24 - 139
3-Nitroaniline	120	72.0		ug/L		60	10 - 128
4-Nitroaniline	120	84.7		ug/L		71	28 - 118
Nitrobenzene	120	67.4		ug/L		56	29 - 120
2-Nitrophenol	120	70.8		ug/L		59	25 - 148
4-Nitrophenol	240	190		ug/L		79	12 - 129
N-Nitrosodimethylamine	120	66.6		ug/L		55	10 - 115
N-Nitrosodi-n-propylamine	120	75.6		ug/L		63	24 - 142
N-Nitrosodiphenylamine	119	82.6		ug/L		69	29 - 138
Pentachlorophenol	240	178		ug/L		74	19 - 150
Phenol	120	71.5		ug/L		60	11 - 95
Pyridine	240	94.1		ug/L		39	10 - 82



# QC Sample Results

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

Job ID: 400-253926-1

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

**Lab Sample ID: LCS 400-667880/2-A**  
**Matrix: Water**  
**Analysis Batch: 668023**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 667880**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Quinoline	120	81.1		ug/L		68	40 - 140
2,4,5-Trichlorophenol	120	81.7		ug/L		68	30 - 144
2,4,6-Trichlorophenol	120	81.9		ug/L		68	27 - 147

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	61		21 - 114
2-Fluorophenol	60		10 - 105
Nitrobenzene-d5	65		16 - 127
Phenol-d5	64		10 - 129
Terphenyl-d14	78		13 - 150
2,4,6-Tribromophenol	78		10 - 150

**Lab Sample ID: LCSD 400-667880/15-A**  
**Matrix: Water**  
**Analysis Batch: 668023**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 667880**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzenethiol	120	84.2		ug/L		70	10 - 140	2	40

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	66		21 - 114
2-Fluorophenol	61		10 - 105
Nitrobenzene-d5	62		16 - 127
Phenol-d5	63		10 - 129
Terphenyl-d14	77		13 - 150
2,4,6-Tribromophenol	64		10 - 150

**Lab Sample ID: LCSD 400-667880/3-A**  
**Matrix: Water**  
**Analysis Batch: 668023**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 667880**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Aniline	120	80.4		ug/L		67	10 - 127	9	40
Benzoic acid	492	313		ug/L		64	19 - 126	6	40
Benzyl alcohol	120	81.4		ug/L		68	17 - 109	12	40
Bis(2-chloroethoxy)methane	120	74.5		ug/L		62	24 - 125	11	40
Bis(2-chloroethyl)ether	120	61.5		ug/L		51	10 - 121	14	40
bis (2-chloroisopropyl) ether	120	71.5		ug/L		60	14 - 123	14	40
Bis(2-ethylhexyl) phthalate	120	101		ug/L		84	16 - 150	9	40
4-Bromophenyl phenyl ether	120	92.7		ug/L		77	17 - 150	8	40
Butyl benzyl phthalate	120	96.9		ug/L		81	21 - 150	10	40
4-Chloroaniline	120	70.6		ug/L		59	10 - 124	7	40
4-Chloro-3-methylphenol	120	85.5		ug/L		71	37 - 131	8	40
2-Chloronaphthalene	120	84.1		ug/L		70	24 - 132	11	40
2-Chlorophenol	120	83.1		ug/L		69	27 - 124	13	40
4-Chlorophenyl phenyl ether	120	89.3		ug/L		74	27 - 147	11	40
Dibenz[a,h]acridine	120	87.4		ug/L		73	40 - 140	0	40
Dibenzofuran	120	88.4		ug/L		74	30 - 135	11	40

Eurofins Pensacola

# QC Sample Results

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

Job ID: 400-253926-1

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

**Lab Sample ID: LCSD 400-667880/3-A**  
**Matrix: Water**  
**Analysis Batch: 668023**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 667880**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
3,3'-Dichlorobenzidine	160	122		ug/L		76	10 - 150	6	40
2,4-Dichlorophenol	120	84.1		ug/L		70	33 - 132	10	40
Diethyl phthalate	120	94.1		ug/L		78	37 - 145	9	40
2,4-Dimethylphenol	120	97.3		ug/L		81	38 - 132	9	40
Dimethyl phthalate	120	89.4		ug/L		75	32 - 137	10	40
Di-n-butyl phthalate	120	90.4		ug/L		75	27 - 150	9	40
4,6-Dinitro-ortho-cresol	240	212		ug/L		88	14 - 150	7	40
2,4-Dinitrophenol	240	326		ug/L		136	15 - 150	10	40
2,4-Dinitrotoluene	120	90.8		ug/L		76	35 - 136	10	40
2,6-Dinitrotoluene	120	84.1		ug/L		70	29 - 140	10	40
Di-n-octyl phthalate	120	90.9		ug/L		76	26 - 150	10	40
1,4-Dioxane	120	57.6		ug/L		48	10 - 87	12	40
1,2-Diphenylhydrazine (as Azobenzene)	120	86.5		ug/L		72	23 - 138	7	40
Hexachlorobenzene	120	96.2		ug/L		80	10 - 150	10	40
Hexachlorocyclopentadiene	120	103		ug/L		85	10 - 124	9	40
Hexachloroethane	120	80.0		ug/L		67	10 - 127	13	40
Indene	120	70.4		ug/L		59	18 - 150	4	40
Isophorone	120	74.1		ug/L		62	28 - 127	11	40
2-Methylphenol	120	86.4		ug/L		72	34 - 124	14	40
3 & 4 Methylphenol	120	84.9		ug/L		71	32 - 122	12	40
2-Nitroaniline	120	87.9		ug/L		73	24 - 139	8	40
3-Nitroaniline	120	78.0		ug/L		65	10 - 128	8	40
4-Nitroaniline	120	86.9		ug/L		72	28 - 118	3	40
Nitrobenzene	120	75.8		ug/L		63	29 - 120	12	40
2-Nitrophenol	120	78.9		ug/L		66	25 - 148	11	40
4-Nitrophenol	240	204		ug/L		85	12 - 129	7	40
N-Nitrosodimethylamine	120	69.1		ug/L		58	10 - 115	4	40
N-Nitrosodi-n-propylamine	120	85.7		ug/L		71	24 - 142	12	40
N-Nitrosodiphenylamine	119	88.7		ug/L		75	29 - 138	7	40
Pentachlorophenol	240	193		ug/L		80	19 - 150	8	40
Phenol	120	80.7		ug/L		67	11 - 95	12	40
Pyridine	240	106		ug/L		44	10 - 82	11	40
Quinoline	120	82.6		ug/L		69	40 - 140	2	40
2,4,5-Trichlorophenol	120	89.1		ug/L		74	30 - 144	9	40
2,4,6-Trichlorophenol	120	91.6		ug/L		76	27 - 147	11	40

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	67		21 - 114
2-Fluorophenol	65		10 - 105
Nitrobenzene-d5	71		16 - 127
Phenol-d5	69		10 - 129
Terphenyl-d14	82		13 - 150
2,4,6-Tribromophenol	81		10 - 150

# QC Sample Results

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

Job ID: 400-253926-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

**Lab Sample ID: MB 400-667880/1-A**  
**Matrix: Water**  
**Analysis Batch: 668080**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 667880**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acenaphthene	ND		0.20	0.099	ug/L		04/12/24 16:54	04/16/24 17:35	1
Acenaphthylene	ND		0.20	0.044	ug/L		04/12/24 16:54	04/16/24 17:35	1
Anthracene	ND		0.20	0.047	ug/L		04/12/24 16:54	04/16/24 17:35	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		04/12/24 16:54	04/16/24 17:35	1
Benzo[a]pyrene	ND		0.20	0.064	ug/L		04/12/24 16:54	04/16/24 17:35	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		04/12/24 16:54	04/16/24 17:35	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		04/12/24 16:54	04/16/24 17:35	1
Benzo[k]fluoranthene	ND		0.20	0.062	ug/L		04/12/24 16:54	04/16/24 17:35	1
Chrysene	ND		0.20	0.033	ug/L		04/12/24 16:54	04/16/24 17:35	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		04/12/24 16:54	04/16/24 17:35	1
Fluoranthene	ND		0.20	0.034	ug/L		04/12/24 16:54	04/16/24 17:35	1
Fluorene	ND		0.20	0.089	ug/L		04/12/24 16:54	04/16/24 17:35	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		04/12/24 16:54	04/16/24 17:35	1
Phenanthrene	ND		0.20	0.090	ug/L		04/12/24 16:54	04/16/24 17:35	1
Pyrene	ND		0.20	0.039	ug/L		04/12/24 16:54	04/16/24 17:35	1
1-Methylnaphthalene	ND		0.20	0.080	ug/L		04/12/24 16:54	04/16/24 17:35	1
2-Methylnaphthalene	ND		0.20	0.066	ug/L		04/12/24 16:54	04/16/24 17:35	1
Surrogate	MB	MB	Limits			D	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier							
Terphenyl-d14	115		18 - 147				04/12/24 16:54	04/16/24 17:35	1
2-Fluorobiphenyl	77		15 - 128				04/12/24 16:54	04/16/24 17:35	1
Nitrobenzene-d5	84		10 - 144				04/12/24 16:54	04/16/24 17:35	1

**Lab Sample ID: LCS 400-667880/2-A**  
**Matrix: Water**  
**Analysis Batch: 668080**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 667880**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	Limits	
		Result	Qualifier					
Acenaphthene	120	89.9		ug/L		75	10 - 140	
Acenaphthylene	120	98.0		ug/L		82	10 - 140	
Anthracene	120	115		ug/L		96	19 - 140	
Benzo[a]anthracene	120	107		ug/L		89	25 - 140	
Benzo[a]pyrene	120	124		ug/L		104	24 - 140	
Benzo[b]fluoranthene	120	130		ug/L		108	34 - 140	
Benzo[g,h,i]perylene	120	92.8		ug/L		77	13 - 140	
Benzo[k]fluoranthene	120	115		ug/L		96	21 - 140	
Chrysene	120	93.2		ug/L		78	28 - 140	
Dibenz(a,h)anthracene	120	112		ug/L		93	10 - 140	
Fluoranthene	120	109		ug/L		91	18 - 140	
Fluorene	120	94.8		ug/L		79	16 - 140	
Indeno[1,2,3-cd]pyrene	120	112		ug/L		93	10 - 140	
Phenanthrene	120	97.8		ug/L		81	22 - 140	
Pyrene	120	97.4		ug/L		81	38 - 140	
1-Methylnaphthalene	120	56.0		ug/L		47	10 - 140	
2-Methylnaphthalene	120	56.9		ug/L		47	10 - 140	
Surrogate	LCS		Limits					
	%Recovery	Qualifier						
Terphenyl-d14	69		18 - 147					

Eurofins Pensacola

# QC Sample Results

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

Job ID: 400-253926-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: LCS 400-667880/2-A**  
**Matrix: Water**  
**Analysis Batch: 668080**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 667880**

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	63		15 - 128
Nitrobenzene-d5	69		10 - 144

**Lab Sample ID: LCSD 400-667880/3-A**  
**Matrix: Water**  
**Analysis Batch: 668080**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 667880**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Acenaphthene	120	86.2		ug/L		72	10 - 140	4	40	
Acenaphthylene	120	94.9		ug/L		79	10 - 140	3	40	
Anthracene	120	107		ug/L		89	19 - 140	8	40	
Benzo[a]anthracene	120	99.8		ug/L		83	25 - 140	7	40	
Benzo[a]pyrene	120	110		ug/L		92	24 - 140	12	40	
Benzo[b]fluoranthene	120	112		ug/L		94	34 - 140	15	40	
Benzo[g,h,i]perylene	120	90.9		ug/L		76	13 - 140	2	40	
Benzo[k]fluoranthene	120	99.1		ug/L		83	21 - 140	15	40	
Chrysene	120	86.8		ug/L		72	28 - 140	7	40	
Dibenz(a,h)anthracene	120	108		ug/L		90	10 - 140	3	40	
Fluoranthene	120	102		ug/L		85	18 - 140	6	40	
Fluorene	120	90.3		ug/L		75	16 - 140	5	40	
Indeno[1,2,3-cd]pyrene	120	108		ug/L		90	10 - 140	3	40	
Phenanthrene	120	91.3		ug/L		76	22 - 140	7	40	
Pyrene	120	87.6		ug/L		73	38 - 140	11	40	
1-Methylnaphthalene	120	55.5		ug/L		46	10 - 140	1	40	
2-Methylnaphthalene	120	57.0		ug/L		48	10 - 140	0	40	

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Terphenyl-d14	63		18 - 147
2-Fluorobiphenyl	62		15 - 128
Nitrobenzene-d5	71		10 - 144

## Method: 8011 - EDB and DBCP in Water by Microextraction

**Lab Sample ID: MB 400-667487/1-A**  
**Matrix: Water**  
**Analysis Batch: 667499**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 667487**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2-Dibromo-3-Chloropropane	ND		0.030	0.017	ug/L		04/10/24 08:05	04/10/24 13:15	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		04/10/24 08:05	04/10/24 13:15	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene	90		51 - 149	04/10/24 08:05	04/10/24 13:15	1



# QC Sample Results

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

Job ID: 400-253926-1

## Method: 8011 - EDB and DBCP in Water by Microextraction (Continued)

**Lab Sample ID: LCS 400-667487/2-A**  
**Matrix: Water**  
**Analysis Batch: 667499**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 667487**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dibromo-3-Chloropropane	0.101	0.128		ug/L		127	60 - 140
1,2-Dibromoethane	0.100	0.117		ug/L		116	60 - 140
<b>LCS LCS</b>							
Surrogate	%Recovery	Qualifier	Limits				
4-Bromofluorobenzene	94		51 - 149				

**Lab Sample ID: LCSD 400-667487/3-A**  
**Matrix: Water**  
**Analysis Batch: 667499**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 667487**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD Limit
1,2-Dibromo-3-Chloropropane	0.101	0.130		ug/L		129	60 - 140	1 30
1,2-Dibromoethane	0.100	0.108		ug/L		108	60 - 140	7 30
<b>LCSD LCSD</b>								
Surrogate	%Recovery	Qualifier	Limits					
4-Bromofluorobenzene	90		51 - 149					



ACCOUNT ( )  
 CALSCEINCE ( )  
 TESTAMERICA (TestAmerica Pensacola; 3355 McLemore Dr, Pensacola, FL 32514 (850-474-1001))  
 Other ( )

SGW FDG  
 CHEMICALS  
 TRANSPORTATION

PIPELINE  
 CONSULTANT  
 OTHER\_ENV\_SERVICES

RETAIL  
 LUBES

Print Bill To Contact Name: Melissa Remiger  
 PlanNet Site or Project ID: 29278  
 GSAP Project ID: USPC/00114/R/02  
 PO #: 60721927 - 3.2.2  
 DATE: 4/5/2024  
 PAGE: 1 of 1

SAMPLING COMPANY: AECOM  
 ADDRESS: 100 N. Broadway, 20th Floor, ST. LOUIS, MO 63102, USA  
 PROJECT CONTACT (Hardcopy or PDF Report to): Melissa Remiger, Mary Massa, Brett Howell  
 TELEPHONE: 314-429-0100 FAX: 314-429-0462  
 Bill To Contact E-MAIL: melissa.remiger@aecom.com  
 TURNAROUND TIME (CALENDAR DAYS):  5 DAYS  3 DAYS  24 HOURS  WEEKEND  
 LA - RWQCB REPORT FORMAT

LOG CODE:  
 STATE: IL  
 CITY: 900 South Central Ave, ROXANA  
 PHONE NO.: 314-802-1207  
 E-MAIL: melissa.remiger@aecom.com  
 AECOM Project / Task Number: 60721927 - 3.2.2  
 AECOM Other ID:

EDI DELIVERABLE TO (Name, Company, Office Location):  
 Melissa Remiger - please see special instructions  
 SAMPLER NAME(S) (Print): M. Massa, T. Jenkins

DELIVERABLES:  LEVEL 1  LEVEL 2  LEVEL 3  LEVEL 4  
 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 LEEDD DISK

Email reports to: melissa.remiger@aecom.com  
 mary.mass@aecom.com; brett.howell@aecom.com  
 Please include "J" values on Reports.  
 Please provide sample receipt upon login.  
 Please send EQuis EDDs to EDDSubmissions@aecomshell.com; Vlad.Virjan@aecom.com

LAB USE ONLY	Field Sample Identification		SAMPLING		PRESERVATIVE			NO. OF CONT.
	DATE	TIME	MATRIX	HCL	HN03	H2SO4	OTHER	
	TB-ROX-040524-8260	0000	Water	2				2
	TB-ROX-040524-8011	0000	Water	2				2
	ROST4PZG-ROX-040524-EB	1125	Water	6			2	8
	ROST4PZG-ROX-040524	1225	Water	6			2	8
	MW11-ROX-040524	1330	Water	6			2	8

VOC 8260 X  
 SVOC 8270 X  
 PAH 8270 SIMS X  
 8011 EDB + DBCP X  
 400-253926 COC  
 Requested Analysis: 60721927 - 3.2.2  
 Temperature on Receipt °C:

Relinquished by: (Signature) Received by: (Signature)  
 MARY MASSA FEDEX: 6339 6595 3248, 5564 3932 9759  
 Relinquished by: (Signature) Received by: (Signature)  
 Relinquished by: (Signature) Received by: (Signature)

Date: 4/5/2024 Time: 1600  
 Date: 4/6/2024 Time: 900

CUSTODY SEALS: 1599861, 1599860, 1599864, 1599865  
 Version: 27Sep2023  
 O.D.O.C. Ser



# Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-253926-1

**Login Number: 253926**

**List Source: Eurofins Pensacola**

**List Number: 1**

**Creator: Perez, Trina M**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> 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 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.	N/A	
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

Job ID: 400-253926-1

## Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-24
Kansas	NELAP	E-10253	10-31-24
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-24
North Carolina (WW/SW)	State	314	12-31-24
Oklahoma	NELAP	9810	08-31-24
Pennsylvania	NELAP	68-00467	01-31-25
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-24
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	P330-21-00056	05-17-24
USDA	US Federal Programs	FLGNV23001	01-08-26
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-25



# Roxana Groundwater Quarterly – 2<sup>nd</sup> Quarter 2024 Data Review

Laboratory SDG: 400-254074-1

Data Reviewer: Adelina Gita

Peer Reviewer: Cheyana Cokley

Date Reviewed: 5/14/2024

Guidance: USEPA National Functional Guidelines for Organic Superfund Methods Data Review 2020

Sample Identification	Sample Identification
TB-ROX-040824-8260	TB-ROX-040824-8011
P54-ROX-040824	MW24-ROX-040824

## 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 case narrative stated that PAHs in samples P54-ROX-040824 and MW24-ROX-040824 were re-extracted outside extraction time criteria. SVOC and VOCs MS/MSD recoveries and/or RPDs, were outside evaluation criteria. The continuing calibration verification (CCV) for multiple analytes were outside evaluation criteria, biased low. These issues are addressed further in the appropriate sections of this data review.

Three of 70 (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.

Samples P54-ROX-040824 and MW24-ROX-040824 were extracted on 04/12/2024 for SVOCs and PAHs. Due to a laboratory error, those samples were added to electronic batches in the database for the wrong method. The problem was corrected with the samples being added to an electronic batch on 04/13/2024; associated with the proper method. This resulted in an extended batch time-frame which should be less than re-extraction, out of hold time, in the lab's opinion.

The cooler receipt form did not indicate any problems.

## 3.0 Holding Times

*Were samples extracted/analyzed within applicable limits?*

No, detected PAHs in samples P54-ROX-040824 and MW24-ROX-040824 were re-extracted 3 days outside of extraction time criteria (7 days), re-analyzed for confirmation and the results were non-detect. Holding time exceedances were not greater than two times (2X) criteria; both sets of data are reported.

With regard to initial P54-ROX-040824 and MW24-ROX-040824 PAH data, the laboratory previously issued a Corrective Action Report (CAR) stating that through confirmation analyses, many previous detections were not confirmed and were therefore deemed laboratory contamination. Based on professional judgement, the results from the re-

analysis were used for the purposes of this report. Data requiring qualification is summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
P54-ROX-040824-RERA	PAHs	All non-detects	UJ
MW24-ROX-040824 -RERA	PAHs	All non-detects	UJ

#### 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?*

Yes

#### 6.0 Surrogate Recoveries

*Were surrogate recoveries within evaluation criteria?*

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
TB-ROX-040824-8011	VOCs by 8011	4-Bromofluorobenzene	444	51-149
P54-ROX-040824	VOCs by 8011	4-Bromofluorobenzene	254	51-149
P54-ROX-040824-MS	VOCs by 8011	4-Bromofluorobenzene	251	51-149
P54-ROX-040824-MSD	VOCs by 8011	4-Bromofluorobenzene	343	51-149
MW24-ROX-040824	VOCs by 8011	4-Bromofluorobenzene	290	51-149

Trip blanks, matrix spikes and matrix spike duplicates, are quality control samples and do not require qualification. Analytical data reported as non-detect and associated with surrogate recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

#### 7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

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

Yes, sample P54-ROX-040824 was spiked and duplicated for VOCs, SVOCs, PAHs, and VOCs by 8011.

*Were MS/MSD recoveries within evaluation criteria?*

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
P54-ROX-040824 MS/MSD	VOCs	2-Chloroethyl vinyl ether	0/0	NC	10-150/50
P54-ROX-040824 MS/MSD	SVOCs	Aniline	0/13	NC	50-150/40

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
P54-ROX-040824 MS/MSD	SVOCs	Bis(2-chloroethyl)ether	<b>43/49</b>	14	50-150/40
P54-ROX-040824 MS/MSD	SVOCs	4-Chloroaniline	<b>18/31</b>	<b>54</b>	50-150/40
P54-ROX-040824 MS/MSD	SVOCs	3,3'-Dichlorobenzidine	<b>8/16</b>	<b>67</b>	50-150/40
P54-ROX-040824 MS/MSD	SVOCs	2,4-Dimethylphenol	<b>37/48</b>	27	50-150/40
P54-ROX-040824 MS/MSD	SVOCs	2,4-Dinitrophenol	132/165	22	50-150/40
P54-ROX-040824 MS/MSD	SVOCs	1,4-Dioxane	<b>21/19</b>	7	50-150/40
P54-ROX-040824 MS/MSD	SVOCs	Hexachloroethane	52/48	8	50-150/40
P54-ROX-040824 MS/MSD	SVOCs	2-Methylphenol	<b>33/41</b>	24	50-150/40
P54-ROX-040824 MS/MSD	SVOCs	3 & 4 Methylphenol	<b>36/47</b>	25	50-150/40
P54-ROX-040824 MS/MSD	SVOCs	3-Nitroaniline	<b>37/50</b>	30	50-150/40
P54-ROX-040824 MS/MSD	SVOCs	4-Nitroaniline	<b>40/47</b>	16	50-150/40
P54-ROX-040824 MS/MSD	SVOCs	N-Nitrosodimethylamine	<b>35/40</b>	12	50-150/40
P54-ROX-040824 MS/MSD	SVOCs	N-Nitrosodiphenylamine	<b>19/21</b>	11	50-150/40
P54-ROX-040824 MS/MSD	SVOCs	Phenol	<b>28/35</b>	23	50-150/40
P54-ROX-040824 MS/MSD	SVOCs	Pyridine	<b>0/11</b>	<b>NC</b>	50-150/40

Analytical data that required qualification based on MS/MSD data are included in the table below. Professional judgement was used to qualify; however, not reject the data associated with 2-chloroethyl vinyl ether, aniline and pyridine; due to acceptable LCS recoveries for 2-chloroethyl vinyl ether and to the acid reactive nature of the compound; and due to aniline and pyridine being identified as poor performing analytes under Method 8270. Analytical data reported as non-detect and associated with MS/MSD recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
P54-ROX-040824	VOCs	2-Chloroethyl vinyl ether	<b>UJ</b>
P54-ROX-040824	SVOCs	Aniline	<b>UJ</b>
P54-ROX-040824	SVOCs	Bis(2-chloroethyl)ether	<b>UJ</b>
P54-ROX-040824	SVOCs	4-Chloroaniline	<b>UJ</b>
P54-ROX-040824	SVOCs	3,3'-Dichlorobenzidine	<b>UJ</b>
P54-ROX-040824	SVOCs	2,4-Dimethylphenol	<b>UJ</b>
P54-ROX-040824	SVOCs	1,4-Dioxane	<b>UJ</b>
P54-ROX-040824	SVOCs	Hexachloroethane	<b>UJ</b>

Sample ID	Parameter	Analyte	Qualification
P54-ROX-040824	SVOCs	2-Methylphenol	UJ
P54-ROX-040824	SVOCs	3 & 4 Methylphenol	UJ
P54-ROX-040824	SVOCs	3-Nitroaniline	UJ
P54-ROX-040824	SVOCs	4-Nitroaniline	UJ
P54-ROX-040824	SVOCs	N-Nitrosodimethylamine	UJ
P54-ROX-040824	SVOCs	N-Nitrosodiphenylamine	UJ
P54-ROX-040824	SVOCs	Phenol	UJ
P54-ROX-040824	SVOCs	Pyridine	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?*

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 (CCV) for chloromethane, pyridine, bis(2-chloroethyl)ether, 1,2-dibromoethane, and 1,2-dibromo-3-chloropropane were outside evaluation criteria, biased low. Pyridine in sample P54-ROX-040824 was previously qualified in section 7.0 of this data review, due to matrix spike and matrix spike duplicate recoveries outside evaluation criteria; no further qualification is required. Analytes are qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
P54-ROX-040824	VOCs	Chloromethane	UJ
MW24-ROX-040824	VOCs	Chloromethane	UJ
MW24-ROX-040824	SVOCs	Pyridine	UJ
MW24-ROX-040824	SVOCs	Bis(2-chloroethyl)ether	UJ
MW24-ROX-040824	VOCs by 8011	1,2-Dibromoethane	UJ
MW24-ROX-040824	VOCs by 8011	1,2-Dibromo-3-Chloropropane	UJ
P54-ROX-040824	VOCs by 8011	1,2-Dibromoethane	UJ
P54-ROX-040824	VOCs by 8011	1,2-Dibromo-3-Chloropropane	UJ





# ANALYTICAL REPORT

## PREPARED FOR

Attn: Melissa Remiger  
AECOM Technical Services Inc.  
100 N. Broadway  
20th Floor  
St. Louis, Missouri 63102

Generated 4/24/2024 12:18:40 PM

## JOB DESCRIPTION

ROXANA QUARTERLY GW

## JOB NUMBER

400-254074-1

Reviewed 05/14/2024  
AG

# Eurofins Pensacola

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

## Authorization



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4/24/2024 12:18:40 PM

Authorized for release by  
Leah Klingensmith, Senior Project Manager  
[Leah.Klingensmith@et.eurofinsus.com](mailto:Leah.Klingensmith@et.eurofinsus.com)  
(615)301-5038



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# Case Narrative

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

Job ID: 400-254074-1

Job ID: 400-254074-1

Eurofins Pensacola

## Job Narrative 400-254074-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 4/10/2024 9:12 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.2°C.

### GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-668554 recovered outside acceptance criteria, low biased, for Chloromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: 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-040824-8260 (400-254074-1), P54-ROX-040824 (400-254074-3) and MW24-ROX-040824 (400-254074-4). 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 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-668554 were outside control limits for 2-Chloroethyl vinyl ether due to the acidic nature of the parent sample.

Method 8260D: The RPD for the matrix spike / matrix spike duplicate (MS/MSD) for 2-Chloroethyl vinyl ether was not calculable for analytical batch 400-668554 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 8270E: The initial calibration verification (ICV) analyzed in batch 400-663332 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 8270E: The continuing calibration verification (CCV) associated with batch 400-668023 recovered outside acceptance criteria, low biased, for Pyridine and bis (2-chloroisopropyl) ether. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8270E: The initial calibration curve analyzed in batch 400-668023 was outside method criteria for the following analyte(s): 2,4-Dinitrophenol. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered an estimated concentration.

Method 8270E: The continuing calibration verification (CCV) associated with batch 400-668170 recovered outside acceptance criteria, low biased, for Pyridine. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8270E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-667880 and analytical batch 400-668170 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8270E: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch

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# Case Narrative

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

Job ID: 400-254074-1

## Job ID: 400-254074-1 (Continued)

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400-667880 and analytical batch 400-668170 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.

Method 8270E: The initial calibration curve analyzed in batch 400-668170 was outside method criteria for the following analyte(s): 2,4-Dinitrophenol. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered an estimated concentration.

Method 8270E: QC and Roxana samples for job 253926 were extracted by method 3510 on 4/12, but the technician created the electronic batch under method 3520 in the database. On 4/13 when the electronic batch (667880) was created correctly under 3510 the batch and extraction date defaulted to 4/13 and this date was not properly corrected. Since batches are 20 samples or 24 hours, technicians on Sunday 4/14 added samples to 667880 including Roxana job 254074. The effect on data of this extended batch time-frame should be less than re-extraction out of hold time in the opinion of the lab.

P54-ROX-040824 (400-254074-3), P54-ROX-040824-MS (400-254074-3[MS]), P54-ROX-040824-MSD (400-254074-3[MSD]) and MW24-ROX-040824 (400-254074-4)

Method 8270E\_SIM: QC and Roxana samples for job 253926 were extracted by method 3510 on 4/12, but the technician created the electronic batch under method 3520 in the database. On 4/13 when the electronic batch (667880) was created correctly under 3510 the batch and extraction date defaulted to 4/13 and this date was not properly corrected. Since batches are 20 samples or 24 hours, technicians on Sunday 4/14 added samples to 667880 including Roxana job 254074. The effect on data of this extended batch time-frame should be less than re-extraction out of hold time in the opinion of the lab.

P54-ROX-040824 (400-254074-3), P54-ROX-040824-MS (400-254074-3[MS]), P54-ROX-040824-MSD (400-254074-3[MSD]) and MW24-ROX-040824 (400-254074-4)

Method 8270E\_SIM: The following samples were re-prepared outside of preparation holding time to confirm original results: P54-ROX-040824 (400-254074-3) and MW24-ROX-040824 (400-254074-4). Both sets of data are reported.

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

### GC Semi VOA

Method 8011: Surrogate recovery for the following samples were outside the upper control limit: TB-ROX-040824-8011 (400-254074-2), P54-ROX-040824 (400-254074-3) and MW24-ROX-040824 (400-254074-4). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

Method 8011: Surrogate recovery for the following samples were outside control limits: P54-ROX-040824-MS (400-254074-3[MS]) and P54-ROX-040824-MSD (400-254074-3[MSD]). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8011: The continuing calibration verification (CCV) associated with batch 400-667985 recovered outside acceptance criteria, low biased, for 1,2-Dibromo-3-Chloropropane and 1,2-Dibromoethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

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

Eurofins Pensacola

# Sample Summary

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

Job ID: 400-254074-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-254074-1	TB-ROX-040824-8260	Water	04/08/24 00:00	04/10/24 09:12
400-254074-2	TB-ROX-040824-8011	Water	04/08/24 00:00	04/10/24 09:12
400-254074-3	P54-ROX-040824	Water	04/08/24 11:00	04/10/24 09:12
400-254074-4	MW24-ROX-040824	Water	04/08/24 12:15	04/10/24 09:12

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# Detection Summary

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

Job ID: 400-254074-1

**Client Sample ID: TB-ROX-040824-8260**

**Lab Sample ID: 400-254074-1**

No Detections.

**Client Sample ID: TB-ROX-040824-8011**

**Lab Sample ID: 400-254074-2**

No Detections.

**Client Sample ID: P54-ROX-040824**

**Lab Sample ID: 400-254074-3**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1-Methylnaphthalene	0.12	J	0.19	0.077	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	0.11	J	0.19	0.064	ug/L	1		8270E SIM	Total/NA

**Client Sample ID: MW24-ROX-040824**

**Lab Sample ID: 400-254074-4**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthylene	0.085	J	0.19	0.042	ug/L	1		8270E SIM	Total/NA
Anthracene	0.060	J	0.19	0.045	ug/L	1		8270E SIM	Total/NA
Fluoranthene	0.046	J	0.19	0.033	ug/L	1		8270E SIM	Total/NA
Fluorene	0.18	J	0.19	0.085	ug/L	1		8270E SIM	Total/NA
Phenanthrene	0.17	J	0.19	0.086	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	0.27		0.19	0.077	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	0.38		0.19	0.063	ug/L	1		8270E SIM	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Pensacola

# Client Sample Results

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

Job ID: 400-254074-1

**Client Sample ID: TB-ROX-040824-8260**

**Lab Sample ID: 400-254074-1**

**Date Collected: 04/08/24 00:00**

**Matrix: Water**

**Date Received: 04/10/24 09:12**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/19/24 11:04	1
Acrolein	ND		20	3.3	ug/L			04/19/24 11:04	1
Acrylonitrile	ND		10	2.8	ug/L			04/19/24 11:04	1
Benzene	ND		1.0	0.50	ug/L			04/19/24 11:04	1
Bromobenzene	ND		1.0	0.54	ug/L			04/19/24 11:04	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/19/24 11:04	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/19/24 11:04	1
Bromoform	ND		5.0	0.25	ug/L			04/19/24 11:04	1
Bromomethane	ND		1.0	0.98	ug/L			04/19/24 11:04	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/19/24 11:04	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/19/24 11:04	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/19/24 11:04	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/19/24 11:04	1
Chloroethane	ND		1.0	0.76	ug/L			04/19/24 11:04	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/19/24 11:04	1
Chloroform	ND		1.0	0.90	ug/L			04/19/24 11:04	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/19/24 11:04	1
Chloromethane	ND		1.0	0.90	ug/L			04/19/24 11:04	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/19/24 11:04	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/19/24 11:04	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/19/24 11:04	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/19/24 11:04	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/19/24 11:04	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/19/24 11:04	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/19/24 11:04	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/19/24 11:04	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/19/24 11:04	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/19/24 11:04	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/19/24 11:04	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/19/24 11:04	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/19/24 11:04	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/19/24 11:04	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/19/24 11:04	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/19/24 11:04	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/19/24 11:04	1
2-Hexanone	ND		25	1.4	ug/L			04/19/24 11:04	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/19/24 11:04	1
Methylene bromide	ND		5.0	0.22	ug/L			04/19/24 11:04	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/19/24 11:04	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/19/24 11:04	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/19/24 11:04	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/19/24 11:04	1
Naphthalene	ND		5.0	3.0	ug/L			04/19/24 11:04	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/19/24 11:04	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/19/24 11:04	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/19/24 11:04	1
o-Xylene	ND		5.0	0.60	ug/L			04/19/24 11:04	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/19/24 11:04	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/19/24 11:04	1



# Client Sample Results

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

Job ID: 400-254074-1

**Client Sample ID: TB-ROX-040824-8260**

**Lab Sample ID: 400-254074-1**

**Date Collected: 04/08/24 00:00**

**Matrix: Water**

**Date Received: 04/10/24 09:12**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/19/24 11:04	1
Styrene	ND		1.0	1.0	ug/L			04/19/24 11:04	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/19/24 11:04	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/19/24 11:04	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/19/24 11:04	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/19/24 11:04	1
Toluene	ND		1.0	0.90	ug/L			04/19/24 11:04	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/19/24 11:04	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/19/24 11:04	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/19/24 11:04	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/19/24 11:04	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/19/24 11:04	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/19/24 11:04	1
Trichloroethene	ND		1.0	0.15	ug/L			04/19/24 11:04	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/19/24 11:04	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/19/24 11:04	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/19/24 11:04	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/19/24 11:04	1
Vinyl acetate	ND		25	0.93	ug/L			04/19/24 11:04	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/19/24 11:04	1
Xylenes, Total	ND		10	1.6	ug/L			04/19/24 11:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	104		72 - 130		04/19/24 11:04	1
Dibromofluoromethane	104		75 - 126		04/19/24 11:04	1
Toluene-d8 (Surr)	101		64 - 132		04/19/24 11:04	1

# Client Sample Results

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

Job ID: 400-254074-1

**Client Sample ID: TB-ROX-040824-8011**

**Lab Sample ID: 400-254074-2**

Date Collected: 04/08/24 00:00

Matrix: Water

Date Received: 04/10/24 09:12

**Method: EPA 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	0.016	ug/L		04/15/24 10:01	04/15/24 16:24	1
1,2-Dibromoethane	ND		0.019	0.014	ug/L		04/15/24 10:01	04/15/24 16:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	444	S1+	51 - 149				04/15/24 10:01	04/15/24 16:24	1

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# Client Sample Results

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

Job ID: 400-254074-1

**Client Sample ID: P54-ROX-040824**

**Lab Sample ID: 400-254074-3**

Date Collected: 04/08/24 11:00

Matrix: Water

Date Received: 04/10/24 09:12

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/19/24 09:25	1
Acrolein	ND		20	3.3	ug/L			04/19/24 09:25	1
Acrylonitrile	ND		10	2.8	ug/L			04/19/24 09:25	1
Benzene	ND		1.0	0.50	ug/L			04/19/24 09:25	1
Bromobenzene	ND		1.0	0.54	ug/L			04/19/24 09:25	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/19/24 09:25	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/19/24 09:25	1
Bromoform	ND		5.0	0.25	ug/L			04/19/24 09:25	1
Bromomethane	ND		1.0	0.98	ug/L			04/19/24 09:25	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/19/24 09:25	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/19/24 09:25	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/19/24 09:25	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/19/24 09:25	1
Chloroethane	ND		1.0	0.76	ug/L			04/19/24 09:25	1
2-Chloroethyl vinyl ether	ND	F1 UJ	5.0	2.0	ug/L			04/19/24 09:25	1
Chloroform	ND		1.0	0.90	ug/L			04/19/24 09:25	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/19/24 09:25	1
Chloromethane	ND	UJ	1.0	0.90	ug/L			04/19/24 09:25	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/19/24 09:25	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/19/24 09:25	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/19/24 09:25	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/19/24 09:25	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/19/24 09:25	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/19/24 09:25	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/19/24 09:25	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/19/24 09:25	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/19/24 09:25	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/19/24 09:25	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/19/24 09:25	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/19/24 09:25	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/19/24 09:25	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/19/24 09:25	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/19/24 09:25	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/19/24 09:25	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/19/24 09:25	1
2-Hexanone	ND		25	1.4	ug/L			04/19/24 09:25	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/19/24 09:25	1
Methylene bromide	ND		5.0	0.22	ug/L			04/19/24 09:25	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/19/24 09:25	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/19/24 09:25	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/19/24 09:25	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/19/24 09:25	1
Naphthalene	ND		5.0	3.0	ug/L			04/19/24 09:25	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/19/24 09:25	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/19/24 09:25	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/19/24 09:25	1
o-Xylene	ND		5.0	0.60	ug/L			04/19/24 09:25	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/19/24 09:25	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/19/24 09:25	1

# Client Sample Results

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

Job ID: 400-254074-1

**Client Sample ID: P54-ROX-040824**

**Lab Sample ID: 400-254074-3**

Date Collected: 04/08/24 11:00

Matrix: Water

Date Received: 04/10/24 09:12

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/19/24 09:25	1
Styrene	ND		1.0	1.0	ug/L			04/19/24 09:25	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/19/24 09:25	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/19/24 09:25	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/19/24 09:25	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/19/24 09:25	1
Toluene	ND		1.0	0.90	ug/L			04/19/24 09:25	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/19/24 09:25	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/19/24 09:25	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/19/24 09:25	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/19/24 09:25	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/19/24 09:25	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/19/24 09:25	1
Trichloroethene	ND		1.0	0.15	ug/L			04/19/24 09:25	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/19/24 09:25	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/19/24 09:25	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/19/24 09:25	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/19/24 09:25	1
Vinyl acetate	ND		25	0.93	ug/L			04/19/24 09:25	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/19/24 09:25	1
Xylenes, Total	ND		10	1.6	ug/L			04/19/24 09:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	104		72 - 130		04/19/24 09:25	1
Dibromofluoromethane	103		75 - 126		04/19/24 09:25	1
Toluene-d8 (Surr)	102		64 - 132		04/19/24 09:25	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.095	ug/L		04/14/24 14:13	04/17/24 13:32	1
Acenaphthylene	ND		0.19	0.042	ug/L		04/14/24 14:13	04/17/24 13:32	1
Anthracene	ND		0.19	0.045	ug/L		04/14/24 14:13	04/17/24 13:32	1
Benzo[a]anthracene	ND		0.19	0.033	ug/L		04/14/24 14:13	04/17/24 13:32	1
Benzo[a]pyrene	ND		0.19	0.062	ug/L		04/14/24 14:13	04/17/24 13:32	1
Benzo[b]fluoranthene	ND		0.19	0.036	ug/L		04/14/24 14:13	04/17/24 13:32	1
Benzo[g,h,i]perylene	ND		0.19	0.026	ug/L		04/14/24 14:13	04/17/24 13:32	1
Benzo[k]fluoranthene	ND		0.19	0.060	ug/L		04/14/24 14:13	04/17/24 13:32	1
Chrysene	ND		0.19	0.032	ug/L		04/14/24 14:13	04/17/24 13:32	1
Dibenz(a,h)anthracene	ND		0.19	0.046	ug/L		04/14/24 14:13	04/17/24 13:32	1
Fluoranthene	ND		0.19	0.033	ug/L		04/14/24 14:13	04/17/24 13:32	1
Fluorene	ND		0.19	0.086	ug/L		04/14/24 14:13	04/17/24 13:32	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.033	ug/L		04/14/24 14:13	04/17/24 13:32	1
Phenanthrene	ND		0.19	0.087	ug/L		04/14/24 14:13	04/17/24 13:32	1
Pyrene	ND		0.19	0.038	ug/L		04/14/24 14:13	04/17/24 13:32	1
1-Methylnaphthalene	0.12	J	0.19	0.077	ug/L		04/14/24 14:13	04/17/24 13:32	1
2-Methylnaphthalene	0.11	J	0.19	0.064	ug/L		04/14/24 14:13	04/17/24 13:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	100		18 - 147	04/14/24 14:13	04/17/24 13:32	1
2-Fluorobiphenyl	76		15 - 128	04/14/24 14:13	04/17/24 13:32	1

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# Client Sample Results

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

Job ID: 400-254074-1

**Client Sample ID: P54-ROX-040824**

**Lab Sample ID: 400-254074-3**

Date Collected: 04/08/24 11:00

Matrix: Water

Date Received: 04/10/24 09:12

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	83		10 - 144	04/14/24 14:13	04/17/24 13:32	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) - RERA**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	ND	H UJ	0.19	0.078	ug/L		04/18/24 10:15	04/18/24 18:56	1
2-Methylnaphthalene	ND	H UJ	0.19	0.064	ug/L		04/18/24 10:15	04/18/24 18:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	75		18 - 147	04/18/24 10:15	04/18/24 18:56	1
2-Fluorobiphenyl	62		15 - 128	04/18/24 10:15	04/18/24 18:56	1
Nitrobenzene-d5	64		10 - 144	04/18/24 10:15	04/18/24 18:56	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	F1 UJ	9.6	8.4	ug/L		04/14/24 14:13	04/16/24 14:54	1
Benzenethiol	ND		9.6	9.5	ug/L		04/14/24 14:13	04/16/24 14:54	1
Benzoic acid	ND		29	23	ug/L		04/14/24 14:13	04/16/24 14:54	1
Benzyl alcohol	ND		9.6	7.0	ug/L		04/14/24 14:13	04/16/24 14:54	1
Bis(2-chloroethoxy)methane	ND		9.6	4.4	ug/L		04/14/24 14:13	04/16/24 14:54	1
Bis(2-chloroethyl)ether	ND	F1 UJ	9.6	3.8	ug/L		04/14/24 14:13	04/16/24 14:54	1
bis (2-chloroisopropyl) ether	ND		9.6	1.7	ug/L		04/14/24 14:13	04/16/24 14:54	1
Bis(2-ethylhexyl) phthalate	ND		9.6	8.6	ug/L		04/14/24 14:13	04/16/24 14:54	1
4-Bromophenyl phenyl ether	ND		9.6	8.3	ug/L		04/14/24 14:13	04/16/24 14:54	1
Butyl benzyl phthalate	ND		9.6	5.6	ug/L		04/14/24 14:13	04/16/24 14:54	1
4-Chloroaniline	ND	F1 F2 UJ	9.6	4.5	ug/L		04/14/24 14:13	04/16/24 14:54	1
4-Chloro-3-methylphenol	ND		9.6	5.1	ug/L		04/14/24 14:13	04/16/24 14:54	1
2-Chloronaphthalene	ND		9.6	3.7	ug/L		04/14/24 14:13	04/16/24 14:54	1
2-Chlorophenol	ND		9.6	3.9	ug/L		04/14/24 14:13	04/16/24 14:54	1
4-Chlorophenyl phenyl ether	ND		9.6	3.6	ug/L		04/14/24 14:13	04/16/24 14:54	1
Dibenz[a,h]acridine	ND		9.6	2.7	ug/L		04/14/24 14:13	04/16/24 14:54	1
Dibenzofuran	ND		9.6	3.8	ug/L		04/14/24 14:13	04/16/24 14:54	1
3,3'-Dichlorobenzidine	ND	F1 F2 UJ	11	11	ug/L		04/14/24 14:13	04/16/24 14:54	1
2,4-Dichlorophenol	ND		9.6	4.1	ug/L		04/14/24 14:13	04/16/24 14:54	1
Diethyl phthalate	ND		9.6	4.2	ug/L		04/14/24 14:13	04/16/24 14:54	1
2,4-Dimethylphenol	ND	F1 UJ	9.6	5.0	ug/L		04/14/24 14:13	04/16/24 14:54	1
Dimethyl phthalate	ND		9.6	4.0	ug/L		04/14/24 14:13	04/16/24 14:54	1
Di-n-butyl phthalate	ND		9.6	4.4	ug/L		04/14/24 14:13	04/16/24 14:54	1
4,6-Dinitro-ortho-cresol	ND		9.6	9.6	ug/L		04/14/24 14:13	04/16/24 14:54	1
2,4-Dinitrophenol	ND	F1	29	4.4	ug/L		04/14/24 14:13	04/16/24 14:54	1
2,4-Dinitrotoluene	ND		9.6	4.9	ug/L		04/14/24 14:13	04/16/24 14:54	1
2,6-Dinitrotoluene	ND		9.6	3.8	ug/L		04/14/24 14:13	04/16/24 14:54	1
Di-n-octyl phthalate	ND		9.6	5.8	ug/L		04/14/24 14:13	04/16/24 14:54	1
1,4-Dioxane	ND	F1 UJ	9.6	4.1	ug/L		04/14/24 14:13	04/16/24 14:54	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.6	3.2	ug/L		04/14/24 14:13	04/16/24 14:54	1
Hexachlorobenzene	ND		9.6	9.3	ug/L		04/14/24 14:13	04/16/24 14:54	1
Hexachlorocyclopentadiene	ND		19	4.3	ug/L		04/14/24 14:13	04/16/24 14:54	1
Hexachloroethane	ND	F1 UJ	9.6	5.0	ug/L		04/14/24 14:13	04/16/24 14:54	1
Indene	ND		9.6	3.5	ug/L		04/14/24 14:13	04/16/24 14:54	1
Isophorone	ND		9.6	5.0	ug/L		04/14/24 14:13	04/16/24 14:54	1

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# Client Sample Results

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

Job ID: 400-254074-1

**Client Sample ID: P54-ROX-040824**

**Lab Sample ID: 400-254074-3**

Date Collected: 04/08/24 11:00

Matrix: Water

Date Received: 04/10/24 09:12

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Methylphenol	ND	F1 UJ	9.6	3.1	ug/L		04/14/24 14:13	04/16/24 14:54	1
3 & 4 Methylphenol	ND	F1 UJ	19	4.4	ug/L		04/14/24 14:13	04/16/24 14:54	1
2-Nitroaniline	ND		9.6	4.8	ug/L		04/14/24 14:13	04/16/24 14:54	1
3-Nitroaniline	ND	F1 UJ	9.6	4.5	ug/L		04/14/24 14:13	04/16/24 14:54	1
4-Nitroaniline	ND	F1 UJ	9.6	3.9	ug/L		04/14/24 14:13	04/16/24 14:54	1
Nitrobenzene	ND		9.6	4.5	ug/L		04/14/24 14:13	04/16/24 14:54	1
2-Nitrophenol	ND		9.6	4.4	ug/L		04/14/24 14:13	04/16/24 14:54	1
4-Nitrophenol	ND		9.6	3.2	ug/L		04/14/24 14:13	04/16/24 14:54	1
N-Nitrosodimethylamine	ND	F1 UJ	9.6	2.1	ug/L		04/14/24 14:13	04/16/24 14:54	1
N-Nitrosodi-n-propylamine	ND		9.6	2.4	ug/L		04/14/24 14:13	04/16/24 14:54	1
N-Nitrosodiphenylamine	ND	F1 UJ	9.6	3.6	ug/L		04/14/24 14:13	04/16/24 14:54	1
Pentachlorophenol	ND		19	11	ug/L		04/14/24 14:13	04/16/24 14:54	1
Phenol	ND	F1 UJ	9.6	4.0	ug/L		04/14/24 14:13	04/16/24 14:54	1
Pyridine	ND	F1 UJ	9.6	9.6	ug/L		04/14/24 14:13	04/16/24 14:54	1
Quinoline	ND		9.6	2.3	ug/L		04/14/24 14:13	04/16/24 14:54	1
2,4,5-Trichlorophenol	ND		9.6	3.8	ug/L		04/14/24 14:13	04/16/24 14:54	1
2,4,6-Trichlorophenol	ND		9.6	3.4	ug/L		04/14/24 14:13	04/16/24 14:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	63		21 - 114	04/14/24 14:13	04/16/24 14:54	1
2-Fluorophenol	16		10 - 105	04/14/24 14:13	04/16/24 14:54	1
Nitrobenzene-d5	60		16 - 127	04/14/24 14:13	04/16/24 14:54	1
Phenol-d5	10		10 - 129	04/14/24 14:13	04/16/24 14:54	1
Terphenyl-d14	81		13 - 150	04/14/24 14:13	04/16/24 14:54	1
2,4,6-Tribromophenol	59		10 - 150	04/14/24 14:13	04/16/24 14:54	1

**Method: EPA 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	UJ	0.029	0.016	ug/L		04/15/24 10:01	04/15/24 16:46	1
1,2-Dibromoethane	ND	UJ	0.019	0.014	ug/L		04/15/24 10:01	04/15/24 16:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	254	S1+	51 - 149	04/15/24 10:01	04/15/24 16:46	1

# Client Sample Results

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

Job ID: 400-254074-1

**Client Sample ID: MW24-ROX-040824**

**Lab Sample ID: 400-254074-4**

Date Collected: 04/08/24 12:15

Matrix: Water

Date Received: 04/10/24 09:12

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/19/24 11:29	1
Acrolein	ND		20	3.3	ug/L			04/19/24 11:29	1
Acrylonitrile	ND		10	2.8	ug/L			04/19/24 11:29	1
Benzene	ND		1.0	0.50	ug/L			04/19/24 11:29	1
Bromobenzene	ND		1.0	0.54	ug/L			04/19/24 11:29	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/19/24 11:29	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/19/24 11:29	1
Bromoform	ND		5.0	0.25	ug/L			04/19/24 11:29	1
Bromomethane	ND		1.0	0.98	ug/L			04/19/24 11:29	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/19/24 11:29	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/19/24 11:29	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/19/24 11:29	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/19/24 11:29	1
Chloroethane	ND		1.0	0.76	ug/L			04/19/24 11:29	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/19/24 11:29	1
Chloroform	ND		1.0	0.90	ug/L			04/19/24 11:29	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/19/24 11:29	1
Chloromethane	ND	UJ	1.0	0.90	ug/L			04/19/24 11:29	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/19/24 11:29	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/19/24 11:29	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/19/24 11:29	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/19/24 11:29	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/19/24 11:29	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/19/24 11:29	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/19/24 11:29	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/19/24 11:29	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/19/24 11:29	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/19/24 11:29	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/19/24 11:29	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/19/24 11:29	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/19/24 11:29	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/19/24 11:29	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/19/24 11:29	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/19/24 11:29	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/19/24 11:29	1
2-Hexanone	ND		25	1.4	ug/L			04/19/24 11:29	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/19/24 11:29	1
Methylene bromide	ND		5.0	0.22	ug/L			04/19/24 11:29	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/19/24 11:29	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/19/24 11:29	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/19/24 11:29	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/19/24 11:29	1
Naphthalene	ND		5.0	3.0	ug/L			04/19/24 11:29	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/19/24 11:29	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/19/24 11:29	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/19/24 11:29	1
o-Xylene	ND		5.0	0.60	ug/L			04/19/24 11:29	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/19/24 11:29	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/19/24 11:29	1

# Client Sample Results

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

Job ID: 400-254074-1

**Client Sample ID: MW24-ROX-040824**

**Lab Sample ID: 400-254074-4**

Date Collected: 04/08/24 12:15

Matrix: Water

Date Received: 04/10/24 09:12

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/19/24 11:29	1
Styrene	ND		1.0	1.0	ug/L			04/19/24 11:29	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/19/24 11:29	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/19/24 11:29	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/19/24 11:29	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/19/24 11:29	1
Toluene	ND		1.0	0.90	ug/L			04/19/24 11:29	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/19/24 11:29	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/19/24 11:29	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/19/24 11:29	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/19/24 11:29	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/19/24 11:29	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/19/24 11:29	1
Trichloroethene	ND		1.0	0.15	ug/L			04/19/24 11:29	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/19/24 11:29	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/19/24 11:29	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/19/24 11:29	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/19/24 11:29	1
Vinyl acetate	ND		25	0.93	ug/L			04/19/24 11:29	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/19/24 11:29	1
Xylenes, Total	ND		10	1.6	ug/L			04/19/24 11:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		72 - 130		04/19/24 11:29	1
Dibromofluoromethane	104		75 - 126		04/19/24 11:29	1
Toluene-d8 (Surr)	102		64 - 132		04/19/24 11:29	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.095	ug/L		04/14/24 14:13	04/17/24 13:52	1
<b>Acenaphthylene</b>	<b>0.085</b>	<b>J</b>	0.19	0.042	ug/L		04/14/24 14:13	04/17/24 13:52	1
<b>Anthracene</b>	<b>0.060</b>	<b>J</b>	0.19	0.045	ug/L		04/14/24 14:13	04/17/24 13:52	1
Benzo[a]anthracene	ND		0.19	0.033	ug/L		04/14/24 14:13	04/17/24 13:52	1
Benzo[a]pyrene	ND		0.19	0.061	ug/L		04/14/24 14:13	04/17/24 13:52	1
Benzo[b]fluoranthene	ND		0.19	0.035	ug/L		04/14/24 14:13	04/17/24 13:52	1
Benzo[g,h,i]perylene	ND		0.19	0.026	ug/L		04/14/24 14:13	04/17/24 13:52	1
Benzo[k]fluoranthene	ND		0.19	0.059	ug/L		04/14/24 14:13	04/17/24 13:52	1
Chrysene	ND		0.19	0.032	ug/L		04/14/24 14:13	04/17/24 13:52	1
Dibenz(a,h)anthracene	ND		0.19	0.046	ug/L		04/14/24 14:13	04/17/24 13:52	1
<b>Fluoranthene</b>	<b>0.046</b>	<b>J</b>	0.19	0.033	ug/L		04/14/24 14:13	04/17/24 13:52	1
<b>Fluorene</b>	<b>0.18</b>	<b>J</b>	0.19	0.085	ug/L		04/14/24 14:13	04/17/24 13:52	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.033	ug/L		04/14/24 14:13	04/17/24 13:52	1
<b>Phenanthrene</b>	<b>0.17</b>	<b>J</b>	0.19	0.086	ug/L		04/14/24 14:13	04/17/24 13:52	1
Pyrene	ND		0.19	0.037	ug/L		04/14/24 14:13	04/17/24 13:52	1
<b>1-Methylnaphthalene</b>	<b>0.27</b>		0.19	0.077	ug/L		04/14/24 14:13	04/17/24 13:52	1
<b>2-Methylnaphthalene</b>	<b>0.38</b>		0.19	0.063	ug/L		04/14/24 14:13	04/17/24 13:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	111		18 - 147	04/14/24 14:13	04/17/24 13:52	1
2-Fluorobiphenyl	84		15 - 128	04/14/24 14:13	04/17/24 13:52	1

Eurofins Pensacola



# Client Sample Results

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

Job ID: 400-254074-1

**Client Sample ID: MW24-ROX-040824**

**Lab Sample ID: 400-254074-4**

Date Collected: 04/08/24 12:15

Matrix: Water

Date Received: 04/10/24 09:12

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	95		10 - 144	04/14/24 14:13	04/17/24 13:52	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) - RERA**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthylene	ND	H UJ	0.19	0.043	ug/L		04/18/24 10:15	04/18/24 19:17	1
Anthracene	ND	H UJ	0.19	0.046	ug/L		04/18/24 10:15	04/18/24 19:17	1
Fluoranthene	ND	H UJ	0.19	0.033	ug/L		04/18/24 10:15	04/18/24 19:17	1
Fluorene	ND	H UJ	0.19	0.087	ug/L		04/18/24 10:15	04/18/24 19:17	1
Phenanthrene	ND	H UJ	0.19	0.088	ug/L		04/18/24 10:15	04/18/24 19:17	1
1-Methylnaphthalene	ND	H UJ	0.19	0.078	ug/L		04/18/24 10:15	04/18/24 19:17	1
2-Methylnaphthalene	ND	H UJ	0.19	0.064	ug/L		04/18/24 10:15	04/18/24 19:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	92		18 - 147	04/18/24 10:15	04/18/24 19:17	1
2-Fluorobiphenyl	70		15 - 128	04/18/24 10:15	04/18/24 19:17	1
Nitrobenzene-d5	75		10 - 144	04/18/24 10:15	04/18/24 19:17	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.6	8.3	ug/L		04/14/24 14:13	04/16/24 02:23	1
Benzenethiol	ND		9.6	9.5	ug/L		04/14/24 14:13	04/16/24 02:23	1
Benzoic acid	ND		29	23	ug/L		04/14/24 14:13	04/16/24 02:23	1
Benzyl alcohol	ND		9.6	7.0	ug/L		04/14/24 14:13	04/16/24 02:23	1
Bis(2-chloroethoxy)methane	ND		9.6	4.4	ug/L		04/14/24 14:13	04/16/24 02:23	1
Bis(2-chloroethyl)ether	ND	UJ	9.6	3.7	ug/L		04/14/24 14:13	04/16/24 02:23	1
bis (2-chloroisopropyl) ether	ND		9.6	1.7	ug/L		04/14/24 14:13	04/16/24 02:23	1
Bis(2-ethylhexyl) phthalate	ND		9.6	8.5	ug/L		04/14/24 14:13	04/16/24 02:23	1
4-Bromophenyl phenyl ether	ND		9.6	8.2	ug/L		04/14/24 14:13	04/16/24 02:23	1
Butyl benzyl phthalate	ND		9.6	5.6	ug/L		04/14/24 14:13	04/16/24 02:23	1
4-Chloroaniline	ND		9.6	4.5	ug/L		04/14/24 14:13	04/16/24 02:23	1
4-Chloro-3-methylphenol	ND		9.6	5.1	ug/L		04/14/24 14:13	04/16/24 02:23	1
2-Chloronaphthalene	ND		9.6	3.6	ug/L		04/14/24 14:13	04/16/24 02:23	1
2-Chlorophenol	ND		9.6	3.9	ug/L		04/14/24 14:13	04/16/24 02:23	1
4-Chlorophenyl phenyl ether	ND		9.6	3.5	ug/L		04/14/24 14:13	04/16/24 02:23	1
Dibenz[a,h]acridine	ND		9.6	2.7	ug/L		04/14/24 14:13	04/16/24 02:23	1
Dibenzofuran	ND		9.6	3.8	ug/L		04/14/24 14:13	04/16/24 02:23	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/14/24 14:13	04/16/24 02:23	1
2,4-Dichlorophenol	ND		9.6	4.1	ug/L		04/14/24 14:13	04/16/24 02:23	1
Diethyl phthalate	ND		9.6	4.2	ug/L		04/14/24 14:13	04/16/24 02:23	1
2,4-Dimethylphenol	ND		9.6	5.0	ug/L		04/14/24 14:13	04/16/24 02:23	1
Dimethyl phthalate	ND		9.6	4.0	ug/L		04/14/24 14:13	04/16/24 02:23	1
Di-n-butyl phthalate	ND		9.6	4.4	ug/L		04/14/24 14:13	04/16/24 02:23	1
4,6-Dinitro-ortho-cresol	ND		9.6	9.6	ug/L		04/14/24 14:13	04/16/24 02:23	1
2,4-Dinitrophenol	ND		29	4.4	ug/L		04/14/24 14:13	04/16/24 02:23	1
2,4-Dinitrotoluene	ND		9.6	4.9	ug/L		04/14/24 14:13	04/16/24 02:23	1
2,6-Dinitrotoluene	ND		9.6	3.7	ug/L		04/14/24 14:13	04/16/24 02:23	1
Di-n-octyl phthalate	ND		9.6	5.8	ug/L		04/14/24 14:13	04/16/24 02:23	1
1,4-Dioxane	ND		9.6	4.1	ug/L		04/14/24 14:13	04/16/24 02:23	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.6	3.2	ug/L		04/14/24 14:13	04/16/24 02:23	1

# Client Sample Results

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

Job ID: 400-254074-1

**Client Sample ID: MW24-ROX-040824**

**Lab Sample ID: 400-254074-4**

Date Collected: 04/08/24 12:15

Matrix: Water

Date Received: 04/10/24 09:12

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobenzene	ND		9.6	9.3	ug/L		04/14/24 14:13	04/16/24 02:23	1
Hexachlorocyclopentadiene	ND		19	4.3	ug/L		04/14/24 14:13	04/16/24 02:23	1
Hexachloroethane	ND		9.6	5.0	ug/L		04/14/24 14:13	04/16/24 02:23	1
Indene	ND		9.6	3.5	ug/L		04/14/24 14:13	04/16/24 02:23	1
Isophorone	ND		9.6	5.0	ug/L		04/14/24 14:13	04/16/24 02:23	1
2-Methylphenol	ND		9.6	3.1	ug/L		04/14/24 14:13	04/16/24 02:23	1
3 & 4 Methylphenol	ND		19	4.4	ug/L		04/14/24 14:13	04/16/24 02:23	1
2-Nitroaniline	ND		9.6	4.8	ug/L		04/14/24 14:13	04/16/24 02:23	1
3-Nitroaniline	ND		9.6	4.5	ug/L		04/14/24 14:13	04/16/24 02:23	1
4-Nitroaniline	ND		9.6	3.9	ug/L		04/14/24 14:13	04/16/24 02:23	1
Nitrobenzene	ND		9.6	4.5	ug/L		04/14/24 14:13	04/16/24 02:23	1
2-Nitrophenol	ND		9.6	4.4	ug/L		04/14/24 14:13	04/16/24 02:23	1
4-Nitrophenol	ND		9.6	3.2	ug/L		04/14/24 14:13	04/16/24 02:23	1
N-Nitrosodimethylamine	ND		9.6	2.1	ug/L		04/14/24 14:13	04/16/24 02:23	1
N-Nitrosodi-n-propylamine	ND		9.6	2.4	ug/L		04/14/24 14:13	04/16/24 02:23	1
N-Nitrosodiphenylamine	ND		9.6	3.5	ug/L		04/14/24 14:13	04/16/24 02:23	1
Pentachlorophenol	ND		19	11	ug/L		04/14/24 14:13	04/16/24 02:23	1
Phenol	ND		9.6	4.0	ug/L		04/14/24 14:13	04/16/24 02:23	1
Pyridine	ND	UJ	9.6	9.6	ug/L		04/14/24 14:13	04/16/24 02:23	1
Quinoline	ND		9.6	2.3	ug/L		04/14/24 14:13	04/16/24 02:23	1
2,4,5-Trichlorophenol	ND		9.6	3.8	ug/L		04/14/24 14:13	04/16/24 02:23	1
2,4,6-Trichlorophenol	ND		9.6	3.4	ug/L		04/14/24 14:13	04/16/24 02:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	73		21 - 114	04/14/24 14:13	04/16/24 02:23	1
2-Fluorophenol	51		10 - 105	04/14/24 14:13	04/16/24 02:23	1
Nitrobenzene-d5	70		16 - 127	04/14/24 14:13	04/16/24 02:23	1
Phenol-d5	37		10 - 129	04/14/24 14:13	04/16/24 02:23	1
Terphenyl-d14	98		13 - 150	04/14/24 14:13	04/16/24 02:23	1
2,4,6-Tribromophenol	74		10 - 150	04/14/24 14:13	04/16/24 02:23	1

**Method: EPA 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	UJ	0.032	0.018	ug/L		04/15/24 10:01	04/15/24 18:12	1
1,2-Dibromoethane	ND	UJ	0.021	0.016	ug/L		04/15/24 10:01	04/15/24 18:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	290	S1+	51 - 149	04/15/24 10:01	04/15/24 18:12	1

# Definitions/Glossary

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

Job ID: 400-254074-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.

### GC/MS Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

# Surrogate Summary

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

Job ID: 400-254074-1

## Method: 8260D - Volatile Organic Compounds by 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 (72-130)	DBFM (75-126)	TOL (64-132)
400-254074-1	TB-ROX-040824-8260	104	104	101
400-254074-3	P54-ROX-040824	104	103	102
400-254074-3 MS	P54-ROX-040824-MS	100	104	102
400-254074-3 MSD	P54-ROX-040824-MSD	101	105	101
400-254074-4	MW24-ROX-040824	102	104	102
LCS 400-668554/1002	Lab Control Sample	104	101	103
MB 400-668554/4	Method Blank	101	105	101

#### Surrogate Legend

BFB = 4-Bromofluorobenzene  
DBFM = Dibromofluoromethane  
TOL = Toluene-d8 (Surr)

## Method: 8270E - 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 (21-114)	2FP (10-105)	NBZ (16-127)	PHL (10-129)	TPHL (13-150)	TBP (10-150)
400-254074-3	P54-ROX-040824	63	16	60	10	81	59
400-254074-3 MS	P54-ROX-040824-MS	67	34	72	27	79	70
400-254074-3 MSD	P54-ROX-040824-MSD	74	39	77	33	85	76
400-254074-4	MW24-ROX-040824	73	51	70	37	98	74
LCS 400-667880/14-A	Lab Control Sample	72	67	68	69	85	66
LCS 400-667880/2-A	Lab Control Sample	61	60	65	64	78	78
LCSD 400-667880/15-A	Lab Control Sample Dup	66	61	62	63	77	64
LCSD 400-667880/3-A	Lab Control Sample Dup	67	65	71	69	82	81
MB 400-667880/1-A	Method Blank	65	59	61	62	74	63

#### Surrogate Legend

FBP = 2-Fluorobiphenyl  
2FP = 2-Fluorophenol  
NBZ = Nitrobenzene-d5  
PHL = Phenol-d5  
TPHL = Terphenyl-d14  
TBP = 2,4,6-Tribromophenol

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TPHL (18-147)	FBP (15-128)	NBZ (10-144)
400-254074-3	P54-ROX-040824	100	76	83
400-254074-3 - RERA	P54-ROX-040824	75	62	64
400-254074-3 MS	P54-ROX-040824-MS	64	62	72
400-254074-3 MSD	P54-ROX-040824-MSD	67	67	72
400-254074-4	MW24-ROX-040824	111	84	95
400-254074-4 - RERA	MW24-ROX-040824	92	70	75
LCS 400-668437/2-A	Lab Control Sample	93	82	57
LCSD 400-668437/3-A	Lab Control Sample Dup	85	72	53



# Surrogate Summary

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

Job ID: 400-254074-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TPHL (18-147)	FBP (15-128)	NBZ (10-144)
MB 400-667880/1-A	Method Blank	115	77	84
MB 400-668437/1-A	Method Blank	100	76	84

**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)
		BFB1 (51-149)
400-254074-2	TB-ROX-040824-8011	444 S1+
400-254074-3	P54-ROX-040824	254 S1+
400-254074-3 MS	P54-ROX-040824-MS	251 S1+
400-254074-3 MSD	P54-ROX-040824-MSD	343 S1+
400-254074-4	MW24-ROX-040824	290 S1+
LCS 400-667962/2-A	Lab Control Sample	100
LCSD 400-667962/3-A	Lab Control Sample Dup	107
MB 400-667962/1-A	Method Blank	97

**Surrogate Legend**

BFB = 4-Bromofluorobenzene

# Method Summary

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

Job ID: 400-254074-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET PEN
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET PEN
8270E SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	EET PEN
8011	EDB and DBCP in Water by Microextraction	EPA	EET PEN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET PEN
5030C	Purge and Trap	SW846	EET PEN
8011	Microextraction	SW846	EET 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:**

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

# Lab Chronicle

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

Job ID: 400-254074-1

**Client Sample ID: TB-ROX-040824-8260**

**Lab Sample ID: 400-254074-1**

Date Collected: 04/08/24 00:00

Matrix: Water

Date Received: 04/10/24 09:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	668554	04/19/24 11:04	KR	EET PEN

**Client Sample ID: TB-ROX-040824-8011**

**Lab Sample ID: 400-254074-2**

Date Collected: 04/08/24 00:00

Matrix: Water

Date Received: 04/10/24 09:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			36.3 mL	35 mL	667962	04/15/24 10:01	PG	EET PEN
Total/NA	Analysis	8011		1			667985	04/15/24 16:24	PG	EET PEN

**Client Sample ID: P54-ROX-040824**

**Lab Sample ID: 400-254074-3**

Date Collected: 04/08/24 11:00

Matrix: Water

Date Received: 04/10/24 09:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	668554	04/19/24 09:25	KR	EET PEN
Total/NA	Prep	3510C			259.8 mL	1 mL	667880	04/14/24 14:13	YC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668170	04/16/24 14:54	S1B	EET PEN
Total/NA	Prep	3510C	RERA		257.2 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E SIM	RERA	1	0.4 mL	0.4 mL	668419	04/18/24 18:56	KJA	EET PEN
Total/NA	Prep	3510C			259.8 mL	1 mL	667880	04/14/24 14:13	YC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	668265	04/17/24 13:32	KJA	EET PEN
Total/NA	Prep	8011			36.6 mL	35 mL	667962	04/15/24 10:01	PG	EET PEN
Total/NA	Analysis	8011		1			667985	04/15/24 16:46	PG	EET PEN

**Client Sample ID: MW24-ROX-040824**

**Lab Sample ID: 400-254074-4**

Date Collected: 04/08/24 12:15

Matrix: Water

Date Received: 04/10/24 09:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	668554	04/19/24 11:29	KR	EET PEN
Total/NA	Prep	3510C			260.8 mL	1 mL	667880	04/14/24 14:13	YC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668023	04/16/24 02:23	VC1	EET PEN
Total/NA	Prep	3510C	RERA		257 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E SIM	RERA	1	0.4 mL	0.4 mL	668419	04/18/24 19:17	KJA	EET PEN
Total/NA	Prep	3510C			260.8 mL	1 mL	667880	04/14/24 14:13	YC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	668265	04/17/24 13:52	KJA	EET PEN
Total/NA	Prep	8011			33.3 mL	35 mL	667962	04/15/24 10:01	PG	EET PEN
Total/NA	Analysis	8011		1			667985	04/15/24 18:12	PG	EET PEN

# Lab Chronicle

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

Job ID: 400-254074-1

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-667880/1-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	3510C			250 mL	1 mL	667880	04/12/24 16:54	YC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668023	04/15/24 18:31	VC1	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	667880	04/12/24 16:54	YC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	668080	04/16/24 17:35	KJA	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-667962/1-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	667962	04/15/24 10:01	PG	EET PEN
Total/NA	Analysis	8011		1			667985	04/15/24 13:34	PG	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-668437/1-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	3510C			250 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	668419	04/18/24 16:26	KJA	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-668554/4**

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	8260D		1	5 mL	5 mL	668554	04/19/24 09:01	KR	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-667880/14-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	3510C			250 mL	1 mL	667880	04/13/24 09:40	YC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668023	04/15/24 19:38	VC1	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-667880/2-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	3510C			250 mL	1 mL	667880	04/12/24 16:54	YC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668023	04/15/24 18:53	VC1	EET PEN



# Lab Chronicle

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

Job ID: 400-254074-1

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-667962/2-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	667962	04/15/24 10:01	PG	EET PEN
Total/NA	Analysis	8011		1			667985	04/15/24 13:55	PG	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-668437/2-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	3510C			250 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E SIM		100	0.4 mL	0.4 mL	668419	04/18/24 16:47	KJA	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-668554/1002

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	8260D		1	5 mL	5 mL	668554	04/19/24 07:32	KR	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-667880/15-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	3510C			250 mL	1 mL	667880	04/13/24 09:40	YC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668023	04/15/24 20:01	VC1	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-667880/3-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	3510C			250 mL	1 mL	667880	04/12/24 16:54	YC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668023	04/15/24 19:16	VC1	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-667962/3-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	667962	04/15/24 10:01	PG	EET PEN
Total/NA	Analysis	8011		1			667985	04/15/24 14:16	PG	EET PEN

# Lab Chronicle

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

Job ID: 400-254074-1

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-668437/3-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	3510C			250 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E SIM		100	0.4 mL	0.4 mL	668419	04/18/24 17:09	KJA	EET PEN

## Client Sample ID: P54-ROX-040824-MS

Lab Sample ID: 400-254074-3 MS

Date Collected: 04/08/24 11:00

Matrix: Water

Date Received: 04/10/24 09:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	668554	04/19/24 09:50	KR	EET PEN
Total/NA	Prep	3510C			258.8 mL	1 mL	667880	04/14/24 14:13	YC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668170	04/16/24 14:08	S1B	EET PEN
Total/NA	Prep	3510C			258.8 mL	1 mL	667880	04/14/24 14:13	YC	EET PEN
Total/NA	Analysis	8270E SIM		10	0.4 mL	0.4 mL	668002	04/15/24 19:12	KJA	EET PEN
Total/NA	Prep	8011			36.5 mL	35 mL	667962	04/15/24 10:01	PG	EET PEN
Total/NA	Analysis	8011		1			667985	04/15/24 17:29	PG	EET PEN

## Client Sample ID: P54-ROX-040824-MSD

Lab Sample ID: 400-254074-3 MSD

Date Collected: 04/08/24 11:00

Matrix: Water

Date Received: 04/10/24 09:12

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	668554	04/19/24 10:15	KR	EET PEN
Total/NA	Prep	3510C			258.4 mL	1 mL	667880	04/14/24 14:13	YC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668170	04/16/24 14:31	S1B	EET PEN
Total/NA	Prep	3510C			258.4 mL	1 mL	667880	04/14/24 14:13	YC	EET PEN
Total/NA	Analysis	8270E SIM		10	0.4 mL	0.4 mL	668002	04/15/24 19:33	KJA	EET PEN
Total/NA	Prep	8011			35.9 mL	35 mL	667962	04/15/24 10:01	PG	EET PEN
Total/NA	Analysis	8011		1			667985	04/15/24 17:50	PG	EET PEN

### Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

# QC Association Summary

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

Job ID: 400-254074-1

## GC/MS VOA

### Analysis Batch: 668554

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254074-1	TB-ROX-040824-8260	Total/NA	Water	8260D	
400-254074-3	P54-ROX-040824	Total/NA	Water	8260D	
400-254074-4	MW24-ROX-040824	Total/NA	Water	8260D	
MB 400-668554/4	Method Blank	Total/NA	Water	8260D	
LCS 400-668554/1002	Lab Control Sample	Total/NA	Water	8260D	
400-254074-3 MS	P54-ROX-040824-MS	Total/NA	Water	8260D	
400-254074-3 MSD	P54-ROX-040824-MSD	Total/NA	Water	8260D	

## GC/MS Semi VOA

### Prep Batch: 667880

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254074-3	P54-ROX-040824	Total/NA	Water	3510C	
400-254074-4	MW24-ROX-040824	Total/NA	Water	3510C	
MB 400-667880/1-A	Method Blank	Total/NA	Water	3510C	
LCS 400-667880/14-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 400-667880/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 400-667880/15-A	Lab Control Sample Dup	Total/NA	Water	3510C	
LCSD 400-667880/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
400-254074-3 MS	P54-ROX-040824-MS	Total/NA	Water	3510C	
400-254074-3 MSD	P54-ROX-040824-MSD	Total/NA	Water	3510C	

### Analysis Batch: 668002

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254074-3 MS	P54-ROX-040824-MS	Total/NA	Water	8270E SIM	667880
400-254074-3 MSD	P54-ROX-040824-MSD	Total/NA	Water	8270E SIM	667880

### Analysis Batch: 668023

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254074-4	MW24-ROX-040824	Total/NA	Water	8270E	667880
MB 400-667880/1-A	Method Blank	Total/NA	Water	8270E	667880
LCS 400-667880/14-A	Lab Control Sample	Total/NA	Water	8270E	667880
LCS 400-667880/2-A	Lab Control Sample	Total/NA	Water	8270E	667880
LCSD 400-667880/15-A	Lab Control Sample Dup	Total/NA	Water	8270E	667880
LCSD 400-667880/3-A	Lab Control Sample Dup	Total/NA	Water	8270E	667880

### Analysis Batch: 668080

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-667880/1-A	Method Blank	Total/NA	Water	8270E SIM	667880

### Analysis Batch: 668170

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254074-3	P54-ROX-040824	Total/NA	Water	8270E	667880
400-254074-3 MS	P54-ROX-040824-MS	Total/NA	Water	8270E	667880
400-254074-3 MSD	P54-ROX-040824-MSD	Total/NA	Water	8270E	667880

### Analysis Batch: 668265

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254074-3	P54-ROX-040824	Total/NA	Water	8270E SIM	667880
400-254074-4	MW24-ROX-040824	Total/NA	Water	8270E SIM	667880

# QC Association Summary

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

Job ID: 400-254074-1

## GC/MS Semi VOA

### Analysis Batch: 668419

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254074-3 - RERA	P54-ROX-040824	Total/NA	Water	8270E SIM	668437
400-254074-4 - RERA	MW24-ROX-040824	Total/NA	Water	8270E SIM	668437
MB 400-668437/1-A	Method Blank	Total/NA	Water	8270E SIM	668437
LCS 400-668437/2-A	Lab Control Sample	Total/NA	Water	8270E SIM	668437
LCSD 400-668437/3-A	Lab Control Sample Dup	Total/NA	Water	8270E SIM	668437

### Prep Batch: 668437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254074-3 - RERA	P54-ROX-040824	Total/NA	Water	3510C	
400-254074-4 - RERA	MW24-ROX-040824	Total/NA	Water	3510C	
MB 400-668437/1-A	Method Blank	Total/NA	Water	3510C	
LCS 400-668437/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 400-668437/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

## GC Semi VOA

### Prep Batch: 667962

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254074-2	TB-ROX-040824-8011	Total/NA	Water	8011	
400-254074-3	P54-ROX-040824	Total/NA	Water	8011	
400-254074-4	MW24-ROX-040824	Total/NA	Water	8011	
MB 400-667962/1-A	Method Blank	Total/NA	Water	8011	
LCS 400-667962/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 400-667962/3-A	Lab Control Sample Dup	Total/NA	Water	8011	
400-254074-3 MS	P54-ROX-040824-MS	Total/NA	Water	8011	
400-254074-3 MSD	P54-ROX-040824-MSD	Total/NA	Water	8011	

### Analysis Batch: 667985

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254074-2	TB-ROX-040824-8011	Total/NA	Water	8011	667962
400-254074-3	P54-ROX-040824	Total/NA	Water	8011	667962
400-254074-4	MW24-ROX-040824	Total/NA	Water	8011	667962
MB 400-667962/1-A	Method Blank	Total/NA	Water	8011	667962
LCS 400-667962/2-A	Lab Control Sample	Total/NA	Water	8011	667962
LCSD 400-667962/3-A	Lab Control Sample Dup	Total/NA	Water	8011	667962
400-254074-3 MS	P54-ROX-040824-MS	Total/NA	Water	8011	667962
400-254074-3 MSD	P54-ROX-040824-MSD	Total/NA	Water	8011	667962



# QC Sample Results

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

Job ID: 400-254074-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 400-668554/4**  
**Matrix: Water**  
**Analysis Batch: 668554**

**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			04/19/24 09:01	1
Acrolein	ND		20	3.3	ug/L			04/19/24 09:01	1
Acrylonitrile	ND		10	2.8	ug/L			04/19/24 09:01	1
Benzene	ND		1.0	0.50	ug/L			04/19/24 09:01	1
Bromobenzene	ND		1.0	0.54	ug/L			04/19/24 09:01	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/19/24 09:01	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/19/24 09:01	1
Bromoform	ND		5.0	0.25	ug/L			04/19/24 09:01	1
Bromomethane	ND		1.0	0.98	ug/L			04/19/24 09:01	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/19/24 09:01	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/19/24 09:01	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/19/24 09:01	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/19/24 09:01	1
Chloroethane	ND		1.0	0.76	ug/L			04/19/24 09:01	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/19/24 09:01	1
Chloroform	ND		1.0	0.90	ug/L			04/19/24 09:01	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/19/24 09:01	1
Chloromethane	ND		1.0	0.90	ug/L			04/19/24 09:01	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/19/24 09:01	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/19/24 09:01	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/19/24 09:01	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/19/24 09:01	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/19/24 09:01	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/19/24 09:01	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/19/24 09:01	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/19/24 09:01	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/19/24 09:01	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/19/24 09:01	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/19/24 09:01	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/19/24 09:01	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/19/24 09:01	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/19/24 09:01	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/19/24 09:01	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/19/24 09:01	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/19/24 09:01	1
2-Hexanone	ND		25	1.4	ug/L			04/19/24 09:01	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/19/24 09:01	1
Methylene bromide	ND		5.0	0.22	ug/L			04/19/24 09:01	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/19/24 09:01	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/19/24 09:01	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/19/24 09:01	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/19/24 09:01	1
Naphthalene	ND		5.0	3.0	ug/L			04/19/24 09:01	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/19/24 09:01	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/19/24 09:01	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/19/24 09:01	1
o-Xylene	ND		5.0	0.60	ug/L			04/19/24 09:01	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/19/24 09:01	1

# QC Sample Results

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

Job ID: 400-254074-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-668554/4**  
**Matrix: Water**  
**Analysis Batch: 668554**

**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			04/19/24 09:01	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/19/24 09:01	1
Styrene	ND		1.0	1.0	ug/L			04/19/24 09:01	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/19/24 09:01	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/19/24 09:01	1
1,1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/19/24 09:01	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/19/24 09:01	1
Toluene	ND		1.0	0.90	ug/L			04/19/24 09:01	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/19/24 09:01	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/19/24 09:01	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/19/24 09:01	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/19/24 09:01	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/19/24 09:01	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/19/24 09:01	1
Trichloroethene	ND		1.0	0.15	ug/L			04/19/24 09:01	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/19/24 09:01	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/19/24 09:01	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/19/24 09:01	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/19/24 09:01	1
Vinyl acetate	ND		25	0.93	ug/L			04/19/24 09:01	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/19/24 09:01	1
Xylenes, Total	ND		10	1.6	ug/L			04/19/24 09:01	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		72 - 130		04/19/24 09:01	1
Dibromofluoromethane	105		75 - 126		04/19/24 09:01	1
Toluene-d8 (Surr)	101		64 - 132		04/19/24 09:01	1

**Lab Sample ID: LCS 400-668554/1002**  
**Matrix: Water**  
**Analysis Batch: 668554**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	200	222		ug/L		111	43 - 160
Acrolein	500	560		ug/L		112	38 - 160
Acrylonitrile	500	513		ug/L		103	64 - 142
Benzene	50.0	49.2		ug/L		98	70 - 130
Bromobenzene	50.0	53.4		ug/L		107	70 - 132
Bromochloromethane	50.0	47.2		ug/L		94	70 - 130
Bromodichloromethane	50.0	47.4		ug/L		95	67 - 133
Bromoform	50.0	52.9		ug/L		106	57 - 140
Bromomethane	50.0	38.3		ug/L		77	10 - 160
2-Butanone (MEK)	200	211		ug/L		105	61 - 145
Carbon disulfide	50.0	44.6		ug/L		89	61 - 137
Carbon tetrachloride	50.0	46.3		ug/L		93	61 - 137
Chlorobenzene	50.0	51.6		ug/L		103	70 - 130
Chloroethane	50.0	40.5		ug/L		81	55 - 141
2-Chloroethyl vinyl ether	50.0	47.7		ug/L		95	10 - 160

# QC Sample Results

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

Job ID: 400-254074-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-668554/1002**  
**Matrix: Water**  
**Analysis Batch: 668554**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroform	50.0	50.5		ug/L		101	69 - 130
1-Chlorohexane	50.0	52.1		ug/L		104	69 - 130
Chloromethane	50.0	37.3		ug/L		75	58 - 137
cis-1,2-Dichloroethene	50.0	50.0		ug/L		100	68 - 130
cis-1,3-Dichloropropene	50.0	49.7		ug/L		99	69 - 132
Dibromochloromethane	50.0	49.7		ug/L		99	67 - 135
1,2-Dichlorobenzene	50.0	54.3		ug/L		109	67 - 130
1,3-Dichlorobenzene	50.0	54.4		ug/L		109	70 - 130
1,4-Dichlorobenzene	50.0	53.8		ug/L		108	70 - 130
Dichlorodifluoromethane	50.0	28.5		ug/L		57	41 - 146
1,1-Dichloroethane	50.0	53.2		ug/L		106	70 - 130
1,2-Dichloroethane	50.0	47.1		ug/L		94	69 - 130
1,1-Dichloroethene	50.0	44.2		ug/L		88	63 - 134
1,2-Dichloropropane	50.0	49.9		ug/L		100	70 - 130
1,3-Dichloropropane	50.0	50.5		ug/L		101	70 - 130
2,2-Dichloropropane	50.0	46.1		ug/L		92	52 - 135
1,1-Dichloropropene	50.0	49.4		ug/L		99	70 - 130
Ethylbenzene	50.0	52.3		ug/L		105	70 - 130
Ethyl methacrylate	50.0	50.3		ug/L		101	68 - 130
Hexachlorobutadiene	50.0	53.0		ug/L		106	53 - 140
2-Hexanone	200	201		ug/L		100	65 - 137
Isopropylbenzene	50.0	52.7		ug/L		105	70 - 130
Methylene bromide	50.0	48.3		ug/L		97	70 - 130
Methylene Chloride	50.0	46.8		ug/L		94	66 - 135
4-Methyl-2-pentanone (MIBK)	200	186		ug/L		93	69 - 138
Methyl tert-butyl ether	50.0	46.3		ug/L		93	66 - 130
m-Xylene & p-Xylene	50.0	52.0		ug/L		104	70 - 130
Naphthalene	50.0	47.8		ug/L		96	47 - 149
n-Butylbenzene	50.0	58.6		ug/L		117	67 - 130
N-Propylbenzene	50.0	58.1		ug/L		116	70 - 130
o-Chlorotoluene	50.0	54.9		ug/L		110	70 - 130
o-Xylene	50.0	51.0		ug/L		102	70 - 130
p-Chlorotoluene	50.0	56.2		ug/L		112	70 - 130
p-Isopropyltoluene	50.0	59.7		ug/L		119	65 - 130
sec-Butylbenzene	50.0	58.8		ug/L		118	66 - 130
Styrene	50.0	51.2		ug/L		102	70 - 130
tert-Butylbenzene	50.0	55.1		ug/L		110	64 - 139
1,1,1,2-Tetrachloroethane	50.0	51.0		ug/L		102	67 - 131
1,1,2,2-Tetrachloroethane	50.0	58.1		ug/L		116	70 - 131
Tetrachloroethene	50.0	45.9		ug/L		92	65 - 130
Toluene	50.0	52.1		ug/L		104	70 - 130
trans-1,2-Dichloroethene	50.0	49.8		ug/L		100	70 - 130
trans-1,3-Dichloropropene	50.0	49.6		ug/L		99	63 - 130
1,2,3-Trichlorobenzene	50.0	53.7		ug/L		107	60 - 138
1,2,4-Trichlorobenzene	50.0	53.8		ug/L		108	60 - 140
1,1,1-Trichloroethane	50.0	46.3		ug/L		93	68 - 130
1,1,2-Trichloroethane	50.0	51.3		ug/L		103	70 - 130
Trichloroethene	50.0	49.6		ug/L		99	70 - 130
Trichlorofluoromethane	50.0	42.5		ug/L		85	65 - 138

# QC Sample Results

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

Job ID: 400-254074-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-668554/1002**  
**Matrix: Water**  
**Analysis Batch: 668554**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	50.0	54.3		ug/L		109	70 - 130
1,2,4-Trimethylbenzene	50.0	56.9		ug/L		114	70 - 130
1,3,5-Trimethylbenzene	50.0	57.5		ug/L		115	69 - 130
Vinyl acetate	100	96.4		ug/L		96	26 - 160
Vinyl chloride	50.0	42.7		ug/L		85	59 - 136
Xylenes, Total	100	103		ug/L		103	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	104		72 - 130
Dibromofluoromethane	101		75 - 126
Toluene-d8 (Surr)	103		64 - 132

**Lab Sample ID: 400-254074-3 MS**  
**Matrix: Water**  
**Analysis Batch: 668554**

**Client Sample ID: P54-ROX-040824-MS**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	ND		200	181		ug/L		90	43 - 150
Acrolein	ND		500	492		ug/L		98	38 - 150
Acrylonitrile	ND		500	546		ug/L		109	62 - 149
Benzene	ND		50.0	52.3		ug/L		105	56 - 142
Bromobenzene	ND		50.0	52.2		ug/L		104	59 - 136
Bromochloromethane	ND		50.0	52.7		ug/L		105	64 - 140
Bromodichloromethane	ND		50.0	51.6		ug/L		103	59 - 143
Bromoform	ND		50.0	55.0		ug/L		110	50 - 140
Bromomethane	ND		50.0	37.5		ug/L		75	10 - 150
2-Butanone (MEK)	ND		200	205		ug/L		103	55 - 150
Carbon disulfide	ND		50.0	48.4		ug/L		97	48 - 150
Carbon tetrachloride	ND		50.0	48.8		ug/L		98	55 - 145
Chlorobenzene	ND		50.0	52.7		ug/L		105	64 - 130
Chloroethane	ND		50.0	36.5		ug/L		73	50 - 150
2-Chloroethyl vinyl ether	ND	F1	50.0	ND	F1	ug/L		0	10 - 150
Chloroform	ND		50.0	53.9		ug/L		108	60 - 141
1-Chlorohexane	ND		50.0	49.9		ug/L		100	56 - 136
Chloromethane	ND		50.0	28.3		ug/L		57	49 - 148
cis-1,2-Dichloroethene	ND		50.0	65.3		ug/L		131	59 - 143
cis-1,3-Dichloropropene	ND		50.0	53.2		ug/L		106	57 - 140
Dibromochloromethane	ND		50.0	54.4		ug/L		109	56 - 143
1,2-Dichlorobenzene	ND		50.0	52.1		ug/L		104	52 - 137
1,3-Dichlorobenzene	ND		50.0	51.2		ug/L		102	54 - 135
1,4-Dichlorobenzene	ND		50.0	51.2		ug/L		102	53 - 135
Dichlorodifluoromethane	ND		50.0	19.4		ug/L		39	16 - 150
1,1-Dichloroethane	ND		50.0	57.8		ug/L		116	61 - 144
1,2-Dichloroethane	ND		50.0	52.0		ug/L		104	60 - 141
1,1-Dichloroethene	ND		50.0	51.6		ug/L		103	54 - 147
1,2-Dichloropropane	ND		50.0	53.2		ug/L		106	66 - 137
1,3-Dichloropropane	ND		50.0	55.7		ug/L		111	66 - 133
2,2-Dichloropropane	ND		50.0	47.4		ug/L		95	42 - 144



# QC Sample Results

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

Job ID: 400-254074-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: 400-254074-3 MS**

**Client Sample ID: P54-ROX-040824-MS**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 668554**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
1,1-Dichloropropene	ND		50.0	50.5		ug/L		101	65 - 136
Ethylbenzene	ND		50.0	51.5		ug/L		103	58 - 131
Ethyl methacrylate	ND		50.0	55.6		ug/L		111	64 - 130
Hexachlorobutadiene	ND		50.0	45.5		ug/L		91	31 - 149
2-Hexanone	ND		200	209		ug/L		105	65 - 140
Isopropylbenzene	ND		50.0	50.9		ug/L		102	56 - 133
Methylene bromide	ND		50.0	53.4		ug/L		107	63 - 138
Methylene Chloride	ND		50.0	52.1		ug/L		104	60 - 146
4-Methyl-2-pentanone (MIBK)	ND		200	205		ug/L		102	63 - 146
Methyl tert-butyl ether	ND		50.0	52.6		ug/L		105	59 - 137
m-Xylene & p-Xylene	ND		50.0	51.5		ug/L		103	57 - 130
Naphthalene	ND		50.0	51.3		ug/L		103	25 - 150
n-Butylbenzene	ND		50.0	50.0		ug/L		100	41 - 142
N-Propylbenzene	ND		50.0	52.6		ug/L		105	51 - 138
o-Chlorotoluene	ND		50.0	50.7		ug/L		101	53 - 134
o-Xylene	ND		50.0	51.3		ug/L		103	61 - 130
p-Chlorotoluene	ND		50.0	51.3		ug/L		103	54 - 133
p-Isopropyltoluene	ND		50.0	51.5		ug/L		103	48 - 139
sec-Butylbenzene	ND		50.0	52.3		ug/L		105	50 - 138
Styrene	ND		50.0	51.4		ug/L		103	58 - 131
tert-Butylbenzene	ND		50.0	49.1		ug/L		98	54 - 146
1,1,1,2-Tetrachloroethane	ND		50.0	53.5		ug/L		107	59 - 137
1,1,2,2-Tetrachloroethane	ND		50.0	61.2		ug/L		122	66 - 135
Tetrachloroethene	ND		50.0	45.9		ug/L		92	52 - 133
Toluene	ND		50.0	53.3		ug/L		107	65 - 130
trans-1,2-Dichloroethene	ND		50.0	53.7		ug/L		107	61 - 143
trans-1,3-Dichloropropene	ND		50.0	54.6		ug/L		109	53 - 133
1,2,3-Trichlorobenzene	ND		50.0	53.1		ug/L		106	43 - 145
1,2,4-Trichlorobenzene	ND		50.0	50.9		ug/L		102	39 - 148
1,1,1-Trichloroethane	ND		50.0	49.3		ug/L		99	57 - 142
1,1,2-Trichloroethane	ND		50.0	56.4		ug/L		113	66 - 131
Trichloroethene	ND		50.0	50.3		ug/L		101	64 - 136
Trichlorofluoromethane	ND		50.0	39.2		ug/L		78	54 - 150
1,2,3-Trichloropropane	ND		50.0	56.5		ug/L		113	65 - 133
1,2,4-Trimethylbenzene	ND		50.0	52.1		ug/L		104	50 - 139
1,3,5-Trimethylbenzene	ND		50.0	53.0		ug/L		106	52 - 135
Vinyl acetate	ND		100	102		ug/L		102	26 - 150
Vinyl chloride	ND		50.0	34.3		ug/L		69	46 - 150
Xylenes, Total	ND		100	103		ug/L		103	59 - 130

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	100		72 - 130
Dibromofluoromethane	104		75 - 126
Toluene-d8 (Surr)	102		64 - 132

# QC Sample Results

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

Job ID: 400-254074-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-254074-3 MSD

Matrix: Water

Analysis Batch: 668554

Client Sample ID: P54-ROX-040824-MSD

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	162		ug/L		81	43 - 150	11	30
Acrolein	ND		500	510		ug/L		102	38 - 150	4	31
Acrylonitrile	ND		500	494		ug/L		99	62 - 149	10	30
Benzene	ND		50.0	46.6		ug/L		93	56 - 142	11	30
Bromobenzene	ND		50.0	45.1		ug/L		90	59 - 136	15	30
Bromochloromethane	ND		50.0	47.1		ug/L		94	64 - 140	11	30
Bromodichloromethane	ND		50.0	46.5		ug/L		93	59 - 143	10	30
Bromoform	ND		50.0	49.3		ug/L		99	50 - 140	11	30
Bromomethane	ND		50.0	36.4		ug/L		73	10 - 150	3	50
2-Butanone (MEK)	ND		200	196		ug/L		98	55 - 150	5	30
Carbon disulfide	ND		50.0	42.9		ug/L		86	48 - 150	12	30
Carbon tetrachloride	ND		50.0	43.2		ug/L		86	55 - 145	12	30
Chlorobenzene	ND		50.0	45.4		ug/L		91	64 - 130	15	30
Chloroethane	ND		50.0	32.6		ug/L		65	50 - 150	11	30
2-Chloroethyl vinyl ether	ND	F1	50.0	ND	F1	ug/L		0	10 - 150	NC	50
Chloroform	ND		50.0	48.5		ug/L		97	60 - 141	11	30
1-Chlorohexane	ND		50.0	42.5		ug/L		85	56 - 136	16	30
Chloromethane	ND		50.0	25.5		ug/L		51	49 - 148	10	31
cis-1,2-Dichloroethene	ND		50.0	58.5		ug/L		117	59 - 143	11	30
cis-1,3-Dichloropropene	ND		50.0	46.9		ug/L		94	57 - 140	13	30
Dibromochloromethane	ND		50.0	48.4		ug/L		97	56 - 143	12	30
1,2-Dichlorobenzene	ND		50.0	44.7		ug/L		89	52 - 137	15	30
1,3-Dichlorobenzene	ND		50.0	43.0		ug/L		86	54 - 135	17	30
1,4-Dichlorobenzene	ND		50.0	42.6		ug/L		85	53 - 135	18	30
Dichlorodifluoromethane	ND		50.0	17.7		ug/L		35	16 - 150	9	31
1,1-Dichloroethane	ND		50.0	51.3		ug/L		103	61 - 144	12	30
1,2-Dichloroethane	ND		50.0	46.4		ug/L		93	60 - 141	11	30
1,1-Dichloroethene	ND		50.0	47.8		ug/L		96	54 - 147	8	30
1,2-Dichloropropane	ND		50.0	48.5		ug/L		97	66 - 137	9	30
1,3-Dichloropropane	ND		50.0	49.6		ug/L		99	66 - 133	12	30
2,2-Dichloropropane	ND		50.0	42.1		ug/L		84	42 - 144	12	31
1,1-Dichloropropene	ND		50.0	45.5		ug/L		91	65 - 136	10	30
Ethylbenzene	ND		50.0	44.1		ug/L		88	58 - 131	15	30
Ethyl methacrylate	ND		50.0	49.8		ug/L		100	64 - 130	11	30
Hexachlorobutadiene	ND		50.0	38.4		ug/L		77	31 - 149	17	36
2-Hexanone	ND		200	185		ug/L		92	65 - 140	13	30
Isopropylbenzene	ND		50.0	43.4		ug/L		87	56 - 133	16	30
Methylene bromide	ND		50.0	47.9		ug/L		96	63 - 138	11	30
Methylene Chloride	ND		50.0	45.8		ug/L		92	60 - 146	13	32
4-Methyl-2-pentanone (MIBK)	ND		200	180		ug/L		90	63 - 146	13	30
Methyl tert-butyl ether	ND		50.0	47.7		ug/L		95	59 - 137	10	30
m-Xylene & p-Xylene	ND		50.0	44.3		ug/L		89	57 - 130	15	30
Naphthalene	ND		50.0	46.7		ug/L		93	25 - 150	9	30
n-Butylbenzene	ND		50.0	40.9		ug/L		82	41 - 142	20	31
N-Propylbenzene	ND		50.0	44.1		ug/L		88	51 - 138	18	30
o-Chlorotoluene	ND		50.0	42.7		ug/L		85	53 - 134	17	30
o-Xylene	ND		50.0	44.1		ug/L		88	61 - 130	15	30
p-Chlorotoluene	ND		50.0	43.3		ug/L		87	54 - 133	17	30

# QC Sample Results

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

Job ID: 400-254074-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-254074-3 MSD

Client Sample ID: P54-ROX-040824-MSD

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 668554

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
p-Isopropyltoluene	ND		50.0	43.2		ug/L		86	48 - 139	18	30
sec-Butylbenzene	ND		50.0	43.8		ug/L		88	50 - 138	18	30
Styrene	ND		50.0	44.2		ug/L		88	58 - 131	15	30
tert-Butylbenzene	ND		50.0	42.0		ug/L		84	54 - 146	16	30
1,1,1,2-Tetrachloroethane	ND		50.0	46.8		ug/L		94	59 - 137	13	30
1,1,1,2-Tetrachloroethane	ND		50.0	55.1		ug/L		110	66 - 135	11	30
Tetrachloroethene	ND		50.0	39.6		ug/L		79	52 - 133	15	30
Toluene	ND		50.0	46.5		ug/L		93	65 - 130	14	30
trans-1,2-Dichloroethene	ND		50.0	47.8		ug/L		96	61 - 143	12	30
trans-1,3-Dichloropropene	ND		50.0	48.0		ug/L		96	53 - 133	13	30
1,2,3-Trichlorobenzene	ND		50.0	46.1		ug/L		92	43 - 145	14	30
1,2,4-Trichlorobenzene	ND		50.0	44.3		ug/L		89	39 - 148	14	30
1,1,1-Trichloroethane	ND		50.0	43.9		ug/L		88	57 - 142	12	30
1,1,2-Trichloroethane	ND		50.0	50.6		ug/L		101	66 - 131	11	30
Trichloroethene	ND		50.0	45.0		ug/L		90	64 - 136	11	30
Trichlorofluoromethane	ND		50.0	35.4		ug/L		71	54 - 150	10	30
1,2,3-Trichloropropane	ND		50.0	50.4		ug/L		101	65 - 133	12	30
1,2,4-Trimethylbenzene	ND		50.0	43.7		ug/L		87	50 - 139	18	30
1,3,5-Trimethylbenzene	ND		50.0	44.3		ug/L		89	52 - 135	18	30
Vinyl acetate	ND		100	95.9		ug/L		96	26 - 150	6	33
Vinyl chloride	ND		50.0	31.1		ug/L		62	46 - 150	10	30
Xylenes, Total	ND		100	88.4		ug/L		88	59 - 130	15	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene	101		72 - 130
Dibromofluoromethane	105		75 - 126
Toluene-d8 (Surr)	101		64 - 132

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

Lab Sample ID: MB 400-667880/1-A

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 668023

Prep Batch: 667880

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	8.7	ug/L		04/12/24 16:54	04/15/24 18:31	1
Benzenethiol	ND		10	9.9	ug/L		04/12/24 16:54	04/15/24 18:31	1
Benzoic acid	ND		30	24	ug/L		04/12/24 16:54	04/15/24 18:31	1
Benzyl alcohol	ND		10	7.3	ug/L		04/12/24 16:54	04/15/24 18:31	1
Bis(2-chloroethoxy)methane	ND		10	4.6	ug/L		04/12/24 16:54	04/15/24 18:31	1
Bis(2-chloroethyl)ether	ND		10	3.9	ug/L		04/12/24 16:54	04/15/24 18:31	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		04/12/24 16:54	04/15/24 18:31	1
Bis(2-ethylhexyl) phthalate	ND		10	8.9	ug/L		04/12/24 16:54	04/15/24 18:31	1
4-Bromophenyl phenyl ether	ND		10	8.6	ug/L		04/12/24 16:54	04/15/24 18:31	1
Butyl benzyl phthalate	ND		10	5.8	ug/L		04/12/24 16:54	04/15/24 18:31	1
4-Chloroaniline	ND		10	4.7	ug/L		04/12/24 16:54	04/15/24 18:31	1
4-Chloro-3-methylphenol	ND		10	5.3	ug/L		04/12/24 16:54	04/15/24 18:31	1
2-Chloronaphthalene	ND		10	3.8	ug/L		04/12/24 16:54	04/15/24 18:31	1
2-Chlorophenol	ND		10	4.1	ug/L		04/12/24 16:54	04/15/24 18:31	1

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# QC Sample Results

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

Job ID: 400-254074-1

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

**Lab Sample ID: MB 400-667880/1-A**  
**Matrix: Water**  
**Analysis Batch: 668023**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 667880**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
4-Chlorophenyl phenyl ether	ND		10	3.7	ug/L		04/12/24 16:54	04/15/24 18:31	1
Dibenz[a,h]acridine	ND		10	2.8	ug/L		04/12/24 16:54	04/15/24 18:31	1
Dibenzofuran	ND		10	4.0	ug/L		04/12/24 16:54	04/15/24 18:31	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/12/24 16:54	04/15/24 18:31	1
2,4-Dichlorophenol	ND		10	4.3	ug/L		04/12/24 16:54	04/15/24 18:31	1
Diethyl phthalate	ND		10	4.4	ug/L		04/12/24 16:54	04/15/24 18:31	1
2,4-Dimethylphenol	ND		10	5.2	ug/L		04/12/24 16:54	04/15/24 18:31	1
Dimethyl phthalate	ND		10	4.2	ug/L		04/12/24 16:54	04/15/24 18:31	1
Di-n-butyl phthalate	ND		10	4.6	ug/L		04/12/24 16:54	04/15/24 18:31	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		04/12/24 16:54	04/15/24 18:31	1
2,4-Dinitrophenol	ND		30	4.6	ug/L		04/12/24 16:54	04/15/24 18:31	1
2,4-Dinitrotoluene	ND		10	5.1	ug/L		04/12/24 16:54	04/15/24 18:31	1
2,6-Dinitrotoluene	ND		10	3.9	ug/L		04/12/24 16:54	04/15/24 18:31	1
Di-n-octyl phthalate	ND		10	6.0	ug/L		04/12/24 16:54	04/15/24 18:31	1
1,4-Dioxane	ND		10	4.3	ug/L		04/12/24 16:54	04/15/24 18:31	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.3	ug/L		04/12/24 16:54	04/15/24 18:31	1
Hexachlorobenzene	ND		10	9.7	ug/L		04/12/24 16:54	04/15/24 18:31	1
Hexachlorocyclopentadiene	ND		20	4.5	ug/L		04/12/24 16:54	04/15/24 18:31	1
Hexachloroethane	ND		10	5.2	ug/L		04/12/24 16:54	04/15/24 18:31	1
Indene	ND		10	3.6	ug/L		04/12/24 16:54	04/15/24 18:31	1
Isophorone	ND		10	5.2	ug/L		04/12/24 16:54	04/15/24 18:31	1
2-Methylphenol	ND		10	3.2	ug/L		04/12/24 16:54	04/15/24 18:31	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		04/12/24 16:54	04/15/24 18:31	1
2-Nitroaniline	ND		10	5.0	ug/L		04/12/24 16:54	04/15/24 18:31	1
3-Nitroaniline	ND		10	4.7	ug/L		04/12/24 16:54	04/15/24 18:31	1
4-Nitroaniline	ND		10	4.1	ug/L		04/12/24 16:54	04/15/24 18:31	1
Nitrobenzene	ND		10	4.7	ug/L		04/12/24 16:54	04/15/24 18:31	1
2-Nitrophenol	ND		10	4.6	ug/L		04/12/24 16:54	04/15/24 18:31	1
4-Nitrophenol	ND		10	3.3	ug/L		04/12/24 16:54	04/15/24 18:31	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		04/12/24 16:54	04/15/24 18:31	1
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		04/12/24 16:54	04/15/24 18:31	1
N-Nitrosodiphenylamine	ND		10	3.7	ug/L		04/12/24 16:54	04/15/24 18:31	1
Pentachlorophenol	ND		20	12	ug/L		04/12/24 16:54	04/15/24 18:31	1
Phenol	ND		10	4.2	ug/L		04/12/24 16:54	04/15/24 18:31	1
Pyridine	ND		10	10	ug/L		04/12/24 16:54	04/15/24 18:31	1
Quinoline	ND		10	2.4	ug/L		04/12/24 16:54	04/15/24 18:31	1
2,4,5-Trichlorophenol	ND		10	4.0	ug/L		04/12/24 16:54	04/15/24 18:31	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/12/24 16:54	04/15/24 18:31	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2-Fluorobiphenyl	65		21 - 114	04/12/24 16:54	04/15/24 18:31	1
2-Fluorophenol	59		10 - 105	04/12/24 16:54	04/15/24 18:31	1
Nitrobenzene-d5	61		16 - 127	04/12/24 16:54	04/15/24 18:31	1
Phenol-d5	62		10 - 129	04/12/24 16:54	04/15/24 18:31	1
Terphenyl-d14	74		13 - 150	04/12/24 16:54	04/15/24 18:31	1
2,4,6-Tribromophenol	63		10 - 150	04/12/24 16:54	04/15/24 18:31	1



# QC Sample Results

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

Job ID: 400-254074-1

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

**Lab Sample ID: LCS 400-667880/14-A**  
**Matrix: Water**  
**Analysis Batch: 668023**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 667880**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzenethiol	120	85.7		ug/L		71	10 - 140
<b>LCS LCS</b>							
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				
2-Fluorobiphenyl	72		21 - 114				
2-Fluorophenol	67		10 - 105				
Nitrobenzene-d5	68		16 - 127				
Phenol-d5	69		10 - 129				
Terphenyl-d14	85		13 - 150				
2,4,6-Tribromophenol	66		10 - 150				

**Lab Sample ID: LCS 400-667880/2-A**  
**Matrix: Water**  
**Analysis Batch: 668023**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 667880**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aniline	120	73.4		ug/L		61	10 - 127
Benzoic acid	492	294		ug/L		60	19 - 126
Benzyl alcohol	120	72.0		ug/L		60	17 - 109
Bis(2-chloroethoxy)methane	120	66.4		ug/L		55	24 - 125
Bis(2-chloroethyl)ether	120	53.3		ug/L		44	10 - 121
bis (2-chloroisopropyl) ether	120	62.4		ug/L		52	14 - 123
Bis(2-ethylhexyl) phthalate	120	92.6		ug/L		77	16 - 150
4-Bromophenyl phenyl ether	120	85.6		ug/L		71	17 - 150
Butyl benzyl phthalate	120	87.8		ug/L		73	21 - 150
4-Chloroaniline	120	65.7		ug/L		55	10 - 124
4-Chloro-3-methylphenol	120	78.7		ug/L		66	37 - 131
2-Chloronaphthalene	120	75.1		ug/L		63	24 - 132
2-Chlorophenol	120	73.1		ug/L		61	27 - 124
4-Chlorophenyl phenyl ether	120	80.2		ug/L		67	27 - 147
Dibenz[a,h]acridine	120	87.6		ug/L		73	40 - 140
Dibenzofuran	120	79.3		ug/L		66	30 - 135
3,3'-Dichlorobenzidine	160	115		ug/L		72	10 - 150
2,4-Dichlorophenol	120	76.3		ug/L		64	33 - 132
Diethyl phthalate	120	86.0		ug/L		72	37 - 145
2,4-Dimethylphenol	120	88.8		ug/L		74	38 - 132
Dimethyl phthalate	120	81.2		ug/L		68	32 - 137
Di-n-butyl phthalate	120	82.7		ug/L		69	27 - 150
4,6-Dinitro-ortho-cresol	240	197		ug/L		82	14 - 150
2,4-Dinitrophenol	240	295		ug/L		123	15 - 150
2,4-Dinitrotoluene	120	81.9		ug/L		68	35 - 136
2,6-Dinitrotoluene	120	76.3		ug/L		64	29 - 140
Di-n-octyl phthalate	120	82.2		ug/L		68	26 - 150
1,4-Dioxane	120	51.0		ug/L		42	10 - 87
1,2-Diphenylhydrazine (as Azobenzene)	120	80.5		ug/L		67	23 - 138
Hexachlorobenzene	120	87.4		ug/L		73	10 - 150
Hexachlorocyclopentadiene	120	93.9		ug/L		78	10 - 124
Hexachloroethane	120	70.0		ug/L		58	10 - 127

# QC Sample Results

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

Job ID: 400-254074-1

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

**Lab Sample ID: LCS 400-667880/2-A**  
**Matrix: Water**  
**Analysis Batch: 668023**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 667880**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Indene	120	67.6		ug/L		56	18 - 150
Isophorone	120	66.1		ug/L		55	28 - 127
2-Methylphenol	120	75.0		ug/L		62	34 - 124
3 & 4 Methylphenol	120	75.6		ug/L		63	32 - 122
2-Nitroaniline	120	80.8		ug/L		67	24 - 139
3-Nitroaniline	120	72.0		ug/L		60	10 - 128
4-Nitroaniline	120	84.7		ug/L		71	28 - 118
Nitrobenzene	120	67.4		ug/L		56	29 - 120
2-Nitrophenol	120	70.8		ug/L		59	25 - 148
4-Nitrophenol	240	190		ug/L		79	12 - 129
N-Nitrosodimethylamine	120	66.6		ug/L		55	10 - 115
N-Nitrosodi-n-propylamine	120	75.6		ug/L		63	24 - 142
N-Nitrosodiphenylamine	119	82.6		ug/L		69	29 - 138
Pentachlorophenol	240	178		ug/L		74	19 - 150
Phenol	120	71.5		ug/L		60	11 - 95
Pyridine	240	94.1		ug/L		39	10 - 82
Quinoline	120	81.1		ug/L		68	40 - 140
2,4,5-Trichlorophenol	120	81.7		ug/L		68	30 - 144
2,4,6-Trichlorophenol	120	81.9		ug/L		68	27 - 147

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	61		21 - 114
2-Fluorophenol	60		10 - 105
Nitrobenzene-d5	65		16 - 127
Phenol-d5	64		10 - 129
Terphenyl-d14	78		13 - 150
2,4,6-Tribromophenol	78		10 - 150

**Lab Sample ID: LCSD 400-667880/15-A**  
**Matrix: Water**  
**Analysis Batch: 668023**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 667880**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzenethiol	120	84.2		ug/L		70	10 - 140	2	40

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	66		21 - 114
2-Fluorophenol	61		10 - 105
Nitrobenzene-d5	62		16 - 127
Phenol-d5	63		10 - 129
Terphenyl-d14	77		13 - 150
2,4,6-Tribromophenol	64		10 - 150

# QC Sample Results

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

Job ID: 400-254074-1

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

**Lab Sample ID: LCSD 400-667880/3-A**  
**Matrix: Water**  
**Analysis Batch: 668023**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 667880**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD
									Limit
Aniline	120	80.4		ug/L		67	10 - 127	9	40
Benzoic acid	492	313		ug/L		64	19 - 126	6	40
Benzyl alcohol	120	81.4		ug/L		68	17 - 109	12	40
Bis(2-chloroethoxy)methane	120	74.5		ug/L		62	24 - 125	11	40
Bis(2-chloroethyl)ether	120	61.5		ug/L		51	10 - 121	14	40
bis (2-chloroisopropyl) ether	120	71.5		ug/L		60	14 - 123	14	40
Bis(2-ethylhexyl) phthalate	120	101		ug/L		84	16 - 150	9	40
4-Bromophenyl phenyl ether	120	92.7		ug/L		77	17 - 150	8	40
Butyl benzyl phthalate	120	96.9		ug/L		81	21 - 150	10	40
4-Chloroaniline	120	70.6		ug/L		59	10 - 124	7	40
4-Chloro-3-methylphenol	120	85.5		ug/L		71	37 - 131	8	40
2-Chloronaphthalene	120	84.1		ug/L		70	24 - 132	11	40
2-Chlorophenol	120	83.1		ug/L		69	27 - 124	13	40
4-Chlorophenyl phenyl ether	120	89.3		ug/L		74	27 - 147	11	40
Dibenz[a,h]acridine	120	87.4		ug/L		73	40 - 140	0	40
Dibenzofuran	120	88.4		ug/L		74	30 - 135	11	40
3,3'-Dichlorobenzidine	160	122		ug/L		76	10 - 150	6	40
2,4-Dichlorophenol	120	84.1		ug/L		70	33 - 132	10	40
Diethyl phthalate	120	94.1		ug/L		78	37 - 145	9	40
2,4-Dimethylphenol	120	97.3		ug/L		81	38 - 132	9	40
Dimethyl phthalate	120	89.4		ug/L		75	32 - 137	10	40
Di-n-butyl phthalate	120	90.4		ug/L		75	27 - 150	9	40
4,6-Dinitro-ortho-cresol	240	212		ug/L		88	14 - 150	7	40
2,4-Dinitrophenol	240	326		ug/L		136	15 - 150	10	40
2,4-Dinitrotoluene	120	90.8		ug/L		76	35 - 136	10	40
2,6-Dinitrotoluene	120	84.1		ug/L		70	29 - 140	10	40
Di-n-octyl phthalate	120	90.9		ug/L		76	26 - 150	10	40
1,4-Dioxane	120	57.6		ug/L		48	10 - 87	12	40
1,2-Diphenylhydrazine (as Azobenzene)	120	86.5		ug/L		72	23 - 138	7	40
Hexachlorobenzene	120	96.2		ug/L		80	10 - 150	10	40
Hexachlorocyclopentadiene	120	103		ug/L		85	10 - 124	9	40
Hexachloroethane	120	80.0		ug/L		67	10 - 127	13	40
Indene	120	70.4		ug/L		59	18 - 150	4	40
Isophorone	120	74.1		ug/L		62	28 - 127	11	40
2-Methylphenol	120	86.4		ug/L		72	34 - 124	14	40
3 & 4 Methylphenol	120	84.9		ug/L		71	32 - 122	12	40
2-Nitroaniline	120	87.9		ug/L		73	24 - 139	8	40
3-Nitroaniline	120	78.0		ug/L		65	10 - 128	8	40
4-Nitroaniline	120	86.9		ug/L		72	28 - 118	3	40
Nitrobenzene	120	75.8		ug/L		63	29 - 120	12	40
2-Nitrophenol	120	78.9		ug/L		66	25 - 148	11	40
4-Nitrophenol	240	204		ug/L		85	12 - 129	7	40
N-Nitrosodimethylamine	120	69.1		ug/L		58	10 - 115	4	40
N-Nitrosodi-n-propylamine	120	85.7		ug/L		71	24 - 142	12	40
N-Nitrosodiphenylamine	119	88.7		ug/L		75	29 - 138	7	40
Pentachlorophenol	240	193		ug/L		80	19 - 150	8	40
Phenol	120	80.7		ug/L		67	11 - 95	12	40
Pyridine	240	106		ug/L		44	10 - 82	11	40

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# QC Sample Results

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

Job ID: 400-254074-1

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

**Lab Sample ID: LCSD 400-667880/3-A**  
**Matrix: Water**  
**Analysis Batch: 668023**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 667880**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Quinoline	120	82.6		ug/L		69	40 - 140	2	40
2,4,5-Trichlorophenol	120	89.1		ug/L		74	30 - 144	9	40
2,4,6-Trichlorophenol	120	91.6		ug/L		76	27 - 147	11	40

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
2-Fluorobiphenyl	67		21 - 114
2-Fluorophenol	65		10 - 105
Nitrobenzene-d5	71		16 - 127
Phenol-d5	69		10 - 129
Terphenyl-d14	82		13 - 150
2,4,6-Tribromophenol	81		10 - 150

**Lab Sample ID: 400-254074-3 MS**  
**Matrix: Water**  
**Analysis Batch: 668170**

**Client Sample ID: P54-ROX-040824-MS**  
**Prep Type: Total/NA**  
**Prep Batch: 667880**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Aniline	ND	F1	116	ND	F1	ug/L		0	50 - 150
Benzoic acid	ND		475	280		ug/L		59	50 - 150
Benzyl alcohol	ND		116	68.9		ug/L		59	50 - 150
Bis(2-chloroethoxy)methane	ND		116	77.4		ug/L		67	50 - 150
Bis(2-chloroethyl)ether	ND	F1	116	49.3	F1	ug/L		43	50 - 150
bis (2-chloroisopropyl) ether	ND		116	67.6		ug/L		58	50 - 150
Bis(2-ethylhexyl) phthalate	ND		116	108		ug/L		93	50 - 150
4-Bromophenyl phenyl ether	ND		116	93.3		ug/L		80	50 - 150
Butyl benzyl phthalate	ND		116	103		ug/L		89	50 - 150
4-Chloroaniline	ND	F1 F2	116	20.6	F1	ug/L		18	50 - 150
4-Chloro-3-methylphenol	ND		116	67.1		ug/L		58	50 - 150
2-Chloronaphthalene	ND		116	80.0		ug/L		69	50 - 150
2-Chlorophenol	ND		116	60.3		ug/L		52	50 - 150
4-Chlorophenyl phenyl ether	ND		116	91.0		ug/L		79	50 - 150
Dibenzofuran	ND		116	88.5		ug/L		76	50 - 150
3,3'-Dichlorobenzidine	ND	F1 F2	155	12.3	F1	ug/L		8	50 - 150
2,4-Dichlorophenol	ND		116	67.1		ug/L		58	50 - 150
Diethyl phthalate	ND		116	102		ug/L		88	50 - 150
2,4-Dimethylphenol	ND	F1	116	42.8	F1	ug/L		37	50 - 150
Dimethyl phthalate	ND		116	93.6		ug/L		81	50 - 150
Di-n-butyl phthalate	ND		116	98.9		ug/L		85	50 - 150
4,6-Dinitro-ortho-cresol	ND		232	200		ug/L		86	50 - 150
2,4-Dinitrophenol	ND	F1	232	306		ug/L		132	50 - 150
2,4-Dinitrotoluene	ND		116	93.6		ug/L		81	50 - 150
2,6-Dinitrotoluene	ND		116	87.1		ug/L		75	50 - 150
Di-n-octyl phthalate	ND		116	96.7		ug/L		83	50 - 150
1,4-Dioxane	ND	F1	116	24.4	F1	ug/L		21	50 - 150
1,2-Diphenylhydrazine (as Azobenzene)	ND		116	88.5		ug/L		76	50 - 150
Hexachlorobenzene	ND		116	96.3		ug/L		83	50 - 150
Hexachlorocyclopentadiene	ND		116	77.4		ug/L		67	50 - 150
Hexachloroethane	ND	F1	116	60.0		ug/L		52	50 - 150

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# QC Sample Results

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

Job ID: 400-254074-1

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

**Lab Sample ID: 400-254074-3 MS**

**Matrix: Water**

**Analysis Batch: 668170**

**Client Sample ID: P54-ROX-040824-MS**

**Prep Type: Total/NA**

**Prep Batch: 667880**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier		Result	Qualifier					
Indene	ND		116	70.3		ug/L		61		50 - 150
Isophorone	ND		116	78.7		ug/L		68		50 - 150
2-Methylphenol	ND	F1	116	37.8	F1	ug/L		33		50 - 150
3 & 4 Methylphenol	ND	F1	116	41.9	F1	ug/L		36		50 - 150
2-Nitroaniline	ND		116	83.0		ug/L		72		50 - 150
3-Nitroaniline	ND	F1	116	42.9	F1	ug/L		37		50 - 150
4-Nitroaniline	ND	F1	116	46.5	F1	ug/L		40		50 - 150
Nitrobenzene	ND		116	76.8		ug/L		66		50 - 150
2-Nitrophenol	ND		116	74.2		ug/L		64		50 - 150
4-Nitrophenol	ND		232	170		ug/L		73		50 - 150
N-Nitrosodimethylamine	ND	F1	116	40.6	F1	ug/L		35		50 - 150
N-Nitrosodi-n-propylamine	ND		116	81.1		ug/L		70		50 - 150
N-Nitrosodiphenylamine	ND	F1	115	21.8	F1	ug/L		19		50 - 150
Pentachlorophenol	ND		232	159		ug/L		69		50 - 150
Phenol	ND	F1	116	32.0	F1	ug/L		28		50 - 150
Pyridine	ND	F1	232	ND	F1	ug/L		0		50 - 150
2,4,5-Trichlorophenol	ND		116	78.6		ug/L		68		50 - 150
2,4,6-Trichlorophenol	ND		116	70.9		ug/L		61		50 - 150

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	67		21 - 114
2-Fluorophenol	34		10 - 105
Nitrobenzene-d5	72		16 - 127
Phenol-d5	27		10 - 129
Terphenyl-d14	79		13 - 150
2,4,6-Tribromophenol	70		10 - 150

**Lab Sample ID: 400-254074-3 MSD**

**Matrix: Water**

**Analysis Batch: 668170**

**Client Sample ID: P54-ROX-040824-MSD**

**Prep Type: Total/NA**

**Prep Batch: 667880**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	Limits	RPD	Limit
	Result	Qualifier		Result	Qualifier							
Aniline	ND	F1	116	14.8	F1	ug/L		13		50 - 150	NC	40
Benzoic acid	ND		476	314		ug/L		66		50 - 150	11	40
Benzyl alcohol	ND		116	78.8		ug/L		68		50 - 150	13	40
Bis(2-chloroethoxy)methane	ND		116	87.0		ug/L		75		50 - 150	12	40
Bis(2-chloroethyl)ether	ND	F1	116	56.5	F1	ug/L		49		50 - 150	14	40
bis (2-chloroisopropyl) ether	ND		116	73.0		ug/L		63		50 - 150	8	40
Bis(2-ethylhexyl) phthalate	ND		116	116		ug/L		100		50 - 150	7	40
4-Bromophenyl phenyl ether	ND		116	107		ug/L		92		50 - 150	13	40
Butyl benzyl phthalate	ND		116	111		ug/L		95		50 - 150	7	40
4-Chloroaniline	ND	F1 F2	116	35.7	F1 F2	ug/L		31		50 - 150	54	40
4-Chloro-3-methylphenol	ND		116	82.3		ug/L		71		50 - 150	20	40
2-Chloronaphthalene	ND		116	87.4		ug/L		75		50 - 150	9	40
2-Chlorophenol	ND		116	67.0		ug/L		58		50 - 150	11	40
4-Chlorophenyl phenyl ether	ND		116	102		ug/L		88		50 - 150	11	40
Dibenzofuran	ND		116	98.3		ug/L		85		50 - 150	10	40
3,3'-Dichlorobenzidine	ND	F1 F2	155	24.9	F1 F2	ug/L		16		50 - 150	67	40

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# QC Sample Results

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

Job ID: 400-254074-1

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

Lab Sample ID: 400-254074-3 MSD

Client Sample ID: P54-ROX-040824-MSD

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 668170

Prep Batch: 667880

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
2,4-Dichlorophenol	ND		116	78.4		ug/L		68	50 - 150	16	40
Diethyl phthalate	ND		116	111		ug/L		96	50 - 150	9	40
2,4-Dimethylphenol	ND	F1	116	56.0	F1	ug/L		48	50 - 150	27	40
Dimethyl phthalate	ND		116	104		ug/L		89	50 - 150	10	40
Di-n-butyl phthalate	ND		116	109		ug/L		94	50 - 150	9	40
4,6-Dinitro-ortho-cresol	ND		232	236		ug/L		101	50 - 150	16	40
2,4-Dinitrophenol	ND	F1	232	382	F1	ug/L		165	50 - 150	22	40
2,4-Dinitrotoluene	ND		116	103		ug/L		89	50 - 150	9	40
2,6-Dinitrotoluene	ND		116	95.3		ug/L		82	50 - 150	9	40
Di-n-octyl phthalate	ND		116	107		ug/L		92	50 - 150	10	40
1,4-Dioxane	ND	F1	116	22.6	F1	ug/L		19	50 - 150	7	40
1,2-Diphenylhydrazine (as Azobenzene)	ND		116	98.8		ug/L		85	50 - 150	11	40
Hexachlorobenzene	ND		116	108		ug/L		93	50 - 150	11	40
Hexachlorocyclopentadiene	ND		116	85.8		ug/L		74	50 - 150	10	40
Hexachloroethane	ND	F1	116	55.5	F1	ug/L		48	50 - 150	8	40
Indene	ND		116	71.1		ug/L		61	50 - 150	1	40
Isophorone	ND		116	88.6		ug/L		76	50 - 150	12	40
2-Methylphenol	ND	F1	116	47.9	F1	ug/L		41	50 - 150	24	40
3 & 4 Methylphenol	ND	F1	116	54.0	F1	ug/L		47	50 - 150	25	40
2-Nitroaniline	ND		116	92.7		ug/L		80	50 - 150	11	40
3-Nitroaniline	ND	F1	116	57.9		ug/L		50	50 - 150	30	40
4-Nitroaniline	ND	F1	116	54.4	F1	ug/L		47	50 - 150	16	40
Nitrobenzene	ND		116	83.3		ug/L		72	50 - 150	8	40
2-Nitrophenol	ND		116	83.7		ug/L		72	50 - 150	12	40
4-Nitrophenol	ND		232	195		ug/L		84	50 - 150	13	40
N-Nitrosodimethylamine	ND	F1	116	46.0	F1	ug/L		40	50 - 150	12	40
N-Nitrosodi-n-propylamine	ND		116	89.1		ug/L		77	50 - 150	9	40
N-Nitrosodiphenylamine	ND	F1	115	24.2	F1	ug/L		21	50 - 150	11	40
Pentachlorophenol	ND		232	191		ug/L		82	50 - 150	18	40
Phenol	ND	F1	116	40.3	F1	ug/L		35	50 - 150	23	40
Pyridine	ND	F1	232	25.1	F1	ug/L		11	50 - 150	NC	40
2,4,5-Trichlorophenol	ND		116	91.4		ug/L		79	50 - 150	15	40
2,4,6-Trichlorophenol	ND		116	83.3		ug/L		72	50 - 150	16	40

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2-Fluorobiphenyl	74		21 - 114
2-Fluorophenol	39		10 - 105
Nitrobenzene-d5	77		16 - 127
Phenol-d5	33		10 - 129
Terphenyl-d14	85		13 - 150
2,4,6-Tribromophenol	76		10 - 150

# QC Sample Results

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

Job ID: 400-254074-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

**Lab Sample ID: MB 400-667880/1-A**  
**Matrix: Water**  
**Analysis Batch: 668080**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 667880**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acenaphthene	ND		0.20	0.099	ug/L		04/12/24 16:54	04/16/24 17:35	1
Acenaphthylene	ND		0.20	0.044	ug/L		04/12/24 16:54	04/16/24 17:35	1
Anthracene	ND		0.20	0.047	ug/L		04/12/24 16:54	04/16/24 17:35	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		04/12/24 16:54	04/16/24 17:35	1
Benzo[a]pyrene	ND		0.20	0.064	ug/L		04/12/24 16:54	04/16/24 17:35	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		04/12/24 16:54	04/16/24 17:35	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		04/12/24 16:54	04/16/24 17:35	1
Benzo[k]fluoranthene	ND		0.20	0.062	ug/L		04/12/24 16:54	04/16/24 17:35	1
Chrysene	ND		0.20	0.033	ug/L		04/12/24 16:54	04/16/24 17:35	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		04/12/24 16:54	04/16/24 17:35	1
Fluoranthene	ND		0.20	0.034	ug/L		04/12/24 16:54	04/16/24 17:35	1
Fluorene	ND		0.20	0.089	ug/L		04/12/24 16:54	04/16/24 17:35	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		04/12/24 16:54	04/16/24 17:35	1
Phenanthrene	ND		0.20	0.090	ug/L		04/12/24 16:54	04/16/24 17:35	1
Pyrene	ND		0.20	0.039	ug/L		04/12/24 16:54	04/16/24 17:35	1
1-Methylnaphthalene	ND		0.20	0.080	ug/L		04/12/24 16:54	04/16/24 17:35	1
2-Methylnaphthalene	ND		0.20	0.066	ug/L		04/12/24 16:54	04/16/24 17:35	1
Surrogate	MB	MB	Limits			D	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier							
Terphenyl-d14	115		18 - 147				04/12/24 16:54	04/16/24 17:35	1
2-Fluorobiphenyl	77		15 - 128				04/12/24 16:54	04/16/24 17:35	1
Nitrobenzene-d5	84		10 - 144				04/12/24 16:54	04/16/24 17:35	1

**Lab Sample ID: 400-254074-3 MS**  
**Matrix: Water**  
**Analysis Batch: 668002**

**Client Sample ID: P54-ROX-040824-MS**  
**Prep Type: Total/NA**  
**Prep Batch: 667880**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	Limits
	Result	Qualifier		Result	Qualifier				
Acenaphthene	ND		116	82.7		ug/L		71	50 - 150
Acenaphthylene	ND		116	90.5		ug/L		78	50 - 150
Anthracene	ND		116	90.0		ug/L		78	50 - 150
Benzo[a]anthracene	0.034	J	116	101		ug/L		87	50 - 150
Benzo[a]pyrene	0.068	J	116	100		ug/L		86	50 - 150
Benzo[b]fluoranthene	0.063	J	116	92.1		ug/L		79	50 - 150
Benzo[g,h,i]perylene	0.045	J	116	105		ug/L		90	50 - 150
Benzo[k]fluoranthene	0.082	J	116	96.9		ug/L		84	50 - 150
Chrysene	0.037	J	116	94.5		ug/L		81	50 - 150
Dibenz(a,h)anthracene	0.046	J	116	115		ug/L		100	50 - 150
Fluoranthene	ND		116	103		ug/L		89	50 - 150
Fluorene	ND		116	95.5		ug/L		82	50 - 150
Indeno[1,2,3-cd]pyrene	0.056	J	116	115		ug/L		99	50 - 150
Phenanthrene	ND		116	94.7		ug/L		82	50 - 150
Pyrene	ND		116	82.5		ug/L		71	50 - 150
1-Methylnaphthalene	0.13	J	116	78.5		ug/L		68	50 - 150
2-Methylnaphthalene	0.12	J	116	80.3		ug/L		69	50 - 150
Surrogate	MS	MS	Limits			D	%Rec	Limits	
	%Recovery	Qualifier							
Terphenyl-d14	64		18 - 147						

# QC Sample Results

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

Job ID: 400-254074-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: 400-254074-3 MS**  
**Matrix: Water**  
**Analysis Batch: 668002**

**Client Sample ID: P54-ROX-040824-MS**  
**Prep Type: Total/NA**  
**Prep Batch: 667880**

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorobiphenyl	62		15 - 128
Nitrobenzene-d5	72		10 - 144

**Lab Sample ID: 400-254074-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 668002**

**Client Sample ID: P54-ROX-040824-MSD**  
**Prep Type: Total/NA**  
**Prep Batch: 667880**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Acenaphthene	ND		116	87.7		ug/L		76	50 - 150	6	40	
Acenaphthylene	ND		116	95.5		ug/L		82	50 - 150	5	40	
Anthracene	ND		116	94.7		ug/L		82	50 - 150	5	40	
Benzo[a]anthracene	0.034	J	116	107		ug/L		92	50 - 150	5	40	
Benzo[a]pyrene	0.068	J	116	108		ug/L		93	50 - 150	8	40	
Benzo[b]fluoranthene	0.063	J	116	98.8		ug/L		85	50 - 150	7	40	
Benzo[g,h,i]perylene	0.045	J	116	112		ug/L		97	50 - 150	7	40	
Benzo[k]fluoranthene	0.082	J	116	105		ug/L		91	50 - 150	8	40	
Chrysene	0.037	J	116	100		ug/L		87	50 - 150	6	40	
Dibenz(a,h)anthracene	0.046	J	116	124		ug/L		107	50 - 150	7	40	
Fluoranthene	ND		116	110		ug/L		95	50 - 150	6	40	
Fluorene	ND		116	102		ug/L		88	50 - 150	7	40	
Indeno[1,2,3-cd]pyrene	0.056	J	116	123		ug/L		106	50 - 150	7	40	
Phenanthrene	ND		116	101		ug/L		87	50 - 150	7	40	
Pyrene	ND		116	87.1		ug/L		75	50 - 150	5	40	
1-Methylnaphthalene	0.13	J	116	82.1		ug/L		71	50 - 150	5	40	
2-Methylnaphthalene	0.12	J	116	84.2		ug/L		72	50 - 150	5	40	

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Terphenyl-d14	67		18 - 147
2-Fluorobiphenyl	67		15 - 128
Nitrobenzene-d5	72		10 - 144

**Lab Sample ID: MB 400-668437/1-A**  
**Matrix: Water**  
**Analysis Batch: 668419**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 668437**

Analyte	MB		RL	MDL	Unit	D	Prepared		Analyzed		Dil Fac
	Result	Qualifier									
Acenaphthylene	ND		0.20	0.044	ug/L		04/18/24 10:15	04/18/24 16:26		1	
Anthracene	ND		0.20	0.047	ug/L		04/18/24 10:15	04/18/24 16:26		1	
Fluoranthene	ND		0.20	0.034	ug/L		04/18/24 10:15	04/18/24 16:26		1	
Fluorene	ND		0.20	0.089	ug/L		04/18/24 10:15	04/18/24 16:26		1	
Phenanthrene	ND		0.20	0.090	ug/L		04/18/24 10:15	04/18/24 16:26		1	
1-Methylnaphthalene	ND		0.20	0.080	ug/L		04/18/24 10:15	04/18/24 16:26		1	
2-Methylnaphthalene	ND		0.20	0.066	ug/L		04/18/24 10:15	04/18/24 16:26		1	

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	100		18 - 147	04/18/24 10:15	04/18/24 16:26	1
2-Fluorobiphenyl	76		15 - 128	04/18/24 10:15	04/18/24 16:26	1
Nitrobenzene-d5	84		10 - 144	04/18/24 10:15	04/18/24 16:26	1

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# QC Sample Results

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

Job ID: 400-254074-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

**Lab Sample ID: LCS 400-668437/2-A**  
**Matrix: Water**  
**Analysis Batch: 668419**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 668437**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec	
							Limits	RPD
Acenaphthylene	120	101		ug/L		84	10 - 140	
Anthracene	120	107		ug/L		89	19 - 140	
Fluoranthene	120	107		ug/L		89	18 - 140	
Fluorene	120	115		ug/L		96	16 - 140	
Phenanthrene	120	106		ug/L		89	22 - 140	
1-Methylnaphthalene	120	77.2		ug/L		64	10 - 140	
2-Methylnaphthalene	120	74.5		ug/L		62	10 - 140	

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	93		18 - 147
2-Fluorobiphenyl	82		15 - 128
Nitrobenzene-d5	57		10 - 144

**Lab Sample ID: LCSD 400-668437/3-A**  
**Matrix: Water**  
**Analysis Batch: 668419**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 668437**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	
							Limits	RPD	Limit	Limit
Acenaphthylene	120	87.5		ug/L		73	10 - 140	14	40	
Anthracene	120	94.7		ug/L		79	19 - 140	13	40	
Fluoranthene	120	92.6		ug/L		77	18 - 140	14	40	
Fluorene	120	98.7		ug/L		82	16 - 140	15	40	
Phenanthrene	120	94.5		ug/L		79	22 - 140	12	40	
1-Methylnaphthalene	120	71.7		ug/L		60	10 - 140	7	40	
2-Methylnaphthalene	120	68.5		ug/L		57	10 - 140	8	40	

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Terphenyl-d14	85		18 - 147
2-Fluorobiphenyl	72		15 - 128
Nitrobenzene-d5	53		10 - 144

## Method: 8011 - EDB and DBCP in Water by Microextraction

**Lab Sample ID: MB 400-667962/1-A**  
**Matrix: Water**  
**Analysis Batch: 667985**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 667962**

Analyte	MB MB		RL	MDL	Unit	D	Prepared		Analyzed		Dil Fac
	Result	Qualifier					Time	Time	Time	Time	
1,2-Dibromo-3-Chloropropane	ND		0.030	0.017	ug/L		04/15/24 10:01	04/15/24 13:34	04/15/24 13:34	1	
1,2-Dibromoethane	ND		0.020	0.015	ug/L		04/15/24 10:01	04/15/24 13:34	04/15/24 13:34	1	

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	97		51 - 149	04/15/24 10:01	04/15/24 13:34	1

# QC Sample Results

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

Job ID: 400-254074-1

## Method: 8011 - EDB and DBCP in Water by Microextraction (Continued)

**Lab Sample ID: LCS 400-667962/2-A**  
**Matrix: Water**  
**Analysis Batch: 667985**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 667962**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
1,2-Dibromo-3-Chloropropane	0.101	0.0938		ug/L		93	60 - 140	
1,2-Dibromoethane	0.100	0.0889		ug/L		89	60 - 140	
<b>LCS LCS</b>								
Surrogate	%Recovery	Qualifier	Limits					
4-Bromofluorobenzene	100		51 - 149					

**Lab Sample ID: LCSD 400-667962/3-A**  
**Matrix: Water**  
**Analysis Batch: 667985**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 667962**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits		RPD Limit	
									RPD	Limit
1,2-Dibromo-3-Chloropropane	0.101	0.0984		ug/L		98	60 - 140	5	30	
1,2-Dibromoethane	0.100	0.0941		ug/L		94	60 - 140	6	30	
<b>LCSD LCSD</b>										
Surrogate	%Recovery	Qualifier	Limits							
4-Bromofluorobenzene	107		51 - 149							

**Lab Sample ID: 400-254074-3 MS**  
**Matrix: Water**  
**Analysis Batch: 667985**

**Client Sample ID: P54-ROX-040824-MS**  
**Prep Type: Total/NA**  
**Prep Batch: 667962**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	
1,2-Dibromo-3-Chloropropane	ND		0.0965	0.0889		ug/L		92	10 - 150	
1,2-Dibromoethane	ND		0.0961	0.0904		ug/L		94	39 - 150	
<b>MS MS</b>										
Surrogate	%Recovery	Qualifier	Limits							
4-Bromofluorobenzene	251	S1+	51 - 149							

**Lab Sample ID: 400-254074-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 667985**

**Client Sample ID: P54-ROX-040824-MSD**  
**Prep Type: Total/NA**  
**Prep Batch: 667962**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits		RPD Limit	
											RPD	Limit
1,2-Dibromo-3-Chloropropane	ND		0.0981	0.105		ug/L		107	10 - 150	17	20	
1,2-Dibromoethane	ND		0.0977	0.107		ug/L		110	39 - 150	17	20	
<b>MSD MSD</b>												
Surrogate	%Recovery	Qualifier	Limits									
4-Bromofluorobenzene	343	S1+	51 - 149									



LAB (LOCATION) \_\_\_\_\_

ACCUTEST ( ) \_\_\_\_\_

CALSCIENCE ( ) \_\_\_\_\_

TESTAMERICA (TestAmerica Pensacola; 3355 McLemore Dr. Pensacola, FL 32514 (850-474-1001))

Other ( ) \_\_\_\_\_

400-254074 COC

SGW FDG

CHEMICALS

TRANSPORTATION

PIPELINE

CONSULTANT

OTHER\_ENV\_SERVICES

RETAIL

LUBES

Print Bill To Contact Name: Melissa Remiger

PlanNet Site or Project ID: 25278

PO #: 60721927 - 3.2.2

USPC/00114/R/02

DATE: 4/8/2024

PAGE: 1 of 1

Check if no incident # applies

LOG CODE: \_\_\_\_\_

SAMPLING COMPANY: AECOM

ADDRESS: 100 N. Broadway, 20th Floor, ST. LOUIS, MO 63102, USA

PROJECT CONTACT (Hardcopy or PDF Report to): Melissa Remiger, Mary Massa, Brett Howell

TELEPHONE: 314-429-0100 FAX: 314-429-0462

Bill To Contact E-MAIL: melissa.remiger@aecom.com

TURNAROUND TIME (CALENDAR DAYS):  STANDARD (14 DAY)  5 DAYS  3 DAYS  2 DAYS  RESULTS NEEDED ON WEEKEND

LA - RWQCB REPORT FORMAT

LEVEL 1  LEVEL 2  LEVEL 3  LEVEL 4  OTHER (SPECIFY) \_\_\_\_\_

DELIVERABLES:  COOLER #1  COOLER #2

TEMPERATURE ON RECEIPT C° \_\_\_\_\_

SPECIAL INSTRUCTIONS OR NOTES:

Shell CONTRACT RATE APPLIES

STATE REIMBURSEMENT RATE APPLIES

EDD NOT NEEDED

RECEIPT VERIFICATION REQUESTED

PROVIDE LEDD DISK

Email reports to: melissa.remiger@aecom.com; mary.mass@aecom.com; brett.howell@aecom.com

Please include "J" values on Reports.

Please provide sample receipt upon login.

Please send EQUIS EDDs to EDDSubmissions@aecomshell.com; Vlad.Virjan@aecom.com

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE			NO. OF CONT.
		DATE	TIME		HCL	HNO3	H2SO4	
	TB-ROX-040824-8260	4/8/2024	0000	Water	2			2
	TB-ROX-040824-8011	4/5/2024	0000	Water	2			2
	P54-ROX-040824	4/8/2024	1100	Water	6	2		8
	P54-ROX-040824-MS	4/8/2024	1100	Water	6	2		8
	P54-ROX-040824-MSD	4/8/2024	1100	Water	6	2		8
	MW24-ROX-040824	4/8/2024	1215	Water	6	2		8

Requested Analysis: 60721927 - 3.2.2

Requested Analysis: 60721927 - 3.2.2

TEMPERATURE ON RECEIPT C° \_\_\_\_\_

Container PID Readings or Laboratory Notes: \_\_\_\_\_

FIELD NOTES: \_\_\_\_\_

Relinquished by: (Signature) \_\_\_\_\_ Date: \_\_\_\_\_

Relinquished by: (Signature) JOE MAYER Date: 4/8/2024 Time: 1600

Relinquished by: (Signature) \_\_\_\_\_ Date: 4/9/24 Time: 912

Relinquished by: (Signature) \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

CUSTOMY SEALS: 2460027, 2460026

Version: 27 Sep 23

0.20C TR-10

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## Leah Klingensmith

---

**From:** Massa, Mary <Mary.Massa@aecom.com>  
**Sent:** Wednesday, April 10, 2024 8:58 AM  
**To:** Leah Klingensmith; Trina Perez; Lisa Monroe  
**Cc:** Remiger, Melissa; Virjan, Vlad  
**Subject:** #60721927 – 3.2.2 Roxana (2Q24) Quarterly COC attached - samples arriving YESTERDAY (Tuesday)  
**Attachments:** 2Q24 Roxana GW COC\_040824.pdf

**CAUTION: EXTERNAL EMAIL** - Sent from an email domain that is not formally trusted by Eurofins.

Do not click on links or open attachments unless you recognise the sender and are certain that the content is safe.

Good morning Leah,

Please see attached for the **corrected** #60721927 – 3.2.2 Roxana (2Q24) Quarterly Groundwater COC for samples which arrived yesterday, April 9<sup>th</sup>. The COC in-cooler has the incorrect sample date for the 8011 trip blanks.

Any questions or concerns please let me know.

Thank you,  
**Mary Massa (D'Angelo)**, RG (MO)

Geologist, US West Environment  
M +1 (314) 795-7580  
[mary.massa@aecom.com](mailto:mary.massa@aecom.com)

### AECOM

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T +1 (314) 429-0100  
[aecom.com](http://aecom.com)

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# Shell Oil Products US Chain Of Custody Record



LAB (LOCATION)

- ACCUTEST ( )
- CALSCIENCE ( )
- TESTAMERICA (TestAmerica Pensacola: 3355 McLemore Dr. Pensacola, FL 32514 (850-474-1001))
- Other ( )

- Please Check Appropriate Box**
- SGW FDG
  - PIPELINE
  - RETAIL
  - CHEMICALS
  - CONSULTANT
  - LUBES
  - TRANSPORTATION
  - OTHER \_ENV. SERVICES

Print Bill To Contact Name: **Melissa Remiger** 25278  
 Project ID: **GSAP Project ID**  
 USPC/00114/R/02

SAMPLING COMPANY: AECOM  
 ADDRESS: 100 N. Broadway, 20th Floor, ST. LOUIS, MO 63102, USA  
 PROJECT CONTACT (Hierarchy or PDF Report to): Melissa Remiger, Mary Massa, Brett Howell  
 TELEPHONE: 314-429-0100 FAX: 314-429-0462  
 BILL TO CONTACT E-MAIL: melissa.remiger@aecom.com

TURNAROUND TIME (CALENDAR DAYS):  5 DAYS  2 DAYS  24 HOURS  WEEKEND  
 LA - RWQCB REPORT FORMAT  
 DELIVERABLES:  LEVEL 1  LEVEL 2  LEVEL 3  OTHER (SPECIFY) \_EDD  
 TEMPERATURE ON RECEIPT C°: Cooler #1: Cooler #2: Cooler #3:

**SPECIAL INSTRUCTIONS OR NOTES:**  
 Email reports to: melissa.remiger@aecom.com; mary.massa@aecom.com; brett.howell@aecom.com  
 \* Please include "J" values on Reports.  
 \* Please provide sample receipt upon login.  
 \* Please send EQUIS EDDs to EDDSubmissions@aecomshell.com; Vlad.Virjan@aecom.com

Sample ID	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE				NO. OF CONT.
		DATE	TIME		HCL	HNO3	H2SO4	NONE	
49	TB-ROX-040824-8260	4/8/2024	0000	Water	2				2
50	TB-ROX-040824-8011	4/8/2024	0000	Water	2				2
51	P54-ROX-040824	4/8/2024	1100	Water	6			2	8
52	P54-ROX-040824-MS	4/8/2024	1100	Water	6			2	8
53	P54-ROX-040824-MSD	4/8/2024	1100	Water	6			2	8
54	MW24-ROX-040824	4/8/2024	1215	Water	6			2	8

ANALYSIS	RESULTS
VOC 8260	X
8011 EDB + DBCP	X
SVOC 8270	
PAH 8270 SIMS	

LAB USE ONLY

Requested Analysis: 60721927 - 3.2.2

Field Notes:

TEMPERATURE ON RECEIPT C°

Container PID Readings or Laboratory Notes:

Relinquished by: (Signature) **JOE MAYER** Date: 4/8/2024 Time: 1600  
 Received by: (Signature) **FEDEX: 5564 3932 9748**  
 Relinquished by: (Signature) Date: Time:  
 Received by: (Signature) Date: Time:



# Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-254074-1

**Login Number: 254074**

**List Source: Eurofins Pensacola**

**List Number: 1**

**Creator: Earnest, Tamantha**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
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	0.2°C IR10
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.	N/A	
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

Job ID: 400-254074-1

## Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-24
Kansas	NELAP	E-10253	10-31-24
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-24
North Carolina (WW/SW)	State	314	12-31-24
Oklahoma	NELAP	9810	08-31-24
Pennsylvania	NELAP	68-00467	01-31-25
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-24
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	P330-21-00056	05-17-24
USDA	US Federal Programs	FLGNV23001	01-08-26
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-25

# Roxana Groundwater Quarterly – 2<sup>nd</sup> Quarter 2024 Data Review

Laboratory SDG: 400-254140-1

Data Reviewer: Adelina Gita

Peer Reviewer: Cheyana Cokley

Date Reviewed: 05/15/2024

Guidance: USEPA National Functional Guidelines for Organic Superfund Methods Data Review 2020

Sample Identification	Sample Identification
TB-ROX-040924-8260	TB-ROX-040924-8011
MW16-ROX-040924	MW6D-ROX-040924
MW6C-ROX-040524	-

## 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. Acenaphthylene, 1-methylnaphthalene, and 2-methylnaphthalene were detected in PAH method blank MB 400-668180/1-A. VOC by 8011 surrogate recovery, for 4-bromofluorobenzene in a trip blank sample, was outside criteria. Several VOC and SVOC MS/MSD recoveries and/or MS/MSD RPDs were outside evaluation criteria in sample MW16-ROX-040924. The continuing calibration verifications (CCV) for several analytes were outside evaluation criteria, biased low. These issues are addressed further in the appropriate sections of this data review.

Three of 70 (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?*

Yes

Blank ID	Parameter	Analyte	Concentration /Amount
MB 400-668180/1-A	PAHs	Acenaphthylene	0.0599 ug/L



Blank ID	Parameter	Analyte	Concentration /Amount
MB 400-668180/1-A	PAHs	1-Methylnaphthalene	0.172 ug/L
MB 400-668180/1-A	PAHs	2-Methylnaphthalene	0.256 ug/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
MW6D-ROX-040924	PAHs	1-Methylnaphthalene	0.79 ug/L	<b>U</b>
MW6D-ROX-040924	PAHs	2-Methylnaphthalene	1.1 ug/L	<b>U</b>

## 5.0 Laboratory Control Sample

*Were LCS recoveries within evaluation criteria?*

No

LCS/LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD Criteria
LCS 400-668180/2-A	SVOCs	Quinoline	<b>28</b>	NA	40-140
LCS 400-668180/2-A	SVOCs	Pyridine	<b>9</b>	NA	10-82

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 pyridine below evaluation criteria; pyridine has been identified as a poor performing analyte under Method 8270.

Sample ID	Parameter	Analyte	Qualification
MW16-ROX-040924	SVOCs	Pyridine	<b>UJ</b>
MW16-ROX-040924	SVOCs	Quinoline	<b>UJ</b>
MW6D-ROX-040924	SVOCs	Pyridine	<b>UJ</b>
MW6D-ROX-040924	SVOCs	Quinoline	<b>UJ</b>
MW6C-ROX-040524	SVOCs	Pyridine	<b>UJ</b>
MW6C-ROX-040524	SVOCs	Quinoline	<b>UJ</b>

## 6.0 Surrogate Recoveries

*Were surrogate recoveries within evaluation criteria?*

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
TB-ROX-040924-8011	VOCs by 8011	4-Bromofluorobenzene	<b>430</b>	51-149

Trip blanks 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 MW16-ROX-040924 was spiked and duplicated for VOCs, SVOCs, PAHs, and VOCs by 8011.

*Were MS/MSD recoveries within evaluation criteria?*

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
MW16-ROX-040924 MS/MSD	VOCs	2-Chloroethyl vinyl ether	13/28	<b>76</b>	10-150/50
MW16-ROX-040924 MS/MSD	VOCs	Hexachlorobutadiene	123/ <b>158</b>	25	31-149/36
MW16-ROX-040924 MS/MSD	VOCs	Trichloroethene	110 / <b>137</b>	22	64-136/30
MW16-ROX-040924 MS/MSD	SVOCs	Aniline	<b>38/41</b>	7	50-150/40
MW16-ROX-040924 MS/MSD	SVOCs	bis (2-chloroisopropyl) ether	51/ <b>48</b>	7	50-150/40
MW16-ROX-040924 MS/MSD	SVOCs	1,4-Dioxane	<b>40/36</b>	10	50-150/40
MW16-ROX-040924 MS/MSD	SVOCs	Hexachloroethane	<b>42/44</b>	5	50-150/40
MW16-ROX-040924 MS/MSD	SVOCs	N-Nitrosodimethylamine	<b>46/42</b>	10	50-150/40
MW16-ROX-040924 MS/MSD	SVOCs	Phenol	50/ <b>45</b>	10	50-150/40
MW16-ROX-040924 MS/MSD	SVOCs	Pyridine	<b>11/18</b>	<b>48</b>	50-150/40
MW16-ROX-040924 MS/MSD	SVOCs	Quinoline	<b>36/34</b>	4	50-150/40
MW16-ROX-040924 MS/MSD	PAHs	2-Methylnaphthalene	<b>49/49</b>	1	50-150/40
MW16-ROX-040924 MS/MSD	VOCs by 8011	1,2-Dibromo-3-Chloropropane	80/ <b>0</b>	<b>NC</b>	10-150/20
MW16-ROX-040924 MS/MSD	VOCs by 8011	1,2-Dibromoethane	78/ <b>0</b>	<b>NC</b>	39-150/20

Analytical data that required qualification based on MS/MSD data are included in the table below. Pyridine and quinoline, in sample MW16-ROX-040924, were previously qualified in

section 5.0 due to laboratory control sample recoveries outside evaluation criteria; no further qualification is required. Analytical data reported as non-detect and associated with MS/MSD recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. Analytical data associated with MS/MSD RPD alone outside evaluation criteria did not require qualification.

Sample ID	Parameter	Analyte	Qualification
MW16-ROX-040924	SVOCs	Aniline	UJ
MW16-ROX-040924	SVOCs	bis (2-chloroisopropyl) ether	UJ
MW16-ROX-040924	SVOCs	1,4-Dioxane	UJ
MW16-ROX-040924	SVOCs	Hexachloroethane	UJ
MW16-ROX-040924	SVOCs	N-Nitrosodimethylamine	UJ
MW16-ROX-040924	SVOCs	Phenol	UJ
MW16-ROX-040924	PAHs	2-Methylnaphthalene	UJ
MW16-ROX-040924	VOCs by 8011	1,2-Dibromo-3-Chloropropane	UJ
MW16-ROX-040924	VOCs by 8011	1,2-Dibromoethane	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?*

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 verification (CCV) for chloromethane, 1,1,2,2-tetrachloroethane, 1,2,3-trichloropropane, 1,2-dibromo-3-chloropropane, and 1,2-dibromoethane were outside evaluation criteria, biased low. 1,2-Dibromo-3-Chloropropane and 1,2-dibromoethane in sample MW16-ROX-040924 were previously qualified in section 7.0 of this data review, due to matrix spike and matrix spike duplicate recoveries outside evaluation criteria; no further qualification is required. Analytes are qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
MW16-ROX-040924	VOCs	Chloromethane	UJ
MW6D-ROX-040924	VOCs	Chloromethane	UJ
MW6C-ROX-040524	VOCs	Chloromethane	UJ

<b>Sample ID</b>	<b>Parameter</b>	<b>Analyte</b>	<b>Qualification</b>
MW16-ROX-040924	VOCs	1,2,3-Trichloropropane	<b>UJ</b>
MW6D-ROX-040924	VOCs	1,2,3-Trichloropropane	<b>UJ</b>
MW6C-ROX-040524	VOCs	1,2,3-Trichloropropane	<b>UJ</b>
MW16-ROX-040924	VOCs	1,1,2,2-Tetrachloroethane	<b>UJ</b>
MW6D-ROX-040924	VOCs	1,1,2,2-Tetrachloroethane	<b>UJ</b>
MW6C-ROX-040524	VOCs	1,1,2,2-Tetrachloroethane	<b>UJ</b>
MW6D-ROX-040924	VOCs by 8011	1,2-Dibromoethane	<b>UJ</b>
MW6C-ROX-040524	VOCs by 8011	1,2-Dibromoethane	<b>UJ</b>
MW6D-ROX-040924	VOCs by 8011	1,2-Dibromo-3-Chloropropane	<b>UJ</b>
MW6C-ROX-040524	VOCs by 8011	1,2-Dibromo-3-Chloropropane	<b>UJ</b>





# ANALYTICAL REPORT

## PREPARED FOR

Attn: Melissa Remiger  
AECOM Technical Services Inc.  
100 N. Broadway  
20th Floor  
St. Louis, Missouri 63102

Generated 4/24/2024 1:51:49 PM

## JOB DESCRIPTION

ROXANA QUARTERLY GW

## JOB NUMBER

400-254140-1

Reviewed 05/15/2024  
AG

# Eurofins Pensacola

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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## Authorization



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# Case Narrative

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

Job ID: 400-254140-1

**Job ID: 400-254140-1**

**Eurofins Pensacola**

## Job Narrative 400-254140-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 4/10/2024 9:38 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.2°C.

### GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-668589 recovered outside acceptance criteria, low biased, for Chloromethane, 1,1,2,2-Tetrachloroethane and 1,2,3-Trichloropropane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: 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-040924-8260 (400-254140-1), MW16-ROX-040924 (400-254140-3), MW6D-ROX-040924 (400-254140-4) and MW6C-ROX-040524 (400-254140-5). 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 8260D: The matrix spike duplicate (MSD) recoveries for analytical batch 400-668589 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8260D: The RPD for the matrix spike / matrix spike duplicate (MS/MSD) was outside acceptance limits for 2-Chloroethyl vinyl ether 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 8270E: The laboratory control sample (LCS) for preparation batch 400-668180 and analytical batch 400-668292 recovered outside control limits for the following analyte(s): Pyridine. Pyridine has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method 8270E: The continuing calibration verification (CCV) associated with batch 400-668292 recovered above the upper control limit for Dibenz[a,h]acridine. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8270E: The following analyte(s) recovered outside control limits for the LCS associated with preparation batch 400-668180 and analytical batch 400-668292: Quinoline. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

Method 8270E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-668180 and analytical batch 400-668292 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8270E: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch

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## Case Narrative

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

Job ID: 400-254140-1

### Job ID: 400-254140-1 (Continued)

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400-668180 and analytical batch 400-668292 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.

Method 8270E: The initial calibration verification (ICV) analyzed in batch 400-666244 was outside method criteria for the following analyte(s): 2,4-Dimethylphenol and Hexachlorocyclopentadiene. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270E: The initial calibration verification (ICV) analyzed in batch 400-666244 was outside method criteria for the following analyte(s): Dibenz[a,h]acridine. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270E\_SIM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-668180 and analytical batch 400-668419 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8270E\_SIM: The method blank for preparation batch 400-668180 and analytical batch 400-668419 had low-level contamination for three qualified analytes. Associated samples were either non-detect for all analytes (254140-3, -4) or had detections ~5x greater than the blank and matched historical data (254140-4). Therefore, re-extraction was not performed.

(MB 400-668180/1-A)

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

#### GC Semi VOA

Method 8011: Surrogate recovery for the following sample was outside the upper control limit: TB-ROX-040924-8011 (400-254140-2). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

Method 8011: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-667962 and analytical batch 400-667985 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8011: The continuing calibration verification (CCV) associated with batch 400-667985 recovered outside acceptance criteria, low biased, for 1,2-Dibromoethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

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

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# Sample Summary

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

Job ID: 400-254140-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-254140-1	TB-ROX-040924-8260	Water	04/09/24 00:00	04/10/24 09:38
400-254140-2	TB-ROX-040924-8011	Water	04/09/24 00:00	04/10/24 09:38
400-254140-3	MW16-ROX-040924	Water	04/09/24 10:30	04/10/24 09:38
400-254140-4	MW6D-ROX-040924	Water	04/09/24 12:40	04/10/24 09:38
400-254140-5	MW6C-ROX-040524	Water	04/09/24 13:40	04/10/24 09:38

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# Detection Summary

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

Job ID: 400-254140-1

**Client Sample ID: TB-ROX-040924-8260**

**Lab Sample ID: 400-254140-1**

No Detections.

**Client Sample ID: TB-ROX-040924-8011**

**Lab Sample ID: 400-254140-2**

No Detections.

**Client Sample ID: MW16-ROX-040924**

**Lab Sample ID: 400-254140-3**

No Detections.

**Client Sample ID: MW6D-ROX-040924**

**Lab Sample ID: 400-254140-4**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Carbon disulfide	0.62	J	1.0	0.50	ug/L	1		8260D	Total/NA
Acenaphthene	0.61		0.20	0.098	ug/L	1		8270E SIM	Total/NA
Acenaphthylene	0.41	B	0.20	0.043	ug/L	1		8270E SIM	Total/NA
Anthracene	0.76		0.20	0.046	ug/L	1		8270E SIM	Total/NA
Benzo[a]anthracene	0.10	J	0.20	0.033	ug/L	1		8270E SIM	Total/NA
Benzo[b]fluoranthene	0.065	J	0.20	0.036	ug/L	1		8270E SIM	Total/NA
Chrysene	0.054	J	0.20	0.033	ug/L	1		8270E SIM	Total/NA
Fluoranthene	0.54		0.20	0.033	ug/L	1		8270E SIM	Total/NA
Fluorene	0.99		0.20	0.088	ug/L	1		8270E SIM	Total/NA
Phenanthrene	0.97		0.20	0.089	ug/L	1		8270E SIM	Total/NA
Pyrene	0.49		0.20	0.038	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	0.79	B U	0.20	0.079	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	1.1	B U	0.20	0.065	ug/L	1		8270E SIM	Total/NA

**Client Sample ID: MW6C-ROX-040524**

**Lab Sample ID: 400-254140-5**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	0.23	J	1.0	0.22	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

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# Client Sample Results

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

Job ID: 400-254140-1

**Client Sample ID: TB-ROX-040924-8260**

**Lab Sample ID: 400-254140-1**

**Date Collected: 04/09/24 00:00**

**Matrix: Water**

**Date Received: 04/10/24 09:38**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/19/24 15:45	1
Acrolein	ND		20	3.3	ug/L			04/19/24 15:45	1
Acrylonitrile	ND		10	2.8	ug/L			04/19/24 15:45	1
Benzene	ND		1.0	0.50	ug/L			04/19/24 15:45	1
Bromobenzene	ND		1.0	0.54	ug/L			04/19/24 15:45	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/19/24 15:45	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/19/24 15:45	1
Bromoform	ND		5.0	0.25	ug/L			04/19/24 15:45	1
Bromomethane	ND		1.0	0.98	ug/L			04/19/24 15:45	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/19/24 15:45	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/19/24 15:45	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/19/24 15:45	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/19/24 15:45	1
Chloroethane	ND		1.0	0.76	ug/L			04/19/24 15:45	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/19/24 15:45	1
Chloroform	ND		1.0	0.90	ug/L			04/19/24 15:45	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/19/24 15:45	1
Chloromethane	ND		1.0	0.90	ug/L			04/19/24 15:45	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/19/24 15:45	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/19/24 15:45	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/19/24 15:45	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/19/24 15:45	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/19/24 15:45	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/19/24 15:45	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/19/24 15:45	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/19/24 15:45	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/19/24 15:45	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/19/24 15:45	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/19/24 15:45	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/19/24 15:45	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/19/24 15:45	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/19/24 15:45	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/19/24 15:45	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/19/24 15:45	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/19/24 15:45	1
2-Hexanone	ND		25	1.4	ug/L			04/19/24 15:45	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/19/24 15:45	1
Methylene bromide	ND		5.0	0.22	ug/L			04/19/24 15:45	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/19/24 15:45	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/19/24 15:45	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/19/24 15:45	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/19/24 15:45	1
Naphthalene	ND		5.0	3.0	ug/L			04/19/24 15:45	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/19/24 15:45	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/19/24 15:45	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/19/24 15:45	1
o-Xylene	ND		5.0	0.60	ug/L			04/19/24 15:45	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/19/24 15:45	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/19/24 15:45	1



# Client Sample Results

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

Job ID: 400-254140-1

**Client Sample ID: TB-ROX-040924-8260**

**Lab Sample ID: 400-254140-1**

**Date Collected: 04/09/24 00:00**

**Matrix: Water**

**Date Received: 04/10/24 09:38**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/19/24 15:45	1
Styrene	ND		1.0	1.0	ug/L			04/19/24 15:45	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/19/24 15:45	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/19/24 15:45	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/19/24 15:45	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/19/24 15:45	1
Toluene	ND		1.0	0.90	ug/L			04/19/24 15:45	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/19/24 15:45	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/19/24 15:45	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/19/24 15:45	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/19/24 15:45	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/19/24 15:45	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/19/24 15:45	1
Trichloroethene	ND		1.0	0.15	ug/L			04/19/24 15:45	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/19/24 15:45	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/19/24 15:45	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/19/24 15:45	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/19/24 15:45	1
Vinyl acetate	ND		25	0.93	ug/L			04/19/24 15:45	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/19/24 15:45	1
Xylenes, Total	ND		10	1.6	ug/L			04/19/24 15:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	103		72 - 130		04/19/24 15:45	1
Dibromofluoromethane	106		75 - 126		04/19/24 15:45	1
Toluene-d8 (Surr)	87		64 - 132		04/19/24 15:45	1

# Client Sample Results

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

Job ID: 400-254140-1

**Client Sample ID: TB-ROX-040924-8011**

**Lab Sample ID: 400-254140-2**

Date Collected: 04/09/24 00:00

Matrix: Water

Date Received: 04/10/24 09:38

**Method: EPA 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	0.017	ug/L		04/15/24 10:01	04/15/24 18:33	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		04/15/24 10:01	04/15/24 18:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	430	S1+	51 - 149				04/15/24 10:01	04/15/24 18:33	1

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# Client Sample Results

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

Job ID: 400-254140-1

**Client Sample ID: MW16-ROX-040924**

**Lab Sample ID: 400-254140-3**

Date Collected: 04/09/24 10:30

Matrix: Water

Date Received: 04/10/24 09:38

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/19/24 16:12	1
Acrolein	ND		20	3.3	ug/L			04/19/24 16:12	1
Acrylonitrile	ND		10	2.8	ug/L			04/19/24 16:12	1
Benzene	ND		1.0	0.50	ug/L			04/19/24 16:12	1
Bromobenzene	ND		1.0	0.54	ug/L			04/19/24 16:12	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/19/24 16:12	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/19/24 16:12	1
Bromoform	ND		5.0	0.25	ug/L			04/19/24 16:12	1
Bromomethane	ND		1.0	0.98	ug/L			04/19/24 16:12	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/19/24 16:12	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/19/24 16:12	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/19/24 16:12	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/19/24 16:12	1
Chloroethane	ND		1.0	0.76	ug/L			04/19/24 16:12	1
2-Chloroethyl vinyl ether	ND	F2	5.0	2.0	ug/L			04/19/24 16:12	1
Chloroform	ND		1.0	0.90	ug/L			04/19/24 16:12	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/19/24 16:12	1
Chloromethane	ND	UJ	1.0	0.90	ug/L			04/19/24 16:12	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/19/24 16:12	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/19/24 16:12	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/19/24 16:12	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/19/24 16:12	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/19/24 16:12	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/19/24 16:12	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/19/24 16:12	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/19/24 16:12	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/19/24 16:12	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/19/24 16:12	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/19/24 16:12	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/19/24 16:12	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/19/24 16:12	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/19/24 16:12	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/19/24 16:12	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/19/24 16:12	1
Hexachlorobutadiene	ND	F1	5.0	0.90	ug/L			04/19/24 16:12	1
2-Hexanone	ND		25	1.4	ug/L			04/19/24 16:12	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/19/24 16:12	1
Methylene bromide	ND		5.0	0.22	ug/L			04/19/24 16:12	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/19/24 16:12	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/19/24 16:12	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/19/24 16:12	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/19/24 16:12	1
Naphthalene	ND		5.0	3.0	ug/L			04/19/24 16:12	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/19/24 16:12	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/19/24 16:12	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/19/24 16:12	1
o-Xylene	ND		5.0	0.60	ug/L			04/19/24 16:12	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/19/24 16:12	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/19/24 16:12	1

# Client Sample Results

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

Job ID: 400-254140-1

**Client Sample ID: MW16-ROX-040924**

**Lab Sample ID: 400-254140-3**

Date Collected: 04/09/24 10:30

Matrix: Water

Date Received: 04/10/24 09:38

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/19/24 16:12	1
Styrene	ND		1.0	1.0	ug/L			04/19/24 16:12	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/19/24 16:12	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/19/24 16:12	1
1,1,2,2-Tetrachloroethane	ND	UJ	1.0	0.50	ug/L			04/19/24 16:12	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/19/24 16:12	1
Toluene	ND		1.0	0.90	ug/L			04/19/24 16:12	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/19/24 16:12	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/19/24 16:12	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/19/24 16:12	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/19/24 16:12	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/19/24 16:12	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/19/24 16:12	1
Trichloroethene	ND	F1	1.0	0.15	ug/L			04/19/24 16:12	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/19/24 16:12	1
1,2,3-Trichloropropane	ND	UJ	5.0	0.84	ug/L			04/19/24 16:12	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/19/24 16:12	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/19/24 16:12	1
Vinyl acetate	ND		25	0.93	ug/L			04/19/24 16:12	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/19/24 16:12	1
Xylenes, Total	ND		10	1.6	ug/L			04/19/24 16:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		72 - 130		04/19/24 16:12	1
Dibromofluoromethane	106		75 - 126		04/19/24 16:12	1
Toluene-d8 (Surr)	88		64 - 132		04/19/24 16:12	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.10	ug/L		04/16/24 13:45	04/18/24 13:15	1
Acenaphthylene	ND		0.20	0.044	ug/L		04/16/24 13:45	04/18/24 13:15	1
Anthracene	ND		0.20	0.047	ug/L		04/16/24 13:45	04/18/24 13:15	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		04/16/24 13:45	04/18/24 13:15	1
Benzo[a]pyrene	ND		0.20	0.065	ug/L		04/16/24 13:45	04/18/24 13:15	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		04/16/24 13:45	04/18/24 13:15	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		04/16/24 13:45	04/18/24 13:15	1
Benzo[k]fluoranthene	ND		0.20	0.063	ug/L		04/16/24 13:45	04/18/24 13:15	1
Chrysene	ND		0.20	0.033	ug/L		04/16/24 13:45	04/18/24 13:15	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		04/16/24 13:45	04/18/24 13:15	1
Fluoranthene	ND		0.20	0.034	ug/L		04/16/24 13:45	04/18/24 13:15	1
Fluorene	ND		0.20	0.090	ug/L		04/16/24 13:45	04/18/24 13:15	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		04/16/24 13:45	04/18/24 13:15	1
Phenanthrene	ND		0.20	0.091	ug/L		04/16/24 13:45	04/18/24 13:15	1
Pyrene	ND		0.20	0.039	ug/L		04/16/24 13:45	04/18/24 13:15	1
1-Methylnaphthalene	ND		0.20	0.081	ug/L		04/16/24 13:45	04/18/24 13:15	1
2-Methylnaphthalene	ND	F1 UJ	0.20	0.067	ug/L		04/16/24 13:45	04/18/24 13:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	59		18 - 147	04/16/24 13:45	04/18/24 13:15	1
2-Fluorobiphenyl	35		15 - 128	04/16/24 13:45	04/18/24 13:15	1

Eurofins Pensacola



# Client Sample Results

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

Job ID: 400-254140-1

**Client Sample ID: MW16-ROX-040924**

**Lab Sample ID: 400-254140-3**

Date Collected: 04/09/24 10:30

Matrix: Water

Date Received: 04/10/24 09:38

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	38		10 - 144	04/16/24 13:45	04/18/24 13:15	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	F1 UJ	10	8.8	ug/L		04/16/24 13:45	04/17/24 20:36	1
Benzenethiol	ND		10	10	ug/L		04/16/24 13:45	04/17/24 20:36	1
Benzoic acid	ND		30	24	ug/L		04/16/24 13:45	04/17/24 20:36	1
Benzyl alcohol	ND		10	7.4	ug/L		04/16/24 13:45	04/17/24 20:36	1
Bis(2-chloroethoxy)methane	ND		10	4.6	ug/L		04/16/24 13:45	04/17/24 20:36	1
Bis(2-chloroethyl)ether	ND		10	3.9	ug/L		04/16/24 13:45	04/17/24 20:36	1
bis (2-chloroisopropyl) ether	ND	F1 UJ	10	1.8	ug/L		04/16/24 13:45	04/17/24 20:36	1
Bis(2-ethylhexyl) phthalate	ND		10	9.0	ug/L		04/16/24 13:45	04/17/24 20:36	1
4-Bromophenyl phenyl ether	ND		10	8.7	ug/L		04/16/24 13:45	04/17/24 20:36	1
Butyl benzyl phthalate	ND		10	5.8	ug/L		04/16/24 13:45	04/17/24 20:36	1
4-Chloroaniline	ND		10	4.7	ug/L		04/16/24 13:45	04/17/24 20:36	1
4-Chloro-3-methylphenol	ND		10	5.3	ug/L		04/16/24 13:45	04/17/24 20:36	1
2-Chloronaphthalene	ND		10	3.8	ug/L		04/16/24 13:45	04/17/24 20:36	1
2-Chlorophenol	ND		10	4.1	ug/L		04/16/24 13:45	04/17/24 20:36	1
4-Chlorophenyl phenyl ether	ND		10	3.7	ug/L		04/16/24 13:45	04/17/24 20:36	1
Dibenz[a,h]acridine	ND		10	2.8	ug/L		04/16/24 13:45	04/17/24 20:36	1
Dibenzofuran	ND		10	4.0	ug/L		04/16/24 13:45	04/17/24 20:36	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/16/24 13:45	04/17/24 20:36	1
2,4-Dichlorophenol	ND		10	4.3	ug/L		04/16/24 13:45	04/17/24 20:36	1
Diethyl phthalate	ND		10	4.4	ug/L		04/16/24 13:45	04/17/24 20:36	1
2,4-Dimethylphenol	ND		10	5.2	ug/L		04/16/24 13:45	04/17/24 20:36	1
Dimethyl phthalate	ND		10	4.2	ug/L		04/16/24 13:45	04/17/24 20:36	1
Di-n-butyl phthalate	ND		10	4.6	ug/L		04/16/24 13:45	04/17/24 20:36	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		04/16/24 13:45	04/17/24 20:36	1
2,4-Dinitrophenol	ND		30	4.6	ug/L		04/16/24 13:45	04/17/24 20:36	1
2,4-Dinitrotoluene	ND		10	5.1	ug/L		04/16/24 13:45	04/17/24 20:36	1
2,6-Dinitrotoluene	ND		10	3.9	ug/L		04/16/24 13:45	04/17/24 20:36	1
Di-n-octyl phthalate	ND		10	6.0	ug/L		04/16/24 13:45	04/17/24 20:36	1
1,4-Dioxane	ND	F1 UJ	10	4.3	ug/L		04/16/24 13:45	04/17/24 20:36	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.3	ug/L		04/16/24 13:45	04/17/24 20:36	1
Hexachlorobenzene	ND		10	9.8	ug/L		04/16/24 13:45	04/17/24 20:36	1
Hexachlorocyclopentadiene	ND		20	4.5	ug/L		04/16/24 13:45	04/17/24 20:36	1
Hexachloroethane	ND	F1 UJ	10	5.2	ug/L		04/16/24 13:45	04/17/24 20:36	1
Indene	ND		10	3.6	ug/L		04/16/24 13:45	04/17/24 20:36	1
Isophorone	ND		10	5.2	ug/L		04/16/24 13:45	04/17/24 20:36	1
2-Methylphenol	ND		10	3.2	ug/L		04/16/24 13:45	04/17/24 20:36	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		04/16/24 13:45	04/17/24 20:36	1
2-Nitroaniline	ND		10	5.0	ug/L		04/16/24 13:45	04/17/24 20:36	1
3-Nitroaniline	ND		10	4.7	ug/L		04/16/24 13:45	04/17/24 20:36	1
4-Nitroaniline	ND		10	4.1	ug/L		04/16/24 13:45	04/17/24 20:36	1
Nitrobenzene	ND		10	4.7	ug/L		04/16/24 13:45	04/17/24 20:36	1
2-Nitrophenol	ND		10	4.6	ug/L		04/16/24 13:45	04/17/24 20:36	1
4-Nitrophenol	ND		10	3.3	ug/L		04/16/24 13:45	04/17/24 20:36	1
N-Nitrosodimethylamine	ND	F1 UJ	10	2.2	ug/L		04/16/24 13:45	04/17/24 20:36	1

# Client Sample Results

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

Job ID: 400-254140-1

**Client Sample ID: MW16-ROX-040924**

**Lab Sample ID: 400-254140-3**

Date Collected: 04/09/24 10:30

Matrix: Water

Date Received: 04/10/24 09:38

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		04/16/24 13:45	04/17/24 20:36	1
N-Nitrosodiphenylamine	ND		10	3.7	ug/L		04/16/24 13:45	04/17/24 20:36	1
Pentachlorophenol	ND		20	12	ug/L		04/16/24 13:45	04/17/24 20:36	1
Phenol	ND	F1 UJ	10	4.2	ug/L		04/16/24 13:45	04/17/24 20:36	1
Pyridine	ND	*- F1 F2 UJ	10	10	ug/L		04/16/24 13:45	04/17/24 20:36	1
Quinoline	ND	*- F1 UJ	10	2.4	ug/L		04/16/24 13:45	04/17/24 20:36	1
2,4,5-Trichlorophenol	ND		10	4.0	ug/L		04/16/24 13:45	04/17/24 20:36	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/16/24 13:45	04/17/24 20:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	43		21 - 114	04/16/24 13:45	04/17/24 20:36	1
2-Fluorophenol	49		10 - 105	04/16/24 13:45	04/17/24 20:36	1
Nitrobenzene-d5	45		16 - 127	04/16/24 13:45	04/17/24 20:36	1
Phenol-d5	40		10 - 129	04/16/24 13:45	04/17/24 20:36	1
Terphenyl-d14	62		13 - 150	04/16/24 13:45	04/17/24 20:36	1
2,4,6-Tribromophenol	48		10 - 150	04/16/24 13:45	04/17/24 20:36	1

**Method: EPA 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	F1 UJ	0.029	0.016	ug/L		04/15/24 10:01	04/15/24 18:55	1
1,2-Dibromoethane	ND	F1 UJ	0.019	0.014	ug/L		04/15/24 10:01	04/15/24 18:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	110		51 - 149	04/15/24 10:01	04/15/24 18:55	1

# Client Sample Results

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

Job ID: 400-254140-1

**Client Sample ID: MW6D-ROX-040924**

**Lab Sample ID: 400-254140-4**

Date Collected: 04/09/24 12:40

Matrix: Water

Date Received: 04/10/24 09:38

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/19/24 18:56	1
Acrolein	ND		20	3.3	ug/L			04/19/24 18:56	1
Acrylonitrile	ND		10	2.8	ug/L			04/19/24 18:56	1
Benzene	ND		1.0	0.50	ug/L			04/19/24 18:56	1
Bromobenzene	ND		1.0	0.54	ug/L			04/19/24 18:56	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/19/24 18:56	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/19/24 18:56	1
Bromoform	ND		5.0	0.25	ug/L			04/19/24 18:56	1
Bromomethane	ND		1.0	0.98	ug/L			04/19/24 18:56	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/19/24 18:56	1
<b>Carbon disulfide</b>	<b>0.62</b>	<b>J</b>	1.0	0.50	ug/L			04/19/24 18:56	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/19/24 18:56	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/19/24 18:56	1
Chloroethane	ND		1.0	0.76	ug/L			04/19/24 18:56	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/19/24 18:56	1
Chloroform	ND		1.0	0.90	ug/L			04/19/24 18:56	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/19/24 18:56	1
Chloromethane	ND	<b>UJ</b>	1.0	0.90	ug/L			04/19/24 18:56	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/19/24 18:56	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/19/24 18:56	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/19/24 18:56	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/19/24 18:56	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/19/24 18:56	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/19/24 18:56	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/19/24 18:56	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/19/24 18:56	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/19/24 18:56	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/19/24 18:56	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/19/24 18:56	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/19/24 18:56	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/19/24 18:56	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/19/24 18:56	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/19/24 18:56	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/19/24 18:56	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/19/24 18:56	1
2-Hexanone	ND		25	1.4	ug/L			04/19/24 18:56	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/19/24 18:56	1
Methylene bromide	ND		5.0	0.22	ug/L			04/19/24 18:56	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/19/24 18:56	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/19/24 18:56	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/19/24 18:56	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/19/24 18:56	1
Naphthalene	ND		5.0	3.0	ug/L			04/19/24 18:56	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/19/24 18:56	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/19/24 18:56	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/19/24 18:56	1
o-Xylene	ND		5.0	0.60	ug/L			04/19/24 18:56	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/19/24 18:56	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/19/24 18:56	1

# Client Sample Results

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

Job ID: 400-254140-1

**Client Sample ID: MW6D-ROX-040924**

**Lab Sample ID: 400-254140-4**

Date Collected: 04/09/24 12:40

Matrix: Water

Date Received: 04/10/24 09:38

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/19/24 18:56	1
Styrene	ND		1.0	1.0	ug/L			04/19/24 18:56	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/19/24 18:56	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/19/24 18:56	1
1,1,2,2-Tetrachloroethane	ND	UJ	1.0	0.50	ug/L			04/19/24 18:56	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/19/24 18:56	1
Toluene	ND		1.0	0.90	ug/L			04/19/24 18:56	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/19/24 18:56	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/19/24 18:56	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/19/24 18:56	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/19/24 18:56	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/19/24 18:56	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/19/24 18:56	1
Trichloroethene	ND		1.0	0.15	ug/L			04/19/24 18:56	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/19/24 18:56	1
1,2,3-Trichloropropane	ND	UJ	5.0	0.84	ug/L			04/19/24 18:56	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/19/24 18:56	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/19/24 18:56	1
Vinyl acetate	ND		25	0.93	ug/L			04/19/24 18:56	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/19/24 18:56	1
Xylenes, Total	ND		10	1.6	ug/L			04/19/24 18:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		72 - 130		04/19/24 18:56	1
Dibromofluoromethane	107		75 - 126		04/19/24 18:56	1
Toluene-d8 (Surr)	88		64 - 132		04/19/24 18:56	1

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.61		0.20	0.098	ug/L		04/16/24 13:45	04/18/24 13:36	1
Acenaphthylene	0.41	B	0.20	0.043	ug/L		04/16/24 13:45	04/18/24 13:36	1
Anthracene	0.76		0.20	0.046	ug/L		04/16/24 13:45	04/18/24 13:36	1
Benzo[a]anthracene	0.10	J	0.20	0.033	ug/L		04/16/24 13:45	04/18/24 13:36	1
Benzo[a]pyrene	ND		0.20	0.063	ug/L		04/16/24 13:45	04/18/24 13:36	1
Benzo[b]fluoranthene	0.065	J	0.20	0.036	ug/L		04/16/24 13:45	04/18/24 13:36	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		04/16/24 13:45	04/18/24 13:36	1
Benzo[k]fluoranthene	ND		0.20	0.061	ug/L		04/16/24 13:45	04/18/24 13:36	1
Chrysene	0.054	J	0.20	0.033	ug/L		04/16/24 13:45	04/18/24 13:36	1
Dibenz(a,h)anthracene	ND		0.20	0.047	ug/L		04/16/24 13:45	04/18/24 13:36	1
Fluoranthene	0.54		0.20	0.033	ug/L		04/16/24 13:45	04/18/24 13:36	1
Fluorene	0.99		0.20	0.088	ug/L		04/16/24 13:45	04/18/24 13:36	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.033	ug/L		04/16/24 13:45	04/18/24 13:36	1
Phenanthrene	0.97		0.20	0.089	ug/L		04/16/24 13:45	04/18/24 13:36	1
Pyrene	0.49		0.20	0.038	ug/L		04/16/24 13:45	04/18/24 13:36	1
1-Methylnaphthalene	0.79	B U	0.20	0.079	ug/L		04/16/24 13:45	04/18/24 13:36	1
2-Methylnaphthalene	1.1	B U	0.20	0.065	ug/L		04/16/24 13:45	04/18/24 13:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	82		18 - 147	04/16/24 13:45	04/18/24 13:36	1
2-Fluorobiphenyl	59		15 - 128	04/16/24 13:45	04/18/24 13:36	1

Eurofins Pensacola



# Client Sample Results

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

Job ID: 400-254140-1

**Client Sample ID: MW6D-ROX-040924**

**Lab Sample ID: 400-254140-4**

Date Collected: 04/09/24 12:40

Matrix: Water

Date Received: 04/10/24 09:38

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	68		10 - 144	04/16/24 13:45	04/18/24 13:36	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.9	8.6	ug/L		04/16/24 13:45	04/17/24 20:59	1
Benzenethiol	ND		9.9	9.8	ug/L		04/16/24 13:45	04/17/24 20:59	1
Benzoic acid	ND		30	24	ug/L		04/16/24 13:45	04/17/24 20:59	1
Benzyl alcohol	ND		9.9	7.2	ug/L		04/16/24 13:45	04/17/24 20:59	1
Bis(2-chloroethoxy)methane	ND		9.9	4.5	ug/L		04/16/24 13:45	04/17/24 20:59	1
Bis(2-chloroethyl)ether	ND		9.9	3.8	ug/L		04/16/24 13:45	04/17/24 20:59	1
bis (2-chloroisopropyl) ether	ND		9.9	1.8	ug/L		04/16/24 13:45	04/17/24 20:59	1
Bis(2-ethylhexyl) phthalate	ND		9.9	8.8	ug/L		04/16/24 13:45	04/17/24 20:59	1
4-Bromophenyl phenyl ether	ND		9.9	8.5	ug/L		04/16/24 13:45	04/17/24 20:59	1
Butyl benzyl phthalate	ND		9.9	5.7	ug/L		04/16/24 13:45	04/17/24 20:59	1
4-Chloroaniline	ND		9.9	4.6	ug/L		04/16/24 13:45	04/17/24 20:59	1
4-Chloro-3-methylphenol	ND		9.9	5.2	ug/L		04/16/24 13:45	04/17/24 20:59	1
2-Chloronaphthalene	ND		9.9	3.7	ug/L		04/16/24 13:45	04/17/24 20:59	1
2-Chlorophenol	ND		9.9	4.0	ug/L		04/16/24 13:45	04/17/24 20:59	1
4-Chlorophenyl phenyl ether	ND		9.9	3.6	ug/L		04/16/24 13:45	04/17/24 20:59	1
Dibenz[a,h]acridine	ND		9.9	2.8	ug/L		04/16/24 13:45	04/17/24 20:59	1
Dibenzofuran	ND		9.9	3.9	ug/L		04/16/24 13:45	04/17/24 20:59	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/16/24 13:45	04/17/24 20:59	1
2,4-Dichlorophenol	ND		9.9	4.2	ug/L		04/16/24 13:45	04/17/24 20:59	1
Diethyl phthalate	ND		9.9	4.3	ug/L		04/16/24 13:45	04/17/24 20:59	1
2,4-Dimethylphenol	ND		9.9	5.1	ug/L		04/16/24 13:45	04/17/24 20:59	1
Dimethyl phthalate	ND		9.9	4.1	ug/L		04/16/24 13:45	04/17/24 20:59	1
Di-n-butyl phthalate	ND		9.9	4.5	ug/L		04/16/24 13:45	04/17/24 20:59	1
4,6-Dinitro-ortho-cresol	ND		9.9	9.9	ug/L		04/16/24 13:45	04/17/24 20:59	1
2,4-Dinitrophenol	ND		30	4.5	ug/L		04/16/24 13:45	04/17/24 20:59	1
2,4-Dinitrotoluene	ND		9.9	5.0	ug/L		04/16/24 13:45	04/17/24 20:59	1
2,6-Dinitrotoluene	ND		9.9	3.8	ug/L		04/16/24 13:45	04/17/24 20:59	1
Di-n-octyl phthalate	ND		9.9	5.9	ug/L		04/16/24 13:45	04/17/24 20:59	1
1,4-Dioxane	ND		9.9	4.2	ug/L		04/16/24 13:45	04/17/24 20:59	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	3.3	ug/L		04/16/24 13:45	04/17/24 20:59	1
Hexachlorobenzene	ND		9.9	9.6	ug/L		04/16/24 13:45	04/17/24 20:59	1
Hexachlorocyclopentadiene	ND		20	4.4	ug/L		04/16/24 13:45	04/17/24 20:59	1
Hexachloroethane	ND		9.9	5.1	ug/L		04/16/24 13:45	04/17/24 20:59	1
Indene	ND		9.9	3.5	ug/L		04/16/24 13:45	04/17/24 20:59	1
Isophorone	ND		9.9	5.1	ug/L		04/16/24 13:45	04/17/24 20:59	1
2-Methylphenol	ND		9.9	3.2	ug/L		04/16/24 13:45	04/17/24 20:59	1
3 & 4 Methylphenol	ND		20	4.5	ug/L		04/16/24 13:45	04/17/24 20:59	1
2-Nitroaniline	ND		9.9	4.9	ug/L		04/16/24 13:45	04/17/24 20:59	1
3-Nitroaniline	ND		9.9	4.6	ug/L		04/16/24 13:45	04/17/24 20:59	1
4-Nitroaniline	ND		9.9	4.0	ug/L		04/16/24 13:45	04/17/24 20:59	1
Nitrobenzene	ND		9.9	4.6	ug/L		04/16/24 13:45	04/17/24 20:59	1
2-Nitrophenol	ND		9.9	4.5	ug/L		04/16/24 13:45	04/17/24 20:59	1
4-Nitrophenol	ND		9.9	3.3	ug/L		04/16/24 13:45	04/17/24 20:59	1
N-Nitrosodimethylamine	ND		9.9	2.2	ug/L		04/16/24 13:45	04/17/24 20:59	1

# Client Sample Results

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

Job ID: 400-254140-1

**Client Sample ID: MW6D-ROX-040924**

**Lab Sample ID: 400-254140-4**

Date Collected: 04/09/24 12:40

Matrix: Water

Date Received: 04/10/24 09:38

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.9	2.5	ug/L		04/16/24 13:45	04/17/24 20:59	1
N-Nitrosodiphenylamine	ND		9.9	3.6	ug/L		04/16/24 13:45	04/17/24 20:59	1
Pentachlorophenol	ND		20	12	ug/L		04/16/24 13:45	04/17/24 20:59	1
Phenol	ND		9.9	4.1	ug/L		04/16/24 13:45	04/17/24 20:59	1
Pyridine	ND	*- UJ	9.9	9.9	ug/L		04/16/24 13:45	04/17/24 20:59	1
Quinoline	ND	*- UJ	9.9	2.4	ug/L		04/16/24 13:45	04/17/24 20:59	1
2,4,5-Trichlorophenol	ND		9.9	3.9	ug/L		04/16/24 13:45	04/17/24 20:59	1
2,4,6-Trichlorophenol	ND		9.9	3.4	ug/L		04/16/24 13:45	04/17/24 20:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	72		21 - 114	04/16/24 13:45	04/17/24 20:59	1
2-Fluorophenol	61		10 - 105	04/16/24 13:45	04/17/24 20:59	1
Nitrobenzene-d5	76		16 - 127	04/16/24 13:45	04/17/24 20:59	1
Phenol-d5	47		10 - 129	04/16/24 13:45	04/17/24 20:59	1
Terphenyl-d14	89		13 - 150	04/16/24 13:45	04/17/24 20:59	1
2,4,6-Tribromophenol	86		10 - 150	04/16/24 13:45	04/17/24 20:59	1

**Method: EPA 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	UJ	0.029	0.017	ug/L		04/15/24 10:01	04/15/24 19:59	1
1,2-Dibromoethane	ND	UJ	0.020	0.015	ug/L		04/15/24 10:01	04/15/24 19:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	110		51 - 149	04/15/24 10:01	04/15/24 19:59	1

# Client Sample Results

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

Job ID: 400-254140-1

**Client Sample ID: MW6C-ROX-040524**

**Lab Sample ID: 400-254140-5**

Date Collected: 04/09/24 13:40

Matrix: Water

Date Received: 04/10/24 09:38

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/19/24 19:23	1
Acrolein	ND		20	3.3	ug/L			04/19/24 19:23	1
Acrylonitrile	ND		10	2.8	ug/L			04/19/24 19:23	1
Benzene	ND		1.0	0.50	ug/L			04/19/24 19:23	1
Bromobenzene	ND		1.0	0.54	ug/L			04/19/24 19:23	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/19/24 19:23	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/19/24 19:23	1
Bromoform	ND		5.0	0.25	ug/L			04/19/24 19:23	1
Bromomethane	ND		1.0	0.98	ug/L			04/19/24 19:23	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/19/24 19:23	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/19/24 19:23	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/19/24 19:23	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/19/24 19:23	1
Chloroethane	ND		1.0	0.76	ug/L			04/19/24 19:23	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/19/24 19:23	1
Chloroform	ND		1.0	0.90	ug/L			04/19/24 19:23	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/19/24 19:23	1
Chloromethane	ND	UJ	1.0	0.90	ug/L			04/19/24 19:23	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/19/24 19:23	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/19/24 19:23	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/19/24 19:23	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/19/24 19:23	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/19/24 19:23	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/19/24 19:23	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/19/24 19:23	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/19/24 19:23	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/19/24 19:23	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/19/24 19:23	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/19/24 19:23	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/19/24 19:23	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/19/24 19:23	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/19/24 19:23	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/19/24 19:23	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/19/24 19:23	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/19/24 19:23	1
2-Hexanone	ND		25	1.4	ug/L			04/19/24 19:23	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/19/24 19:23	1
Methylene bromide	ND		5.0	0.22	ug/L			04/19/24 19:23	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/19/24 19:23	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/19/24 19:23	1
<b>Methyl tert-butyl ether</b>	<b>0.23</b>	<b>J</b>	1.0	0.22	ug/L			04/19/24 19:23	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/19/24 19:23	1
Naphthalene	ND		5.0	3.0	ug/L			04/19/24 19:23	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/19/24 19:23	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/19/24 19:23	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/19/24 19:23	1
o-Xylene	ND		5.0	0.60	ug/L			04/19/24 19:23	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/19/24 19:23	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/19/24 19:23	1

# Client Sample Results

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

Job ID: 400-254140-1

**Client Sample ID: MW6C-ROX-040524**

**Lab Sample ID: 400-254140-5**

Date Collected: 04/09/24 13:40

Matrix: Water

Date Received: 04/10/24 09:38

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/19/24 19:23	1
Styrene	ND		1.0	1.0	ug/L			04/19/24 19:23	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/19/24 19:23	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/19/24 19:23	1
1,1,2,2-Tetrachloroethane	ND	UJ	1.0	0.50	ug/L			04/19/24 19:23	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/19/24 19:23	1
Toluene	ND		1.0	0.90	ug/L			04/19/24 19:23	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/19/24 19:23	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/19/24 19:23	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/19/24 19:23	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/19/24 19:23	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/19/24 19:23	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/19/24 19:23	1
Trichloroethene	ND		1.0	0.15	ug/L			04/19/24 19:23	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/19/24 19:23	1
1,2,3-Trichloropropane	ND	UJ	5.0	0.84	ug/L			04/19/24 19:23	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/19/24 19:23	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/19/24 19:23	1
Vinyl acetate	ND		25	0.93	ug/L			04/19/24 19:23	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/19/24 19:23	1
Xylenes, Total	ND		10	1.6	ug/L			04/19/24 19:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		72 - 130		04/19/24 19:23	1
Dibromofluoromethane	108		75 - 126		04/19/24 19:23	1
Toluene-d8 (Surr)	87		64 - 132		04/19/24 19:23	1

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.095	ug/L		04/16/24 13:45	04/18/24 13:57	1
Acenaphthylene	ND		0.19	0.042	ug/L		04/16/24 13:45	04/18/24 13:57	1
Anthracene	ND		0.19	0.045	ug/L		04/16/24 13:45	04/18/24 13:57	1
Benzo[a]anthracene	ND		0.19	0.033	ug/L		04/16/24 13:45	04/18/24 13:57	1
Benzo[a]pyrene	ND		0.19	0.061	ug/L		04/16/24 13:45	04/18/24 13:57	1
Benzo[b]fluoranthene	ND		0.19	0.036	ug/L		04/16/24 13:45	04/18/24 13:57	1
Benzo[g,h,i]perylene	ND		0.19	0.026	ug/L		04/16/24 13:45	04/18/24 13:57	1
Benzo[k]fluoranthene	ND		0.19	0.060	ug/L		04/16/24 13:45	04/18/24 13:57	1
Chrysene	ND		0.19	0.032	ug/L		04/16/24 13:45	04/18/24 13:57	1
Dibenz(a,h)anthracene	ND		0.19	0.046	ug/L		04/16/24 13:45	04/18/24 13:57	1
Fluoranthene	ND		0.19	0.033	ug/L		04/16/24 13:45	04/18/24 13:57	1
Fluorene	ND		0.19	0.086	ug/L		04/16/24 13:45	04/18/24 13:57	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.033	ug/L		04/16/24 13:45	04/18/24 13:57	1
Phenanthrene	ND		0.19	0.086	ug/L		04/16/24 13:45	04/18/24 13:57	1
Pyrene	ND		0.19	0.037	ug/L		04/16/24 13:45	04/18/24 13:57	1
1-Methylnaphthalene	ND		0.19	0.077	ug/L		04/16/24 13:45	04/18/24 13:57	1
2-Methylnaphthalene	ND		0.19	0.063	ug/L		04/16/24 13:45	04/18/24 13:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	66		18 - 147	04/16/24 13:45	04/18/24 13:57	1
2-Fluorobiphenyl	53		15 - 128	04/16/24 13:45	04/18/24 13:57	1

Eurofins Pensacola

# Client Sample Results

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

Job ID: 400-254140-1

**Client Sample ID: MW6C-ROX-040524**

**Lab Sample ID: 400-254140-5**

Date Collected: 04/09/24 13:40

Matrix: Water

Date Received: 04/10/24 09:38

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	61		10 - 144	04/16/24 13:45	04/18/24 13:57	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.6	8.4	ug/L		04/16/24 13:45	04/17/24 21:21	1
Benzenethiol	ND		9.6	9.5	ug/L		04/16/24 13:45	04/17/24 21:21	1
Benzoic acid	ND		29	23	ug/L		04/16/24 13:45	04/17/24 21:21	1
Benzyl alcohol	ND		9.6	7.0	ug/L		04/16/24 13:45	04/17/24 21:21	1
Bis(2-chloroethoxy)methane	ND		9.6	4.4	ug/L		04/16/24 13:45	04/17/24 21:21	1
Bis(2-chloroethyl)ether	ND		9.6	3.7	ug/L		04/16/24 13:45	04/17/24 21:21	1
bis (2-chloroisopropyl) ether	ND		9.6	1.7	ug/L		04/16/24 13:45	04/17/24 21:21	1
Bis(2-ethylhexyl) phthalate	ND		9.6	8.6	ug/L		04/16/24 13:45	04/17/24 21:21	1
4-Bromophenyl phenyl ether	ND		9.6	8.3	ug/L		04/16/24 13:45	04/17/24 21:21	1
Butyl benzyl phthalate	ND		9.6	5.6	ug/L		04/16/24 13:45	04/17/24 21:21	1
4-Chloroaniline	ND		9.6	4.5	ug/L		04/16/24 13:45	04/17/24 21:21	1
4-Chloro-3-methylphenol	ND		9.6	5.1	ug/L		04/16/24 13:45	04/17/24 21:21	1
2-Chloronaphthalene	ND		9.6	3.7	ug/L		04/16/24 13:45	04/17/24 21:21	1
2-Chlorophenol	ND		9.6	3.9	ug/L		04/16/24 13:45	04/17/24 21:21	1
4-Chlorophenyl phenyl ether	ND		9.6	3.6	ug/L		04/16/24 13:45	04/17/24 21:21	1
Dibenz[a,h]acridine	ND		9.6	2.7	ug/L		04/16/24 13:45	04/17/24 21:21	1
Dibenzofuran	ND		9.6	3.8	ug/L		04/16/24 13:45	04/17/24 21:21	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/16/24 13:45	04/17/24 21:21	1
2,4-Dichlorophenol	ND		9.6	4.1	ug/L		04/16/24 13:45	04/17/24 21:21	1
Diethyl phthalate	ND		9.6	4.2	ug/L		04/16/24 13:45	04/17/24 21:21	1
2,4-Dimethylphenol	ND		9.6	5.0	ug/L		04/16/24 13:45	04/17/24 21:21	1
Dimethyl phthalate	ND		9.6	4.0	ug/L		04/16/24 13:45	04/17/24 21:21	1
Di-n-butyl phthalate	ND		9.6	4.4	ug/L		04/16/24 13:45	04/17/24 21:21	1
4,6-Dinitro-ortho-cresol	ND		9.6	9.6	ug/L		04/16/24 13:45	04/17/24 21:21	1
2,4-Dinitrophenol	ND		29	4.4	ug/L		04/16/24 13:45	04/17/24 21:21	1
2,4-Dinitrotoluene	ND		9.6	4.9	ug/L		04/16/24 13:45	04/17/24 21:21	1
2,6-Dinitrotoluene	ND		9.6	3.7	ug/L		04/16/24 13:45	04/17/24 21:21	1
Di-n-octyl phthalate	ND		9.6	5.8	ug/L		04/16/24 13:45	04/17/24 21:21	1
1,4-Dioxane	ND		9.6	4.1	ug/L		04/16/24 13:45	04/17/24 21:21	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.6	3.2	ug/L		04/16/24 13:45	04/17/24 21:21	1
Hexachlorobenzene	ND		9.6	9.3	ug/L		04/16/24 13:45	04/17/24 21:21	1
Hexachlorocyclopentadiene	ND		19	4.3	ug/L		04/16/24 13:45	04/17/24 21:21	1
Hexachloroethane	ND		9.6	5.0	ug/L		04/16/24 13:45	04/17/24 21:21	1
Indene	ND		9.6	3.5	ug/L		04/16/24 13:45	04/17/24 21:21	1
Isophorone	ND		9.6	5.0	ug/L		04/16/24 13:45	04/17/24 21:21	1
2-Methylphenol	ND		9.6	3.1	ug/L		04/16/24 13:45	04/17/24 21:21	1
3 & 4 Methylphenol	ND		19	4.4	ug/L		04/16/24 13:45	04/17/24 21:21	1
2-Nitroaniline	ND		9.6	4.8	ug/L		04/16/24 13:45	04/17/24 21:21	1
3-Nitroaniline	ND		9.6	4.5	ug/L		04/16/24 13:45	04/17/24 21:21	1
4-Nitroaniline	ND		9.6	3.9	ug/L		04/16/24 13:45	04/17/24 21:21	1
Nitrobenzene	ND		9.6	4.5	ug/L		04/16/24 13:45	04/17/24 21:21	1
2-Nitrophenol	ND		9.6	4.4	ug/L		04/16/24 13:45	04/17/24 21:21	1
4-Nitrophenol	ND		9.6	3.2	ug/L		04/16/24 13:45	04/17/24 21:21	1
N-Nitrosodimethylamine	ND		9.6	2.1	ug/L		04/16/24 13:45	04/17/24 21:21	1



# Client Sample Results

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

Job ID: 400-254140-1

**Client Sample ID: MW6C-ROX-040524**

**Lab Sample ID: 400-254140-5**

Date Collected: 04/09/24 13:40

Matrix: Water

Date Received: 04/10/24 09:38

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.6	2.4	ug/L		04/16/24 13:45	04/17/24 21:21	1
N-Nitrosodiphenylamine	ND		9.6	3.6	ug/L		04/16/24 13:45	04/17/24 21:21	1
Pentachlorophenol	ND		19	11	ug/L		04/16/24 13:45	04/17/24 21:21	1
Phenol	ND		9.6	4.0	ug/L		04/16/24 13:45	04/17/24 21:21	1
Pyridine	ND	*- UJ	9.6	9.6	ug/L		04/16/24 13:45	04/17/24 21:21	1
Quinoline	ND	*- UJ	9.6	2.3	ug/L		04/16/24 13:45	04/17/24 21:21	1
2,4,5-Trichlorophenol	ND		9.6	3.8	ug/L		04/16/24 13:45	04/17/24 21:21	1
2,4,6-Trichlorophenol	ND		9.6	3.4	ug/L		04/16/24 13:45	04/17/24 21:21	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorobiphenyl	68		21 - 114				04/16/24 13:45	04/17/24 21:21	1
2-Fluorophenol	56		10 - 105				04/16/24 13:45	04/17/24 21:21	1
Nitrobenzene-d5	70		16 - 127				04/16/24 13:45	04/17/24 21:21	1
Phenol-d5	43		10 - 129				04/16/24 13:45	04/17/24 21:21	1
Terphenyl-d14	88		13 - 150				04/16/24 13:45	04/17/24 21:21	1
2,4,6-Tribromophenol	82		10 - 150				04/16/24 13:45	04/17/24 21:21	1

**Method: EPA 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	UJ	0.029	0.017	ug/L		04/15/24 10:01	04/15/24 20:20	1
1,2-Dibromoethane	ND	UJ	0.019	0.015	ug/L		04/15/24 10:01	04/15/24 20:20	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene	109		51 - 149				04/15/24 10:01	04/15/24 20:20	1

# Definitions/Glossary

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

Job ID: 400-254140-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control 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
*-	LCS and/or LCSD is outside acceptance limits, low biased.
B	Compound was found in the blank and sample.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

# Surrogate Summary

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

Job ID: 400-254140-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (72-130)	DBFM (75-126)	TOL (64-132)
400-254140-1	TB-ROX-040924-8260	103	106	87
400-254140-3	MW16-ROX-040924	101	106	88
400-254140-3 MS	MW16-ROX-040924-MS	100	101	91
400-254140-3 MSD	MW16-ROX-040924-MSD	101	101	92
400-254140-4	MW6D-ROX-040924	99	107	88
400-254140-5	MW6C-ROX-040524	101	108	87
LCS 400-668589/1002	Lab Control Sample	103	103	90
MB 400-668589/5	Method Blank	103	106	88

**Surrogate Legend**  
 BFB = 4-Bromofluorobenzene  
 DBFM = Dibromofluoromethane  
 TOL = Toluene-d8 (Surr)

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (21-114)	2FP (10-105)	NBZ (16-127)	PHL (10-129)	TPHL (13-150)	TBP (10-150)
400-254140-3	MW16-ROX-040924	43	49	45	40	62	48
400-254140-3 MS	MW16-ROX-040924-MS	67	64	67	55	91	92
400-254140-3 MSD	MW16-ROX-040924-MSD	64	57	62	50	87	84
400-254140-4	MW6D-ROX-040924	72	61	76	47	89	86
400-254140-5	MW6C-ROX-040524	68	56	70	43	88	82
LCS 400-668180/2-A	Lab Control Sample	66	56	66	48	91	89
LCSD 400-668180/4-A	Lab Control Sample Dup	69	57	70	45	91	78
MB 400-668180/1-A	Method Blank	61	36	54	25	80	56

**Surrogate Legend**  
 FBP = 2-Fluorobiphenyl  
 2FP = 2-Fluorophenol  
 NBZ = Nitrobenzene-d5  
 PHL = Phenol-d5  
 TPHL = Terphenyl-d14  
 TBP = 2,4,6-Tribromophenol

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TPHL (18-147)	FBP (15-128)	NBZ (10-144)
400-254140-3	MW16-ROX-040924	59	35	38
400-254140-3 MS	MW16-ROX-040924-MS	79	62	50
400-254140-3 MSD	MW16-ROX-040924-MSD	78	62	47
400-254140-4	MW6D-ROX-040924	82	59	68
400-254140-5	MW6C-ROX-040524	66	53	61
LCS 400-668180/2-A	Lab Control Sample	84	64	50
MB 400-668180/1-A	Method Blank	76	52	57

**Surrogate Legend**

# Surrogate Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA QUARTERLY GW  
TPHL = Terphenyl-d14  
FBP = 2-Fluorobiphenyl  
NBZ = Nitrobenzene-d5

Job ID: 400-254140-1

## 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	BFB1 (51-149)
400-254140-2	TB-ROX-040924-8011	430 S1+
400-254140-3	MW16-ROX-040924	110
400-254140-3 MS	MW16-ROX-040924-MS	86
400-254140-3 MSD	MW16-ROX-040924-MSD	51
400-254140-4	MW6D-ROX-040924	110
400-254140-5	MW6C-ROX-040524	109
LCS 400-667962/2-A	Lab Control Sample	100
LCSD 400-667962/3-A	Lab Control Sample Dup	107
MB 400-667962/1-A	Method Blank	97

#### Surrogate Legend

BFB = 4-Bromofluorobenzene

# Method Summary

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

Job ID: 400-254140-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET PEN
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET PEN
8270E SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	EET PEN
8011	EDB and DBCP in Water by Microextraction	EPA	EET PEN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET PEN
5030C	Purge and Trap	SW846	EET PEN
8011	Microextraction	SW846	EET 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:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001



# Lab Chronicle

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

Job ID: 400-254140-1

**Client Sample ID: TB-ROX-040924-8260**

**Lab Sample ID: 400-254140-1**

Date Collected: 04/09/24 00:00

Matrix: Water

Date Received: 04/10/24 09:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	668589	04/19/24 15:45	WPD	EET PEN

**Client Sample ID: TB-ROX-040924-8011**

**Lab Sample ID: 400-254140-2**

Date Collected: 04/09/24 00:00

Matrix: Water

Date Received: 04/10/24 09:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			34.5 mL	35 mL	667962	04/15/24 10:01	PG	EET PEN
Total/NA	Analysis	8011		1			667985	04/15/24 18:33	PG	EET PEN

**Client Sample ID: MW16-ROX-040924**

**Lab Sample ID: 400-254140-3**

Date Collected: 04/09/24 10:30

Matrix: Water

Date Received: 04/10/24 09:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	668589	04/19/24 16:12	WPD	EET PEN
Total/NA	Prep	3510C			248 mL	1 mL	668180	04/16/24 13:45	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668292	04/17/24 20:36	S1B	EET PEN
Total/NA	Prep	3510C			248 mL	1 mL	668180	04/16/24 13:45	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	668419	04/18/24 13:15	KJA	EET PEN
Total/NA	Prep	8011			36.7 mL	35 mL	667962	04/15/24 10:01	PG	EET PEN
Total/NA	Analysis	8011		1			667985	04/15/24 18:55	PG	EET PEN

**Client Sample ID: MW6D-ROX-040924**

**Lab Sample ID: 400-254140-4**

Date Collected: 04/09/24 12:40

Matrix: Water

Date Received: 04/10/24 09:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	668589	04/19/24 18:56	WPD	EET PEN
Total/NA	Prep	3510C			253.8 mL	1 mL	668180	04/16/24 13:45	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668292	04/17/24 20:59	S1B	EET PEN
Total/NA	Prep	3510C			253.8 mL	1 mL	668180	04/16/24 13:45	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	668419	04/18/24 13:36	KJA	EET PEN
Total/NA	Prep	8011			35.8 mL	35 mL	667962	04/15/24 10:01	PG	EET PEN
Total/NA	Analysis	8011		1			667985	04/15/24 19:59	PG	EET PEN

**Client Sample ID: MW6C-ROX-040524**

**Lab Sample ID: 400-254140-5**

Date Collected: 04/09/24 13:40

Matrix: Water

Date Received: 04/10/24 09:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	668589	04/19/24 19:23	WPD	EET PEN
Total/NA	Prep	3510C			260.2 mL	1 mL	668180	04/16/24 13:45	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668292	04/17/24 21:21	S1B	EET PEN

# Lab Chronicle

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

Job ID: 400-254140-1

**Client Sample ID: MW6C-ROX-040524**

**Lab Sample ID: 400-254140-5**

Date Collected: 04/09/24 13:40

Matrix: Water

Date Received: 04/10/24 09:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			260.2 mL	1 mL	668180	04/16/24 13:45	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	668419	04/18/24 13:57	KJA	EET PEN
Total/NA	Prep	8011			36 mL	35 mL	667962	04/15/24 10:01	PG	EET PEN
Total/NA	Analysis	8011		1			667985	04/15/24 20:20	PG	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-667962/1-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	667962	04/15/24 10:01	PG	EET PEN
Total/NA	Analysis	8011		1			667985	04/15/24 13:34	PG	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-668180/1-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	3510C			250 mL	1 mL	668180	04/16/24 13:45	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668425	04/18/24 11:19	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	668180	04/16/24 13:45	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	668419	04/18/24 11:52	KJA	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-668589/5**

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	8260D		1	5 mL	5 mL	668589	04/19/24 15:18	WPD	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-667962/2-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	667962	04/15/24 10:01	PG	EET PEN
Total/NA	Analysis	8011		1			667985	04/15/24 13:55	PG	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-668180/2-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	3510C			250 mL	1 mL	668180	04/16/24 13:45	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668292	04/17/24 19:30	S1B	EET PEN

# Lab Chronicle

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

Job ID: 400-254140-1

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-668180/2-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	3510C			250 mL	1 mL	668180	04/16/24 13:45	BAW	EET PEN
Total/NA	Analysis	8270E SIM		100	0.4 mL	0.4 mL	668419	04/18/24 12:13	KJA	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-668589/1002

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	8260D		1	5 mL	5 mL	668589	04/19/24 13:41	WPD	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-667962/3-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	667962	04/15/24 10:01	PG	EET PEN
Total/NA	Analysis	8011		1			667985	04/15/24 14:16	PG	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-668180/4-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	3510C			250 mL	1 mL	668180	04/16/24 13:45	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668292	04/17/24 19:07	S1B	EET PEN

## Client Sample ID: MW16-ROX-040924-MS

Lab Sample ID: 400-254140-3 MS

Date Collected: 04/09/24 10:30

Matrix: Water

Date Received: 04/10/24 09:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	668589	04/19/24 17:34	WPD	EET PEN
Total/NA	Prep	3510C			257.8 mL	1 mL	668180	04/16/24 13:45	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668292	04/17/24 19:52	S1B	EET PEN
Total/NA	Prep	3510C			257.8 mL	1 mL	668180	04/16/24 13:45	BAW	EET PEN
Total/NA	Analysis	8270E SIM		100	0.4 mL	0.4 mL	668419	04/18/24 12:34	KJA	EET PEN
Total/NA	Prep	8011			35.8 mL	35 mL	667962	04/15/24 10:01	PG	EET PEN
Total/NA	Analysis	8011		1			667985	04/15/24 19:16	PG	EET PEN

## Client Sample ID: MW16-ROX-040924-MSD

Lab Sample ID: 400-254140-3 MSD

Date Collected: 04/09/24 10:30

Matrix: Water

Date Received: 04/10/24 09:38

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	668589	04/19/24 18:01	WPD	EET PEN

Eurofins Pensacola

# Lab Chronicle

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

Job ID: 400-254140-1

**Client Sample ID: MW16-ROX-040924-MSD**

**Lab Sample ID: 400-254140-3 MSD**

**Date Collected: 04/09/24 10:30**

**Matrix: Water**

**Date Received: 04/10/24 09:38**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			258 mL	1 mL	668180	04/16/24 13:45	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668292	04/17/24 20:14	S1B	EET PEN
Total/NA	Prep	3510C			258 mL	1 mL	668180	04/16/24 13:45	BAW	EET PEN
Total/NA	Analysis	8270E SIM		100	0.4 mL	0.4 mL	668419	04/18/24 12:54	KJA	EET PEN
Total/NA	Prep	8011			35.7 mL	35 mL	667962	04/15/24 10:01	PG	EET PEN
Total/NA	Analysis	8011		1			667985	04/15/24 19:37	PG	EET PEN

**Laboratory References:**

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001



# QC Association Summary

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

Job ID: 400-254140-1

## GC/MS VOA

### Analysis Batch: 668589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254140-1	TB-ROX-040924-8260	Total/NA	Water	8260D	
400-254140-3	MW16-ROX-040924	Total/NA	Water	8260D	
400-254140-4	MW6D-ROX-040924	Total/NA	Water	8260D	
400-254140-5	MW6C-ROX-040524	Total/NA	Water	8260D	
MB 400-668589/5	Method Blank	Total/NA	Water	8260D	
LCS 400-668589/1002	Lab Control Sample	Total/NA	Water	8260D	
400-254140-3 MS	MW16-ROX-040924-MS	Total/NA	Water	8260D	
400-254140-3 MSD	MW16-ROX-040924-MSD	Total/NA	Water	8260D	

## GC/MS Semi VOA

### Prep Batch: 668180

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254140-3	MW16-ROX-040924	Total/NA	Water	3510C	
400-254140-4	MW6D-ROX-040924	Total/NA	Water	3510C	
400-254140-5	MW6C-ROX-040524	Total/NA	Water	3510C	
MB 400-668180/1-A	Method Blank	Total/NA	Water	3510C	
LCS 400-668180/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 400-668180/4-A	Lab Control Sample Dup	Total/NA	Water	3510C	
400-254140-3 MS	MW16-ROX-040924-MS	Total/NA	Water	3510C	
400-254140-3 MSD	MW16-ROX-040924-MSD	Total/NA	Water	3510C	

### Analysis Batch: 668292

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254140-3	MW16-ROX-040924	Total/NA	Water	8270E	668180
400-254140-4	MW6D-ROX-040924	Total/NA	Water	8270E	668180
400-254140-5	MW6C-ROX-040524	Total/NA	Water	8270E	668180
LCS 400-668180/2-A	Lab Control Sample	Total/NA	Water	8270E	668180
LCSD 400-668180/4-A	Lab Control Sample Dup	Total/NA	Water	8270E	668180
400-254140-3 MS	MW16-ROX-040924-MS	Total/NA	Water	8270E	668180
400-254140-3 MSD	MW16-ROX-040924-MSD	Total/NA	Water	8270E	668180

### Analysis Batch: 668419

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254140-3	MW16-ROX-040924	Total/NA	Water	8270E SIM	668180
400-254140-4	MW6D-ROX-040924	Total/NA	Water	8270E SIM	668180
400-254140-5	MW6C-ROX-040524	Total/NA	Water	8270E SIM	668180
MB 400-668180/1-A	Method Blank	Total/NA	Water	8270E SIM	668180
LCS 400-668180/2-A	Lab Control Sample	Total/NA	Water	8270E SIM	668180
400-254140-3 MS	MW16-ROX-040924-MS	Total/NA	Water	8270E SIM	668180
400-254140-3 MSD	MW16-ROX-040924-MSD	Total/NA	Water	8270E SIM	668180

### Analysis Batch: 668425

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-668180/1-A	Method Blank	Total/NA	Water	8270E	668180

## GC Semi VOA

### Prep Batch: 667962

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254140-2	TB-ROX-040924-8011	Total/NA	Water	8011	
400-254140-3	MW16-ROX-040924	Total/NA	Water	8011	

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# QC Association Summary

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

Job ID: 400-254140-1

## GC Semi VOA (Continued)

### Prep Batch: 667962 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254140-4	MW6D-ROX-040924	Total/NA	Water	8011	
400-254140-5	MW6C-ROX-040524	Total/NA	Water	8011	
MB 400-667962/1-A	Method Blank	Total/NA	Water	8011	
LCS 400-667962/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 400-667962/3-A	Lab Control Sample Dup	Total/NA	Water	8011	
400-254140-3 MS	MW16-ROX-040924-MS	Total/NA	Water	8011	
400-254140-3 MSD	MW16-ROX-040924-MSD	Total/NA	Water	8011	

### Analysis Batch: 667985

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254140-2	TB-ROX-040924-8011	Total/NA	Water	8011	667962
400-254140-3	MW16-ROX-040924	Total/NA	Water	8011	667962
400-254140-4	MW6D-ROX-040924	Total/NA	Water	8011	667962
400-254140-5	MW6C-ROX-040524	Total/NA	Water	8011	667962
MB 400-667962/1-A	Method Blank	Total/NA	Water	8011	667962
LCS 400-667962/2-A	Lab Control Sample	Total/NA	Water	8011	667962
LCSD 400-667962/3-A	Lab Control Sample Dup	Total/NA	Water	8011	667962
400-254140-3 MS	MW16-ROX-040924-MS	Total/NA	Water	8011	667962
400-254140-3 MSD	MW16-ROX-040924-MSD	Total/NA	Water	8011	667962

# QC Sample Results

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

Job ID: 400-254140-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 400-668589/5**  
**Matrix: Water**  
**Analysis Batch: 668589**

**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			04/19/24 15:18	1
Acrolein	ND		20	3.3	ug/L			04/19/24 15:18	1
Acrylonitrile	ND		10	2.8	ug/L			04/19/24 15:18	1
Benzene	ND		1.0	0.50	ug/L			04/19/24 15:18	1
Bromobenzene	ND		1.0	0.54	ug/L			04/19/24 15:18	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/19/24 15:18	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/19/24 15:18	1
Bromoform	ND		5.0	0.25	ug/L			04/19/24 15:18	1
Bromomethane	ND		1.0	0.98	ug/L			04/19/24 15:18	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/19/24 15:18	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/19/24 15:18	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/19/24 15:18	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/19/24 15:18	1
Chloroethane	ND		1.0	0.76	ug/L			04/19/24 15:18	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/19/24 15:18	1
Chloroform	ND		1.0	0.90	ug/L			04/19/24 15:18	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/19/24 15:18	1
Chloromethane	ND		1.0	0.90	ug/L			04/19/24 15:18	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/19/24 15:18	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/19/24 15:18	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/19/24 15:18	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/19/24 15:18	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/19/24 15:18	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/19/24 15:18	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/19/24 15:18	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/19/24 15:18	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/19/24 15:18	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/19/24 15:18	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/19/24 15:18	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/19/24 15:18	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/19/24 15:18	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/19/24 15:18	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/19/24 15:18	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/19/24 15:18	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/19/24 15:18	1
2-Hexanone	ND		25	1.4	ug/L			04/19/24 15:18	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/19/24 15:18	1
Methylene bromide	ND		5.0	0.22	ug/L			04/19/24 15:18	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/19/24 15:18	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/19/24 15:18	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/19/24 15:18	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/19/24 15:18	1
Naphthalene	ND		5.0	3.0	ug/L			04/19/24 15:18	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/19/24 15:18	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/19/24 15:18	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/19/24 15:18	1
o-Xylene	ND		5.0	0.60	ug/L			04/19/24 15:18	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/19/24 15:18	1

# QC Sample Results

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

Job ID: 400-254140-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-668589/5**  
**Matrix: Water**  
**Analysis Batch: 668589**

**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			04/19/24 15:18	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/19/24 15:18	1
Styrene	ND		1.0	1.0	ug/L			04/19/24 15:18	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/19/24 15:18	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/19/24 15:18	1
1,1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/19/24 15:18	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/19/24 15:18	1
Toluene	ND		1.0	0.90	ug/L			04/19/24 15:18	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/19/24 15:18	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/19/24 15:18	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/19/24 15:18	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/19/24 15:18	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/19/24 15:18	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/19/24 15:18	1
Trichloroethene	ND		1.0	0.15	ug/L			04/19/24 15:18	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/19/24 15:18	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/19/24 15:18	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/19/24 15:18	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/19/24 15:18	1
Vinyl acetate	ND		25	0.93	ug/L			04/19/24 15:18	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/19/24 15:18	1
Xylenes, Total	ND		10	1.6	ug/L			04/19/24 15:18	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	103		72 - 130		04/19/24 15:18	1
Dibromofluoromethane	106		75 - 126		04/19/24 15:18	1
Toluene-d8 (Surr)	88		64 - 132		04/19/24 15:18	1

**Lab Sample ID: LCS 400-668589/1002**  
**Matrix: Water**  
**Analysis Batch: 668589**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	200	130		ug/L		65	43 - 160
Acrolein	500	420		ug/L		84	38 - 160
Acrylonitrile	500	502		ug/L		100	64 - 142
Benzene	50.0	52.4		ug/L		105	70 - 130
Bromobenzene	50.0	44.7		ug/L		89	70 - 132
Bromochloromethane	50.0	51.9		ug/L		104	70 - 130
Bromodichloromethane	50.0	50.8		ug/L		102	67 - 133
Bromoform	50.0	40.5		ug/L		81	57 - 140
Bromomethane	50.0	36.9		ug/L		74	10 - 160
2-Butanone (MEK)	200	187		ug/L		93	61 - 145
Carbon disulfide	50.0	40.5		ug/L		81	61 - 137
Carbon tetrachloride	50.0	52.3		ug/L		105	61 - 137
Chlorobenzene	50.0	45.3		ug/L		91	70 - 130
Chloroethane	50.0	40.5		ug/L		81	55 - 141
2-Chloroethyl vinyl ether	50.0	61.9		ug/L		124	10 - 160

# QC Sample Results

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

Job ID: 400-254140-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-668589/1002**  
**Matrix: Water**  
**Analysis Batch: 668589**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroform	50.0	50.6		ug/L		101	69 - 130
1-Chlorohexane	50.0	47.4		ug/L		95	69 - 130
Chloromethane	50.0	39.0		ug/L		78	58 - 137
cis-1,2-Dichloroethene	50.0	53.9		ug/L		108	68 - 130
cis-1,3-Dichloropropene	50.0	52.5		ug/L		105	69 - 132
Dibromochloromethane	50.0	42.1		ug/L		84	67 - 135
1,2-Dichlorobenzene	50.0	42.2		ug/L		84	67 - 130
1,3-Dichlorobenzene	50.0	45.4		ug/L		91	70 - 130
1,4-Dichlorobenzene	50.0	44.0		ug/L		88	70 - 130
Dichlorodifluoromethane	50.0	42.9		ug/L		86	41 - 146
1,1-Dichloroethane	50.0	53.5		ug/L		107	70 - 130
1,2-Dichloroethane	50.0	48.1		ug/L		96	69 - 130
1,1-Dichloroethene	50.0	42.0		ug/L		84	63 - 134
1,2-Dichloropropane	50.0	55.0		ug/L		110	70 - 130
1,3-Dichloropropane	50.0	41.9		ug/L		84	70 - 130
2,2-Dichloropropane	50.0	49.1		ug/L		98	52 - 135
1,1-Dichloropropene	50.0	52.0		ug/L		104	70 - 130
Ethylbenzene	50.0	45.3		ug/L		91	70 - 130
Ethyl methacrylate	50.0	40.5		ug/L		81	68 - 130
Hexachlorobutadiene	50.0	59.3		ug/L		119	53 - 140
2-Hexanone	200	149		ug/L		74	65 - 137
Isopropylbenzene	50.0	46.8		ug/L		94	70 - 130
Methylene bromide	50.0	46.4		ug/L		93	70 - 130
Methylene Chloride	50.0	53.1		ug/L		106	66 - 135
4-Methyl-2-pentanone (MIBK)	200	177		ug/L		89	69 - 138
Methyl tert-butyl ether	50.0	47.7		ug/L		95	66 - 130
m-Xylene & p-Xylene	50.0	46.4		ug/L		93	70 - 130
Naphthalene	50.0	41.0		ug/L		82	47 - 149
n-Butylbenzene	50.0	45.0		ug/L		90	67 - 130
N-Propylbenzene	50.0	44.6		ug/L		89	70 - 130
o-Chlorotoluene	50.0	44.4		ug/L		89	70 - 130
o-Xylene	50.0	44.8		ug/L		90	70 - 130
p-Chlorotoluene	50.0	44.6		ug/L		89	70 - 130
p-Isopropyltoluene	50.0	46.5		ug/L		93	65 - 130
sec-Butylbenzene	50.0	46.0		ug/L		92	66 - 130
Styrene	50.0	44.9		ug/L		90	70 - 130
tert-Butylbenzene	50.0	44.6		ug/L		89	64 - 139
1,1,1,2-Tetrachloroethane	50.0	43.6		ug/L		87	67 - 131
1,1,1,2,2-Tetrachloroethane	50.0	37.1		ug/L		74	70 - 131
Tetrachloroethene	50.0	52.2		ug/L		104	65 - 130
Toluene	50.0	43.7		ug/L		87	70 - 130
trans-1,2-Dichloroethene	50.0	51.9		ug/L		104	70 - 130
trans-1,3-Dichloropropene	50.0	40.5		ug/L		81	63 - 130
1,2,3-Trichlorobenzene	50.0	49.9		ug/L		100	60 - 138
1,2,4-Trichlorobenzene	50.0	50.4		ug/L		101	60 - 140
1,1,1-Trichloroethane	50.0	49.9		ug/L		100	68 - 130
1,1,2-Trichloroethane	50.0	40.6		ug/L		81	70 - 130
Trichloroethene	50.0	55.5		ug/L		111	70 - 130
Trichlorofluoromethane	50.0	41.3		ug/L		83	65 - 138

# QC Sample Results

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

Job ID: 400-254140-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-668589/1002**  
**Matrix: Water**  
**Analysis Batch: 668589**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	50.0	37.5		ug/L		75	70 - 130
1,2,4-Trimethylbenzene	50.0	44.5		ug/L		89	70 - 130
1,3,5-Trimethylbenzene	50.0	45.3		ug/L		91	69 - 130
Vinyl acetate	100	114		ug/L		114	26 - 160
Vinyl chloride	50.0	47.9		ug/L		96	59 - 136
Xylenes, Total	100	91.2		ug/L		91	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	103		72 - 130
Dibromofluoromethane	103		75 - 126
Toluene-d8 (Surr)	90		64 - 132

**Lab Sample ID: 400-254140-3 MS**  
**Matrix: Water**  
**Analysis Batch: 668589**

**Client Sample ID: MW16-ROX-040924-MS**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	ND		200	112		ug/L		56	43 - 150
Acrolein	ND		500	385		ug/L		77	38 - 150
Acrylonitrile	ND		500	517		ug/L		103	62 - 149
Benzene	ND		50.0	53.1		ug/L		106	56 - 142
Bromobenzene	ND		50.0	45.4		ug/L		91	59 - 136
Bromochloromethane	ND		50.0	52.8		ug/L		106	64 - 140
Bromodichloromethane	ND		50.0	51.1		ug/L		102	59 - 143
Bromoform	ND		50.0	41.4		ug/L		83	50 - 140
Bromomethane	ND		50.0	31.2		ug/L		62	10 - 150
2-Butanone (MEK)	ND		200	181		ug/L		91	55 - 150
Carbon disulfide	ND		50.0	41.2		ug/L		82	48 - 150
Carbon tetrachloride	ND		50.0	52.4		ug/L		105	55 - 145
Chlorobenzene	ND		50.0	46.0		ug/L		92	64 - 130
Chloroethane	ND		50.0	36.0		ug/L		72	50 - 150
2-Chloroethyl vinyl ether	ND	F2	50.0	6.28		ug/L		13	10 - 150
Chloroform	ND		50.0	51.1		ug/L		102	60 - 141
1-Chlorohexane	ND		50.0	48.0		ug/L		96	56 - 136
Chloromethane	ND		50.0	34.5		ug/L		69	49 - 148
cis-1,2-Dichloroethene	ND		50.0	54.6		ug/L		109	59 - 143
cis-1,3-Dichloropropene	ND		50.0	52.2		ug/L		104	57 - 140
Dibromochloromethane	ND		50.0	43.4		ug/L		87	56 - 143
1,2-Dichlorobenzene	ND		50.0	42.8		ug/L		86	52 - 137
1,3-Dichlorobenzene	ND		50.0	46.1		ug/L		92	54 - 135
1,4-Dichlorobenzene	ND		50.0	44.8		ug/L		90	53 - 135
Dichlorodifluoromethane	ND		50.0	39.6		ug/L		79	16 - 150
1,1-Dichloroethane	ND		50.0	54.1		ug/L		108	61 - 144
1,2-Dichloroethane	ND		50.0	48.9		ug/L		98	60 - 141
1,1-Dichloroethene	ND		50.0	40.6		ug/L		81	54 - 147
1,2-Dichloropropane	ND		50.0	55.7		ug/L		111	66 - 137
1,3-Dichloropropane	ND		50.0	43.2		ug/L		86	66 - 133
2,2-Dichloropropane	ND		50.0	49.2		ug/L		98	42 - 144



# QC Sample Results

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

Job ID: 400-254140-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: 400-254140-3 MS**

**Client Sample ID: MW16-ROX-040924-MS**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 668589**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
1,1-Dichloropropene	ND		50.0	52.3		ug/L		105	65 - 136
Ethylbenzene	ND		50.0	46.0		ug/L		92	58 - 131
Ethyl methacrylate	ND		50.0	42.3		ug/L		85	64 - 130
Hexachlorobutadiene	ND	F1	50.0	61.4		ug/L		123	31 - 149
2-Hexanone	ND		200	148		ug/L		74	65 - 140
Isopropylbenzene	ND		50.0	47.2		ug/L		94	56 - 133
Methylene bromide	ND		50.0	47.5		ug/L		95	63 - 138
Methylene Chloride	ND		50.0	54.2		ug/L		108	60 - 146
4-Methyl-2-pentanone (MIBK)	ND		200	181		ug/L		91	63 - 146
Methyl tert-butyl ether	ND		50.0	48.0		ug/L		96	59 - 137
m-Xylene & p-Xylene	ND		50.0	47.0		ug/L		94	57 - 130
Naphthalene	ND		50.0	42.2		ug/L		84	25 - 150
n-Butylbenzene	ND		50.0	44.7		ug/L		89	41 - 142
N-Propylbenzene	ND		50.0	45.1		ug/L		90	51 - 138
o-Chlorotoluene	ND		50.0	43.6		ug/L		87	53 - 134
o-Xylene	ND		50.0	45.4		ug/L		91	61 - 130
p-Chlorotoluene	ND		50.0	44.7		ug/L		89	54 - 133
p-Isopropyltoluene	ND		50.0	47.0		ug/L		94	48 - 139
sec-Butylbenzene	ND		50.0	46.4		ug/L		93	50 - 138
Styrene	ND		50.0	45.8		ug/L		92	58 - 131
tert-Butylbenzene	ND		50.0	45.0		ug/L		90	54 - 146
1,1,1,2-Tetrachloroethane	ND		50.0	44.8		ug/L		90	59 - 137
1,1,2,2-Tetrachloroethane	ND		50.0	38.7		ug/L		77	66 - 135
Tetrachloroethene	ND		50.0	48.9		ug/L		98	52 - 133
Toluene	ND		50.0	45.1		ug/L		90	65 - 130
trans-1,2-Dichloroethene	ND		50.0	53.0		ug/L		106	61 - 143
trans-1,3-Dichloropropene	ND		50.0	42.0		ug/L		84	53 - 133
1,2,3-Trichlorobenzene	ND		50.0	50.9		ug/L		102	43 - 145
1,2,4-Trichlorobenzene	ND		50.0	50.7		ug/L		101	39 - 148
1,1,1-Trichloroethane	ND		50.0	50.1		ug/L		100	57 - 142
1,1,2-Trichloroethane	ND		50.0	42.2		ug/L		84	66 - 131
Trichloroethene	ND	F1	50.0	54.9		ug/L		110	64 - 136
Trichlorofluoromethane	ND		50.0	37.2		ug/L		74	54 - 150
1,2,3-Trichloropropane	ND		50.0	39.3		ug/L		79	65 - 133
1,2,4-Trimethylbenzene	ND		50.0	45.4		ug/L		91	50 - 139
1,3,5-Trimethylbenzene	ND		50.0	45.8		ug/L		92	52 - 135
Vinyl acetate	ND		100	104		ug/L		104	26 - 150
Vinyl chloride	ND		50.0	42.7		ug/L		85	46 - 150
Xylenes, Total	ND		100	92.4		ug/L		92	59 - 130

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	100		72 - 130
Dibromofluoromethane	101		75 - 126
Toluene-d8 (Surr)	91		64 - 132

# QC Sample Results

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

Job ID: 400-254140-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-254140-3 MSD

Matrix: Water

Analysis Batch: 668589

Client Sample ID: MW16-ROX-040924-MSD

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	138		ug/L		69	43 - 150	21	30
Acrolein	ND		500	422		ug/L		84	38 - 150	9	31
Acrylonitrile	ND		500	640		ug/L		128	62 - 149	21	30
Benzene	ND		50.0	65.4		ug/L		131	56 - 142	21	30
Bromobenzene	ND		50.0	55.7		ug/L		111	59 - 136	20	30
Bromochloromethane	ND		50.0	64.6		ug/L		129	64 - 140	20	30
Bromodichloromethane	ND		50.0	63.3		ug/L		127	59 - 143	21	30
Bromoform	ND		50.0	51.9		ug/L		104	50 - 140	23	30
Bromomethane	ND		50.0	34.5		ug/L		69	10 - 150	10	50
2-Butanone (MEK)	ND		200	231		ug/L		116	55 - 150	24	30
Carbon disulfide	ND		50.0	50.2		ug/L		100	48 - 150	20	30
Carbon tetrachloride	ND		50.0	63.6		ug/L		127	55 - 145	19	30
Chlorobenzene	ND		50.0	57.3		ug/L		115	64 - 130	22	30
Chloroethane	ND		50.0	38.4		ug/L		77	50 - 150	6	30
2-Chloroethyl vinyl ether	ND	F2	50.0	14.0	F2	ug/L		28	10 - 150	76	50
Chloroform	ND		50.0	62.5		ug/L		125	60 - 141	20	30
1-Chlorohexane	ND		50.0	59.9		ug/L		120	56 - 136	22	30
Chloromethane	ND		50.0	38.5		ug/L		77	49 - 148	11	31
cis-1,2-Dichloroethene	ND		50.0	67.0		ug/L		134	59 - 143	20	30
cis-1,3-Dichloropropene	ND		50.0	65.6		ug/L		131	57 - 140	23	30
Dibromochloromethane	ND		50.0	53.3		ug/L		107	56 - 143	21	30
1,2-Dichlorobenzene	ND		50.0	53.5		ug/L		107	52 - 137	22	30
1,3-Dichlorobenzene	ND		50.0	57.0		ug/L		114	54 - 135	21	30
1,4-Dichlorobenzene	ND		50.0	56.3		ug/L		113	53 - 135	23	30
Dichlorodifluoromethane	ND		50.0	42.2		ug/L		84	16 - 150	6	31
1,1-Dichloroethane	ND		50.0	66.8		ug/L		134	61 - 144	21	30
1,2-Dichloroethane	ND		50.0	59.7		ug/L		119	60 - 141	20	30
1,1-Dichloroethene	ND		50.0	50.0		ug/L		100	54 - 147	21	30
1,2-Dichloropropane	ND		50.0	68.7		ug/L		137	66 - 137	21	30
1,3-Dichloropropane	ND		50.0	53.0		ug/L		106	66 - 133	20	30
2,2-Dichloropropane	ND		50.0	60.8		ug/L		122	42 - 144	21	31
1,1-Dichloropropene	ND		50.0	64.1		ug/L		128	65 - 136	20	30
Ethylbenzene	ND		50.0	57.5		ug/L		115	58 - 131	22	30
Ethyl methacrylate	ND		50.0	53.1		ug/L		106	64 - 130	23	30
Hexachlorobutadiene	ND	F1	50.0	78.8	F1	ug/L		158	31 - 149	25	36
2-Hexanone	ND		200	189		ug/L		95	65 - 140	24	30
Isopropylbenzene	ND		50.0	59.9		ug/L		120	56 - 133	24	30
Methylene bromide	ND		50.0	58.2		ug/L		116	63 - 138	20	30
Methylene Chloride	ND		50.0	65.8		ug/L		132	60 - 146	19	32
4-Methyl-2-pentanone (MIBK)	ND		200	233		ug/L		116	63 - 146	25	30
Methyl tert-butyl ether	ND		50.0	59.9		ug/L		120	59 - 137	22	30
m-Xylene & p-Xylene	ND		50.0	58.6		ug/L		117	57 - 130	22	30
Naphthalene	ND		50.0	52.1		ug/L		104	25 - 150	21	30
n-Butylbenzene	ND		50.0	56.3		ug/L		113	41 - 142	23	31
N-Propylbenzene	ND		50.0	56.8		ug/L		114	51 - 138	23	30
o-Chlorotoluene	ND		50.0	54.6		ug/L		109	53 - 134	22	30
o-Xylene	ND		50.0	56.9		ug/L		114	61 - 130	22	30
p-Chlorotoluene	ND		50.0	56.2		ug/L		112	54 - 133	23	30

# QC Sample Results

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

Job ID: 400-254140-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-254140-3 MSD

Client Sample ID: MW16-ROX-040924-MSD

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 668589

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
p-Isopropyltoluene	ND		50.0	59.0		ug/L		118	48 - 139	23	30
sec-Butylbenzene	ND		50.0	58.7		ug/L		117	50 - 138	24	30
Styrene	ND		50.0	56.7		ug/L		113	58 - 131	21	30
tert-Butylbenzene	ND		50.0	56.6		ug/L		113	54 - 146	23	30
1,1,1,2-Tetrachloroethane	ND		50.0	55.7		ug/L		111	59 - 137	22	30
1,1,2,2-Tetrachloroethane	ND		50.0	48.0		ug/L		96	66 - 135	21	30
Tetrachloroethene	ND		50.0	60.6		ug/L		121	52 - 133	21	30
Toluene	ND		50.0	55.4		ug/L		111	65 - 130	20	30
trans-1,2-Dichloroethene	ND		50.0	64.4		ug/L		129	61 - 143	19	30
trans-1,3-Dichloropropene	ND		50.0	51.5		ug/L		103	53 - 133	20	30
1,2,3-Trichlorobenzene	ND		50.0	63.3		ug/L		127	43 - 145	22	30
1,2,4-Trichlorobenzene	ND		50.0	64.3		ug/L		129	39 - 148	24	30
1,1,1-Trichloroethane	ND		50.0	61.7		ug/L		123	57 - 142	21	30
1,1,2-Trichloroethane	ND		50.0	52.1		ug/L		104	66 - 131	21	30
Trichloroethene	ND	F1	50.0	68.6	F1	ug/L		137	64 - 136	22	30
Trichlorofluoromethane	ND		50.0	40.5		ug/L		81	54 - 150	9	30
1,2,3-Trichloropropane	ND		50.0	49.1		ug/L		98	65 - 133	22	30
1,2,4-Trimethylbenzene	ND		50.0	57.0		ug/L		114	50 - 139	23	30
1,3,5-Trimethylbenzene	ND		50.0	57.2		ug/L		114	52 - 135	22	30
Vinyl acetate	ND		100	111		ug/L		111	26 - 150	6	33
Vinyl chloride	ND		50.0	46.2		ug/L		92	46 - 150	8	30
Xylenes, Total	ND		100	116		ug/L		116	59 - 130	22	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene	101		72 - 130
Dibromofluoromethane	101		75 - 126
Toluene-d8 (Surr)	92		64 - 132

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

Lab Sample ID: MB 400-668180/1-A

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 668425

Prep Batch: 668180

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	8.7	ug/L		04/16/24 13:45	04/18/24 11:19	1
Benzenethiol	ND		10	9.9	ug/L		04/16/24 13:45	04/18/24 11:19	1
Benzoic acid	ND		30	24	ug/L		04/16/24 13:45	04/18/24 11:19	1
Benzyl alcohol	ND		10	7.3	ug/L		04/16/24 13:45	04/18/24 11:19	1
Bis(2-chloroethoxy)methane	ND		10	4.6	ug/L		04/16/24 13:45	04/18/24 11:19	1
Bis(2-chloroethyl)ether	ND		10	3.9	ug/L		04/16/24 13:45	04/18/24 11:19	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		04/16/24 13:45	04/18/24 11:19	1
Bis(2-ethylhexyl) phthalate	ND		10	8.9	ug/L		04/16/24 13:45	04/18/24 11:19	1
4-Bromophenyl phenyl ether	ND		10	8.6	ug/L		04/16/24 13:45	04/18/24 11:19	1
Butyl benzyl phthalate	ND		10	5.8	ug/L		04/16/24 13:45	04/18/24 11:19	1
4-Chloroaniline	ND		10	4.7	ug/L		04/16/24 13:45	04/18/24 11:19	1
4-Chloro-3-methylphenol	ND		10	5.3	ug/L		04/16/24 13:45	04/18/24 11:19	1
2-Chloronaphthalene	ND		10	3.8	ug/L		04/16/24 13:45	04/18/24 11:19	1
2-Chlorophenol	ND		10	4.1	ug/L		04/16/24 13:45	04/18/24 11:19	1

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# QC Sample Results

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

Job ID: 400-254140-1

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

**Lab Sample ID: MB 400-668180/1-A**  
**Matrix: Water**  
**Analysis Batch: 668425**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 668180**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorophenyl phenyl ether	ND		10	3.7	ug/L		04/16/24 13:45	04/18/24 11:19	1
Dibenz[a,h]acridine	ND		10	2.8	ug/L		04/16/24 13:45	04/18/24 11:19	1
Dibenzofuran	ND		10	4.0	ug/L		04/16/24 13:45	04/18/24 11:19	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/16/24 13:45	04/18/24 11:19	1
2,4-Dichlorophenol	ND		10	4.3	ug/L		04/16/24 13:45	04/18/24 11:19	1
Diethyl phthalate	ND		10	4.4	ug/L		04/16/24 13:45	04/18/24 11:19	1
2,4-Dimethylphenol	ND		10	5.2	ug/L		04/16/24 13:45	04/18/24 11:19	1
Dimethyl phthalate	ND		10	4.2	ug/L		04/16/24 13:45	04/18/24 11:19	1
Di-n-butyl phthalate	ND		10	4.6	ug/L		04/16/24 13:45	04/18/24 11:19	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		04/16/24 13:45	04/18/24 11:19	1
2,4-Dinitrophenol	ND		30	4.6	ug/L		04/16/24 13:45	04/18/24 11:19	1
2,4-Dinitrotoluene	ND		10	5.1	ug/L		04/16/24 13:45	04/18/24 11:19	1
2,6-Dinitrotoluene	ND		10	3.9	ug/L		04/16/24 13:45	04/18/24 11:19	1
Di-n-octyl phthalate	ND		10	6.0	ug/L		04/16/24 13:45	04/18/24 11:19	1
1,4-Dioxane	ND		10	4.3	ug/L		04/16/24 13:45	04/18/24 11:19	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.3	ug/L		04/16/24 13:45	04/18/24 11:19	1
Hexachlorobenzene	ND		10	9.7	ug/L		04/16/24 13:45	04/18/24 11:19	1
Hexachlorocyclopentadiene	ND		20	4.5	ug/L		04/16/24 13:45	04/18/24 11:19	1
Hexachloroethane	ND		10	5.2	ug/L		04/16/24 13:45	04/18/24 11:19	1
Indene	ND		10	3.6	ug/L		04/16/24 13:45	04/18/24 11:19	1
Isophorone	ND		10	5.2	ug/L		04/16/24 13:45	04/18/24 11:19	1
2-Methylphenol	ND		10	3.2	ug/L		04/16/24 13:45	04/18/24 11:19	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		04/16/24 13:45	04/18/24 11:19	1
2-Nitroaniline	ND		10	5.0	ug/L		04/16/24 13:45	04/18/24 11:19	1
3-Nitroaniline	ND		10	4.7	ug/L		04/16/24 13:45	04/18/24 11:19	1
4-Nitroaniline	ND		10	4.1	ug/L		04/16/24 13:45	04/18/24 11:19	1
Nitrobenzene	ND		10	4.7	ug/L		04/16/24 13:45	04/18/24 11:19	1
2-Nitrophenol	ND		10	4.6	ug/L		04/16/24 13:45	04/18/24 11:19	1
4-Nitrophenol	ND		10	3.3	ug/L		04/16/24 13:45	04/18/24 11:19	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		04/16/24 13:45	04/18/24 11:19	1
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		04/16/24 13:45	04/18/24 11:19	1
N-Nitrosodiphenylamine	ND		10	3.7	ug/L		04/16/24 13:45	04/18/24 11:19	1
Pentachlorophenol	ND		20	12	ug/L		04/16/24 13:45	04/18/24 11:19	1
Phenol	ND		10	4.2	ug/L		04/16/24 13:45	04/18/24 11:19	1
Pyridine	ND		10	10	ug/L		04/16/24 13:45	04/18/24 11:19	1
Quinoline	ND		10	2.4	ug/L		04/16/24 13:45	04/18/24 11:19	1
2,4,5-Trichlorophenol	ND		10	4.0	ug/L		04/16/24 13:45	04/18/24 11:19	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/16/24 13:45	04/18/24 11:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	61		21 - 114	04/16/24 13:45	04/18/24 11:19	1
2-Fluorophenol	36		10 - 105	04/16/24 13:45	04/18/24 11:19	1
Nitrobenzene-d5	54		16 - 127	04/16/24 13:45	04/18/24 11:19	1
Phenol-d5	25		10 - 129	04/16/24 13:45	04/18/24 11:19	1
Terphenyl-d14	80		13 - 150	04/16/24 13:45	04/18/24 11:19	1
2,4,6-Tribromophenol	56		10 - 150	04/16/24 13:45	04/18/24 11:19	1

# QC Sample Results

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

Job ID: 400-254140-1

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

**Lab Sample ID: LCS 400-668180/2-A**  
**Matrix: Water**  
**Analysis Batch: 668292**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 668180**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aniline	120	32.1		ug/L		27	10 - 127
Benzoic acid	492	263		ug/L		53	19 - 126
Benzyl alcohol	120	69.2		ug/L		58	17 - 109
Bis(2-chloroethoxy)methane	120	75.3		ug/L		63	24 - 125
Bis(2-chloroethyl)ether	120	73.4		ug/L		61	10 - 121
bis (2-chloroisopropyl) ether	120	60.3		ug/L		50	14 - 123
Bis(2-ethylhexyl) phthalate	120	109		ug/L		91	16 - 150
4-Bromophenyl phenyl ether	120	107		ug/L		89	17 - 150
Butyl benzyl phthalate	120	101		ug/L		84	21 - 150
4-Chloroaniline	120	66.7		ug/L		56	10 - 124
4-Chloro-3-methylphenol	120	93.1		ug/L		78	37 - 131
2-Chloronaphthalene	120	76.9		ug/L		64	24 - 132
2-Chlorophenol	120	84.9		ug/L		71	27 - 124
4-Chlorophenyl phenyl ether	120	90.9		ug/L		76	27 - 147
Dibenz[a,h]acridine	120	134		ug/L		112	40 - 140
Dibenzofuran	120	84.8		ug/L		71	30 - 135
3,3'-Dichlorobenzidine	240	218		ug/L		91	10 - 150
2,4-Dichlorophenol	120	84.0		ug/L		70	33 - 132
Diethyl phthalate	120	97.9		ug/L		82	37 - 145
2,4-Dimethylphenol	120	114		ug/L		95	38 - 132
Dimethyl phthalate	120	102		ug/L		85	32 - 137
Di-n-butyl phthalate	120	102		ug/L		85	27 - 150
4,6-Dinitro-ortho-cresol	240	243		ug/L		101	14 - 150
2,4-Dinitrophenol	240	246		ug/L		102	15 - 150
2,4-Dinitrotoluene	120	108		ug/L		90	35 - 136
2,6-Dinitrotoluene	120	106		ug/L		89	29 - 140
Di-n-octyl phthalate	120	111		ug/L		93	26 - 150
1,4-Dioxane	120	41.6		ug/L		35	10 - 87
1,2-Diphenylhydrazine (as Azobenzene)	120	84.5		ug/L		70	23 - 138
Hexachlorobenzene	120	103		ug/L		86	10 - 150
Hexachlorocyclopentadiene	120	72.6		ug/L		61	10 - 124
Hexachloroethane	120	51.6		ug/L		43	10 - 127
Indene	120	70.8		ug/L		59	18 - 150
Isophorone	120	70.0		ug/L		58	28 - 127
2-Methylphenol	120	85.6		ug/L		71	34 - 124
3 & 4 Methylphenol	120	78.4		ug/L		65	32 - 122
2-Nitroaniline	120	84.3		ug/L		70	24 - 139
3-Nitroaniline	120	85.4		ug/L		71	10 - 128
4-Nitroaniline	120	102		ug/L		85	28 - 118
Nitrobenzene	120	69.4		ug/L		58	29 - 120
2-Nitrophenol	120	81.0		ug/L		68	25 - 148
4-Nitrophenol	240	185		ug/L		77	12 - 129
N-Nitrosodimethylamine	120	46.5		ug/L		39	10 - 115
N-Nitrosodi-n-propylamine	120	67.8		ug/L		57	24 - 142
N-Nitrosodiphenylamine	119	97.2		ug/L		82	29 - 138
Pentachlorophenol	240	231		ug/L		96	19 - 150
Phenol	120	51.4		ug/L		43	11 - 95
Pyridine	240	22.2	*-	ug/L		9	10 - 82

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# QC Sample Results

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

Job ID: 400-254140-1

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

**Lab Sample ID: LCS 400-668180/2-A**  
**Matrix: Water**  
**Analysis Batch: 668292**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 668180**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Quinoline	120	33.6	*	ug/L		28	40 - 140
2,4,5-Trichlorophenol	120	108		ug/L		90	30 - 144
2,4,6-Trichlorophenol	120	91.8		ug/L		77	27 - 147

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	66		21 - 114
2-Fluorophenol	56		10 - 105
Nitrobenzene-d5	66		16 - 127
Phenol-d5	48		10 - 129
Terphenyl-d14	91		13 - 150
2,4,6-Tribromophenol	89		10 - 150

**Lab Sample ID: LCSD 400-668180/4-A**  
**Matrix: Water**  
**Analysis Batch: 668292**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 668180**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzenethiol	120	84.2		ug/L		70	10 - 140	2	40

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	69		21 - 114
2-Fluorophenol	57		10 - 105
Nitrobenzene-d5	70		16 - 127
Phenol-d5	45		10 - 129
Terphenyl-d14	91		13 - 150
2,4,6-Tribromophenol	78		10 - 150

**Lab Sample ID: 400-254140-3 MS**  
**Matrix: Water**  
**Analysis Batch: 668292**

**Client Sample ID: MW16-ROX-040924-MS**  
**Prep Type: Total/NA**  
**Prep Batch: 668180**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Aniline	ND	F1	116	44.1	F1	ug/L		38	50 - 150
Benzoic acid	ND		477	323		ug/L		68	50 - 150
Benzyl alcohol	ND		116	71.5		ug/L		61	50 - 150
Bis(2-chloroethoxy)methane	ND		116	74.1		ug/L		64	50 - 150
Bis(2-chloroethyl)ether	ND		116	74.7		ug/L		64	50 - 150
bis (2-chloroisopropyl) ether	ND	F1	116	59.5		ug/L		51	50 - 150
Bis(2-ethylhexyl) phthalate	ND		116	107		ug/L		92	50 - 150
4-Bromophenyl phenyl ether	ND		116	106		ug/L		91	50 - 150
Butyl benzyl phthalate	ND		116	99.6		ug/L		86	50 - 150
4-Chloroaniline	ND		116	65.2		ug/L		56	50 - 150
4-Chloro-3-methylphenol	ND		116	91.0		ug/L		78	50 - 150
2-Chloronaphthalene	ND		116	74.4		ug/L		64	50 - 150
2-Chlorophenol	ND		116	88.9		ug/L		76	50 - 150
4-Chlorophenyl phenyl ether	ND		116	91.2		ug/L		78	50 - 150
Dibenz[a,h]acridine	ND		116	139		ug/L		119	50 - 150
Dibenzofuran	ND		116	84.4		ug/L		73	50 - 150

# QC Sample Results

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

Job ID: 400-254140-1

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

Lab Sample ID: 400-254140-3 MS

Matrix: Water

Analysis Batch: 668292

Client Sample ID: MW16-ROX-040924-MS

Prep Type: Total/NA

Prep Batch: 668180

Analyte	Sample		Spike Added	MS MS		Unit	D	%Rec	%Rec Limits
	Result	Qualifier		Result	Qualifier				
3,3'-Dichlorobenzidine	ND		233	212		ug/L		91	50 - 150
2,4-Dichlorophenol	ND		116	83.4		ug/L		72	50 - 150
Diethyl phthalate	ND		116	98.3		ug/L		84	50 - 150
2,4-Dimethylphenol	ND		116	112		ug/L		96	50 - 150
Dimethyl phthalate	ND		116	102		ug/L		87	50 - 150
Di-n-butyl phthalate	ND		116	101		ug/L		87	50 - 150
4,6-Dinitro-ortho-cresol	ND		233	248		ug/L		107	50 - 150
2,4-Dinitrophenol	ND		233	271		ug/L		116	50 - 150
2,4-Dinitrotoluene	ND		116	108		ug/L		93	50 - 150
2,6-Dinitrotoluene	ND		116	107		ug/L		92	50 - 150
Di-n-octyl phthalate	ND		116	114		ug/L		98	50 - 150
1,4-Dioxane	ND	F1	116	46.6	F1	ug/L		40	50 - 150
1,2-Diphenylhydrazine (as Azobenzene)	ND		116	83.9		ug/L		72	50 - 150
Hexachlorobenzene	ND		116	104		ug/L		89	50 - 150
Hexachlorocyclopentadiene	ND		116	78.3		ug/L		67	50 - 150
Hexachloroethane	ND	F1	116	48.8	F1	ug/L		42	50 - 150
Indene	ND		116	71.2		ug/L		61	50 - 150
Isophorone	ND		116	68.1		ug/L		59	50 - 150
2-Methylphenol	ND		116	88.4		ug/L		76	50 - 150
3 & 4 Methylphenol	ND		116	79.6		ug/L		68	50 - 150
2-Nitroaniline	ND		116	85.5		ug/L		73	50 - 150
3-Nitroaniline	ND		116	84.0		ug/L		72	50 - 150
4-Nitroaniline	ND		116	103		ug/L		88	50 - 150
Nitrobenzene	ND		116	69.9		ug/L		60	50 - 150
2-Nitrophenol	ND		116	80.8		ug/L		69	50 - 150
4-Nitrophenol	ND		233	204		ug/L		88	50 - 150
N-Nitrosodimethylamine	ND	F1	116	53.7	F1	ug/L		46	50 - 150
N-Nitrosodi-n-propylamine	ND		116	66.9		ug/L		57	50 - 150
N-Nitrosodiphenylamine	ND		115	91.6		ug/L		79	50 - 150
Pentachlorophenol	ND		233	236		ug/L		101	50 - 150
Phenol	ND	F1	116	57.8		ug/L		50	50 - 150
Pyridine	ND	*- F1 F2	233	25.9	F1	ug/L		11	50 - 150
Quinoline	ND	*- F1	116	41.6	F1	ug/L		36	50 - 150
2,4,5-Trichlorophenol	ND		116	107		ug/L		92	50 - 150
2,4,6-Trichlorophenol	ND		116	94.5		ug/L		81	50 - 150

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	67		21 - 114
2-Fluorophenol	64		10 - 105
Nitrobenzene-d5	67		16 - 127
Phenol-d5	55		10 - 129
Terphenyl-d14	91		13 - 150
2,4,6-Tribromophenol	92		10 - 150

# QC Sample Results

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

Job ID: 400-254140-1

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

Lab Sample ID: 400-254140-3 MSD

Matrix: Water

Analysis Batch: 668292

Client Sample ID: MW16-ROX-040924-MSD

Prep Type: Total/NA

Prep Batch: 668180

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits		
Aniline	ND	F1	116	47.4	F1	ug/L		41	50 - 150	7	40
Benzoic acid	ND		477	282		ug/L		59	50 - 150	14	40
Benzyl alcohol	ND		116	65.4		ug/L		56	50 - 150	9	40
Bis(2-chloroethoxy)methane	ND		116	69.6		ug/L		60	50 - 150	6	40
Bis(2-chloroethyl)ether	ND		116	64.9		ug/L		56	50 - 150	14	40
bis (2-chloroisopropyl) ether	ND	F1	116	55.4	F1	ug/L		48	50 - 150	7	40
Bis(2-ethylhexyl) phthalate	ND		116	102		ug/L		88	50 - 150	5	40
4-Bromophenyl phenyl ether	ND		116	100		ug/L		86	50 - 150	6	40
Butyl benzyl phthalate	ND		116	93.9		ug/L		81	50 - 150	6	40
4-Chloroaniline	ND		116	60.4		ug/L		52	50 - 150	8	40
4-Chloro-3-methylphenol	ND		116	85.0		ug/L		73	50 - 150	7	40
2-Chloronaphthalene	ND		116	70.7		ug/L		61	50 - 150	5	40
2-Chlorophenol	ND		116	77.6		ug/L		67	50 - 150	14	40
4-Chlorophenyl phenyl ether	ND		116	84.3		ug/L		73	50 - 150	8	40
Dibenz[a,h]acridine	ND		116	127		ug/L		110	50 - 150	8	40
Dibenzofuran	ND		116	79.5		ug/L		68	50 - 150	6	40
3,3'-Dichlorobenzidine	ND		233	200		ug/L		86	50 - 150	6	40
2,4-Dichlorophenol	ND		116	76.2		ug/L		66	50 - 150	9	40
Diethyl phthalate	ND		116	90.2		ug/L		78	50 - 150	9	40
2,4-Dimethylphenol	ND		116	104		ug/L		90	50 - 150	7	40
Dimethyl phthalate	ND		116	94.2		ug/L		81	50 - 150	8	40
Di-n-butyl phthalate	ND		116	94.5		ug/L		81	50 - 150	7	40
4,6-Dinitro-ortho-cresol	ND		233	229		ug/L		99	50 - 150	8	40
2,4-Dinitrophenol	ND		233	233		ug/L		100	50 - 150	15	40
2,4-Dinitrotoluene	ND		116	98.0		ug/L		84	50 - 150	10	40
2,6-Dinitrotoluene	ND		116	98.6		ug/L		85	50 - 150	8	40
Di-n-octyl phthalate	ND		116	107		ug/L		92	50 - 150	7	40
1,4-Dioxane	ND	F1	116	42.1	F1	ug/L		36	50 - 150	10	40
1,2-Diphenylhydrazine (as Azobenzene)	ND		116	79.8		ug/L		69	50 - 150	5	40
Hexachlorobenzene	ND		116	97.7		ug/L		84	50 - 150	6	40
Hexachlorocyclopentadiene	ND		116	67.0		ug/L		58	50 - 150	16	40
Hexachloroethane	ND	F1	116	51.4	F1	ug/L		44	50 - 150	5	40
Indene	ND		116	64.3		ug/L		55	50 - 150	10	40
Isophorone	ND		116	64.5		ug/L		55	50 - 150	6	40
2-Methylphenol	ND		116	80.5		ug/L		69	50 - 150	9	40
3 & 4 Methylphenol	ND		116	74.3		ug/L		64	50 - 150	7	40
2-Nitroaniline	ND		116	79.0		ug/L		68	50 - 150	8	40
3-Nitroaniline	ND		116	80.1		ug/L		69	50 - 150	5	40
4-Nitroaniline	ND		116	94.0		ug/L		81	50 - 150	9	40
Nitrobenzene	ND		116	63.8		ug/L		55	50 - 150	9	40
2-Nitrophenol	ND		116	74.3		ug/L		64	50 - 150	8	40
4-Nitrophenol	ND		233	180		ug/L		78	50 - 150	12	40
N-Nitrosodimethylamine	ND	F1	116	48.5	F1	ug/L		42	50 - 150	10	40
N-Nitrosodi-n-propylamine	ND		116	62.3		ug/L		54	50 - 150	7	40
N-Nitrosodiphenylamine	ND		115	86.1		ug/L		75	50 - 150	6	40
Pentachlorophenol	ND		233	216		ug/L		93	50 - 150	9	40
Phenol	ND	F1	116	52.3	F1	ug/L		45	50 - 150	10	40
Pyridine	ND	*- F1 F2	233	42.0	F1 F2	ug/L		18	50 - 150	48	40

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# QC Sample Results

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

Job ID: 400-254140-1

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

Lab Sample ID: 400-254140-3 MSD

Client Sample ID: MW16-ROX-040924-MSD

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 668292

Prep Batch: 668180

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Quinoline	ND	*- F1	116	39.8	F1	ug/L		34	50 - 150	4	40
2,4,5-Trichlorophenol	ND		116	98.2		ug/L		84	50 - 150	9	40
2,4,6-Trichlorophenol	ND		116	87.0		ug/L		75	50 - 150	8	40

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2-Fluorobiphenyl	64		21 - 114
2-Fluorophenol	57		10 - 105
Nitrobenzene-d5	62		16 - 127
Phenol-d5	50		10 - 129
Terphenyl-d14	87		13 - 150
2,4,6-Tribromophenol	84		10 - 150

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 400-668180/1-A

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 668419

Prep Batch: 668180

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.099	ug/L		04/16/24 13:45	04/18/24 11:52	1
Acenaphthylene	0.0599	J	0.20	0.044	ug/L		04/16/24 13:45	04/18/24 11:52	1
Anthracene	ND		0.20	0.047	ug/L		04/16/24 13:45	04/18/24 11:52	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		04/16/24 13:45	04/18/24 11:52	1
Benzo[a]pyrene	ND		0.20	0.064	ug/L		04/16/24 13:45	04/18/24 11:52	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		04/16/24 13:45	04/18/24 11:52	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		04/16/24 13:45	04/18/24 11:52	1
Benzo[k]fluoranthene	ND		0.20	0.062	ug/L		04/16/24 13:45	04/18/24 11:52	1
Chrysene	ND		0.20	0.033	ug/L		04/16/24 13:45	04/18/24 11:52	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		04/16/24 13:45	04/18/24 11:52	1
Fluoranthene	ND		0.20	0.034	ug/L		04/16/24 13:45	04/18/24 11:52	1
Fluorene	ND		0.20	0.089	ug/L		04/16/24 13:45	04/18/24 11:52	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		04/16/24 13:45	04/18/24 11:52	1
Phenanthrene	ND		0.20	0.090	ug/L		04/16/24 13:45	04/18/24 11:52	1
Pyrene	ND		0.20	0.039	ug/L		04/16/24 13:45	04/18/24 11:52	1
1-Methylnaphthalene	0.172	J	0.20	0.080	ug/L		04/16/24 13:45	04/18/24 11:52	1
2-Methylnaphthalene	0.256		0.20	0.066	ug/L		04/16/24 13:45	04/18/24 11:52	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	76		18 - 147	04/16/24 13:45	04/18/24 11:52	1
2-Fluorobiphenyl	52		15 - 128	04/16/24 13:45	04/18/24 11:52	1
Nitrobenzene-d5	57		10 - 144	04/16/24 13:45	04/18/24 11:52	1

Lab Sample ID: LCS 400-668180/2-A

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 668419

Prep Batch: 668180

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	120	90.7		ug/L		76	10 - 140

Eurofins Pensacola

# QC Sample Results

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

Job ID: 400-254140-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: LCS 400-668180/2-A**  
**Matrix: Water**  
**Analysis Batch: 668419**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 668180**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthylene	120	85.8		ug/L		72	10 - 140
Anthracene	120	93.5		ug/L		78	19 - 140
Benzo[a]anthracene	120	86.7		ug/L		72	25 - 140
Benzo[a]pyrene	120	101		ug/L		84	24 - 140
Benzo[b]fluoranthene	120	106		ug/L		88	34 - 140
Benzo[g,h,i]perylene	120	96.9		ug/L		81	13 - 140
Benzo[k]fluoranthene	120	128		ug/L		107	21 - 140
Chrysene	120	108		ug/L		90	28 - 140
Dibenz(a,h)anthracene	120	91.1		ug/L		76	10 - 140
Fluoranthene	120	95.6		ug/L		80	18 - 140
Fluorene	120	99.6		ug/L		83	16 - 140
Indeno[1,2,3-cd]pyrene	120	86.0		ug/L		72	10 - 140
Phenanthrene	120	94.7		ug/L		79	22 - 140
Pyrene	120	90.1		ug/L		75	38 - 140
1-Methylnaphthalene	120	67.5		ug/L		56	10 - 140
2-Methylnaphthalene	120	61.8		ug/L		52	10 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	84		18 - 147
2-Fluorobiphenyl	64		15 - 128
Nitrobenzene-d5	50		10 - 144

**Lab Sample ID: 400-254140-3 MS**  
**Matrix: Water**  
**Analysis Batch: 668419**

**Client Sample ID: MW16-ROX-040924-MS**  
**Prep Type: Total/NA**  
**Prep Batch: 668180**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	ND		116	85.8		ug/L		74	50 - 150
Acenaphthylene	ND		116	80.6		ug/L		69	50 - 150
Anthracene	ND		116	88.1		ug/L		76	50 - 150
Benzo[a]anthracene	ND		116	83.2		ug/L		71	50 - 150
Benzo[a]pyrene	ND		116	94.0		ug/L		81	50 - 150
Benzo[b]fluoranthene	ND		116	102		ug/L		87	50 - 150
Benzo[g,h,i]perylene	ND		116	98.6		ug/L		85	50 - 150
Benzo[k]fluoranthene	ND		116	117		ug/L		101	50 - 150
Chrysene	ND		116	103		ug/L		89	50 - 150
Dibenz(a,h)anthracene	ND		116	94.3		ug/L		81	50 - 150
Fluoranthene	ND		116	90.5		ug/L		78	50 - 150
Fluorene	ND		116	96.0		ug/L		82	50 - 150
Indeno[1,2,3-cd]pyrene	ND		116	79.2		ug/L		68	50 - 150
Phenanthrene	ND		116	90.6		ug/L		78	50 - 150
Pyrene	ND		116	84.0		ug/L		72	50 - 150
1-Methylnaphthalene	ND		116	62.9		ug/L		54	50 - 150
2-Methylnaphthalene	ND	F1	116	57.3	F1	ug/L		49	50 - 150

Surrogate	MS %Recovery	MS Qualifier	Limits
Terphenyl-d14	79		18 - 147
2-Fluorobiphenyl	62		15 - 128



# QC Sample Results

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

Job ID: 400-254140-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: 400-254140-3 MS**  
**Matrix: Water**  
**Analysis Batch: 668419**

**Client Sample ID: MW16-ROX-040924-MS**  
**Prep Type: Total/NA**  
**Prep Batch: 668180**

Surrogate	%Recovery	MS MS Qualifier	Limits
Nitrobenzene-d5	50		10 - 144

**Lab Sample ID: 400-254140-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 668419**

**Client Sample ID: MW16-ROX-040924-MSD**  
**Prep Type: Total/NA**  
**Prep Batch: 668180**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Acenaphthene	ND		116	82.6		ug/L		71	50 - 150	4	40	
Acenaphthylene	ND		116	78.0		ug/L		67	50 - 150	3	40	
Anthracene	ND		116	84.4		ug/L		73	50 - 150	4	40	
Benzo[a]anthracene	ND		116	78.0		ug/L		67	50 - 150	6	40	
Benzo[a]pyrene	ND		116	82.3		ug/L		71	50 - 150	13	40	
Benzo[b]fluoranthene	ND		116	96.9		ug/L		83	50 - 150	5	40	
Benzo[g,h,i]perylene	ND		116	91.7		ug/L		79	50 - 150	7	40	
Benzo[k]fluoranthene	ND		116	113		ug/L		98	50 - 150	3	40	
Chrysene	ND		116	103		ug/L		88	50 - 150	1	40	
Dibenz(a,h)anthracene	ND		116	85.1		ug/L		73	50 - 150	10	40	
Fluoranthene	ND		116	86.1		ug/L		74	50 - 150	5	40	
Fluorene	ND		116	89.4		ug/L		77	50 - 150	7	40	
Indeno[1,2,3-cd]pyrene	ND		116	77.0		ug/L		66	50 - 150	3	40	
Phenanthrene	ND		116	87.4		ug/L		75	50 - 150	4	40	
Pyrene	ND		116	83.7		ug/L		72	50 - 150	0	40	
1-Methylnaphthalene	ND		116	62.0		ug/L		53	50 - 150	1	40	
2-Methylnaphthalene	ND	F1	116	56.6	F1	ug/L		49	50 - 150	1	40	

Surrogate	%Recovery	MSD MSD Qualifier	Limits
Terphenyl-d14	78		18 - 147
2-Fluorobiphenyl	62		15 - 128
Nitrobenzene-d5	47		10 - 144

## Method: 8011 - EDB and DBCP in Water by Microextraction

**Lab Sample ID: MB 400-667962/1-A**  
**Matrix: Water**  
**Analysis Batch: 667985**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 667962**

Analyte	MB MB		RL	MDL	Unit	D	Prepared		Analyzed		Dil Fac
	Result	Qualifier									
1,2-Dibromo-3-Chloropropane	ND		0.030	0.017	ug/L		04/15/24 10:01	04/15/24 13:34			1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		04/15/24 10:01	04/15/24 13:34			1

Surrogate	%Recovery	MB MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	97		51 - 149	04/15/24 10:01	04/15/24 13:34	1

# QC Sample Results

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

Job ID: 400-254140-1

## Method: 8011 - EDB and DBCP in Water by Microextraction (Continued)

**Lab Sample ID: LCS 400-667962/2-A**  
**Matrix: Water**  
**Analysis Batch: 667985**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 667962**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
1,2-Dibromo-3-Chloropropane	0.101	0.0938		ug/L		93	60 - 140	
1,2-Dibromoethane	0.100	0.0889		ug/L		89	60 - 140	
<b>LCS LCS</b>								
Surrogate	%Recovery	Qualifier	Limits					
4-Bromofluorobenzene	100		51 - 149					

**Lab Sample ID: LCSD 400-667962/3-A**  
**Matrix: Water**  
**Analysis Batch: 667985**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 667962**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits		RPD Limit	
									RPD	Limit
1,2-Dibromo-3-Chloropropane	0.101	0.0984		ug/L		98	60 - 140	5	30	
1,2-Dibromoethane	0.100	0.0941		ug/L		94	60 - 140	6	30	
<b>LCSD LCSD</b>										
Surrogate	%Recovery	Qualifier	Limits							
4-Bromofluorobenzene	107		51 - 149							

**Lab Sample ID: 400-254140-3 MS**  
**Matrix: Water**  
**Analysis Batch: 667985**

**Client Sample ID: MW16-ROX-040924-MS**  
**Prep Type: Total/NA**  
**Prep Batch: 667962**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits	
1,2-Dibromo-3-Chloropropane	ND	F1	0.0984	0.0787		ug/L		80	10 - 150	
1,2-Dibromoethane	ND	F1	0.0980	0.0769		ug/L		78	39 - 150	
<b>MS MS</b>										
Surrogate	%Recovery	Qualifier	Limits							
4-Bromofluorobenzene	86		51 - 149							

**Lab Sample ID: 400-254140-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 667985**

**Client Sample ID: MW16-ROX-040924-MSD**  
**Prep Type: Total/NA**  
**Prep Batch: 667962**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits		RPD Limit	
											RPD	Limit
1,2-Dibromo-3-Chloropropane	ND	F1	0.0987	ND	F1	ug/L		0	10 - 150	NC	20	
1,2-Dibromoethane	ND	F1	0.0983	ND	F1	ug/L		0	39 - 150	NC	20	
<b>MSD MSD</b>												
Surrogate	%Recovery	Qualifier	Limits									
4-Bromofluorobenzene	51		51 - 149									



LAB (LOCATION)

400-2541 40 COC

- ACCUTEST ( )
- CALSCIENCE ( )
- TESTAMERICA (TestAmerica Peninsular, 3355 McLamore Dr. Pensacola, FL 32514 (850-474-1001))
- Other ( )



# Shell Oil Products US Chain Of Custody Record

# AECOM

**Please Check Appropriate Box:**

SGW FDG     PIPELINE     RETAIL

CHEMICALS     CONSULTANT     LUBES

TRANSPORTATION     OTHER\_ENV. SERVICES

LOG CODE: \_\_\_\_\_

**Print Bill To Contact Name:** \_\_\_\_\_ **PlanNet Site or Project ID:** 25278

**PO #:** \_\_\_\_\_ **GSAP Project ID:** \_\_\_\_\_

60721927 - 3.2.2    USPC/00114/R/02

CHECK IF NO INCIDENT # APPLIES

DATE: 4/9/2024

PAGE: 1 of 1

**SAMPLING COMPANY:** \_\_\_\_\_

**ADDRESS:** 100 N. Broadway, 20th Floor, ST. LOUIS, MO 63102, USA

**PROJECT CONTACT (Hardcopy or PDF Report to):** \_\_\_\_\_

**TELEPHONE:** 314-429-0100    **FAX:** 314-429-0462

**TURNAROUND TIME (CALENDAR DAYS):**  5 DAYS     2 DAYS     24 HOURS     WEEKEND

STANDARD (14 DAY)     LA - RWQCB REPORT FORMAT

**STATE:** IL

**SITE ADDRESS: Street and City:** 900 South Central Ave, ROXANA

**PHONE NO.:** 314-802-1207

**EDF DELIVERABLE TO (Name, Company, Office Location):** Melissa Remiger - please see special instructions

**EMAIL:** melissa.remiger@aecom.com

**AECOM Project / Task Number:** Roxana Quarterly GW 60721927 - 3.2.2

**SAMPLER NAME(S) (Print):** T. Jones, T. Jenkins

**LAB USE ONLY:**

**DELIVERABLES:**  LEVEL 1     LEVEL 2     LEVEL 3     LEVEL 4

**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 LEED DISK

**Bill To Contact E-MAIL:** melissa.remiger@aecom.com

**REQUESTED ANALYSIS:** 60721927 - 3.2.2

**FIELD NOTES:**

**TEMPERATURE ON RECEIPT °C:** \_\_\_\_\_

**Container PID Readings or Laboratory Notes:**

LAB USE ONLY	Field Sample Identification		SAMPLING		PRESERVATIVE				NO. OF CONT.
	DATE	TIME	MATRIX	HCL	HNO3	H2SO4	NONE	OTHER	
	TB-ROX-040924-8260	0000	Water	2					2
	TB-ROX-040924-8011	0000	Water	2					2
	MW16-ROX-040924	1030	Water	6				2	8
	MW16-ROX-040924-MS	1030	Water	6				2	8
	MW16-ROX-040924-MSD	1030	Water	6				2	8
	MW6D-ROX-040924	1240	Water	6				2	8
	MW6C-ROX-040924	1340	Water	6				2	8

VOC 8260	X								
8011 EDB + DBCP									
SVOC 8270									
PAH 8270 SIMS									

**RECEIVED BY (Signature):** \_\_\_\_\_

**DATE:** 4/9/2024

**TIME:** 1600

**Relinquished by (Signature):** \_\_\_\_\_

**Relinquished by (Signature):** Tony Jones

**Relinquished by (Signature):** \_\_\_\_\_

**FEDEX:** 5564 3932 9737

**Relinquished by (Signature):** \_\_\_\_\_

**Relinquished by (Signature):** \_\_\_\_\_

**Relinquished by (Signature):** \_\_\_\_\_

**CUSTODY SEALS:** 2460025, 2460024

**DATE:** 4/9/2024

**TIME:** 1600

**DATE:** 4/10/24

**TIME:** 938

**DATE:** 3.22.24

**TIME:** 524M



# Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-254140-1

**Login Number: 254140**

**List Source: Eurofins Pensacola**

**List Number: 1**

**Creator: Perez, Trina M**

Question	Answer	Comment
Radioactivity wasn't checked or is </= 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	3.2°C IR-11
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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (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

Job ID: 400-254140-1

## Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-24
Kansas	NELAP	E-10253	10-31-24
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-24
North Carolina (WW/SW)	State	314	12-31-24
Oklahoma	NELAP	9810	08-31-24
Pennsylvania	NELAP	68-00467	01-31-25
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-24
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	P330-21-00056	05-17-24
USDA	US Federal Programs	FLGNV23001	01-08-26
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-25



# Roxana Groundwater Quarterly – 2<sup>nd</sup> Quarter 2024 Data Review

Laboratory SDG: 400-254301-1

Data Reviewer: Andreia Vladimirescu

Peer Reviewer: Cheyana Cokley

Date Reviewed: 05/16/2024

Guidance: USEPA National Functional Guidelines for Organic Superfund Methods Data Review 2020

Sample Identification	Sample Identification
TB-ROX-041124-8260	TB-ROX-041124-8011
MW6A-ROX-041124-EB	MW6A-ROX-041124
MW6B-ROX-041124	MW6B-ROX-041124-DUP
MW14-ROX-041124	-

## 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, several PAHs were detected in equipment blank MW6A-ROX-041124-EB. VOC by 8011 surrogate recoveries for 4-bromofluorobenzene in several investigative and quality control samples were outside criteria. 2-Chloroethyl vinyl ether MS/MSD recoveries were outside evaluation criteria in sample MW6A-ROX-041124. The continuing calibration verifications (CCV) for several analytes were outside evaluation criteria, biased low. These issues are addressed further in the appropriate sections of this data review.

Three of 70 (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?*

Yes

Blank ID	Parameter	Analyte	Concentration /Amount
MW6A-ROX-041124-EB	PAHs	Benzo[g,h,i]perylene	0.050 µg/L
MW6A-ROX-041124-EB	PAHs	Dibenz(a,h)anthracene	0.052 µg/L

Blank ID	Parameter	Analyte	Concentration /Amount
MW6A-ROX-041124-EB	PAHs	Indeno[1,2,3-cd]pyrene	0.045 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?*

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
TB-ROX-041124-8011	VOCs by 8011	4-Bromofluorobenzene	720	51-149
MW6A-ROX-041124-EB	VOCs by 8011	4-Bromofluorobenzene	312	51-149
MW6A-ROX-041124	VOCs by 8011	4-Bromofluorobenzene	2266	51-149

Analytical data reported as non-detect and associated with surrogate recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. Trip blanks and equipment blanks 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, although not requested, sample MW6A-ROX-041124 was spiked and analyzed for VOCs.

*Were MS/MSD recoveries within evaluation criteria?*

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
MW6A-ROX-041124 MS/MSD	VOCs	2-Chloroethyl vinyl ether	0/0	NC	10-150/50

Analytical data that required qualification based on MS/MSD data are included in the table below. Professional judgement was used to qualify; however, not reject the 2-chloroethyl vinyl ether due to acceptable LCS recoveries and to the acid reactive nature of 2-chloroethyl vinyl ether.

Sample ID	Parameter	Analyte	Qualification
MW6A-ROX-041124	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
MW6B-ROX-041124	MW6B-ROX-041124-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 verification (CCV) for pyridine and 1,2-dibromomethane were outside evaluation criteria, biased low. Analytes are qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
MW6A-ROX-041124	SVOCs	Pyridine	UJ
MW6B-ROX-041124	SVOCs	Pyridine	UJ
MW6B-ROX-041124-DUP	SVOCs	Pyridine	UJ
MW14-ROX-041124	SVOCs	Pyridine	UJ
MW6A-ROX-041124	VOCs by 8011	1,2-Dibromoethane	UJ
MW6B-ROX-041124	VOCs by 8011	1,2-Dibromoethane	UJ
MW6B-ROX-041124-DUP	VOCs by 8011	1,2-Dibromoethane	UJ
MW14-ROX-041124	VOCs by 8011	1,2-Dibromoethane	UJ



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Melissa Remiger  
AECOM Technical Services Inc.  
100 N. Broadway  
20th Floor  
St. Louis, Missouri 63102

Generated 4/24/2024 1:02:59 PM

## JOB DESCRIPTION

ROXANA QUARTERLY GW

## JOB NUMBER

400-254301-1

Reviewed 05/16/2024  
VA

# Eurofins Pensacola

## Job Notes

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## Authorization



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# Case Narrative

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

Job ID: 400-254301-1

**Job ID: 400-254301-1**

**Eurofins Pensacola**

## Job Narrative 400-254301-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 4/12/2024 9:26 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.0°C and 2.6°C.

### GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-668958 recovered above the upper control limit for 1,1-Dichloroethane, 1,2-Dichloropropane, Hexachlorobutadiene, Trichloroethene and Vinyl acetate. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-668958 recovered outside acceptance criteria, low biased, for 1,1,2,2-Tetrachloroethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The preservative used in the sample containers provided is not compatible with one of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-ROX-041124-8260 (400-254301-1), MW6A-ROX-041124-EB (400-254301-3), MW6A-ROX-041124 (400-254301-4), MW6B-ROX-041124 (400-254301-5), MW6B-ROX-041124-DUP (400-254301-6) and MW14-ROX-041124 (400-254301-7). The requested target analyte list includes 2-Chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrades in an acidic medium.

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-668958 were outside control limits for 2-Chloroethyl vinyl ether due to the acidic nature of the parent sample.

Method 8260D: The RPD for the MS/MSD for 2-chloroethyl vinyl ether was not calculable for analytical batch 400-668958 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 8270E: The initial calibration verification (ICV) analyzed in batch 400-663332 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 8270E: The continuing calibration verification (CCV) associated with batch 400-668475 recovered outside acceptance criteria, low biased, for Pyridine. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8270E\_SIM: The continuing calibration verification (CCV) associated with batch 400-668581 recovered above the upper control limit for Anthracene, Indeno[1,2,3-cd]pyrene, Benzo[b]fluoranthene, Benzo[g,h,i]perylene, Benzo[a]pyrene and Dibenzo(a,h)anthracene. 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.

### GC Semi VOA

Method 8011: Surrogate recovery for the following samples were outside the upper control limit: MW6A-ROX-041124-EB

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# Case Narrative

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

Job ID: 400-254301-1

## Job ID: 400-254301-1 (Continued)

**Eurofins Pensacola**

(400-254301-3) and MW6A-ROX-041124 (400-254301-4). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

Method 8011: The continuing calibration verification (CCV) associated with batch 400-667985 recovered outside acceptance criteria, low biased, for 1,2-Dibromo-3-Chloropropane and 1,2-Dibromoethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8011: The continuing calibration verification (CCV) associated with batch 400-668262 recovered above the upper control limit for 1,2-Dibromo-3-Chloropropane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8011: The continuing calibration verification (CCV) associated with batch 400-668262 recovered outside acceptance criteria, low biased, for 1,2-Dibromoethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8011: Surrogate recovery for the following sample was outside control limits: TB-ROX-041124-8011 (400-254301-2). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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



# Sample Summary

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

Job ID: 400-254301-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-254301-1	TB-ROX-041124-8260	Water	04/11/24 00:00	04/12/24 09:26
400-254301-2	TB-ROX-041124-8011	Water	04/11/24 00:00	04/12/24 09:26
400-254301-3	MW6A-ROX-041124-EB	Water	04/11/24 08:20	04/12/24 09:26
400-254301-4	MW6A-ROX-041124	Water	04/11/24 10:15	04/12/24 09:26
400-254301-5	MW6B-ROX-041124	Water	04/11/24 11:15	04/12/24 09:26
400-254301-6	MW6B-ROX-041124-DUP	Water	04/11/24 11:15	04/12/24 09:26
400-254301-7	MW14-ROX-041124	Water	04/11/24 12:40	04/12/24 09:26

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# Detection Summary

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

Job ID: 400-254301-1

**Client Sample ID: TB-ROX-041124-8260**

**Lab Sample ID: 400-254301-1**

No Detections.

**Client Sample ID: TB-ROX-041124-8011**

**Lab Sample ID: 400-254301-2**

No Detections.

**Client Sample ID: MW6A-ROX-041124-EB**

**Lab Sample ID: 400-254301-3**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzo[g,h,i]perylene	0.050	J	0.19	0.026	ug/L	1		8270E SIM	Total/NA
Dibenz(a,h)anthracene	0.052	J	0.19	0.046	ug/L	1		8270E SIM	Total/NA
Indeno[1,2,3-cd]pyrene	0.045	J	0.19	0.033	ug/L	1		8270E SIM	Total/NA

**Client Sample ID: MW6A-ROX-041124**

**Lab Sample ID: 400-254301-4**

No Detections.

**Client Sample ID: MW6B-ROX-041124**

**Lab Sample ID: 400-254301-5**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	0.48	J	1.0	0.22	ug/L	1		8260D	Total/NA
Acenaphthylene	0.049	J	0.19	0.043	ug/L	1		8270E SIM	Total/NA

**Client Sample ID: MW6B-ROX-041124-DUP**

**Lab Sample ID: 400-254301-6**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	0.48	J	1.0	0.22	ug/L	1		8260D	Total/NA
Acenaphthylene	0.055	J	0.20	0.043	ug/L	1		8270E SIM	Total/NA

**Client Sample ID: MW14-ROX-041124**

**Lab Sample ID: 400-254301-7**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthylene	0.056	J	0.19	0.042	ug/L	1		8270E SIM	Total/NA

This Detection Summary does not include radiochemical test results.



# Client Sample Results

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

Job ID: 400-254301-1

**Client Sample ID: TB-ROX-041124-8260**

**Lab Sample ID: 400-254301-1**

**Date Collected: 04/11/24 00:00**

**Matrix: Water**

**Date Received: 04/12/24 09:26**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/23/24 12:35	1
Acrolein	ND		20	3.3	ug/L			04/23/24 12:35	1
Acrylonitrile	ND		10	2.8	ug/L			04/23/24 12:35	1
Benzene	ND		1.0	0.50	ug/L			04/23/24 12:35	1
Bromobenzene	ND		1.0	0.54	ug/L			04/23/24 12:35	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/23/24 12:35	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/23/24 12:35	1
Bromoform	ND		5.0	0.25	ug/L			04/23/24 12:35	1
Bromomethane	ND		1.0	0.98	ug/L			04/23/24 12:35	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/23/24 12:35	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/23/24 12:35	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/23/24 12:35	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/23/24 12:35	1
Chloroethane	ND		1.0	0.76	ug/L			04/23/24 12:35	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/23/24 12:35	1
Chloroform	ND		1.0	0.90	ug/L			04/23/24 12:35	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/23/24 12:35	1
Chloromethane	ND		1.0	0.90	ug/L			04/23/24 12:35	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/23/24 12:35	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/23/24 12:35	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/23/24 12:35	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/23/24 12:35	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/23/24 12:35	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/23/24 12:35	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/23/24 12:35	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/23/24 12:35	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/23/24 12:35	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/23/24 12:35	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/23/24 12:35	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/23/24 12:35	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/23/24 12:35	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/23/24 12:35	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/23/24 12:35	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/23/24 12:35	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/23/24 12:35	1
2-Hexanone	ND		25	1.4	ug/L			04/23/24 12:35	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/23/24 12:35	1
Methylene bromide	ND		5.0	0.22	ug/L			04/23/24 12:35	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/23/24 12:35	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/23/24 12:35	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/23/24 12:35	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/23/24 12:35	1
Naphthalene	ND		5.0	3.0	ug/L			04/23/24 12:35	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/23/24 12:35	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/23/24 12:35	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/23/24 12:35	1
o-Xylene	ND		5.0	0.60	ug/L			04/23/24 12:35	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/23/24 12:35	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/23/24 12:35	1

# Client Sample Results

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

Job ID: 400-254301-1

**Client Sample ID: TB-ROX-041124-8260**

**Lab Sample ID: 400-254301-1**

**Date Collected: 04/11/24 00:00**

**Matrix: Water**

**Date Received: 04/12/24 09:26**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/23/24 12:35	1
Styrene	ND		1.0	1.0	ug/L			04/23/24 12:35	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/23/24 12:35	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/23/24 12:35	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/23/24 12:35	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/23/24 12:35	1
Toluene	ND		1.0	0.90	ug/L			04/23/24 12:35	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/23/24 12:35	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/23/24 12:35	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/23/24 12:35	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/23/24 12:35	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/23/24 12:35	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/23/24 12:35	1
Trichloroethene	ND		1.0	0.15	ug/L			04/23/24 12:35	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/23/24 12:35	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/23/24 12:35	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/23/24 12:35	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/23/24 12:35	1
Vinyl acetate	ND		25	0.93	ug/L			04/23/24 12:35	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/23/24 12:35	1
Xylenes, Total	ND		10	1.6	ug/L			04/23/24 12:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		72 - 130		04/23/24 12:35	1
Dibromofluoromethane	108		75 - 126		04/23/24 12:35	1
Toluene-d8 (Surr)	86		64 - 132		04/23/24 12:35	1

# Client Sample Results

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

Job ID: 400-254301-1

**Client Sample ID: TB-ROX-041124-8011**

**Lab Sample ID: 400-254301-2**

Date Collected: 04/11/24 00:00

Matrix: Water

Date Received: 04/12/24 09:26

**Method: EPA 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	0.017	ug/L		04/16/24 10:33	04/17/24 12:15	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		04/16/24 10:33	04/17/24 12:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	720	S1+	51 - 149				04/16/24 10:33	04/17/24 12:15	1

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# Client Sample Results

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

Job ID: 400-254301-1

**Client Sample ID: MW6A-ROX-041124-EB**

**Lab Sample ID: 400-254301-3**

**Date Collected: 04/11/24 08:20**

**Matrix: Water**

**Date Received: 04/12/24 09:26**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/23/24 14:49	1
Acrolein	ND		20	3.3	ug/L			04/23/24 14:49	1
Acrylonitrile	ND		10	2.8	ug/L			04/23/24 14:49	1
Benzene	ND		1.0	0.50	ug/L			04/23/24 14:49	1
Bromobenzene	ND		1.0	0.54	ug/L			04/23/24 14:49	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/23/24 14:49	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/23/24 14:49	1
Bromoform	ND		5.0	0.25	ug/L			04/23/24 14:49	1
Bromomethane	ND		1.0	0.98	ug/L			04/23/24 14:49	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/20/24 13:06	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/23/24 14:49	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/23/24 14:49	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/23/24 14:49	1
Chloroethane	ND		1.0	0.76	ug/L			04/23/24 14:49	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/23/24 14:49	1
Chloroform	ND		1.0	0.90	ug/L			04/23/24 14:49	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/23/24 14:49	1
Chloromethane	ND		1.0	0.90	ug/L			04/23/24 14:49	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/23/24 14:49	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/23/24 14:49	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/23/24 14:49	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/23/24 14:49	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/23/24 14:49	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/23/24 14:49	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/23/24 14:49	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/23/24 14:49	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/23/24 14:49	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/23/24 14:49	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/23/24 14:49	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/23/24 14:49	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/23/24 14:49	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/23/24 14:49	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/23/24 14:49	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/23/24 14:49	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/23/24 14:49	1
2-Hexanone	ND		25	1.4	ug/L			04/23/24 14:49	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/23/24 14:49	1
Methylene bromide	ND		5.0	0.22	ug/L			04/23/24 14:49	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/23/24 14:49	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/23/24 14:49	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/23/24 14:49	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/23/24 14:49	1
Naphthalene	ND		5.0	3.0	ug/L			04/23/24 14:49	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/23/24 14:49	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/23/24 14:49	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/23/24 14:49	1
o-Xylene	ND		5.0	0.60	ug/L			04/23/24 14:49	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/23/24 14:49	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/23/24 14:49	1

# Client Sample Results

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

Job ID: 400-254301-1

**Client Sample ID: MW6A-ROX-041124-EB**

**Lab Sample ID: 400-254301-3**

Date Collected: 04/11/24 08:20

Matrix: Water

Date Received: 04/12/24 09:26

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/23/24 14:49	1
Styrene	ND		1.0	1.0	ug/L			04/23/24 14:49	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/23/24 14:49	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/23/24 14:49	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/23/24 14:49	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/23/24 14:49	1
Toluene	ND		1.0	0.90	ug/L			04/23/24 14:49	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/23/24 14:49	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/23/24 14:49	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/23/24 14:49	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/23/24 14:49	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/23/24 14:49	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/23/24 14:49	1
Trichloroethene	ND		1.0	0.15	ug/L			04/23/24 14:49	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/23/24 14:49	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/23/24 14:49	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/23/24 14:49	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/23/24 14:49	1
Vinyl acetate	ND		25	0.93	ug/L			04/23/24 14:49	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/23/24 14:49	1
Xylenes, Total	ND		10	1.6	ug/L			04/23/24 14:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	96		72 - 130		04/20/24 13:06	1
4-Bromofluorobenzene	100		72 - 130		04/23/24 14:49	1
Dibromofluoromethane	106		75 - 126		04/20/24 13:06	1
Dibromofluoromethane	109		75 - 126		04/23/24 14:49	1
Toluene-d8 (Surr)	97		64 - 132		04/20/24 13:06	1
Toluene-d8 (Surr)	87		64 - 132		04/23/24 14:49	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.095	ug/L		04/18/24 10:15	04/19/24 15:27	1
Acenaphthylene	ND		0.19	0.042	ug/L		04/18/24 10:15	04/19/24 15:27	1
Anthracene	ND		0.19	0.045	ug/L		04/18/24 10:15	04/19/24 15:27	1
Benzo[a]anthracene	ND		0.19	0.033	ug/L		04/18/24 10:15	04/19/24 15:27	1
Benzo[a]pyrene	ND		0.19	0.061	ug/L		04/18/24 10:15	04/19/24 15:27	1
Benzo[b]fluoranthene	ND		0.19	0.036	ug/L		04/18/24 10:15	04/19/24 15:27	1
<b>Benzo[g,h,i]perylene</b>	<b>0.050</b>	<b>J</b>	0.19	0.026	ug/L		04/18/24 10:15	04/19/24 15:27	1
Benzo[k]fluoranthene	ND		0.19	0.060	ug/L		04/18/24 10:15	04/19/24 15:27	1
Chrysene	ND		0.19	0.032	ug/L		04/18/24 10:15	04/19/24 15:27	1
<b>Dibenz(a,h)anthracene</b>	<b>0.052</b>	<b>J</b>	0.19	0.046	ug/L		04/18/24 10:15	04/19/24 15:27	1
Fluoranthene	ND		0.19	0.033	ug/L		04/18/24 10:15	04/19/24 15:27	1
Fluorene	ND		0.19	0.086	ug/L		04/18/24 10:15	04/19/24 15:27	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.045</b>	<b>J</b>	0.19	0.033	ug/L		04/18/24 10:15	04/19/24 15:27	1
Phenanthrene	ND		0.19	0.086	ug/L		04/18/24 10:15	04/19/24 15:27	1
Pyrene	ND		0.19	0.037	ug/L		04/18/24 10:15	04/19/24 15:27	1
1-Methylnaphthalene	ND		0.19	0.077	ug/L		04/18/24 10:15	04/19/24 15:27	1
2-Methylnaphthalene	ND		0.19	0.063	ug/L		04/18/24 10:15	04/19/24 15:27	1



# Client Sample Results

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

Job ID: 400-254301-1

**Client Sample ID: MW6A-ROX-041124-EB**

**Lab Sample ID: 400-254301-3**

**Date Collected: 04/11/24 08:20**

**Matrix: Water**

**Date Received: 04/12/24 09:26**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	95		18 - 147	04/18/24 10:15	04/19/24 15:27	1
2-Fluorobiphenyl	79		15 - 128	04/18/24 10:15	04/19/24 15:27	1
Nitrobenzene-d5	79		10 - 144	04/18/24 10:15	04/19/24 15:27	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.6	8.4	ug/L		04/18/24 10:15	04/18/24 22:44	1
Benzenethiol	ND		9.6	9.5	ug/L		04/18/24 10:15	04/18/24 22:44	1
Benzoic acid	ND		29	23	ug/L		04/18/24 10:15	04/18/24 22:44	1
Benzyl alcohol	ND		9.6	7.0	ug/L		04/18/24 10:15	04/18/24 22:44	1
Bis(2-chloroethoxy)methane	ND		9.6	4.4	ug/L		04/18/24 10:15	04/18/24 22:44	1
Bis(2-chloroethyl)ether	ND		9.6	3.7	ug/L		04/18/24 10:15	04/18/24 22:44	1
bis (2-chloroisopropyl) ether	ND		9.6	1.7	ug/L		04/18/24 10:15	04/18/24 22:44	1
Bis(2-ethylhexyl) phthalate	ND		9.6	8.6	ug/L		04/18/24 10:15	04/18/24 22:44	1
4-Bromophenyl phenyl ether	ND		9.6	8.3	ug/L		04/18/24 10:15	04/18/24 22:44	1
Butyl benzyl phthalate	ND		9.6	5.6	ug/L		04/18/24 10:15	04/18/24 22:44	1
4-Chloroaniline	ND		9.6	4.5	ug/L		04/18/24 10:15	04/18/24 22:44	1
4-Chloro-3-methylphenol	ND		9.6	5.1	ug/L		04/18/24 10:15	04/18/24 22:44	1
2-Chloronaphthalene	ND		9.6	3.7	ug/L		04/18/24 10:15	04/18/24 22:44	1
2-Chlorophenol	ND		9.6	3.9	ug/L		04/18/24 10:15	04/18/24 22:44	1
4-Chlorophenyl phenyl ether	ND		9.6	3.6	ug/L		04/18/24 10:15	04/18/24 22:44	1
Dibenz[a,h]acridine	ND		9.6	2.7	ug/L		04/18/24 10:15	04/18/24 22:44	1
Dibenzofuran	ND		9.6	3.8	ug/L		04/18/24 10:15	04/18/24 22:44	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/18/24 10:15	04/18/24 22:44	1
2,4-Dichlorophenol	ND		9.6	4.1	ug/L		04/18/24 10:15	04/18/24 22:44	1
Diethyl phthalate	ND		9.6	4.2	ug/L		04/18/24 10:15	04/18/24 22:44	1
2,4-Dimethylphenol	ND		9.6	5.0	ug/L		04/18/24 10:15	04/18/24 22:44	1
Dimethyl phthalate	ND		9.6	4.0	ug/L		04/18/24 10:15	04/18/24 22:44	1
Di-n-butyl phthalate	ND		9.6	4.4	ug/L		04/18/24 10:15	04/18/24 22:44	1
4,6-Dinitro-ortho-cresol	ND		9.6	9.6	ug/L		04/18/24 10:15	04/18/24 22:44	1
2,4-Dinitrophenol	ND		29	4.4	ug/L		04/18/24 10:15	04/18/24 22:44	1
2,4-Dinitrotoluene	ND		9.6	4.9	ug/L		04/18/24 10:15	04/18/24 22:44	1
2,6-Dinitrotoluene	ND		9.6	3.7	ug/L		04/18/24 10:15	04/18/24 22:44	1
Di-n-octyl phthalate	ND		9.6	5.8	ug/L		04/18/24 10:15	04/18/24 22:44	1
1,4-Dioxane	ND		9.6	4.1	ug/L		04/18/24 10:15	04/18/24 22:44	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.6	3.2	ug/L		04/18/24 10:15	04/18/24 22:44	1
Hexachlorobenzene	ND		9.6	9.3	ug/L		04/18/24 10:15	04/18/24 22:44	1
Hexachlorocyclopentadiene	ND		19	4.3	ug/L		04/18/24 10:15	04/18/24 22:44	1
Hexachloroethane	ND		9.6	5.0	ug/L		04/18/24 10:15	04/18/24 22:44	1
Indene	ND		9.6	3.5	ug/L		04/18/24 10:15	04/18/24 22:44	1
Isophorone	ND		9.6	5.0	ug/L		04/18/24 10:15	04/18/24 22:44	1
2-Methylphenol	ND		9.6	3.1	ug/L		04/18/24 10:15	04/18/24 22:44	1
3 & 4 Methylphenol	ND		19	4.4	ug/L		04/18/24 10:15	04/18/24 22:44	1
2-Nitroaniline	ND		9.6	4.8	ug/L		04/18/24 10:15	04/18/24 22:44	1
3-Nitroaniline	ND		9.6	4.5	ug/L		04/18/24 10:15	04/18/24 22:44	1
4-Nitroaniline	ND		9.6	3.9	ug/L		04/18/24 10:15	04/18/24 22:44	1
Nitrobenzene	ND		9.6	4.5	ug/L		04/18/24 10:15	04/18/24 22:44	1
2-Nitrophenol	ND		9.6	4.4	ug/L		04/18/24 10:15	04/18/24 22:44	1
4-Nitrophenol	ND		9.6	3.2	ug/L		04/18/24 10:15	04/18/24 22:44	1

# Client Sample Results

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

Job ID: 400-254301-1

**Client Sample ID: MW6A-ROX-041124-EB**

**Lab Sample ID: 400-254301-3**

**Date Collected: 04/11/24 08:20**

**Matrix: Water**

**Date Received: 04/12/24 09:26**

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodimethylamine	ND		9.6	2.1	ug/L		04/18/24 10:15	04/18/24 22:44	1
N-Nitrosodi-n-propylamine	ND		9.6	2.4	ug/L		04/18/24 10:15	04/18/24 22:44	1
N-Nitrosodiphenylamine	ND		9.6	3.6	ug/L		04/18/24 10:15	04/18/24 22:44	1
Pentachlorophenol	ND		19	11	ug/L		04/18/24 10:15	04/18/24 22:44	1
Phenol	ND		9.6	4.0	ug/L		04/18/24 10:15	04/18/24 22:44	1
Pyridine	ND		9.6	9.6	ug/L		04/18/24 10:15	04/18/24 22:44	1
Quinoline	ND		9.6	2.3	ug/L		04/18/24 10:15	04/18/24 22:44	1
2,4,5-Trichlorophenol	ND		9.6	3.8	ug/L		04/18/24 10:15	04/18/24 22:44	1
2,4,6-Trichlorophenol	ND		9.6	3.4	ug/L		04/18/24 10:15	04/18/24 22:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	76		21 - 114	04/18/24 10:15	04/18/24 22:44	1
2-Fluorophenol	54		10 - 105	04/18/24 10:15	04/18/24 22:44	1
Nitrobenzene-d5	72		16 - 127	04/18/24 10:15	04/18/24 22:44	1
Phenol-d5	41		10 - 129	04/18/24 10:15	04/18/24 22:44	1
Terphenyl-d14	91		13 - 150	04/18/24 10:15	04/18/24 22:44	1
2,4,6-Tribromophenol	75		10 - 150	04/18/24 10:15	04/18/24 22:44	1

**Method: EPA 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	0.017	ug/L		04/15/24 10:01	04/15/24 21:25	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		04/15/24 10:01	04/15/24 21:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	312	\$1+	51 - 149	04/15/24 10:01	04/15/24 21:25	1

# Client Sample Results

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

Job ID: 400-254301-1

**Client Sample ID: MW6A-ROX-041124**

**Lab Sample ID: 400-254301-4**

**Date Collected: 04/11/24 10:15**

**Matrix: Water**

**Date Received: 04/12/24 09:26**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/23/24 13:02	1
Acrolein	ND		20	3.3	ug/L			04/23/24 13:02	1
Acrylonitrile	ND		10	2.8	ug/L			04/23/24 13:02	1
Benzene	ND		1.0	0.50	ug/L			04/23/24 13:02	1
Bromobenzene	ND		1.0	0.54	ug/L			04/23/24 13:02	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/23/24 13:02	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/23/24 13:02	1
Bromoform	ND		5.0	0.25	ug/L			04/23/24 13:02	1
Bromomethane	ND		1.0	0.98	ug/L			04/23/24 13:02	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/23/24 13:02	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/23/24 13:02	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/23/24 13:02	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/23/24 13:02	1
Chloroethane	ND		1.0	0.76	ug/L			04/23/24 13:02	1
2-Chloroethyl vinyl ether	ND	F1 UJ	5.0	2.0	ug/L			04/23/24 13:02	1
Chloroform	ND		1.0	0.90	ug/L			04/23/24 13:02	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/23/24 13:02	1
Chloromethane	ND		1.0	0.90	ug/L			04/23/24 13:02	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/23/24 13:02	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/23/24 13:02	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/23/24 13:02	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/23/24 13:02	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/23/24 13:02	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/23/24 13:02	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/23/24 13:02	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/23/24 13:02	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/23/24 13:02	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/23/24 13:02	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/23/24 13:02	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/23/24 13:02	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/23/24 13:02	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/23/24 13:02	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/23/24 13:02	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/23/24 13:02	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/23/24 13:02	1
2-Hexanone	ND		25	1.4	ug/L			04/23/24 13:02	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/23/24 13:02	1
Methylene bromide	ND		5.0	0.22	ug/L			04/23/24 13:02	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/23/24 13:02	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/23/24 13:02	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/23/24 13:02	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/23/24 13:02	1
Naphthalene	ND		5.0	3.0	ug/L			04/23/24 13:02	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/23/24 13:02	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/23/24 13:02	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/23/24 13:02	1
o-Xylene	ND		5.0	0.60	ug/L			04/23/24 13:02	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/23/24 13:02	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/23/24 13:02	1

# Client Sample Results

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

Job ID: 400-254301-1

**Client Sample ID: MW6A-ROX-041124**

**Lab Sample ID: 400-254301-4**

**Date Collected: 04/11/24 10:15**

**Matrix: Water**

**Date Received: 04/12/24 09:26**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/23/24 13:02	1
Styrene	ND		1.0	1.0	ug/L			04/23/24 13:02	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/23/24 13:02	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/23/24 13:02	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/23/24 13:02	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/23/24 13:02	1
Toluene	ND		1.0	0.90	ug/L			04/23/24 13:02	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/23/24 13:02	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/23/24 13:02	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/23/24 13:02	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/23/24 13:02	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/23/24 13:02	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/23/24 13:02	1
Trichloroethene	ND		1.0	0.15	ug/L			04/23/24 13:02	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/23/24 13:02	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/23/24 13:02	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/23/24 13:02	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/23/24 13:02	1
Vinyl acetate	ND		25	0.93	ug/L			04/23/24 13:02	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/23/24 13:02	1
Xylenes, Total	ND		10	1.6	ug/L			04/23/24 13:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		72 - 130		04/23/24 13:02	1
Dibromofluoromethane	108		75 - 126		04/23/24 13:02	1
Toluene-d8 (Surr)	86		64 - 132		04/23/24 13:02	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.096	ug/L		04/18/24 10:15	04/19/24 15:47	1
Acenaphthylene	ND		0.19	0.043	ug/L		04/18/24 10:15	04/19/24 15:47	1
Anthracene	ND		0.19	0.046	ug/L		04/18/24 10:15	04/19/24 15:47	1
Benzo[a]anthracene	ND		0.19	0.033	ug/L		04/18/24 10:15	04/19/24 15:47	1
Benzo[a]pyrene	ND		0.19	0.062	ug/L		04/18/24 10:15	04/19/24 15:47	1
Benzo[b]fluoranthene	ND		0.19	0.036	ug/L		04/18/24 10:15	04/19/24 15:47	1
Benzo[g,h,i]perylene	ND		0.19	0.026	ug/L		04/18/24 10:15	04/19/24 15:47	1
Benzo[k]fluoranthene	ND		0.19	0.060	ug/L		04/18/24 10:15	04/19/24 15:47	1
Chrysene	ND		0.19	0.032	ug/L		04/18/24 10:15	04/19/24 15:47	1
Dibenz(a,h)anthracene	ND		0.19	0.047	ug/L		04/18/24 10:15	04/19/24 15:47	1
Fluoranthene	ND		0.19	0.033	ug/L		04/18/24 10:15	04/19/24 15:47	1
Fluorene	ND		0.19	0.087	ug/L		04/18/24 10:15	04/19/24 15:47	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.033	ug/L		04/18/24 10:15	04/19/24 15:47	1
Phenanthrene	ND		0.19	0.088	ug/L		04/18/24 10:15	04/19/24 15:47	1
Pyrene	ND		0.19	0.038	ug/L		04/18/24 10:15	04/19/24 15:47	1
1-Methylnaphthalene	ND		0.19	0.078	ug/L		04/18/24 10:15	04/19/24 15:47	1
2-Methylnaphthalene	ND		0.19	0.064	ug/L		04/18/24 10:15	04/19/24 15:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	78		18 - 147	04/18/24 10:15	04/19/24 15:47	1
2-Fluorobiphenyl	72		15 - 128	04/18/24 10:15	04/19/24 15:47	1

Eurofins Pensacola

# Client Sample Results

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

Job ID: 400-254301-1

**Client Sample ID: MW6A-ROX-041124**

**Lab Sample ID: 400-254301-4**

Date Collected: 04/11/24 10:15

Matrix: Water

Date Received: 04/12/24 09:26

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	75		10 - 144	04/18/24 10:15	04/19/24 15:47	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	8.5	ug/L		04/18/24 10:15	04/18/24 23:08	1
Benzenethiol	ND		9.7	9.6	ug/L		04/18/24 10:15	04/18/24 23:08	1
Benzoic acid	ND		29	23	ug/L		04/18/24 10:15	04/18/24 23:08	1
Benzyl alcohol	ND		9.7	7.1	ug/L		04/18/24 10:15	04/18/24 23:08	1
Bis(2-chloroethoxy)methane	ND		9.7	4.5	ug/L		04/18/24 10:15	04/18/24 23:08	1
Bis(2-chloroethyl)ether	ND		9.7	3.8	ug/L		04/18/24 10:15	04/18/24 23:08	1
bis (2-chloroisopropyl) ether	ND		9.7	1.8	ug/L		04/18/24 10:15	04/18/24 23:08	1
Bis(2-ethylhexyl) phthalate	ND		9.7	8.7	ug/L		04/18/24 10:15	04/18/24 23:08	1
4-Bromophenyl phenyl ether	ND		9.7	8.4	ug/L		04/18/24 10:15	04/18/24 23:08	1
Butyl benzyl phthalate	ND		9.7	5.6	ug/L		04/18/24 10:15	04/18/24 23:08	1
4-Chloroaniline	ND		9.7	4.6	ug/L		04/18/24 10:15	04/18/24 23:08	1
4-Chloro-3-methylphenol	ND		9.7	5.2	ug/L		04/18/24 10:15	04/18/24 23:08	1
2-Chloronaphthalene	ND		9.7	3.7	ug/L		04/18/24 10:15	04/18/24 23:08	1
2-Chlorophenol	ND		9.7	4.0	ug/L		04/18/24 10:15	04/18/24 23:08	1
4-Chlorophenyl phenyl ether	ND		9.7	3.6	ug/L		04/18/24 10:15	04/18/24 23:08	1
Dibenz[a,h]acridine	ND		9.7	2.7	ug/L		04/18/24 10:15	04/18/24 23:08	1
Dibenzofuran	ND		9.7	3.9	ug/L		04/18/24 10:15	04/18/24 23:08	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/18/24 10:15	04/18/24 23:08	1
2,4-Dichlorophenol	ND		9.7	4.2	ug/L		04/18/24 10:15	04/18/24 23:08	1
Diethyl phthalate	ND		9.7	4.3	ug/L		04/18/24 10:15	04/18/24 23:08	1
2,4-Dimethylphenol	ND		9.7	5.1	ug/L		04/18/24 10:15	04/18/24 23:08	1
Dimethyl phthalate	ND		9.7	4.1	ug/L		04/18/24 10:15	04/18/24 23:08	1
Di-n-butyl phthalate	ND		9.7	4.5	ug/L		04/18/24 10:15	04/18/24 23:08	1
4,6-Dinitro-ortho-cresol	ND		9.7	9.7	ug/L		04/18/24 10:15	04/18/24 23:08	1
2,4-Dinitrophenol	ND		29	4.5	ug/L		04/18/24 10:15	04/18/24 23:08	1
2,4-Dinitrotoluene	ND		9.7	5.0	ug/L		04/18/24 10:15	04/18/24 23:08	1
2,6-Dinitrotoluene	ND		9.7	3.8	ug/L		04/18/24 10:15	04/18/24 23:08	1
Di-n-octyl phthalate	ND		9.7	5.8	ug/L		04/18/24 10:15	04/18/24 23:08	1
1,4-Dioxane	ND		9.7	4.2	ug/L		04/18/24 10:15	04/18/24 23:08	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	3.2	ug/L		04/18/24 10:15	04/18/24 23:08	1
Hexachlorobenzene	ND		9.7	9.4	ug/L		04/18/24 10:15	04/18/24 23:08	1
Hexachlorocyclopentadiene	ND		19	4.4	ug/L		04/18/24 10:15	04/18/24 23:08	1
Hexachloroethane	ND		9.7	5.1	ug/L		04/18/24 10:15	04/18/24 23:08	1
Indene	ND		9.7	3.5	ug/L		04/18/24 10:15	04/18/24 23:08	1
Isophorone	ND		9.7	5.1	ug/L		04/18/24 10:15	04/18/24 23:08	1
2-Methylphenol	ND		9.7	3.1	ug/L		04/18/24 10:15	04/18/24 23:08	1
3 & 4 Methylphenol	ND		19	4.5	ug/L		04/18/24 10:15	04/18/24 23:08	1
2-Nitroaniline	ND		9.7	4.9	ug/L		04/18/24 10:15	04/18/24 23:08	1
3-Nitroaniline	ND		9.7	4.6	ug/L		04/18/24 10:15	04/18/24 23:08	1
4-Nitroaniline	ND		9.7	4.0	ug/L		04/18/24 10:15	04/18/24 23:08	1
Nitrobenzene	ND		9.7	4.6	ug/L		04/18/24 10:15	04/18/24 23:08	1
2-Nitrophenol	ND		9.7	4.5	ug/L		04/18/24 10:15	04/18/24 23:08	1
4-Nitrophenol	ND		9.7	3.2	ug/L		04/18/24 10:15	04/18/24 23:08	1
N-Nitrosodimethylamine	ND		9.7	2.1	ug/L		04/18/24 10:15	04/18/24 23:08	1



# Client Sample Results

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

Job ID: 400-254301-1

**Client Sample ID: MW6A-ROX-041124**

**Lab Sample ID: 400-254301-4**

Date Collected: 04/11/24 10:15

Matrix: Water

Date Received: 04/12/24 09:26

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.7	2.4	ug/L		04/18/24 10:15	04/18/24 23:08	1
N-Nitrosodiphenylamine	ND		9.7	3.6	ug/L		04/18/24 10:15	04/18/24 23:08	1
Pentachlorophenol	ND		19	12	ug/L		04/18/24 10:15	04/18/24 23:08	1
Phenol	ND		9.7	4.1	ug/L		04/18/24 10:15	04/18/24 23:08	1
Pyridine	ND	UJ	9.7	9.7	ug/L		04/18/24 10:15	04/18/24 23:08	1
Quinoline	ND		9.7	2.3	ug/L		04/18/24 10:15	04/18/24 23:08	1
2,4,5-Trichlorophenol	ND		9.7	3.9	ug/L		04/18/24 10:15	04/18/24 23:08	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		04/18/24 10:15	04/18/24 23:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	77		21 - 114	04/18/24 10:15	04/18/24 23:08	1
2-Fluorophenol	55		10 - 105	04/18/24 10:15	04/18/24 23:08	1
Nitrobenzene-d5	73		16 - 127	04/18/24 10:15	04/18/24 23:08	1
Phenol-d5	40		10 - 129	04/18/24 10:15	04/18/24 23:08	1
Terphenyl-d14	94		13 - 150	04/18/24 10:15	04/18/24 23:08	1
2,4,6-Tribromophenol	77		10 - 150	04/18/24 10:15	04/18/24 23:08	1

**Method: EPA 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	0.017	ug/L		04/15/24 10:01	04/15/24 21:46	1
1,2-Dibromoethane	ND	UJ	0.020	0.015	ug/L		04/15/24 10:01	04/15/24 21:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	2266	\$1+	51 - 149	04/15/24 10:01	04/15/24 21:46	1

# Client Sample Results

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

Job ID: 400-254301-1

**Client Sample ID: MW6B-ROX-041124**

**Lab Sample ID: 400-254301-5**

Date Collected: 04/11/24 11:15

Matrix: Water

Date Received: 04/12/24 09:26

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/23/24 15:16	1
Acrolein	ND		20	3.3	ug/L			04/23/24 15:16	1
Acrylonitrile	ND		10	2.8	ug/L			04/23/24 15:16	1
Benzene	ND		1.0	0.50	ug/L			04/23/24 15:16	1
Bromobenzene	ND		1.0	0.54	ug/L			04/23/24 15:16	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/23/24 15:16	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/23/24 15:16	1
Bromoform	ND		5.0	0.25	ug/L			04/23/24 15:16	1
Bromomethane	ND		1.0	0.98	ug/L			04/23/24 15:16	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/23/24 15:16	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/23/24 15:16	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/23/24 15:16	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/23/24 15:16	1
Chloroethane	ND		1.0	0.76	ug/L			04/23/24 15:16	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/23/24 15:16	1
Chloroform	ND		1.0	0.90	ug/L			04/23/24 15:16	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/23/24 15:16	1
Chloromethane	ND		1.0	0.90	ug/L			04/23/24 15:16	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/23/24 15:16	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/23/24 15:16	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/23/24 15:16	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/23/24 15:16	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/23/24 15:16	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/23/24 15:16	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/23/24 15:16	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/23/24 15:16	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/23/24 15:16	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/23/24 15:16	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/23/24 15:16	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/23/24 15:16	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/23/24 15:16	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/23/24 15:16	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/23/24 15:16	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/23/24 15:16	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/23/24 15:16	1
2-Hexanone	ND		25	1.4	ug/L			04/23/24 15:16	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/23/24 15:16	1
Methylene bromide	ND		5.0	0.22	ug/L			04/23/24 15:16	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/23/24 15:16	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/23/24 15:16	1
<b>Methyl tert-butyl ether</b>	<b>0.48</b>	<b>J</b>	1.0	0.22	ug/L			04/23/24 15:16	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/23/24 15:16	1
Naphthalene	ND		5.0	3.0	ug/L			04/23/24 15:16	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/23/24 15:16	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/23/24 15:16	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/23/24 15:16	1
o-Xylene	ND		5.0	0.60	ug/L			04/23/24 15:16	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/23/24 15:16	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/23/24 15:16	1

# Client Sample Results

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

Job ID: 400-254301-1

**Client Sample ID: MW6B-ROX-041124**

**Lab Sample ID: 400-254301-5**

Date Collected: 04/11/24 11:15

Matrix: Water

Date Received: 04/12/24 09:26

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/23/24 15:16	1
Styrene	ND		1.0	1.0	ug/L			04/23/24 15:16	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/23/24 15:16	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/23/24 15:16	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/23/24 15:16	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/23/24 15:16	1
Toluene	ND		1.0	0.90	ug/L			04/23/24 15:16	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/23/24 15:16	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/23/24 15:16	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/23/24 15:16	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/23/24 15:16	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/23/24 15:16	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/23/24 15:16	1
Trichloroethene	ND		1.0	0.15	ug/L			04/23/24 15:16	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/23/24 15:16	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/23/24 15:16	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/23/24 15:16	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/23/24 15:16	1
Vinyl acetate	ND		25	0.93	ug/L			04/23/24 15:16	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/23/24 15:16	1
Xylenes, Total	ND		10	1.6	ug/L			04/23/24 15:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		72 - 130		04/23/24 15:16	1
Dibromofluoromethane	109		75 - 126		04/23/24 15:16	1
Toluene-d8 (Surr)	85		64 - 132		04/23/24 15:16	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.096	ug/L		04/18/24 10:15	04/19/24 16:08	1
<b>Acenaphthylene</b>	<b>0.049</b>	<b>J</b>	0.19	0.043	ug/L		04/18/24 10:15	04/19/24 16:08	1
Anthracene	ND		0.19	0.046	ug/L		04/18/24 10:15	04/19/24 16:08	1
Benzo[a]anthracene	ND		0.19	0.033	ug/L		04/18/24 10:15	04/19/24 16:08	1
Benzo[a]pyrene	ND		0.19	0.062	ug/L		04/18/24 10:15	04/19/24 16:08	1
Benzo[b]fluoranthene	ND		0.19	0.036	ug/L		04/18/24 10:15	04/19/24 16:08	1
Benzo[g,h,i]perylene	ND		0.19	0.026	ug/L		04/18/24 10:15	04/19/24 16:08	1
Benzo[k]fluoranthene	ND		0.19	0.060	ug/L		04/18/24 10:15	04/19/24 16:08	1
Chrysene	ND		0.19	0.032	ug/L		04/18/24 10:15	04/19/24 16:08	1
Dibenz(a,h)anthracene	ND		0.19	0.047	ug/L		04/18/24 10:15	04/19/24 16:08	1
Fluoranthene	ND		0.19	0.033	ug/L		04/18/24 10:15	04/19/24 16:08	1
Fluorene	ND		0.19	0.087	ug/L		04/18/24 10:15	04/19/24 16:08	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.033	ug/L		04/18/24 10:15	04/19/24 16:08	1
Phenanthrene	ND		0.19	0.088	ug/L		04/18/24 10:15	04/19/24 16:08	1
Pyrene	ND		0.19	0.038	ug/L		04/18/24 10:15	04/19/24 16:08	1
1-Methylnaphthalene	ND		0.19	0.078	ug/L		04/18/24 10:15	04/19/24 16:08	1
2-Methylnaphthalene	ND		0.19	0.064	ug/L		04/18/24 10:15	04/19/24 16:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	77		18 - 147	04/18/24 10:15	04/19/24 16:08	1
2-Fluorobiphenyl	73		15 - 128	04/18/24 10:15	04/19/24 16:08	1

Eurofins Pensacola

# Client Sample Results

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

Job ID: 400-254301-1

**Client Sample ID: MW6B-ROX-041124**

**Lab Sample ID: 400-254301-5**

Date Collected: 04/11/24 11:15

Matrix: Water

Date Received: 04/12/24 09:26

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	78		10 - 144	04/18/24 10:15	04/19/24 16:08	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	8.5	ug/L		04/18/24 10:15	04/18/24 23:31	1
Benzenethiol	ND		9.7	9.6	ug/L		04/18/24 10:15	04/18/24 23:31	1
Benzoic acid	ND		29	23	ug/L		04/18/24 10:15	04/18/24 23:31	1
Benzyl alcohol	ND		9.7	7.1	ug/L		04/18/24 10:15	04/18/24 23:31	1
Bis(2-chloroethoxy)methane	ND		9.7	4.5	ug/L		04/18/24 10:15	04/18/24 23:31	1
Bis(2-chloroethyl)ether	ND		9.7	3.8	ug/L		04/18/24 10:15	04/18/24 23:31	1
bis (2-chloroisopropyl) ether	ND		9.7	1.8	ug/L		04/18/24 10:15	04/18/24 23:31	1
Bis(2-ethylhexyl) phthalate	ND		9.7	8.7	ug/L		04/18/24 10:15	04/18/24 23:31	1
4-Bromophenyl phenyl ether	ND		9.7	8.4	ug/L		04/18/24 10:15	04/18/24 23:31	1
Butyl benzyl phthalate	ND		9.7	5.7	ug/L		04/18/24 10:15	04/18/24 23:31	1
4-Chloroaniline	ND		9.7	4.6	ug/L		04/18/24 10:15	04/18/24 23:31	1
4-Chloro-3-methylphenol	ND		9.7	5.2	ug/L		04/18/24 10:15	04/18/24 23:31	1
2-Chloronaphthalene	ND		9.7	3.7	ug/L		04/18/24 10:15	04/18/24 23:31	1
2-Chlorophenol	ND		9.7	4.0	ug/L		04/18/24 10:15	04/18/24 23:31	1
4-Chlorophenyl phenyl ether	ND		9.7	3.6	ug/L		04/18/24 10:15	04/18/24 23:31	1
Dibenz[a,h]acridine	ND		9.7	2.7	ug/L		04/18/24 10:15	04/18/24 23:31	1
Dibenzofuran	ND		9.7	3.9	ug/L		04/18/24 10:15	04/18/24 23:31	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/18/24 10:15	04/18/24 23:31	1
2,4-Dichlorophenol	ND		9.7	4.2	ug/L		04/18/24 10:15	04/18/24 23:31	1
Diethyl phthalate	ND		9.7	4.3	ug/L		04/18/24 10:15	04/18/24 23:31	1
2,4-Dimethylphenol	ND		9.7	5.1	ug/L		04/18/24 10:15	04/18/24 23:31	1
Dimethyl phthalate	ND		9.7	4.1	ug/L		04/18/24 10:15	04/18/24 23:31	1
Di-n-butyl phthalate	ND		9.7	4.5	ug/L		04/18/24 10:15	04/18/24 23:31	1
4,6-Dinitro-ortho-cresol	ND		9.7	9.7	ug/L		04/18/24 10:15	04/18/24 23:31	1
2,4-Dinitrophenol	ND		29	4.5	ug/L		04/18/24 10:15	04/18/24 23:31	1
2,4-Dinitrotoluene	ND		9.7	5.0	ug/L		04/18/24 10:15	04/18/24 23:31	1
2,6-Dinitrotoluene	ND		9.7	3.8	ug/L		04/18/24 10:15	04/18/24 23:31	1
Di-n-octyl phthalate	ND		9.7	5.8	ug/L		04/18/24 10:15	04/18/24 23:31	1
1,4-Dioxane	ND		9.7	4.2	ug/L		04/18/24 10:15	04/18/24 23:31	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	3.2	ug/L		04/18/24 10:15	04/18/24 23:31	1
Hexachlorobenzene	ND		9.7	9.5	ug/L		04/18/24 10:15	04/18/24 23:31	1
Hexachlorocyclopentadiene	ND		19	4.4	ug/L		04/18/24 10:15	04/18/24 23:31	1
Hexachloroethane	ND		9.7	5.1	ug/L		04/18/24 10:15	04/18/24 23:31	1
Indene	ND		9.7	3.5	ug/L		04/18/24 10:15	04/18/24 23:31	1
Isophorone	ND		9.7	5.1	ug/L		04/18/24 10:15	04/18/24 23:31	1
2-Methylphenol	ND		9.7	3.1	ug/L		04/18/24 10:15	04/18/24 23:31	1
3 & 4 Methylphenol	ND		19	4.5	ug/L		04/18/24 10:15	04/18/24 23:31	1
2-Nitroaniline	ND		9.7	4.9	ug/L		04/18/24 10:15	04/18/24 23:31	1
3-Nitroaniline	ND		9.7	4.6	ug/L		04/18/24 10:15	04/18/24 23:31	1
4-Nitroaniline	ND		9.7	4.0	ug/L		04/18/24 10:15	04/18/24 23:31	1
Nitrobenzene	ND		9.7	4.6	ug/L		04/18/24 10:15	04/18/24 23:31	1
2-Nitrophenol	ND		9.7	4.5	ug/L		04/18/24 10:15	04/18/24 23:31	1
4-Nitrophenol	ND		9.7	3.2	ug/L		04/18/24 10:15	04/18/24 23:31	1
N-Nitrosodimethylamine	ND		9.7	2.1	ug/L		04/18/24 10:15	04/18/24 23:31	1

# Client Sample Results

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

Job ID: 400-254301-1

**Client Sample ID: MW6B-ROX-041124**

**Lab Sample ID: 400-254301-5**

**Date Collected: 04/11/24 11:15**

**Matrix: Water**

**Date Received: 04/12/24 09:26**

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.7	2.4	ug/L		04/18/24 10:15	04/18/24 23:31	1
N-Nitrosodiphenylamine	ND		9.7	3.6	ug/L		04/18/24 10:15	04/18/24 23:31	1
Pentachlorophenol	ND		19	12	ug/L		04/18/24 10:15	04/18/24 23:31	1
Phenol	ND		9.7	4.1	ug/L		04/18/24 10:15	04/18/24 23:31	1
Pyridine	ND	UJ	9.7	9.7	ug/L		04/18/24 10:15	04/18/24 23:31	1
Quinoline	ND		9.7	2.3	ug/L		04/18/24 10:15	04/18/24 23:31	1
2,4,5-Trichlorophenol	ND		9.7	3.9	ug/L		04/18/24 10:15	04/18/24 23:31	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		04/18/24 10:15	04/18/24 23:31	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorobiphenyl	83		21 - 114				04/18/24 10:15	04/18/24 23:31	1
2-Fluorophenol	60		10 - 105				04/18/24 10:15	04/18/24 23:31	1
Nitrobenzene-d5	78		16 - 127				04/18/24 10:15	04/18/24 23:31	1
Phenol-d5	45		10 - 129				04/18/24 10:15	04/18/24 23:31	1
Terphenyl-d14	101		13 - 150				04/18/24 10:15	04/18/24 23:31	1
2,4,6-Tribromophenol	89		10 - 150				04/18/24 10:15	04/18/24 23:31	1

**Method: EPA 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	0.017	ug/L		04/15/24 10:01	04/15/24 22:08	1
1,2-Dibromoethane	ND	UJ	0.020	0.015	ug/L		04/15/24 10:01	04/15/24 22:08	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene	148		51 - 149				04/15/24 10:01	04/15/24 22:08	1



# Client Sample Results

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

Job ID: 400-254301-1

**Client Sample ID: MW6B-ROX-041124-DUP**

**Lab Sample ID: 400-254301-6**

Date Collected: 04/11/24 11:15

Matrix: Water

Date Received: 04/12/24 09:26

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/23/24 15:43	1
Acrolein	ND		20	3.3	ug/L			04/23/24 15:43	1
Acrylonitrile	ND		10	2.8	ug/L			04/23/24 15:43	1
Benzene	ND		1.0	0.50	ug/L			04/23/24 15:43	1
Bromobenzene	ND		1.0	0.54	ug/L			04/23/24 15:43	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/23/24 15:43	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/23/24 15:43	1
Bromoform	ND		5.0	0.25	ug/L			04/23/24 15:43	1
Bromomethane	ND		1.0	0.98	ug/L			04/23/24 15:43	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/23/24 15:43	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/23/24 15:43	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/23/24 15:43	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/23/24 15:43	1
Chloroethane	ND		1.0	0.76	ug/L			04/23/24 15:43	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/23/24 15:43	1
Chloroform	ND		1.0	0.90	ug/L			04/23/24 15:43	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/23/24 15:43	1
Chloromethane	ND		1.0	0.90	ug/L			04/23/24 15:43	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/23/24 15:43	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/23/24 15:43	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/23/24 15:43	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/23/24 15:43	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/23/24 15:43	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/23/24 15:43	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/23/24 15:43	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/23/24 15:43	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/23/24 15:43	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/23/24 15:43	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/23/24 15:43	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/23/24 15:43	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/23/24 15:43	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/23/24 15:43	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/23/24 15:43	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/23/24 15:43	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/23/24 15:43	1
2-Hexanone	ND		25	1.4	ug/L			04/23/24 15:43	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/23/24 15:43	1
Methylene bromide	ND		5.0	0.22	ug/L			04/23/24 15:43	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/23/24 15:43	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/23/24 15:43	1
<b>Methyl tert-butyl ether</b>	<b>0.48</b>	<b>J</b>	1.0	0.22	ug/L			04/23/24 15:43	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/23/24 15:43	1
Naphthalene	ND		5.0	3.0	ug/L			04/23/24 15:43	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/23/24 15:43	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/23/24 15:43	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/23/24 15:43	1
o-Xylene	ND		5.0	0.60	ug/L			04/23/24 15:43	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/23/24 15:43	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/23/24 15:43	1

# Client Sample Results

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

Job ID: 400-254301-1

**Client Sample ID: MW6B-ROX-041124-DUP**

**Lab Sample ID: 400-254301-6**

Date Collected: 04/11/24 11:15

Matrix: Water

Date Received: 04/12/24 09:26

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/23/24 15:43	1
Styrene	ND		1.0	1.0	ug/L			04/23/24 15:43	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/23/24 15:43	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/23/24 15:43	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/23/24 15:43	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/23/24 15:43	1
Toluene	ND		1.0	0.90	ug/L			04/23/24 15:43	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/23/24 15:43	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/23/24 15:43	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/23/24 15:43	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/23/24 15:43	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/23/24 15:43	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/23/24 15:43	1
Trichloroethene	ND		1.0	0.15	ug/L			04/23/24 15:43	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/23/24 15:43	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/23/24 15:43	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/23/24 15:43	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/23/24 15:43	1
Vinyl acetate	ND		25	0.93	ug/L			04/23/24 15:43	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/23/24 15:43	1
Xylenes, Total	ND		10	1.6	ug/L			04/23/24 15:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	100		72 - 130		04/23/24 15:43	1
Dibromofluoromethane	108		75 - 126		04/23/24 15:43	1
Toluene-d8 (Surr)	87		64 - 132		04/23/24 15:43	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.097	ug/L		04/18/24 10:15	04/19/24 16:29	1
<b>Acenaphthylene</b>	<b>0.055</b>	<b>J</b>	0.20	0.043	ug/L		04/18/24 10:15	04/19/24 16:29	1
Anthracene	ND		0.20	0.046	ug/L		04/18/24 10:15	04/19/24 16:29	1
Benzo[a]anthracene	ND		0.20	0.033	ug/L		04/18/24 10:15	04/19/24 16:29	1
Benzo[a]pyrene	ND		0.20	0.062	ug/L		04/18/24 10:15	04/19/24 16:29	1
Benzo[b]fluoranthene	ND		0.20	0.036	ug/L		04/18/24 10:15	04/19/24 16:29	1
Benzo[g,h,i]perylene	ND		0.20	0.026	ug/L		04/18/24 10:15	04/19/24 16:29	1
Benzo[k]fluoranthene	ND		0.20	0.060	ug/L		04/18/24 10:15	04/19/24 16:29	1
Chrysene	ND		0.20	0.032	ug/L		04/18/24 10:15	04/19/24 16:29	1
Dibenz(a,h)anthracene	ND		0.20	0.047	ug/L		04/18/24 10:15	04/19/24 16:29	1
Fluoranthene	ND		0.20	0.033	ug/L		04/18/24 10:15	04/19/24 16:29	1
Fluorene	ND		0.20	0.087	ug/L		04/18/24 10:15	04/19/24 16:29	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.033	ug/L		04/18/24 10:15	04/19/24 16:29	1
Phenanthrene	ND		0.20	0.088	ug/L		04/18/24 10:15	04/19/24 16:29	1
Pyrene	ND		0.20	0.038	ug/L		04/18/24 10:15	04/19/24 16:29	1
1-Methylnaphthalene	ND		0.20	0.078	ug/L		04/18/24 10:15	04/19/24 16:29	1
2-Methylnaphthalene	ND		0.20	0.064	ug/L		04/18/24 10:15	04/19/24 16:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	76		18 - 147	04/18/24 10:15	04/19/24 16:29	1
2-Fluorobiphenyl	70		15 - 128	04/18/24 10:15	04/19/24 16:29	1

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# Client Sample Results

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

Job ID: 400-254301-1

**Client Sample ID: MW6B-ROX-041124-DUP**

**Lab Sample ID: 400-254301-6**

Date Collected: 04/11/24 11:15

Matrix: Water

Date Received: 04/12/24 09:26

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	74		10 - 144	04/18/24 10:15	04/19/24 16:29	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	8.5	ug/L		04/18/24 10:15	04/18/24 23:55	1
Benzenethiol	ND		9.8	9.7	ug/L		04/18/24 10:15	04/18/24 23:55	1
Benzoic acid	ND		29	23	ug/L		04/18/24 10:15	04/18/24 23:55	1
Benzyl alcohol	ND		9.8	7.1	ug/L		04/18/24 10:15	04/18/24 23:55	1
Bis(2-chloroethoxy)methane	ND		9.8	4.5	ug/L		04/18/24 10:15	04/18/24 23:55	1
Bis(2-chloroethyl)ether	ND		9.8	3.8	ug/L		04/18/24 10:15	04/18/24 23:55	1
bis (2-chloroisopropyl) ether	ND		9.8	1.8	ug/L		04/18/24 10:15	04/18/24 23:55	1
Bis(2-ethylhexyl) phthalate	ND		9.8	8.7	ug/L		04/18/24 10:15	04/18/24 23:55	1
4-Bromophenyl phenyl ether	ND		9.8	8.4	ug/L		04/18/24 10:15	04/18/24 23:55	1
Butyl benzyl phthalate	ND		9.8	5.7	ug/L		04/18/24 10:15	04/18/24 23:55	1
4-Chloroaniline	ND		9.8	4.6	ug/L		04/18/24 10:15	04/18/24 23:55	1
4-Chloro-3-methylphenol	ND		9.8	5.2	ug/L		04/18/24 10:15	04/18/24 23:55	1
2-Chloronaphthalene	ND		9.8	3.7	ug/L		04/18/24 10:15	04/18/24 23:55	1
2-Chlorophenol	ND		9.8	4.0	ug/L		04/18/24 10:15	04/18/24 23:55	1
4-Chlorophenyl phenyl ether	ND		9.8	3.6	ug/L		04/18/24 10:15	04/18/24 23:55	1
Dibenz[a,h]acridine	ND		9.8	2.7	ug/L		04/18/24 10:15	04/18/24 23:55	1
Dibenzofuran	ND		9.8	3.9	ug/L		04/18/24 10:15	04/18/24 23:55	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/18/24 10:15	04/18/24 23:55	1
2,4-Dichlorophenol	ND		9.8	4.2	ug/L		04/18/24 10:15	04/18/24 23:55	1
Diethyl phthalate	ND		9.8	4.3	ug/L		04/18/24 10:15	04/18/24 23:55	1
2,4-Dimethylphenol	ND		9.8	5.1	ug/L		04/18/24 10:15	04/18/24 23:55	1
Dimethyl phthalate	ND		9.8	4.1	ug/L		04/18/24 10:15	04/18/24 23:55	1
Di-n-butyl phthalate	ND		9.8	4.5	ug/L		04/18/24 10:15	04/18/24 23:55	1
4,6-Dinitro-ortho-cresol	ND		9.8	9.8	ug/L		04/18/24 10:15	04/18/24 23:55	1
2,4-Dinitrophenol	ND		29	4.5	ug/L		04/18/24 10:15	04/18/24 23:55	1
2,4-Dinitrotoluene	ND		9.8	5.0	ug/L		04/18/24 10:15	04/18/24 23:55	1
2,6-Dinitrotoluene	ND		9.8	3.8	ug/L		04/18/24 10:15	04/18/24 23:55	1
Di-n-octyl phthalate	ND		9.8	5.9	ug/L		04/18/24 10:15	04/18/24 23:55	1
1,4-Dioxane	ND		9.8	4.2	ug/L		04/18/24 10:15	04/18/24 23:55	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	3.2	ug/L		04/18/24 10:15	04/18/24 23:55	1
Hexachlorobenzene	ND		9.8	9.5	ug/L		04/18/24 10:15	04/18/24 23:55	1
Hexachlorocyclopentadiene	ND		20	4.4	ug/L		04/18/24 10:15	04/18/24 23:55	1
Hexachloroethane	ND		9.8	5.1	ug/L		04/18/24 10:15	04/18/24 23:55	1
Indene	ND		9.8	3.5	ug/L		04/18/24 10:15	04/18/24 23:55	1
Isophorone	ND		9.8	5.1	ug/L		04/18/24 10:15	04/18/24 23:55	1
2-Methylphenol	ND		9.8	3.1	ug/L		04/18/24 10:15	04/18/24 23:55	1
3 & 4 Methylphenol	ND		20	4.5	ug/L		04/18/24 10:15	04/18/24 23:55	1
2-Nitroaniline	ND		9.8	4.9	ug/L		04/18/24 10:15	04/18/24 23:55	1
3-Nitroaniline	ND		9.8	4.6	ug/L		04/18/24 10:15	04/18/24 23:55	1
4-Nitroaniline	ND		9.8	4.0	ug/L		04/18/24 10:15	04/18/24 23:55	1
Nitrobenzene	ND		9.8	4.6	ug/L		04/18/24 10:15	04/18/24 23:55	1
2-Nitrophenol	ND		9.8	4.5	ug/L		04/18/24 10:15	04/18/24 23:55	1
4-Nitrophenol	ND		9.8	3.2	ug/L		04/18/24 10:15	04/18/24 23:55	1
N-Nitrosodimethylamine	ND		9.8	2.1	ug/L		04/18/24 10:15	04/18/24 23:55	1

# Client Sample Results

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

Job ID: 400-254301-1

**Client Sample ID: MW6B-ROX-041124-DUP**

**Lab Sample ID: 400-254301-6**

**Date Collected: 04/11/24 11:15**

**Matrix: Water**

**Date Received: 04/12/24 09:26**

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.8	2.4	ug/L		04/18/24 10:15	04/18/24 23:55	1
N-Nitrosodiphenylamine	ND		9.8	3.6	ug/L		04/18/24 10:15	04/18/24 23:55	1
Pentachlorophenol	ND		20	12	ug/L		04/18/24 10:15	04/18/24 23:55	1
Phenol	ND		9.8	4.1	ug/L		04/18/24 10:15	04/18/24 23:55	1
Pyridine	ND	UJ	9.8	9.8	ug/L		04/18/24 10:15	04/18/24 23:55	1
Quinoline	ND		9.8	2.3	ug/L		04/18/24 10:15	04/18/24 23:55	1
2,4,5-Trichlorophenol	ND		9.8	3.9	ug/L		04/18/24 10:15	04/18/24 23:55	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		04/18/24 10:15	04/18/24 23:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	77		21 - 114	04/18/24 10:15	04/18/24 23:55	1
2-Fluorophenol	57		10 - 105	04/18/24 10:15	04/18/24 23:55	1
Nitrobenzene-d5	74		16 - 127	04/18/24 10:15	04/18/24 23:55	1
Phenol-d5	44		10 - 129	04/18/24 10:15	04/18/24 23:55	1
Terphenyl-d14	94		13 - 150	04/18/24 10:15	04/18/24 23:55	1
2,4,6-Tribromophenol	87		10 - 150	04/18/24 10:15	04/18/24 23:55	1

**Method: EPA 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	0.016	ug/L		04/15/24 10:01	04/15/24 22:29	1
1,2-Dibromoethane	ND	UJ	0.019	0.014	ug/L		04/15/24 10:01	04/15/24 22:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	148		51 - 149	04/15/24 10:01	04/15/24 22:29	1

# Client Sample Results

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

Job ID: 400-254301-1

**Client Sample ID: MW14-ROX-041124**

**Lab Sample ID: 400-254301-7**

**Date Collected: 04/11/24 12:40**

**Matrix: Water**

**Date Received: 04/12/24 09:26**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/23/24 16:10	1
Acrolein	ND		20	3.3	ug/L			04/23/24 16:10	1
Acrylonitrile	ND		10	2.8	ug/L			04/23/24 16:10	1
Benzene	ND		1.0	0.50	ug/L			04/23/24 16:10	1
Bromobenzene	ND		1.0	0.54	ug/L			04/23/24 16:10	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/23/24 16:10	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/23/24 16:10	1
Bromoform	ND		5.0	0.25	ug/L			04/23/24 16:10	1
Bromomethane	ND		1.0	0.98	ug/L			04/23/24 16:10	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/23/24 16:10	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/23/24 16:10	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/23/24 16:10	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/23/24 16:10	1
Chloroethane	ND		1.0	0.76	ug/L			04/23/24 16:10	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/23/24 16:10	1
Chloroform	ND		1.0	0.90	ug/L			04/23/24 16:10	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/23/24 16:10	1
Chloromethane	ND		1.0	0.90	ug/L			04/23/24 16:10	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/23/24 16:10	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/23/24 16:10	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/23/24 16:10	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/23/24 16:10	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/23/24 16:10	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/23/24 16:10	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/23/24 16:10	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/23/24 16:10	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/23/24 16:10	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/23/24 16:10	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/23/24 16:10	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/23/24 16:10	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/23/24 16:10	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/23/24 16:10	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/23/24 16:10	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/23/24 16:10	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/23/24 16:10	1
2-Hexanone	ND		25	1.4	ug/L			04/23/24 16:10	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/23/24 16:10	1
Methylene bromide	ND		5.0	0.22	ug/L			04/23/24 16:10	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/23/24 16:10	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/23/24 16:10	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/23/24 16:10	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/23/24 16:10	1
Naphthalene	ND		5.0	3.0	ug/L			04/23/24 16:10	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/23/24 16:10	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/23/24 16:10	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/23/24 16:10	1
o-Xylene	ND		5.0	0.60	ug/L			04/23/24 16:10	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/23/24 16:10	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/23/24 16:10	1



# Client Sample Results

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

Job ID: 400-254301-1

**Client Sample ID: MW14-ROX-041124**

**Lab Sample ID: 400-254301-7**

Date Collected: 04/11/24 12:40

Matrix: Water

Date Received: 04/12/24 09:26

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/23/24 16:10	1
Styrene	ND		1.0	1.0	ug/L			04/23/24 16:10	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/23/24 16:10	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/23/24 16:10	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/23/24 16:10	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/23/24 16:10	1
Toluene	ND		1.0	0.90	ug/L			04/23/24 16:10	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/23/24 16:10	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/23/24 16:10	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/23/24 16:10	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/23/24 16:10	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/23/24 16:10	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/23/24 16:10	1
Trichloroethene	ND		1.0	0.15	ug/L			04/23/24 16:10	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/23/24 16:10	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/23/24 16:10	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/23/24 16:10	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/23/24 16:10	1
Vinyl acetate	ND		25	0.93	ug/L			04/23/24 16:10	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/23/24 16:10	1
Xylenes, Total	ND		10	1.6	ug/L			04/23/24 16:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		72 - 130		04/23/24 16:10	1
Dibromofluoromethane	105		75 - 126		04/23/24 16:10	1
Toluene-d8 (Surr)	86		64 - 132		04/23/24 16:10	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.095	ug/L		04/18/24 10:15	04/19/24 16:50	1
<b>Acenaphthylene</b>	<b>0.056</b>	<b>J</b>	0.19	0.042	ug/L		04/18/24 10:15	04/19/24 16:50	1
Anthracene	ND		0.19	0.045	ug/L		04/18/24 10:15	04/19/24 16:50	1
Benzo[a]anthracene	ND		0.19	0.033	ug/L		04/18/24 10:15	04/19/24 16:50	1
Benzo[a]pyrene	ND		0.19	0.062	ug/L		04/18/24 10:15	04/19/24 16:50	1
Benzo[b]fluoranthene	ND		0.19	0.036	ug/L		04/18/24 10:15	04/19/24 16:50	1
Benzo[g,h,i]perylene	ND		0.19	0.026	ug/L		04/18/24 10:15	04/19/24 16:50	1
Benzo[k]fluoranthene	ND		0.19	0.060	ug/L		04/18/24 10:15	04/19/24 16:50	1
Chrysene	ND		0.19	0.032	ug/L		04/18/24 10:15	04/19/24 16:50	1
Dibenz(a,h)anthracene	ND		0.19	0.046	ug/L		04/18/24 10:15	04/19/24 16:50	1
Fluoranthene	ND		0.19	0.033	ug/L		04/18/24 10:15	04/19/24 16:50	1
Fluorene	ND		0.19	0.086	ug/L		04/18/24 10:15	04/19/24 16:50	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.033	ug/L		04/18/24 10:15	04/19/24 16:50	1
Phenanthrene	ND		0.19	0.087	ug/L		04/18/24 10:15	04/19/24 16:50	1
Pyrene	ND		0.19	0.038	ug/L		04/18/24 10:15	04/19/24 16:50	1
1-Methylnaphthalene	ND		0.19	0.077	ug/L		04/18/24 10:15	04/19/24 16:50	1
2-Methylnaphthalene	ND		0.19	0.064	ug/L		04/18/24 10:15	04/19/24 16:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	82		18 - 147	04/18/24 10:15	04/19/24 16:50	1
2-Fluorobiphenyl	73		15 - 128	04/18/24 10:15	04/19/24 16:50	1

Eurofins Pensacola

# Client Sample Results

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

Job ID: 400-254301-1

**Client Sample ID: MW14-ROX-041124**

**Lab Sample ID: 400-254301-7**

Date Collected: 04/11/24 12:40

Matrix: Water

Date Received: 04/12/24 09:26

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	82		10 - 144	04/18/24 10:15	04/19/24 16:50	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.6	8.4	ug/L		04/18/24 10:15	04/19/24 00:18	1
Benzenethiol	ND		9.6	9.5	ug/L		04/18/24 10:15	04/19/24 00:18	1
Benzoic acid	ND		29	23	ug/L		04/18/24 10:15	04/19/24 00:18	1
Benzyl alcohol	ND		9.6	7.0	ug/L		04/18/24 10:15	04/19/24 00:18	1
Bis(2-chloroethoxy)methane	ND		9.6	4.4	ug/L		04/18/24 10:15	04/19/24 00:18	1
Bis(2-chloroethyl)ether	ND		9.6	3.8	ug/L		04/18/24 10:15	04/19/24 00:18	1
bis (2-chloroisopropyl) ether	ND		9.6	1.7	ug/L		04/18/24 10:15	04/19/24 00:18	1
Bis(2-ethylhexyl) phthalate	ND		9.6	8.6	ug/L		04/18/24 10:15	04/19/24 00:18	1
4-Bromophenyl phenyl ether	ND		9.6	8.3	ug/L		04/18/24 10:15	04/19/24 00:18	1
Butyl benzyl phthalate	ND		9.6	5.6	ug/L		04/18/24 10:15	04/19/24 00:18	1
4-Chloroaniline	ND		9.6	4.5	ug/L		04/18/24 10:15	04/19/24 00:18	1
4-Chloro-3-methylphenol	ND		9.6	5.1	ug/L		04/18/24 10:15	04/19/24 00:18	1
2-Chloronaphthalene	ND		9.6	3.7	ug/L		04/18/24 10:15	04/19/24 00:18	1
2-Chlorophenol	ND		9.6	3.9	ug/L		04/18/24 10:15	04/19/24 00:18	1
4-Chlorophenyl phenyl ether	ND		9.6	3.6	ug/L		04/18/24 10:15	04/19/24 00:18	1
Dibenz[a,h]acridine	ND		9.6	2.7	ug/L		04/18/24 10:15	04/19/24 00:18	1
Dibenzofuran	ND		9.6	3.9	ug/L		04/18/24 10:15	04/19/24 00:18	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/18/24 10:15	04/19/24 00:18	1
2,4-Dichlorophenol	ND		9.6	4.1	ug/L		04/18/24 10:15	04/19/24 00:18	1
Diethyl phthalate	ND		9.6	4.2	ug/L		04/18/24 10:15	04/19/24 00:18	1
2,4-Dimethylphenol	ND		9.6	5.0	ug/L		04/18/24 10:15	04/19/24 00:18	1
Dimethyl phthalate	ND		9.6	4.0	ug/L		04/18/24 10:15	04/19/24 00:18	1
Di-n-butyl phthalate	ND		9.6	4.4	ug/L		04/18/24 10:15	04/19/24 00:18	1
4,6-Dinitro-ortho-cresol	ND		9.6	9.6	ug/L		04/18/24 10:15	04/19/24 00:18	1
2,4-Dinitrophenol	ND		29	4.4	ug/L		04/18/24 10:15	04/19/24 00:18	1
2,4-Dinitrotoluene	ND		9.6	4.9	ug/L		04/18/24 10:15	04/19/24 00:18	1
2,6-Dinitrotoluene	ND		9.6	3.8	ug/L		04/18/24 10:15	04/19/24 00:18	1
Di-n-octyl phthalate	ND		9.6	5.8	ug/L		04/18/24 10:15	04/19/24 00:18	1
1,4-Dioxane	ND		9.6	4.1	ug/L		04/18/24 10:15	04/19/24 00:18	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.6	3.2	ug/L		04/18/24 10:15	04/19/24 00:18	1
Hexachlorobenzene	ND		9.6	9.3	ug/L		04/18/24 10:15	04/19/24 00:18	1
Hexachlorocyclopentadiene	ND		19	4.3	ug/L		04/18/24 10:15	04/19/24 00:18	1
Hexachloroethane	ND		9.6	5.0	ug/L		04/18/24 10:15	04/19/24 00:18	1
Indene	ND		9.6	3.5	ug/L		04/18/24 10:15	04/19/24 00:18	1
Isophorone	ND		9.6	5.0	ug/L		04/18/24 10:15	04/19/24 00:18	1
2-Methylphenol	ND		9.6	3.1	ug/L		04/18/24 10:15	04/19/24 00:18	1
3 & 4 Methylphenol	ND		19	4.4	ug/L		04/18/24 10:15	04/19/24 00:18	1
2-Nitroaniline	ND		9.6	4.8	ug/L		04/18/24 10:15	04/19/24 00:18	1
3-Nitroaniline	ND		9.6	4.5	ug/L		04/18/24 10:15	04/19/24 00:18	1
4-Nitroaniline	ND		9.6	3.9	ug/L		04/18/24 10:15	04/19/24 00:18	1
Nitrobenzene	ND		9.6	4.5	ug/L		04/18/24 10:15	04/19/24 00:18	1
2-Nitrophenol	ND		9.6	4.4	ug/L		04/18/24 10:15	04/19/24 00:18	1
4-Nitrophenol	ND		9.6	3.2	ug/L		04/18/24 10:15	04/19/24 00:18	1
N-Nitrosodimethylamine	ND		9.6	2.1	ug/L		04/18/24 10:15	04/19/24 00:18	1

# Client Sample Results

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

Job ID: 400-254301-1

**Client Sample ID: MW14-ROX-041124**

**Lab Sample ID: 400-254301-7**

**Date Collected: 04/11/24 12:40**

**Matrix: Water**

**Date Received: 04/12/24 09:26**

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.6	2.4	ug/L		04/18/24 10:15	04/19/24 00:18	1
N-Nitrosodiphenylamine	ND		9.6	3.6	ug/L		04/18/24 10:15	04/19/24 00:18	1
Pentachlorophenol	ND		19	11	ug/L		04/18/24 10:15	04/19/24 00:18	1
Phenol	ND		9.6	4.0	ug/L		04/18/24 10:15	04/19/24 00:18	1
Pyridine	ND	UJ	9.6	9.6	ug/L		04/18/24 10:15	04/19/24 00:18	1
Quinoline	ND		9.6	2.3	ug/L		04/18/24 10:15	04/19/24 00:18	1
2,4,5-Trichlorophenol	ND		9.6	3.9	ug/L		04/18/24 10:15	04/19/24 00:18	1
2,4,6-Trichlorophenol	ND		9.6	3.4	ug/L		04/18/24 10:15	04/19/24 00:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	84		21 - 114	04/18/24 10:15	04/19/24 00:18	1
2-Fluorophenol	62		10 - 105	04/18/24 10:15	04/19/24 00:18	1
Nitrobenzene-d5	83		16 - 127	04/18/24 10:15	04/19/24 00:18	1
Phenol-d5	46		10 - 129	04/18/24 10:15	04/19/24 00:18	1
Terphenyl-d14	101		13 - 150	04/18/24 10:15	04/19/24 00:18	1
2,4,6-Tribromophenol	92		10 - 150	04/18/24 10:15	04/19/24 00:18	1

**Method: EPA 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	0.016	ug/L		04/15/24 10:01	04/15/24 22:51	1
1,2-Dibromoethane	ND	UJ	0.019	0.014	ug/L		04/15/24 10:01	04/15/24 22:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	135		51 - 149	04/15/24 10:01	04/15/24 22:51	1

# Definitions/Glossary

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

Job ID: 400-254301-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control 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
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

# Surrogate Summary

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

Job ID: 400-254301-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (72-130)	DBFM (75-126)	TOL (64-132)
400-254301-1	TB-ROX-041124-8260	101	108	86
400-254301-3	MW6A-ROX-041124-EB	96	106	97
400-254301-3	MW6A-ROX-041124-EB	100	109	87
400-254301-4	MW6A-ROX-041124	102	108	86
400-254301-4 MS	MW6A-ROX-041124	99	102	90
400-254301-4 MSD	MW6A-ROX-041124	100	103	89
400-254301-5	MW6B-ROX-041124	102	109	85
400-254301-6	MW6B-ROX-041124-DUP	100	108	87
400-254301-7	MW14-ROX-041124	102	105	86
LCS 400-668692/1002	Lab Control Sample	105	103	104
LCS 400-668958/1002	Lab Control Sample	100	103	89
MB 400-668692/5	Method Blank	94	106	100
MB 400-668958/5	Method Blank	102	108	87

### Surrogate Legend

BFB = 4-Bromofluorobenzene  
DBFM = Dibromofluoromethane  
TOL = Toluene-d8 (Surr)

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (21-114)	2FP (10-105)	NBZ (16-127)	PHL (10-129)	TPHL (13-150)	TBP (10-150)
400-254301-3	MW6A-ROX-041124-EB	76	54	72	41	91	75
400-254301-4	MW6A-ROX-041124	77	55	73	40	94	77
400-254301-5	MW6B-ROX-041124	83	60	78	45	101	89
400-254301-6	MW6B-ROX-041124-DUP	77	57	74	44	94	87
400-254301-7	MW14-ROX-041124	84	62	83	46	101	92
LCS 400-668437/2-A	Lab Control Sample	76	62	79	54	105	92
LCS 400-668437/4-A	Lab Control Sample	73	56	72	43	95	77
LCSD 400-668437/3-A	Lab Control Sample Dup	72	61	77	53	103	86
LCSD 400-668437/5-A	Lab Control Sample Dup	77	58	74	46	95	77
MB 400-668437/1-A	Method Blank	88	63	88	45	110	84

### Surrogate Legend

FBP = 2-Fluorobiphenyl  
2FP = 2-Fluorophenol  
NBZ = Nitrobenzene-d5  
PHL = Phenol-d5  
TPHL = Terphenyl-d14  
TBP = 2,4,6-Tribromophenol

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TPHL (18-147)	FBP (15-128)	NBZ (10-144)
400-254301-3	MW6A-ROX-041124-EB	95	79	79



# Surrogate Summary

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

Job ID: 400-254301-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TPHL (18-147)	FBP (15-128)	NBZ (10-144)
400-254301-4	MW6A-ROX-041124	78	72	75
400-254301-5	MW6B-ROX-041124	77	73	78
400-254301-6	MW6B-ROX-041124-DUP	76	70	74
400-254301-7	MW14-ROX-041124	82	73	82
LCS 400-668437/2-A	Lab Control Sample	93	82	57
LCSD 400-668437/3-A	Lab Control Sample Dup	85	72	53
MB 400-668437/1-A	Method Blank	100	76	84

#### 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

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1 (51-149)
400-254301-2	TB-ROX-041124-8011	720 S1+
400-254301-3	MW6A-ROX-041124-EB	312 S1+
400-254301-4	MW6A-ROX-041124	2266 S1+
400-254301-5	MW6B-ROX-041124	148
400-254301-6	MW6B-ROX-041124-DUP	148
400-254301-7	MW14-ROX-041124	135
LCS 400-667962/2-A	Lab Control Sample	100
LCS 400-668134/2-A	Lab Control Sample	101
LCSD 400-667962/3-A	Lab Control Sample Dup	107
LCSD 400-668134/3-A	Lab Control Sample Dup	120
MB 400-667962/1-A	Method Blank	97
MB 400-668134/1-A	Method Blank	98

#### Surrogate Legend

BFB = 4-Bromofluorobenzene

# Method Summary

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

Job ID: 400-254301-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET PEN
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET PEN
8270E SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	EET PEN
8011	EDB and DBCP in Water by Microextraction	EPA	EET PEN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET PEN
5030C	Purge and Trap	SW846	EET PEN
8011	Microextraction	SW846	EET 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:**

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001



# Lab Chronicle

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

Job ID: 400-254301-1

## Client Sample ID: TB-ROX-041124-8260

## Lab Sample ID: 400-254301-1

Date Collected: 04/11/24 00:00

Matrix: Water

Date Received: 04/12/24 09:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	668958	04/23/24 12:35	CAR	EET PEN

## Client Sample ID: TB-ROX-041124-8011

## Lab Sample ID: 400-254301-2

Date Collected: 04/11/24 00:00

Matrix: Water

Date Received: 04/12/24 09:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35.6 mL	35 mL	668134	04/16/24 10:33	PG	EET PEN
Total/NA	Analysis	8011		1			668262	04/17/24 12:15	PG	EET PEN

## Client Sample ID: MW6A-ROX-041124-EB

## Lab Sample ID: 400-254301-3

Date Collected: 04/11/24 08:20

Matrix: Water

Date Received: 04/12/24 09:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	668958	04/23/24 14:49	CAR	EET PEN
Total/NA	Analysis	8260D		1	5 mL	5 mL	668692	04/20/24 13:06	CAR	EET PEN
Total/NA	Prep	3510C			260.2 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668475	04/18/24 22:44	S1B	EET PEN
Total/NA	Prep	3510C			260.2 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	668581	04/19/24 15:27	S1B	EET PEN
Total/NA	Prep	8011			35.7 mL	35 mL	667962	04/15/24 10:01	PG	EET PEN
Total/NA	Analysis	8011		1			667985	04/15/24 21:25	PG	EET PEN

## Client Sample ID: MW6A-ROX-041124

## Lab Sample ID: 400-254301-4

Date Collected: 04/11/24 10:15

Matrix: Water

Date Received: 04/12/24 09:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	668958	04/23/24 13:02	CAR	EET PEN
Total/NA	Prep	3510C			256.8 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668475	04/18/24 23:08	S1B	EET PEN
Total/NA	Prep	3510C			256.8 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	668581	04/19/24 15:47	S1B	EET PEN
Total/NA	Prep	8011			35.6 mL	35 mL	667962	04/15/24 10:01	PG	EET PEN
Total/NA	Analysis	8011		1			667985	04/15/24 21:46	PG	EET PEN

## Client Sample ID: MW6B-ROX-041124

## Lab Sample ID: 400-254301-5

Date Collected: 04/11/24 11:15

Matrix: Water

Date Received: 04/12/24 09:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	668958	04/23/24 15:16	CAR	EET PEN
Total/NA	Prep	3510C			256.6 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668475	04/18/24 23:31	S1B	EET PEN

# Lab Chronicle

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

Job ID: 400-254301-1

**Client Sample ID: MW6B-ROX-041124**

**Lab Sample ID: 400-254301-5**

**Date Collected: 04/11/24 11:15**

**Matrix: Water**

**Date Received: 04/12/24 09:26**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			256.6 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	668581	04/19/24 16:08	S1B	EET PEN
Total/NA	Prep	8011			35.8 mL	35 mL	667962	04/15/24 10:01	PG	EET PEN
Total/NA	Analysis	8011		1			667985	04/15/24 22:08	PG	EET PEN

**Client Sample ID: MW6B-ROX-041124-DUP**

**Lab Sample ID: 400-254301-6**

**Date Collected: 04/11/24 11:15**

**Matrix: Water**

**Date Received: 04/12/24 09:26**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	668958	04/23/24 15:43	CAR	EET PEN
Total/NA	Prep	3510C			256.2 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668475	04/18/24 23:55	S1B	EET PEN
Total/NA	Prep	3510C			256.2 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	668581	04/19/24 16:29	S1B	EET PEN
Total/NA	Prep	8011			36.6 mL	35 mL	667962	04/15/24 10:01	PG	EET PEN
Total/NA	Analysis	8011		1			667985	04/15/24 22:29	PG	EET PEN

**Client Sample ID: MW14-ROX-041124**

**Lab Sample ID: 400-254301-7**

**Date Collected: 04/11/24 12:40**

**Matrix: Water**

**Date Received: 04/12/24 09:26**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	668958	04/23/24 16:10	CAR	EET PEN
Total/NA	Prep	3510C			259.6 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668475	04/19/24 00:18	S1B	EET PEN
Total/NA	Prep	3510C			259.6 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	668581	04/19/24 16:50	S1B	EET PEN
Total/NA	Prep	8011			36.3 mL	35 mL	667962	04/15/24 10:01	PG	EET PEN
Total/NA	Analysis	8011		1			667985	04/15/24 22:51	PG	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-667962/1-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	667962	04/15/24 10:01	PG	EET PEN
Total/NA	Analysis	8011		1			667985	04/15/24 13:34	PG	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-668134/1-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	668134	04/16/24 10:33	PG	EET PEN
Total/NA	Analysis	8011		1			668262	04/17/24 11:11	PG	EET PEN

Eurofins Pensacola

# Lab Chronicle

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

Job ID: 400-254301-1

## Client Sample ID: Method Blank

## Lab Sample ID: MB 400-668437/1-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	3510C			250 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668475	04/18/24 20:47	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	668419	04/18/24 16:26	KJA	EET PEN

## Client Sample ID: Method Blank

## Lab Sample ID: MB 400-668692/5

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	8260D		1	5 mL	5 mL	668692	04/20/24 10:15	CAR	EET PEN

## Client Sample ID: Method Blank

## Lab Sample ID: MB 400-668958/5

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	8260D		1	5 mL	5 mL	668958	04/23/24 12:08	CAR	EET PEN

## Client Sample ID: Lab Control Sample

## Lab Sample ID: LCS 400-667962/2-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	667962	04/15/24 10:01	PG	EET PEN
Total/NA	Analysis	8011		1			667985	04/15/24 13:55	PG	EET PEN

## Client Sample ID: Lab Control Sample

## Lab Sample ID: LCS 400-668134/2-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	668134	04/16/24 10:33	PG	EET PEN
Total/NA	Analysis	8011		1			668262	04/17/24 11:33	PG	EET PEN

## Client Sample ID: Lab Control Sample

## Lab Sample ID: LCS 400-668437/2-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	3510C			250 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668475	04/18/24 21:10	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E SIM		100	0.4 mL	0.4 mL	668419	04/18/24 16:47	KJA	EET PEN



# Lab Chronicle

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

Job ID: 400-254301-1

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-668437/4-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	3510C			250 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668475	04/18/24 21:57	S1B	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-668692/1002

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	8260D		1	5 mL	5 mL	668692	04/20/24 08:24	CAR	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-668958/1002

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	8260D		1	5 mL	5 mL	668958	04/23/24 10:24	CAR	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-667962/3-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	667962	04/15/24 10:01	PG	EET PEN
Total/NA	Analysis	8011		1			667985	04/15/24 14:16	PG	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-668134/3-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	668134	04/16/24 10:33	PG	EET PEN
Total/NA	Analysis	8011		1			668262	04/17/24 11:54	PG	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-668437/3-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	3510C			250 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668475	04/18/24 21:34	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E SIM		100	0.4 mL	0.4 mL	668419	04/18/24 17:09	KJA	EET PEN

# Lab Chronicle

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

Job ID: 400-254301-1

**Client Sample ID: Lab Control Sample Dup**

**Lab Sample ID: LCSD 400-668437/5-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	3510C			250 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668475	04/18/24 22:21	S1B	EET PEN

**Client Sample ID: MW6A-ROX-041124**

**Lab Sample ID: 400-254301-4 MS**

Date Collected: 04/11/24 10:15

Matrix: Water

Date Received: 04/12/24 09:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	668958	04/23/24 13:29	CAR	EET PEN

**Client Sample ID: MW6A-ROX-041124**

**Lab Sample ID: 400-254301-4 MSD**

Date Collected: 04/11/24 10:15

Matrix: Water

Date Received: 04/12/24 09:26

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	668958	04/23/24 13:56	CAR	EET PEN

**Laboratory References:**

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

# QC Association Summary

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

Job ID: 400-254301-1

## GC/MS VOA

### Analysis Batch: 668692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254301-3	MW6A-ROX-041124-EB	Total/NA	Water	8260D	
MB 400-668692/5	Method Blank	Total/NA	Water	8260D	
LCS 400-668692/1002	Lab Control Sample	Total/NA	Water	8260D	

### Analysis Batch: 668958

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254301-1	TB-ROX-041124-8260	Total/NA	Water	8260D	
400-254301-3	MW6A-ROX-041124-EB	Total/NA	Water	8260D	
400-254301-4	MW6A-ROX-041124	Total/NA	Water	8260D	
400-254301-5	MW6B-ROX-041124	Total/NA	Water	8260D	
400-254301-6	MW6B-ROX-041124-DUP	Total/NA	Water	8260D	
400-254301-7	MW14-ROX-041124	Total/NA	Water	8260D	
MB 400-668958/5	Method Blank	Total/NA	Water	8260D	
LCS 400-668958/1002	Lab Control Sample	Total/NA	Water	8260D	
400-254301-4 MS	MW6A-ROX-041124	Total/NA	Water	8260D	
400-254301-4 MSD	MW6A-ROX-041124	Total/NA	Water	8260D	

## GC/MS Semi VOA

### Analysis Batch: 668419

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-668437/1-A	Method Blank	Total/NA	Water	8270E SIM	668437
LCS 400-668437/2-A	Lab Control Sample	Total/NA	Water	8270E SIM	668437
LCSD 400-668437/3-A	Lab Control Sample Dup	Total/NA	Water	8270E SIM	668437

### Prep Batch: 668437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254301-3	MW6A-ROX-041124-EB	Total/NA	Water	3510C	
400-254301-4	MW6A-ROX-041124	Total/NA	Water	3510C	
400-254301-5	MW6B-ROX-041124	Total/NA	Water	3510C	
400-254301-6	MW6B-ROX-041124-DUP	Total/NA	Water	3510C	
400-254301-7	MW14-ROX-041124	Total/NA	Water	3510C	
MB 400-668437/1-A	Method Blank	Total/NA	Water	3510C	
LCS 400-668437/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 400-668437/4-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 400-668437/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
LCSD 400-668437/5-A	Lab Control Sample Dup	Total/NA	Water	3510C	

### Analysis Batch: 668475

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254301-3	MW6A-ROX-041124-EB	Total/NA	Water	8270E	668437
400-254301-4	MW6A-ROX-041124	Total/NA	Water	8270E	668437
400-254301-5	MW6B-ROX-041124	Total/NA	Water	8270E	668437
400-254301-6	MW6B-ROX-041124-DUP	Total/NA	Water	8270E	668437
400-254301-7	MW14-ROX-041124	Total/NA	Water	8270E	668437
MB 400-668437/1-A	Method Blank	Total/NA	Water	8270E	668437
LCS 400-668437/2-A	Lab Control Sample	Total/NA	Water	8270E	668437
LCS 400-668437/4-A	Lab Control Sample	Total/NA	Water	8270E	668437
LCSD 400-668437/3-A	Lab Control Sample Dup	Total/NA	Water	8270E	668437
LCSD 400-668437/5-A	Lab Control Sample Dup	Total/NA	Water	8270E	668437

# QC Association Summary

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

Job ID: 400-254301-1

## GC/MS Semi VOA

### Analysis Batch: 668581

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254301-3	MW6A-ROX-041124-EB	Total/NA	Water	8270E SIM	668437
400-254301-4	MW6A-ROX-041124	Total/NA	Water	8270E SIM	668437
400-254301-5	MW6B-ROX-041124	Total/NA	Water	8270E SIM	668437
400-254301-6	MW6B-ROX-041124-DUP	Total/NA	Water	8270E SIM	668437
400-254301-7	MW14-ROX-041124	Total/NA	Water	8270E SIM	668437

## GC Semi VOA

### Prep Batch: 667962

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254301-3	MW6A-ROX-041124-EB	Total/NA	Water	8011	
400-254301-4	MW6A-ROX-041124	Total/NA	Water	8011	
400-254301-5	MW6B-ROX-041124	Total/NA	Water	8011	
400-254301-6	MW6B-ROX-041124-DUP	Total/NA	Water	8011	
400-254301-7	MW14-ROX-041124	Total/NA	Water	8011	
MB 400-667962/1-A	Method Blank	Total/NA	Water	8011	
LCS 400-667962/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 400-667962/3-A	Lab Control Sample Dup	Total/NA	Water	8011	

### Analysis Batch: 667985

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254301-3	MW6A-ROX-041124-EB	Total/NA	Water	8011	667962
400-254301-4	MW6A-ROX-041124	Total/NA	Water	8011	667962
400-254301-5	MW6B-ROX-041124	Total/NA	Water	8011	667962
400-254301-6	MW6B-ROX-041124-DUP	Total/NA	Water	8011	667962
400-254301-7	MW14-ROX-041124	Total/NA	Water	8011	667962
MB 400-667962/1-A	Method Blank	Total/NA	Water	8011	667962
LCS 400-667962/2-A	Lab Control Sample	Total/NA	Water	8011	667962
LCSD 400-667962/3-A	Lab Control Sample Dup	Total/NA	Water	8011	667962

### Prep Batch: 668134

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254301-2	TB-ROX-041124-8011	Total/NA	Water	8011	
MB 400-668134/1-A	Method Blank	Total/NA	Water	8011	
LCS 400-668134/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 400-668134/3-A	Lab Control Sample Dup	Total/NA	Water	8011	

### Analysis Batch: 668262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254301-2	TB-ROX-041124-8011	Total/NA	Water	8011	668134
MB 400-668134/1-A	Method Blank	Total/NA	Water	8011	668134
LCS 400-668134/2-A	Lab Control Sample	Total/NA	Water	8011	668134
LCSD 400-668134/3-A	Lab Control Sample Dup	Total/NA	Water	8011	668134

# QC Sample Results

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

Job ID: 400-254301-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 400-668692/5**  
**Matrix: Water**  
**Analysis Batch: 668692**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Butanone (MEK)	ND		25	2.6	ug/L			04/20/24 10:15	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	94		72 - 130					04/20/24 10:15	1
Dibromofluoromethane	106		75 - 126					04/20/24 10:15	1
Toluene-d8 (Surr)	100		64 - 132					04/20/24 10:15	1

**Lab Sample ID: LCS 400-668692/1002**  
**Matrix: Water**  
**Analysis Batch: 668692**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2-Butanone (MEK)	200	208		ug/L		104	61 - 145
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene	105		72 - 130				
Dibromofluoromethane	103		75 - 126				
Toluene-d8 (Surr)	104		64 - 132				

**Lab Sample ID: MB 400-668958/5**  
**Matrix: Water**  
**Analysis Batch: 668958**

**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			04/23/24 12:08	1
Acrolein	ND		20	3.3	ug/L			04/23/24 12:08	1
Acrylonitrile	ND		10	2.8	ug/L			04/23/24 12:08	1
Benzene	ND		1.0	0.50	ug/L			04/23/24 12:08	1
Bromobenzene	ND		1.0	0.54	ug/L			04/23/24 12:08	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/23/24 12:08	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/23/24 12:08	1
Bromoform	ND		5.0	0.25	ug/L			04/23/24 12:08	1
Bromomethane	ND		1.0	0.98	ug/L			04/23/24 12:08	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/23/24 12:08	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/23/24 12:08	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/23/24 12:08	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/23/24 12:08	1
Chloroethane	ND		1.0	0.76	ug/L			04/23/24 12:08	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/23/24 12:08	1
Chloroform	ND		1.0	0.90	ug/L			04/23/24 12:08	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/23/24 12:08	1
Chloromethane	ND		1.0	0.90	ug/L			04/23/24 12:08	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/23/24 12:08	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/23/24 12:08	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/23/24 12:08	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/23/24 12:08	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/23/24 12:08	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/23/24 12:08	1

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# QC Sample Results

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

Job ID: 400-254301-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-668958/5**  
**Matrix: Water**  
**Analysis Batch: 668958**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/23/24 12:08	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/23/24 12:08	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/23/24 12:08	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/23/24 12:08	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/23/24 12:08	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/23/24 12:08	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/23/24 12:08	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/23/24 12:08	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/23/24 12:08	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/23/24 12:08	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/23/24 12:08	1
2-Hexanone	ND		25	1.4	ug/L			04/23/24 12:08	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/23/24 12:08	1
Methylene bromide	ND		5.0	0.22	ug/L			04/23/24 12:08	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/23/24 12:08	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/23/24 12:08	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/23/24 12:08	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/23/24 12:08	1
Naphthalene	ND		5.0	3.0	ug/L			04/23/24 12:08	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/23/24 12:08	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/23/24 12:08	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/23/24 12:08	1
o-Xylene	ND		5.0	0.60	ug/L			04/23/24 12:08	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/23/24 12:08	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/23/24 12:08	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/23/24 12:08	1
Styrene	ND		1.0	1.0	ug/L			04/23/24 12:08	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/23/24 12:08	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/23/24 12:08	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/23/24 12:08	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/23/24 12:08	1
Toluene	ND		1.0	0.90	ug/L			04/23/24 12:08	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/23/24 12:08	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/23/24 12:08	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/23/24 12:08	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/23/24 12:08	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/23/24 12:08	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/23/24 12:08	1
Trichloroethene	ND		1.0	0.15	ug/L			04/23/24 12:08	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/23/24 12:08	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/23/24 12:08	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/23/24 12:08	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/23/24 12:08	1
Vinyl acetate	ND		25	0.93	ug/L			04/23/24 12:08	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/23/24 12:08	1
Xylenes, Total	ND		10	1.6	ug/L			04/23/24 12:08	1

# QC Sample Results

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

Job ID: 400-254301-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-668958/5**  
**Matrix: Water**  
**Analysis Batch: 668958**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene	102		72 - 130		04/23/24 12:08	1
Dibromofluoromethane	108		75 - 126		04/23/24 12:08	1
Toluene-d8 (Surr)	87		64 - 132		04/23/24 12:08	1

**Lab Sample ID: LCS 400-668958/1002**  
**Matrix: Water**  
**Analysis Batch: 668958**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	200	143		ug/L		71	43 - 160
Acrolein	500	446		ug/L		89	38 - 160
Acrylonitrile	500	546		ug/L		109	64 - 142
Benzene	50.0	59.3		ug/L		119	70 - 130
Bromobenzene	50.0	47.9		ug/L		96	70 - 132
Bromochloromethane	50.0	57.9		ug/L		116	70 - 130
Bromodichloromethane	50.0	57.2		ug/L		114	67 - 133
Bromoform	50.0	44.0		ug/L		88	57 - 140
Bromomethane	50.0	41.1		ug/L		82	10 - 160
2-Butanone (MEK)	200	206		ug/L		103	61 - 145
Carbon disulfide	50.0	44.7		ug/L		89	61 - 137
Carbon tetrachloride	50.0	58.8		ug/L		118	61 - 137
Chlorobenzene	50.0	49.7		ug/L		99	70 - 130
Chloroethane	50.0	44.2		ug/L		88	55 - 141
2-Chloroethyl vinyl ether	50.0	61.4		ug/L		123	10 - 160
Chloroform	50.0	57.1		ug/L		114	69 - 130
1-Chlorohexane	50.0	52.8		ug/L		106	69 - 130
Chloromethane	50.0	49.1		ug/L		98	58 - 137
cis-1,2-Dichloroethene	50.0	59.5		ug/L		119	68 - 130
cis-1,3-Dichloropropene	50.0	58.6		ug/L		117	69 - 132
Dibromochloromethane	50.0	46.4		ug/L		93	67 - 135
1,2-Dichlorobenzene	50.0	46.0		ug/L		92	67 - 130
1,3-Dichlorobenzene	50.0	49.5		ug/L		99	70 - 130
1,4-Dichlorobenzene	50.0	48.3		ug/L		97	70 - 130
Dichlorodifluoromethane	50.0	45.8		ug/L		92	41 - 146
1,1-Dichloroethane	50.0	60.9		ug/L		122	70 - 130
1,2-Dichloroethane	50.0	53.6		ug/L		107	69 - 130
1,1-Dichloroethene	50.0	46.7		ug/L		93	63 - 134
1,2-Dichloropropane	50.0	61.1		ug/L		122	70 - 130
1,3-Dichloropropane	50.0	45.9		ug/L		92	70 - 130
2,2-Dichloropropane	50.0	54.9		ug/L		110	52 - 135
1,1-Dichloropropene	50.0	58.2		ug/L		116	70 - 130
Ethylbenzene	50.0	49.7		ug/L		99	70 - 130
Ethyl methacrylate	50.0	43.8		ug/L		88	68 - 130
Hexachlorobutadiene	50.0	66.9		ug/L		134	53 - 140
2-Hexanone	200	161		ug/L		81	65 - 137
Isopropylbenzene	50.0	51.6		ug/L		103	70 - 130
Methylene bromide	50.0	52.0		ug/L		104	70 - 130
Methylene Chloride	50.0	58.7		ug/L		117	66 - 135

# QC Sample Results

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

Job ID: 400-254301-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-668958/1002**  
**Matrix: Water**  
**Analysis Batch: 668958**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
4-Methyl-2-pentanone (MIBK)	200	196		ug/L		98	69 - 138
Methyl tert-butyl ether	50.0	52.3		ug/L		105	66 - 130
m-Xylene & p-Xylene	50.0	51.1		ug/L		102	70 - 130
Naphthalene	50.0	43.2		ug/L		86	47 - 149
n-Butylbenzene	50.0	48.5		ug/L		97	67 - 130
N-Propylbenzene	50.0	49.1		ug/L		98	70 - 130
o-Chlorotoluene	50.0	47.7		ug/L		95	70 - 130
o-Xylene	50.0	49.2		ug/L		98	70 - 130
p-Chlorotoluene	50.0	48.8		ug/L		98	70 - 130
p-Isopropyltoluene	50.0	51.4		ug/L		103	65 - 130
sec-Butylbenzene	50.0	50.7		ug/L		101	66 - 130
Styrene	50.0	49.5		ug/L		99	70 - 130
tert-Butylbenzene	50.0	48.7		ug/L		97	64 - 139
1,1,1,2-Tetrachloroethane	50.0	49.0		ug/L		98	67 - 131
1,1,2,2-Tetrachloroethane	50.0	39.9		ug/L		80	70 - 131
Tetrachloroethene	50.0	53.7		ug/L		107	65 - 130
Toluene	50.0	48.6		ug/L		97	70 - 130
trans-1,2-Dichloroethene	50.0	58.9		ug/L		118	70 - 130
trans-1,3-Dichloropropene	50.0	44.7		ug/L		89	63 - 130
1,2,3-Trichlorobenzene	50.0	52.7		ug/L		105	60 - 138
1,2,4-Trichlorobenzene	50.0	53.7		ug/L		107	60 - 140
1,1,1-Trichloroethane	50.0	56.2		ug/L		112	68 - 130
1,1,2-Trichloroethane	50.0	44.6		ug/L		89	70 - 130
Trichloroethene	50.0	61.4		ug/L		123	70 - 130
Trichlorofluoromethane	50.0	42.4		ug/L		85	65 - 138
1,2,3-Trichloropropane	50.0	40.6		ug/L		81	70 - 130
1,2,4-Trimethylbenzene	50.0	48.2		ug/L		96	70 - 130
1,3,5-Trimethylbenzene	50.0	49.6		ug/L		99	69 - 130
Vinyl acetate	100	121		ug/L		121	26 - 160
Vinyl chloride	50.0	51.0		ug/L		102	59 - 136
Xylenes, Total	100	100		ug/L		100	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	100		72 - 130
Dibromofluoromethane	103		75 - 126
Toluene-d8 (Surr)	89		64 - 132

**Lab Sample ID: 400-254301-4 MS**  
**Matrix: Water**  
**Analysis Batch: 668958**

**Client Sample ID: MW6A-ROX-041124**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	ND		200	112		ug/L		56	43 - 150
Acrolein	ND		500	341		ug/L		68	38 - 150
Acrylonitrile	ND		500	519		ug/L		104	62 - 149
Benzene	ND		50.0	52.1		ug/L		104	56 - 142
Bromobenzene	ND		50.0	38.5		ug/L		77	59 - 136
Bromochloromethane	ND		50.0	52.8		ug/L		106	64 - 140

# QC Sample Results

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

Job ID: 400-254301-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: 400-254301-4 MS**

**Client Sample ID: MW6A-ROX-041124**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 668958**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
Bromodichloromethane	ND		50.0	50.5		ug/L		101	59 - 143
Bromoform	ND		50.0	37.5		ug/L		75	50 - 140
Bromomethane	ND		50.0	26.6		ug/L		53	10 - 150
2-Butanone (MEK)	ND		200	176		ug/L		88	55 - 150
Carbon disulfide	ND		50.0	40.3		ug/L		81	48 - 150
Carbon tetrachloride	ND		50.0	50.9		ug/L		102	55 - 145
Chlorobenzene	ND		50.0	40.5		ug/L		81	64 - 130
Chloroethane	ND		50.0	30.8		ug/L		62	50 - 150
2-Chloroethyl vinyl ether	ND	F1	50.0	ND	F1	ug/L		0	10 - 150
Chloroform	ND		50.0	50.9		ug/L		102	60 - 141
1-Chlorohexane	ND		50.0	40.1		ug/L		80	56 - 136
Chloromethane	ND		50.0	28.4		ug/L		57	49 - 148
cis-1,2-Dichloroethene	ND		50.0	54.0		ug/L		108	59 - 143
cis-1,3-Dichloropropene	ND		50.0	50.3		ug/L		101	57 - 140
Dibromochloromethane	ND		50.0	40.6		ug/L		81	56 - 143
1,2-Dichlorobenzene	ND		50.0	35.6		ug/L		71	52 - 137
1,3-Dichlorobenzene	ND		50.0	36.7		ug/L		73	54 - 135
1,4-Dichlorobenzene	ND		50.0	35.9		ug/L		72	53 - 135
Dichlorodifluoromethane	ND		50.0	21.6		ug/L		43	16 - 150
1,1-Dichloroethane	ND		50.0	54.3		ug/L		109	61 - 144
1,2-Dichloroethane	ND		50.0	48.8		ug/L		98	60 - 141
1,1-Dichloroethene	ND		50.0	41.4		ug/L		83	54 - 147
1,2-Dichloropropane	ND		50.0	54.9		ug/L		110	66 - 137
1,3-Dichloropropane	ND		50.0	40.4		ug/L		81	66 - 133
2,2-Dichloropropane	ND		50.0	48.4		ug/L		97	42 - 144
1,1-Dichloropropene	ND		50.0	50.3		ug/L		101	65 - 136
Ethylbenzene	ND		50.0	39.2		ug/L		78	58 - 131
Ethyl methacrylate	ND		50.0	38.7		ug/L		77	64 - 130
Hexachlorobutadiene	ND		50.0	39.6		ug/L		79	31 - 149
2-Hexanone	ND		200	138		ug/L		69	65 - 140
Isopropylbenzene	ND		50.0	39.1		ug/L		78	56 - 133
Methylene bromide	ND		50.0	46.7		ug/L		93	63 - 138
Methylene Chloride	ND		50.0	52.6		ug/L		105	60 - 146
4-Methyl-2-pentanone (MIBK)	ND		200	179		ug/L		90	63 - 146
Methyl tert-butyl ether	ND		50.0	47.8		ug/L		96	59 - 137
m-Xylene & p-Xylene	ND		50.0	39.7		ug/L		79	57 - 130
Naphthalene	ND		50.0	33.9		ug/L		68	25 - 150
n-Butylbenzene	ND		50.0	31.2		ug/L		62	41 - 142
N-Propylbenzene	ND		50.0	35.2		ug/L		70	51 - 138
o-Chlorotoluene	ND		50.0	35.3		ug/L		71	53 - 134
o-Xylene	ND		50.0	39.0		ug/L		78	61 - 130
p-Chlorotoluene	ND		50.0	35.6		ug/L		71	54 - 133
p-Isopropyltoluene	ND		50.0	34.3		ug/L		69	48 - 139
sec-Butylbenzene	ND		50.0	35.1		ug/L		70	50 - 138
Styrene	ND		50.0	39.5		ug/L		79	58 - 131
tert-Butylbenzene	ND		50.0	35.2		ug/L		70	54 - 146
1,1,1,2-Tetrachloroethane	ND		50.0	41.2		ug/L		82	59 - 137
1,1,1,2,2-Tetrachloroethane	ND		50.0	35.3		ug/L		71	66 - 135
Tetrachloroethene	ND		50.0	41.3		ug/L		83	52 - 133

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# QC Sample Results

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

Job ID: 400-254301-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: 400-254301-4 MS**

**Matrix: Water**

**Analysis Batch: 668958**

**Client Sample ID: MW6A-ROX-041124**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Toluene	ND		50.0	40.5		ug/L		81	65 - 130
trans-1,2-Dichloroethene	ND		50.0	51.5		ug/L		103	61 - 143
trans-1,3-Dichloropropene	ND		50.0	38.1		ug/L		76	53 - 133
1,2,3-Trichlorobenzene	ND		50.0	38.3		ug/L		77	43 - 145
1,2,4-Trichlorobenzene	ND		50.0	38.0		ug/L		76	39 - 148
1,1,1-Trichloroethane	ND		50.0	49.8		ug/L		100	57 - 142
1,1,2-Trichloroethane	ND		50.0	40.3		ug/L		81	66 - 131
Trichloroethene	ND		50.0	52.4		ug/L		105	64 - 136
Trichlorofluoromethane	ND		50.0	30.7		ug/L		61	54 - 150
1,2,3-Trichloropropane	ND		50.0	35.5		ug/L		71	65 - 133
1,2,4-Trimethylbenzene	ND		50.0	34.8		ug/L		70	50 - 139
1,3,5-Trimethylbenzene	ND		50.0	35.6		ug/L		71	52 - 135
Vinyl acetate	ND		100	90.6		ug/L		91	26 - 150
Vinyl chloride	ND		50.0	33.2		ug/L		66	46 - 150
Xylenes, Total	ND		100	78.6		ug/L		79	59 - 130

Surrogate	MS %Recovery	MS Qualifier	MS Limits
4-Bromofluorobenzene	99		72 - 130
Dibromofluoromethane	102		75 - 126
Toluene-d8 (Surr)	90		64 - 132

**Lab Sample ID: 400-254301-4 MSD**

**Matrix: Water**

**Analysis Batch: 668958**

**Client Sample ID: MW6A-ROX-041124**

**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	122		ug/L		61	43 - 150	9	30
Acrolein	ND		500	333		ug/L		67	38 - 150	3	31
Acrylonitrile	ND		500	562		ug/L		112	62 - 149	8	30
Benzene	ND		50.0	54.4		ug/L		109	56 - 142	4	30
Bromobenzene	ND		50.0	41.4		ug/L		83	59 - 136	7	30
Bromochloromethane	ND		50.0	55.8		ug/L		112	64 - 140	6	30
Bromodichloromethane	ND		50.0	53.4		ug/L		107	59 - 143	6	30
Bromoform	ND		50.0	41.3		ug/L		83	50 - 140	10	30
Bromomethane	ND		50.0	25.5		ug/L		51	10 - 150	4	50
2-Butanone (MEK)	ND		200	200		ug/L		100	55 - 150	13	30
Carbon disulfide	ND		50.0	41.9		ug/L		84	48 - 150	4	30
Carbon tetrachloride	ND		50.0	53.1		ug/L		106	55 - 145	4	30
Chlorobenzene	ND		50.0	43.1		ug/L		86	64 - 130	6	30
Chloroethane	ND		50.0	27.3		ug/L		55	50 - 150	12	30
2-Chloroethyl vinyl ether	ND	F1	50.0	ND	F1	ug/L		0	0 - 150	NC	50
Chloroform	ND		50.0	53.5		ug/L		107	60 - 141	5	30
1-Chlorohexane	ND		50.0	41.7		ug/L		83	56 - 136	4	30
Chloromethane	ND		50.0	26.7		ug/L		53	49 - 148	6	31
cis-1,2-Dichloroethene	ND		50.0	56.4		ug/L		113	59 - 143	4	30
cis-1,3-Dichloropropene	ND		50.0	53.8		ug/L		108	57 - 140	7	30
Dibromochloromethane	ND		50.0	43.4		ug/L		87	56 - 143	7	30
1,2-Dichlorobenzene	ND		50.0	38.9		ug/L		78	52 - 137	9	30

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# QC Sample Results

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

Job ID: 400-254301-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: 400-254301-4 MSD**

**Client Sample ID: MW6A-ROX-041124**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 668958**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,3-Dichlorobenzene	ND		50.0	39.8		ug/L		80	54 - 135	8	30
1,4-Dichlorobenzene	ND		50.0	39.1		ug/L		78	53 - 135	8	30
Dichlorodifluoromethane	ND		50.0	20.2		ug/L		40	16 - 150	7	31
1,1-Dichloroethane	ND		50.0	56.1		ug/L		112	61 - 144	3	30
1,2-Dichloroethane	ND		50.0	51.3		ug/L		103	60 - 141	5	30
1,1-Dichloroethene	ND		50.0	42.7		ug/L		85	54 - 147	3	30
1,2-Dichloropropane	ND		50.0	58.4		ug/L		117	66 - 137	6	30
1,3-Dichloropropane	ND		50.0	43.6		ug/L		87	66 - 133	8	30
2,2-Dichloropropane	ND		50.0	50.4		ug/L		101	42 - 144	4	31
1,1-Dichloropropene	ND		50.0	52.2		ug/L		104	65 - 136	4	30
Ethylbenzene	ND		50.0	41.6		ug/L		83	58 - 131	6	30
Ethyl methacrylate	ND		50.0	42.8		ug/L		86	64 - 130	10	30
Hexachlorobutadiene	ND		50.0	48.5		ug/L		97	31 - 149	20	36
2-Hexanone	ND		200	154		ug/L		77	65 - 140	11	30
Isopropylbenzene	ND		50.0	42.0		ug/L		84	56 - 133	7	30
Methylene bromide	ND		50.0	49.9		ug/L		100	63 - 138	7	30
Methylene Chloride	ND		50.0	56.3		ug/L		113	60 - 146	7	32
4-Methyl-2-pentanone (MIBK)	ND		200	198		ug/L		99	63 - 146	10	30
Methyl tert-butyl ether	ND		50.0	51.6		ug/L		103	59 - 137	8	30
m-Xylene & p-Xylene	ND		50.0	42.0		ug/L		84	57 - 130	6	30
Naphthalene	ND		50.0	40.0		ug/L		80	25 - 150	16	30
n-Butylbenzene	ND		50.0	35.2		ug/L		70	41 - 142	12	31
N-Propylbenzene	ND		50.0	37.8		ug/L		76	51 - 138	7	30
o-Chlorotoluene	ND		50.0	37.7		ug/L		75	53 - 134	7	30
o-Xylene	ND		50.0	41.9		ug/L		84	61 - 130	7	30
p-Chlorotoluene	ND		50.0	38.3		ug/L		77	54 - 133	7	30
p-Isopropyltoluene	ND		50.0	38.1		ug/L		76	48 - 139	10	30
sec-Butylbenzene	ND		50.0	38.2		ug/L		76	50 - 138	9	30
Styrene	ND		50.0	42.1		ug/L		84	58 - 131	6	30
tert-Butylbenzene	ND		50.0	38.0		ug/L		76	54 - 146	8	30
1,1,1,2-Tetrachloroethane	ND		50.0	43.3		ug/L		87	59 - 137	5	30
1,1,1,2,2-Tetrachloroethane	ND		50.0	39.3		ug/L		79	66 - 135	11	30
Tetrachloroethene	ND		50.0	44.5		ug/L		89	52 - 133	7	30
Toluene	ND		50.0	42.4		ug/L		85	65 - 130	5	30
trans-1,2-Dichloroethene	ND		50.0	53.5		ug/L		107	61 - 143	4	30
trans-1,3-Dichloropropene	ND		50.0	41.0		ug/L		82	53 - 133	7	30
1,2,3-Trichlorobenzene	ND		50.0	44.7		ug/L		89	43 - 145	15	30
1,2,4-Trichlorobenzene	ND		50.0	42.8		ug/L		86	39 - 148	12	30
1,1,1-Trichloroethane	ND		50.0	52.0		ug/L		104	57 - 142	4	30
1,1,2-Trichloroethane	ND		50.0	42.5		ug/L		85	66 - 131	5	30
Trichloroethene	ND		50.0	55.0		ug/L		110	64 - 136	5	30
Trichlorofluoromethane	ND		50.0	28.5		ug/L		57	54 - 150	7	30
1,2,3-Trichloropropane	ND		50.0	39.8		ug/L		80	65 - 133	12	30
1,2,4-Trimethylbenzene	ND		50.0	38.7		ug/L		77	50 - 139	11	30
1,3,5-Trimethylbenzene	ND		50.0	38.6		ug/L		77	52 - 135	8	30
Vinyl acetate	ND		100	86.0		ug/L		86	26 - 150	5	33
Vinyl chloride	ND		50.0	30.8		ug/L		62	46 - 150	8	30
Xylenes, Total	ND		100	83.8		ug/L		84	59 - 130	6	30

# QC Sample Results

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

Job ID: 400-254301-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: 400-254301-4 MSD**  
**Matrix: Water**  
**Analysis Batch: 668958**

**Client Sample ID: MW6A-ROX-041124**  
**Prep Type: Total/NA**

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene	100		72 - 130
Dibromofluoromethane	103		75 - 126
Toluene-d8 (Surr)	89		64 - 132

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

**Lab Sample ID: MB 400-668437/1-A**  
**Matrix: Water**  
**Analysis Batch: 668475**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 668437**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	8.7	ug/L		04/18/24 10:15	04/18/24 20:47	1
Benzenethiol	ND		10	9.9	ug/L		04/18/24 10:15	04/18/24 20:47	1
Benzoic acid	ND		30	24	ug/L		04/18/24 10:15	04/18/24 20:47	1
Benzyl alcohol	ND		10	7.3	ug/L		04/18/24 10:15	04/18/24 20:47	1
Bis(2-chloroethoxy)methane	ND		10	4.6	ug/L		04/18/24 10:15	04/18/24 20:47	1
Bis(2-chloroethyl)ether	ND		10	3.9	ug/L		04/18/24 10:15	04/18/24 20:47	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		04/18/24 10:15	04/18/24 20:47	1
Bis(2-ethylhexyl) phthalate	ND		10	8.9	ug/L		04/18/24 10:15	04/18/24 20:47	1
4-Bromophenyl phenyl ether	ND		10	8.6	ug/L		04/18/24 10:15	04/18/24 20:47	1
Butyl benzyl phthalate	ND		10	5.8	ug/L		04/18/24 10:15	04/18/24 20:47	1
4-Chloroaniline	ND		10	4.7	ug/L		04/18/24 10:15	04/18/24 20:47	1
4-Chloro-3-methylphenol	ND		10	5.3	ug/L		04/18/24 10:15	04/18/24 20:47	1
2-Chloronaphthalene	ND		10	3.8	ug/L		04/18/24 10:15	04/18/24 20:47	1
2-Chlorophenol	ND		10	4.1	ug/L		04/18/24 10:15	04/18/24 20:47	1
4-Chlorophenyl phenyl ether	ND		10	3.7	ug/L		04/18/24 10:15	04/18/24 20:47	1
Dibenz[a,h]acridine	ND		10	2.8	ug/L		04/18/24 10:15	04/18/24 20:47	1
Dibenzofuran	ND		10	4.0	ug/L		04/18/24 10:15	04/18/24 20:47	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/18/24 10:15	04/18/24 20:47	1
2,4-Dichlorophenol	ND		10	4.3	ug/L		04/18/24 10:15	04/18/24 20:47	1
Diethyl phthalate	ND		10	4.4	ug/L		04/18/24 10:15	04/18/24 20:47	1
2,4-Dimethylphenol	ND		10	5.2	ug/L		04/18/24 10:15	04/18/24 20:47	1
Dimethyl phthalate	ND		10	4.2	ug/L		04/18/24 10:15	04/18/24 20:47	1
Di-n-butyl phthalate	ND		10	4.6	ug/L		04/18/24 10:15	04/18/24 20:47	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		04/18/24 10:15	04/18/24 20:47	1
2,4-Dinitrophenol	ND		30	4.6	ug/L		04/18/24 10:15	04/18/24 20:47	1
2,4-Dinitrotoluene	ND		10	5.1	ug/L		04/18/24 10:15	04/18/24 20:47	1
2,6-Dinitrotoluene	ND		10	3.9	ug/L		04/18/24 10:15	04/18/24 20:47	1
Di-n-octyl phthalate	ND		10	6.0	ug/L		04/18/24 10:15	04/18/24 20:47	1
1,4-Dioxane	ND		10	4.3	ug/L		04/18/24 10:15	04/18/24 20:47	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.3	ug/L		04/18/24 10:15	04/18/24 20:47	1
Hexachlorobenzene	ND		10	9.7	ug/L		04/18/24 10:15	04/18/24 20:47	1
Hexachlorocyclopentadiene	ND		20	4.5	ug/L		04/18/24 10:15	04/18/24 20:47	1
Hexachloroethane	ND		10	5.2	ug/L		04/18/24 10:15	04/18/24 20:47	1
Indene	ND		10	3.6	ug/L		04/18/24 10:15	04/18/24 20:47	1
Isophorone	ND		10	5.2	ug/L		04/18/24 10:15	04/18/24 20:47	1
2-Methylphenol	ND		10	3.2	ug/L		04/18/24 10:15	04/18/24 20:47	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		04/18/24 10:15	04/18/24 20:47	1

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# QC Sample Results

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

Job ID: 400-254301-1

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

**Lab Sample ID: MB 400-668437/1-A**  
**Matrix: Water**  
**Analysis Batch: 668475**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 668437**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		10	5.0	ug/L		04/18/24 10:15	04/18/24 20:47	1
3-Nitroaniline	ND		10	4.7	ug/L		04/18/24 10:15	04/18/24 20:47	1
4-Nitroaniline	ND		10	4.1	ug/L		04/18/24 10:15	04/18/24 20:47	1
Nitrobenzene	ND		10	4.7	ug/L		04/18/24 10:15	04/18/24 20:47	1
2-Nitrophenol	ND		10	4.6	ug/L		04/18/24 10:15	04/18/24 20:47	1
4-Nitrophenol	ND		10	3.3	ug/L		04/18/24 10:15	04/18/24 20:47	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		04/18/24 10:15	04/18/24 20:47	1
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		04/18/24 10:15	04/18/24 20:47	1
N-Nitrosodiphenylamine	ND		10	3.7	ug/L		04/18/24 10:15	04/18/24 20:47	1
Pentachlorophenol	ND		20	12	ug/L		04/18/24 10:15	04/18/24 20:47	1
Phenol	ND		10	4.2	ug/L		04/18/24 10:15	04/18/24 20:47	1
Pyridine	ND		10	10	ug/L		04/18/24 10:15	04/18/24 20:47	1
Quinoline	ND		10	2.4	ug/L		04/18/24 10:15	04/18/24 20:47	1
2,4,5-Trichlorophenol	ND		10	4.0	ug/L		04/18/24 10:15	04/18/24 20:47	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/18/24 10:15	04/18/24 20:47	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	88		21 - 114	04/18/24 10:15	04/18/24 20:47	1
2-Fluorophenol	63		10 - 105	04/18/24 10:15	04/18/24 20:47	1
Nitrobenzene-d5	88		16 - 127	04/18/24 10:15	04/18/24 20:47	1
Phenol-d5	45		10 - 129	04/18/24 10:15	04/18/24 20:47	1
Terphenyl-d14	110		13 - 150	04/18/24 10:15	04/18/24 20:47	1
2,4,6-Tribromophenol	84		10 - 150	04/18/24 10:15	04/18/24 20:47	1

**Lab Sample ID: LCS 400-668437/2-A**  
**Matrix: Water**  
**Analysis Batch: 668475**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 668437**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aniline	120	43.7		ug/L		36	10 - 127
Benzoic acid	492	221		ug/L		45	19 - 126
Benzyl alcohol	120	80.0		ug/L		67	17 - 109
Bis(2-chloroethoxy)methane	120	82.6		ug/L		69	24 - 125
Bis(2-chloroethyl)ether	120	76.2		ug/L		64	10 - 121
bis (2-chloroisopropyl) ether	120	82.3		ug/L		69	14 - 123
Bis(2-ethylhexyl) phthalate	120	125		ug/L		104	16 - 150
4-Bromophenyl phenyl ether	120	106		ug/L		88	17 - 150
Butyl benzyl phthalate	120	119		ug/L		99	21 - 150
4-Chloroaniline	120	76.6		ug/L		64	10 - 124
4-Chloro-3-methylphenol	120	89.2		ug/L		74	37 - 131
2-Chloronaphthalene	120	93.5		ug/L		78	24 - 132
2-Chlorophenol	120	89.7		ug/L		75	27 - 124
4-Chlorophenyl phenyl ether	120	96.4		ug/L		80	27 - 147
Dibenz[a,h]acridine	120	105		ug/L		88	40 - 140
Dibenzofuran	120	96.5		ug/L		80	30 - 135
3,3'-Dichlorobenzidine	160	144		ug/L		90	10 - 150
2,4-Dichlorophenol	120	86.8		ug/L		72	33 - 132
Diethyl phthalate	120	111		ug/L		92	37 - 145

# QC Sample Results

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

Job ID: 400-254301-1

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

**Lab Sample ID: LCS 400-668437/2-A**  
**Matrix: Water**  
**Analysis Batch: 668475**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 668437**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4-Dimethylphenol	120	105		ug/L		88	38 - 132
Dimethyl phthalate	120	101		ug/L		84	32 - 137
Di-n-butyl phthalate	120	112		ug/L		93	27 - 150
4,6-Dinitro-ortho-cresol	240	231		ug/L		96	14 - 150
2,4-Dinitrophenol	240	304		ug/L		127	15 - 150
2,4-Dinitrotoluene	120	100		ug/L		84	35 - 136
2,6-Dinitrotoluene	120	92.3		ug/L		77	29 - 140
Di-n-octyl phthalate	120	113		ug/L		94	26 - 150
1,4-Dioxane	120	42.0		ug/L		35	10 - 87
1,2-Diphenylhydrazine (as Azobenzene)	120	103		ug/L		86	23 - 138
Hexachlorobenzene	120	110		ug/L		92	10 - 150
Hexachlorocyclopentadiene	120	73.0		ug/L		61	10 - 124
Hexachloroethane	120	74.6		ug/L		62	10 - 127
Indene	120	87.8		ug/L		73	18 - 150
Isophorone	120	83.8		ug/L		70	28 - 127
2-Methylphenol	120	90.9		ug/L		76	34 - 124
3 & 4 Methylphenol	120	87.6		ug/L		73	32 - 122
2-Nitroaniline	120	94.3		ug/L		79	24 - 139
3-Nitroaniline	120	74.4		ug/L		62	10 - 128
4-Nitroaniline	120	83.2		ug/L		69	28 - 118
Nitrobenzene	120	81.3		ug/L		68	29 - 120
2-Nitrophenol	120	85.4		ug/L		71	25 - 148
4-Nitrophenol	240	179		ug/L		75	12 - 129
N-Nitrosodimethylamine	120	53.4		ug/L		44	10 - 115
N-Nitrosodi-n-propylamine	120	98.0		ug/L		82	24 - 142
N-Nitrosodiphenylamine	119	101		ug/L		85	29 - 138
Pentachlorophenol	240	206		ug/L		86	19 - 150
Phenol	120	59.6		ug/L		50	11 - 95
Pyridine	240	42.6		ug/L		18	10 - 82
Quinoline	120	85.5		ug/L		71	40 - 140
2,4,5-Trichlorophenol	120	92.7		ug/L		77	30 - 144
2,4,6-Trichlorophenol	120	96.4		ug/L		80	27 - 147

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	76		21 - 114
2-Fluorophenol	62		10 - 105
Nitrobenzene-d5	79		16 - 127
Phenol-d5	54		10 - 129
Terphenyl-d14	105		13 - 150
2,4,6-Tribromophenol	92		10 - 150

**Lab Sample ID: LCS 400-668437/4-A**  
**Matrix: Water**  
**Analysis Batch: 668475**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 668437**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzenethiol	120	83.0		ug/L		69	10 - 140

# QC Sample Results

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

Job ID: 400-254301-1

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

**Lab Sample ID: LCS 400-668437/4-A**  
**Matrix: Water**  
**Analysis Batch: 668475**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 668437**

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	73		21 - 114
2-Fluorophenol	56		10 - 105
Nitrobenzene-d5	72		16 - 127
Phenol-d5	43		10 - 129
Terphenyl-d14	95		13 - 150
2,4,6-Tribromophenol	77		10 - 150

**Lab Sample ID: LCSD 400-668437/3-A**  
**Matrix: Water**  
**Analysis Batch: 668475**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 668437**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	RPD Limit
							Limits	RPD		
Aniline	120	39.0		ug/L		33	10 - 127	11	40	
Benzoic acid	492	199		ug/L		41	19 - 126	10	40	
Benzyl alcohol	120	77.6		ug/L		65	17 - 109	3	40	
Bis(2-chloroethoxy)methane	120	79.7		ug/L		66	24 - 125	4	40	
Bis(2-chloroethyl)ether	120	74.7		ug/L		62	10 - 121	2	40	
bis (2-chloroisopropyl) ether	120	79.1		ug/L		66	14 - 123	4	40	
Bis(2-ethylhexyl) phthalate	120	120		ug/L		100	16 - 150	3	40	
4-Bromophenyl phenyl ether	120	104		ug/L		86	17 - 150	2	40	
Butyl benzyl phthalate	120	116		ug/L		96	21 - 150	3	40	
4-Chloroaniline	120	73.6		ug/L		61	10 - 124	4	40	
4-Chloro-3-methylphenol	120	84.3		ug/L		70	37 - 131	6	40	
2-Chloronaphthalene	120	89.7		ug/L		75	24 - 132	4	40	
2-Chlorophenol	120	85.9		ug/L		72	27 - 124	4	40	
4-Chlorophenyl phenyl ether	120	92.0		ug/L		77	27 - 147	5	40	
Dibenz[a,h]acridine	120	108		ug/L		90	40 - 140	3	40	
Dibenzofuran	120	91.5		ug/L		76	30 - 135	5	40	
3,3'-Dichlorobenzidine	160	143		ug/L		90	10 - 150	0	40	
2,4-Dichlorophenol	120	82.7		ug/L		69	33 - 132	5	40	
Diethyl phthalate	120	105		ug/L		88	37 - 145	5	40	
2,4-Dimethylphenol	120	99.6		ug/L		83	38 - 132	5	40	
Dimethyl phthalate	120	96.8		ug/L		81	32 - 137	4	40	
Di-n-butyl phthalate	120	107		ug/L		89	27 - 150	4	40	
4,6-Dinitro-ortho-cresol	240	232		ug/L		97	14 - 150	0	40	
2,4-Dinitrophenol	240	311		ug/L		129	15 - 150	2	40	
2,4-Dinitrotoluene	120	95.3		ug/L		79	35 - 136	5	40	
2,6-Dinitrotoluene	120	89.4		ug/L		74	29 - 140	3	40	
Di-n-octyl phthalate	120	109		ug/L		90	26 - 150	4	40	
1,4-Dioxane	120	38.2		ug/L		32	10 - 87	9	40	
1,2-Diphenylhydrazine (as Azobenzene)	120	101		ug/L		84	23 - 138	2	40	
Hexachlorobenzene	120	106		ug/L		88	10 - 150	5	40	
Hexachlorocyclopentadiene	120	66.2		ug/L		55	10 - 124	10	40	
Hexachloroethane	120	76.1		ug/L		63	10 - 127	2	40	
Indene	120	84.5		ug/L		70	18 - 150	4	40	
Isophorone	120	80.6		ug/L		67	28 - 127	4	40	
2-Methylphenol	120	88.0		ug/L		73	34 - 124	3	40	
3 & 4 Methylphenol	120	85.2		ug/L		71	32 - 122	3	40	

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# QC Sample Results

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

Job ID: 400-254301-1

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

**Lab Sample ID: LCSD 400-668437/3-A**  
**Matrix: Water**  
**Analysis Batch: 668475**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 668437**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2-Nitroaniline	120	92.1		ug/L		77	24 - 139	2	40
3-Nitroaniline	120	71.8		ug/L		60	10 - 128	4	40
4-Nitroaniline	120	78.3		ug/L		65	28 - 118	6	40
Nitrobenzene	120	79.1		ug/L		66	29 - 120	3	40
2-Nitrophenol	120	83.1		ug/L		69	25 - 148	3	40
4-Nitrophenol	240	181		ug/L		76	12 - 129	1	40
N-Nitrosodimethylamine	120	49.3		ug/L		41	10 - 115	8	40
N-Nitrosodi-n-propylamine	120	93.1		ug/L		78	24 - 142	5	40
N-Nitrosodiphenylamine	119	99.3		ug/L		83	29 - 138	2	40
Pentachlorophenol	240	197		ug/L		82	19 - 150	4	40
Phenol	120	62.6		ug/L		52	11 - 95	5	40
Pyridine	240	41.7		ug/L		17	10 - 82	2	40
Quinoline	120	80.9		ug/L		68	40 - 140	6	40
2,4,5-Trichlorophenol	120	89.0		ug/L		74	30 - 144	4	40
2,4,6-Trichlorophenol	120	92.5		ug/L		77	27 - 147	4	40

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
2-Fluorobiphenyl	72		21 - 114
2-Fluorophenol	61		10 - 105
Nitrobenzene-d5	77		16 - 127
Phenol-d5	53		10 - 129
Terphenyl-d14	103		13 - 150
2,4,6-Tribromophenol	86		10 - 150

**Lab Sample ID: LCSD 400-668437/5-A**  
**Matrix: Water**  
**Analysis Batch: 668475**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 668437**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzenethiol	120	98.4		ug/L		82	10 - 140	17	40

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
2-Fluorobiphenyl	77		21 - 114
2-Fluorophenol	58		10 - 105
Nitrobenzene-d5	74		16 - 127
Phenol-d5	46		10 - 129
Terphenyl-d14	95		13 - 150
2,4,6-Tribromophenol	77		10 - 150

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

**Lab Sample ID: MB 400-668437/1-A**  
**Matrix: Water**  
**Analysis Batch: 668419**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 668437**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.099	ug/L		04/18/24 10:15	04/18/24 16:26	1
Acenaphthylene	ND		0.20	0.044	ug/L		04/18/24 10:15	04/18/24 16:26	1

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# QC Sample Results

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

Job ID: 400-254301-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: MB 400-668437/1-A**  
**Matrix: Water**  
**Analysis Batch: 668419**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 668437**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		0.20	0.047	ug/L		04/18/24 10:15	04/18/24 16:26	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		04/18/24 10:15	04/18/24 16:26	1
Benzo[a]pyrene	ND		0.20	0.064	ug/L		04/18/24 10:15	04/18/24 16:26	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		04/18/24 10:15	04/18/24 16:26	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		04/18/24 10:15	04/18/24 16:26	1
Benzo[k]fluoranthene	ND		0.20	0.062	ug/L		04/18/24 10:15	04/18/24 16:26	1
Chrysene	ND		0.20	0.033	ug/L		04/18/24 10:15	04/18/24 16:26	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		04/18/24 10:15	04/18/24 16:26	1
Fluoranthene	ND		0.20	0.034	ug/L		04/18/24 10:15	04/18/24 16:26	1
Fluorene	ND		0.20	0.089	ug/L		04/18/24 10:15	04/18/24 16:26	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		04/18/24 10:15	04/18/24 16:26	1
Phenanthrene	ND		0.20	0.090	ug/L		04/18/24 10:15	04/18/24 16:26	1
Pyrene	ND		0.20	0.039	ug/L		04/18/24 10:15	04/18/24 16:26	1
1-Methylnaphthalene	ND		0.20	0.080	ug/L		04/18/24 10:15	04/18/24 16:26	1
2-Methylnaphthalene	ND		0.20	0.066	ug/L		04/18/24 10:15	04/18/24 16:26	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	100		18 - 147	04/18/24 10:15	04/18/24 16:26	1
2-Fluorobiphenyl	76		15 - 128	04/18/24 10:15	04/18/24 16:26	1
Nitrobenzene-d5	84		10 - 144	04/18/24 10:15	04/18/24 16:26	1

**Lab Sample ID: LCS 400-668437/2-A**  
**Matrix: Water**  
**Analysis Batch: 668419**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 668437**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Acenaphthene	120	106		ug/L		88	10 - 140
Acenaphthylene	120	101		ug/L		84	10 - 140
Anthracene	120	107		ug/L		89	19 - 140
Benzo[a]anthracene	120	99.5		ug/L		83	25 - 140
Benzo[a]pyrene	120	109		ug/L		91	24 - 140
Benzo[b]fluoranthene	120	104		ug/L		86	34 - 140
Benzo[g,h,i]perylene	120	107		ug/L		90	13 - 140
Benzo[k]fluoranthene	120	130		ug/L		109	21 - 140
Chrysene	120	122		ug/L		101	28 - 140
Dibenz(a,h)anthracene	120	110		ug/L		91	10 - 140
Fluoranthene	120	107		ug/L		89	18 - 140
Fluorene	120	115		ug/L		96	16 - 140
Indeno[1,2,3-cd]pyrene	120	108		ug/L		90	10 - 140
Phenanthrene	120	106		ug/L		89	22 - 140
Pyrene	120	96.6		ug/L		80	38 - 140
1-Methylnaphthalene	120	77.2		ug/L		64	10 - 140
2-Methylnaphthalene	120	74.5		ug/L		62	10 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	93		18 - 147
2-Fluorobiphenyl	82		15 - 128
Nitrobenzene-d5	57		10 - 144

# QC Sample Results

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

Job ID: 400-254301-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

**Lab Sample ID: LCSD 400-668437/3-A**  
**Matrix: Water**  
**Analysis Batch: 668419**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 668437**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Acenaphthene	120	94.7		ug/L		79	10 - 140	11	40
Acenaphthylene	120	87.5		ug/L		73	10 - 140	14	40
Anthracene	120	94.7		ug/L		79	19 - 140	13	40
Benzo[a]anthracene	120	84.7		ug/L		71	25 - 140	16	40
Benzo[a]pyrene	120	98.8		ug/L		82	24 - 140	10	40
Benzo[b]fluoranthene	120	93.0		ug/L		77	34 - 140	11	40
Benzo[g,h,i]perylene	120	97.6		ug/L		81	13 - 140	10	40
Benzo[k]fluoranthene	120	132		ug/L		110	21 - 140	1	40
Chrysene	120	117		ug/L		97	28 - 140	4	40
Dibenz(a,h)anthracene	120	87.1		ug/L		73	10 - 140	23	40
Fluoranthene	120	92.6		ug/L		77	18 - 140	14	40
Fluorene	120	98.7		ug/L		82	16 - 140	15	40
Indeno[1,2,3-cd]pyrene	120	97.5		ug/L		81	10 - 140	11	40
Phenanthrene	120	94.5		ug/L		79	22 - 140	12	40
Pyrene	120	91.7		ug/L		76	38 - 140	5	40
1-Methylnaphthalene	120	71.7		ug/L		60	10 - 140	7	40
2-Methylnaphthalene	120	68.5		ug/L		57	10 - 140	8	40

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
Terphenyl-d14	85		18 - 147
2-Fluorobiphenyl	72		15 - 128
Nitrobenzene-d5	53		10 - 144

## Method: 8011 - EDB and DBCP in Water by Microextraction

**Lab Sample ID: MB 400-667962/1-A**  
**Matrix: Water**  
**Analysis Batch: 667985**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 667962**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.030	0.017	ug/L		04/15/24 10:01	04/15/24 13:34	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		04/15/24 10:01	04/15/24 13:34	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	97		51 - 149	04/15/24 10:01	04/15/24 13:34	1

**Lab Sample ID: LCS 400-667962/2-A**  
**Matrix: Water**  
**Analysis Batch: 667985**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 667962**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dibromo-3-Chloropropane	0.101	0.0938		ug/L		93	60 - 140
1,2-Dibromoethane	0.100	0.0889		ug/L		89	60 - 140

Surrogate	LCS %Recovery	LCS Qualifier	LCS Limits
4-Bromofluorobenzene	100		51 - 149

# QC Sample Results

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

Job ID: 400-254301-1

## Method: 8011 - EDB and DBCP in Water by Microextraction (Continued)

**Lab Sample ID: LCSD 400-667962/3-A**  
**Matrix: Water**  
**Analysis Batch: 667985**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 667962**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dibromo-3-Chloropropane	0.101	0.0984		ug/L		98	60 - 140	5	30
1,2-Dibromoethane	0.100	0.0941		ug/L		94	60 - 140	6	30
		<b>LCS L</b>							
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>						
4-Bromofluorobenzene	107		51 - 149						

**Lab Sample ID: MB 400-668134/1-A**  
**Matrix: Water**  
**Analysis Batch: 668262**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 668134**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.030	0.017	ug/L		04/16/24 10:33	04/17/24 11:11	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		04/16/24 10:33	04/17/24 11:11	1
		<b>MB MB</b>							
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>			<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>	
4-Bromofluorobenzene	98		51 - 149			04/16/24 10:33	04/17/24 11:11	1	

**Lab Sample ID: LCS 400-668134/2-A**  
**Matrix: Water**  
**Analysis Batch: 668262**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 668134**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
1,2-Dibromo-3-Chloropropane	0.101	0.104		ug/L		103	60 - 140		
1,2-Dibromoethane	0.100	0.0880		ug/L		88	60 - 140		
		<b>LCS LCS</b>							
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>						
4-Bromofluorobenzene	101		51 - 149						

**Lab Sample ID: LCSD 400-668134/3-A**  
**Matrix: Water**  
**Analysis Batch: 668262**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 668134**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dibromo-3-Chloropropane	0.101	0.112		ug/L		111	60 - 140	8	30
1,2-Dibromoethane	0.100	0.0978		ug/L		98	60 - 140	11	30
		<b>LCS L</b>							
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>						
4-Bromofluorobenzene	120		51 - 149						

LAB (LOCATION)



Shell Oil Products US Chain Of Custody Record

AECOM

ACCOUNT ( )  
 CALSCIENCE ( )  
 TESTAMERICA (TestAmerica Pensacola; 3355 McLemore Dr. Pensacola, FL 32514 (850-474-1001))  
 Other ( )

SGW FDG  
 CHEMICALS  
 TRANSPORTATION  
 PIPELINE  
 CONSULTANT  
 OTHER\_ENV. SERVICES

CHECK IF NO INCIDENT # APPLIES  
 DATE: 4/11/2024  
 PAGE: 1 of 1

Print Bill To Contact Name: Melissa Remiger  
 PO # 60721927 - 3.2.2  
 PlanNet Site of Project ID: 25278  
 GSAP Project ID: USPC/0014/RV02

AECOM Project / Task Number: 60721927 - 3.2.2  
 Roxana Quarterly GW  
 STATE: IL  
 SITE ADDRESS: Street and City: 900 South Central Ave; ROXANA  
 PHONE NO.: 314-802-1207  
 EDI DELIVERABLE TO (Name, Company, Office Location): Melissa Remiger - please see special instructions  
 E-MAIL: melissa.remiger@aecom.com  
 AECOM Other ID:

SAMPLER NAME(S) (Print): M. Massa, T. Jenkins  
 LAB USE ONLY:

LOG CODE:  
 BILL TO CONTACT E-MAIL: melissa.remiger@aecom.com  
 314-429-0100  
 314-429-0462  
 TURNAROUND TIME (CALENDAR DAYS):  
 STANDARD (1-4 DAY)  
 5 DAYS  
 3 DAYS  
 2 DAYS  
 24 HOURS  
 RESULTS NEEDED ON WEEKEND

DELIVERABLES:  LEVEL 1  LEVEL 2  LEVEL 3  LEVEL 4  
 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 LEED DISK

Please include "J" values on Reports.  
 Please provide sample receipt upon login.  
 Please send EQUIS EDDs to EDDSubmissions@aecomshell.com; Vlad.Virjan@aecom.com

LAB USE ONLY	Field Sample Identification		SAMPLING		PRESERVATIVE			NO. OF CONT.
	DATE	TIME	MATRIX	HCL	HNO3	H2SO4	NONE	
	4/11/2024	0000	Water	2				2
	4/11/2024	0000	Water	2				2
	4/11/2024	0620	Water	6	2			8
	4/11/2024	1015	Water	6	2			8
	4/11/2024	1115	Water	6	2			8
	4/11/2024	1115	Water	6	2			8
	4/11/2024	1240	Water	6	2			8

VOC 8260 X  
 8011 EDB + DBCP X  
 SVOC 8270 X  
 PAH 8270 SIMS X  
 400-254301 COC

REQUESTED ANALYSIS: 60721927 - 3.2.2  
 FIELD NOTES:

TEMPERATURE ON RECEIPT C°:  
 Container PID Readings or Laboratory Notes:

Received by: (Signature) *Mary Massa*  
 FEDEX: 5293 4337 5467, 5293 4337 5478  
 Received by: (Signature)

Received by: (Signature)  
 Received by: (Signature)

2.66 0.00 IR-10

CUSTODY SEALS: 1599868, 1599869, 1599876, 1599866



Version: 27Sep23



# Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-254301-1

**Login Number: 254301**

**List Source: Eurofins Pensacola**

**List Number: 1**

**Creator: Perez, Trina M**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> 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	2.6°C, 0.0°C IR-10
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.	N/A	
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

Job ID: 400-254301-1

## Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-24
Kansas	NELAP	E-10253	10-31-24
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-24
North Carolina (WW/SW)	State	314	12-31-24
Oklahoma	NELAP	9810	08-31-24
Pennsylvania	NELAP	68-00467	01-31-25
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-24
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	P330-21-00056	05-17-24
USDA	US Federal Programs	FLGNV23001	01-08-26
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-25

# Roxana Groundwater Quarterly – 2<sup>nd</sup> Quarter 2024 Data Review

Laboratory SDG: 400-254327-1

Data Reviewer: Andreia Vladimirescu

Peer Reviewer: Cheyana Cokley

Date Reviewed: 05/17/2024

Guidance: USEPA National Functional Guidelines for Organic Superfund Methods Data Review 2020

Sample Identification	Sample Identification
TB-ROX-041224-8260	TB-ROX-041224-8011
MW28-ROX-041224	MW12-ROX-041224
MW3-ROX-041224	MW5-ROX-041224

## 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 VOC by 8011 surrogate recoveries for 4-bromofluorobenzene in several investigative and quality control samples were outside criteria. The continuing calibration verifications (CCV) for several analytes were outside evaluation criteria, biased low. These issues are addressed further in the appropriate sections of this data review.

Three of 70 (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?*

Yes

## 6.0 Surrogate Recoveries

*Were surrogate recoveries within evaluation criteria?*

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
TB-ROX-041224-8011	VOCs by 8011	4-Bromofluorobenzene	315	51-149
MW12-ROX-041224	VOCs by 8011	4-Bromofluorobenzene	211	51-149
MW3-ROX-041224	VOCs by 8011	4-Bromofluorobenzene	154	51-149

Analytical data reported as non-detect and associated with surrogate recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. Trip blanks 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?*

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 verification (CCV) for several analytes were outside evaluation criteria, biased low. Analytes are qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
MW28-ROX-041224	VOCs	2,2-Dichloropropane	UJ
MW28-ROX-041224	VOCs	Chloromethane	UJ
MW28-ROX-041224	VOCs	Chloroethane	UJ
MW28-ROX-041224	VOCs	Trichlorofluoromethane	UJ
MW28-ROX-041224	VOCs	Vinyl chloride	UJ
MW12-ROX-041224	VOCs	2,2-Dichloropropane	UJ
MW12-ROX-041224	VOCs	Chloromethane	UJ
MW12-ROX-041224	VOCs	Chloroethane	UJ

Sample ID	Parameter	Analyte	Qualification
MW12-ROX-041224	VOCs	Trichlorofluoromethane	UJ
MW12-ROX-041224	VOCs	Vinyl chloride	UJ
MW3-ROX-041224	VOCs	2,2-Dichloropropane	UJ
MW3-ROX-041224	VOCs	Chloromethane	UJ
MW3-ROX-041224	VOCs	Chloroethane	UJ
MW3-ROX-041224	VOCs	Trichlorofluoromethane	UJ
MW3-ROX-041224	VOCs	Vinyl chloride	UJ
MW5-ROX-041224	VOCs	2,2-Dichloropropane	UJ
MW5-ROX-041224	VOCs	Chloromethane	UJ
MW5-ROX-041224	VOCs	Chloroethane	UJ
MW5-ROX-041224	VOCs	Trichlorofluoromethane	UJ
MW5-ROX-041224	VOCs	Vinyl chloride	UJ
MW12-ROX-041224	SVOCs	N-Nitrosodimethylamine	UJ
MW12-ROX-041224	SVOCs	Pyridine	UJ
MW12-ROX-041224	SVOCs	1,2-Diphenylhydrazine (as Azobenzene)	UJ
MW3-ROX-041224	SVOCs	N-Nitrosodimethylamine	UJ
MW3-ROX-041224	SVOCs	Pyridine	UJ
MW3-ROX-041224	SVOCs	1,2-Diphenylhydrazine (as Azobenzene)	UJ
MW5-ROX-041224	SVOCs	N-Nitrosodimethylamine	UJ
MW5-ROX-041224	SVOCs	Pyridine	UJ
MW5-ROX-041224	SVOCs	1,2-Diphenylhydrazine (as Azobenzene)	UJ
MW28-ROX-041224	SVOCs	Pyridine	UJ
MW28-ROX-041224	VOCs by 8011	1,2-Dibromoethane	UJ
MW12-ROX-041224	VOCs by 8011	1,2-Dibromoethane	UJ
MW3-ROX-041224	VOCs by 8011	1,2-Dibromoethane	UJ
MW5-ROX-041224	VOCs by 8011	1,2-Dibromoethane	UJ





# ANALYTICAL REPORT

## PREPARED FOR

Attn: Melissa Remiger  
AECOM Technical Services Inc.  
100 N. Broadway  
20th Floor  
St. Louis, Missouri 63102

Generated 4/25/2024 10:22:31 AM

## JOB DESCRIPTION

ROXANA QUARTERLY GW

## JOB NUMBER

400-254327-1

Reviewed 05/17/2024  
VA

# Eurofins Pensacola

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

## Authorization



Generated  
4/25/2024 10:22:31 AM

Authorized for release by  
Leah Klingensmith, Senior Project Manager  
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(615)301-5038



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# Case Narrative

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

Job ID: 400-254327-1

Job ID: 400-254327-1

Eurofins Pensacola

## Job Narrative 400-254327-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 4/13/2024 7:54 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.4°C and 0.4°C.

### GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-669201 recovered outside acceptance criteria, low biased, for 2,2-Dichloropropane, Chloroethane, Chloromethane, Trichlorofluoromethane and Vinyl chloride. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The preservative used in the sample containers provided is not compatible with one of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-ROX-041224-8260 (400-254327-1), MW28-ROX-041224 (400-254327-3), MW12-ROX-041224 (400-254327-4), MW3-ROX-041224 (400-254327-5) and MW5-ROX-041224 (400-254327-6). The requested target analyte list includes 2-Chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrades 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 8270E: The continuing calibration verification (CCV) associated with batch 400-668475 recovered outside acceptance criteria, low biased, for Pyridine. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8270E: The continuing calibration verification (CCV) associated with batch 400-668609 recovered above the upper control limit for Dibenz[a,h]acridine. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8270E: The continuing calibration verification (CCV) associated with batch 400-668609 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8270E: The continuing calibration verification (CCV) associated with batch 400-668609 recovered outside acceptance criteria, low biased, for 1,2-Diphenylhydrazine (as Azobenzene), N-Nitrosodimethylamine and Pyridine. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8270E: The initial calibration verification (ICV) analyzed in batch 400-666244 was outside method criteria for the following analyte(s): 2,4-Dimethylphenol and Hexachlorocyclopentadiene. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270E: The initial calibration verification (ICV) analyzed in batch 400-666244 was outside method criteria for the following analyte(s): Dibenz[a,h]acridine. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270E: The initial calibration verification (ICV) analyzed in batch 400-663332 was outside method criteria for the following

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# Case Narrative

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

Job ID: 400-254327-1

## Job ID: 400-254327-1 (Continued)

Eurofins Pensacola

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 8270E\_SIM: The continuing calibration verification (CCV) associated with batch 400-668581 recovered above the upper control limit for Anthracene, Indeno[1,2,3-cd]pyrene, Benzo[b]fluoranthene, Benzo[g,h,i]perylene, Benzo[a]pyrene and Dibenz(a,h)anthracene. 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.

### GC Semi VOA

Method 8011: The continuing calibration verification (CCV) associated with batch 400-668327 recovered outside acceptance criteria, low biased, for 1,2-Dibromoethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8011: Surrogate recovery for the following samples were outside control limits: TB-ROX-041224-8011 (400-254327-2), MW12-ROX-041224 (400-254327-4) and MW3-ROX-041224 (400-254327-5). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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



# Sample Summary

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

Job ID: 400-254327-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-254327-1	TB-ROX-041224-8260	Water	04/12/24 00:00	04/13/24 07:54
400-254327-2	TB-ROX-041224-8011	Water	04/12/24 00:00	04/13/24 07:54
400-254327-3	MW28-ROX-041224	Water	04/12/24 09:50	04/13/24 07:54
400-254327-4	MW12-ROX-041224	Water	04/12/24 11:10	04/13/24 07:54
400-254327-5	MW3-ROX-041224	Water	04/12/24 12:10	04/13/24 07:54
400-254327-6	MW5-ROX-041224	Water	04/12/24 13:10	04/13/24 07:54

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# Detection Summary

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

Job ID: 400-254327-1

**Client Sample ID: TB-ROX-041224-8260**

**Lab Sample ID: 400-254327-1**

No Detections.

**Client Sample ID: TB-ROX-041224-8011**

**Lab Sample ID: 400-254327-2**

No Detections.

**Client Sample ID: MW28-ROX-041224**

**Lab Sample ID: 400-254327-3**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	2.2		1.0	0.22	ug/L	1		8260D	Total/NA

**Client Sample ID: MW12-ROX-041224**

**Lab Sample ID: 400-254327-4**

No Detections.

**Client Sample ID: MW3-ROX-041224**

**Lab Sample ID: 400-254327-5**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	0.31	J	1.0	0.22	ug/L	1		8260D	Total/NA

**Client Sample ID: MW5-ROX-041224**

**Lab Sample ID: 400-254327-6**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	1.1		1.0	0.22	ug/L	1		8260D	Total/NA
tert-Butylbenzene	0.74	J	1.0	0.63	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Pensacola

# Client Sample Results

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

Job ID: 400-254327-1

**Client Sample ID: TB-ROX-041224-8260**

**Lab Sample ID: 400-254327-1**

**Date Collected: 04/12/24 00:00**

**Matrix: Water**

**Date Received: 04/13/24 07:54**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/24/24 18:15	1
Acrolein	ND		20	3.3	ug/L			04/24/24 18:15	1
Acrylonitrile	ND		10	2.8	ug/L			04/24/24 18:15	1
Benzene	ND		1.0	0.50	ug/L			04/24/24 18:15	1
Bromobenzene	ND		1.0	0.54	ug/L			04/24/24 18:15	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/24/24 18:15	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/24/24 18:15	1
Bromoform	ND		5.0	0.25	ug/L			04/24/24 18:15	1
Bromomethane	ND		1.0	0.98	ug/L			04/24/24 18:15	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/24/24 18:15	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/24/24 18:15	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/24/24 18:15	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/24/24 18:15	1
Chloroethane	ND		1.0	0.76	ug/L			04/24/24 18:15	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/24/24 18:15	1
Chloroform	ND		1.0	0.90	ug/L			04/24/24 18:15	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/24/24 18:15	1
Chloromethane	ND		1.0	0.90	ug/L			04/24/24 18:15	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/24/24 18:15	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/24/24 18:15	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/24/24 18:15	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/24/24 18:15	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/24/24 18:15	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/24/24 18:15	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/24/24 18:15	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/24/24 18:15	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/24/24 18:15	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/24/24 18:15	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/24/24 18:15	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/24/24 18:15	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/24/24 18:15	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/24/24 18:15	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/24/24 18:15	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/24/24 18:15	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/24/24 18:15	1
2-Hexanone	ND		25	1.4	ug/L			04/24/24 18:15	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/24/24 18:15	1
Methylene bromide	ND		5.0	0.22	ug/L			04/24/24 18:15	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/24/24 18:15	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/24/24 18:15	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/24/24 18:15	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/24/24 18:15	1
Naphthalene	ND		5.0	3.0	ug/L			04/24/24 18:15	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/24/24 18:15	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/24/24 18:15	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/24/24 18:15	1
o-Xylene	ND		5.0	0.60	ug/L			04/24/24 18:15	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/24/24 18:15	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/24/24 18:15	1

# Client Sample Results

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

Job ID: 400-254327-1

**Client Sample ID: TB-ROX-041224-8260**

**Lab Sample ID: 400-254327-1**

**Date Collected: 04/12/24 00:00**

**Matrix: Water**

**Date Received: 04/13/24 07:54**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/24/24 18:15	1
Styrene	ND		1.0	1.0	ug/L			04/24/24 18:15	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/24/24 18:15	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/24/24 18:15	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/24/24 18:15	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/24/24 18:15	1
Toluene	ND		1.0	0.90	ug/L			04/24/24 18:15	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/24/24 18:15	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/24/24 18:15	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/24/24 18:15	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/24/24 18:15	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/24/24 18:15	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/24/24 18:15	1
Trichloroethene	ND		1.0	0.15	ug/L			04/24/24 18:15	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/24/24 18:15	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/24/24 18:15	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/24/24 18:15	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/24/24 18:15	1
Vinyl acetate	ND		25	0.93	ug/L			04/24/24 18:15	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/24/24 18:15	1
Xylenes, Total	ND		10	1.6	ug/L			04/24/24 18:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	108		72 - 130		04/24/24 18:15	1
Dibromofluoromethane	107		75 - 126		04/24/24 18:15	1
Toluene-d8 (Surr)	98		64 - 132		04/24/24 18:15	1

# Client Sample Results

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

Job ID: 400-254327-1

**Client Sample ID: TB-ROX-041224-8011**

**Lab Sample ID: 400-254327-2**

Date Collected: 04/12/24 00:00

Matrix: Water

Date Received: 04/13/24 07:54

**Method: EPA 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	0.017	ug/L		04/17/24 09:56	04/17/24 20:29	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		04/17/24 09:56	04/17/24 20:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	315	S1+	51 - 149				04/17/24 09:56	04/17/24 20:29	1

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# Client Sample Results

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

Job ID: 400-254327-1

**Client Sample ID: MW28-ROX-041224**

**Lab Sample ID: 400-254327-3**

Date Collected: 04/12/24 09:50

Matrix: Water

Date Received: 04/13/24 07:54

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/24/24 18:38	1
Acrolein	ND		20	3.3	ug/L			04/24/24 18:38	1
Acrylonitrile	ND		10	2.8	ug/L			04/24/24 18:38	1
Benzene	ND		1.0	0.50	ug/L			04/24/24 18:38	1
Bromobenzene	ND		1.0	0.54	ug/L			04/24/24 18:38	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/24/24 18:38	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/24/24 18:38	1
Bromoform	ND		5.0	0.25	ug/L			04/24/24 18:38	1
Bromomethane	ND		1.0	0.98	ug/L			04/24/24 18:38	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/24/24 18:38	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/24/24 18:38	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/24/24 18:38	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/24/24 18:38	1
Chloroethane	ND	UJ	1.0	0.76	ug/L			04/24/24 18:38	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/24/24 18:38	1
Chloroform	ND		1.0	0.90	ug/L			04/24/24 18:38	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/24/24 18:38	1
Chloromethane	ND	UJ	1.0	0.90	ug/L			04/24/24 18:38	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/24/24 18:38	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/24/24 18:38	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/24/24 18:38	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/24/24 18:38	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/24/24 18:38	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/24/24 18:38	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/24/24 18:38	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/24/24 18:38	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/24/24 18:38	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/24/24 18:38	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/24/24 18:38	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/24/24 18:38	1
2,2-Dichloropropane	ND	UJ	1.0	0.50	ug/L			04/24/24 18:38	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/24/24 18:38	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/24/24 18:38	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/24/24 18:38	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/24/24 18:38	1
2-Hexanone	ND		25	1.4	ug/L			04/24/24 18:38	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/24/24 18:38	1
Methylene bromide	ND		5.0	0.22	ug/L			04/24/24 18:38	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/24/24 18:38	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/24/24 18:38	1
<b>Methyl tert-butyl ether</b>	<b>2.2</b>		1.0	0.22	ug/L			04/24/24 18:38	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/24/24 18:38	1
Naphthalene	ND		5.0	3.0	ug/L			04/24/24 18:38	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/24/24 18:38	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/24/24 18:38	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/24/24 18:38	1
o-Xylene	ND		5.0	0.60	ug/L			04/24/24 18:38	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/24/24 18:38	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/24/24 18:38	1

# Client Sample Results

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

Job ID: 400-254327-1

**Client Sample ID: MW28-ROX-041224**

**Lab Sample ID: 400-254327-3**

Date Collected: 04/12/24 09:50

Matrix: Water

Date Received: 04/13/24 07:54

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/24/24 18:38	1
Styrene	ND		1.0	1.0	ug/L			04/24/24 18:38	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/24/24 18:38	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/24/24 18:38	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/24/24 18:38	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/24/24 18:38	1
Toluene	ND		1.0	0.90	ug/L			04/24/24 18:38	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/24/24 18:38	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/24/24 18:38	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/24/24 18:38	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/24/24 18:38	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/24/24 18:38	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/24/24 18:38	1
Trichloroethene	ND		1.0	0.15	ug/L			04/24/24 18:38	1
Trichlorofluoromethane	ND	UJ	1.0	0.52	ug/L			04/24/24 18:38	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/24/24 18:38	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/24/24 18:38	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/24/24 18:38	1
Vinyl acetate	ND		25	0.93	ug/L			04/24/24 18:38	1
Vinyl chloride	ND	UJ	1.0	0.50	ug/L			04/24/24 18:38	1
Xylenes, Total	ND		10	1.6	ug/L			04/24/24 18:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107		72 - 130		04/24/24 18:38	1
Dibromofluoromethane	107		75 - 126		04/24/24 18:38	1
Toluene-d8 (Surr)	98		64 - 132		04/24/24 18:38	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.096	ug/L		04/18/24 10:15	04/19/24 17:11	1
Acenaphthylene	ND		0.19	0.043	ug/L		04/18/24 10:15	04/19/24 17:11	1
Anthracene	ND		0.19	0.046	ug/L		04/18/24 10:15	04/19/24 17:11	1
Benzo[a]anthracene	ND		0.19	0.033	ug/L		04/18/24 10:15	04/19/24 17:11	1
Benzo[a]pyrene	ND		0.19	0.062	ug/L		04/18/24 10:15	04/19/24 17:11	1
Benzo[b]fluoranthene	ND		0.19	0.036	ug/L		04/18/24 10:15	04/19/24 17:11	1
Benzo[g,h,i]perylene	ND		0.19	0.026	ug/L		04/18/24 10:15	04/19/24 17:11	1
Benzo[k]fluoranthene	ND		0.19	0.060	ug/L		04/18/24 10:15	04/19/24 17:11	1
Chrysene	ND		0.19	0.032	ug/L		04/18/24 10:15	04/19/24 17:11	1
Dibenz(a,h)anthracene	ND		0.19	0.047	ug/L		04/18/24 10:15	04/19/24 17:11	1
Fluoranthene	ND		0.19	0.033	ug/L		04/18/24 10:15	04/19/24 17:11	1
Fluorene	ND		0.19	0.086	ug/L		04/18/24 10:15	04/19/24 17:11	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.033	ug/L		04/18/24 10:15	04/19/24 17:11	1
Phenanthrene	ND		0.19	0.087	ug/L		04/18/24 10:15	04/19/24 17:11	1
Pyrene	ND		0.19	0.038	ug/L		04/18/24 10:15	04/19/24 17:11	1
1-Methylnaphthalene	ND		0.19	0.078	ug/L		04/18/24 10:15	04/19/24 17:11	1
2-Methylnaphthalene	ND		0.19	0.064	ug/L		04/18/24 10:15	04/19/24 17:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	92		18 - 147	04/18/24 10:15	04/19/24 17:11	1
2-Fluorobiphenyl	78		15 - 128	04/18/24 10:15	04/19/24 17:11	1

Eurofins Pensacola

# Client Sample Results

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

Job ID: 400-254327-1

**Client Sample ID: MW28-ROX-041224**

**Lab Sample ID: 400-254327-3**

Date Collected: 04/12/24 09:50

Matrix: Water

Date Received: 04/13/24 07:54

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	84		10 - 144	04/18/24 10:15	04/19/24 17:11	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	8.4	ug/L		04/18/24 10:15	04/19/24 00:42	1
Benzenethiol	ND		9.7	9.6	ug/L		04/18/24 10:15	04/19/24 00:42	1
Benzoic acid	ND		29	23	ug/L		04/18/24 10:15	04/19/24 00:42	1
Benzyl alcohol	ND		9.7	7.1	ug/L		04/18/24 10:15	04/19/24 00:42	1
Bis(2-chloroethoxy)methane	ND		9.7	4.5	ug/L		04/18/24 10:15	04/19/24 00:42	1
Bis(2-chloroethyl)ether	ND		9.7	3.8	ug/L		04/18/24 10:15	04/19/24 00:42	1
bis (2-chloroisopropyl) ether	ND		9.7	1.7	ug/L		04/18/24 10:15	04/19/24 00:42	1
Bis(2-ethylhexyl) phthalate	ND		9.7	8.6	ug/L		04/18/24 10:15	04/19/24 00:42	1
4-Bromophenyl phenyl ether	ND		9.7	8.4	ug/L		04/18/24 10:15	04/19/24 00:42	1
Butyl benzyl phthalate	ND		9.7	5.6	ug/L		04/18/24 10:15	04/19/24 00:42	1
4-Chloroaniline	ND		9.7	4.6	ug/L		04/18/24 10:15	04/19/24 00:42	1
4-Chloro-3-methylphenol	ND		9.7	5.1	ug/L		04/18/24 10:15	04/19/24 00:42	1
2-Chloronaphthalene	ND		9.7	3.7	ug/L		04/18/24 10:15	04/19/24 00:42	1
2-Chlorophenol	ND		9.7	4.0	ug/L		04/18/24 10:15	04/19/24 00:42	1
4-Chlorophenyl phenyl ether	ND		9.7	3.6	ug/L		04/18/24 10:15	04/19/24 00:42	1
Dibenz[a,h]acridine	ND		9.7	2.7	ug/L		04/18/24 10:15	04/19/24 00:42	1
Dibenzofuran	ND		9.7	3.9	ug/L		04/18/24 10:15	04/19/24 00:42	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/18/24 10:15	04/19/24 00:42	1
2,4-Dichlorophenol	ND		9.7	4.2	ug/L		04/18/24 10:15	04/19/24 00:42	1
Diethyl phthalate	ND		9.7	4.3	ug/L		04/18/24 10:15	04/19/24 00:42	1
2,4-Dimethylphenol	ND		9.7	5.1	ug/L		04/18/24 10:15	04/19/24 00:42	1
Dimethyl phthalate	ND		9.7	4.1	ug/L		04/18/24 10:15	04/19/24 00:42	1
Di-n-butyl phthalate	ND		9.7	4.5	ug/L		04/18/24 10:15	04/19/24 00:42	1
4,6-Dinitro-ortho-cresol	ND		9.7	9.7	ug/L		04/18/24 10:15	04/19/24 00:42	1
2,4-Dinitrophenol	ND		29	4.5	ug/L		04/18/24 10:15	04/19/24 00:42	1
2,4-Dinitrotoluene	ND		9.7	5.0	ug/L		04/18/24 10:15	04/19/24 00:42	1
2,6-Dinitrotoluene	ND		9.7	3.8	ug/L		04/18/24 10:15	04/19/24 00:42	1
Di-n-octyl phthalate	ND		9.7	5.8	ug/L		04/18/24 10:15	04/19/24 00:42	1
1,4-Dioxane	ND		9.7	4.2	ug/L		04/18/24 10:15	04/19/24 00:42	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	3.2	ug/L		04/18/24 10:15	04/19/24 00:42	1
Hexachlorobenzene	ND		9.7	9.4	ug/L		04/18/24 10:15	04/19/24 00:42	1
Hexachlorocyclopentadiene	ND		19	4.4	ug/L		04/18/24 10:15	04/19/24 00:42	1
Hexachloroethane	ND		9.7	5.1	ug/L		04/18/24 10:15	04/19/24 00:42	1
Indene	ND		9.7	3.5	ug/L		04/18/24 10:15	04/19/24 00:42	1
Isophorone	ND		9.7	5.1	ug/L		04/18/24 10:15	04/19/24 00:42	1
2-Methylphenol	ND		9.7	3.1	ug/L		04/18/24 10:15	04/19/24 00:42	1
3 & 4 Methylphenol	ND		19	4.5	ug/L		04/18/24 10:15	04/19/24 00:42	1
2-Nitroaniline	ND		9.7	4.9	ug/L		04/18/24 10:15	04/19/24 00:42	1
3-Nitroaniline	ND		9.7	4.6	ug/L		04/18/24 10:15	04/19/24 00:42	1
4-Nitroaniline	ND		9.7	4.0	ug/L		04/18/24 10:15	04/19/24 00:42	1
Nitrobenzene	ND		9.7	4.6	ug/L		04/18/24 10:15	04/19/24 00:42	1
2-Nitrophenol	ND		9.7	4.5	ug/L		04/18/24 10:15	04/19/24 00:42	1
4-Nitrophenol	ND		9.7	3.2	ug/L		04/18/24 10:15	04/19/24 00:42	1
N-Nitrosodimethylamine	ND		9.7	2.1	ug/L		04/18/24 10:15	04/19/24 00:42	1

# Client Sample Results

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

Job ID: 400-254327-1

**Client Sample ID: MW28-ROX-041224**

**Lab Sample ID: 400-254327-3**

**Date Collected: 04/12/24 09:50**

**Matrix: Water**

**Date Received: 04/13/24 07:54**

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.7	2.4	ug/L		04/18/24 10:15	04/19/24 00:42	1
N-Nitrosodiphenylamine	ND		9.7	3.6	ug/L		04/18/24 10:15	04/19/24 00:42	1
Pentachlorophenol	ND		19	12	ug/L		04/18/24 10:15	04/19/24 00:42	1
Phenol	ND		9.7	4.1	ug/L		04/18/24 10:15	04/19/24 00:42	1
Pyridine	ND	UJ	9.7	9.7	ug/L		04/18/24 10:15	04/19/24 00:42	1
Quinoline	ND		9.7	2.3	ug/L		04/18/24 10:15	04/19/24 00:42	1
2,4,5-Trichlorophenol	ND		9.7	3.9	ug/L		04/18/24 10:15	04/19/24 00:42	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		04/18/24 10:15	04/19/24 00:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	82		21 - 114	04/18/24 10:15	04/19/24 00:42	1
2-Fluorophenol	60		10 - 105	04/18/24 10:15	04/19/24 00:42	1
Nitrobenzene-d5	79		16 - 127	04/18/24 10:15	04/19/24 00:42	1
Phenol-d5	45		10 - 129	04/18/24 10:15	04/19/24 00:42	1
Terphenyl-d14	96		13 - 150	04/18/24 10:15	04/19/24 00:42	1
2,4,6-Tribromophenol	82		10 - 150	04/18/24 10:15	04/19/24 00:42	1

**Method: EPA 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	0.017	ug/L		04/17/24 09:56	04/17/24 20:51	1
1,2-Dibromoethane	ND	UJ	0.020	0.015	ug/L		04/17/24 09:56	04/17/24 20:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	138		51 - 149	04/17/24 09:56	04/17/24 20:51	1

# Client Sample Results

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

Job ID: 400-254327-1

**Client Sample ID: MW12-ROX-041224**

**Lab Sample ID: 400-254327-4**

**Date Collected: 04/12/24 11:10**

**Matrix: Water**

**Date Received: 04/13/24 07:54**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/24/24 19:01	1
Acrolein	ND		20	3.3	ug/L			04/24/24 19:01	1
Acrylonitrile	ND		10	2.8	ug/L			04/24/24 19:01	1
Benzene	ND		1.0	0.50	ug/L			04/24/24 19:01	1
Bromobenzene	ND		1.0	0.54	ug/L			04/24/24 19:01	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/24/24 19:01	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/24/24 19:01	1
Bromoform	ND		5.0	0.25	ug/L			04/24/24 19:01	1
Bromomethane	ND		1.0	0.98	ug/L			04/24/24 19:01	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/24/24 19:01	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/24/24 19:01	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/24/24 19:01	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/24/24 19:01	1
Chloroethane	ND	UJ	1.0	0.76	ug/L			04/24/24 19:01	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/24/24 19:01	1
Chloroform	ND		1.0	0.90	ug/L			04/24/24 19:01	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/24/24 19:01	1
Chloromethane	ND	UJ	1.0	0.90	ug/L			04/24/24 19:01	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/24/24 19:01	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/24/24 19:01	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/24/24 19:01	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/24/24 19:01	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/24/24 19:01	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/24/24 19:01	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/24/24 19:01	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/24/24 19:01	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/24/24 19:01	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/24/24 19:01	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/24/24 19:01	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/24/24 19:01	1
2,2-Dichloropropane	ND	UJ	1.0	0.50	ug/L			04/24/24 19:01	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/24/24 19:01	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/24/24 19:01	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/24/24 19:01	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/24/24 19:01	1
2-Hexanone	ND		25	1.4	ug/L			04/24/24 19:01	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/24/24 19:01	1
Methylene bromide	ND		5.0	0.22	ug/L			04/24/24 19:01	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/24/24 19:01	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/24/24 19:01	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/24/24 19:01	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/24/24 19:01	1
Naphthalene	ND		5.0	3.0	ug/L			04/24/24 19:01	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/24/24 19:01	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/24/24 19:01	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/24/24 19:01	1
o-Xylene	ND		5.0	0.60	ug/L			04/24/24 19:01	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/24/24 19:01	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/24/24 19:01	1



# Client Sample Results

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

Job ID: 400-254327-1

**Client Sample ID: MW12-ROX-041224**

**Lab Sample ID: 400-254327-4**

Date Collected: 04/12/24 11:10

Matrix: Water

Date Received: 04/13/24 07:54

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/24/24 19:01	1
Styrene	ND		1.0	1.0	ug/L			04/24/24 19:01	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/24/24 19:01	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/24/24 19:01	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/24/24 19:01	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/24/24 19:01	1
Toluene	ND		1.0	0.90	ug/L			04/24/24 19:01	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/24/24 19:01	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/24/24 19:01	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/24/24 19:01	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/24/24 19:01	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/24/24 19:01	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/24/24 19:01	1
Trichloroethene	ND		1.0	0.15	ug/L			04/24/24 19:01	1
Trichlorofluoromethane	ND	UJ	1.0	0.52	ug/L			04/24/24 19:01	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/24/24 19:01	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/24/24 19:01	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/24/24 19:01	1
Vinyl acetate	ND		25	0.93	ug/L			04/24/24 19:01	1
Vinyl chloride	ND	UJ	1.0	0.50	ug/L			04/24/24 19:01	1
Xylenes, Total	ND		10	1.6	ug/L			04/24/24 19:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107		72 - 130		04/24/24 19:01	1
Dibromofluoromethane	109		75 - 126		04/24/24 19:01	1
Toluene-d8 (Surr)	98		64 - 132		04/24/24 19:01	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.097	ug/L		04/18/24 10:15	04/19/24 17:32	1
Acenaphthylene	ND		0.20	0.043	ug/L		04/18/24 10:15	04/19/24 17:32	1
Anthracene	ND		0.20	0.046	ug/L		04/18/24 10:15	04/19/24 17:32	1
Benzo[a]anthracene	ND		0.20	0.033	ug/L		04/18/24 10:15	04/19/24 17:32	1
Benzo[a]pyrene	ND		0.20	0.062	ug/L		04/18/24 10:15	04/19/24 17:32	1
Benzo[b]fluoranthene	ND		0.20	0.036	ug/L		04/18/24 10:15	04/19/24 17:32	1
Benzo[g,h,i]perylene	ND		0.20	0.026	ug/L		04/18/24 10:15	04/19/24 17:32	1
Benzo[k]fluoranthene	ND		0.20	0.060	ug/L		04/18/24 10:15	04/19/24 17:32	1
Chrysene	ND		0.20	0.032	ug/L		04/18/24 10:15	04/19/24 17:32	1
Dibenz(a,h)anthracene	ND		0.20	0.047	ug/L		04/18/24 10:15	04/19/24 17:32	1
Fluoranthene	ND		0.20	0.033	ug/L		04/18/24 10:15	04/19/24 17:32	1
Fluorene	ND		0.20	0.087	ug/L		04/18/24 10:15	04/19/24 17:32	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.033	ug/L		04/18/24 10:15	04/19/24 17:32	1
Phenanthrene	ND		0.20	0.088	ug/L		04/18/24 10:15	04/19/24 17:32	1
Pyrene	ND		0.20	0.038	ug/L		04/18/24 10:15	04/19/24 17:32	1
1-Methylnaphthalene	ND		0.20	0.078	ug/L		04/18/24 10:15	04/19/24 17:32	1
2-Methylnaphthalene	ND		0.20	0.064	ug/L		04/18/24 10:15	04/19/24 17:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	91		18 - 147	04/18/24 10:15	04/19/24 17:32	1
2-Fluorobiphenyl	77		15 - 128	04/18/24 10:15	04/19/24 17:32	1

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# Client Sample Results

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

Job ID: 400-254327-1

**Client Sample ID: MW12-ROX-041224**

**Lab Sample ID: 400-254327-4**

Date Collected: 04/12/24 11:10

Matrix: Water

Date Received: 04/13/24 07:54

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	78		10 - 144	04/18/24 10:15	04/19/24 17:32	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	8.5	ug/L		04/18/24 10:15	04/19/24 16:11	1
Benzenethiol	ND		9.8	9.7	ug/L		04/18/24 10:15	04/19/24 16:11	1
Benzoic acid	ND		29	23	ug/L		04/18/24 10:15	04/19/24 16:11	1
Benzyl alcohol	ND		9.8	7.1	ug/L		04/18/24 10:15	04/19/24 16:11	1
Bis(2-chloroethoxy)methane	ND		9.8	4.5	ug/L		04/18/24 10:15	04/19/24 16:11	1
Bis(2-chloroethyl)ether	ND		9.8	3.8	ug/L		04/18/24 10:15	04/19/24 16:11	1
bis (2-chloroisopropyl) ether	ND		9.8	1.8	ug/L		04/18/24 10:15	04/19/24 16:11	1
Bis(2-ethylhexyl) phthalate	ND		9.8	8.7	ug/L		04/18/24 10:15	04/19/24 16:11	1
4-Bromophenyl phenyl ether	ND		9.8	8.4	ug/L		04/18/24 10:15	04/19/24 16:11	1
Butyl benzyl phthalate	ND		9.8	5.7	ug/L		04/18/24 10:15	04/19/24 16:11	1
4-Chloroaniline	ND		9.8	4.6	ug/L		04/18/24 10:15	04/19/24 16:11	1
4-Chloro-3-methylphenol	ND		9.8	5.2	ug/L		04/18/24 10:15	04/19/24 16:11	1
2-Chloronaphthalene	ND		9.8	3.7	ug/L		04/18/24 10:15	04/19/24 16:11	1
2-Chlorophenol	ND		9.8	4.0	ug/L		04/18/24 10:15	04/19/24 16:11	1
4-Chlorophenyl phenyl ether	ND		9.8	3.6	ug/L		04/18/24 10:15	04/19/24 16:11	1
Dibenz[a,h]acridine	ND		9.8	2.7	ug/L		04/18/24 10:15	04/19/24 16:11	1
Dibenzofuran	ND		9.8	3.9	ug/L		04/18/24 10:15	04/19/24 16:11	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/18/24 10:15	04/19/24 16:11	1
2,4-Dichlorophenol	ND		9.8	4.2	ug/L		04/18/24 10:15	04/19/24 16:11	1
Diethyl phthalate	ND		9.8	4.3	ug/L		04/18/24 10:15	04/19/24 16:11	1
2,4-Dimethylphenol	ND		9.8	5.1	ug/L		04/18/24 10:15	04/19/24 16:11	1
Dimethyl phthalate	ND		9.8	4.1	ug/L		04/18/24 10:15	04/19/24 16:11	1
Di-n-butyl phthalate	ND		9.8	4.5	ug/L		04/18/24 10:15	04/19/24 16:11	1
4,6-Dinitro-ortho-cresol	ND		9.8	9.8	ug/L		04/18/24 10:15	04/19/24 16:11	1
2,4-Dinitrophenol	ND		29	4.5	ug/L		04/18/24 10:15	04/19/24 16:11	1
2,4-Dinitrotoluene	ND		9.8	5.0	ug/L		04/18/24 10:15	04/19/24 16:11	1
2,6-Dinitrotoluene	ND		9.8	3.8	ug/L		04/18/24 10:15	04/19/24 16:11	1
Di-n-octyl phthalate	ND		9.8	5.9	ug/L		04/18/24 10:15	04/19/24 16:11	1
1,4-Dioxane	ND		9.8	4.2	ug/L		04/18/24 10:15	04/19/24 16:11	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	UJ	9.8	3.2	ug/L		04/18/24 10:15	04/19/24 16:11	1
Hexachlorobenzene	ND		9.8	9.5	ug/L		04/18/24 10:15	04/19/24 16:11	1
Hexachlorocyclopentadiene	ND		20	4.4	ug/L		04/18/24 10:15	04/19/24 16:11	1
Hexachloroethane	ND		9.8	5.1	ug/L		04/18/24 10:15	04/19/24 16:11	1
Indene	ND		9.8	3.5	ug/L		04/18/24 10:15	04/19/24 16:11	1
Isophorone	ND		9.8	5.1	ug/L		04/18/24 10:15	04/19/24 16:11	1
2-Methylphenol	ND		9.8	3.1	ug/L		04/18/24 10:15	04/19/24 16:11	1
3 & 4 Methylphenol	ND		20	4.5	ug/L		04/18/24 10:15	04/19/24 16:11	1
2-Nitroaniline	ND		9.8	4.9	ug/L		04/18/24 10:15	04/19/24 16:11	1
3-Nitroaniline	ND		9.8	4.6	ug/L		04/18/24 10:15	04/19/24 16:11	1
4-Nitroaniline	ND		9.8	4.0	ug/L		04/18/24 10:15	04/19/24 16:11	1
Nitrobenzene	ND		9.8	4.6	ug/L		04/18/24 10:15	04/19/24 16:11	1
2-Nitrophenol	ND		9.8	4.5	ug/L		04/18/24 10:15	04/19/24 16:11	1
4-Nitrophenol	ND		9.8	3.2	ug/L		04/18/24 10:15	04/19/24 16:11	1
N-Nitrosodimethylamine	ND	UJ	9.8	2.1	ug/L		04/18/24 10:15	04/19/24 16:11	1

# Client Sample Results

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

Job ID: 400-254327-1

**Client Sample ID: MW12-ROX-041224**

**Lab Sample ID: 400-254327-4**

Date Collected: 04/12/24 11:10

Matrix: Water

Date Received: 04/13/24 07:54

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.8	2.4	ug/L		04/18/24 10:15	04/19/24 16:11	1
N-Nitrosodiphenylamine	ND		9.8	3.6	ug/L		04/18/24 10:15	04/19/24 16:11	1
Pentachlorophenol	ND		20	12	ug/L		04/18/24 10:15	04/19/24 16:11	1
Phenol	ND		9.8	4.1	ug/L		04/18/24 10:15	04/19/24 16:11	1
Pyridine	ND	UJ	9.8	9.8	ug/L		04/18/24 10:15	04/19/24 16:11	1
Quinoline	ND		9.8	2.3	ug/L		04/18/24 10:15	04/19/24 16:11	1
2,4,5-Trichlorophenol	ND		9.8	3.9	ug/L		04/18/24 10:15	04/19/24 16:11	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		04/18/24 10:15	04/19/24 16:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	87		21 - 114	04/18/24 10:15	04/19/24 16:11	1
2-Fluorophenol	21		10 - 105	04/18/24 10:15	04/19/24 16:11	1
Nitrobenzene-d5	84		16 - 127	04/18/24 10:15	04/19/24 16:11	1
Phenol-d5	16		10 - 129	04/18/24 10:15	04/19/24 16:11	1
Terphenyl-d14	92		13 - 150	04/18/24 10:15	04/19/24 16:11	1
2,4,6-Tribromophenol	27		10 - 150	04/18/24 10:15	04/19/24 16:11	1

**Method: EPA 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	0.016	ug/L		04/17/24 09:56	04/17/24 21:12	1
1,2-Dibromoethane	ND	UJ	0.019	0.014	ug/L		04/17/24 09:56	04/17/24 21:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	211	S1+	51 - 149	04/17/24 09:56	04/17/24 21:12	1

# Client Sample Results

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

Job ID: 400-254327-1

**Client Sample ID: MW3-ROX-041224**

**Lab Sample ID: 400-254327-5**

Date Collected: 04/12/24 12:10

Matrix: Water

Date Received: 04/13/24 07:54

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/24/24 19:24	1
Acrolein	ND		20	3.3	ug/L			04/24/24 19:24	1
Acrylonitrile	ND		10	2.8	ug/L			04/24/24 19:24	1
Benzene	ND		1.0	0.50	ug/L			04/24/24 19:24	1
Bromobenzene	ND		1.0	0.54	ug/L			04/24/24 19:24	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/24/24 19:24	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/24/24 19:24	1
Bromoform	ND		5.0	0.25	ug/L			04/24/24 19:24	1
Bromomethane	ND		1.0	0.98	ug/L			04/24/24 19:24	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/24/24 19:24	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/24/24 19:24	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/24/24 19:24	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/24/24 19:24	1
Chloroethane	ND	UJ	1.0	0.76	ug/L			04/24/24 19:24	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/24/24 19:24	1
Chloroform	ND		1.0	0.90	ug/L			04/24/24 19:24	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/24/24 19:24	1
Chloromethane	ND	UJ	1.0	0.90	ug/L			04/24/24 19:24	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/24/24 19:24	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/24/24 19:24	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/24/24 19:24	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/24/24 19:24	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/24/24 19:24	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/24/24 19:24	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/24/24 19:24	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/24/24 19:24	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/24/24 19:24	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/24/24 19:24	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/24/24 19:24	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/24/24 19:24	1
2,2-Dichloropropane	ND	UJ	1.0	0.50	ug/L			04/24/24 19:24	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/24/24 19:24	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/24/24 19:24	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/24/24 19:24	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/24/24 19:24	1
2-Hexanone	ND		25	1.4	ug/L			04/24/24 19:24	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/24/24 19:24	1
Methylene bromide	ND		5.0	0.22	ug/L			04/24/24 19:24	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/24/24 19:24	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/24/24 19:24	1
<b>Methyl tert-butyl ether</b>	<b>0.31</b>	<b>J</b>	1.0	0.22	ug/L			04/24/24 19:24	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/24/24 19:24	1
Naphthalene	ND		5.0	3.0	ug/L			04/24/24 19:24	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/24/24 19:24	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/24/24 19:24	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/24/24 19:24	1
o-Xylene	ND		5.0	0.60	ug/L			04/24/24 19:24	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/24/24 19:24	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/24/24 19:24	1

# Client Sample Results

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

Job ID: 400-254327-1

**Client Sample ID: MW3-ROX-041224**

**Lab Sample ID: 400-254327-5**

Date Collected: 04/12/24 12:10

Matrix: Water

Date Received: 04/13/24 07:54

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/24/24 19:24	1
Styrene	ND		1.0	1.0	ug/L			04/24/24 19:24	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/24/24 19:24	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/24/24 19:24	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/24/24 19:24	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/24/24 19:24	1
Toluene	ND		1.0	0.90	ug/L			04/24/24 19:24	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/24/24 19:24	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/24/24 19:24	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/24/24 19:24	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/24/24 19:24	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/24/24 19:24	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/24/24 19:24	1
Trichloroethene	ND		1.0	0.15	ug/L			04/24/24 19:24	1
Trichlorofluoromethane	ND	UJ	1.0	0.52	ug/L			04/24/24 19:24	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/24/24 19:24	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/24/24 19:24	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/24/24 19:24	1
Vinyl acetate	ND		25	0.93	ug/L			04/24/24 19:24	1
Vinyl chloride	ND	UJ	1.0	0.50	ug/L			04/24/24 19:24	1
Xylenes, Total	ND		10	1.6	ug/L			04/24/24 19:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107		72 - 130		04/24/24 19:24	1
Dibromofluoromethane	108		75 - 126		04/24/24 19:24	1
Toluene-d8 (Surr)	98		64 - 132		04/24/24 19:24	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.097	ug/L		04/18/24 10:15	04/19/24 17:53	1
Acenaphthylene	ND		0.20	0.043	ug/L		04/18/24 10:15	04/19/24 17:53	1
Anthracene	ND		0.20	0.046	ug/L		04/18/24 10:15	04/19/24 17:53	1
Benzo[a]anthracene	ND		0.20	0.033	ug/L		04/18/24 10:15	04/19/24 17:53	1
Benzo[a]pyrene	ND		0.20	0.063	ug/L		04/18/24 10:15	04/19/24 17:53	1
Benzo[b]fluoranthene	ND		0.20	0.036	ug/L		04/18/24 10:15	04/19/24 17:53	1
Benzo[g,h,i]perylene	ND		0.20	0.026	ug/L		04/18/24 10:15	04/19/24 17:53	1
Benzo[k]fluoranthene	ND		0.20	0.061	ug/L		04/18/24 10:15	04/19/24 17:53	1
Chrysene	ND		0.20	0.032	ug/L		04/18/24 10:15	04/19/24 17:53	1
Dibenz(a,h)anthracene	ND		0.20	0.047	ug/L		04/18/24 10:15	04/19/24 17:53	1
Fluoranthene	ND		0.20	0.033	ug/L		04/18/24 10:15	04/19/24 17:53	1
Fluorene	ND		0.20	0.087	ug/L		04/18/24 10:15	04/19/24 17:53	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.033	ug/L		04/18/24 10:15	04/19/24 17:53	1
Phenanthrene	ND		0.20	0.088	ug/L		04/18/24 10:15	04/19/24 17:53	1
Pyrene	ND		0.20	0.038	ug/L		04/18/24 10:15	04/19/24 17:53	1
1-Methylnaphthalene	ND		0.20	0.078	ug/L		04/18/24 10:15	04/19/24 17:53	1
2-Methylnaphthalene	ND		0.20	0.065	ug/L		04/18/24 10:15	04/19/24 17:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	83		18 - 147	04/18/24 10:15	04/19/24 17:53	1
2-Fluorobiphenyl	78		15 - 128	04/18/24 10:15	04/19/24 17:53	1

Eurofins Pensacola



# Client Sample Results

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

Job ID: 400-254327-1

**Client Sample ID: MW3-ROX-041224**

**Lab Sample ID: 400-254327-5**

Date Collected: 04/12/24 12:10

Matrix: Water

Date Received: 04/13/24 07:54

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	79		10 - 144	04/18/24 10:15	04/19/24 17:53	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	8.5	ug/L		04/18/24 10:15	04/19/24 16:33	1
Benzenethiol	ND		9.8	9.7	ug/L		04/18/24 10:15	04/19/24 16:33	1
Benzoic acid	ND		29	24	ug/L		04/18/24 10:15	04/19/24 16:33	1
Benzyl alcohol	ND		9.8	7.2	ug/L		04/18/24 10:15	04/19/24 16:33	1
Bis(2-chloroethoxy)methane	ND		9.8	4.5	ug/L		04/18/24 10:15	04/19/24 16:33	1
Bis(2-chloroethyl)ether	ND		9.8	3.8	ug/L		04/18/24 10:15	04/19/24 16:33	1
bis (2-chloroisopropyl) ether	ND		9.8	1.8	ug/L		04/18/24 10:15	04/19/24 16:33	1
Bis(2-ethylhexyl) phthalate	ND		9.8	8.7	ug/L		04/18/24 10:15	04/19/24 16:33	1
4-Bromophenyl phenyl ether	ND		9.8	8.4	ug/L		04/18/24 10:15	04/19/24 16:33	1
Butyl benzyl phthalate	ND		9.8	5.7	ug/L		04/18/24 10:15	04/19/24 16:33	1
4-Chloroaniline	ND		9.8	4.6	ug/L		04/18/24 10:15	04/19/24 16:33	1
4-Chloro-3-methylphenol	ND		9.8	5.2	ug/L		04/18/24 10:15	04/19/24 16:33	1
2-Chloronaphthalene	ND		9.8	3.7	ug/L		04/18/24 10:15	04/19/24 16:33	1
2-Chlorophenol	ND		9.8	4.0	ug/L		04/18/24 10:15	04/19/24 16:33	1
4-Chlorophenyl phenyl ether	ND		9.8	3.6	ug/L		04/18/24 10:15	04/19/24 16:33	1
Dibenz[a,h]acridine	ND		9.8	2.7	ug/L		04/18/24 10:15	04/19/24 16:33	1
Dibenzofuran	ND		9.8	3.9	ug/L		04/18/24 10:15	04/19/24 16:33	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/18/24 10:15	04/19/24 16:33	1
2,4-Dichlorophenol	ND		9.8	4.2	ug/L		04/18/24 10:15	04/19/24 16:33	1
Diethyl phthalate	ND		9.8	4.3	ug/L		04/18/24 10:15	04/19/24 16:33	1
2,4-Dimethylphenol	ND		9.8	5.1	ug/L		04/18/24 10:15	04/19/24 16:33	1
Dimethyl phthalate	ND		9.8	4.1	ug/L		04/18/24 10:15	04/19/24 16:33	1
Di-n-butyl phthalate	ND		9.8	4.5	ug/L		04/18/24 10:15	04/19/24 16:33	1
4,6-Dinitro-ortho-cresol	ND		9.8	9.8	ug/L		04/18/24 10:15	04/19/24 16:33	1
2,4-Dinitrophenol	ND		29	4.5	ug/L		04/18/24 10:15	04/19/24 16:33	1
2,4-Dinitrotoluene	ND		9.8	5.0	ug/L		04/18/24 10:15	04/19/24 16:33	1
2,6-Dinitrotoluene	ND		9.8	3.8	ug/L		04/18/24 10:15	04/19/24 16:33	1
Di-n-octyl phthalate	ND		9.8	5.9	ug/L		04/18/24 10:15	04/19/24 16:33	1
1,4-Dioxane	ND		9.8	4.2	ug/L		04/18/24 10:15	04/19/24 16:33	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	UJ	9.8	3.2	ug/L		04/18/24 10:15	04/19/24 16:33	1
Hexachlorobenzene	ND		9.8	9.5	ug/L		04/18/24 10:15	04/19/24 16:33	1
Hexachlorocyclopentadiene	ND		20	4.4	ug/L		04/18/24 10:15	04/19/24 16:33	1
Hexachloroethane	ND		9.8	5.1	ug/L		04/18/24 10:15	04/19/24 16:33	1
Indene	ND		9.8	3.5	ug/L		04/18/24 10:15	04/19/24 16:33	1
Isophorone	ND		9.8	5.1	ug/L		04/18/24 10:15	04/19/24 16:33	1
2-Methylphenol	ND		9.8	3.1	ug/L		04/18/24 10:15	04/19/24 16:33	1
3 & 4 Methylphenol	ND		20	4.5	ug/L		04/18/24 10:15	04/19/24 16:33	1
2-Nitroaniline	ND		9.8	4.9	ug/L		04/18/24 10:15	04/19/24 16:33	1
3-Nitroaniline	ND		9.8	4.6	ug/L		04/18/24 10:15	04/19/24 16:33	1
4-Nitroaniline	ND		9.8	4.0	ug/L		04/18/24 10:15	04/19/24 16:33	1
Nitrobenzene	ND		9.8	4.6	ug/L		04/18/24 10:15	04/19/24 16:33	1
2-Nitrophenol	ND		9.8	4.5	ug/L		04/18/24 10:15	04/19/24 16:33	1
4-Nitrophenol	ND		9.8	3.2	ug/L		04/18/24 10:15	04/19/24 16:33	1
N-Nitrosodimethylamine	ND	UJ	9.8	2.2	ug/L		04/18/24 10:15	04/19/24 16:33	1

# Client Sample Results

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

Job ID: 400-254327-1

**Client Sample ID: MW3-ROX-041224**

**Lab Sample ID: 400-254327-5**

Date Collected: 04/12/24 12:10

Matrix: Water

Date Received: 04/13/24 07:54

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.8	2.4	ug/L		04/18/24 10:15	04/19/24 16:33	1
N-Nitrosodiphenylamine	ND		9.8	3.6	ug/L		04/18/24 10:15	04/19/24 16:33	1
Pentachlorophenol	ND		20	12	ug/L		04/18/24 10:15	04/19/24 16:33	1
Phenol	ND		9.8	4.1	ug/L		04/18/24 10:15	04/19/24 16:33	1
Pyridine	ND	UJ	9.8	9.8	ug/L		04/18/24 10:15	04/19/24 16:33	1
Quinoline	ND		9.8	2.4	ug/L		04/18/24 10:15	04/19/24 16:33	1
2,4,5-Trichlorophenol	ND		9.8	3.9	ug/L		04/18/24 10:15	04/19/24 16:33	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		04/18/24 10:15	04/19/24 16:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	87		21 - 114	04/18/24 10:15	04/19/24 16:33	1
2-Fluorophenol	66		10 - 105	04/18/24 10:15	04/19/24 16:33	1
Nitrobenzene-d5	84		16 - 127	04/18/24 10:15	04/19/24 16:33	1
Phenol-d5	51		10 - 129	04/18/24 10:15	04/19/24 16:33	1
Terphenyl-d14	95		13 - 150	04/18/24 10:15	04/19/24 16:33	1
2,4,6-Tribromophenol	103		10 - 150	04/18/24 10:15	04/19/24 16:33	1

**Method: EPA 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	0.017	ug/L		04/17/24 09:56	04/17/24 21:34	1
1,2-Dibromoethane	ND	UJ	0.020	0.015	ug/L		04/17/24 09:56	04/17/24 21:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	154	S1+	51 - 149	04/17/24 09:56	04/17/24 21:34	1

# Client Sample Results

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

Job ID: 400-254327-1

**Client Sample ID: MW5-ROX-041224**

**Lab Sample ID: 400-254327-6**

Date Collected: 04/12/24 13:10

Matrix: Water

Date Received: 04/13/24 07:54

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/24/24 19:46	1
Acrolein	ND		20	3.3	ug/L			04/24/24 19:46	1
Acrylonitrile	ND		10	2.8	ug/L			04/24/24 19:46	1
Benzene	ND		1.0	0.50	ug/L			04/24/24 19:46	1
Bromobenzene	ND		1.0	0.54	ug/L			04/24/24 19:46	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/24/24 19:46	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/24/24 19:46	1
Bromoform	ND		5.0	0.25	ug/L			04/24/24 19:46	1
Bromomethane	ND		1.0	0.98	ug/L			04/24/24 19:46	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/24/24 19:46	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/24/24 19:46	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/24/24 19:46	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/24/24 19:46	1
Chloroethane	ND	UJ	1.0	0.76	ug/L			04/24/24 19:46	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/24/24 19:46	1
Chloroform	ND		1.0	0.90	ug/L			04/24/24 19:46	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/24/24 19:46	1
Chloromethane	ND	UJ	1.0	0.90	ug/L			04/24/24 19:46	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/24/24 19:46	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/24/24 19:46	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/24/24 19:46	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/24/24 19:46	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/24/24 19:46	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/24/24 19:46	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/24/24 19:46	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/24/24 19:46	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/24/24 19:46	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/24/24 19:46	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/24/24 19:46	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/24/24 19:46	1
2,2-Dichloropropane	ND	UJ	1.0	0.50	ug/L			04/24/24 19:46	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/24/24 19:46	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/24/24 19:46	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/24/24 19:46	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/24/24 19:46	1
2-Hexanone	ND		25	1.4	ug/L			04/24/24 19:46	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/24/24 19:46	1
Methylene bromide	ND		5.0	0.22	ug/L			04/24/24 19:46	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/24/24 19:46	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/24/24 19:46	1
<b>Methyl tert-butyl ether</b>	<b>1.1</b>		1.0	0.22	ug/L			04/24/24 19:46	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/24/24 19:46	1
Naphthalene	ND		5.0	3.0	ug/L			04/24/24 19:46	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/24/24 19:46	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/24/24 19:46	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/24/24 19:46	1
o-Xylene	ND		5.0	0.60	ug/L			04/24/24 19:46	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/24/24 19:46	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/24/24 19:46	1

# Client Sample Results

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

Job ID: 400-254327-1

**Client Sample ID: MW5-ROX-041224**

**Lab Sample ID: 400-254327-6**

Date Collected: 04/12/24 13:10

Matrix: Water

Date Received: 04/13/24 07:54

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/24/24 19:46	1
Styrene	ND		1.0	1.0	ug/L			04/24/24 19:46	1
<b>tert-Butylbenzene</b>	<b>0.74</b>	<b>J</b>	1.0	0.63	ug/L			04/24/24 19:46	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/24/24 19:46	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/24/24 19:46	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/24/24 19:46	1
Toluene	ND		1.0	0.90	ug/L			04/24/24 19:46	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/24/24 19:46	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/24/24 19:46	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/24/24 19:46	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/24/24 19:46	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/24/24 19:46	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/24/24 19:46	1
Trichloroethene	ND		1.0	0.15	ug/L			04/24/24 19:46	1
Trichlorofluoromethane	ND	UJ	1.0	0.52	ug/L			04/24/24 19:46	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/24/24 19:46	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/24/24 19:46	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/24/24 19:46	1
Vinyl acetate	ND		25	0.93	ug/L			04/24/24 19:46	1
Vinyl chloride	ND	UJ	1.0	0.50	ug/L			04/24/24 19:46	1
Xylenes, Total	ND		10	1.6	ug/L			04/24/24 19:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	109		72 - 130		04/24/24 19:46	1
Dibromofluoromethane	108		75 - 126		04/24/24 19:46	1
Toluene-d8 (Surr)	97		64 - 132		04/24/24 19:46	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.095	ug/L		04/18/24 10:15	04/19/24 18:14	1
Acenaphthylene	ND		0.19	0.042	ug/L		04/18/24 10:15	04/19/24 18:14	1
Anthracene	ND		0.19	0.045	ug/L		04/18/24 10:15	04/19/24 18:14	1
Benzo[a]anthracene	ND		0.19	0.033	ug/L		04/18/24 10:15	04/19/24 18:14	1
Benzo[a]pyrene	ND		0.19	0.061	ug/L		04/18/24 10:15	04/19/24 18:14	1
Benzo[b]fluoranthene	ND		0.19	0.036	ug/L		04/18/24 10:15	04/19/24 18:14	1
Benzo[g,h,i]perylene	ND		0.19	0.026	ug/L		04/18/24 10:15	04/19/24 18:14	1
Benzo[k]fluoranthene	ND		0.19	0.060	ug/L		04/18/24 10:15	04/19/24 18:14	1
Chrysene	ND		0.19	0.032	ug/L		04/18/24 10:15	04/19/24 18:14	1
Dibenz(a,h)anthracene	ND		0.19	0.046	ug/L		04/18/24 10:15	04/19/24 18:14	1
Fluoranthene	ND		0.19	0.033	ug/L		04/18/24 10:15	04/19/24 18:14	1
Fluorene	ND		0.19	0.085	ug/L		04/18/24 10:15	04/19/24 18:14	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.033	ug/L		04/18/24 10:15	04/19/24 18:14	1
Phenanthrene	ND		0.19	0.086	ug/L		04/18/24 10:15	04/19/24 18:14	1
Pyrene	ND		0.19	0.037	ug/L		04/18/24 10:15	04/19/24 18:14	1
1-Methylnaphthalene	ND		0.19	0.077	ug/L		04/18/24 10:15	04/19/24 18:14	1
2-Methylnaphthalene	ND		0.19	0.063	ug/L		04/18/24 10:15	04/19/24 18:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	91		18 - 147	04/18/24 10:15	04/19/24 18:14	1
2-Fluorobiphenyl	85		15 - 128	04/18/24 10:15	04/19/24 18:14	1

Eurofins Pensacola

# Client Sample Results

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

Job ID: 400-254327-1

**Client Sample ID: MW5-ROX-041224**

**Lab Sample ID: 400-254327-6**

Date Collected: 04/12/24 13:10

Matrix: Water

Date Received: 04/13/24 07:54

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	88		10 - 144	04/18/24 10:15	04/19/24 18:14	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.6	8.4	ug/L		04/18/24 10:15	04/19/24 16:56	1
Benzenethiol	ND		9.6	9.5	ug/L		04/18/24 10:15	04/19/24 16:56	1
Benzoic acid	ND		29	23	ug/L		04/18/24 10:15	04/19/24 16:56	1
Benzyl alcohol	ND		9.6	7.0	ug/L		04/18/24 10:15	04/19/24 16:56	1
Bis(2-chloroethoxy)methane	ND		9.6	4.4	ug/L		04/18/24 10:15	04/19/24 16:56	1
Bis(2-chloroethyl)ether	ND		9.6	3.7	ug/L		04/18/24 10:15	04/19/24 16:56	1
bis (2-chloroisopropyl) ether	ND		9.6	1.7	ug/L		04/18/24 10:15	04/19/24 16:56	1
Bis(2-ethylhexyl) phthalate	ND		9.6	8.5	ug/L		04/18/24 10:15	04/19/24 16:56	1
4-Bromophenyl phenyl ether	ND		9.6	8.3	ug/L		04/18/24 10:15	04/19/24 16:56	1
Butyl benzyl phthalate	ND		9.6	5.6	ug/L		04/18/24 10:15	04/19/24 16:56	1
4-Chloroaniline	ND		9.6	4.5	ug/L		04/18/24 10:15	04/19/24 16:56	1
4-Chloro-3-methylphenol	ND		9.6	5.1	ug/L		04/18/24 10:15	04/19/24 16:56	1
2-Chloronaphthalene	ND		9.6	3.6	ug/L		04/18/24 10:15	04/19/24 16:56	1
2-Chlorophenol	ND		9.6	3.9	ug/L		04/18/24 10:15	04/19/24 16:56	1
4-Chlorophenyl phenyl ether	ND		9.6	3.6	ug/L		04/18/24 10:15	04/19/24 16:56	1
Dibenz[a,h]acridine	ND		9.6	2.7	ug/L		04/18/24 10:15	04/19/24 16:56	1
Dibenzofuran	ND		9.6	3.8	ug/L		04/18/24 10:15	04/19/24 16:56	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/18/24 10:15	04/19/24 16:56	1
2,4-Dichlorophenol	ND		9.6	4.1	ug/L		04/18/24 10:15	04/19/24 16:56	1
Diethyl phthalate	ND		9.6	4.2	ug/L		04/18/24 10:15	04/19/24 16:56	1
2,4-Dimethylphenol	ND		9.6	5.0	ug/L		04/18/24 10:15	04/19/24 16:56	1
Dimethyl phthalate	ND		9.6	4.0	ug/L		04/18/24 10:15	04/19/24 16:56	1
Di-n-butyl phthalate	ND		9.6	4.4	ug/L		04/18/24 10:15	04/19/24 16:56	1
4,6-Dinitro-ortho-cresol	ND		9.6	9.6	ug/L		04/18/24 10:15	04/19/24 16:56	1
2,4-Dinitrophenol	ND		29	4.4	ug/L		04/18/24 10:15	04/19/24 16:56	1
2,4-Dinitrotoluene	ND		9.6	4.9	ug/L		04/18/24 10:15	04/19/24 16:56	1
2,6-Dinitrotoluene	ND		9.6	3.7	ug/L		04/18/24 10:15	04/19/24 16:56	1
Di-n-octyl phthalate	ND		9.6	5.8	ug/L		04/18/24 10:15	04/19/24 16:56	1
1,4-Dioxane	ND		9.6	4.1	ug/L		04/18/24 10:15	04/19/24 16:56	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	UJ	9.6	3.2	ug/L		04/18/24 10:15	04/19/24 16:56	1
Hexachlorobenzene	ND		9.6	9.3	ug/L		04/18/24 10:15	04/19/24 16:56	1
Hexachlorocyclopentadiene	ND		19	4.3	ug/L		04/18/24 10:15	04/19/24 16:56	1
Hexachloroethane	ND		9.6	5.0	ug/L		04/18/24 10:15	04/19/24 16:56	1
Indene	ND		9.6	3.5	ug/L		04/18/24 10:15	04/19/24 16:56	1
Isophorone	ND		9.6	5.0	ug/L		04/18/24 10:15	04/19/24 16:56	1
2-Methylphenol	ND		9.6	3.1	ug/L		04/18/24 10:15	04/19/24 16:56	1
3 & 4 Methylphenol	ND		19	4.4	ug/L		04/18/24 10:15	04/19/24 16:56	1
2-Nitroaniline	ND		9.6	4.8	ug/L		04/18/24 10:15	04/19/24 16:56	1
3-Nitroaniline	ND		9.6	4.5	ug/L		04/18/24 10:15	04/19/24 16:56	1
4-Nitroaniline	ND		9.6	3.9	ug/L		04/18/24 10:15	04/19/24 16:56	1
Nitrobenzene	ND		9.6	4.5	ug/L		04/18/24 10:15	04/19/24 16:56	1
2-Nitrophenol	ND		9.6	4.4	ug/L		04/18/24 10:15	04/19/24 16:56	1
4-Nitrophenol	ND		9.6	3.2	ug/L		04/18/24 10:15	04/19/24 16:56	1
N-Nitrosodimethylamine	ND	UJ	9.6	2.1	ug/L		04/18/24 10:15	04/19/24 16:56	1



# Client Sample Results

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

Job ID: 400-254327-1

**Client Sample ID: MW5-ROX-041224**

**Lab Sample ID: 400-254327-6**

Date Collected: 04/12/24 13:10

Matrix: Water

Date Received: 04/13/24 07:54

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.6	2.4	ug/L		04/18/24 10:15	04/19/24 16:56	1
N-Nitrosodiphenylamine	ND		9.6	3.6	ug/L		04/18/24 10:15	04/19/24 16:56	1
Pentachlorophenol	ND		19	11	ug/L		04/18/24 10:15	04/19/24 16:56	1
Phenol	ND		9.6	4.0	ug/L		04/18/24 10:15	04/19/24 16:56	1
Pyridine	ND	UJ	9.6	9.6	ug/L		04/18/24 10:15	04/19/24 16:56	1
Quinoline	ND		9.6	2.3	ug/L		04/18/24 10:15	04/19/24 16:56	1
2,4,5-Trichlorophenol	ND		9.6	3.8	ug/L		04/18/24 10:15	04/19/24 16:56	1
2,4,6-Trichlorophenol	ND		9.6	3.4	ug/L		04/18/24 10:15	04/19/24 16:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	85		21 - 114	04/18/24 10:15	04/19/24 16:56	1
2-Fluorophenol	66		10 - 105	04/18/24 10:15	04/19/24 16:56	1
Nitrobenzene-d5	84		16 - 127	04/18/24 10:15	04/19/24 16:56	1
Phenol-d5	51		10 - 129	04/18/24 10:15	04/19/24 16:56	1
Terphenyl-d14	92		13 - 150	04/18/24 10:15	04/19/24 16:56	1
2,4,6-Tribromophenol	99		10 - 150	04/18/24 10:15	04/19/24 16:56	1

**Method: EPA 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	0.017	ug/L		04/17/24 09:56	04/17/24 21:55	1
1,2-Dibromoethane	ND	UJ	0.020	0.015	ug/L		04/17/24 09:56	04/17/24 21:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	142		51 - 149	04/17/24 09:56	04/17/24 21:55	1

# Definitions/Glossary

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

Job ID: 400-254327-1

## 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.

### GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.

## 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
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

# Surrogate Summary

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

Job ID: 400-254327-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (72-130)	DBFM (75-126)	TOL (64-132)
400-254327-1	TB-ROX-041224-8260	108	107	98
400-254327-3	MW28-ROX-041224	107	107	98
400-254327-4	MW12-ROX-041224	107	109	98
400-254327-5	MW3-ROX-041224	107	108	98
400-254327-6	MW5-ROX-041224	109	108	97
LCS 400-669201/1002	Lab Control Sample	108	95	99
MB 400-669201/4	Method Blank	107	107	97

### Surrogate Legend

BFB = 4-Bromofluorobenzene  
DBFM = Dibromofluoromethane  
TOL = Toluene-d8 (Surr)

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (21-114)	2FP (10-105)	NBZ (16-127)	PHL (10-129)	TPHL (13-150)	TBP (10-150)
400-254327-3	MW28-ROX-041224	82	60	79	45	96	82
400-254327-4	MW12-ROX-041224	87	21	84	16	92	27
400-254327-5	MW3-ROX-041224	87	66	84	51	95	103
400-254327-6	MW5-ROX-041224	85	66	84	51	92	99
LCS 400-668437/2-A	Lab Control Sample	76	62	79	54	105	92
LCS 400-668437/4-A	Lab Control Sample	73	56	72	43	95	77
LCSD 400-668437/3-A	Lab Control Sample Dup	72	61	77	53	103	86
LCSD 400-668437/5-A	Lab Control Sample Dup	77	58	74	46	95	77
MB 400-668437/1-A	Method Blank	88	63	88	45	110	84

### Surrogate Legend

FBP = 2-Fluorobiphenyl  
2FP = 2-Fluorophenol  
NBZ = Nitrobenzene-d5  
PHL = Phenol-d5  
TPHL = Terphenyl-d14  
TBP = 2,4,6-Tribromophenol

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TPHL (18-147)	FBP (15-128)	NBZ (10-144)
400-254327-3	MW28-ROX-041224	92	78	84
400-254327-4	MW12-ROX-041224	91	77	78
400-254327-5	MW3-ROX-041224	83	78	79
400-254327-6	MW5-ROX-041224	91	85	88
LCS 400-668437/2-A	Lab Control Sample	93	82	57
LCSD 400-668437/3-A	Lab Control Sample Dup	85	72	53
MB 400-668437/1-A	Method Blank	100	76	84

### Surrogate Legend

Eurofins Pensacola

# Surrogate Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA QUARTERLY GW  
TPHL = Terphenyl-d14  
FBP = 2-Fluorobiphenyl  
NBZ = Nitrobenzene-d5

Job ID: 400-254327-1

## 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	BFB1 (51-149)
400-254327-2	TB-ROX-041224-8011	315 S1+
400-254327-3	MW28-ROX-041224	138
400-254327-4	MW12-ROX-041224	211 S1+
400-254327-5	MW3-ROX-041224	154 S1+
400-254327-6	MW5-ROX-041224	142
LCS 400-668266/2-A	Lab Control Sample	89
LCSD 400-668266/3-A	Lab Control Sample Dup	91
MB 400-668266/1-A	Method Blank	81

### Surrogate Legend

BFB = 4-Bromofluorobenzene

# Method Summary

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

Job ID: 400-254327-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET PEN
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET PEN
8270E SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	EET PEN
8011	EDB and DBCP in Water by Microextraction	EPA	EET PEN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET PEN
5030C	Purge and Trap	SW846	EET PEN
8011	Microextraction	SW846	EET 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:**

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001





# Lab Chronicle

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

Job ID: 400-254327-1

**Client Sample ID: TB-ROX-041224-8260**

**Lab Sample ID: 400-254327-1**

Date Collected: 04/12/24 00:00

Matrix: Water

Date Received: 04/13/24 07:54

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	669201	04/24/24 18:15	WPD	EET PEN

**Client Sample ID: TB-ROX-041224-8011**

**Lab Sample ID: 400-254327-2**

Date Collected: 04/12/24 00:00

Matrix: Water

Date Received: 04/13/24 07:54

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	668266	04/17/24 09:56	PG	EET PEN
Total/NA	Analysis	8011		1			668327	04/17/24 20:29	PG	EET PEN

**Client Sample ID: MW28-ROX-041224**

**Lab Sample ID: 400-254327-3**

Date Collected: 04/12/24 09:50

Matrix: Water

Date Received: 04/13/24 07:54

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	669201	04/24/24 18:38	WPD	EET PEN
Total/NA	Prep	3510C			257.4 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668475	04/19/24 00:42	S1B	EET PEN
Total/NA	Prep	3510C			257.4 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	668581	04/19/24 17:11	S1B	EET PEN
Total/NA	Prep	8011			35.3 mL	35 mL	668266	04/17/24 09:56	PG	EET PEN
Total/NA	Analysis	8011		1			668327	04/17/24 20:51	PG	EET PEN

**Client Sample ID: MW12-ROX-041224**

**Lab Sample ID: 400-254327-4**

Date Collected: 04/12/24 11:10

Matrix: Water

Date Received: 04/13/24 07:54

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	669201	04/24/24 19:01	WPD	EET PEN
Total/NA	Prep	3510C			256.2 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668609	04/19/24 16:11	S1B	EET PEN
Total/NA	Prep	3510C			256.2 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	668581	04/19/24 17:32	S1B	EET PEN
Total/NA	Prep	8011			36.7 mL	35 mL	668266	04/17/24 09:56	PG	EET PEN
Total/NA	Analysis	8011		1			668327	04/17/24 21:12	PG	EET PEN

**Client Sample ID: MW3-ROX-041224**

**Lab Sample ID: 400-254327-5**

Date Collected: 04/12/24 12:10

Matrix: Water

Date Received: 04/13/24 07:54

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	669201	04/24/24 19:24	WPD	EET PEN
Total/NA	Prep	3510C			255.2 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668609	04/19/24 16:33	S1B	EET PEN

# Lab Chronicle

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

Job ID: 400-254327-1

**Client Sample ID: MW3-ROX-041224**

**Lab Sample ID: 400-254327-5**

Date Collected: 04/12/24 12:10

Matrix: Water

Date Received: 04/13/24 07:54

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			255.2 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	668581	04/19/24 17:53	S1B	EET PEN
Total/NA	Prep	8011			35.8 mL	35 mL	668266	04/17/24 09:56	PG	EET PEN
Total/NA	Analysis	8011		1			668327	04/17/24 21:34	PG	EET PEN

**Client Sample ID: MW5-ROX-041224**

**Lab Sample ID: 400-254327-6**

Date Collected: 04/12/24 13:10

Matrix: Water

Date Received: 04/13/24 07:54

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	669201	04/24/24 19:46	WPD	EET PEN
Total/NA	Prep	3510C			260.4 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668609	04/19/24 16:56	S1B	EET PEN
Total/NA	Prep	3510C			260.4 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	668581	04/19/24 18:14	S1B	EET PEN
Total/NA	Prep	8011			35.5 mL	35 mL	668266	04/17/24 09:56	PG	EET PEN
Total/NA	Analysis	8011		1			668327	04/17/24 21:55	PG	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-668266/1-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	668266	04/17/24 09:56	PG	EET PEN
Total/NA	Analysis	8011		1			668327	04/17/24 19:24	PG	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-668437/1-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	3510C			250 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668475	04/18/24 20:47	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	668419	04/18/24 16:26	KJA	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-669201/4**

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	8260D		1	5 mL	5 mL	669201	04/24/24 16:22	WPD	EET PEN

# Lab Chronicle

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

Job ID: 400-254327-1

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-668266/2-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	668266	04/17/24 09:56	PG	EET PEN
Total/NA	Analysis	8011		1			668327	04/17/24 19:46	PG	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-668437/2-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	3510C			250 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668475	04/18/24 21:10	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E SIM		100	0.4 mL	0.4 mL	668419	04/18/24 16:47	KJA	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-668437/4-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	3510C			250 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668475	04/18/24 21:57	S1B	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-669201/1002

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	8260D		1	5 mL	5 mL	669201	04/24/24 14:51	WPD	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-668266/3-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	668266	04/17/24 09:56	PG	EET PEN
Total/NA	Analysis	8011		1			668327	04/17/24 20:07	PG	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-668437/3-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	3510C			250 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668475	04/18/24 21:34	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E SIM		100	0.4 mL	0.4 mL	668419	04/18/24 17:09	KJA	EET PEN

# Lab Chronicle

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

Job ID: 400-254327-1

**Client Sample ID: Lab Control Sample Dup**

**Lab Sample ID: LCSD 400-668437/5-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	3510C			250 mL	1 mL	668437	04/18/24 10:15	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668475	04/18/24 22:21	S1B	EET PEN

**Laboratory References:**

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001



# QC Association Summary

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

Job ID: 400-254327-1

## GC/MS VOA

### Analysis Batch: 669201

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254327-1	TB-ROX-041224-8260	Total/NA	Water	8260D	
400-254327-3	MW28-ROX-041224	Total/NA	Water	8260D	
400-254327-4	MW12-ROX-041224	Total/NA	Water	8260D	
400-254327-5	MW3-ROX-041224	Total/NA	Water	8260D	
400-254327-6	MW5-ROX-041224	Total/NA	Water	8260D	
MB 400-669201/4	Method Blank	Total/NA	Water	8260D	
LCS 400-669201/1002	Lab Control Sample	Total/NA	Water	8260D	

## GC/MS Semi VOA

### Analysis Batch: 668419

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-668437/1-A	Method Blank	Total/NA	Water	8270E SIM	668437
LCS 400-668437/2-A	Lab Control Sample	Total/NA	Water	8270E SIM	668437
LCS 400-668437/3-A	Lab Control Sample Dup	Total/NA	Water	8270E SIM	668437

### Prep Batch: 668437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254327-3	MW28-ROX-041224	Total/NA	Water	3510C	
400-254327-4	MW12-ROX-041224	Total/NA	Water	3510C	
400-254327-5	MW3-ROX-041224	Total/NA	Water	3510C	
400-254327-6	MW5-ROX-041224	Total/NA	Water	3510C	
MB 400-668437/1-A	Method Blank	Total/NA	Water	3510C	
LCS 400-668437/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 400-668437/4-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 400-668437/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
LCS 400-668437/5-A	Lab Control Sample Dup	Total/NA	Water	3510C	

### Analysis Batch: 668475

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254327-3	MW28-ROX-041224	Total/NA	Water	8270E	668437
MB 400-668437/1-A	Method Blank	Total/NA	Water	8270E	668437
LCS 400-668437/2-A	Lab Control Sample	Total/NA	Water	8270E	668437
LCS 400-668437/4-A	Lab Control Sample	Total/NA	Water	8270E	668437
LCS 400-668437/3-A	Lab Control Sample Dup	Total/NA	Water	8270E	668437
LCS 400-668437/5-A	Lab Control Sample Dup	Total/NA	Water	8270E	668437

### Analysis Batch: 668581

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254327-3	MW28-ROX-041224	Total/NA	Water	8270E SIM	668437
400-254327-4	MW12-ROX-041224	Total/NA	Water	8270E SIM	668437
400-254327-5	MW3-ROX-041224	Total/NA	Water	8270E SIM	668437
400-254327-6	MW5-ROX-041224	Total/NA	Water	8270E SIM	668437

### Analysis Batch: 668609

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254327-4	MW12-ROX-041224	Total/NA	Water	8270E	668437
400-254327-5	MW3-ROX-041224	Total/NA	Water	8270E	668437
400-254327-6	MW5-ROX-041224	Total/NA	Water	8270E	668437



# QC Association Summary

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

Job ID: 400-254327-1

## GC Semi VOA

### Prep Batch: 668266

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254327-2	TB-ROX-041224-8011	Total/NA	Water	8011	
400-254327-3	MW28-ROX-041224	Total/NA	Water	8011	
400-254327-4	MW12-ROX-041224	Total/NA	Water	8011	
400-254327-5	MW3-ROX-041224	Total/NA	Water	8011	
400-254327-6	MW5-ROX-041224	Total/NA	Water	8011	
MB 400-668266/1-A	Method Blank	Total/NA	Water	8011	
LCS 400-668266/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 400-668266/3-A	Lab Control Sample Dup	Total/NA	Water	8011	

### Analysis Batch: 668327

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254327-2	TB-ROX-041224-8011	Total/NA	Water	8011	668266
400-254327-3	MW28-ROX-041224	Total/NA	Water	8011	668266
400-254327-4	MW12-ROX-041224	Total/NA	Water	8011	668266
400-254327-5	MW3-ROX-041224	Total/NA	Water	8011	668266
400-254327-6	MW5-ROX-041224	Total/NA	Water	8011	668266
MB 400-668266/1-A	Method Blank	Total/NA	Water	8011	668266
LCS 400-668266/2-A	Lab Control Sample	Total/NA	Water	8011	668266
LCSD 400-668266/3-A	Lab Control Sample Dup	Total/NA	Water	8011	668266

# QC Sample Results

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

Job ID: 400-254327-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 400-669201/4**  
**Matrix: Water**  
**Analysis Batch: 669201**

**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			04/24/24 16:22	1
Acrolein	ND		20	3.3	ug/L			04/24/24 16:22	1
Acrylonitrile	ND		10	2.8	ug/L			04/24/24 16:22	1
Benzene	ND		1.0	0.50	ug/L			04/24/24 16:22	1
Bromobenzene	ND		1.0	0.54	ug/L			04/24/24 16:22	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/24/24 16:22	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/24/24 16:22	1
Bromoform	ND		5.0	0.25	ug/L			04/24/24 16:22	1
Bromomethane	ND		1.0	0.98	ug/L			04/24/24 16:22	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/24/24 16:22	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/24/24 16:22	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/24/24 16:22	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/24/24 16:22	1
Chloroethane	ND		1.0	0.76	ug/L			04/24/24 16:22	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/24/24 16:22	1
Chloroform	ND		1.0	0.90	ug/L			04/24/24 16:22	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/24/24 16:22	1
Chloromethane	ND		1.0	0.90	ug/L			04/24/24 16:22	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/24/24 16:22	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/24/24 16:22	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/24/24 16:22	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/24/24 16:22	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/24/24 16:22	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/24/24 16:22	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/24/24 16:22	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/24/24 16:22	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/24/24 16:22	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/24/24 16:22	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/24/24 16:22	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/24/24 16:22	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/24/24 16:22	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/24/24 16:22	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/24/24 16:22	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/24/24 16:22	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/24/24 16:22	1
2-Hexanone	ND		25	1.4	ug/L			04/24/24 16:22	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/24/24 16:22	1
Methylene bromide	ND		5.0	0.22	ug/L			04/24/24 16:22	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/24/24 16:22	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/24/24 16:22	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/24/24 16:22	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/24/24 16:22	1
Naphthalene	ND		5.0	3.0	ug/L			04/24/24 16:22	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/24/24 16:22	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/24/24 16:22	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/24/24 16:22	1
o-Xylene	ND		5.0	0.60	ug/L			04/24/24 16:22	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/24/24 16:22	1

# QC Sample Results

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

Job ID: 400-254327-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-669201/4**  
**Matrix: Water**  
**Analysis Batch: 669201**

**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			04/24/24 16:22	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/24/24 16:22	1
Styrene	ND		1.0	1.0	ug/L			04/24/24 16:22	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/24/24 16:22	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/24/24 16:22	1
1,1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/24/24 16:22	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/24/24 16:22	1
Toluene	ND		1.0	0.90	ug/L			04/24/24 16:22	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/24/24 16:22	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/24/24 16:22	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/24/24 16:22	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/24/24 16:22	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/24/24 16:22	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/24/24 16:22	1
Trichloroethene	ND		1.0	0.15	ug/L			04/24/24 16:22	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/24/24 16:22	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/24/24 16:22	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/24/24 16:22	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/24/24 16:22	1
Vinyl acetate	ND		25	0.93	ug/L			04/24/24 16:22	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/24/24 16:22	1
Xylenes, Total	ND		10	1.6	ug/L			04/24/24 16:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107		72 - 130		04/24/24 16:22	1
Dibromofluoromethane	107		75 - 126		04/24/24 16:22	1
Toluene-d8 (Surr)	97		64 - 132		04/24/24 16:22	1

**Lab Sample ID: LCS 400-669201/1002**  
**Matrix: Water**  
**Analysis Batch: 669201**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	200	104		ug/L		52	43 - 160
Acrolein	500	471		ug/L		94	38 - 160
Acrylonitrile	500	490		ug/L		98	64 - 142
Benzene	50.0	44.8		ug/L		90	70 - 130
Bromobenzene	50.0	49.3		ug/L		99	70 - 132
Bromochloromethane	50.0	47.1		ug/L		94	70 - 130
Bromodichloromethane	50.0	46.4		ug/L		93	67 - 133
Bromoform	50.0	52.3		ug/L		105	57 - 140
Bromomethane	50.0	27.9		ug/L		56	10 - 160
2-Butanone (MEK)	200	140		ug/L		70	61 - 145
Carbon disulfide	50.0	37.6		ug/L		75	61 - 137
Carbon tetrachloride	50.0	41.8		ug/L		84	61 - 137
Chlorobenzene	50.0	46.5		ug/L		93	70 - 130
Chloroethane	50.0	27.8		ug/L		56	55 - 141
2-Chloroethyl vinyl ether	50.0	55.2		ug/L		110	10 - 160

# QC Sample Results

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

Job ID: 400-254327-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-669201/1002**  
**Matrix: Water**  
**Analysis Batch: 669201**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroform	50.0	44.2		ug/L		88	69 - 130
1-Chlorohexane	50.0	42.0		ug/L		84	69 - 130
Chloromethane	50.0	31.7		ug/L		63	58 - 137
cis-1,2-Dichloroethene	50.0	44.6		ug/L		89	68 - 130
cis-1,3-Dichloropropene	50.0	50.9		ug/L		102	69 - 132
Dibromochloromethane	50.0	49.8		ug/L		100	67 - 135
1,2-Dichlorobenzene	50.0	48.6		ug/L		97	67 - 130
1,3-Dichlorobenzene	50.0	48.7		ug/L		97	70 - 130
1,4-Dichlorobenzene	50.0	48.9		ug/L		98	70 - 130
Dichlorodifluoromethane	50.0	27.3		ug/L		55	41 - 146
1,1-Dichloroethane	50.0	43.3		ug/L		87	70 - 130
1,2-Dichloroethane	50.0	46.4		ug/L		93	69 - 130
1,1-Dichloroethene	50.0	41.3		ug/L		83	63 - 134
1,2-Dichloropropane	50.0	47.3		ug/L		95	70 - 130
1,3-Dichloropropane	50.0	53.2		ug/L		106	70 - 130
2,2-Dichloropropane	50.0	38.4		ug/L		77	52 - 135
1,1-Dichloropropene	50.0	43.7		ug/L		87	70 - 130
Ethylbenzene	50.0	46.3		ug/L		93	70 - 130
Ethyl methacrylate	50.0	52.8		ug/L		106	68 - 130
Hexachlorobutadiene	50.0	54.0		ug/L		108	53 - 140
2-Hexanone	200	149		ug/L		74	65 - 137
Isopropylbenzene	50.0	45.5		ug/L		91	70 - 130
Methylene bromide	50.0	47.8		ug/L		96	70 - 130
Methylene Chloride	50.0	48.4		ug/L		97	66 - 135
4-Methyl-2-pentanone (MIBK)	200	182		ug/L		91	69 - 138
Methyl tert-butyl ether	50.0	48.8		ug/L		98	66 - 130
m-Xylene & p-Xylene	50.0	46.0		ug/L		92	70 - 130
Naphthalene	50.0	52.8		ug/L		106	47 - 149
n-Butylbenzene	50.0	48.1		ug/L		96	67 - 130
N-Propylbenzene	50.0	48.6		ug/L		97	70 - 130
o-Chlorotoluene	50.0	47.6		ug/L		95	70 - 130
o-Xylene	50.0	46.9		ug/L		94	70 - 130
p-Chlorotoluene	50.0	49.5		ug/L		99	70 - 130
p-Isopropyltoluene	50.0	49.2		ug/L		98	65 - 130
sec-Butylbenzene	50.0	47.7		ug/L		95	66 - 130
Styrene	50.0	49.6		ug/L		99	70 - 130
tert-Butylbenzene	50.0	46.9		ug/L		94	64 - 139
1,1,1,2-Tetrachloroethane	50.0	47.6		ug/L		95	67 - 131
1,1,2,2-Tetrachloroethane	50.0	55.2		ug/L		110	70 - 131
Tetrachloroethene	50.0	43.4		ug/L		87	65 - 130
Toluene	50.0	44.7		ug/L		89	70 - 130
trans-1,2-Dichloroethene	50.0	43.2		ug/L		86	70 - 130
trans-1,3-Dichloropropene	50.0	52.1		ug/L		104	63 - 130
1,2,3-Trichlorobenzene	50.0	51.0		ug/L		102	60 - 138
1,2,4-Trichlorobenzene	50.0	49.6		ug/L		99	60 - 140
1,1,1-Trichloroethane	50.0	41.1		ug/L		82	68 - 130
1,1,2-Trichloroethane	50.0	52.3		ug/L		105	70 - 130
Trichloroethene	50.0	43.6		ug/L		87	70 - 130
Trichlorofluoromethane	50.0	33.6		ug/L		67	65 - 138

# QC Sample Results

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

Job ID: 400-254327-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-669201/1002**  
**Matrix: Water**  
**Analysis Batch: 669201**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	50.0	55.4		ug/L		111	70 - 130
1,2,4-Trimethylbenzene	50.0	51.0		ug/L		102	70 - 130
1,3,5-Trimethylbenzene	50.0	49.5		ug/L		99	69 - 130
Vinyl acetate	100	118		ug/L		118	26 - 160
Vinyl chloride	50.0	33.3		ug/L		67	59 - 136
Xylenes, Total	100	92.9		ug/L		93	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	108		72 - 130
Dibromofluoromethane	95		75 - 126
Toluene-d8 (Surr)	99		64 - 132

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

**Lab Sample ID: MB 400-668437/1-A**  
**Matrix: Water**  
**Analysis Batch: 668475**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 668437**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	8.7	ug/L		04/18/24 10:15	04/18/24 20:47	1
Benzenethiol	ND		10	9.9	ug/L		04/18/24 10:15	04/18/24 20:47	1
Benzoic acid	ND		30	24	ug/L		04/18/24 10:15	04/18/24 20:47	1
Benzyl alcohol	ND		10	7.3	ug/L		04/18/24 10:15	04/18/24 20:47	1
Bis(2-chloroethoxy)methane	ND		10	4.6	ug/L		04/18/24 10:15	04/18/24 20:47	1
Bis(2-chloroethyl)ether	ND		10	3.9	ug/L		04/18/24 10:15	04/18/24 20:47	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		04/18/24 10:15	04/18/24 20:47	1
Bis(2-ethylhexyl) phthalate	ND		10	8.9	ug/L		04/18/24 10:15	04/18/24 20:47	1
4-Bromophenyl phenyl ether	ND		10	8.6	ug/L		04/18/24 10:15	04/18/24 20:47	1
Butyl benzyl phthalate	ND		10	5.8	ug/L		04/18/24 10:15	04/18/24 20:47	1
4-Chloroaniline	ND		10	4.7	ug/L		04/18/24 10:15	04/18/24 20:47	1
4-Chloro-3-methylphenol	ND		10	5.3	ug/L		04/18/24 10:15	04/18/24 20:47	1
2-Chloronaphthalene	ND		10	3.8	ug/L		04/18/24 10:15	04/18/24 20:47	1
2-Chlorophenol	ND		10	4.1	ug/L		04/18/24 10:15	04/18/24 20:47	1
4-Chlorophenyl phenyl ether	ND		10	3.7	ug/L		04/18/24 10:15	04/18/24 20:47	1
Dibenz[a,h]acridine	ND		10	2.8	ug/L		04/18/24 10:15	04/18/24 20:47	1
Dibenzofuran	ND		10	4.0	ug/L		04/18/24 10:15	04/18/24 20:47	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/18/24 10:15	04/18/24 20:47	1
2,4-Dichlorophenol	ND		10	4.3	ug/L		04/18/24 10:15	04/18/24 20:47	1
Diethyl phthalate	ND		10	4.4	ug/L		04/18/24 10:15	04/18/24 20:47	1
2,4-Dimethylphenol	ND		10	5.2	ug/L		04/18/24 10:15	04/18/24 20:47	1
Dimethyl phthalate	ND		10	4.2	ug/L		04/18/24 10:15	04/18/24 20:47	1
Di-n-butyl phthalate	ND		10	4.6	ug/L		04/18/24 10:15	04/18/24 20:47	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		04/18/24 10:15	04/18/24 20:47	1
2,4-Dinitrophenol	ND		30	4.6	ug/L		04/18/24 10:15	04/18/24 20:47	1
2,4-Dinitrotoluene	ND		10	5.1	ug/L		04/18/24 10:15	04/18/24 20:47	1
2,6-Dinitrotoluene	ND		10	3.9	ug/L		04/18/24 10:15	04/18/24 20:47	1
Di-n-octyl phthalate	ND		10	6.0	ug/L		04/18/24 10:15	04/18/24 20:47	1
1,4-Dioxane	ND		10	4.3	ug/L		04/18/24 10:15	04/18/24 20:47	1



# QC Sample Results

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

Job ID: 400-254327-1

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

**Lab Sample ID: MB 400-668437/1-A**  
**Matrix: Water**  
**Analysis Batch: 668475**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 668437**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.3	ug/L		04/18/24 10:15	04/18/24 20:47	1
Hexachlorobenzene	ND		10	9.7	ug/L		04/18/24 10:15	04/18/24 20:47	1
Hexachlorocyclopentadiene	ND		20	4.5	ug/L		04/18/24 10:15	04/18/24 20:47	1
Hexachloroethane	ND		10	5.2	ug/L		04/18/24 10:15	04/18/24 20:47	1
Indene	ND		10	3.6	ug/L		04/18/24 10:15	04/18/24 20:47	1
Isophorone	ND		10	5.2	ug/L		04/18/24 10:15	04/18/24 20:47	1
2-Methylphenol	ND		10	3.2	ug/L		04/18/24 10:15	04/18/24 20:47	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		04/18/24 10:15	04/18/24 20:47	1
2-Nitroaniline	ND		10	5.0	ug/L		04/18/24 10:15	04/18/24 20:47	1
3-Nitroaniline	ND		10	4.7	ug/L		04/18/24 10:15	04/18/24 20:47	1
4-Nitroaniline	ND		10	4.1	ug/L		04/18/24 10:15	04/18/24 20:47	1
Nitrobenzene	ND		10	4.7	ug/L		04/18/24 10:15	04/18/24 20:47	1
2-Nitrophenol	ND		10	4.6	ug/L		04/18/24 10:15	04/18/24 20:47	1
4-Nitrophenol	ND		10	3.3	ug/L		04/18/24 10:15	04/18/24 20:47	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		04/18/24 10:15	04/18/24 20:47	1
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		04/18/24 10:15	04/18/24 20:47	1
N-Nitrosodiphenylamine	ND		10	3.7	ug/L		04/18/24 10:15	04/18/24 20:47	1
Pentachlorophenol	ND		20	12	ug/L		04/18/24 10:15	04/18/24 20:47	1
Phenol	ND		10	4.2	ug/L		04/18/24 10:15	04/18/24 20:47	1
Pyridine	ND		10	10	ug/L		04/18/24 10:15	04/18/24 20:47	1
Quinoline	ND		10	2.4	ug/L		04/18/24 10:15	04/18/24 20:47	1
2,4,5-Trichlorophenol	ND		10	4.0	ug/L		04/18/24 10:15	04/18/24 20:47	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/18/24 10:15	04/18/24 20:47	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	88		21 - 114	04/18/24 10:15	04/18/24 20:47	1
2-Fluorophenol	63		10 - 105	04/18/24 10:15	04/18/24 20:47	1
Nitrobenzene-d5	88		16 - 127	04/18/24 10:15	04/18/24 20:47	1
Phenol-d5	45		10 - 129	04/18/24 10:15	04/18/24 20:47	1
Terphenyl-d14	110		13 - 150	04/18/24 10:15	04/18/24 20:47	1
2,4,6-Tribromophenol	84		10 - 150	04/18/24 10:15	04/18/24 20:47	1

**Lab Sample ID: LCS 400-668437/2-A**  
**Matrix: Water**  
**Analysis Batch: 668475**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 668437**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aniline	120	43.7		ug/L		36	10 - 127
Benzoic acid	492	221		ug/L		45	19 - 126
Benzyl alcohol	120	80.0		ug/L		67	17 - 109
Bis(2-chloroethoxy)methane	120	82.6		ug/L		69	24 - 125
Bis(2-chloroethyl)ether	120	76.2		ug/L		64	10 - 121
bis (2-chloroisopropyl) ether	120	82.3		ug/L		69	14 - 123
Bis(2-ethylhexyl) phthalate	120	125		ug/L		104	16 - 150
4-Bromophenyl phenyl ether	120	106		ug/L		88	17 - 150
Butyl benzyl phthalate	120	119		ug/L		99	21 - 150
4-Chloroaniline	120	76.6		ug/L		64	10 - 124
4-Chloro-3-methylphenol	120	89.2		ug/L		74	37 - 131

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# QC Sample Results

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

Job ID: 400-254327-1

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

**Lab Sample ID: LCS 400-668437/2-A**  
**Matrix: Water**  
**Analysis Batch: 668475**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 668437**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2-Chloronaphthalene	120	93.5		ug/L		78	24 - 132
2-Chlorophenol	120	89.7		ug/L		75	27 - 124
4-Chlorophenyl phenyl ether	120	96.4		ug/L		80	27 - 147
Dibenz[a,h]acridine	120	105		ug/L		88	40 - 140
Dibenzofuran	120	96.5		ug/L		80	30 - 135
3,3'-Dichlorobenzidine	160	144		ug/L		90	10 - 150
2,4-Dichlorophenol	120	86.8		ug/L		72	33 - 132
Diethyl phthalate	120	111		ug/L		92	37 - 145
2,4-Dimethylphenol	120	105		ug/L		88	38 - 132
Dimethyl phthalate	120	101		ug/L		84	32 - 137
Di-n-butyl phthalate	120	112		ug/L		93	27 - 150
4,6-Dinitro-ortho-cresol	240	231		ug/L		96	14 - 150
2,4-Dinitrophenol	240	304		ug/L		127	15 - 150
2,4-Dinitrotoluene	120	100		ug/L		84	35 - 136
2,6-Dinitrotoluene	120	92.3		ug/L		77	29 - 140
Di-n-octyl phthalate	120	113		ug/L		94	26 - 150
1,4-Dioxane	120	42.0		ug/L		35	10 - 87
1,2-Diphenylhydrazine (as Azobenzene)	120	103		ug/L		86	23 - 138
Hexachlorobenzene	120	110		ug/L		92	10 - 150
Hexachlorocyclopentadiene	120	73.0		ug/L		61	10 - 124
Hexachloroethane	120	74.6		ug/L		62	10 - 127
Indene	120	87.8		ug/L		73	18 - 150
Isophorone	120	83.8		ug/L		70	28 - 127
2-Methylphenol	120	90.9		ug/L		76	34 - 124
3 & 4 Methylphenol	120	87.6		ug/L		73	32 - 122
2-Nitroaniline	120	94.3		ug/L		79	24 - 139
3-Nitroaniline	120	74.4		ug/L		62	10 - 128
4-Nitroaniline	120	83.2		ug/L		69	28 - 118
Nitrobenzene	120	81.3		ug/L		68	29 - 120
2-Nitrophenol	120	85.4		ug/L		71	25 - 148
4-Nitrophenol	240	179		ug/L		75	12 - 129
N-Nitrosodimethylamine	120	53.4		ug/L		44	10 - 115
N-Nitrosodi-n-propylamine	120	98.0		ug/L		82	24 - 142
N-Nitrosodiphenylamine	119	101		ug/L		85	29 - 138
Pentachlorophenol	240	206		ug/L		86	19 - 150
Phenol	120	59.6		ug/L		50	11 - 95
Pyridine	240	42.6		ug/L		18	10 - 82
Quinoline	120	85.5		ug/L		71	40 - 140
2,4,5-Trichlorophenol	120	92.7		ug/L		77	30 - 144
2,4,6-Trichlorophenol	120	96.4		ug/L		80	27 - 147

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	76		21 - 114
2-Fluorophenol	62		10 - 105
Nitrobenzene-d5	79		16 - 127
Phenol-d5	54		10 - 129
Terphenyl-d14	105		13 - 150

# QC Sample Results

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

Job ID: 400-254327-1

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

**Lab Sample ID: LCS 400-668437/2-A**  
**Matrix: Water**  
**Analysis Batch: 668475**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 668437**

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol	92		10 - 150

**Lab Sample ID: LCS 400-668437/4-A**  
**Matrix: Water**  
**Analysis Batch: 668475**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 668437**

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	Limits
		Result	Qualifier				
Benzenethiol	120	83.0		ug/L		69	10 - 140

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	73		21 - 114
2-Fluorophenol	56		10 - 105
Nitrobenzene-d5	72		16 - 127
Phenol-d5	43		10 - 129
Terphenyl-d14	95		13 - 150
2,4,6-Tribromophenol	77		10 - 150

**Lab Sample ID: LCSD 400-668437/3-A**  
**Matrix: Water**  
**Analysis Batch: 668475**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 668437**

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	Limits	RPD	
		Result	Qualifier					RPD	Limit
Aniline	120	39.0		ug/L		33	10 - 127	11	40
Benzoic acid	492	199		ug/L		41	19 - 126	10	40
Benzyl alcohol	120	77.6		ug/L		65	17 - 109	3	40
Bis(2-chloroethoxy)methane	120	79.7		ug/L		66	24 - 125	4	40
Bis(2-chloroethyl)ether	120	74.7		ug/L		62	10 - 121	2	40
bis (2-chloroisopropyl) ether	120	79.1		ug/L		66	14 - 123	4	40
Bis(2-ethylhexyl) phthalate	120	120		ug/L		100	16 - 150	3	40
4-Bromophenyl phenyl ether	120	104		ug/L		86	17 - 150	2	40
Butyl benzyl phthalate	120	116		ug/L		96	21 - 150	3	40
4-Chloroaniline	120	73.6		ug/L		61	10 - 124	4	40
4-Chloro-3-methylphenol	120	84.3		ug/L		70	37 - 131	6	40
2-Chloronaphthalene	120	89.7		ug/L		75	24 - 132	4	40
2-Chlorophenol	120	85.9		ug/L		72	27 - 124	4	40
4-Chlorophenyl phenyl ether	120	92.0		ug/L		77	27 - 147	5	40
Dibenz[a,h]acridine	120	108		ug/L		90	40 - 140	3	40
Dibenzofuran	120	91.5		ug/L		76	30 - 135	5	40
3,3'-Dichlorobenzidine	160	143		ug/L		90	10 - 150	0	40
2,4-Dichlorophenol	120	82.7		ug/L		69	33 - 132	5	40
Diethyl phthalate	120	105		ug/L		88	37 - 145	5	40
2,4-Dimethylphenol	120	99.6		ug/L		83	38 - 132	5	40
Dimethyl phthalate	120	96.8		ug/L		81	32 - 137	4	40
Di-n-butyl phthalate	120	107		ug/L		89	27 - 150	4	40
4,6-Dinitro-ortho-cresol	240	232		ug/L		97	14 - 150	0	40
2,4-Dinitrophenol	240	311		ug/L		129	15 - 150	2	40
2,4-Dinitrotoluene	120	95.3		ug/L		79	35 - 136	5	40
2,6-Dinitrotoluene	120	89.4		ug/L		74	29 - 140	3	40

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# QC Sample Results

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

Job ID: 400-254327-1

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

**Lab Sample ID: LCSD 400-668437/3-A**  
**Matrix: Water**  
**Analysis Batch: 668475**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 668437**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Di-n-octyl phthalate	120	109		ug/L		90	26 - 150	4	40
1,4-Dioxane	120	38.2		ug/L		32	10 - 87	9	40
1,2-Diphenylhydrazine (as Azobenzene)	120	101		ug/L		84	23 - 138	2	40
Hexachlorobenzene	120	106		ug/L		88	10 - 150	5	40
Hexachlorocyclopentadiene	120	66.2		ug/L		55	10 - 124	10	40
Hexachloroethane	120	76.1		ug/L		63	10 - 127	2	40
Indene	120	84.5		ug/L		70	18 - 150	4	40
Isophorone	120	80.6		ug/L		67	28 - 127	4	40
2-Methylphenol	120	88.0		ug/L		73	34 - 124	3	40
3 & 4 Methylphenol	120	85.2		ug/L		71	32 - 122	3	40
2-Nitroaniline	120	92.1		ug/L		77	24 - 139	2	40
3-Nitroaniline	120	71.8		ug/L		60	10 - 128	4	40
4-Nitroaniline	120	78.3		ug/L		65	28 - 118	6	40
Nitrobenzene	120	79.1		ug/L		66	29 - 120	3	40
2-Nitrophenol	120	83.1		ug/L		69	25 - 148	3	40
4-Nitrophenol	240	181		ug/L		76	12 - 129	1	40
N-Nitrosodimethylamine	120	49.3		ug/L		41	10 - 115	8	40
N-Nitrosodi-n-propylamine	120	93.1		ug/L		78	24 - 142	5	40
N-Nitrosodiphenylamine	119	99.3		ug/L		83	29 - 138	2	40
Pentachlorophenol	240	197		ug/L		82	19 - 150	4	40
Phenol	120	62.6		ug/L		52	11 - 95	5	40
Pyridine	240	41.7		ug/L		17	10 - 82	2	40
Quinoline	120	80.9		ug/L		68	40 - 140	6	40
2,4,5-Trichlorophenol	120	89.0		ug/L		74	30 - 144	4	40
2,4,6-Trichlorophenol	120	92.5		ug/L		77	27 - 147	4	40

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
2-Fluorobiphenyl	72		21 - 114
2-Fluorophenol	61		10 - 105
Nitrobenzene-d5	77		16 - 127
Phenol-d5	53		10 - 129
Terphenyl-d14	103		13 - 150
2,4,6-Tribromophenol	86		10 - 150

**Lab Sample ID: LCSD 400-668437/5-A**  
**Matrix: Water**  
**Analysis Batch: 668475**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 668437**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzenethiol	120	98.4		ug/L		82	10 - 140	17	40

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
2-Fluorobiphenyl	77		21 - 114
2-Fluorophenol	58		10 - 105
Nitrobenzene-d5	74		16 - 127
Phenol-d5	46		10 - 129
Terphenyl-d14	95		13 - 150

# QC Sample Results

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

Job ID: 400-254327-1

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

Lab Sample ID: LCSD 400-668437/5-A  
Matrix: Water  
Analysis Batch: 668475

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 668437

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol	77		10 - 150

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 400-668437/1-A  
Matrix: Water  
Analysis Batch: 668419

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 668437

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.099	ug/L		04/18/24 10:15	04/18/24 16:26	1
Acenaphthylene	ND		0.20	0.044	ug/L		04/18/24 10:15	04/18/24 16:26	1
Anthracene	ND		0.20	0.047	ug/L		04/18/24 10:15	04/18/24 16:26	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		04/18/24 10:15	04/18/24 16:26	1
Benzo[a]pyrene	ND		0.20	0.064	ug/L		04/18/24 10:15	04/18/24 16:26	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		04/18/24 10:15	04/18/24 16:26	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		04/18/24 10:15	04/18/24 16:26	1
Benzo[k]fluoranthene	ND		0.20	0.062	ug/L		04/18/24 10:15	04/18/24 16:26	1
Chrysene	ND		0.20	0.033	ug/L		04/18/24 10:15	04/18/24 16:26	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		04/18/24 10:15	04/18/24 16:26	1
Fluoranthene	ND		0.20	0.034	ug/L		04/18/24 10:15	04/18/24 16:26	1
Fluorene	ND		0.20	0.089	ug/L		04/18/24 10:15	04/18/24 16:26	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		04/18/24 10:15	04/18/24 16:26	1
Phenanthrene	ND		0.20	0.090	ug/L		04/18/24 10:15	04/18/24 16:26	1
Pyrene	ND		0.20	0.039	ug/L		04/18/24 10:15	04/18/24 16:26	1
1-Methylnaphthalene	ND		0.20	0.080	ug/L		04/18/24 10:15	04/18/24 16:26	1
2-Methylnaphthalene	ND		0.20	0.066	ug/L		04/18/24 10:15	04/18/24 16:26	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Terphenyl-d14	100		18 - 147	04/18/24 10:15	04/18/24 16:26	1
2-Fluorobiphenyl	76		15 - 128	04/18/24 10:15	04/18/24 16:26	1
Nitrobenzene-d5	84		10 - 144	04/18/24 10:15	04/18/24 16:26	1

Lab Sample ID: LCS 400-668437/2-A  
Matrix: Water  
Analysis Batch: 668419

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 668437

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Acenaphthene	120	106		ug/L		88	10 - 140
Acenaphthylene	120	101		ug/L		84	10 - 140
Anthracene	120	107		ug/L		89	19 - 140
Benzo[a]anthracene	120	99.5		ug/L		83	25 - 140
Benzo[a]pyrene	120	109		ug/L		91	24 - 140
Benzo[b]fluoranthene	120	104		ug/L		86	34 - 140
Benzo[g,h,i]perylene	120	107		ug/L		90	13 - 140
Benzo[k]fluoranthene	120	130		ug/L		109	21 - 140
Chrysene	120	122		ug/L		101	28 - 140
Dibenz(a,h)anthracene	120	110		ug/L		91	10 - 140
Fluoranthene	120	107		ug/L		89	18 - 140



# QC Sample Results

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

Job ID: 400-254327-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: LCS 400-668437/2-A**  
**Matrix: Water**  
**Analysis Batch: 668419**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 668437**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluorene	120	115		ug/L		96	16 - 140
Indeno[1,2,3-cd]pyrene	120	108		ug/L		90	10 - 140
Phenanthrene	120	106		ug/L		89	22 - 140
Pyrene	120	96.6		ug/L		80	38 - 140
1-Methylnaphthalene	120	77.2		ug/L		64	10 - 140
2-Methylnaphthalene	120	74.5		ug/L		62	10 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	93		18 - 147
2-Fluorobiphenyl	82		15 - 128
Nitrobenzene-d5	57		10 - 144

**Lab Sample ID: LCSD 400-668437/3-A**  
**Matrix: Water**  
**Analysis Batch: 668419**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 668437**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Acenaphthene	120	94.7		ug/L		79	10 - 140	11	40
Acenaphthylene	120	87.5		ug/L		73	10 - 140	14	40
Anthracene	120	94.7		ug/L		79	19 - 140	13	40
Benzo[a]anthracene	120	84.7		ug/L		71	25 - 140	16	40
Benzo[a]pyrene	120	98.8		ug/L		82	24 - 140	10	40
Benzo[b]fluoranthene	120	93.0		ug/L		77	34 - 140	11	40
Benzo[g,h,i]perylene	120	97.6		ug/L		81	13 - 140	10	40
Benzo[k]fluoranthene	120	132		ug/L		110	21 - 140	1	40
Chrysene	120	117		ug/L		97	28 - 140	4	40
Dibenz(a,h)anthracene	120	87.1		ug/L		73	10 - 140	23	40
Fluoranthene	120	92.6		ug/L		77	18 - 140	14	40
Fluorene	120	98.7		ug/L		82	16 - 140	15	40
Indeno[1,2,3-cd]pyrene	120	97.5		ug/L		81	10 - 140	11	40
Phenanthrene	120	94.5		ug/L		79	22 - 140	12	40
Pyrene	120	91.7		ug/L		76	38 - 140	5	40
1-Methylnaphthalene	120	71.7		ug/L		60	10 - 140	7	40
2-Methylnaphthalene	120	68.5		ug/L		57	10 - 140	8	40

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Terphenyl-d14	85		18 - 147
2-Fluorobiphenyl	72		15 - 128
Nitrobenzene-d5	53		10 - 144

## Method: 8011 - EDB and DBCP in Water by Microextraction

**Lab Sample ID: MB 400-668266/1-A**  
**Matrix: Water**  
**Analysis Batch: 668327**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 668266**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.030	0.017	ug/L		04/17/24 09:56	04/17/24 19:24	1

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# QC Sample Results

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

Job ID: 400-254327-1

## Method: 8011 - EDB and DBCP in Water by Microextraction (Continued)

**Lab Sample ID: MB 400-668266/1-A**  
**Matrix: Water**  
**Analysis Batch: 668327**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 668266**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		0.020	0.015	ug/L		04/17/24 09:56	04/17/24 19:24	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	81		51 - 149				04/17/24 09:56	04/17/24 19:24	1

**Lab Sample ID: LCS 400-668266/2-A**  
**Matrix: Water**  
**Analysis Batch: 668327**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 668266**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dibromo-3-Chloropropane	0.101	0.102		ug/L		101	60 - 140
1,2-Dibromoethane	0.100	0.106		ug/L		106	60 - 140
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene	89		51 - 149				

**Lab Sample ID: LCSD 400-668266/3-A**  
**Matrix: Water**  
**Analysis Batch: 668327**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 668266**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dibromo-3-Chloropropane	0.101	0.111		ug/L		110	60 - 140	9	30
1,2-Dibromoethane	0.100	0.109		ug/L		109	60 - 140	3	30
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene	91		51 - 149						



ACCOUNT ( )  
 CALSCIENCE ( )  
 TESTAMERICA (TestAmerica Pensacola; 3355 McLemore Dr. Pensacola, FL 32514 (850-474-1001))  
 Other ( )

SGW FDG  
 CHEMICALS  
 TRANSPORTATION

PIPELINE  
 CONSULTANT  
 OTHER\_ENV\_SERVICES

RETAIL  
 LUBES

Print Bill To Contact Name: Melissa Remiger  
 PlanNet Site or Project ID: 25278  
 GSAP Project ID: USPC/00114/R/02  
 PO #: 60721927 - 3.2.2  
 STATE: IL  
 SITE ADDRESS: Street and City: 900 South Central Ave, ROXANA  
 PHONE NO.: 314-802-1207  
 E-MAIL: melissa.remiger@aecom.com  
 AECOM Project / Task Number: 60721927 - 3.2.2  
 AECOM Other ID: melissa.remiger@aecom.com

ADDRESS: 100 N. Broadway, 20th Floor, ST. LOUIS, MO 63102, USA  
 PROJECT CONTACT (hardcopy or PDF Report to): Melissa Remiger, Mary Massa, Brett Howell  
 TELEPHONE: 314-429-0100 FAX: 314-429-0462  
 BILL TO CONTACT E-MAIL: melissa.remiger@aecom.com

TURNAROUND TIME (CALENDAR DAYS):  
 STANDARD (14 DAY)  5 DAYS  3 DAYS  2 DAYS  WEEKEND  
 LA - RWQCB REPORT FORMAT

DELIVERABLES:  LEVEL 1  LEVEL 2  LEVEL 3  LEVEL 4  
 TEMPERATURE ON RECEIPT °C: Cooler #1: Cooler #2: Cooler #3:

**SPECIAL INSTRUCTIONS OR NOTES :**  
 Email reports to: melissa.remiger@aecom.com; mary.mass@aecom.com; brett.howell@aecom.com  
 \* Please include "J" values on Reports.  
 \* Please provide sample receipt upon login.  
 \* Please send EQUIS EDDs to EDDSubmissions@aecomshill.com; Viad.Vrijan@aecom.com

SHELL CONTRACT RATE APPLIES  
 STATE REIMBURSEMENT RATE APPLIES  
 EDD NOT NEEDED  
 RECEIPT VERIFICATION REQUESTED  
 PROVIDE LEDD DISK

REQUESTED ANALYSIS: 60721927 - 3.2.2  
 FIELD NOTES: 0.4°C, 0.4°C, 2R8  
 TEMPERATURE ON RECEIPT °C: 0.4°C, 0.4°C  
 Container PID Readings or Laboratory Notes:

LAB USE ONLY	Field Sample Identification		SAMPLING		PRESERVATIVE			NO. OF CONT.		
	DATE	TIME	DATE	TIME	MATRIX	HCL	HNO3		H2SO4	NONE
	TB-ROX-041224-8260	0000	4/12/2024	0000	Water	2				2
	TB-ROX-041224-8011	0000	4/12/2024	0000	Water	2				2
	MW28-ROX-041224	0950	4/12/2024	0950	Water	6				8
	MW12-ROX-041224	1110	4/12/2024	1110	Water	6				8
	MW3-ROX-041224	1210	4/12/2024	1210	Water	6				8
	MW5-ROX-041224	1310	4/12/2024	1310	Water	6				8
	VOC 8260: X SVOC 8270: X PAH 8270 SIMS: X 8011 EDB + DBCP: X 400-254327 COC: X 4-12-24									

Relinquished by: (Signature) Received by: (Signature)  
 MARY MASSA  
 Relinquished by: (Signature) Received by: (Signature)  
 Relinquished by: (Signature) Received by: (Signature)

FEDEX: 5293 4937 5489, 5293 4337 5490  
 Date: 4/12/2024  
 Date: 4/13/24  
 Time: 1600  
 Time: 0754

# Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-254327-1

**Login Number: 254327**

**List Source: Eurofins Pensacola**

**List Number: 1**

**Creator: Perez, Trina M**

Question	Answer	Comment
Radioactivity wasn't checked or is </= 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	0.4°C, 0.4°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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (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

Job ID: 400-254327-1

## Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-24
Kansas	NELAP	E-10253	10-31-24
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-24
North Carolina (WW/SW)	State	314	12-31-24
Oklahoma	NELAP	9810	08-31-24
Pennsylvania	NELAP	68-00467	01-31-25
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-24
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	P330-21-00056	05-17-24
USDA	US Federal Programs	FLGNV23001	01-08-26
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-25



# Roxana Groundwater Quarterly – 2<sup>nd</sup> Quarter 2024 Data Review

Laboratory SDG: 400-254493-1

Data Reviewer: Andrei Niculau

Peer Reviewer: Cheyana Cokley

Date Reviewed: 5/14/2024

Guidance: USEPA National Functional Guidelines for Organic Superfund Methods Data Review 2020

Sample Identification	Sample Identification
TB-ROX-041624-8260	ROST4PZC-ROX-041624
TB-ROX-041624-8011	ROST4PZC-ROX-041624-DUP
ROST3MW-ROX-041624	ROST4PZE-ROX-041624

## 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 PAHs in samples ROST3MW-ROX-041624, ROST4PZC-ROX-041624, ROST4PZC-ROX-041624-DUP, and ROST4PZE-ROX-041624 were re-extracted outside extraction time criteria. 2,4-Dinitrophenol SVOC LCS/LCSD recoveries were outside the evaluation criteria. 2-methylnaphthalene was detected in method blank MB 400-669053/1-A. SVOC and PAH surrogate recoveries in several investigative and quality control samples were outside criteria. The continuing calibration verifications (CCV) for several analytes were outside evaluation criteria, biased low. These issues are addressed further in the appropriate sections of this data review.

Three of 70 (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?*

No, PAHs in samples ROST3MW-ROX-041624, ROST4PZC-ROX-041624, ROST4PZC-ROX-041624-DUP and ROST4PZE-ROX-041624 were re-extracted 8 days outside extraction time criteria (7 days) and then re-analyzed for confirmation. The initial results in samples ROST3MW-ROX-041624, ROST4PZC-ROX-041624, ROST4PZC-ROX-041624-DUP and ROST4PZE-ROX-041624 were confirmed by the confirmation run. Holding time exceedances were greater than two times (2X) criteria; both sets of data are reported. Based on professional judgement, the results from the initial analysis were used for the purposes of this report.

#### 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 400-669053/1-A	PAHs	2-Methylnaphthalene	0.0793 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
ROST3MW-ROX-041624	PAHs	2-Methylnaphthalene	-	U
ROST4PZC-ROX-041624	PAHs	2-Methylnaphthalene	-	U
ROST4PZC-ROX-041624-DUP	PAHs	2-Methylnaphthalene	-	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 400-669053/2-A/3-A	SVOCs	2,4-Dinitrophenol	165/195	17	15-150/40

Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, 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 (%)
MB 400-669053/1-A	SVOCs	2-Fluorobiphenyl	0.4	21-114
MB 400-669053/1-A	SVOCs	2-Fluorophenol	0	10-105
MB 400-669053/1-A	SVOCs	Nitrobenzene-d <sub>5</sub>	0	16-127
MB 400-669053/1-A	SVOCs	Phenol-d <sub>5</sub>	0	10-129

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
MB 400-669053/1-A	SVOCs	Terphenyl-d <sub>14</sub>	0	13-150
MB 400-669053/1-A	SVOCs	2,4,6-Tribromophenol	0	10-150
LCS 400-669053/2-A	SVOCs	2-Fluorobiphenyl	0.4	21-114
LCS 400-669053/2-A	SVOCs	2-Fluorophenol	0	10-105
LCS 400-669053/2-A	SVOCs	Nitrobenzene-d <sub>5</sub>	0	16-127
LCS 400-669053/2-A	SVOCs	Phenol-d <sub>5</sub>	0	10-129
LCS 400-669053/2-A	SVOCs	Terphenyl-d <sub>14</sub>	0.1	13-150
LCS 400-669053/2-A	SVOCs	2,4,6-Tribromophenol	0	10-150
LCS 400-669053/4-A	SVOCs	2-Fluorobiphenyl	0.3	21-114
LCS 400-669053/4-A	SVOCs	2-Fluorophenol	0	10-105
LCS 400-669053/4-A	SVOCs	Nitrobenzene-d <sub>5</sub>	0	16-127
LCS 400-669053/4-A	SVOCs	Phenol-d <sub>5</sub>	0	10-129
LCS 400-669053/4-A	SVOCs	Terphenyl-d <sub>14</sub>	0	13-150
LCS 400-669053/4-A	SVOCs	2,4,6-Tribromophenol	0	10-150
LCSD 400-669053/3-A	SVOCs	2-Fluorobiphenyl	0.4	21-114
LCSD 400-669053/3-A	SVOCs	2-Fluorophenol	0	10-105
LCSD 400-669053/3-A	SVOCs	Nitrobenzene-d <sub>5</sub>	0	16-127
LCSD 400-669053/3-A	SVOCs	Phenol-d <sub>5</sub>	0	10-129
LCSD 400-669053/3-A	SVOCs	Terphenyl-d <sub>14</sub>	0.07	13-150
LCSD 400-669053/3-A	SVOCs	2,4,6-Tribromophenol	0	10-150
LCSD 400-669053/5-A	SVOCs	2-Fluorobiphenyl	0.4	21-114
LCSD 400-669053/5-A	SVOCs	2-Fluorophenol	0	10-105
LCSD 400-669053/5-A	SVOCs	Nitrobenzene-d <sub>5</sub>	0	16-127
LCSD 400-669053/5-A	SVOCs	Phenol-d <sub>5</sub>	0	10-129
LCSD 400-669053/5-A	SVOCs	Terphenyl-d <sub>14</sub>	0	13-150
LCSD 400-669053/5-A	SVOCs	2,4,6-Tribromophenol	0	10-150
ROST3MW-ROX-041624	PAHs	Terphenyl-d <sub>14</sub>	205	18-147
ROST4PZC-ROX-041624	PAHs	Terphenyl-d <sub>14</sub>	167	18-147
ROST4PZC-ROX-041624-DUP	PAHs	Terphenyl-d <sub>14</sub>	160	18-147
LCS 400-669053/2-A	PAHs	Terphenyl-d <sub>14</sub>	0.9	18-147
LCS 400-669053/2-A	PAHs	2-Fluorobiphenyl	0.8	15-128
LCS 400-669053/2-A	PAHs	Nitrobenzene-d <sub>5</sub>	7	10-144
LCSD 400-669053/3-A	PAHs	Terphenyl-d <sub>14</sub>	0.9	18-147
LCSD 400-669053/3-A	PAHs	2-Fluorobiphenyl	0.8	15-128
LCSD 400-669053/3-A	PAHs	Nitrobenzene-d <sub>5</sub>	7	10-144
MB 400-669053/1-A	PAHs	Terphenyl-d <sub>14</sub>	0.07	18-147
MB 400-669053/1-A	PAHs	2-Fluorobiphenyl	0.4	15-128
MB 400-669053/1-A	PAHs	Nitrobenzene-d <sub>5</sub>	0.02	10-144

Qualifications due to surrogate recoveries were not required if only one of three base/neutral and/or acid surrogate recoveries were outside evaluation criteria. Method blanks and laboratory control samples 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?*

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?*

Yes

Field ID	Field Duplicate ID
ROST4PZC-ROX-041624	ROST4PZC-ROX-041624-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 (CCV) for pyridine, bis (2-chloroethyl) ether, 1,2-dibromo-3-chloropropane, and 1,2-dibromopropane were outside evaluation criteria, biased low. Analytes are qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
ROST3MW-ROX-041624	SVOCs	Pyridine	UJ
ROST4PZC-ROX-041624	SVOCs	Pyridine	UJ
ROST4PZC-ROX-041624-DUP	SVOCs	Pyridine	UJ
ROST4PZE-ROX-041624	SVOCs	Pyridine	UJ
ROST3MW-ROX-041624	SVOCs	Bis(2-chloroethyl)ether	UJ
ROST4PZC-ROX-041624	SVOCs	Bis(2-chloroethyl)ether	UJ
ROST4PZC-ROX-041624-DUP	SVOCs	Bis(2-chloroethyl)ether	UJ
ROST4PZE-ROX-041624	SVOCs	Bis(2-chloroethyl)ether	UJ
ROST3MW-ROX-041624	VOCs by 8011	1,2-Dibromo-3-Chloropropane	UJ
ROST4PZC-ROX-041624	VOCs by 8011	1,2-Dibromo-3-Chloropropane	UJ
ROST4PZC-ROX-041624-DUP	VOCs by 8011	1,2-Dibromo-3-Chloropropane	UJ
ROST4PZE-ROX-041624	VOCs by 8011	1,2-Dibromo-3-Chloropropane	UJ
ROST3MW-ROX-041624	VOCs by 8011	1,2-Dibromoethane	UJ
ROST4PZC-ROX-041624	VOCs by 8011	1,2-Dibromoethane	UJ

Sample ID	Parameter	Analyte	Qualification
ROST4PZC-ROX-041624-DUP	VOCs by 8011	1,2-Dibromoethane	UJ
ROST4PZE-ROX-041624	VOCs by 8011	1,2-Dibromoethane	UJ





# ANALYTICAL REPORT

## PREPARED FOR

Attn: Melissa Remiger  
AECOM Technical Services Inc.  
100 N. Broadway  
20th Floor  
St. Louis, Missouri 63102

Generated 5/3/2024 3:58:37 PM

## JOB DESCRIPTION

ROXANA QUARTERLY GW

## JOB NUMBER

400-254493-1

Reviewed 05/14/2024  
AN

# Eurofins Pensacola

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

## Authorization



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5/3/2024 3:58:37 PM

Authorized for release by  
Leah Klingensmith, Senior Project Manager  
[Leah.Klingensmith@et.eurofinsus.com](mailto:Leah.Klingensmith@et.eurofinsus.com)  
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# Case Narrative

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

Job ID: 400-254493-1

Job ID: 400-254493-1

Eurofins Pensacola

## Job Narrative 400-254493-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 4/17/2024 9:40 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.0°C and 0.1°C.

### GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-669658 recovered above the upper control limit for Acrolein and p-Isopropyltoluene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: 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-041624-8260 (400-254493-1), ROST3MW-ROX-041624 (400-254493-3), ROST4PZC-ROX-041624 (400-254493-4), ROST4PZC-ROX-041624-DUP (400-254493-5) and ROST4PZE-ROX-041624 (400-254493-6). The requested target analyte list includes 2-Chloroethyl vinyl ether, Acrolein and Acrylonitrile, which acid-labile compounds that degrades 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 8270E: The initial calibration verification (ICV) analyzed in batch 400-663332 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 8270E: The continuing calibration verification (CCV) associated with batch 400-669375 recovered outside acceptance criteria, low biased, for Bis(2-chloroethyl)ether and Pyridine. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8270E: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 400-669053 and analytical batch 400-669375 recovered outside control limits for the following analytes: 2,4-Dinitrophenol. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8270E: Surrogate compounds were inadvertently omitted during the extraction process for the following samples: (LCS 400-669053/2-A), (LCS 400-669053/4-A), (LCSD 400-669053/3-A), (LCSD 400-669053/5-A) and (MB 400-669053/1-A). The samples were non-detect and the associated sample surrogates recovered within control limits; therefore, the data have been reported and qualified.

Method 8270E: The initial calibration curve analyzed in batch 400-669375 was outside method criteria for the following analyte(s): 2,4-Dinitrophenol. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered an estimated concentration.

Method 8270E\_SIM: The method blank for preparation batch 400-669053 and analytical batch 400-669471 contained 2-Methylnaphthalene above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8270E\_SIM: The surrogate recovery for the blank associated with preparation batch 400-669053 and analytical batch 400-669471 recovered low. The samples associated with this blank did not contain any target analytes; therefore, re-extraction

Eurofins Pensacola

# Case Narrative

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

Job ID: 400-254493-1

## Job ID: 400-254493-1 (Continued)

Eurofins Pensacola

and/or re-analysis was not performed.

Method 8270E\_SIM: The surrogate recoveries for the LCS/LCSD were outside control limits; however, the recoveries for the spiked target analytes were within control limits; therefore, the data is reported.

(LCS 400-669053/2-A) and (LCSD 400-669053/3-A)

Method 8270E\_SIM: The method blank for preparation batch 400-670063 and analytical batch 400-670175 contained Anthracene, Pyrene, Fluoranthene, 1-Methylnaphthalene, Acenaphthylene and Fluorene above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8270E\_SIM: The method blank for preparation batch 670063 contained 2-Methylnaphthalene above the reporting limit (RL). There was insufficient sample to perform a re-extraction and/or re-analysis; therefore, the data have been reported.

Method 8270E\_SIM: The following samples were re-prepared outside of preparation holding time due to QC did not contain surrogate spike and samples have positive results: ROST3MW-ROX-041624 (400-254493-3), ROST4PZC-ROX-041624 (400-254493-4), ROST4PZC-ROX-041624-DUP (400-254493-5) and ROST4PZE-ROX-041624 (400-254493-6). Both sets of data are reported.

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

### GC Semi VOA

Method 8011: The continuing calibration verification (CCV) associated with batch 400-668603 recovered outside acceptance criteria, low biased, for 1,2-Dibromo-3-Chloropropane and 1,2-Dibromoethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

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



# Sample Summary

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

Job ID: 400-254493-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-254493-1	TB-ROX-041624-8260	Water	04/16/24 00:00	04/17/24 09:40
400-254493-2	TB-ROX-041624-8011	Water	04/16/24 00:00	04/17/24 09:40
400-254493-3	ROST3MW-ROX-041624	Water	04/16/24 10:20	04/17/24 09:40
400-254493-4	ROST4PZC-ROX-041624	Water	04/16/24 12:15	04/17/24 09:40
400-254493-5	ROST4PZC-ROX-041624-DUP	Water	04/16/24 12:15	04/17/24 09:40
400-254493-6	ROST4PZE-ROX-041624	Water	04/16/24 13:40	04/17/24 09:40

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# Detection Summary

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

Job ID: 400-254493-1

**Client Sample ID: TB-ROX-041624-8260**

**Lab Sample ID: 400-254493-1**

No Detections.

**Client Sample ID: TB-ROX-041624-8011**

**Lab Sample ID: 400-254493-2**

No Detections.

**Client Sample ID: ROST3MW-ROX-041624**

**Lab Sample ID: 400-254493-3**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	0.10	J	0.20	0.097	ug/L	1		8270E SIM	Total/NA
Anthracene	0.049	J H B	0.20	0.046	ug/L	1		8270E SIM	Total/NA
Fluorene	0.13	J	0.20	0.087	ug/L	1		8270E SIM	Total/NA
Fluorene	0.10	J H B	0.20	0.087	ug/L	1		8270E SIM	Total/NA
Pyrene	0.039	J H B *3	0.20	0.038	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	0.080	J	0.20	0.078	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	0.079	J B U	0.20	0.065	ug/L	1		8270E SIM	Total/NA

**Client Sample ID: ROST4PZC-ROX-041624**

**Lab Sample ID: 400-254493-4**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	2.0		1.0	0.50	ug/L	1		8260D	Total/NA
Ethylbenzene	0.53	J	1.0	0.50	ug/L	1		8260D	Total/NA
Isopropylbenzene	1.3		1.0	0.53	ug/L	1		8260D	Total/NA
m-Xylene & p-Xylene	1.4	J	5.0	0.63	ug/L	1		8260D	Total/NA
N-Propylbenzene	2.5		1.0	0.69	ug/L	1		8260D	Total/NA
Toluene	1.9		1.0	0.90	ug/L	1		8260D	Total/NA
1,2,4-Trimethylbenzene	1.4		1.0	0.82	ug/L	1		8260D	Total/NA
Xylenes, Total	1.6	J	10	1.6	ug/L	1		8260D	Total/NA
Acenaphthene	0.29		0.19	0.096	ug/L	1		8270E SIM	Total/NA
Acenaphthene	0.16	J H	0.19	0.096	ug/L	1		8270E SIM	Total/NA
Anthracene	0.31		0.19	0.046	ug/L	1		8270E SIM	Total/NA
Anthracene	0.25	H B	0.19	0.045	ug/L	1		8270E SIM	Total/NA
Fluoranthene	0.042	J	0.19	0.033	ug/L	1		8270E SIM	Total/NA
Fluoranthene	0.054	J H B	0.19	0.033	ug/L	1		8270E SIM	Total/NA
Fluorene	0.36		0.19	0.087	ug/L	1		8270E SIM	Total/NA
Fluorene	0.18	J H B	0.19	0.086	ug/L	1		8270E SIM	Total/NA
Phenanthrene	0.10	J	0.19	0.088	ug/L	1		8270E SIM	Total/NA
Phenanthrene	0.099	J H	0.19	0.087	ug/L	1		8270E SIM	Total/NA
Pyrene	0.039	J	0.19	0.038	ug/L	1		8270E SIM	Total/NA
Pyrene	0.094	J H B	0.19	0.038	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	2.1		0.19	0.078	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	1.3	H B	0.19	0.077	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	0.067	J B U	0.19	0.064	ug/L	1		8270E SIM	Total/NA

**Client Sample ID: ROST4PZC-ROX-041624-DUP**

**Lab Sample ID: 400-254493-5**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1.9		1.0	0.50	ug/L	1		8260D	Total/NA
Isopropylbenzene	1.2		1.0	0.53	ug/L	1		8260D	Total/NA
m-Xylene & p-Xylene	1.2	J	5.0	0.63	ug/L	1		8260D	Total/NA
N-Propylbenzene	2.2		1.0	0.69	ug/L	1		8260D	Total/NA
Toluene	1.7		1.0	0.90	ug/L	1		8260D	Total/NA
1,2,4-Trimethylbenzene	1.3		1.0	0.82	ug/L	1		8260D	Total/NA
Acenaphthene	0.31		0.20	0.097	ug/L	1		8270E SIM	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Pensacola

# Detection Summary

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

Job ID: 400-254493-1

## Client Sample ID: ROST4PZC-ROX-041624-DUP (Continued)

## Lab Sample ID: 400-254493-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	0.15	J H	0.19	0.095	ug/L	1		8270E SIM	Total/NA
Anthracene	0.34		0.20	0.046	ug/L	1		8270E SIM	Total/NA
Anthracene	0.23	H B	0.19	0.045	ug/L	1		8270E SIM	Total/NA
Fluoranthene	0.051	J	0.20	0.033	ug/L	1		8270E SIM	Total/NA
Fluorene	0.36		0.20	0.087	ug/L	1		8270E SIM	Total/NA
Fluorene	0.17	J H B	0.19	0.085	ug/L	1		8270E SIM	Total/NA
Phenanthrene	0.13	J	0.20	0.088	ug/L	1		8270E SIM	Total/NA
Phenanthrene	0.089	J H	0.19	0.086	ug/L	1		8270E SIM	Total/NA
Pyrene	0.046	J	0.20	0.038	ug/L	1		8270E SIM	Total/NA
Pyrene	0.056	J H B	0.19	0.037	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	2.3		0.20	0.079	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	1.5	H B	0.19	0.077	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	0.11	J B U	0.20	0.065	ug/L	1		8270E SIM	Total/NA

## Client Sample ID: ROST4PZE-ROX-041624

## Lab Sample ID: 400-254493-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,2,4-Trimethylbenzene	2.4		1.0	0.82	ug/L	1		8260D	Total/NA
Acenaphthene	0.17	J	0.19	0.095	ug/L	1		8270E SIM	Total/NA
Acenaphthene	0.11	J H	0.20	0.097	ug/L	1		8270E SIM	Total/NA
Anthracene	0.24		0.19	0.045	ug/L	1		8270E SIM	Total/NA
Anthracene	0.16	J H B	0.20	0.046	ug/L	1		8270E SIM	Total/NA
Fluoranthene	0.054	J	0.19	0.033	ug/L	1		8270E SIM	Total/NA
Fluorene	0.21		0.19	0.086	ug/L	1		8270E SIM	Total/NA
Fluorene	0.13	J H B	0.20	0.087	ug/L	1		8270E SIM	Total/NA
Phenanthrene	0.74		0.19	0.087	ug/L	1		8270E SIM	Total/NA
Phenanthrene	0.51	H	0.20	0.088	ug/L	1		8270E SIM	Total/NA
Pyrene	0.084	J	0.19	0.038	ug/L	1		8270E SIM	Total/NA
Pyrene	0.096	J H B	0.20	0.038	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	1.9		0.19	0.077	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	1.2	H B	0.20	0.078	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	0.82	B U	0.19	0.064	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	0.38	H B	0.20	0.064	ug/L	1		8270E SIM	Total/NA

This Detection Summary does not include radiochemical test results.

# Client Sample Results

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

Job ID: 400-254493-1

**Client Sample ID: TB-ROX-041624-8260**

**Lab Sample ID: 400-254493-1**

**Date Collected: 04/16/24 00:00**

**Matrix: Water**

**Date Received: 04/17/24 09:40**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/28/24 14:44	1
Acrolein	ND		20	3.3	ug/L			04/28/24 14:44	1
Acrylonitrile	ND		10	2.8	ug/L			04/28/24 14:44	1
Benzene	ND		1.0	0.50	ug/L			04/28/24 14:44	1
Bromobenzene	ND		1.0	0.54	ug/L			04/28/24 14:44	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/28/24 14:44	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/28/24 14:44	1
Bromoform	ND		5.0	0.25	ug/L			04/28/24 14:44	1
Bromomethane	ND		1.0	0.98	ug/L			04/28/24 14:44	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/28/24 14:44	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/28/24 14:44	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/28/24 14:44	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/28/24 14:44	1
Chloroethane	ND		1.0	0.76	ug/L			04/28/24 14:44	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/28/24 14:44	1
Chloroform	ND		1.0	0.90	ug/L			04/28/24 14:44	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/28/24 14:44	1
Chloromethane	ND		1.0	0.90	ug/L			04/28/24 14:44	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/28/24 14:44	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/28/24 14:44	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/28/24 14:44	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/28/24 14:44	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/28/24 14:44	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/28/24 14:44	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/28/24 14:44	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/28/24 14:44	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/28/24 14:44	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/28/24 14:44	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/28/24 14:44	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/28/24 14:44	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/28/24 14:44	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/28/24 14:44	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/28/24 14:44	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/28/24 14:44	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/28/24 14:44	1
2-Hexanone	ND		25	1.4	ug/L			04/28/24 14:44	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/28/24 14:44	1
Methylene bromide	ND		5.0	0.22	ug/L			04/28/24 14:44	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/28/24 14:44	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/28/24 14:44	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/28/24 14:44	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/28/24 14:44	1
Naphthalene	ND		5.0	3.0	ug/L			04/28/24 14:44	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/28/24 14:44	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/28/24 14:44	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/28/24 14:44	1
o-Xylene	ND		5.0	0.60	ug/L			04/28/24 14:44	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/28/24 14:44	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/28/24 14:44	1

# Client Sample Results

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

Job ID: 400-254493-1

**Client Sample ID: TB-ROX-041624-8260**

**Lab Sample ID: 400-254493-1**

**Date Collected: 04/16/24 00:00**

**Matrix: Water**

**Date Received: 04/17/24 09:40**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/28/24 14:44	1
Styrene	ND		1.0	1.0	ug/L			04/28/24 14:44	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/28/24 14:44	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/28/24 14:44	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/28/24 14:44	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/28/24 14:44	1
Toluene	ND		1.0	0.90	ug/L			04/28/24 14:44	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/28/24 14:44	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/28/24 14:44	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/28/24 14:44	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/28/24 14:44	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/28/24 14:44	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/28/24 14:44	1
Trichloroethene	ND		1.0	0.15	ug/L			04/28/24 14:44	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/28/24 14:44	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/28/24 14:44	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/28/24 14:44	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/28/24 14:44	1
Vinyl acetate	ND		25	0.93	ug/L			04/28/24 14:44	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/28/24 14:44	1
Xylenes, Total	ND		10	1.6	ug/L			04/28/24 14:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		72 - 130		04/28/24 14:44	1
Dibromofluoromethane	104		75 - 126		04/28/24 14:44	1
Toluene-d8 (Surr)	97		64 - 132		04/28/24 14:44	1



# Client Sample Results

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

Job ID: 400-254493-1

**Client Sample ID: TB-ROX-041624-8011**

**Lab Sample ID: 400-254493-2**

**Date Collected: 04/16/24 00:00**

**Matrix: Water**

**Date Received: 04/17/24 09:40**

**Method: EPA 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	0.017	ug/L		04/19/24 15:37	04/20/24 01:37	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		04/19/24 15:37	04/20/24 01:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	66		51 - 149				04/19/24 15:37	04/20/24 01:37	1

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# Client Sample Results

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

Job ID: 400-254493-1

**Client Sample ID: ROST3MW-ROX-041624**

**Lab Sample ID: 400-254493-3**

Date Collected: 04/16/24 10:20

Matrix: Water

Date Received: 04/17/24 09:40

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/28/24 15:57	1
Acrolein	ND		20	3.3	ug/L			04/28/24 15:57	1
Acrylonitrile	ND		10	2.8	ug/L			04/28/24 15:57	1
Benzene	ND		1.0	0.50	ug/L			04/28/24 15:57	1
Bromobenzene	ND		1.0	0.54	ug/L			04/28/24 15:57	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/28/24 15:57	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/28/24 15:57	1
Bromoform	ND		5.0	0.25	ug/L			04/28/24 15:57	1
Bromomethane	ND		1.0	0.98	ug/L			04/28/24 15:57	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/28/24 15:57	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/28/24 15:57	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/28/24 15:57	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/28/24 15:57	1
Chloroethane	ND		1.0	0.76	ug/L			04/28/24 15:57	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/28/24 15:57	1
Chloroform	ND		1.0	0.90	ug/L			04/28/24 15:57	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/28/24 15:57	1
Chloromethane	ND		1.0	0.90	ug/L			04/28/24 15:57	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/28/24 15:57	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/28/24 15:57	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/28/24 15:57	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/28/24 15:57	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/28/24 15:57	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/28/24 15:57	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/28/24 15:57	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/28/24 15:57	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/28/24 15:57	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/28/24 15:57	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/28/24 15:57	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/28/24 15:57	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/28/24 15:57	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/28/24 15:57	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/28/24 15:57	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/28/24 15:57	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/28/24 15:57	1
2-Hexanone	ND		25	1.4	ug/L			04/28/24 15:57	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/28/24 15:57	1
Methylene bromide	ND		5.0	0.22	ug/L			04/28/24 15:57	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/28/24 15:57	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/28/24 15:57	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/28/24 15:57	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/28/24 15:57	1
Naphthalene	ND		5.0	3.0	ug/L			04/28/24 15:57	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/28/24 15:57	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/28/24 15:57	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/28/24 15:57	1
o-Xylene	ND		5.0	0.60	ug/L			04/28/24 15:57	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/28/24 15:57	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/28/24 15:57	1

# Client Sample Results

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

Job ID: 400-254493-1

**Client Sample ID: ROST3MW-ROX-041624**

**Lab Sample ID: 400-254493-3**

Date Collected: 04/16/24 10:20

Matrix: Water

Date Received: 04/17/24 09:40

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/28/24 15:57	1
Styrene	ND		1.0	1.0	ug/L			04/28/24 15:57	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/28/24 15:57	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/28/24 15:57	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/28/24 15:57	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/28/24 15:57	1
Toluene	ND		1.0	0.90	ug/L			04/28/24 15:57	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/28/24 15:57	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/28/24 15:57	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/28/24 15:57	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/28/24 15:57	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/28/24 15:57	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/28/24 15:57	1
Trichloroethene	ND		1.0	0.15	ug/L			04/28/24 15:57	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/28/24 15:57	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/28/24 15:57	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/28/24 15:57	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/28/24 15:57	1
Vinyl acetate	ND		25	0.93	ug/L			04/28/24 15:57	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/28/24 15:57	1
Xylenes, Total	ND		10	1.6	ug/L			04/28/24 15:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	100		72 - 130		04/28/24 15:57	1
Dibromofluoromethane	104		75 - 126		04/28/24 15:57	1
Toluene-d8 (Surr)	97		64 - 132		04/28/24 15:57	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acenaphthene</b>	<b>0.10</b>	<b>J</b>	0.20	0.097	ug/L		04/23/24 16:28	04/26/24 16:56	1
Acenaphthene	ND	H	0.20	0.097	ug/L		05/01/24 11:39	05/02/24 19:30	1
Acenaphthylene	ND		0.20	0.043	ug/L		04/23/24 16:28	04/26/24 16:56	1
Acenaphthylene	ND	H	0.20	0.043	ug/L		05/01/24 11:39	05/02/24 19:30	1
Anthracene	ND		0.20	0.046	ug/L		04/23/24 16:28	04/29/24 12:22	1
<b>Anthracene</b>	<b>0.049</b>	<b>J H B</b>	0.20	0.046	ug/L		05/01/24 11:39	05/02/24 19:30	1
Benzo[a]anthracene	ND		0.20	0.033	ug/L		04/23/24 16:28	04/26/24 16:56	1
Benzo[a]anthracene	ND	H *3	0.20	0.033	ug/L		05/01/24 11:39	05/02/24 19:30	1
Benzo[a]pyrene	ND		0.20	0.063	ug/L		04/23/24 16:28	04/26/24 16:56	1
Benzo[a]pyrene	ND	H *3	0.20	0.062	ug/L		05/01/24 11:39	05/02/24 19:30	1
Benzo[b]fluoranthene	ND		0.20	0.036	ug/L		04/23/24 16:28	04/26/24 16:56	1
Benzo[b]fluoranthene	ND	H *3	0.20	0.036	ug/L		05/01/24 11:39	05/02/24 19:30	1
Benzo[g,h,i]perylene	ND		0.20	0.026	ug/L		04/23/24 16:28	04/26/24 16:56	1
Benzo[g,h,i]perylene	ND	H *3	0.20	0.026	ug/L		05/01/24 11:39	05/02/24 19:30	1
Benzo[k]fluoranthene	ND		0.20	0.061	ug/L		04/23/24 16:28	04/26/24 16:56	1
Benzo[k]fluoranthene	ND	H *3	0.20	0.060	ug/L		05/01/24 11:39	05/02/24 19:30	1
Chrysene	ND		0.20	0.032	ug/L		04/23/24 16:28	04/26/24 16:56	1
Chrysene	ND	H *3	0.20	0.032	ug/L		05/01/24 11:39	05/02/24 19:30	1
Dibenz(a,h)anthracene	ND		0.20	0.047	ug/L		04/23/24 16:28	04/26/24 16:56	1
Dibenz(a,h)anthracene	ND	H *3	0.20	0.047	ug/L		05/01/24 11:39	05/02/24 19:30	1
Fluoranthene	ND		0.20	0.033	ug/L		04/23/24 16:28	04/29/24 12:22	1

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# Client Sample Results

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

Job ID: 400-254493-1

**Client Sample ID: ROST3MW-ROX-041624**

**Lab Sample ID: 400-254493-3**

Date Collected: 04/16/24 10:20

Matrix: Water

Date Received: 04/17/24 09:40

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND	H	0.20	0.033	ug/L		05/01/24 11:39	05/02/24 19:30	1
<b>Fluorene</b>	<b>0.13</b>	<b>J</b>	0.20	0.087	ug/L		04/23/24 16:28	04/26/24 16:56	1
<b>Fluorene</b>	<b>0.10</b>	<b>J H B</b>	0.20	0.087	ug/L		05/01/24 11:39	05/02/24 19:30	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.033	ug/L		04/23/24 16:28	04/26/24 16:56	1
Indeno[1,2,3-cd]pyrene	ND	H *3	0.20	0.033	ug/L		05/01/24 11:39	05/02/24 19:30	1
Phenanthrene	ND		0.20	0.088	ug/L		04/23/24 16:28	04/29/24 12:22	1
Phenanthrene	ND	H	0.20	0.088	ug/L		05/01/24 11:39	05/02/24 19:30	1
Pyrene	ND		0.20	0.038	ug/L		04/23/24 16:28	04/26/24 16:56	1
<b>Pyrene</b>	<b>0.039</b>	<b>J H B *3</b>	0.20	0.038	ug/L		05/01/24 11:39	05/02/24 19:30	1
<b>1-Methylnaphthalene</b>	<b>0.080</b>	<b>J</b>	0.20	0.078	ug/L		04/23/24 16:28	04/26/24 16:56	1
1-Methylnaphthalene	ND	H	0.20	0.078	ug/L		05/01/24 11:39	05/02/24 19:30	1
<b>2-Methylnaphthalene</b>	<b>0.079</b>	<b>J B U</b>	0.20	0.065	ug/L		04/23/24 16:28	04/26/24 16:56	1
2-Methylnaphthalene	ND	H	0.20	0.064	ug/L		05/01/24 11:39	05/02/24 19:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	122		18 - 147	04/23/24 16:28	04/26/24 16:56	1
Terphenyl-d14	205	S1+ *3	18 - 147	05/01/24 11:39	05/02/24 19:30	1
2-Fluorobiphenyl	79		15 - 128	04/23/24 16:28	04/26/24 16:56	1
2-Fluorobiphenyl	60		15 - 128	05/01/24 11:39	05/02/24 19:30	1
Nitrobenzene-d5	71		10 - 144	04/23/24 16:28	04/26/24 16:56	1
Nitrobenzene-d5	53		10 - 144	05/01/24 11:39	05/02/24 19:30	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	8.5	ug/L		04/23/24 16:28	04/25/24 19:46	1
Benzenethiol	ND		9.8	9.7	ug/L		04/23/24 16:28	04/25/24 19:46	1
Benzoic acid	ND		29	24	ug/L		04/23/24 16:28	04/25/24 19:46	1
Benzyl alcohol	ND		9.8	7.2	ug/L		04/23/24 16:28	04/25/24 19:46	1
Bis(2-chloroethoxy)methane	ND		9.8	4.5	ug/L		04/23/24 16:28	04/25/24 19:46	1
Bis(2-chloroethyl)ether	ND	UJ	9.8	3.8	ug/L		04/23/24 16:28	04/25/24 19:46	1
bis (2-chloroisopropyl) ether	ND		9.8	1.8	ug/L		04/23/24 16:28	04/25/24 19:46	1
Bis(2-ethylhexyl) phthalate	ND		9.8	8.7	ug/L		04/23/24 16:28	04/25/24 19:46	1
4-Bromophenyl phenyl ether	ND		9.8	8.4	ug/L		04/23/24 16:28	04/25/24 19:46	1
Butyl benzyl phthalate	ND		9.8	5.7	ug/L		04/23/24 16:28	04/25/24 19:46	1
4-Chloroaniline	ND		9.8	4.6	ug/L		04/23/24 16:28	04/25/24 19:46	1
4-Chloro-3-methylphenol	ND		9.8	5.2	ug/L		04/23/24 16:28	04/25/24 19:46	1
2-Chloronaphthalene	ND		9.8	3.7	ug/L		04/23/24 16:28	04/25/24 19:46	1
2-Chlorophenol	ND		9.8	4.0	ug/L		04/23/24 16:28	04/25/24 19:46	1
4-Chlorophenyl phenyl ether	ND		9.8	3.6	ug/L		04/23/24 16:28	04/25/24 19:46	1
Dibenz[a,h]acridine	ND		9.8	2.7	ug/L		04/23/24 16:28	04/25/24 19:46	1
Dibenzofuran	ND		9.8	3.9	ug/L		04/23/24 16:28	04/25/24 19:46	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/23/24 16:28	04/25/24 19:46	1
2,4-Dichlorophenol	ND		9.8	4.2	ug/L		04/23/24 16:28	04/25/24 19:46	1
Diethyl phthalate	ND		9.8	4.3	ug/L		04/23/24 16:28	04/25/24 19:46	1
2,4-Dimethylphenol	ND		9.8	5.1	ug/L		04/23/24 16:28	04/25/24 19:46	1
Dimethyl phthalate	ND		9.8	4.1	ug/L		04/23/24 16:28	04/25/24 19:46	1
Di-n-butyl phthalate	ND		9.8	4.5	ug/L		04/23/24 16:28	04/25/24 19:46	1
4,6-Dinitro-ortho-cresol	ND		9.8	9.8	ug/L		04/23/24 16:28	04/25/24 19:46	1
2,4-Dinitrophenol	ND		29	4.5	ug/L		04/23/24 16:28	04/25/24 19:46	1
2,4-Dinitrotoluene	ND		9.8	5.0	ug/L		04/23/24 16:28	04/25/24 19:46	1

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# Client Sample Results

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

Job ID: 400-254493-1

**Client Sample ID: ROST3MW-ROX-041624**

**Lab Sample ID: 400-254493-3**

Date Collected: 04/16/24 10:20

Matrix: Water

Date Received: 04/17/24 09:40

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,6-Dinitrotoluene	ND		9.8	3.8	ug/L		04/23/24 16:28	04/25/24 19:46	1
Di-n-octyl phthalate	ND		9.8	5.9	ug/L		04/23/24 16:28	04/25/24 19:46	1
1,4-Dioxane	ND		9.8	4.2	ug/L		04/23/24 16:28	04/25/24 19:46	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	3.2	ug/L		04/23/24 16:28	04/25/24 19:46	1
Hexachlorobenzene	ND		9.8	9.5	ug/L		04/23/24 16:28	04/25/24 19:46	1
Hexachlorocyclopentadiene	ND		20	4.4	ug/L		04/23/24 16:28	04/25/24 19:46	1
Hexachloroethane	ND		9.8	5.1	ug/L		04/23/24 16:28	04/25/24 19:46	1
Indene	ND		9.8	3.5	ug/L		04/23/24 16:28	04/25/24 19:46	1
Isophorone	ND		9.8	5.1	ug/L		04/23/24 16:28	04/25/24 19:46	1
2-Methylphenol	ND		9.8	3.1	ug/L		04/23/24 16:28	04/25/24 19:46	1
3 & 4 Methylphenol	ND		20	4.5	ug/L		04/23/24 16:28	04/25/24 19:46	1
2-Nitroaniline	ND		9.8	4.9	ug/L		04/23/24 16:28	04/25/24 19:46	1
3-Nitroaniline	ND		9.8	4.6	ug/L		04/23/24 16:28	04/25/24 19:46	1
4-Nitroaniline	ND		9.8	4.0	ug/L		04/23/24 16:28	04/25/24 19:46	1
Nitrobenzene	ND		9.8	4.6	ug/L		04/23/24 16:28	04/25/24 19:46	1
2-Nitrophenol	ND		9.8	4.5	ug/L		04/23/24 16:28	04/25/24 19:46	1
4-Nitrophenol	ND		9.8	3.2	ug/L		04/23/24 16:28	04/25/24 19:46	1
N-Nitrosodimethylamine	ND		9.8	2.2	ug/L		04/23/24 16:28	04/25/24 19:46	1
N-Nitrosodi-n-propylamine	ND		9.8	2.4	ug/L		04/23/24 16:28	04/25/24 19:46	1
N-Nitrosodiphenylamine	ND		9.8	3.6	ug/L		04/23/24 16:28	04/25/24 19:46	1
Pentachlorophenol	ND		20	12	ug/L		04/23/24 16:28	04/25/24 19:46	1
Phenol	ND		9.8	4.1	ug/L		04/23/24 16:28	04/25/24 19:46	1
Pyridine	ND	UJ	9.8	9.8	ug/L		04/23/24 16:28	04/25/24 19:46	1
Quinoline	ND		9.8	2.4	ug/L		04/23/24 16:28	04/25/24 19:46	1
2,4,5-Trichlorophenol	ND		9.8	3.9	ug/L		04/23/24 16:28	04/25/24 19:46	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		04/23/24 16:28	04/25/24 19:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	83		21 - 114	04/23/24 16:28	04/25/24 19:46	1
2-Fluorophenol	60		10 - 105	04/23/24 16:28	04/25/24 19:46	1
Nitrobenzene-d5	80		16 - 127	04/23/24 16:28	04/25/24 19:46	1
Phenol-d5	48		10 - 129	04/23/24 16:28	04/25/24 19:46	1
Terphenyl-d14	118		13 - 150	04/23/24 16:28	04/25/24 19:46	1
2,4,6-Tribromophenol	99		10 - 150	04/23/24 16:28	04/25/24 19:46	1

**Method: EPA 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	UJ	0.030	0.017	ug/L		04/19/24 15:37	04/20/24 01:58	1
1,2-Dibromoethane	ND	UJ	0.020	0.015	ug/L		04/19/24 15:37	04/20/24 01:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	67		51 - 149	04/19/24 15:37	04/20/24 01:58	1



# Client Sample Results

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

Job ID: 400-254493-1

**Client Sample ID: ROST4PZC-ROX-041624**

**Lab Sample ID: 400-254493-4**

Date Collected: 04/16/24 12:15

Matrix: Water

Date Received: 04/17/24 09:40

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/28/24 16:22	1
Acrolein	ND		20	3.3	ug/L			04/28/24 16:22	1
Acrylonitrile	ND		10	2.8	ug/L			04/28/24 16:22	1
<b>Benzene</b>	<b>2.0</b>		1.0	0.50	ug/L			04/28/24 16:22	1
Bromobenzene	ND		1.0	0.54	ug/L			04/28/24 16:22	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/28/24 16:22	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/28/24 16:22	1
Bromoform	ND		5.0	0.25	ug/L			04/28/24 16:22	1
Bromomethane	ND		1.0	0.98	ug/L			04/28/24 16:22	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/28/24 16:22	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/28/24 16:22	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/28/24 16:22	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/28/24 16:22	1
Chloroethane	ND		1.0	0.76	ug/L			04/28/24 16:22	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/28/24 16:22	1
Chloroform	ND		1.0	0.90	ug/L			04/28/24 16:22	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/28/24 16:22	1
Chloromethane	ND		1.0	0.90	ug/L			04/28/24 16:22	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/28/24 16:22	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/28/24 16:22	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/28/24 16:22	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/28/24 16:22	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/28/24 16:22	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/28/24 16:22	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/28/24 16:22	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/28/24 16:22	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/28/24 16:22	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/28/24 16:22	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/28/24 16:22	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/28/24 16:22	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/28/24 16:22	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/28/24 16:22	1
<b>Ethylbenzene</b>	<b>0.53 J</b>		1.0	0.50	ug/L			04/28/24 16:22	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/28/24 16:22	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/28/24 16:22	1
2-Hexanone	ND		25	1.4	ug/L			04/28/24 16:22	1
<b>Isopropylbenzene</b>	<b>1.3</b>		1.0	0.53	ug/L			04/28/24 16:22	1
Methylene bromide	ND		5.0	0.22	ug/L			04/28/24 16:22	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/28/24 16:22	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/28/24 16:22	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/28/24 16:22	1
<b>m-Xylene &amp; p-Xylene</b>	<b>1.4 J</b>		5.0	0.63	ug/L			04/28/24 16:22	1
Naphthalene	ND		5.0	3.0	ug/L			04/28/24 16:22	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/28/24 16:22	1
<b>N-Propylbenzene</b>	<b>2.5</b>		1.0	0.69	ug/L			04/28/24 16:22	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/28/24 16:22	1
o-Xylene	ND		5.0	0.60	ug/L			04/28/24 16:22	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/28/24 16:22	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/28/24 16:22	1

# Client Sample Results

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

Job ID: 400-254493-1

**Client Sample ID: ROST4PZC-ROX-041624**

**Lab Sample ID: 400-254493-4**

Date Collected: 04/16/24 12:15

Matrix: Water

Date Received: 04/17/24 09:40

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/28/24 16:22	1
Styrene	ND		1.0	1.0	ug/L			04/28/24 16:22	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/28/24 16:22	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/28/24 16:22	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/28/24 16:22	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/28/24 16:22	1
<b>Toluene</b>	<b>1.9</b>		1.0	0.90	ug/L			04/28/24 16:22	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/28/24 16:22	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/28/24 16:22	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/28/24 16:22	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/28/24 16:22	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/28/24 16:22	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/28/24 16:22	1
Trichloroethene	ND		1.0	0.15	ug/L			04/28/24 16:22	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/28/24 16:22	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/28/24 16:22	1
<b>1,2,4-Trimethylbenzene</b>	<b>1.4</b>		1.0	0.82	ug/L			04/28/24 16:22	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/28/24 16:22	1
Vinyl acetate	ND		25	0.93	ug/L			04/28/24 16:22	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/28/24 16:22	1
<b>Xylenes, Total</b>	<b>1.6 J</b>		10	1.6	ug/L			04/28/24 16:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	103		72 - 130		04/28/24 16:22	1
Dibromofluoromethane	107		75 - 126		04/28/24 16:22	1
Toluene-d8 (Surr)	95		64 - 132		04/28/24 16:22	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acenaphthene</b>	<b>0.29</b>		0.19	0.096	ug/L		04/23/24 16:28	04/26/24 17:16	1
<b>Acenaphthene</b>	<b>0.16 J H</b>		0.19	0.096	ug/L		05/01/24 11:39	05/02/24 19:51	1
Acenaphthylene	ND		0.19	0.043	ug/L		04/23/24 16:28	04/26/24 17:16	1
Acenaphthylene	ND H		0.19	0.043	ug/L		05/01/24 11:39	05/02/24 19:51	1
<b>Anthracene</b>	<b>0.31</b>		0.19	0.046	ug/L		04/23/24 16:28	04/26/24 17:16	1
<b>Anthracene</b>	<b>0.25 H B</b>		0.19	0.045	ug/L		05/01/24 11:39	05/02/24 19:51	1
Benzo[a]anthracene	ND		0.19	0.033	ug/L		04/23/24 16:28	04/26/24 17:16	1
Benzo[a]anthracene	ND H		0.19	0.033	ug/L		05/01/24 11:39	05/02/24 19:51	1
Benzo[a]pyrene	ND		0.19	0.062	ug/L		04/23/24 16:28	04/26/24 17:16	1
Benzo[a]pyrene	ND H		0.19	0.062	ug/L		05/01/24 11:39	05/02/24 19:51	1
Benzo[b]fluoranthene	ND		0.19	0.036	ug/L		04/23/24 16:28	04/26/24 17:16	1
Benzo[b]fluoranthene	ND H		0.19	0.036	ug/L		05/01/24 11:39	05/02/24 19:51	1
Benzo[g,h,i]perylene	ND		0.19	0.026	ug/L		04/23/24 16:28	04/26/24 17:16	1
Benzo[g,h,i]perylene	ND H		0.19	0.026	ug/L		05/01/24 11:39	05/02/24 19:51	1
Benzo[k]fluoranthene	ND		0.19	0.060	ug/L		04/23/24 16:28	04/26/24 17:16	1
Benzo[k]fluoranthene	ND H		0.19	0.060	ug/L		05/01/24 11:39	05/02/24 19:51	1
Chrysene	ND		0.19	0.032	ug/L		04/23/24 16:28	04/26/24 17:16	1
Chrysene	ND H		0.19	0.032	ug/L		05/01/24 11:39	05/02/24 19:51	1
Dibenz(a,h)anthracene	ND		0.19	0.047	ug/L		04/23/24 16:28	04/26/24 17:16	1
Dibenz(a,h)anthracene	ND H		0.19	0.046	ug/L		05/01/24 11:39	05/02/24 19:51	1
<b>Fluoranthene</b>	<b>0.042 J</b>		0.19	0.033	ug/L		04/23/24 16:28	04/26/24 17:16	1

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# Client Sample Results

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

Job ID: 400-254493-1

**Client Sample ID: ROST4PZC-ROX-041624**

**Lab Sample ID: 400-254493-4**

Date Collected: 04/16/24 12:15

Matrix: Water

Date Received: 04/17/24 09:40

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	0.054	J H B	0.19	0.033	ug/L		05/01/24 11:39	05/02/24 19:51	1
Fluorene	0.36		0.19	0.087	ug/L		04/23/24 16:28	04/26/24 17:16	1
Fluorene	0.18	J H B	0.19	0.086	ug/L		05/01/24 11:39	05/02/24 19:51	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.033	ug/L		04/23/24 16:28	04/26/24 17:16	1
Indeno[1,2,3-cd]pyrene	ND	H	0.19	0.033	ug/L		05/01/24 11:39	05/02/24 19:51	1
Phenanthrene	0.10	J	0.19	0.088	ug/L		04/23/24 16:28	04/26/24 17:16	1
Phenanthrene	0.099	J H	0.19	0.087	ug/L		05/01/24 11:39	05/02/24 19:51	1
Pyrene	0.039	J	0.19	0.038	ug/L		04/23/24 16:28	04/26/24 17:16	1
Pyrene	0.094	J H B	0.19	0.038	ug/L		05/01/24 11:39	05/02/24 19:51	1
1-Methylnaphthalene	2.1		0.19	0.078	ug/L		04/23/24 16:28	04/26/24 17:16	1
1-Methylnaphthalene	1.3	H B	0.19	0.077	ug/L		05/01/24 11:39	05/02/24 19:51	1
2-Methylnaphthalene	0.067	J B U	0.19	0.064	ug/L		04/23/24 16:28	04/26/24 17:16	1
2-Methylnaphthalene	ND	H	0.19	0.064	ug/L		05/01/24 11:39	05/02/24 19:51	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Terphenyl-d14	126		18 - 147				04/23/24 16:28	04/26/24 17:16	1
Terphenyl-d14	167	S1+	18 - 147				05/01/24 11:39	05/02/24 19:51	1
2-Fluorobiphenyl	72		15 - 128				04/23/24 16:28	04/26/24 17:16	1
2-Fluorobiphenyl	35		15 - 128				05/01/24 11:39	05/02/24 19:51	1
Nitrobenzene-d5	85		10 - 144				04/23/24 16:28	04/26/24 17:16	1
Nitrobenzene-d5	53		10 - 144				05/01/24 11:39	05/02/24 19:51	1

## Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	8.5	ug/L		04/23/24 16:28	04/25/24 20:09	1
Benzenethiol	ND		9.7	9.6	ug/L		04/23/24 16:28	04/25/24 20:09	1
Benzoic acid	ND		29	23	ug/L		04/23/24 16:28	04/25/24 20:09	1
Benzyl alcohol	ND		9.7	7.1	ug/L		04/23/24 16:28	04/25/24 20:09	1
Bis(2-chloroethoxy)methane	ND		9.7	4.5	ug/L		04/23/24 16:28	04/25/24 20:09	1
Bis(2-chloroethyl)ether	ND	UJ	9.7	3.8	ug/L		04/23/24 16:28	04/25/24 20:09	1
bis (2-chloroisopropyl) ether	ND		9.7	1.8	ug/L		04/23/24 16:28	04/25/24 20:09	1
Bis(2-ethylhexyl) phthalate	ND		9.7	8.7	ug/L		04/23/24 16:28	04/25/24 20:09	1
4-Bromophenyl phenyl ether	ND		9.7	8.4	ug/L		04/23/24 16:28	04/25/24 20:09	1
Butyl benzyl phthalate	ND		9.7	5.6	ug/L		04/23/24 16:28	04/25/24 20:09	1
4-Chloroaniline	ND		9.7	4.6	ug/L		04/23/24 16:28	04/25/24 20:09	1
4-Chloro-3-methylphenol	ND		9.7	5.2	ug/L		04/23/24 16:28	04/25/24 20:09	1
2-Chloronaphthalene	ND		9.7	3.7	ug/L		04/23/24 16:28	04/25/24 20:09	1
2-Chlorophenol	ND		9.7	4.0	ug/L		04/23/24 16:28	04/25/24 20:09	1
4-Chlorophenyl phenyl ether	ND		9.7	3.6	ug/L		04/23/24 16:28	04/25/24 20:09	1
Dibenz[a,h]acridine	ND		9.7	2.7	ug/L		04/23/24 16:28	04/25/24 20:09	1
Dibenzofuran	ND		9.7	3.9	ug/L		04/23/24 16:28	04/25/24 20:09	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/23/24 16:28	04/25/24 20:09	1
2,4-Dichlorophenol	ND		9.7	4.2	ug/L		04/23/24 16:28	04/25/24 20:09	1
Diethyl phthalate	ND		9.7	4.3	ug/L		04/23/24 16:28	04/25/24 20:09	1
2,4-Dimethylphenol	ND		9.7	5.1	ug/L		04/23/24 16:28	04/25/24 20:09	1
Dimethyl phthalate	ND		9.7	4.1	ug/L		04/23/24 16:28	04/25/24 20:09	1
Di-n-butyl phthalate	ND		9.7	4.5	ug/L		04/23/24 16:28	04/25/24 20:09	1
4,6-Dinitro-ortho-cresol	ND		9.7	9.7	ug/L		04/23/24 16:28	04/25/24 20:09	1
2,4-Dinitrophenol	ND	*+	29	4.5	ug/L		04/23/24 16:28	04/25/24 20:09	1
2,4-Dinitrotoluene	ND		9.7	5.0	ug/L		04/23/24 16:28	04/25/24 20:09	1

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# Client Sample Results

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

Job ID: 400-254493-1

**Client Sample ID: ROST4PZC-ROX-041624**

**Lab Sample ID: 400-254493-4**

Date Collected: 04/16/24 12:15

Matrix: Water

Date Received: 04/17/24 09:40

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,6-Dinitrotoluene	ND		9.7	3.8	ug/L		04/23/24 16:28	04/25/24 20:09	1
Di-n-octyl phthalate	ND		9.7	5.8	ug/L		04/23/24 16:28	04/25/24 20:09	1
1,4-Dioxane	ND		9.7	4.2	ug/L		04/23/24 16:28	04/25/24 20:09	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	3.2	ug/L		04/23/24 16:28	04/25/24 20:09	1
Hexachlorobenzene	ND		9.7	9.4	ug/L		04/23/24 16:28	04/25/24 20:09	1
Hexachlorocyclopentadiene	ND		19	4.4	ug/L		04/23/24 16:28	04/25/24 20:09	1
Hexachloroethane	ND		9.7	5.1	ug/L		04/23/24 16:28	04/25/24 20:09	1
Indene	ND		9.7	3.5	ug/L		04/23/24 16:28	04/25/24 20:09	1
Isophorone	ND		9.7	5.1	ug/L		04/23/24 16:28	04/25/24 20:09	1
2-Methylphenol	ND		9.7	3.1	ug/L		04/23/24 16:28	04/25/24 20:09	1
3 & 4 Methylphenol	ND		19	4.5	ug/L		04/23/24 16:28	04/25/24 20:09	1
2-Nitroaniline	ND		9.7	4.9	ug/L		04/23/24 16:28	04/25/24 20:09	1
3-Nitroaniline	ND		9.7	4.6	ug/L		04/23/24 16:28	04/25/24 20:09	1
4-Nitroaniline	ND		9.7	4.0	ug/L		04/23/24 16:28	04/25/24 20:09	1
Nitrobenzene	ND		9.7	4.6	ug/L		04/23/24 16:28	04/25/24 20:09	1
2-Nitrophenol	ND		9.7	4.5	ug/L		04/23/24 16:28	04/25/24 20:09	1
4-Nitrophenol	ND		9.7	3.2	ug/L		04/23/24 16:28	04/25/24 20:09	1
N-Nitrosodimethylamine	ND		9.7	2.1	ug/L		04/23/24 16:28	04/25/24 20:09	1
N-Nitrosodi-n-propylamine	ND		9.7	2.4	ug/L		04/23/24 16:28	04/25/24 20:09	1
N-Nitrosodiphenylamine	ND		9.7	3.6	ug/L		04/23/24 16:28	04/25/24 20:09	1
Pentachlorophenol	ND		19	12	ug/L		04/23/24 16:28	04/25/24 20:09	1
Phenol	ND		9.7	4.1	ug/L		04/23/24 16:28	04/25/24 20:09	1
Pyridine	ND	UJ	9.7	9.7	ug/L		04/23/24 16:28	04/25/24 20:09	1
Quinoline	ND		9.7	2.3	ug/L		04/23/24 16:28	04/25/24 20:09	1
2,4,5-Trichlorophenol	ND		9.7	3.9	ug/L		04/23/24 16:28	04/25/24 20:09	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		04/23/24 16:28	04/25/24 20:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	93		21 - 114	04/23/24 16:28	04/25/24 20:09	1
2-Fluorophenol	70		10 - 105	04/23/24 16:28	04/25/24 20:09	1
Nitrobenzene-d5	93		16 - 127	04/23/24 16:28	04/25/24 20:09	1
Phenol-d5	55		10 - 129	04/23/24 16:28	04/25/24 20:09	1
Terphenyl-d14	118		13 - 150	04/23/24 16:28	04/25/24 20:09	1
2,4,6-Tribromophenol	112		10 - 150	04/23/24 16:28	04/25/24 20:09	1

**Method: EPA 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	UJ	0.029	0.016	ug/L		04/19/24 15:37	04/20/24 02:19	1
1,2-Dibromoethane	ND	UJ	0.019	0.015	ug/L		04/19/24 15:37	04/20/24 02:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	68		51 - 149	04/19/24 15:37	04/20/24 02:19	1

# Client Sample Results

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

Job ID: 400-254493-1

**Client Sample ID: ROST4PZC-ROX-041624-DUP**

**Lab Sample ID: 400-254493-5**

Date Collected: 04/16/24 12:15

Matrix: Water

Date Received: 04/17/24 09:40

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/28/24 16:46	1
Acrolein	ND		20	3.3	ug/L			04/28/24 16:46	1
Acrylonitrile	ND		10	2.8	ug/L			04/28/24 16:46	1
<b>Benzene</b>	<b>1.9</b>		1.0	0.50	ug/L			04/28/24 16:46	1
Bromobenzene	ND		1.0	0.54	ug/L			04/28/24 16:46	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/28/24 16:46	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/28/24 16:46	1
Bromoform	ND		5.0	0.25	ug/L			04/28/24 16:46	1
Bromomethane	ND		1.0	0.98	ug/L			04/28/24 16:46	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/28/24 16:46	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/28/24 16:46	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/28/24 16:46	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/28/24 16:46	1
Chloroethane	ND		1.0	0.76	ug/L			04/28/24 16:46	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/28/24 16:46	1
Chloroform	ND		1.0	0.90	ug/L			04/28/24 16:46	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/28/24 16:46	1
Chloromethane	ND		1.0	0.90	ug/L			04/28/24 16:46	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/28/24 16:46	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/28/24 16:46	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/28/24 16:46	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/28/24 16:46	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/28/24 16:46	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/28/24 16:46	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/28/24 16:46	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/28/24 16:46	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/28/24 16:46	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/28/24 16:46	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/28/24 16:46	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/28/24 16:46	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/28/24 16:46	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/28/24 16:46	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/28/24 16:46	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/28/24 16:46	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/28/24 16:46	1
2-Hexanone	ND		25	1.4	ug/L			04/28/24 16:46	1
<b>Isopropylbenzene</b>	<b>1.2</b>		1.0	0.53	ug/L			04/28/24 16:46	1
Methylene bromide	ND		5.0	0.22	ug/L			04/28/24 16:46	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/28/24 16:46	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/28/24 16:46	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/28/24 16:46	1
<b>m-Xylene &amp; p-Xylene</b>	<b>1.2 J</b>		5.0	0.63	ug/L			04/28/24 16:46	1
Naphthalene	ND		5.0	3.0	ug/L			04/28/24 16:46	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/28/24 16:46	1
<b>N-Propylbenzene</b>	<b>2.2</b>		1.0	0.69	ug/L			04/28/24 16:46	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/28/24 16:46	1
o-Xylene	ND		5.0	0.60	ug/L			04/28/24 16:46	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/28/24 16:46	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/28/24 16:46	1



# Client Sample Results

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

Job ID: 400-254493-1

**Client Sample ID: ROST4PZC-ROX-041624-DUP**

**Lab Sample ID: 400-254493-5**

Date Collected: 04/16/24 12:15

Matrix: Water

Date Received: 04/17/24 09:40

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/28/24 16:46	1
Styrene	ND		1.0	1.0	ug/L			04/28/24 16:46	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/28/24 16:46	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/28/24 16:46	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/28/24 16:46	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/28/24 16:46	1
<b>Toluene</b>	<b>1.7</b>		1.0	0.90	ug/L			04/28/24 16:46	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/28/24 16:46	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/28/24 16:46	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/28/24 16:46	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/28/24 16:46	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/28/24 16:46	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/28/24 16:46	1
Trichloroethene	ND		1.0	0.15	ug/L			04/28/24 16:46	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/28/24 16:46	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/28/24 16:46	1
<b>1,2,4-Trimethylbenzene</b>	<b>1.3</b>		1.0	0.82	ug/L			04/28/24 16:46	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/28/24 16:46	1
Vinyl acetate	ND		25	0.93	ug/L			04/28/24 16:46	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/28/24 16:46	1
Xylenes, Total	ND		10	1.6	ug/L			04/28/24 16:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		72 - 130		04/28/24 16:46	1
Dibromofluoromethane	104		75 - 126		04/28/24 16:46	1
Toluene-d8 (Surr)	96		64 - 132		04/28/24 16:46	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acenaphthene</b>	<b>0.31</b>		0.20	0.097	ug/L		04/23/24 16:28	04/26/24 17:37	1
<b>Acenaphthene</b>	<b>0.15</b>	<b>J H</b>	0.19	0.095	ug/L		05/01/24 11:39	05/02/24 20:12	1
Acenaphthylene	ND		0.20	0.043	ug/L		04/23/24 16:28	04/26/24 17:37	1
Acenaphthylene	ND	H	0.19	0.042	ug/L		05/01/24 11:39	05/02/24 20:12	1
<b>Anthracene</b>	<b>0.34</b>		0.20	0.046	ug/L		04/23/24 16:28	04/26/24 17:37	1
<b>Anthracene</b>	<b>0.23</b>	<b>H B</b>	0.19	0.045	ug/L		05/01/24 11:39	05/02/24 20:12	1
Benzo[a]anthracene	ND		0.20	0.033	ug/L		04/23/24 16:28	04/26/24 17:37	1
Benzo[a]anthracene	ND	H	0.19	0.033	ug/L		05/01/24 11:39	05/02/24 20:12	1
Benzo[a]pyrene	ND		0.20	0.063	ug/L		04/23/24 16:28	04/26/24 17:37	1
Benzo[a]pyrene	ND	H	0.19	0.061	ug/L		05/01/24 11:39	05/02/24 20:12	1
Benzo[b]fluoranthene	ND		0.20	0.036	ug/L		04/23/24 16:28	04/26/24 17:37	1
Benzo[b]fluoranthene	ND	H	0.19	0.035	ug/L		05/01/24 11:39	05/02/24 20:12	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		04/23/24 16:28	04/26/24 17:37	1
Benzo[g,h,i]perylene	ND	H	0.19	0.026	ug/L		05/01/24 11:39	05/02/24 20:12	1
Benzo[k]fluoranthene	ND		0.20	0.061	ug/L		04/23/24 16:28	04/26/24 17:37	1
Benzo[k]fluoranthene	ND	H	0.19	0.059	ug/L		05/01/24 11:39	05/02/24 20:12	1
Chrysene	ND		0.20	0.032	ug/L		04/23/24 16:28	04/26/24 17:37	1
Chrysene	ND	H	0.19	0.032	ug/L		05/01/24 11:39	05/02/24 20:12	1
Dibenz(a,h)anthracene	ND		0.20	0.047	ug/L		04/23/24 16:28	04/26/24 17:37	1
Dibenz(a,h)anthracene	ND	H	0.19	0.046	ug/L		05/01/24 11:39	05/02/24 20:12	1
<b>Fluoranthene</b>	<b>0.051</b>	<b>J</b>	0.20	0.033	ug/L		04/23/24 16:28	04/26/24 17:37	1

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# Client Sample Results

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

Job ID: 400-254493-1

**Client Sample ID: ROST4PZC-ROX-041624-DUP**

**Lab Sample ID: 400-254493-5**

Date Collected: 04/16/24 12:15

Matrix: Water

Date Received: 04/17/24 09:40

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND	H	0.19	0.033	ug/L		05/01/24 11:39	05/02/24 20:12	1
<b>Fluorene</b>	<b>0.36</b>		0.20	0.087	ug/L		04/23/24 16:28	04/26/24 17:37	1
<b>Fluorene</b>	<b>0.17</b>	<b>J H B</b>	0.19	0.085	ug/L		05/01/24 11:39	05/02/24 20:12	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.033	ug/L		04/23/24 16:28	04/26/24 17:37	1
Indeno[1,2,3-cd]pyrene	ND	H	0.19	0.033	ug/L		05/01/24 11:39	05/02/24 20:12	1
<b>Phenanthrene</b>	<b>0.13</b>	<b>J</b>	0.20	0.088	ug/L		04/23/24 16:28	04/26/24 17:37	1
<b>Phenanthrene</b>	<b>0.089</b>	<b>J H</b>	0.19	0.086	ug/L		05/01/24 11:39	05/02/24 20:12	1
<b>Pyrene</b>	<b>0.046</b>	<b>J</b>	0.20	0.038	ug/L		04/23/24 16:28	04/26/24 17:37	1
<b>Pyrene</b>	<b>0.056</b>	<b>J H B</b>	0.19	0.037	ug/L		05/01/24 11:39	05/02/24 20:12	1
<b>1-Methylnaphthalene</b>	<b>2.3</b>		0.20	0.079	ug/L		04/23/24 16:28	04/26/24 17:37	1
<b>1-Methylnaphthalene</b>	<b>1.5</b>	<b>H B</b>	0.19	0.077	ug/L		05/01/24 11:39	05/02/24 20:12	1
<b>2-Methylnaphthalene</b>	<b>0.11</b>	<b>J B U</b>	0.20	0.065	ug/L		04/23/24 16:28	04/26/24 17:37	1
2-Methylnaphthalene	ND	H	0.19	0.063	ug/L		05/01/24 11:39	05/02/24 20:12	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Terphenyl-d14	125		18 - 147				04/23/24 16:28	04/26/24 17:37	1
Terphenyl-d14	160	S1+	18 - 147				05/01/24 11:39	05/02/24 20:12	1
2-Fluorobiphenyl	66		15 - 128				04/23/24 16:28	04/26/24 17:37	1
2-Fluorobiphenyl	31		15 - 128				05/01/24 11:39	05/02/24 20:12	1
Nitrobenzene-d5	81		10 - 144				04/23/24 16:28	04/26/24 17:37	1
Nitrobenzene-d5	53		10 - 144				05/01/24 11:39	05/02/24 20:12	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	8.5	ug/L		04/23/24 16:28	04/25/24 20:31	1
Benzenethiol	ND		9.8	9.7	ug/L		04/23/24 16:28	04/25/24 20:31	1
Benzoic acid	ND		29	24	ug/L		04/23/24 16:28	04/25/24 20:31	1
Benzyl alcohol	ND		9.8	7.2	ug/L		04/23/24 16:28	04/25/24 20:31	1
Bis(2-chloroethoxy)methane	ND		9.8	4.5	ug/L		04/23/24 16:28	04/25/24 20:31	1
Bis(2-chloroethyl)ether	ND	UJ	9.8	3.8	ug/L		04/23/24 16:28	04/25/24 20:31	1
bis (2-chloroisopropyl) ether	ND		9.8	1.8	ug/L		04/23/24 16:28	04/25/24 20:31	1
Bis(2-ethylhexyl) phthalate	ND		9.8	8.7	ug/L		04/23/24 16:28	04/25/24 20:31	1
4-Bromophenyl phenyl ether	ND		9.8	8.4	ug/L		04/23/24 16:28	04/25/24 20:31	1
Butyl benzyl phthalate	ND		9.8	5.7	ug/L		04/23/24 16:28	04/25/24 20:31	1
4-Chloroaniline	ND		9.8	4.6	ug/L		04/23/24 16:28	04/25/24 20:31	1
4-Chloro-3-methylphenol	ND		9.8	5.2	ug/L		04/23/24 16:28	04/25/24 20:31	1
2-Chloronaphthalene	ND		9.8	3.7	ug/L		04/23/24 16:28	04/25/24 20:31	1
2-Chlorophenol	ND		9.8	4.0	ug/L		04/23/24 16:28	04/25/24 20:31	1
4-Chlorophenyl phenyl ether	ND		9.8	3.6	ug/L		04/23/24 16:28	04/25/24 20:31	1
Dibenz[a,h]acridine	ND		9.8	2.7	ug/L		04/23/24 16:28	04/25/24 20:31	1
Dibenzofuran	ND		9.8	3.9	ug/L		04/23/24 16:28	04/25/24 20:31	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/23/24 16:28	04/25/24 20:31	1
2,4-Dichlorophenol	ND		9.8	4.2	ug/L		04/23/24 16:28	04/25/24 20:31	1
Diethyl phthalate	ND		9.8	4.3	ug/L		04/23/24 16:28	04/25/24 20:31	1
2,4-Dimethylphenol	ND		9.8	5.1	ug/L		04/23/24 16:28	04/25/24 20:31	1
Dimethyl phthalate	ND		9.8	4.1	ug/L		04/23/24 16:28	04/25/24 20:31	1
Di-n-butyl phthalate	ND		9.8	4.5	ug/L		04/23/24 16:28	04/25/24 20:31	1
4,6-Dinitro-ortho-cresol	ND		9.8	9.8	ug/L		04/23/24 16:28	04/25/24 20:31	1
2,4-Dinitrophenol	ND	*+	29	4.5	ug/L		04/23/24 16:28	04/25/24 20:31	1
2,4-Dinitrotoluene	ND		9.8	5.0	ug/L		04/23/24 16:28	04/25/24 20:31	1

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# Client Sample Results

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

Job ID: 400-254493-1

**Client Sample ID: ROST4PZC-ROX-041624-DUP**

**Lab Sample ID: 400-254493-5**

Date Collected: 04/16/24 12:15

Matrix: Water

Date Received: 04/17/24 09:40

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,6-Dinitrotoluene	ND		9.8	3.8	ug/L		04/23/24 16:28	04/25/24 20:31	1
Di-n-octyl phthalate	ND		9.8	5.9	ug/L		04/23/24 16:28	04/25/24 20:31	1
1,4-Dioxane	ND		9.8	4.2	ug/L		04/23/24 16:28	04/25/24 20:31	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	3.2	ug/L		04/23/24 16:28	04/25/24 20:31	1
Hexachlorobenzene	ND		9.8	9.5	ug/L		04/23/24 16:28	04/25/24 20:31	1
Hexachlorocyclopentadiene	ND		20	4.4	ug/L		04/23/24 16:28	04/25/24 20:31	1
Hexachloroethane	ND		9.8	5.1	ug/L		04/23/24 16:28	04/25/24 20:31	1
Indene	ND		9.8	3.5	ug/L		04/23/24 16:28	04/25/24 20:31	1
Isophorone	ND		9.8	5.1	ug/L		04/23/24 16:28	04/25/24 20:31	1
2-Methylphenol	ND		9.8	3.1	ug/L		04/23/24 16:28	04/25/24 20:31	1
3 & 4 Methylphenol	ND		20	4.5	ug/L		04/23/24 16:28	04/25/24 20:31	1
2-Nitroaniline	ND		9.8	4.9	ug/L		04/23/24 16:28	04/25/24 20:31	1
3-Nitroaniline	ND		9.8	4.6	ug/L		04/23/24 16:28	04/25/24 20:31	1
4-Nitroaniline	ND		9.8	4.0	ug/L		04/23/24 16:28	04/25/24 20:31	1
Nitrobenzene	ND		9.8	4.6	ug/L		04/23/24 16:28	04/25/24 20:31	1
2-Nitrophenol	ND		9.8	4.5	ug/L		04/23/24 16:28	04/25/24 20:31	1
4-Nitrophenol	ND		9.8	3.2	ug/L		04/23/24 16:28	04/25/24 20:31	1
N-Nitrosodimethylamine	ND		9.8	2.2	ug/L		04/23/24 16:28	04/25/24 20:31	1
N-Nitrosodi-n-propylamine	ND		9.8	2.5	ug/L		04/23/24 16:28	04/25/24 20:31	1
N-Nitrosodiphenylamine	ND		9.8	3.6	ug/L		04/23/24 16:28	04/25/24 20:31	1
Pentachlorophenol	ND		20	12	ug/L		04/23/24 16:28	04/25/24 20:31	1
Phenol	ND		9.8	4.1	ug/L		04/23/24 16:28	04/25/24 20:31	1
Pyridine	ND	UJ	9.8	9.8	ug/L		04/23/24 16:28	04/25/24 20:31	1
Quinoline	ND		9.8	2.4	ug/L		04/23/24 16:28	04/25/24 20:31	1
2,4,5-Trichlorophenol	ND		9.8	3.9	ug/L		04/23/24 16:28	04/25/24 20:31	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		04/23/24 16:28	04/25/24 20:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	93		21 - 114	04/23/24 16:28	04/25/24 20:31	1
2-Fluorophenol	72		10 - 105	04/23/24 16:28	04/25/24 20:31	1
Nitrobenzene-d5	97		16 - 127	04/23/24 16:28	04/25/24 20:31	1
Phenol-d5	55		10 - 129	04/23/24 16:28	04/25/24 20:31	1
Terphenyl-d14	132		13 - 150	04/23/24 16:28	04/25/24 20:31	1
2,4,6-Tribromophenol	119		10 - 150	04/23/24 16:28	04/25/24 20:31	1

**Method: EPA 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	UJ	0.029	0.017	ug/L		04/19/24 15:37	04/20/24 02:40	1
1,2-Dibromoethane	ND	UJ	0.020	0.015	ug/L		04/19/24 15:37	04/20/24 02:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	64		51 - 149	04/19/24 15:37	04/20/24 02:40	1

# Client Sample Results

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

Job ID: 400-254493-1

**Client Sample ID: ROST4PZE-ROX-041624**

**Lab Sample ID: 400-254493-6**

Date Collected: 04/16/24 13:40

Matrix: Water

Date Received: 04/17/24 09:40

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/28/24 17:10	1
Acrolein	ND		20	3.3	ug/L			04/28/24 17:10	1
Acrylonitrile	ND		10	2.8	ug/L			04/28/24 17:10	1
Benzene	ND		1.0	0.50	ug/L			04/28/24 17:10	1
Bromobenzene	ND		1.0	0.54	ug/L			04/28/24 17:10	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/28/24 17:10	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/28/24 17:10	1
Bromoform	ND		5.0	0.25	ug/L			04/28/24 17:10	1
Bromomethane	ND		1.0	0.98	ug/L			04/28/24 17:10	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/28/24 17:10	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/28/24 17:10	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/28/24 17:10	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/28/24 17:10	1
Chloroethane	ND		1.0	0.76	ug/L			04/28/24 17:10	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/28/24 17:10	1
Chloroform	ND		1.0	0.90	ug/L			04/28/24 17:10	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/28/24 17:10	1
Chloromethane	ND		1.0	0.90	ug/L			04/28/24 17:10	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/28/24 17:10	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/28/24 17:10	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/28/24 17:10	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/28/24 17:10	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/28/24 17:10	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/28/24 17:10	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/28/24 17:10	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/28/24 17:10	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/28/24 17:10	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/28/24 17:10	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/28/24 17:10	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/28/24 17:10	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/28/24 17:10	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/28/24 17:10	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/28/24 17:10	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/28/24 17:10	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/28/24 17:10	1
2-Hexanone	ND		25	1.4	ug/L			04/28/24 17:10	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/28/24 17:10	1
Methylene bromide	ND		5.0	0.22	ug/L			04/28/24 17:10	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/28/24 17:10	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/28/24 17:10	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/28/24 17:10	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/28/24 17:10	1
Naphthalene	ND		5.0	3.0	ug/L			04/28/24 17:10	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/28/24 17:10	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/28/24 17:10	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/28/24 17:10	1
o-Xylene	ND		5.0	0.60	ug/L			04/28/24 17:10	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/28/24 17:10	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/28/24 17:10	1

# Client Sample Results

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

Job ID: 400-254493-1

**Client Sample ID: ROST4PZE-ROX-041624**

**Lab Sample ID: 400-254493-6**

Date Collected: 04/16/24 13:40

Matrix: Water

Date Received: 04/17/24 09:40

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/28/24 17:10	1
Styrene	ND		1.0	1.0	ug/L			04/28/24 17:10	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/28/24 17:10	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/28/24 17:10	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/28/24 17:10	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/28/24 17:10	1
Toluene	ND		1.0	0.90	ug/L			04/28/24 17:10	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/28/24 17:10	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/28/24 17:10	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/28/24 17:10	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/28/24 17:10	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/28/24 17:10	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/28/24 17:10	1
Trichloroethene	ND		1.0	0.15	ug/L			04/28/24 17:10	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/28/24 17:10	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/28/24 17:10	1
<b>1,2,4-Trimethylbenzene</b>	<b>2.4</b>		1.0	0.82	ug/L			04/28/24 17:10	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/28/24 17:10	1
Vinyl acetate	ND		25	0.93	ug/L			04/28/24 17:10	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/28/24 17:10	1
Xylenes, Total	ND		10	1.6	ug/L			04/28/24 17:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	100		72 - 130		04/28/24 17:10	1
Dibromofluoromethane	103		75 - 126		04/28/24 17:10	1
Toluene-d8 (Surr)	96		64 - 132		04/28/24 17:10	1

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acenaphthene</b>	<b>0.17</b>	<b>J</b>	0.19	0.095	ug/L		04/23/24 16:28	04/26/24 17:57	1
<b>Acenaphthene</b>	<b>0.11</b>	<b>J H</b>	0.20	0.097	ug/L		05/01/24 11:39	05/02/24 20:32	1
Acenaphthylene	ND		0.19	0.042	ug/L		04/23/24 16:28	04/26/24 17:57	1
Acenaphthylene	ND	H	0.20	0.043	ug/L		05/01/24 11:39	05/02/24 20:32	1
<b>Anthracene</b>	<b>0.24</b>		0.19	0.045	ug/L		04/23/24 16:28	04/26/24 17:57	1
<b>Anthracene</b>	<b>0.16</b>	<b>J H B</b>	0.20	0.046	ug/L		05/01/24 11:39	05/02/24 20:32	1
Benzo[a]anthracene	ND		0.19	0.033	ug/L		04/23/24 16:28	04/26/24 17:57	1
Benzo[a]anthracene	ND	H	0.20	0.033	ug/L		05/01/24 11:39	05/02/24 20:32	1
Benzo[a]pyrene	ND		0.19	0.062	ug/L		04/23/24 16:28	04/26/24 17:57	1
Benzo[a]pyrene	ND	H	0.20	0.062	ug/L		05/01/24 11:39	05/02/24 20:32	1
Benzo[b]fluoranthene	ND		0.19	0.036	ug/L		04/23/24 16:28	04/26/24 17:57	1
Benzo[b]fluoranthene	ND	H	0.20	0.036	ug/L		05/01/24 11:39	05/02/24 20:32	1
Benzo[g,h,i]perylene	ND		0.19	0.026	ug/L		04/23/24 16:28	04/26/24 17:57	1
Benzo[g,h,i]perylene	ND	H	0.20	0.026	ug/L		05/01/24 11:39	05/02/24 20:32	1
Benzo[k]fluoranthene	ND		0.19	0.060	ug/L		04/23/24 16:28	04/26/24 17:57	1
Benzo[k]fluoranthene	ND	H	0.20	0.060	ug/L		05/01/24 11:39	05/02/24 20:32	1
Chrysene	ND		0.19	0.032	ug/L		04/23/24 16:28	04/26/24 17:57	1
Chrysene	ND	H	0.20	0.032	ug/L		05/01/24 11:39	05/02/24 20:32	1
Dibenz(a,h)anthracene	ND		0.19	0.046	ug/L		04/23/24 16:28	04/26/24 17:57	1
Dibenz(a,h)anthracene	ND	H	0.20	0.047	ug/L		05/01/24 11:39	05/02/24 20:32	1
<b>Fluoranthene</b>	<b>0.054</b>	<b>J</b>	0.19	0.033	ug/L		04/23/24 16:28	04/26/24 17:57	1

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# Client Sample Results

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

Job ID: 400-254493-1

**Client Sample ID: ROST4PZE-ROX-041624**

**Lab Sample ID: 400-254493-6**

Date Collected: 04/16/24 13:40

Matrix: Water

Date Received: 04/17/24 09:40

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	ND	H	0.20	0.033	ug/L		05/01/24 11:39	05/02/24 20:32	1
<b>Fluorene</b>	<b>0.21</b>		0.19	0.086	ug/L		04/23/24 16:28	04/26/24 17:57	1
<b>Fluorene</b>	<b>0.13</b>	<b>J H B</b>	0.20	0.087	ug/L		05/01/24 11:39	05/02/24 20:32	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.033	ug/L		04/23/24 16:28	04/26/24 17:57	1
Indeno[1,2,3-cd]pyrene	ND	H	0.20	0.033	ug/L		05/01/24 11:39	05/02/24 20:32	1
<b>Phenanthrene</b>	<b>0.74</b>		0.19	0.087	ug/L		04/23/24 16:28	04/26/24 17:57	1
<b>Phenanthrene</b>	<b>0.51</b>	<b>H</b>	0.20	0.088	ug/L		05/01/24 11:39	05/02/24 20:32	1
<b>Pyrene</b>	<b>0.084</b>	<b>J</b>	0.19	0.038	ug/L		04/23/24 16:28	04/26/24 17:57	1
<b>Pyrene</b>	<b>0.096</b>	<b>J H B</b>	0.20	0.038	ug/L		05/01/24 11:39	05/02/24 20:32	1
<b>1-Methylnaphthalene</b>	<b>1.9</b>		0.19	0.077	ug/L		04/23/24 16:28	04/26/24 17:57	1
<b>1-Methylnaphthalene</b>	<b>1.2</b>	<b>H B</b>	0.20	0.078	ug/L		05/01/24 11:39	05/02/24 20:32	1
<b>2-Methylnaphthalene</b>	<b>0.82</b>	<b>B</b>	0.19	0.064	ug/L		04/23/24 16:28	04/26/24 17:57	1
<b>2-Methylnaphthalene</b>	<b>0.38</b>	<b>H B</b>	0.20	0.064	ug/L		05/01/24 11:39	05/02/24 20:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	107		18 - 147				04/23/24 16:28	04/26/24 17:57	1
Terphenyl-d14	114		18 - 147				05/01/24 11:39	05/02/24 20:32	1
2-Fluorobiphenyl	76		15 - 128				04/23/24 16:28	04/26/24 17:57	1
2-Fluorobiphenyl	44		15 - 128				05/01/24 11:39	05/02/24 20:32	1
Nitrobenzene-d5	80		10 - 144				04/23/24 16:28	04/26/24 17:57	1
Nitrobenzene-d5	43		10 - 144				05/01/24 11:39	05/02/24 20:32	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.6	8.4	ug/L		04/23/24 16:28	04/25/24 20:53	1
Benzenethiol	ND		9.6	9.5	ug/L		04/23/24 16:28	04/25/24 20:53	1
Benzoic acid	ND		29	23	ug/L		04/23/24 16:28	04/25/24 20:53	1
Benzyl alcohol	ND		9.6	7.0	ug/L		04/23/24 16:28	04/25/24 20:53	1
Bis(2-chloroethoxy)methane	ND		9.6	4.4	ug/L		04/23/24 16:28	04/25/24 20:53	1
Bis(2-chloroethyl)ether	ND	<b>UJ</b>	9.6	3.8	ug/L		04/23/24 16:28	04/25/24 20:53	1
bis (2-chloroisopropyl) ether	ND		9.6	1.7	ug/L		04/23/24 16:28	04/25/24 20:53	1
Bis(2-ethylhexyl) phthalate	ND		9.6	8.6	ug/L		04/23/24 16:28	04/25/24 20:53	1
4-Bromophenyl phenyl ether	ND		9.6	8.3	ug/L		04/23/24 16:28	04/25/24 20:53	1
Butyl benzyl phthalate	ND		9.6	5.6	ug/L		04/23/24 16:28	04/25/24 20:53	1
4-Chloroaniline	ND		9.6	4.5	ug/L		04/23/24 16:28	04/25/24 20:53	1
4-Chloro-3-methylphenol	ND		9.6	5.1	ug/L		04/23/24 16:28	04/25/24 20:53	1
2-Chloronaphthalene	ND		9.6	3.7	ug/L		04/23/24 16:28	04/25/24 20:53	1
2-Chlorophenol	ND		9.6	4.0	ug/L		04/23/24 16:28	04/25/24 20:53	1
4-Chlorophenyl phenyl ether	ND		9.6	3.6	ug/L		04/23/24 16:28	04/25/24 20:53	1
Dibenz[a,h]acridine	ND		9.6	2.7	ug/L		04/23/24 16:28	04/25/24 20:53	1
Dibenzofuran	ND		9.6	3.9	ug/L		04/23/24 16:28	04/25/24 20:53	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/23/24 16:28	04/25/24 20:53	1
2,4-Dichlorophenol	ND		9.6	4.1	ug/L		04/23/24 16:28	04/25/24 20:53	1
Diethyl phthalate	ND		9.6	4.2	ug/L		04/23/24 16:28	04/25/24 20:53	1
2,4-Dimethylphenol	ND		9.6	5.0	ug/L		04/23/24 16:28	04/25/24 20:53	1
Dimethyl phthalate	ND		9.6	4.1	ug/L		04/23/24 16:28	04/25/24 20:53	1
Di-n-butyl phthalate	ND		9.6	4.4	ug/L		04/23/24 16:28	04/25/24 20:53	1
4,6-Dinitro-ortho-cresol	ND		9.6	9.6	ug/L		04/23/24 16:28	04/25/24 20:53	1
2,4-Dinitrophenol	ND	<b>*+</b>	29	4.4	ug/L		04/23/24 16:28	04/25/24 20:53	1
2,4-Dinitrotoluene	ND		9.6	4.9	ug/L		04/23/24 16:28	04/25/24 20:53	1

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# Client Sample Results

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

Job ID: 400-254493-1

**Client Sample ID: ROST4PZE-ROX-041624**

**Lab Sample ID: 400-254493-6**

**Date Collected: 04/16/24 13:40**

**Matrix: Water**

**Date Received: 04/17/24 09:40**

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,6-Dinitrotoluene	ND		9.6	3.8	ug/L		04/23/24 16:28	04/25/24 20:53	1
Di-n-octyl phthalate	ND		9.6	5.8	ug/L		04/23/24 16:28	04/25/24 20:53	1
1,4-Dioxane	ND		9.6	4.1	ug/L		04/23/24 16:28	04/25/24 20:53	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.6	3.2	ug/L		04/23/24 16:28	04/25/24 20:53	1
Hexachlorobenzene	ND		9.6	9.4	ug/L		04/23/24 16:28	04/25/24 20:53	1
Hexachlorocyclopentadiene	ND		19	4.3	ug/L		04/23/24 16:28	04/25/24 20:53	1
Hexachloroethane	ND		9.6	5.0	ug/L		04/23/24 16:28	04/25/24 20:53	1
Indene	ND		9.6	3.5	ug/L		04/23/24 16:28	04/25/24 20:53	1
Isophorone	ND		9.6	5.0	ug/L		04/23/24 16:28	04/25/24 20:53	1
2-Methylphenol	ND		9.6	3.1	ug/L		04/23/24 16:28	04/25/24 20:53	1
3 & 4 Methylphenol	ND		19	4.4	ug/L		04/23/24 16:28	04/25/24 20:53	1
2-Nitroaniline	ND		9.6	4.8	ug/L		04/23/24 16:28	04/25/24 20:53	1
3-Nitroaniline	ND		9.6	4.5	ug/L		04/23/24 16:28	04/25/24 20:53	1
4-Nitroaniline	ND		9.6	4.0	ug/L		04/23/24 16:28	04/25/24 20:53	1
Nitrobenzene	ND		9.6	4.5	ug/L		04/23/24 16:28	04/25/24 20:53	1
2-Nitrophenol	ND		9.6	4.4	ug/L		04/23/24 16:28	04/25/24 20:53	1
4-Nitrophenol	ND		9.6	3.2	ug/L		04/23/24 16:28	04/25/24 20:53	1
N-Nitrosodimethylamine	ND		9.6	2.1	ug/L		04/23/24 16:28	04/25/24 20:53	1
N-Nitrosodi-n-propylamine	ND		9.6	2.4	ug/L		04/23/24 16:28	04/25/24 20:53	1
N-Nitrosodiphenylamine	ND		9.6	3.6	ug/L		04/23/24 16:28	04/25/24 20:53	1
Pentachlorophenol	ND		19	11	ug/L		04/23/24 16:28	04/25/24 20:53	1
Phenol	ND		9.6	4.1	ug/L		04/23/24 16:28	04/25/24 20:53	1
Pyridine	ND	UJ	9.6	9.6	ug/L		04/23/24 16:28	04/25/24 20:53	1
Quinoline	ND		9.6	2.3	ug/L		04/23/24 16:28	04/25/24 20:53	1
2,4,5-Trichlorophenol	ND		9.6	3.9	ug/L		04/23/24 16:28	04/25/24 20:53	1
2,4,6-Trichlorophenol	ND		9.6	3.4	ug/L		04/23/24 16:28	04/25/24 20:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	89		21 - 114	04/23/24 16:28	04/25/24 20:53	1
2-Fluorophenol	66		10 - 105	04/23/24 16:28	04/25/24 20:53	1
Nitrobenzene-d5	88		16 - 127	04/23/24 16:28	04/25/24 20:53	1
Phenol-d5	53		10 - 129	04/23/24 16:28	04/25/24 20:53	1
Terphenyl-d14	113		13 - 150	04/23/24 16:28	04/25/24 20:53	1
2,4,6-Tribromophenol	123		10 - 150	04/23/24 16:28	04/25/24 20:53	1

**Method: EPA 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	UJ	0.030	0.017	ug/L		04/19/24 15:37	04/20/24 03:02	1
1,2-Dibromoethane	ND	UJ	0.020	0.015	ug/L		04/19/24 15:37	04/20/24 03:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	67		51 - 149	04/19/24 15:37	04/20/24 03:02	1

# Definitions/Glossary

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

Job ID: 400-254493-1

## 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.

### GC/MS Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*3	ISTD response or retention time outside acceptable limits.
B	Compound was found in the blank and sample.
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

# Surrogate Summary

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

Job ID: 400-254493-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (72-130)	DBFM (75-126)	TOL (64-132)
400-254493-1	TB-ROX-041624-8260	101	104	97
400-254493-3	ROST3MW-ROX-041624	100	104	97
400-254493-4	ROST4PZC-ROX-041624	103	107	95
400-254493-5	ROST4PZC-ROX-041624-DUP	102	104	96
400-254493-6	ROST4PZE-ROX-041624	100	103	96
LCS 400-669658/1002	Lab Control Sample	100	104	99
MB 400-669658/5	Method Blank	104	104	97

### Surrogate Legend

BFB = 4-Bromofluorobenzene  
DBFM = Dibromofluoromethane  
TOL = Toluene-d8 (Surr)

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (21-114)	2FP (10-105)	NBZ (16-127)	PHL (10-129)	TPHL (13-150)	TBP (10-150)
400-254493-3	ROST3MW-ROX-041624	83	60	80	48	118	99
400-254493-4	ROST4PZC-ROX-041624	93	70	93	55	118	112
400-254493-5	ROST4PZC-ROX-041624-DUP	93	72	97	55	132	119
400-254493-6	ROST4PZE-ROX-041624	89	66	88	53	113	123
LCS 400-669053/2-A	Lab Control Sample	0.4 S1-	0 S1-	0 S1-	0 S1-	0.1 S1-	0 S1-
LCS 400-669053/4-A	Lab Control Sample	0.3 S1-	0 S1-	0 S1-	0 S1-	0 S1-	0 S1-
LCS 400-669053/3-A	Lab Control Sample Dup	0.4 S1-	0 S1-	0 S1-	0 S1-	0.07 S1-	0 S1-
LCS 400-669053/5-A	Lab Control Sample Dup	0.3 S1-	0 S1-	0 S1-	0 S1-	0 S1-	0 S1-
MB 400-669053/1-A	Method Blank	0.4 S1-	0 S1-	0 S1-	0 S1-	0 S1-	0 S1-

### Surrogate Legend

FBP = 2-Fluorobiphenyl  
2FP = 2-Fluorophenol  
NBZ = Nitrobenzene-d5  
PHL = Phenol-d5  
TPHL = Terphenyl-d14  
TBP = 2,4,6-Tribromophenol

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TPHL (18-147)	FBP (15-128)	NBZ (10-144)
400-254493-3	ROST3MW-ROX-041624	122	79	71
400-254493-3	ROST3MW-ROX-041624	205 S1+ *3	60	53
400-254493-4	ROST4PZC-ROX-041624	126	72	85
400-254493-4	ROST4PZC-ROX-041624	167 S1+	35	53
400-254493-5	ROST4PZC-ROX-041624-DUP	125	66	81
400-254493-5	ROST4PZC-ROX-041624-DUP	160 S1+	31	53
400-254493-6	ROST4PZE-ROX-041624	107	76	80
400-254493-6	ROST4PZE-ROX-041624	114	44	43

Eurofins Pensacola

# Surrogate Summary

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

Job ID: 400-254493-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TPHL (18-147)	FBP (15-128)	NBZ (10-144)
LCS 400-669053/2-A	Lab Control Sample	0.9 S1-	0.8 S1-	7 S1-
LCS 400-670063/2-A	Lab Control Sample	124	70	70
LCSD 400-669053/3-A	Lab Control Sample Dup	0.9 S1-	0.8 S1-	7 S1-
LCSD 400-670063/3-A	Lab Control Sample Dup	115	61	67
MB 400-669053/1-A	Method Blank	0.07 S1-	0.4 S1-	0.02 S1-
MB 400-670063/1-A	Method Blank	176 S1+	65	56

#### 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

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1 (51-149)
400-254493-2	TB-ROX-041624-8011	66
400-254493-3	ROST3MW-ROX-041624	67
400-254493-4	ROST4PZC-ROX-041624	68
400-254493-5	ROST4PZC-ROX-041624-DUP	64
400-254493-6	ROST4PZE-ROX-041624	67
LCS 400-668618/2-A	Lab Control Sample	124
LCSD 400-668618/3-A	Lab Control Sample Dup	71
MB 400-668618/1-A	Method Blank	81

#### Surrogate Legend

BFB = 4-Bromofluorobenzene



# Method Summary

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

Job ID: 400-254493-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET PEN
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET PEN
8270E SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	EET PEN
8011	EDB and DBCP in Water by Microextraction	EPA	EET PEN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET PEN
5030C	Purge and Trap	SW846	EET PEN
8011	Microextraction	SW846	EET 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:**

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

# Lab Chronicle

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

Job ID: 400-254493-1

**Client Sample ID: TB-ROX-041624-8260**

**Lab Sample ID: 400-254493-1**

**Date Collected: 04/16/24 00:00**

**Matrix: Water**

**Date Received: 04/17/24 09:40**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	669658	04/28/24 14:44	BPO	EET PEN

**Client Sample ID: TB-ROX-041624-8011**

**Lab Sample ID: 400-254493-2**

**Date Collected: 04/16/24 00:00**

**Matrix: Water**

**Date Received: 04/17/24 09:40**

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	668618	04/19/24 15:37	PG	EET PEN
Total/NA	Analysis	8011		1			668603	04/20/24 01:37	DS	EET PEN

**Client Sample ID: ROST3MW-ROX-041624**

**Lab Sample ID: 400-254493-3**

**Date Collected: 04/16/24 10:20**

**Matrix: Water**

**Date Received: 04/17/24 09:40**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	669658	04/28/24 15:57	BPO	EET PEN
Total/NA	Prep	3510C			255.2 mL	1 mL	669053	04/23/24 16:28	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	669375	04/25/24 19:46	VC1	EET PEN
Total/NA	Prep	3510C			255.2 mL	1 mL	669053	04/23/24 16:28	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	669472	04/26/24 16:56	JAW	EET PEN
Total/NA	Prep	3510C			255.2 mL	1 mL	669053	04/23/24 16:28	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	669713	04/29/24 12:22	JAW	EET PEN
Total/NA	Prep	3510C			256.4 mL	1 mL	670063	05/01/24 11:39	AR	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	670175	05/02/24 19:30	JAW	EET PEN
Total/NA	Prep	8011			34.9 mL	35 mL	668618	04/19/24 15:37	PG	EET PEN
Total/NA	Analysis	8011		1			668603	04/20/24 01:58	DS	EET PEN

**Client Sample ID: ROST4PZC-ROX-041624**

**Lab Sample ID: 400-254493-4**

**Date Collected: 04/16/24 12:15**

**Matrix: Water**

**Date Received: 04/17/24 09:40**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	669658	04/28/24 16:22	BPO	EET PEN
Total/NA	Prep	3510C			256.8 mL	1 mL	669053	04/23/24 16:28	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	669375	04/25/24 20:09	VC1	EET PEN
Total/NA	Prep	3510C			256.8 mL	1 mL	669053	04/23/24 16:28	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	669472	04/26/24 17:16	JAW	EET PEN
Total/NA	Prep	3510C			258.4 mL	1 mL	670063	05/01/24 11:39	AR	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	670175	05/02/24 19:51	JAW	EET PEN
Total/NA	Prep	8011			36.1 mL	35 mL	668618	04/19/24 15:37	PG	EET PEN
Total/NA	Analysis	8011		1			668603	04/20/24 02:19	DS	EET PEN

# Lab Chronicle

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

Job ID: 400-254493-1

**Client Sample ID: ROST4PZC-ROX-041624-DUP**

**Lab Sample ID: 400-254493-5**

**Date Collected: 04/16/24 12:15**

**Matrix: Water**

**Date Received: 04/17/24 09:40**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	669658	04/28/24 16:46	BPO	EET PEN
Total/NA	Prep	3510C			254.6 mL	1 mL	669053	04/23/24 16:28	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	669375	04/25/24 20:31	VC1	EET PEN
Total/NA	Prep	3510C			254.6 mL	1 mL	669053	04/23/24 16:28	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	669472	04/26/24 17:37	JAW	EET PEN
Total/NA	Prep	3510C			261.2 mL	1 mL	670063	05/01/24 11:39	AR	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	670175	05/02/24 20:12	JAW	EET PEN
Total/NA	Prep	8011			35.7 mL	35 mL	668618	04/19/24 15:37	PG	EET PEN
Total/NA	Analysis	8011		1			668603	04/20/24 02:40	DS	EET PEN

**Client Sample ID: ROST4PZE-ROX-041624**

**Lab Sample ID: 400-254493-6**

**Date Collected: 04/16/24 13:40**

**Matrix: Water**

**Date Received: 04/17/24 09:40**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	669658	04/28/24 17:10	BPO	EET PEN
Total/NA	Prep	3510C			259.2 mL	1 mL	669053	04/23/24 16:28	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	669375	04/25/24 20:53	VC1	EET PEN
Total/NA	Prep	3510C			259.2 mL	1 mL	669053	04/23/24 16:28	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	669472	04/26/24 17:57	JAW	EET PEN
Total/NA	Prep	3510C			256.2 mL	1 mL	670063	05/01/24 11:39	AR	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	670175	05/02/24 20:32	JAW	EET PEN
Total/NA	Prep	8011			34.6 mL	35 mL	668618	04/19/24 15:37	PG	EET PEN
Total/NA	Analysis	8011		1			668603	04/20/24 03:02	DS	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-668618/1-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	668618	04/19/24 13:26	PG	EET PEN
Total/NA	Analysis	8011		1			668603	04/19/24 18:32	DS	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-669053/1-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	3510C			250 mL	1 mL	669053	04/23/24 16:28	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	669375	04/25/24 17:09	VC1	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	669053	04/23/24 16:28	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	669471	04/26/24 11:14	JAW	EET PEN

# Lab Chronicle

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

Job ID: 400-254493-1

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-669658/5**

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	8260D		1	5 mL	5 mL	669658	04/28/24 11:04	BPO	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-670063/1-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	3510C			250 mL	1 mL	670063	05/01/24 11:39	AR	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	670175	05/02/24 18:29	JAW	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-668618/2-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	668618	04/19/24 13:26	PG	EET PEN
Total/NA	Analysis	8011		1			668603	04/19/24 18:54	DS	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-669053/2-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	3510C			250 mL	1 mL	669053	04/23/24 16:28	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	669375	04/25/24 17:32	VC1	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	669053	04/23/24 16:28	STC	EET PEN
Total/NA	Analysis	8270E SIM		100	0.4 mL	0.4 mL	669471	04/26/24 11:35	JAW	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-669053/4-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	3510C			250 mL	1 mL	669053	04/23/24 16:28	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	669375	04/25/24 18:17	VC1	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-669658/1002**

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	8260D		1	5 mL	5 mL	669658	04/28/24 09:58	BPO	EET PEN

# Lab Chronicle

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

Job ID: 400-254493-1

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-670063/2-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	3510C			250 mL	1 mL	670063	05/01/24 11:39	AR	EET PEN
Total/NA	Analysis	8270E SIM		100	0.4 mL	0.4 mL	670175	05/02/24 18:49	JAW	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-668618/3-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	668618	04/19/24 13:26	PG	EET PEN
Total/NA	Analysis	8011		1			668603	04/19/24 19:15	DS	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-669053/3-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	3510C			250 mL	1 mL	669053	04/23/24 16:28	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	669375	04/25/24 17:54	VC1	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	669053	04/23/24 16:28	STC	EET PEN
Total/NA	Analysis	8270E SIM		100	0.4 mL	0.4 mL	669471	04/26/24 11:55	JAW	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-669053/5-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	3510C			250 mL	1 mL	669053	04/23/24 16:28	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	669375	04/25/24 18:39	VC1	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-670063/3-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	3510C			250 mL	1 mL	670063	05/01/24 11:39	AR	EET PEN
Total/NA	Analysis	8270E SIM		100	0.4 mL	0.4 mL	670175	05/02/24 19:10	JAW	EET PEN

### Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001



# QC Association Summary

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

Job ID: 400-254493-1

## GC/MS VOA

### Analysis Batch: 669658

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254493-1	TB-ROX-041624-8260	Total/NA	Water	8260D	
400-254493-3	ROST3MW-ROX-041624	Total/NA	Water	8260D	
400-254493-4	ROST4PZC-ROX-041624	Total/NA	Water	8260D	
400-254493-5	ROST4PZC-ROX-041624-DUP	Total/NA	Water	8260D	
400-254493-6	ROST4PZE-ROX-041624	Total/NA	Water	8260D	
MB 400-669658/5	Method Blank	Total/NA	Water	8260D	
LCS 400-669658/1002	Lab Control Sample	Total/NA	Water	8260D	

## GC/MS Semi VOA

### Prep Batch: 669053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254493-3	ROST3MW-ROX-041624	Total/NA	Water	3510C	
400-254493-4	ROST4PZC-ROX-041624	Total/NA	Water	3510C	
400-254493-5	ROST4PZC-ROX-041624-DUP	Total/NA	Water	3510C	
400-254493-6	ROST4PZE-ROX-041624	Total/NA	Water	3510C	
MB 400-669053/1-A	Method Blank	Total/NA	Water	3510C	
LCS 400-669053/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 400-669053/4-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 400-669053/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
LCSD 400-669053/5-A	Lab Control Sample Dup	Total/NA	Water	3510C	

### Analysis Batch: 669375

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254493-3	ROST3MW-ROX-041624	Total/NA	Water	8270E	669053
400-254493-4	ROST4PZC-ROX-041624	Total/NA	Water	8270E	669053
400-254493-5	ROST4PZC-ROX-041624-DUP	Total/NA	Water	8270E	669053
400-254493-6	ROST4PZE-ROX-041624	Total/NA	Water	8270E	669053
MB 400-669053/1-A	Method Blank	Total/NA	Water	8270E	669053
LCS 400-669053/2-A	Lab Control Sample	Total/NA	Water	8270E	669053
LCS 400-669053/4-A	Lab Control Sample	Total/NA	Water	8270E	669053
LCSD 400-669053/3-A	Lab Control Sample Dup	Total/NA	Water	8270E	669053
LCSD 400-669053/5-A	Lab Control Sample Dup	Total/NA	Water	8270E	669053

### Analysis Batch: 669471

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-669053/1-A	Method Blank	Total/NA	Water	8270E SIM	669053
LCS 400-669053/2-A	Lab Control Sample	Total/NA	Water	8270E SIM	669053
LCSD 400-669053/3-A	Lab Control Sample Dup	Total/NA	Water	8270E SIM	669053

### Analysis Batch: 669472

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254493-3	ROST3MW-ROX-041624	Total/NA	Water	8270E SIM	669053
400-254493-4	ROST4PZC-ROX-041624	Total/NA	Water	8270E SIM	669053
400-254493-5	ROST4PZC-ROX-041624-DUP	Total/NA	Water	8270E SIM	669053
400-254493-6	ROST4PZE-ROX-041624	Total/NA	Water	8270E SIM	669053

### Analysis Batch: 669713

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254493-3	ROST3MW-ROX-041624	Total/NA	Water	8270E SIM	669053

# QC Association Summary

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

Job ID: 400-254493-1

## GC/MS Semi VOA

### Prep Batch: 670063

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254493-3	ROST3MW-ROX-041624	Total/NA	Water	3510C	
400-254493-4	ROST4PZC-ROX-041624	Total/NA	Water	3510C	
400-254493-5	ROST4PZC-ROX-041624-DUP	Total/NA	Water	3510C	
400-254493-6	ROST4PZE-ROX-041624	Total/NA	Water	3510C	
MB 400-670063/1-A	Method Blank	Total/NA	Water	3510C	
LCS 400-670063/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 400-670063/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

### Analysis Batch: 670175

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254493-3	ROST3MW-ROX-041624	Total/NA	Water	8270E SIM	670063
400-254493-4	ROST4PZC-ROX-041624	Total/NA	Water	8270E SIM	670063
400-254493-5	ROST4PZC-ROX-041624-DUP	Total/NA	Water	8270E SIM	670063
400-254493-6	ROST4PZE-ROX-041624	Total/NA	Water	8270E SIM	670063
MB 400-670063/1-A	Method Blank	Total/NA	Water	8270E SIM	670063
LCS 400-670063/2-A	Lab Control Sample	Total/NA	Water	8270E SIM	670063
LCSD 400-670063/3-A	Lab Control Sample Dup	Total/NA	Water	8270E SIM	670063

## GC Semi VOA

### Analysis Batch: 668603

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254493-2	TB-ROX-041624-8011	Total/NA	Water	8011	668618
400-254493-3	ROST3MW-ROX-041624	Total/NA	Water	8011	668618
400-254493-4	ROST4PZC-ROX-041624	Total/NA	Water	8011	668618
400-254493-5	ROST4PZC-ROX-041624-DUP	Total/NA	Water	8011	668618
400-254493-6	ROST4PZE-ROX-041624	Total/NA	Water	8011	668618
MB 400-668618/1-A	Method Blank	Total/NA	Water	8011	668618
LCS 400-668618/2-A	Lab Control Sample	Total/NA	Water	8011	668618
LCSD 400-668618/3-A	Lab Control Sample Dup	Total/NA	Water	8011	668618

### Prep Batch: 668618

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254493-2	TB-ROX-041624-8011	Total/NA	Water	8011	
400-254493-3	ROST3MW-ROX-041624	Total/NA	Water	8011	
400-254493-4	ROST4PZC-ROX-041624	Total/NA	Water	8011	
400-254493-5	ROST4PZC-ROX-041624-DUP	Total/NA	Water	8011	
400-254493-6	ROST4PZE-ROX-041624	Total/NA	Water	8011	
MB 400-668618/1-A	Method Blank	Total/NA	Water	8011	
LCS 400-668618/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 400-668618/3-A	Lab Control Sample Dup	Total/NA	Water	8011	

# QC Sample Results

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

Job ID: 400-254493-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 400-669658/5**  
**Matrix: Water**  
**Analysis Batch: 669658**

**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			04/28/24 11:04	1
Acrolein	ND		20	3.3	ug/L			04/28/24 11:04	1
Acrylonitrile	ND		10	2.8	ug/L			04/28/24 11:04	1
Benzene	ND		1.0	0.50	ug/L			04/28/24 11:04	1
Bromobenzene	ND		1.0	0.54	ug/L			04/28/24 11:04	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/28/24 11:04	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/28/24 11:04	1
Bromoform	ND		5.0	0.25	ug/L			04/28/24 11:04	1
Bromomethane	ND		1.0	0.98	ug/L			04/28/24 11:04	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/28/24 11:04	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/28/24 11:04	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/28/24 11:04	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/28/24 11:04	1
Chloroethane	ND		1.0	0.76	ug/L			04/28/24 11:04	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/28/24 11:04	1
Chloroform	ND		1.0	0.90	ug/L			04/28/24 11:04	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/28/24 11:04	1
Chloromethane	ND		1.0	0.90	ug/L			04/28/24 11:04	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/28/24 11:04	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/28/24 11:04	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/28/24 11:04	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/28/24 11:04	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/28/24 11:04	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/28/24 11:04	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/28/24 11:04	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/28/24 11:04	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/28/24 11:04	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/28/24 11:04	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/28/24 11:04	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/28/24 11:04	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/28/24 11:04	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/28/24 11:04	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/28/24 11:04	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/28/24 11:04	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/28/24 11:04	1
2-Hexanone	ND		25	1.4	ug/L			04/28/24 11:04	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/28/24 11:04	1
Methylene bromide	ND		5.0	0.22	ug/L			04/28/24 11:04	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/28/24 11:04	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/28/24 11:04	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/28/24 11:04	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/28/24 11:04	1
Naphthalene	ND		5.0	3.0	ug/L			04/28/24 11:04	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/28/24 11:04	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/28/24 11:04	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/28/24 11:04	1
o-Xylene	ND		5.0	0.60	ug/L			04/28/24 11:04	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/28/24 11:04	1

# QC Sample Results

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

Job ID: 400-254493-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-669658/5**  
**Matrix: Water**  
**Analysis Batch: 669658**

**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			04/28/24 11:04	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/28/24 11:04	1
Styrene	ND		1.0	1.0	ug/L			04/28/24 11:04	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/28/24 11:04	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/28/24 11:04	1
1,1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/28/24 11:04	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/28/24 11:04	1
Toluene	ND		1.0	0.90	ug/L			04/28/24 11:04	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/28/24 11:04	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/28/24 11:04	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/28/24 11:04	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/28/24 11:04	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/28/24 11:04	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/28/24 11:04	1
Trichloroethene	ND		1.0	0.15	ug/L			04/28/24 11:04	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/28/24 11:04	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/28/24 11:04	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/28/24 11:04	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/28/24 11:04	1
Vinyl acetate	ND		25	0.93	ug/L			04/28/24 11:04	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/28/24 11:04	1
Xylenes, Total	ND		10	1.6	ug/L			04/28/24 11:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	104		72 - 130		04/28/24 11:04	1
Dibromofluoromethane	104		75 - 126		04/28/24 11:04	1
Toluene-d8 (Surr)	97		64 - 132		04/28/24 11:04	1

**Lab Sample ID: LCS 400-669658/1002**  
**Matrix: Water**  
**Analysis Batch: 669658**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	200	231		ug/L		115	43 - 160
Acrolein	500	643		ug/L		129	38 - 160
Acrylonitrile	500	545		ug/L		109	64 - 142
Benzene	50.0	53.5		ug/L		107	70 - 130
Bromobenzene	50.0	56.3		ug/L		113	70 - 132
Bromochloromethane	50.0	57.3		ug/L		115	70 - 130
Bromodichloromethane	50.0	56.7		ug/L		113	67 - 133
Bromoform	50.0	55.1		ug/L		110	57 - 140
Bromomethane	50.0	60.7		ug/L		121	10 - 160
2-Butanone (MEK)	200	219		ug/L		110	61 - 145
Carbon disulfide	50.0	43.4		ug/L		87	61 - 137
Carbon tetrachloride	50.0	54.2		ug/L		108	61 - 137
Chlorobenzene	50.0	56.4		ug/L		113	70 - 130
Chloroethane	50.0	53.6		ug/L		107	55 - 141
2-Chloroethyl vinyl ether	50.0	55.2		ug/L		110	10 - 160

# QC Sample Results

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

Job ID: 400-254493-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-669658/1002**  
**Matrix: Water**  
**Analysis Batch: 669658**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroform	50.0	56.0		ug/L		112	69 - 130
1-Chlorohexane	50.0	53.5		ug/L		107	69 - 130
Chloromethane	50.0	48.7		ug/L		97	58 - 137
cis-1,2-Dichloroethene	50.0	51.5		ug/L		103	68 - 130
cis-1,3-Dichloropropene	50.0	57.0		ug/L		114	69 - 132
Dibromochloromethane	50.0	57.6		ug/L		115	67 - 135
1,2-Dichlorobenzene	50.0	58.3		ug/L		117	67 - 130
1,3-Dichlorobenzene	50.0	57.7		ug/L		115	70 - 130
1,4-Dichlorobenzene	50.0	57.6		ug/L		115	70 - 130
Dichlorodifluoromethane	50.0	43.6		ug/L		87	41 - 146
1,1-Dichloroethane	50.0	57.7		ug/L		115	70 - 130
1,2-Dichloroethane	50.0	54.9		ug/L		110	69 - 130
1,1-Dichloroethene	50.0	53.1		ug/L		106	63 - 134
1,2-Dichloropropane	50.0	56.4		ug/L		113	70 - 130
1,3-Dichloropropane	50.0	53.9		ug/L		108	70 - 130
2,2-Dichloropropane	50.0	54.7		ug/L		109	52 - 135
1,1-Dichloropropene	50.0	53.5		ug/L		107	70 - 130
Ethylbenzene	50.0	55.1		ug/L		110	70 - 130
Ethyl methacrylate	50.0	53.5		ug/L		107	68 - 130
Hexachlorobutadiene	50.0	54.8		ug/L		110	53 - 140
2-Hexanone	200	199		ug/L		99	65 - 137
Isopropylbenzene	50.0	56.8		ug/L		114	70 - 130
Methylene bromide	50.0	55.6		ug/L		111	70 - 130
Methylene Chloride	50.0	52.2		ug/L		104	66 - 135
4-Methyl-2-pentanone (MIBK)	200	198		ug/L		99	69 - 138
Methyl tert-butyl ether	50.0	55.2		ug/L		110	66 - 130
m-Xylene & p-Xylene	50.0	56.1		ug/L		112	70 - 130
Naphthalene	50.0	47.0		ug/L		94	47 - 149
n-Butylbenzene	50.0	59.4		ug/L		119	67 - 130
N-Propylbenzene	50.0	59.3		ug/L		119	70 - 130
o-Chlorotoluene	50.0	57.0		ug/L		114	70 - 130
o-Xylene	50.0	55.1		ug/L		110	70 - 130
p-Chlorotoluene	50.0	58.0		ug/L		116	70 - 130
p-Isopropyltoluene	50.0	60.5		ug/L		121	65 - 130
sec-Butylbenzene	50.0	59.6		ug/L		119	66 - 130
Styrene	50.0	56.7		ug/L		113	70 - 130
tert-Butylbenzene	50.0	57.0		ug/L		114	64 - 139
1,1,1,2-Tetrachloroethane	50.0	56.9		ug/L		114	67 - 131
1,1,1,2,2-Tetrachloroethane	50.0	57.1		ug/L		114	70 - 131
Tetrachloroethene	50.0	48.2		ug/L		96	65 - 130
Toluene	50.0	55.3		ug/L		111	70 - 130
trans-1,2-Dichloroethene	50.0	54.0		ug/L		108	70 - 130
trans-1,3-Dichloropropene	50.0	55.4		ug/L		111	63 - 130
1,2,3-Trichlorobenzene	50.0	53.8		ug/L		108	60 - 138
1,2,4-Trichlorobenzene	50.0	55.1		ug/L		110	60 - 140
1,1,1-Trichloroethane	50.0	55.0		ug/L		110	68 - 130
1,1,2-Trichloroethane	50.0	53.9		ug/L		108	70 - 130
Trichloroethene	50.0	55.3		ug/L		111	70 - 130
Trichlorofluoromethane	50.0	59.3		ug/L		119	65 - 138



# QC Sample Results

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

Job ID: 400-254493-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-669658/1002**  
**Matrix: Water**  
**Analysis Batch: 669658**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	50.0	55.5		ug/L		111	70 - 130
1,2,4-Trimethylbenzene	50.0	60.0		ug/L		120	70 - 130
1,3,5-Trimethylbenzene	50.0	58.9		ug/L		118	69 - 130
Vinyl acetate	100	118		ug/L		118	26 - 160
Vinyl chloride	50.0	54.4		ug/L		109	59 - 136
Xylenes, Total	100	111		ug/L		111	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	100		72 - 130
Dibromofluoromethane	104		75 - 126
Toluene-d8 (Surr)	99		64 - 132

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

**Lab Sample ID: MB 400-669053/1-A**  
**Matrix: Water**  
**Analysis Batch: 669375**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 669053**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	8.7	ug/L		04/23/24 16:28	04/25/24 17:09	1
Benzenethiol	ND		10	9.9	ug/L		04/23/24 16:28	04/25/24 17:09	1
Benzoic acid	ND		30	24	ug/L		04/23/24 16:28	04/25/24 17:09	1
Benzyl alcohol	ND		10	7.3	ug/L		04/23/24 16:28	04/25/24 17:09	1
Bis(2-chloroethoxy)methane	ND		10	4.6	ug/L		04/23/24 16:28	04/25/24 17:09	1
Bis(2-chloroethyl)ether	ND		10	3.9	ug/L		04/23/24 16:28	04/25/24 17:09	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		04/23/24 16:28	04/25/24 17:09	1
Bis(2-ethylhexyl) phthalate	ND		10	8.9	ug/L		04/23/24 16:28	04/25/24 17:09	1
4-Bromophenyl phenyl ether	ND		10	8.6	ug/L		04/23/24 16:28	04/25/24 17:09	1
Butyl benzyl phthalate	ND		10	5.8	ug/L		04/23/24 16:28	04/25/24 17:09	1
4-Chloroaniline	ND		10	4.7	ug/L		04/23/24 16:28	04/25/24 17:09	1
4-Chloro-3-methylphenol	ND		10	5.3	ug/L		04/23/24 16:28	04/25/24 17:09	1
2-Chloronaphthalene	ND		10	3.8	ug/L		04/23/24 16:28	04/25/24 17:09	1
2-Chlorophenol	ND		10	4.1	ug/L		04/23/24 16:28	04/25/24 17:09	1
4-Chlorophenyl phenyl ether	ND		10	3.7	ug/L		04/23/24 16:28	04/25/24 17:09	1
Dibenz[a,h]acridine	ND		10	2.8	ug/L		04/23/24 16:28	04/25/24 17:09	1
Dibenzofuran	ND		10	4.0	ug/L		04/23/24 16:28	04/25/24 17:09	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/23/24 16:28	04/25/24 17:09	1
2,4-Dichlorophenol	ND		10	4.3	ug/L		04/23/24 16:28	04/25/24 17:09	1
Diethyl phthalate	ND		10	4.4	ug/L		04/23/24 16:28	04/25/24 17:09	1
2,4-Dimethylphenol	ND		10	5.2	ug/L		04/23/24 16:28	04/25/24 17:09	1
Dimethyl phthalate	ND		10	4.2	ug/L		04/23/24 16:28	04/25/24 17:09	1
Di-n-butyl phthalate	ND		10	4.6	ug/L		04/23/24 16:28	04/25/24 17:09	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		04/23/24 16:28	04/25/24 17:09	1
2,4-Dinitrophenol	ND		30	4.6	ug/L		04/23/24 16:28	04/25/24 17:09	1
2,4-Dinitrotoluene	ND		10	5.1	ug/L		04/23/24 16:28	04/25/24 17:09	1
2,6-Dinitrotoluene	ND		10	3.9	ug/L		04/23/24 16:28	04/25/24 17:09	1
Di-n-octyl phthalate	ND		10	6.0	ug/L		04/23/24 16:28	04/25/24 17:09	1
1,4-Dioxane	ND		10	4.3	ug/L		04/23/24 16:28	04/25/24 17:09	1

# QC Sample Results

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

Job ID: 400-254493-1

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

**Lab Sample ID: MB 400-669053/1-A**  
**Matrix: Water**  
**Analysis Batch: 669375**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 669053**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.3	ug/L		04/23/24 16:28	04/25/24 17:09	1
Hexachlorobenzene	ND		10	9.7	ug/L		04/23/24 16:28	04/25/24 17:09	1
Hexachlorocyclopentadiene	ND		20	4.5	ug/L		04/23/24 16:28	04/25/24 17:09	1
Hexachloroethane	ND		10	5.2	ug/L		04/23/24 16:28	04/25/24 17:09	1
Indene	ND		10	3.6	ug/L		04/23/24 16:28	04/25/24 17:09	1
Isophorone	ND		10	5.2	ug/L		04/23/24 16:28	04/25/24 17:09	1
2-Methylphenol	ND		10	3.2	ug/L		04/23/24 16:28	04/25/24 17:09	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		04/23/24 16:28	04/25/24 17:09	1
2-Nitroaniline	ND		10	5.0	ug/L		04/23/24 16:28	04/25/24 17:09	1
3-Nitroaniline	ND		10	4.7	ug/L		04/23/24 16:28	04/25/24 17:09	1
4-Nitroaniline	ND		10	4.1	ug/L		04/23/24 16:28	04/25/24 17:09	1
Nitrobenzene	ND		10	4.7	ug/L		04/23/24 16:28	04/25/24 17:09	1
2-Nitrophenol	ND		10	4.6	ug/L		04/23/24 16:28	04/25/24 17:09	1
4-Nitrophenol	ND		10	3.3	ug/L		04/23/24 16:28	04/25/24 17:09	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		04/23/24 16:28	04/25/24 17:09	1
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		04/23/24 16:28	04/25/24 17:09	1
N-Nitrosodiphenylamine	ND		10	3.7	ug/L		04/23/24 16:28	04/25/24 17:09	1
Pentachlorophenol	ND		20	12	ug/L		04/23/24 16:28	04/25/24 17:09	1
Phenol	ND		10	4.2	ug/L		04/23/24 16:28	04/25/24 17:09	1
Pyridine	ND		10	10	ug/L		04/23/24 16:28	04/25/24 17:09	1
Quinoline	ND		10	2.4	ug/L		04/23/24 16:28	04/25/24 17:09	1
2,4,5-Trichlorophenol	ND		10	4.0	ug/L		04/23/24 16:28	04/25/24 17:09	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/23/24 16:28	04/25/24 17:09	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	0.4	S1-	21 - 114	04/23/24 16:28	04/25/24 17:09	1
2-Fluorophenol	0	S1-	10 - 105	04/23/24 16:28	04/25/24 17:09	1
Nitrobenzene-d5	0	S1-	16 - 127	04/23/24 16:28	04/25/24 17:09	1
Phenol-d5	0	S1-	10 - 129	04/23/24 16:28	04/25/24 17:09	1
Terphenyl-d14	0	S1-	13 - 150	04/23/24 16:28	04/25/24 17:09	1
2,4,6-Tribromophenol	0	S1-	10 - 150	04/23/24 16:28	04/25/24 17:09	1

**Lab Sample ID: LCS 400-669053/2-A**  
**Matrix: Water**  
**Analysis Batch: 669375**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669053**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aniline	120	31.3		ug/L		26	10 - 127
Benzoic acid	492	293		ug/L		60	19 - 126
Benzyl alcohol	120	84.4		ug/L		70	17 - 109
Bis(2-chloroethoxy)methane	120	78.1		ug/L		65	24 - 125
Bis(2-chloroethyl)ether	120	59.4		ug/L		50	10 - 121
bis (2-chloroisopropyl) ether	120	73.6		ug/L		61	14 - 123
Bis(2-ethylhexyl) phthalate	120	112		ug/L		93	16 - 150
4-Bromophenyl phenyl ether	120	101		ug/L		84	17 - 150
Butyl benzyl phthalate	120	110		ug/L		91	21 - 150
4-Chloroaniline	120	78.2		ug/L		65	10 - 124
4-Chloro-3-methylphenol	120	89.5		ug/L		75	37 - 131

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# QC Sample Results

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

Job ID: 400-254493-1

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

**Lab Sample ID: LCS 400-669053/2-A**  
**Matrix: Water**  
**Analysis Batch: 669375**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669053**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2-Chloronaphthalene	120	81.5		ug/L		68	24 - 132
2-Chlorophenol	120	78.3		ug/L		65	27 - 124
4-Chlorophenyl phenyl ether	120	93.3		ug/L		78	27 - 147
Dibenz[a,h]acridine	120	47.4		ug/L		40	40 - 140
Dibenzofuran	120	90.1		ug/L		75	30 - 135
3,3'-Dichlorobenzidine	240	208		ug/L		87	10 - 150
2,4-Dichlorophenol	120	83.1		ug/L		69	33 - 132
Diethyl phthalate	120	106		ug/L		88	37 - 145
2,4-Dimethylphenol	120	120		ug/L		100	38 - 132
Dimethyl phthalate	120	94.8		ug/L		79	32 - 137
Di-n-butyl phthalate	120	108		ug/L		90	27 - 150
4,6-Dinitro-ortho-cresol	240	248		ug/L		104	14 - 150
2,4-Dinitrophenol	240	396	*+	ug/L		165	15 - 150
2,4-Dinitrotoluene	120	94.0		ug/L		78	35 - 136
2,6-Dinitrotoluene	120	86.0		ug/L		72	29 - 140
Di-n-octyl phthalate	120	103		ug/L		86	26 - 150
1,4-Dioxane	120	42.8		ug/L		36	10 - 87
1,2-Diphenylhydrazine (as Azobenzene)	120	101		ug/L		84	23 - 138
Hexachlorobenzene	120	104		ug/L		87	10 - 150
Hexachlorocyclopentadiene	120	92.6		ug/L		77	10 - 124
Hexachloroethane	120	65.4		ug/L		54	10 - 127
Indene	120	75.9		ug/L		63	18 - 150
Isophorone	120	81.1		ug/L		68	28 - 127
2-Methylphenol	120	84.3		ug/L		70	34 - 124
3 & 4 Methylphenol	120	82.6		ug/L		69	32 - 122
2-Nitroaniline	120	96.7		ug/L		81	24 - 139
3-Nitroaniline	120	81.9		ug/L		68	10 - 128
4-Nitroaniline	120	89.1		ug/L		74	28 - 118
Nitrobenzene	120	78.6		ug/L		65	29 - 120
2-Nitrophenol	120	80.4		ug/L		67	25 - 148
4-Nitrophenol	240	228		ug/L		95	12 - 129
N-Nitrosodimethylamine	120	66.2		ug/L		55	10 - 115
N-Nitrosodi-n-propylamine	120	92.4		ug/L		77	24 - 142
N-Nitrosodiphenylamine	119	95.3		ug/L		80	29 - 138
Pentachlorophenol	240	210		ug/L		87	19 - 150
Phenol	120	55.2		ug/L		46	11 - 95
Pyridine	240	33.4		ug/L		14	10 - 82
Quinoline	120	28.2		ug/L		24	10 - 141
2,4,5-Trichlorophenol	120	86.5		ug/L		72	30 - 144
2,4,6-Trichlorophenol	120	82.6		ug/L		69	27 - 147

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	0.4	S1-	21 - 114
2-Fluorophenol	0	S1-	10 - 105
Nitrobenzene-d5	0	S1-	16 - 127
Phenol-d5	0	S1-	10 - 129
Terphenyl-d14	0.1	S1-	13 - 150

# QC Sample Results

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

Job ID: 400-254493-1

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

**Lab Sample ID: LCS 400-669053/2-A**  
**Matrix: Water**  
**Analysis Batch: 669375**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669053**

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol	0	S1-	10 - 150

**Lab Sample ID: LCS 400-669053/4-A**  
**Matrix: Water**  
**Analysis Batch: 669375**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669053**

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	Limits
		Result	Qualifier				
Benzenethiol	120	78.0		ug/L		65	10 - 140

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	0.3	S1-	21 - 114
2-Fluorophenol	0	S1-	10 - 105
Nitrobenzene-d5	0	S1-	16 - 127
Phenol-d5	0	S1-	10 - 129
Terphenyl-d14	0	S1-	13 - 150
2,4,6-Tribromophenol	0	S1-	10 - 150

**Lab Sample ID: LCSD 400-669053/3-A**  
**Matrix: Water**  
**Analysis Batch: 669375**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669053**

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	Limits	RPD	
		Result	Qualifier					RPD	Limit
Aniline	120	37.6		ug/L		31	10 - 127	18	40
Benzoic acid	492	323		ug/L		66	19 - 126	10	40
Benzyl alcohol	120	91.2		ug/L		76	17 - 109	8	40
Bis(2-chloroethoxy)methane	120	86.3		ug/L		72	24 - 125	10	40
Bis(2-chloroethyl)ether	120	62.5		ug/L		52	10 - 121	5	40
bis (2-chloroisopropyl) ether	120	81.7		ug/L		68	14 - 123	11	40
Bis(2-ethylhexyl) phthalate	120	124		ug/L		103	16 - 150	10	40
4-Bromophenyl phenyl ether	120	116		ug/L		97	17 - 150	14	40
Butyl benzyl phthalate	120	124		ug/L		103	21 - 150	12	40
4-Chloroaniline	120	87.9		ug/L		73	10 - 124	12	40
4-Chloro-3-methylphenol	120	101		ug/L		84	37 - 131	12	40
2-Chloronaphthalene	120	91.2		ug/L		76	24 - 132	11	40
2-Chlorophenol	120	88.3		ug/L		74	27 - 124	12	40
4-Chlorophenyl phenyl ether	120	106		ug/L		88	27 - 147	13	40
Dibenz[a,h]acridine	120	52.6		ug/L		44	40 - 140	10	40
Dibenzofuran	120	102		ug/L		85	30 - 135	12	40
3,3'-Dichlorobenzidine	240	227		ug/L		95	10 - 150	9	40
2,4-Dichlorophenol	120	94.7		ug/L		79	33 - 132	13	40
Diethyl phthalate	120	119		ug/L		99	37 - 145	12	40
2,4-Dimethylphenol	120	133		ug/L		111	38 - 132	10	40
Dimethyl phthalate	120	107		ug/L		89	32 - 137	12	40
Di-n-butyl phthalate	120	117		ug/L		98	27 - 150	8	40
4,6-Dinitro-ortho-cresol	240	288		ug/L		120	14 - 150	15	40
2,4-Dinitrophenol	240	468	*+	ug/L		195	15 - 150	17	40
2,4-Dinitrotoluene	120	105		ug/L		88	35 - 136	11	40
2,6-Dinitrotoluene	120	96.4		ug/L		80	29 - 140	11	40

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# QC Sample Results

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

Job ID: 400-254493-1

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

**Lab Sample ID: LCSD 400-669053/3-A**  
**Matrix: Water**  
**Analysis Batch: 669375**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669053**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Di-n-octyl phthalate	120	116		ug/L		96	26 - 150	11	40
1,4-Dioxane	120	46.1		ug/L		38	10 - 87	8	40
1,2-Diphenylhydrazine (as Azobenzene)	120	114		ug/L		95	23 - 138	13	40
Hexachlorobenzene	120	119		ug/L		99	10 - 150	13	40
Hexachlorocyclopentadiene	120	104		ug/L		87	10 - 124	12	40
Hexachloroethane	120	72.4		ug/L		60	10 - 127	10	40
Indene	120	84.8		ug/L		71	18 - 150	11	40
Isophorone	120	89.8		ug/L		75	28 - 127	10	40
2-Methylphenol	120	92.2		ug/L		77	34 - 124	9	40
3 & 4 Methylphenol	120	90.1		ug/L		75	32 - 122	9	40
2-Nitroaniline	120	108		ug/L		90	24 - 139	12	40
3-Nitroaniline	120	90.1		ug/L		75	10 - 128	10	40
4-Nitroaniline	120	97.4		ug/L		81	28 - 118	9	40
Nitrobenzene	120	87.2		ug/L		73	29 - 120	10	40
2-Nitrophenol	120	89.5		ug/L		75	25 - 148	11	40
4-Nitrophenol	240	241		ug/L		101	12 - 129	6	40
N-Nitrosodimethylamine	120	65.1		ug/L		54	10 - 115	2	40
N-Nitrosodi-n-propylamine	120	103		ug/L		86	24 - 142	11	40
N-Nitrosodiphenylamine	119	111		ug/L		93	29 - 138	15	40
Pentachlorophenol	240	251		ug/L		105	19 - 150	18	40
Phenol	120	56.5		ug/L		47	11 - 95	2	40
Pyridine	240	33.2		ug/L		14	10 - 82	1	40
Quinoline	120	30.9		ug/L		26	10 - 141	9	40
2,4,5-Trichlorophenol	120	97.7		ug/L		81	30 - 144	12	40
2,4,6-Trichlorophenol	120	95.3		ug/L		79	27 - 147	14	40

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
2-Fluorobiphenyl	0.4	S1-	21 - 114
2-Fluorophenol	0	S1-	10 - 105
Nitrobenzene-d5	0	S1-	16 - 127
Phenol-d5	0	S1-	10 - 129
Terphenyl-d14	0.07	S1-	13 - 150
2,4,6-Tribromophenol	0	S1-	10 - 150

**Lab Sample ID: LCSD 400-669053/5-A**  
**Matrix: Water**  
**Analysis Batch: 669375**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669053**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzenethiol	120	68.5		ug/L		57	10 - 140	13	40

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
2-Fluorobiphenyl	0.3	S1-	21 - 114
2-Fluorophenol	0	S1-	10 - 105
Nitrobenzene-d5	0	S1-	16 - 127
Phenol-d5	0	S1-	10 - 129
Terphenyl-d14	0	S1-	13 - 150



# QC Sample Results

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

Job ID: 400-254493-1

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

Lab Sample ID: LCSD 400-669053/5-A  
Matrix: Water  
Analysis Batch: 669375

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 669053

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol	0	S1-	10 - 150

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 400-669053/1-A  
Matrix: Water  
Analysis Batch: 669471

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 669053

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.099	ug/L		04/23/24 16:28	04/26/24 11:14	1
Acenaphthylene	ND		0.20	0.044	ug/L		04/23/24 16:28	04/26/24 11:14	1
Anthracene	ND		0.20	0.047	ug/L		04/23/24 16:28	04/26/24 11:14	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		04/23/24 16:28	04/26/24 11:14	1
Benzo[a]pyrene	ND		0.20	0.064	ug/L		04/23/24 16:28	04/26/24 11:14	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		04/23/24 16:28	04/26/24 11:14	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		04/23/24 16:28	04/26/24 11:14	1
Benzo[k]fluoranthene	ND		0.20	0.062	ug/L		04/23/24 16:28	04/26/24 11:14	1
Chrysene	ND		0.20	0.033	ug/L		04/23/24 16:28	04/26/24 11:14	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		04/23/24 16:28	04/26/24 11:14	1
Fluoranthene	ND		0.20	0.034	ug/L		04/23/24 16:28	04/26/24 11:14	1
Fluorene	ND		0.20	0.089	ug/L		04/23/24 16:28	04/26/24 11:14	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		04/23/24 16:28	04/26/24 11:14	1
Phenanthrene	ND		0.20	0.090	ug/L		04/23/24 16:28	04/26/24 11:14	1
Pyrene	ND		0.20	0.039	ug/L		04/23/24 16:28	04/26/24 11:14	1
1-Methylnaphthalene	ND		0.20	0.080	ug/L		04/23/24 16:28	04/26/24 11:14	1
2-Methylnaphthalene	0.0793	J	0.20	0.066	ug/L		04/23/24 16:28	04/26/24 11:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	0.07	S1-	18 - 147	04/23/24 16:28	04/26/24 11:14	1
2-Fluorobiphenyl	0.4	S1-	15 - 128	04/23/24 16:28	04/26/24 11:14	1
Nitrobenzene-d5	0.02	S1-	10 - 144	04/23/24 16:28	04/26/24 11:14	1

Lab Sample ID: LCS 400-669053/2-A  
Matrix: Water  
Analysis Batch: 669471

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 669053

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	120	85.6		ug/L		71	10 - 140
Acenaphthylene	120	83.4		ug/L		70	10 - 140
Anthracene	120	87.0		ug/L		72	19 - 140
Benzo[a]anthracene	120	86.8		ug/L		72	25 - 140
Benzo[a]pyrene	120	88.1		ug/L		73	24 - 140
Benzo[b]fluoranthene	120	92.1		ug/L		77	34 - 140
Benzo[g,h,i]perylene	120	91.3		ug/L		76	13 - 140
Benzo[k]fluoranthene	120	93.2		ug/L		78	21 - 140
Chrysene	120	92.4		ug/L		77	28 - 140
Dibenz(a,h)anthracene	120	82.7		ug/L		69	10 - 140
Fluoranthene	120	90.4		ug/L		75	18 - 140

# QC Sample Results

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

Job ID: 400-254493-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: LCS 400-669053/2-A**  
**Matrix: Water**  
**Analysis Batch: 669471**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669053**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluorene	120	97.4		ug/L		81	16 - 140
Indeno[1,2,3-cd]pyrene	120	76.6		ug/L		64	10 - 140
Phenanthrene	120	93.4		ug/L		78	22 - 140
Pyrene	120	92.6		ug/L		77	38 - 140
1-Methylnaphthalene	120	77.2		ug/L		64	10 - 140
2-Methylnaphthalene	120	74.3		ug/L		62	10 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	0.9	S1-	18 - 147
2-Fluorobiphenyl	0.8	S1-	15 - 128
Nitrobenzene-d5	7	S1-	10 - 144

**Lab Sample ID: LCSD 400-669053/3-A**  
**Matrix: Water**  
**Analysis Batch: 669471**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669053**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Acenaphthene	120	91.4		ug/L		76	10 - 140	7	40
Acenaphthylene	120	86.4		ug/L		72	10 - 140	4	40
Anthracene	120	89.4		ug/L		75	19 - 140	3	40
Benzo[a]anthracene	120	91.4		ug/L		76	25 - 140	5	40
Benzo[a]pyrene	120	95.1		ug/L		79	24 - 140	8	40
Benzo[b]fluoranthene	120	96.9		ug/L		81	34 - 140	5	40
Benzo[g,h,i]perylene	120	104		ug/L		86	13 - 140	13	40
Benzo[k]fluoranthene	120	97.9		ug/L		82	21 - 140	5	40
Chrysene	120	101		ug/L		84	28 - 140	9	40
Dibenz(a,h)anthracene	120	90.1		ug/L		75	10 - 140	9	40
Fluoranthene	120	94.1		ug/L		78	18 - 140	4	40
Fluorene	120	102		ug/L		85	16 - 140	4	40
Indeno[1,2,3-cd]pyrene	120	83.9		ug/L		70	10 - 140	9	40
Phenanthrene	120	97.9		ug/L		82	22 - 140	5	40
Pyrene	120	94.6		ug/L		79	38 - 140	2	40
1-Methylnaphthalene	120	77.9		ug/L		65	10 - 140	1	40
2-Methylnaphthalene	120	74.3		ug/L		62	10 - 140	0	40

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Terphenyl-d14	0.9	S1-	18 - 147
2-Fluorobiphenyl	0.8	S1-	15 - 128
Nitrobenzene-d5	7	S1-	10 - 144

**Lab Sample ID: MB 400-670063/1-A**  
**Matrix: Water**  
**Analysis Batch: 670175**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 670063**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.099	ug/L		05/01/24 11:39	05/02/24 18:29	1
Acenaphthylene	0.0647	J	0.20	0.044	ug/L		05/01/24 11:39	05/02/24 18:29	1
Anthracene	0.0788	J	0.20	0.047	ug/L		05/01/24 11:39	05/02/24 18:29	1

Eurofins Pensacola

# QC Sample Results

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

Job ID: 400-254493-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: MB 400-670063/1-A**  
**Matrix: Water**  
**Analysis Batch: 670175**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 670063**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzo[a]anthracene	ND		0.20	0.034	ug/L		05/01/24 11:39	05/02/24 18:29	1
Benzo[a]pyrene	ND		0.20	0.064	ug/L		05/01/24 11:39	05/02/24 18:29	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		05/01/24 11:39	05/02/24 18:29	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		05/01/24 11:39	05/02/24 18:29	1
Benzo[k]fluoranthene	ND		0.20	0.062	ug/L		05/01/24 11:39	05/02/24 18:29	1
Chrysene	ND		0.20	0.033	ug/L		05/01/24 11:39	05/02/24 18:29	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		05/01/24 11:39	05/02/24 18:29	1
Fluoranthene	0.0428	J	0.20	0.034	ug/L		05/01/24 11:39	05/02/24 18:29	1
Fluorene	0.0949	J	0.20	0.089	ug/L		05/01/24 11:39	05/02/24 18:29	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		05/01/24 11:39	05/02/24 18:29	1
Phenanthrene	ND		0.20	0.090	ug/L		05/01/24 11:39	05/02/24 18:29	1
Pyrene	0.0390	J	0.20	0.039	ug/L		05/01/24 11:39	05/02/24 18:29	1
1-Methylnaphthalene	0.138	J	0.20	0.080	ug/L		05/01/24 11:39	05/02/24 18:29	1
2-Methylnaphthalene	0.202		0.20	0.066	ug/L		05/01/24 11:39	05/02/24 18:29	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Terphenyl-d14	176	S1+	18 - 147	05/01/24 11:39	05/02/24 18:29	1
2-Fluorobiphenyl	65		15 - 128	05/01/24 11:39	05/02/24 18:29	1
Nitrobenzene-d5	56		10 - 144	05/01/24 11:39	05/02/24 18:29	1

**Lab Sample ID: LCS 400-670063/2-A**  
**Matrix: Water**  
**Analysis Batch: 670175**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 670063**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Acenaphthylene	120	89.7		ug/L		75	10 - 140
Anthracene	120	107		ug/L		89	19 - 140
Benzo[a]anthracene	120	116		ug/L		96	25 - 140
Benzo[a]pyrene	120	98.0		ug/L		82	24 - 140
Benzo[b]fluoranthene	120	114		ug/L		95	34 - 140
Benzo[g,h,i]perylene	120	95.3		ug/L		79	13 - 140
Benzo[k]fluoranthene	120	93.9		ug/L		78	21 - 140
Chrysene	120	110		ug/L		91	28 - 140
Dibenz(a,h)anthracene	120	106		ug/L		89	10 - 140
Fluoranthene	120	99.0		ug/L		82	18 - 140
Fluorene	120	90.3		ug/L		75	16 - 140
Indeno[1,2,3-cd]pyrene	120	99.6		ug/L		83	10 - 140
Phenanthrene	120	96.7		ug/L		81	22 - 140
Pyrene	120	151		ug/L		125	38 - 140
1-Methylnaphthalene	120	71.4		ug/L		59	10 - 140
2-Methylnaphthalene	120	70.9		ug/L		59	10 - 140

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
Terphenyl-d14	124		18 - 147
2-Fluorobiphenyl	70		15 - 128
Nitrobenzene-d5	70		10 - 144

# QC Sample Results

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

Job ID: 400-254493-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: LCSD 400-670063/3-A**  
**Matrix: Water**  
**Analysis Batch: 670175**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 670063**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Acenaphthene	120	79.6		ug/L		66	10 - 140	11	40	
Acenaphthylene	120	78.3		ug/L		65	10 - 140	14	40	
Anthracene	120	97.5		ug/L		81	19 - 140	9	40	
Benzo[a]anthracene	120	106		ug/L		88	25 - 140	9	40	
Benzo[a]pyrene	120	79.8		ug/L		66	24 - 140	20	40	
Benzo[b]fluoranthene	120	95.6		ug/L		80	34 - 140	17	40	
Benzo[g,h,i]perylene	120	85.0		ug/L		71	13 - 140	11	40	
Benzo[k]fluoranthene	120	81.2		ug/L		68	21 - 140	14	40	
Chrysene	120	97.6		ug/L		81	28 - 140	12	40	
Dibenz(a,h)anthracene	120	92.0		ug/L		77	10 - 140	15	40	
Fluoranthene	120	87.2		ug/L		73	18 - 140	13	40	
Fluorene	120	82.8		ug/L		69	16 - 140	9	40	
Indeno[1,2,3-cd]pyrene	120	88.8		ug/L		74	10 - 140	12	40	
Phenanthrene	120	89.5		ug/L		75	22 - 140	8	40	
Pyrene	120	144		ug/L		120	38 - 140	4	40	
1-Methylnaphthalene	120	67.3		ug/L		56	10 - 140	6	40	
2-Methylnaphthalene	120	66.9		ug/L		56	10 - 140	6	40	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
Terphenyl-d14	115		18 - 147
2-Fluorobiphenyl	61		15 - 128
Nitrobenzene-d5	67		10 - 144

## Method: 8011 - EDB and DBCP in Water by Microextraction

**Lab Sample ID: MB 400-668618/1-A**  
**Matrix: Water**  
**Analysis Batch: 668603**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 668618**

Analyte	MB MB		RL	MDL	Unit	D	Prepared		Analyzed		Dil Fac
	Result	Qualifier									
1,2-Dibromo-3-Chloropropane	ND		0.030	0.017	ug/L		04/19/24 13:26	04/19/24 18:32			1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		04/19/24 13:26	04/19/24 18:32			1

Surrogate	MB MB		Limits	Prepared		Analyzed		Dil Fac
	%Recovery	Qualifier						
4-Bromofluorobenzene	81		51 - 149	04/19/24 13:26	04/19/24 18:32			1

**Lab Sample ID: LCS 400-668618/2-A**  
**Matrix: Water**  
**Analysis Batch: 668603**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 668618**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec		Limit
							Limits	RPD	
1,2-Dibromo-3-Chloropropane	0.101	0.0880		ug/L		87	60 - 140		
1,2-Dibromoethane	0.100	0.0915		ug/L		91	60 - 140		

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	124		51 - 149

# QC Sample Results

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

Job ID: 400-254493-1

## Method: 8011 - EDB and DBCP in Water by Microextraction (Continued)

**Lab Sample ID: LCSD 400-668618/3-A**  
**Matrix: Water**  
**Analysis Batch: 668603**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 668618**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dibromo-3-Chloropropane	0.101	0.0997		ug/L		99	60 - 140	12	30
1,2-Dibromoethane	0.100	0.0982		ug/L		98	60 - 140	9	30
<b>LCSD LCSD</b>									
Surrogate	%Recovery	Qualifier	Limits						
4-Bromofluorobenzene	71		51 - 149						

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15



ACQUITTE ( )  
 CALSCIENCE ( )  
 TESTAMERICA (TestAmerica Pensacola; 3355 McLamore Dr. Pensacola, FL 32514 (850-474-1001))  
 Other ( )

SGW FDG  
 CHEMICALS  
 TRANSPORTATION  
 PIPELINE  
 CONSULTANT  
 OTHER\_ENV\_SERVICES

CHECK IF NO INCIDENT # APPLIES  
 DATE: 4/16/2024  
 PAGE: 1 of 1

Print Bill To Contact Name: Melissa Remiger  
 PlanNet Site or Project ID: 25278  
 PO #: 60697537 - 3.4.2  
 GSAP Project ID: USPC/00114/R/02

SAMPLING COMPANY: AECOM  
 ADDRESS: 100 N. Broadway, 20th Floor, ST. LOUIS, MO 63102, USA  
 PROJECT CONTACT (Hierarchy or PDF Report to): Melissa Remiger, Mary Massa, Brett Howell  
 TELEPHONE: 314-429-0100 FAX: 314-429-0462  
 BILL TO CONTACT E-MAIL: melissa.remiger@aecom.com

SITE ADDRESS: Street and City: 900 South Central Ave; ROXANA, IL  
 PHONE NO.: 314-802-1207  
 E-MAIL: melissa.remiger@aecom.com  
 AECOM Project / Task Number: Roxana Quarterly GW 60697537 - 3.4.2  
 AECOM Other ID:

LAB USE ONLY  
 SAMPLER NAME(S) (Print): E. CHALFANT; T. JENKINS

TURNAROUND TIME (CALENDAR DAYS):  
 5 DAYS  
 3 DAYS  
 2 DAYS  
 24 HOURS  
 WEEKEND

LA - RWQCB REPORT FORMAT  
 LEVEL 1  
 LEVEL 2  
 LEVEL 3  
 LEVEL 4  
 OTHER (SPECIFY) EDD

DELIVERABLES: Cooler #1  
 TEMPERATURE ON RECEIPT °C: 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

Email reports to: melissa.remiger@aecom.com;  
 mary.mass@aecocom.com; brett.howell@aecom.com

Please include "J" values on Reports.  
 Please provide sample receipt upon login.  
 Please send Equis EDDs to EDDSubmissions@aecomshell.com; Vlad.Virjan@aecom.com

LAB USE ONLY	Field Sample Identification		SAMPLING			PRESERVATIVE			NO. OF CONT.
	DATE	TIME	MATRIX	HCL	H2SO4	NONE	OTHER		
	TB-ROX-041624	0000	Water	2				2	
	TB-ROX-041624	0000	Water	2				2	
	ROST3MW-ROX-041624	1020	Water	6		2		8	
	ROST4PZC-ROX-041624	1215	Water	6		2		8	
	ROST4PZC-ROX-041624-DUP	1215	Water	6		2		8	
	ROST4PZE-ROX-041624	1340	Water	6		2		8	
	EDC 5/16/24 Received by: (Signature)								

REQUESTED ANALYSIS: 60697537 - 3.4.2  
 RESULTS NEEDED ON: PAH 8270 SIMS  
 VOC 8260  
 SVOC 8270  
 8011 EDB + DBCP  
 400-254493.COC

TEMPERATURE ON RECEIPT °C:  
 Container PID Readings or Laboratory Notes:

RECEIVED BY: (Signature) E. CHALFANT  
 RECEIVED BY: (Signature)  
 RECEIVED BY: (Signature)

Date: 4/16/2024 Time: 1600  
 Date: 4/17/24 Time: 940  
 Date:

## Leah Klingensmith

---

**From:** Massa, Mary <Mary.Massa@aecom.com>  
**Sent:** Tuesday, April 16, 2024 3:05 PM  
**To:** Leah Klingensmith; Lisa Monroe; Trina Perez  
**Cc:** Remiger, Melissa; Pennington, Wendy  
**Subject:** #60721927-3.2.2 Roxana (2Q24) Quarterly Groundwater - samples arriving tomorrow (Wednesday) in Pensacola  
**Attachments:** 2Q24 Roxana GW COC\_041624.pdf

**CAUTION: EXTERNAL EMAIL** - Sent from an email domain that is not formally trusted by Eurofins.

Do not click on links or open attachments unless you recognise the sender and are certain that the content is safe.

Hi Leah,

Please see the attached COC for # 60721927-3.2.2 Roxana (2Q24) Quarterly Groundwater - samples arriving tomorrow (Wednesday) in Pensacola and let the group know of any questions or concerns.

**Note:**

- **The in cooler COC has the -8011 and -8260 missing from the trip blank sample IDs, as well as the incorrect project / task #s. The attached COC is the corrected version.**

Thank you,

**Mary Massa (D'Angelo), RG (MO)**

Geologist, US West Environment

M +1 (314) 795-7580

[mary.massa@aecom.com](mailto:mary.massa@aecom.com)

**AECOM**

100 N. Broadway

20<sup>th</sup> Floor

St. Louis, MO, 63102, US

T +1 (314) 429-0100

[aecom.com](http://aecom.com)

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LAB (LOCATION)

ACCOUNT ( )  
 CALSCIENCE ( )  
 TESTAMERICA (TestAmerica Pensacola: 3555 McLemore Dr, Pensacola, FL 32514 (850-474-1001))  
 Other ( )

SCW FDG  
 PIPELINE  
 CHEMICALS  
 CONSULTANT  
 TRANSPORTATION  
 OTHER - ENV. SERVICES

CHECK IF NO INCIDENT # APPLIES  
 DATE: 4/16/2024  
 PAGE: 1 of 1

**Print Bill To Contact Name:** Melissa Remiger  
**PlanNet Site or Project ID:** 25278  
**PO #:** 60721927 - 3.2.2  
**USPC/00114/R/02**

**Print Bill To Contact Name:** Melissa Remiger  
**State:** IL  
**PHONE NO.:** 314-902-1207  
**E-WALL:** melissa.remiger@aecom.com

**LOG CODE:**  
**LOG CODE:**

**ADDRESS:** 100 N. Broadway, 20th Floor, ST. LOUIS, MO 63102, USA  
**PROJECT CONTACT (Hardcopy or PDF Report to):** Melissa Remiger, Mary Massa, Brett Howell  
**TELEPHONE:** 314-429-0100  
**FAX:** 314-429-0462  
**Bill To Contact E-MAIL:** melissa.remiger@aecom.com

15 DAYS  
 24 HOURS  
 WEEKEND  
 LA - RWQCB REPORT FORMAT

**DELIVERABLES:**  LEVEL 1  LEVEL 2  LEVEL 3  LEVEL 4  
**TEMPERATURE ON RECEIPT C°:**  Cooler #1  Cooler #2  Cooler #3

**SPECIAL INSTRUCTIONS OR NOTES:**

Email reports to: melissa.remiger@aecom.com;  
 mary.mass@aecom.com; brett.howell@aecom.com;  
 \* Please include "J" values on Reports.  
 \* Please provide sample receipt upon login.  
 \* Please send Equis EDDs to EDDSubmissions@aecomshell.com; Vlad.Virjan@aecom.com

Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE				NO. OF CONT.
	DATE	TIME		HCL	HNO3	H2SO4	NONE	
VB TB-ROX-041624-8260	4/16/2024	0000	Water	2				2
VB TB-ROX-041624-8011	4/16/2024	0000	Water	2				2
VB ROST3MM-ROX-041624	4/16/2024	1020	Water	6			2	8
VB ROST4PZC-ROX-041624	4/16/2024	1215	Water	6			2	8
VB ROST4PZC-ROX-041624-DUP	4/16/2024	1215	Water	6			2	8
VB ROST4PZE-ROX-041624	4/16/2024	1340	Water	6			2	8

Relinquished by: (Signature) *[Signature]*  
 Received by: (Signature)

**ELLIS CHALFANT**  
 Relinquished by: (Signature)

**FEDEX:** 7252 0540 5025 ; 7252 0540 5036  
 Received by: (Signature)

Relinquished by: (Signature)

Received by: (Signature)

**REQUESTED ANALYSIS:** 60721927 - 3.2.2  
**FIELD NOTES:**  
**TEMPERATURE ON RECEIPT C°:**  
**Container PID Readings or Laboratory Notes:**



# Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-254493-1

**Login Number: 254493**

**List Source: Eurofins Pensacola**

**List Number: 1**

**Creator: Perez, Trina M**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> 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, 0.1°C IR-11
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

Job ID: 400-254493-1

## Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-24
Kansas	NELAP	E-10253	10-31-24
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-24
North Carolina (WW/SW)	State	314	12-31-24
Oklahoma	NELAP	9810	08-31-24
Pennsylvania	NELAP	68-00467	01-31-25
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-24
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	P330-21-00056	05-17-24
USDA	US Federal Programs	FLGNV23001	01-08-26
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-25



# Roxana Groundwater Quarterly – 2<sup>nd</sup> Quarter 2024 Data Review

Laboratory SDG: 400-254504-1

Data Reviewer: Adelina Gita

Peer Reviewer: Cheyana Cokley

Date Reviewed: 05/16/2024

Guidance: USEPA National Functional Guidelines for Organic Superfund Methods Data Review 2020

Sample Identification	Sample Identification
TB-ROX-041524-8260	TB-ROX-041524-8011
MW13-ROX-041524	P114R-ROX-041524
MW9-ROX-041524	-

## 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 PAHs were detected in method blank MB 400-668738/1-A. SVOC and VOC MS/MSD recoveries and/or VOC MS/MSD RPDs, were outside evaluation criteria. The continuing calibration verifications (CCV) for several analytes were outside evaluation criteria, biased low. These issues are addressed further in the appropriate sections of this data review.

Three of 70 (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?*

Yes

Blank ID	Parameter	Analyte	Concentration /Amount
MB 400-668738/1-A	PAHs	Benzo[b]fluoranthene	0.0597 ug/L
MB 400-668738/1-A	PAHs	Benzo[g,h,i]perylene	0.0460 ug/L
MB 400-668738/1-A	PAHs	Benzo[k]fluoranthene	0.0819 ug/L
MB 400-668738/1-A	PAHs	Chrysene	0.0534 ug/L

Blank ID	Parameter	Analyte	Concentration /Amount
MB 400-668738/1-A	PAHs	Indeno[1,2,3-cd]pyrene	0.0441 ug/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?*

Yes, sample MW9-ROX-041524 was spiked and duplicated for VOCs, SVOCs, PAHs, and VOCs by 8011.

*Were MS/MSD recoveries within evaluation criteria?*

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
MW9-ROX-041524 MS/MSD	VOCs	2-Chloroethyl vinyl ether	6/0	NC	10-150/50
MW9-ROX-041524 MS/MSD	SVOCs	Aniline	36/44	20	50-150/40
MW9-ROX-041524 MS/MSD	SVOCs	Benzoic acid	49/54	12	50-150/40
MW9-ROX-041524 MS/MSD	SVOCs	1,4-Dioxane	15/15	3	50-150/40
MW9-ROX-041524 MS/MSD	SVOCs	Pyridine	30/42	36	50-150/40

Analytical data that required qualification based on MS/MSD data are included in the table below. Professional judgement was used to qualify; however, not reject the data associated with 2-chloroethyl vinyl ether due to acceptable LCS recoveries and to the acid reactive nature of 2-chloroethyl vinyl ether.

Sample ID	Parameter	Analyte	Qualification
MW9-ROX-041524	VOCs	2-Chloroethyl vinyl ether	UJ
MW9-ROX-041524	SVOCs	Aniline	UJ
MW9-ROX-041524	SVOCs	Benzoic acid	UJ
MW9-ROX-041524	SVOCs	1,4-Dioxane	UJ

Sample ID	Parameter	Analyte	Qualification
MW9-ROX-041524	SVOCs	Pyridine	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?*

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 verification (CCV) for vinyl chloride, chloromethane, 2,6-dinitrotoluene, aniline, 2,4,5-trichlorophenol, and pyridine were outside evaluation criteria, biased low. Pyridine and aniline in sample MW9-ROX-041524 were previously qualified in section 7.0 of this data review, due to matrix spike and matrix spike duplicate recoveries outside evaluation criteria; no further qualification is required. Analytes are qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
MW9-ROX-041524	VOCs	Chloromethane	UJ
MW13-ROX-041524	VOCs	Chloromethane	UJ
P114R-ROX-041524	VOCs	Chloromethane	UJ
MW9-ROX-041524	VOCs	Vinyl chloride	UJ
MW13-ROX-041524	VOCs	Vinyl chloride	UJ
P114R-ROX-041524	VOCs	Vinyl chloride	UJ
MW9-ROX-041524	SVOCs	2,6-Dinitrotoluene	UJ
MW13-ROX-041524	SVOCs	2,6-Dinitrotoluene	UJ
P114R-ROX-041524	SVOCs	2,6-Dinitrotoluene	UJ
MW13-ROX-041524	SVOCs	Aniline	UJ
P114R-ROX-041524	SVOCs	Aniline	UJ
MW9-ROX-041524	SVOCs	2,4,5-Trichlorophenol	UJ
MW13-ROX-041524	SVOCs	2,4,5-Trichlorophenol	UJ
P114R-ROX-041524	SVOCs	2,4,5-Trichlorophenol	UJ
MW13-ROX-041524	SVOCs	Pyridine	UJ
P114R-ROX-041524	SVOCs	Pyridine	UJ



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Melissa Remiger  
AECOM Technical Services Inc.  
100 N. Broadway  
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St. Louis, Missouri 63102

Generated 4/29/2024 3:38:15 PM

## JOB DESCRIPTION

ROXANA QUARTERLY GW

## JOB NUMBER

400-254504-1

Reviewed 05/16/2024  
AG

# Eurofins Pensacola

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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## Authorization



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# Case Narrative

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

Job ID: 400-254504-1

**Job ID: 400-254504-1**

**Eurofins Pensacola**

## Job Narrative 400-254504-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 4/17/2024 9:40 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.0°C and 2.9°C.

### GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-669455 recovered outside acceptance criteria, low biased, for Chloromethane and Vinyl chloride. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-669455 were outside control limits for 2-Chloroethyl vinyl ether due to the acidic nature of the parent sample.

Method 8260D: The RPD for the matrix spike / matrix spike duplicate (MS/MSD) for 2-Chloroethyl vinyl ether was not calculable for analytical batch 400-669455 because the recoveries were below the reporting limit due to the acidic nature of the parent sample.

Method 8260D: 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-041524-8260 (400-254504-1), MW13-ROX-041524 (400-254504-3), P114R-ROX-041524 (400-254504-4) and MW9-ROX-041524 (400-254504-5). The requested target analyte list includes 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 8270E: The continuing calibration verification (CCV) associated with batch 400-668876 recovered outside acceptance criteria, low biased, for 2,6-Dinitrotoluene, Aniline, 2,4,5-Trichlorophenol and Pyridine. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8270E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-668738 and analytical batch 400-668876 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8270E\_SIM: The continuing calibration verification (CCV) associated with batch 400-668890 recovered above the upper control limit for Dibenz(a,h)anthracene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8270E\_SIM: The method blank for preparation batch 400-668738 and analytical batch 400-668890 contained Benzo[b]fluoranthene, Benzo[g,h,i]perylene, Benzo[k]fluoranthene, Chrysene and Indeno[1,2,3-cd]pyrene above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; 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.

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# Case Narrative

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

Job ID: 400-254504-1

**Job ID: 400-254504-1 (Continued)**

**Eurofins Pensacola**

## GC Semi VOA

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

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# Sample Summary

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

Job ID: 400-254504-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-254504-1	TB-ROX-041524-8260	Water	04/15/24 00:00	04/17/24 09:40
400-254504-2	TB-ROX-041524-8011	Water	04/15/24 00:00	04/17/24 09:40
400-254504-3	MW13-ROX-041524	Water	04/15/24 11:25	04/17/24 09:40
400-254504-4	P114R-ROX-041524	Water	04/15/24 12:25	04/17/24 09:40
400-254504-5	MW9-ROX-041524	Water	04/15/24 13:40	04/17/24 09:40

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# Detection Summary

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

Job ID: 400-254504-1

## Client Sample ID: TB-ROX-041524-8260

Lab Sample ID: 400-254504-1

No Detections.

## Client Sample ID: TB-ROX-041524-8011

Lab Sample ID: 400-254504-2

No Detections.

## Client Sample ID: MW13-ROX-041524

Lab Sample ID: 400-254504-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	0.70	J	1.0	0.22	ug/L	1		8260D	Total/NA
Acenaphthene	0.15	J	0.20	0.097	ug/L	1		8270E SIM	Total/NA
Acenaphthylene	0.076	J	0.20	0.043	ug/L	1		8270E SIM	Total/NA
Dibenz[a,h]acridine	3.9	J	9.8	2.7	ug/L	1		8270E	Total/NA

## Client Sample ID: P114R-ROX-041524

Lab Sample ID: 400-254504-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	2.1		1.0	0.50	ug/L	1		8260D	Total/NA
Methyl tert-butyl ether	0.66	J	1.0	0.22	ug/L	1		8260D	Total/NA
Acenaphthene	0.22		0.20	0.098	ug/L	1		8270E SIM	Total/NA
Acenaphthylene	0.064	J	0.20	0.043	ug/L	1		8270E SIM	Total/NA
Dibenz[a,h]acridine	3.8	J	9.9	2.8	ug/L	1		8270E	Total/NA

## Client Sample ID: MW9-ROX-041524

Lab Sample ID: 400-254504-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Dibenz[a,h]acridine	3.8	J	9.8	2.7	ug/L	1		8270E	Total/NA

This Detection Summary does not include radiochemical test results.



# Client Sample Results

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

Job ID: 400-254504-1

**Client Sample ID: TB-ROX-041524-8260**

**Lab Sample ID: 400-254504-1**

**Date Collected: 04/15/24 00:00**

**Matrix: Water**

**Date Received: 04/17/24 09:40**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/26/24 15:57	1
Acrolein	ND		20	3.3	ug/L			04/26/24 15:57	1
Acrylonitrile	ND		10	2.8	ug/L			04/26/24 15:57	1
Benzene	ND		1.0	0.50	ug/L			04/26/24 15:57	1
Bromobenzene	ND		1.0	0.54	ug/L			04/26/24 15:57	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/26/24 15:57	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/26/24 15:57	1
Bromoform	ND		5.0	0.25	ug/L			04/26/24 15:57	1
Bromomethane	ND		1.0	0.98	ug/L			04/26/24 15:57	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/26/24 15:57	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/26/24 15:57	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/26/24 15:57	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/26/24 15:57	1
Chloroethane	ND		1.0	0.76	ug/L			04/26/24 15:57	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/26/24 15:57	1
Chloroform	ND		1.0	0.90	ug/L			04/26/24 15:57	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/26/24 15:57	1
Chloromethane	ND		1.0	0.90	ug/L			04/26/24 15:57	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/26/24 15:57	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/26/24 15:57	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/26/24 15:57	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/26/24 15:57	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/26/24 15:57	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/26/24 15:57	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/26/24 15:57	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/26/24 15:57	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/26/24 15:57	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/26/24 15:57	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/26/24 15:57	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/26/24 15:57	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/26/24 15:57	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/26/24 15:57	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/26/24 15:57	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/26/24 15:57	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/26/24 15:57	1
2-Hexanone	ND		25	1.4	ug/L			04/26/24 15:57	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/26/24 15:57	1
Methylene bromide	ND		5.0	0.22	ug/L			04/26/24 15:57	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/26/24 15:57	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/26/24 15:57	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/26/24 15:57	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/26/24 15:57	1
Naphthalene	ND		5.0	3.0	ug/L			04/26/24 15:57	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/26/24 15:57	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/26/24 15:57	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/26/24 15:57	1
o-Xylene	ND		5.0	0.60	ug/L			04/26/24 15:57	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/26/24 15:57	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/26/24 15:57	1

# Client Sample Results

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

Job ID: 400-254504-1

**Client Sample ID: TB-ROX-041524-8260**

**Lab Sample ID: 400-254504-1**

**Date Collected: 04/15/24 00:00**

**Matrix: Water**

**Date Received: 04/17/24 09:40**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/26/24 15:57	1
Styrene	ND		1.0	1.0	ug/L			04/26/24 15:57	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/26/24 15:57	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/26/24 15:57	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/26/24 15:57	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/26/24 15:57	1
Toluene	ND		1.0	0.90	ug/L			04/26/24 15:57	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/26/24 15:57	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/26/24 15:57	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/26/24 15:57	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/26/24 15:57	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/26/24 15:57	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/26/24 15:57	1
Trichloroethene	ND		1.0	0.15	ug/L			04/26/24 15:57	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/26/24 15:57	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/26/24 15:57	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/26/24 15:57	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/26/24 15:57	1
Vinyl acetate	ND		25	0.93	ug/L			04/26/24 15:57	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/26/24 15:57	1
Xylenes, Total	ND		10	1.6	ug/L			04/26/24 15:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	100		72 - 130		04/26/24 15:57	1
Dibromofluoromethane	104		75 - 126		04/26/24 15:57	1
Toluene-d8 (Surr)	98		64 - 132		04/26/24 15:57	1

# Client Sample Results

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

Job ID: 400-254504-1

**Client Sample ID: TB-ROX-041524-8011**

**Lab Sample ID: 400-254504-2**

**Date Collected: 04/15/24 00:00**

**Matrix: Water**

**Date Received: 04/17/24 09:40**

**Method: EPA 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	0.018	ug/L		04/23/24 09:56	04/23/24 17:05	1
1,2-Dibromoethane	ND		0.021	0.016	ug/L		04/23/24 09:56	04/23/24 17:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	87		51 - 149				04/23/24 09:56	04/23/24 17:05	1

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# Client Sample Results

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

Job ID: 400-254504-1

**Client Sample ID: MW13-ROX-041524**

**Lab Sample ID: 400-254504-3**

Date Collected: 04/15/24 11:25

Matrix: Water

Date Received: 04/17/24 09:40

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/26/24 16:21	1
Acrolein	ND		20	3.3	ug/L			04/26/24 16:21	1
Acrylonitrile	ND		10	2.8	ug/L			04/26/24 16:21	1
Benzene	ND		1.0	0.50	ug/L			04/26/24 16:21	1
Bromobenzene	ND		1.0	0.54	ug/L			04/26/24 16:21	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/26/24 16:21	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/26/24 16:21	1
Bromoform	ND		5.0	0.25	ug/L			04/26/24 16:21	1
Bromomethane	ND		1.0	0.98	ug/L			04/26/24 16:21	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/26/24 16:21	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/26/24 16:21	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/26/24 16:21	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/26/24 16:21	1
Chloroethane	ND		1.0	0.76	ug/L			04/26/24 16:21	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/26/24 16:21	1
Chloroform	ND		1.0	0.90	ug/L			04/26/24 16:21	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/26/24 16:21	1
Chloromethane	ND	UJ	1.0	0.90	ug/L			04/26/24 16:21	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/26/24 16:21	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/26/24 16:21	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/26/24 16:21	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/26/24 16:21	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/26/24 16:21	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/26/24 16:21	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/26/24 16:21	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/26/24 16:21	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/26/24 16:21	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/26/24 16:21	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/26/24 16:21	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/26/24 16:21	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/26/24 16:21	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/26/24 16:21	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/26/24 16:21	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/26/24 16:21	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/26/24 16:21	1
2-Hexanone	ND		25	1.4	ug/L			04/26/24 16:21	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/26/24 16:21	1
Methylene bromide	ND		5.0	0.22	ug/L			04/26/24 16:21	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/26/24 16:21	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/26/24 16:21	1
<b>Methyl tert-butyl ether</b>	<b>0.70</b>	<b>J</b>	1.0	0.22	ug/L			04/26/24 16:21	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/26/24 16:21	1
Naphthalene	ND		5.0	3.0	ug/L			04/26/24 16:21	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/26/24 16:21	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/26/24 16:21	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/26/24 16:21	1
o-Xylene	ND		5.0	0.60	ug/L			04/26/24 16:21	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/26/24 16:21	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/26/24 16:21	1

# Client Sample Results

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

Job ID: 400-254504-1

**Client Sample ID: MW13-ROX-041524**

**Lab Sample ID: 400-254504-3**

Date Collected: 04/15/24 11:25

Matrix: Water

Date Received: 04/17/24 09:40

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/26/24 16:21	1
Styrene	ND		1.0	1.0	ug/L			04/26/24 16:21	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/26/24 16:21	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/26/24 16:21	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/26/24 16:21	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/26/24 16:21	1
Toluene	ND		1.0	0.90	ug/L			04/26/24 16:21	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/26/24 16:21	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/26/24 16:21	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/26/24 16:21	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/26/24 16:21	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/26/24 16:21	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/26/24 16:21	1
Trichloroethene	ND		1.0	0.15	ug/L			04/26/24 16:21	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/26/24 16:21	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/26/24 16:21	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/26/24 16:21	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/26/24 16:21	1
Vinyl acetate	ND		25	0.93	ug/L			04/26/24 16:21	1
Vinyl chloride	ND	UJ	1.0	0.50	ug/L			04/26/24 16:21	1
Xylenes, Total	ND		10	1.6	ug/L			04/26/24 16:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		72 - 130		04/26/24 16:21	1
Dibromofluoromethane	104		75 - 126		04/26/24 16:21	1
Toluene-d8 (Surr)	99		64 - 132		04/26/24 16:21	1

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.15	J	0.20	0.097	ug/L		04/21/24 13:39	04/23/24 10:56	1
Acenaphthylene	0.076	J	0.20	0.043	ug/L		04/21/24 13:39	04/23/24 10:56	1
Anthracene	ND		0.20	0.046	ug/L		04/21/24 13:39	04/23/24 10:56	1
Benzo[a]anthracene	ND		0.20	0.033	ug/L		04/21/24 13:39	04/23/24 10:56	1
Benzo[a]pyrene	ND		0.20	0.063	ug/L		04/21/24 13:39	04/23/24 10:56	1
Benzo[b]fluoranthene	ND		0.20	0.036	ug/L		04/21/24 13:39	04/23/24 10:56	1
Benzo[g,h,i]perylene	ND		0.20	0.026	ug/L		04/21/24 13:39	04/23/24 10:56	1
Benzo[k]fluoranthene	ND		0.20	0.061	ug/L		04/21/24 13:39	04/23/24 10:56	1
Chrysene	ND		0.20	0.032	ug/L		04/21/24 13:39	04/23/24 10:56	1
Dibenz(a,h)anthracene	ND		0.20	0.047	ug/L		04/21/24 13:39	04/23/24 10:56	1
Fluoranthene	ND		0.20	0.033	ug/L		04/21/24 13:39	04/23/24 10:56	1
Fluorene	ND		0.20	0.087	ug/L		04/21/24 13:39	04/23/24 10:56	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.033	ug/L		04/21/24 13:39	04/23/24 10:56	1
Phenanthrene	ND		0.20	0.088	ug/L		04/21/24 13:39	04/23/24 10:56	1
Pyrene	ND		0.20	0.038	ug/L		04/21/24 13:39	04/23/24 10:56	1
1-Methylnaphthalene	ND		0.20	0.078	ug/L		04/21/24 13:39	04/23/24 10:56	1
2-Methylnaphthalene	ND		0.20	0.065	ug/L		04/21/24 13:39	04/23/24 10:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	60		18 - 147	04/21/24 13:39	04/23/24 10:56	1
2-Fluorobiphenyl	38		15 - 128	04/21/24 13:39	04/23/24 10:56	1

Eurofins Pensacola

# Client Sample Results

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

Job ID: 400-254504-1

**Client Sample ID: MW13-ROX-041524**

**Lab Sample ID: 400-254504-3**

Date Collected: 04/15/24 11:25

Matrix: Water

Date Received: 04/17/24 09:40

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	53		10 - 144	04/21/24 13:39	04/23/24 10:56	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	UJ	9.8	8.5	ug/L		04/21/24 13:39	04/23/24 01:04	1
Benzenethiol	ND		9.8	9.7	ug/L		04/21/24 13:39	04/23/24 01:04	1
Benzoic acid	ND		29	24	ug/L		04/21/24 13:39	04/23/24 01:04	1
Benzyl alcohol	ND		9.8	7.2	ug/L		04/21/24 13:39	04/23/24 01:04	1
Bis(2-chloroethoxy)methane	ND		9.8	4.5	ug/L		04/21/24 13:39	04/23/24 01:04	1
Bis(2-chloroethyl)ether	ND		9.8	3.8	ug/L		04/21/24 13:39	04/23/24 01:04	1
bis (2-chloroisopropyl) ether	ND		9.8	1.8	ug/L		04/21/24 13:39	04/23/24 01:04	1
Bis(2-ethylhexyl) phthalate	ND		9.8	8.7	ug/L		04/21/24 13:39	04/23/24 01:04	1
4-Bromophenyl phenyl ether	ND		9.8	8.4	ug/L		04/21/24 13:39	04/23/24 01:04	1
Butyl benzyl phthalate	ND		9.8	5.7	ug/L		04/21/24 13:39	04/23/24 01:04	1
4-Chloroaniline	ND		9.8	4.6	ug/L		04/21/24 13:39	04/23/24 01:04	1
4-Chloro-3-methylphenol	ND		9.8	5.2	ug/L		04/21/24 13:39	04/23/24 01:04	1
2-Chloronaphthalene	ND		9.8	3.7	ug/L		04/21/24 13:39	04/23/24 01:04	1
2-Chlorophenol	ND		9.8	4.0	ug/L		04/21/24 13:39	04/23/24 01:04	1
4-Chlorophenyl phenyl ether	ND		9.8	3.6	ug/L		04/21/24 13:39	04/23/24 01:04	1
<b>Dibenz[a,h]acridine</b>	<b>3.9</b>	<b>J</b>	9.8	2.7	ug/L		04/21/24 13:39	04/23/24 01:04	1
Dibenzofuran	ND		9.8	3.9	ug/L		04/21/24 13:39	04/23/24 01:04	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/21/24 13:39	04/23/24 01:04	1
2,4-Dichlorophenol	ND		9.8	4.2	ug/L		04/21/24 13:39	04/23/24 01:04	1
Diethyl phthalate	ND		9.8	4.3	ug/L		04/21/24 13:39	04/23/24 01:04	1
2,4-Dimethylphenol	ND		9.8	5.1	ug/L		04/21/24 13:39	04/23/24 01:04	1
Dimethyl phthalate	ND		9.8	4.1	ug/L		04/21/24 13:39	04/23/24 01:04	1
Di-n-butyl phthalate	ND		9.8	4.5	ug/L		04/21/24 13:39	04/23/24 01:04	1
4,6-Dinitro-ortho-cresol	ND		9.8	9.8	ug/L		04/21/24 13:39	04/23/24 01:04	1
2,4-Dinitrophenol	ND		29	4.5	ug/L		04/21/24 13:39	04/23/24 01:04	1
2,4-Dinitrotoluene	ND		9.8	5.0	ug/L		04/21/24 13:39	04/23/24 01:04	1
2,6-Dinitrotoluene	ND	UJ	9.8	3.8	ug/L		04/21/24 13:39	04/23/24 01:04	1
Di-n-octyl phthalate	ND		9.8	5.9	ug/L		04/21/24 13:39	04/23/24 01:04	1
1,4-Dioxane	ND		9.8	4.2	ug/L		04/21/24 13:39	04/23/24 01:04	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	3.2	ug/L		04/21/24 13:39	04/23/24 01:04	1
Hexachlorobenzene	ND		9.8	9.5	ug/L		04/21/24 13:39	04/23/24 01:04	1
Hexachlorocyclopentadiene	ND		20	4.4	ug/L		04/21/24 13:39	04/23/24 01:04	1
Hexachloroethane	ND		9.8	5.1	ug/L		04/21/24 13:39	04/23/24 01:04	1
Indene	ND		9.8	3.5	ug/L		04/21/24 13:39	04/23/24 01:04	1
Isophorone	ND		9.8	5.1	ug/L		04/21/24 13:39	04/23/24 01:04	1
2-Methylphenol	ND		9.8	3.1	ug/L		04/21/24 13:39	04/23/24 01:04	1
3 & 4 Methylphenol	ND		20	4.5	ug/L		04/21/24 13:39	04/23/24 01:04	1
2-Nitroaniline	ND		9.8	4.9	ug/L		04/21/24 13:39	04/23/24 01:04	1
3-Nitroaniline	ND		9.8	4.6	ug/L		04/21/24 13:39	04/23/24 01:04	1
4-Nitroaniline	ND		9.8	4.0	ug/L		04/21/24 13:39	04/23/24 01:04	1
Nitrobenzene	ND		9.8	4.6	ug/L		04/21/24 13:39	04/23/24 01:04	1
2-Nitrophenol	ND		9.8	4.5	ug/L		04/21/24 13:39	04/23/24 01:04	1
4-Nitrophenol	ND		9.8	3.2	ug/L		04/21/24 13:39	04/23/24 01:04	1
N-Nitrosodimethylamine	ND		9.8	2.2	ug/L		04/21/24 13:39	04/23/24 01:04	1



# Client Sample Results

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

Job ID: 400-254504-1

**Client Sample ID: MW13-ROX-041524**

**Lab Sample ID: 400-254504-3**

Date Collected: 04/15/24 11:25

Matrix: Water

Date Received: 04/17/24 09:40

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.8	2.5	ug/L		04/21/24 13:39	04/23/24 01:04	1
N-Nitrosodiphenylamine	ND		9.8	3.6	ug/L		04/21/24 13:39	04/23/24 01:04	1
Pentachlorophenol	ND		20	12	ug/L		04/21/24 13:39	04/23/24 01:04	1
Phenol	ND		9.8	4.1	ug/L		04/21/24 13:39	04/23/24 01:04	1
Pyridine	ND	UJ	9.8	9.8	ug/L		04/21/24 13:39	04/23/24 01:04	1
Quinoline	ND		9.8	2.4	ug/L		04/21/24 13:39	04/23/24 01:04	1
2,4,5-Trichlorophenol	ND	UJ	9.8	3.9	ug/L		04/21/24 13:39	04/23/24 01:04	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		04/21/24 13:39	04/23/24 01:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	73		21 - 114	04/21/24 13:39	04/23/24 01:04	1
2-Fluorophenol	49		10 - 105	04/21/24 13:39	04/23/24 01:04	1
Nitrobenzene-d5	66		16 - 127	04/21/24 13:39	04/23/24 01:04	1
Phenol-d5	36		10 - 129	04/21/24 13:39	04/23/24 01:04	1
Terphenyl-d14	80		13 - 150	04/21/24 13:39	04/23/24 01:04	1
2,4,6-Tribromophenol	76		10 - 150	04/21/24 13:39	04/23/24 01:04	1

**Method: EPA 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	0.018	ug/L		04/23/24 09:56	04/23/24 17:26	1
1,2-Dibromoethane	ND		0.021	0.016	ug/L		04/23/24 09:56	04/23/24 17:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	87		51 - 149	04/23/24 09:56	04/23/24 17:26	1

# Client Sample Results

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

Job ID: 400-254504-1

**Client Sample ID: P114R-ROX-041524**

**Lab Sample ID: 400-254504-4**

Date Collected: 04/15/24 12:25

Matrix: Water

Date Received: 04/17/24 09:40

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/26/24 16:46	1
Acrolein	ND		20	3.3	ug/L			04/26/24 16:46	1
Acrylonitrile	ND		10	2.8	ug/L			04/26/24 16:46	1
<b>Benzene</b>	<b>2.1</b>		1.0	0.50	ug/L			04/26/24 16:46	1
Bromobenzene	ND		1.0	0.54	ug/L			04/26/24 16:46	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/26/24 16:46	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/26/24 16:46	1
Bromoform	ND		5.0	0.25	ug/L			04/26/24 16:46	1
Bromomethane	ND		1.0	0.98	ug/L			04/26/24 16:46	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/26/24 16:46	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/26/24 16:46	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/26/24 16:46	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/26/24 16:46	1
Chloroethane	ND		1.0	0.76	ug/L			04/26/24 16:46	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/26/24 16:46	1
Chloroform	ND		1.0	0.90	ug/L			04/26/24 16:46	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/26/24 16:46	1
Chloromethane	ND	UJ	1.0	0.90	ug/L			04/26/24 16:46	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/26/24 16:46	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/26/24 16:46	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/26/24 16:46	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/26/24 16:46	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/26/24 16:46	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/26/24 16:46	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/26/24 16:46	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/26/24 16:46	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/26/24 16:46	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/26/24 16:46	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/26/24 16:46	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/26/24 16:46	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/26/24 16:46	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/26/24 16:46	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/26/24 16:46	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/26/24 16:46	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/26/24 16:46	1
2-Hexanone	ND		25	1.4	ug/L			04/26/24 16:46	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/26/24 16:46	1
Methylene bromide	ND		5.0	0.22	ug/L			04/26/24 16:46	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/26/24 16:46	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/26/24 16:46	1
<b>Methyl tert-butyl ether</b>	<b>0.66</b>	<b>J</b>	1.0	0.22	ug/L			04/26/24 16:46	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/26/24 16:46	1
Naphthalene	ND		5.0	3.0	ug/L			04/26/24 16:46	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/26/24 16:46	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/26/24 16:46	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/26/24 16:46	1
o-Xylene	ND		5.0	0.60	ug/L			04/26/24 16:46	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/26/24 16:46	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/26/24 16:46	1

# Client Sample Results

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

Job ID: 400-254504-1

**Client Sample ID: P114R-ROX-041524**

**Lab Sample ID: 400-254504-4**

Date Collected: 04/15/24 12:25

Matrix: Water

Date Received: 04/17/24 09:40

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/26/24 16:46	1
Styrene	ND		1.0	1.0	ug/L			04/26/24 16:46	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/26/24 16:46	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/26/24 16:46	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/26/24 16:46	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/26/24 16:46	1
Toluene	ND		1.0	0.90	ug/L			04/26/24 16:46	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/26/24 16:46	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/26/24 16:46	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/26/24 16:46	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/26/24 16:46	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/26/24 16:46	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/26/24 16:46	1
Trichloroethene	ND		1.0	0.15	ug/L			04/26/24 16:46	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/26/24 16:46	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/26/24 16:46	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/26/24 16:46	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/26/24 16:46	1
Vinyl acetate	ND		25	0.93	ug/L			04/26/24 16:46	1
Vinyl chloride	ND	UJ	1.0	0.50	ug/L			04/26/24 16:46	1
Xylenes, Total	ND		10	1.6	ug/L			04/26/24 16:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		72 - 130		04/26/24 16:46	1
Dibromofluoromethane	102		75 - 126		04/26/24 16:46	1
Toluene-d8 (Surr)	98		64 - 132		04/26/24 16:46	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.22		0.20	0.098	ug/L		04/21/24 13:39	04/23/24 11:16	1
Acenaphthylene	0.064	J	0.20	0.043	ug/L		04/21/24 13:39	04/23/24 11:16	1
Anthracene	ND		0.20	0.046	ug/L		04/21/24 13:39	04/23/24 11:16	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		04/21/24 13:39	04/23/24 11:16	1
Benzo[a]pyrene	ND		0.20	0.063	ug/L		04/21/24 13:39	04/23/24 11:16	1
Benzo[b]fluoranthene	ND		0.20	0.036	ug/L		04/21/24 13:39	04/23/24 11:16	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		04/21/24 13:39	04/23/24 11:16	1
Benzo[k]fluoranthene	ND		0.20	0.061	ug/L		04/21/24 13:39	04/23/24 11:16	1
Chrysene	ND		0.20	0.033	ug/L		04/21/24 13:39	04/23/24 11:16	1
Dibenz(a,h)anthracene	ND		0.20	0.047	ug/L		04/21/24 13:39	04/23/24 11:16	1
Fluoranthene	ND		0.20	0.034	ug/L		04/21/24 13:39	04/23/24 11:16	1
Fluorene	ND		0.20	0.088	ug/L		04/21/24 13:39	04/23/24 11:16	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		04/21/24 13:39	04/23/24 11:16	1
Phenanthrene	ND		0.20	0.089	ug/L		04/21/24 13:39	04/23/24 11:16	1
Pyrene	ND		0.20	0.038	ug/L		04/21/24 13:39	04/23/24 11:16	1
1-Methylnaphthalene	ND		0.20	0.079	ug/L		04/21/24 13:39	04/23/24 11:16	1
2-Methylnaphthalene	ND		0.20	0.065	ug/L		04/21/24 13:39	04/23/24 11:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	60		18 - 147	04/21/24 13:39	04/23/24 11:16	1
2-Fluorobiphenyl	43		15 - 128	04/21/24 13:39	04/23/24 11:16	1

Eurofins Pensacola

# Client Sample Results

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

Job ID: 400-254504-1

**Client Sample ID: P114R-ROX-041524**

**Lab Sample ID: 400-254504-4**

Date Collected: 04/15/24 12:25

Matrix: Water

Date Received: 04/17/24 09:40

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	43		10 - 144	04/21/24 13:39	04/23/24 11:16	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	UJ	9.9	8.6	ug/L		04/21/24 13:39	04/23/24 01:26	1
Benzenethiol	ND		9.9	9.8	ug/L		04/21/24 13:39	04/23/24 01:26	1
Benzoic acid	ND		30	24	ug/L		04/21/24 13:39	04/23/24 01:26	1
Benzyl alcohol	ND		9.9	7.2	ug/L		04/21/24 13:39	04/23/24 01:26	1
Bis(2-chloroethoxy)methane	ND		9.9	4.5	ug/L		04/21/24 13:39	04/23/24 01:26	1
Bis(2-chloroethyl)ether	ND		9.9	3.8	ug/L		04/21/24 13:39	04/23/24 01:26	1
bis (2-chloroisopropyl) ether	ND		9.9	1.8	ug/L		04/21/24 13:39	04/23/24 01:26	1
Bis(2-ethylhexyl) phthalate	ND		9.9	8.8	ug/L		04/21/24 13:39	04/23/24 01:26	1
4-Bromophenyl phenyl ether	ND		9.9	8.5	ug/L		04/21/24 13:39	04/23/24 01:26	1
Butyl benzyl phthalate	ND		9.9	5.7	ug/L		04/21/24 13:39	04/23/24 01:26	1
4-Chloroaniline	ND		9.9	4.6	ug/L		04/21/24 13:39	04/23/24 01:26	1
4-Chloro-3-methylphenol	ND		9.9	5.2	ug/L		04/21/24 13:39	04/23/24 01:26	1
2-Chloronaphthalene	ND		9.9	3.7	ug/L		04/21/24 13:39	04/23/24 01:26	1
2-Chlorophenol	ND		9.9	4.0	ug/L		04/21/24 13:39	04/23/24 01:26	1
4-Chlorophenyl phenyl ether	ND		9.9	3.6	ug/L		04/21/24 13:39	04/23/24 01:26	1
<b>Dibenz[a,h]acridine</b>	<b>3.8</b>	<b>J</b>	9.9	2.8	ug/L		04/21/24 13:39	04/23/24 01:26	1
Dibenzofuran	ND		9.9	3.9	ug/L		04/21/24 13:39	04/23/24 01:26	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/21/24 13:39	04/23/24 01:26	1
2,4-Dichlorophenol	ND		9.9	4.2	ug/L		04/21/24 13:39	04/23/24 01:26	1
Diethyl phthalate	ND		9.9	4.3	ug/L		04/21/24 13:39	04/23/24 01:26	1
2,4-Dimethylphenol	ND		9.9	5.1	ug/L		04/21/24 13:39	04/23/24 01:26	1
Dimethyl phthalate	ND		9.9	4.1	ug/L		04/21/24 13:39	04/23/24 01:26	1
Di-n-butyl phthalate	ND		9.9	4.5	ug/L		04/21/24 13:39	04/23/24 01:26	1
4,6-Dinitro-ortho-cresol	ND		9.9	9.9	ug/L		04/21/24 13:39	04/23/24 01:26	1
2,4-Dinitrophenol	ND		30	4.5	ug/L		04/21/24 13:39	04/23/24 01:26	1
2,4-Dinitrotoluene	ND		9.9	5.0	ug/L		04/21/24 13:39	04/23/24 01:26	1
2,6-Dinitrotoluene	ND	UJ	9.9	3.8	ug/L		04/21/24 13:39	04/23/24 01:26	1
Di-n-octyl phthalate	ND		9.9	5.9	ug/L		04/21/24 13:39	04/23/24 01:26	1
1,4-Dioxane	ND		9.9	4.2	ug/L		04/21/24 13:39	04/23/24 01:26	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	3.3	ug/L		04/21/24 13:39	04/23/24 01:26	1
Hexachlorobenzene	ND		9.9	9.6	ug/L		04/21/24 13:39	04/23/24 01:26	1
Hexachlorocyclopentadiene	ND		20	4.4	ug/L		04/21/24 13:39	04/23/24 01:26	1
Hexachloroethane	ND		9.9	5.1	ug/L		04/21/24 13:39	04/23/24 01:26	1
Indene	ND		9.9	3.5	ug/L		04/21/24 13:39	04/23/24 01:26	1
Isophorone	ND		9.9	5.1	ug/L		04/21/24 13:39	04/23/24 01:26	1
2-Methylphenol	ND		9.9	3.2	ug/L		04/21/24 13:39	04/23/24 01:26	1
3 & 4 Methylphenol	ND		20	4.5	ug/L		04/21/24 13:39	04/23/24 01:26	1
2-Nitroaniline	ND		9.9	4.9	ug/L		04/21/24 13:39	04/23/24 01:26	1
3-Nitroaniline	ND		9.9	4.6	ug/L		04/21/24 13:39	04/23/24 01:26	1
4-Nitroaniline	ND		9.9	4.0	ug/L		04/21/24 13:39	04/23/24 01:26	1
Nitrobenzene	ND		9.9	4.6	ug/L		04/21/24 13:39	04/23/24 01:26	1
2-Nitrophenol	ND		9.9	4.5	ug/L		04/21/24 13:39	04/23/24 01:26	1
4-Nitrophenol	ND		9.9	3.3	ug/L		04/21/24 13:39	04/23/24 01:26	1
N-Nitrosodimethylamine	ND		9.9	2.2	ug/L		04/21/24 13:39	04/23/24 01:26	1

# Client Sample Results

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

Job ID: 400-254504-1

**Client Sample ID: P114R-ROX-041524**

**Lab Sample ID: 400-254504-4**

Date Collected: 04/15/24 12:25

Matrix: Water

Date Received: 04/17/24 09:40

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.9	2.5	ug/L		04/21/24 13:39	04/23/24 01:26	1
N-Nitrosodiphenylamine	ND		9.9	3.6	ug/L		04/21/24 13:39	04/23/24 01:26	1
Pentachlorophenol	ND		20	12	ug/L		04/21/24 13:39	04/23/24 01:26	1
Phenol	ND		9.9	4.1	ug/L		04/21/24 13:39	04/23/24 01:26	1
Pyridine	ND	UJ	9.9	9.9	ug/L		04/21/24 13:39	04/23/24 01:26	1
Quinoline	ND		9.9	2.4	ug/L		04/21/24 13:39	04/23/24 01:26	1
2,4,5-Trichlorophenol	ND	UJ	9.9	3.9	ug/L		04/21/24 13:39	04/23/24 01:26	1
2,4,6-Trichlorophenol	ND		9.9	3.5	ug/L		04/21/24 13:39	04/23/24 01:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	68		21 - 114	04/21/24 13:39	04/23/24 01:26	1
2-Fluorophenol	46		10 - 105	04/21/24 13:39	04/23/24 01:26	1
Nitrobenzene-d5	62		16 - 127	04/21/24 13:39	04/23/24 01:26	1
Phenol-d5	32		10 - 129	04/21/24 13:39	04/23/24 01:26	1
Terphenyl-d14	80		13 - 150	04/21/24 13:39	04/23/24 01:26	1
2,4,6-Tribromophenol	78		10 - 150	04/21/24 13:39	04/23/24 01:26	1

**Method: EPA 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	0.018	ug/L		04/23/24 09:56	04/23/24 17:47	1
1,2-Dibromoethane	ND		0.021	0.016	ug/L		04/23/24 09:56	04/23/24 17:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	71		51 - 149	04/23/24 09:56	04/23/24 17:47	1

# Client Sample Results

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

Job ID: 400-254504-1

**Client Sample ID: MW9-ROX-041524**

**Lab Sample ID: 400-254504-5**

Date Collected: 04/15/24 13:40

Matrix: Water

Date Received: 04/17/24 09:40

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/26/24 14:19	1
Acrolein	ND		20	3.3	ug/L			04/26/24 14:19	1
Acrylonitrile	ND		10	2.8	ug/L			04/26/24 14:19	1
Benzene	ND		1.0	0.50	ug/L			04/26/24 14:19	1
Bromobenzene	ND		1.0	0.54	ug/L			04/26/24 14:19	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/26/24 14:19	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/26/24 14:19	1
Bromoform	ND		5.0	0.25	ug/L			04/26/24 14:19	1
Bromomethane	ND		1.0	0.98	ug/L			04/26/24 14:19	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/26/24 14:19	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/26/24 14:19	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/26/24 14:19	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/26/24 14:19	1
Chloroethane	ND		1.0	0.76	ug/L			04/26/24 14:19	1
2-Chloroethyl vinyl ether	ND	F1 UJ	5.0	2.0	ug/L			04/26/24 14:19	1
Chloroform	ND		1.0	0.90	ug/L			04/26/24 14:19	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/26/24 14:19	1
Chloromethane	ND	UJ	1.0	0.90	ug/L			04/26/24 14:19	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/26/24 14:19	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/26/24 14:19	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/26/24 14:19	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/26/24 14:19	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/26/24 14:19	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/26/24 14:19	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/26/24 14:19	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/26/24 14:19	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/26/24 14:19	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/26/24 14:19	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/26/24 14:19	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/26/24 14:19	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/26/24 14:19	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/26/24 14:19	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/26/24 14:19	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/26/24 14:19	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/26/24 14:19	1
2-Hexanone	ND		25	1.4	ug/L			04/26/24 14:19	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/26/24 14:19	1
Methylene bromide	ND		5.0	0.22	ug/L			04/26/24 14:19	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/26/24 14:19	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/26/24 14:19	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/26/24 14:19	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/26/24 14:19	1
Naphthalene	ND		5.0	3.0	ug/L			04/26/24 14:19	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/26/24 14:19	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/26/24 14:19	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/26/24 14:19	1
o-Xylene	ND		5.0	0.60	ug/L			04/26/24 14:19	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/26/24 14:19	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/26/24 14:19	1



# Client Sample Results

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

Job ID: 400-254504-1

**Client Sample ID: MW9-ROX-041524**

**Lab Sample ID: 400-254504-5**

Date Collected: 04/15/24 13:40

Matrix: Water

Date Received: 04/17/24 09:40

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/26/24 14:19	1
Styrene	ND		1.0	1.0	ug/L			04/26/24 14:19	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/26/24 14:19	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/26/24 14:19	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/26/24 14:19	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/26/24 14:19	1
Toluene	ND		1.0	0.90	ug/L			04/26/24 14:19	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/26/24 14:19	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/26/24 14:19	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/26/24 14:19	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/26/24 14:19	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/26/24 14:19	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/26/24 14:19	1
Trichloroethene	ND		1.0	0.15	ug/L			04/26/24 14:19	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/26/24 14:19	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/26/24 14:19	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/26/24 14:19	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/26/24 14:19	1
Vinyl acetate	ND		25	0.93	ug/L			04/26/24 14:19	1
Vinyl chloride	ND	UJ	1.0	0.50	ug/L			04/26/24 14:19	1
Xylenes, Total	ND		10	1.6	ug/L			04/26/24 14:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		72 - 130		04/26/24 14:19	1
Dibromofluoromethane	104		75 - 126		04/26/24 14:19	1
Toluene-d8 (Surr)	98		64 - 132		04/26/24 14:19	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.097	ug/L		04/21/24 13:39	04/23/24 09:34	1
Acenaphthylene	ND		0.20	0.043	ug/L		04/21/24 13:39	04/23/24 09:34	1
Anthracene	ND		0.20	0.046	ug/L		04/21/24 13:39	04/23/24 09:34	1
Benzo[a]anthracene	ND		0.20	0.033	ug/L		04/21/24 13:39	04/23/24 09:34	1
Benzo[a]pyrene	ND		0.20	0.063	ug/L		04/21/24 13:39	04/23/24 09:34	1
Benzo[b]fluoranthene	ND		0.20	0.036	ug/L		04/21/24 13:39	04/23/24 09:34	1
Benzo[g,h,i]perylene	ND		0.20	0.026	ug/L		04/21/24 13:39	04/23/24 09:34	1
Benzo[k]fluoranthene	ND		0.20	0.061	ug/L		04/21/24 13:39	04/23/24 09:34	1
Chrysene	ND		0.20	0.032	ug/L		04/21/24 13:39	04/23/24 09:34	1
Dibenz(a,h)anthracene	ND		0.20	0.047	ug/L		04/21/24 13:39	04/23/24 09:34	1
Fluoranthene	ND		0.20	0.033	ug/L		04/21/24 13:39	04/23/24 09:34	1
Fluorene	ND		0.20	0.087	ug/L		04/21/24 13:39	04/23/24 09:34	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.033	ug/L		04/21/24 13:39	04/23/24 09:34	1
Phenanthrene	ND		0.20	0.088	ug/L		04/21/24 13:39	04/23/24 09:34	1
Pyrene	ND		0.20	0.038	ug/L		04/21/24 13:39	04/23/24 09:34	1
1-Methylnaphthalene	ND		0.20	0.078	ug/L		04/21/24 13:39	04/23/24 09:34	1
2-Methylnaphthalene	ND		0.20	0.065	ug/L		04/21/24 13:39	04/23/24 09:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	73		18 - 147	04/21/24 13:39	04/23/24 09:34	1
2-Fluorobiphenyl	55		15 - 128	04/21/24 13:39	04/23/24 09:34	1

Eurofins Pensacola

# Client Sample Results

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

Job ID: 400-254504-1

**Client Sample ID: MW9-ROX-041524**

**Lab Sample ID: 400-254504-5**

Date Collected: 04/15/24 13:40

Matrix: Water

Date Received: 04/17/24 09:40

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	54		10 - 144	04/21/24 13:39	04/23/24 09:34	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	F1 UJ	9.8	8.5	ug/L		04/21/24 13:39	04/22/24 23:36	1
Benzenethiol	ND		9.8	9.7	ug/L		04/21/24 13:39	04/22/24 23:36	1
Benzoic acid	ND	F1 UJ	29	24	ug/L		04/21/24 13:39	04/22/24 23:36	1
Benzyl alcohol	ND		9.8	7.2	ug/L		04/21/24 13:39	04/22/24 23:36	1
Bis(2-chloroethoxy)methane	ND		9.8	4.5	ug/L		04/21/24 13:39	04/22/24 23:36	1
Bis(2-chloroethyl)ether	ND		9.8	3.8	ug/L		04/21/24 13:39	04/22/24 23:36	1
bis (2-chloroisopropyl) ether	ND		9.8	1.8	ug/L		04/21/24 13:39	04/22/24 23:36	1
Bis(2-ethylhexyl) phthalate	ND		9.8	8.7	ug/L		04/21/24 13:39	04/22/24 23:36	1
4-Bromophenyl phenyl ether	ND		9.8	8.4	ug/L		04/21/24 13:39	04/22/24 23:36	1
Butyl benzyl phthalate	ND		9.8	5.7	ug/L		04/21/24 13:39	04/22/24 23:36	1
4-Chloroaniline	ND		9.8	4.6	ug/L		04/21/24 13:39	04/22/24 23:36	1
4-Chloro-3-methylphenol	ND		9.8	5.2	ug/L		04/21/24 13:39	04/22/24 23:36	1
2-Chloronaphthalene	ND		9.8	3.7	ug/L		04/21/24 13:39	04/22/24 23:36	1
2-Chlorophenol	ND		9.8	4.0	ug/L		04/21/24 13:39	04/22/24 23:36	1
4-Chlorophenyl phenyl ether	ND		9.8	3.6	ug/L		04/21/24 13:39	04/22/24 23:36	1
<b>Dibenz[a,h]acridine</b>	<b>3.8</b>	<b>J</b>	9.8	2.7	ug/L		04/21/24 13:39	04/22/24 23:36	1
Dibenzofuran	ND		9.8	3.9	ug/L		04/21/24 13:39	04/22/24 23:36	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/21/24 13:39	04/22/24 23:36	1
2,4-Dichlorophenol	ND		9.8	4.2	ug/L		04/21/24 13:39	04/22/24 23:36	1
Diethyl phthalate	ND		9.8	4.3	ug/L		04/21/24 13:39	04/22/24 23:36	1
2,4-Dimethylphenol	ND		9.8	5.1	ug/L		04/21/24 13:39	04/22/24 23:36	1
Dimethyl phthalate	ND		9.8	4.1	ug/L		04/21/24 13:39	04/22/24 23:36	1
Di-n-butyl phthalate	ND		9.8	4.5	ug/L		04/21/24 13:39	04/22/24 23:36	1
4,6-Dinitro-ortho-cresol	ND		9.8	9.8	ug/L		04/21/24 13:39	04/22/24 23:36	1
2,4-Dinitrophenol	ND		29	4.5	ug/L		04/21/24 13:39	04/22/24 23:36	1
2,4-Dinitrotoluene	ND		9.8	5.0	ug/L		04/21/24 13:39	04/22/24 23:36	1
2,6-Dinitrotoluene	ND	UJ	9.8	3.8	ug/L		04/21/24 13:39	04/22/24 23:36	1
Di-n-octyl phthalate	ND		9.8	5.9	ug/L		04/21/24 13:39	04/22/24 23:36	1
1,4-Dioxane	ND	F1 UJ	9.8	4.2	ug/L		04/21/24 13:39	04/22/24 23:36	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	3.2	ug/L		04/21/24 13:39	04/22/24 23:36	1
Hexachlorobenzene	ND		9.8	9.5	ug/L		04/21/24 13:39	04/22/24 23:36	1
Hexachlorocyclopentadiene	ND		20	4.4	ug/L		04/21/24 13:39	04/22/24 23:36	1
Hexachloroethane	ND		9.8	5.1	ug/L		04/21/24 13:39	04/22/24 23:36	1
Indene	ND		9.8	3.5	ug/L		04/21/24 13:39	04/22/24 23:36	1
Isophorone	ND		9.8	5.1	ug/L		04/21/24 13:39	04/22/24 23:36	1
2-Methylphenol	ND		9.8	3.1	ug/L		04/21/24 13:39	04/22/24 23:36	1
3 & 4 Methylphenol	ND		20	4.5	ug/L		04/21/24 13:39	04/22/24 23:36	1
2-Nitroaniline	ND		9.8	4.9	ug/L		04/21/24 13:39	04/22/24 23:36	1
3-Nitroaniline	ND		9.8	4.6	ug/L		04/21/24 13:39	04/22/24 23:36	1
4-Nitroaniline	ND		9.8	4.0	ug/L		04/21/24 13:39	04/22/24 23:36	1
Nitrobenzene	ND		9.8	4.6	ug/L		04/21/24 13:39	04/22/24 23:36	1
2-Nitrophenol	ND		9.8	4.5	ug/L		04/21/24 13:39	04/22/24 23:36	1
4-Nitrophenol	ND		9.8	3.2	ug/L		04/21/24 13:39	04/22/24 23:36	1
N-Nitrosodimethylamine	ND		9.8	2.2	ug/L		04/21/24 13:39	04/22/24 23:36	1

# Client Sample Results

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

Job ID: 400-254504-1

**Client Sample ID: MW9-ROX-041524**

**Lab Sample ID: 400-254504-5**

Date Collected: 04/15/24 13:40

Matrix: Water

Date Received: 04/17/24 09:40

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.8	2.4	ug/L		04/21/24 13:39	04/22/24 23:36	1
N-Nitrosodiphenylamine	ND		9.8	3.6	ug/L		04/21/24 13:39	04/22/24 23:36	1
Pentachlorophenol	ND		20	12	ug/L		04/21/24 13:39	04/22/24 23:36	1
Phenol	ND		9.8	4.1	ug/L		04/21/24 13:39	04/22/24 23:36	1
Pyridine	ND	F1 UJ	9.8	9.8	ug/L		04/21/24 13:39	04/22/24 23:36	1
Quinoline	ND		9.8	2.4	ug/L		04/21/24 13:39	04/22/24 23:36	1
2,4,5-Trichlorophenol	ND	UJ	9.8	3.9	ug/L		04/21/24 13:39	04/22/24 23:36	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		04/21/24 13:39	04/22/24 23:36	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorobiphenyl	75		21 - 114				04/21/24 13:39	04/22/24 23:36	1
2-Fluorophenol	52		10 - 105				04/21/24 13:39	04/22/24 23:36	1
Nitrobenzene-d5	68		16 - 127				04/21/24 13:39	04/22/24 23:36	1
Phenol-d5	38		10 - 129				04/21/24 13:39	04/22/24 23:36	1
Terphenyl-d14	89		13 - 150				04/21/24 13:39	04/22/24 23:36	1
2,4,6-Tribromophenol	64		10 - 150				04/21/24 13:39	04/22/24 23:36	1

**Method: EPA 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	0.017	ug/L		04/23/24 09:56	04/23/24 18:08	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		04/23/24 09:56	04/23/24 18:08	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene	91		51 - 149				04/23/24 09:56	04/23/24 18:08	1

# Definitions/Glossary

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

Job ID: 400-254504-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control 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
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### 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.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

# Surrogate Summary

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

Job ID: 400-254504-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (72-130)	DBFM (75-126)	TOL (64-132)
400-254504-1	TB-ROX-041524-8260	100	104	98
400-254504-3	MW13-ROX-041524	101	104	99
400-254504-4	P114R-ROX-041524	101	102	98
400-254504-5	MW9-ROX-041524	101	104	98
400-254504-5 MS	MW9-ROX-041524	97	104	98
400-254504-5 MSD	MW9-ROX-041524	98	104	98
LCS 400-669455/1002	Lab Control Sample	99	107	93
MB 400-669455/4	Method Blank	101	104	95

**Surrogate Legend**  
 BFB = 4-Bromofluorobenzene  
 DBFM = Dibromofluoromethane  
 TOL = Toluene-d8 (Surr)

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (21-114)	2FP (10-105)	NBZ (16-127)	PHL (10-129)	TPHL (13-150)	TBP (10-150)
400-254504-3	MW13-ROX-041524	73	49	66	36	80	76
400-254504-4	P114R-ROX-041524	68	46	62	32	80	78
400-254504-5	MW9-ROX-041524	75	52	68	38	89	64
400-254504-5 MS	MW9-ROX-041524	76	61	82	54	88	85
400-254504-5 MSD	MW9-ROX-041524	77	61	81	54	99	89
LCS 400-668738/2-A	Lab Control Sample	76	60	80	53	93	88
LCS 400-668738/7-A	Lab Control Sample	76	54	68	41	91	63
LCS 400-668738/8-A	Lab Control Sample Dup	69	49	60	38	87	59
MB 400-668738/1-A	Method Blank	65	45	57	32	76	57

**Surrogate Legend**  
 FBP = 2-Fluorobiphenyl  
 2FP = 2-Fluorophenol  
 NBZ = Nitrobenzene-d5  
 PHL = Phenol-d5  
 TPHL = Terphenyl-d14  
 TBP = 2,4,6-Tribromophenol

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TPHL (18-147)	FBP (15-128)	NBZ (10-144)
400-254504-3	MW13-ROX-041524	60	38	53
400-254504-4	P114R-ROX-041524	60	43	43
400-254504-5	MW9-ROX-041524	73	55	54
400-254504-5 MS	MW9-ROX-041524	79	67	49
400-254504-5 MSD	MW9-ROX-041524	72	61	45
LCS 400-668738/2-A	Lab Control Sample	81	70	50
MB 400-668738/1-A	Method Blank	71	50	49

# Surrogate Summary

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

Job ID: 400-254504-1

## 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

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1 (51-149)
400-254504-2	TB-ROX-041524-8011	87
400-254504-3	MW13-ROX-041524	87
400-254504-4	P114R-ROX-041524	71
400-254504-5	MW9-ROX-041524	91
400-254504-5 MS	MW9-ROX-041524	93
400-254504-5 MSD	MW9-ROX-041524	80
LCS 400-668964/2-A	Lab Control Sample	81 p
LCSD 400-668964/3-A	Lab Control Sample Dup	89 p
MB 400-668964/1-A	Method Blank	70

## Surrogate Legend

BFB = 4-Bromofluorobenzene



# Method Summary

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

Job ID: 400-254504-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET PEN
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET PEN
8270E SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	EET PEN
8011	EDB and DBCP in Water by Microextraction	EPA	EET PEN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET PEN
5030C	Purge and Trap	SW846	EET PEN
8011	Microextraction	SW846	EET 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:**

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

# Lab Chronicle

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

Job ID: 400-254504-1

**Client Sample ID: TB-ROX-041524-8260**

**Lab Sample ID: 400-254504-1**

Date Collected: 04/15/24 00:00

Matrix: Water

Date Received: 04/17/24 09:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	669455	04/26/24 15:57	WPD	EET PEN

**Client Sample ID: TB-ROX-041524-8011**

**Lab Sample ID: 400-254504-2**

Date Collected: 04/15/24 00:00

Matrix: Water

Date Received: 04/17/24 09:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			33.4 mL	35 mL	668964	04/23/24 09:56	KR	EET PEN
Total/NA	Analysis	8011		1			669021	04/23/24 17:05	KR	EET PEN

**Client Sample ID: MW13-ROX-041524**

**Lab Sample ID: 400-254504-3**

Date Collected: 04/15/24 11:25

Matrix: Water

Date Received: 04/17/24 09:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	669455	04/26/24 16:21	WPD	EET PEN
Total/NA	Prep	3510C			254.8 mL	1 mL	668738	04/21/24 13:39	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668876	04/23/24 01:04	S1B	EET PEN
Total/NA	Prep	3510C			254.8 mL	1 mL	668738	04/21/24 13:39	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	668890	04/23/24 10:56	JAW	EET PEN
Total/NA	Prep	8011			33.3 mL	35 mL	668964	04/23/24 09:56	KR	EET PEN
Total/NA	Analysis	8011		1			669021	04/23/24 17:26	KR	EET PEN

**Client Sample ID: P114R-ROX-041524**

**Lab Sample ID: 400-254504-4**

Date Collected: 04/15/24 12:25

Matrix: Water

Date Received: 04/17/24 09:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	669455	04/26/24 16:46	WPD	EET PEN
Total/NA	Prep	3510C			253.6 mL	1 mL	668738	04/21/24 13:39	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668876	04/23/24 01:26	S1B	EET PEN
Total/NA	Prep	3510C			253.6 mL	1 mL	668738	04/21/24 13:39	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	668890	04/23/24 11:16	JAW	EET PEN
Total/NA	Prep	8011			33.2 mL	35 mL	668964	04/23/24 09:56	KR	EET PEN
Total/NA	Analysis	8011		1			669021	04/23/24 17:47	KR	EET PEN

**Client Sample ID: MW9-ROX-041524**

**Lab Sample ID: 400-254504-5**

Date Collected: 04/15/24 13:40

Matrix: Water

Date Received: 04/17/24 09:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	669455	04/26/24 14:19	WPD	EET PEN
Total/NA	Prep	3510C			255.2 mL	1 mL	668738	04/21/24 13:39	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668876	04/22/24 23:36	S1B	EET PEN

# Lab Chronicle

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

Job ID: 400-254504-1

**Client Sample ID: MW9-ROX-041524**

**Lab Sample ID: 400-254504-5**

Date Collected: 04/15/24 13:40

Matrix: Water

Date Received: 04/17/24 09:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			255.2 mL	1 mL	668738	04/21/24 13:39	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	668890	04/23/24 09:34	JAW	EET PEN
Total/NA	Prep	8011			35.1 mL	35 mL	668964	04/23/24 09:56	KR	EET PEN
Total/NA	Analysis	8011		1			669021	04/23/24 18:08	KR	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-668738/1-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	3510C			250 mL	1 mL	668738	04/21/24 13:38	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668876	04/22/24 21:23	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	668738	04/21/24 13:38	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	668890	04/23/24 08:12	JAW	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-668964/1-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	668964	04/23/24 09:56	KR	EET PEN
Total/NA	Analysis	8011		1			669021	04/23/24 16:02	KR	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-669455/4**

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	8260D		1	5 mL	5 mL	669455	04/26/24 11:04	WPD	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-668738/2-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	3510C			250 mL	1.1 mL	668738	04/21/24 13:38	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668876	04/22/24 22:30	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1.1 mL	668738	04/21/24 13:38	STC	EET PEN
Total/NA	Analysis	8270E SIM		100	0.4 mL	0.4 mL	668890	04/23/24 08:32	JAW	EET PEN

# Lab Chronicle

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

Job ID: 400-254504-1

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-668738/7-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	3510C			250 mL	1 mL	668738	04/21/24 13:39	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668876	04/22/24 21:46	S1B	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-668964/2-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	668964	04/23/24 09:56	KR	EET PEN
Total/NA	Analysis	8011		1			669021	04/23/24 16:23	KR	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-669455/1002

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	8260D		1	5 mL	5 mL	669455	04/26/24 10:08	WPD	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-668738/8-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	3510C			250 mL	1 mL	668738	04/21/24 13:39	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668876	04/22/24 22:08	S1B	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-668964/3-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	668964	04/23/24 09:56	KR	EET PEN
Total/NA	Analysis	8011		1			669021	04/23/24 16:44	KR	EET PEN

## Client Sample ID: MW9-ROX-041524

Lab Sample ID: 400-254504-5 MS

Date Collected: 04/15/24 13:40

Matrix: Water

Date Received: 04/17/24 09:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	669455	04/26/24 14:44	WPD	EET PEN
Total/NA	Prep	3510C			258.4 mL	1.1 mL	668738	04/21/24 13:39	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668876	04/22/24 22:52	S1B	EET PEN
Total/NA	Prep	3510C			258.4 mL	1.1 mL	668738	04/21/24 13:39	STC	EET PEN
Total/NA	Analysis	8270E SIM		100	0.4 mL	0.4 mL	668890	04/23/24 08:53	JAW	EET PEN
Total/NA	Prep	8011			35.9 mL	35 mL	668964	04/23/24 09:56	KR	EET PEN
Total/NA	Analysis	8011		1			669021	04/23/24 18:29	KR	EET PEN

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# Lab Chronicle

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

Job ID: 400-254504-1

**Client Sample ID: MW9-ROX-041524**

**Lab Sample ID: 400-254504-5 MSD**

**Date Collected: 04/15/24 13:40**

**Matrix: Water**

**Date Received: 04/17/24 09:40**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	669455	04/26/24 15:08	WPD	EET PEN
Total/NA	Prep	3510C			254.8 mL	1.1 mL	668738	04/21/24 13:39	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	668876	04/22/24 23:14	S1B	EET PEN
Total/NA	Prep	3510C			254.8 mL	1.1 mL	668738	04/21/24 13:39	STC	EET PEN
Total/NA	Analysis	8270E SIM		100	0.4 mL	0.4 mL	668890	04/23/24 09:13	JAW	EET PEN
Total/NA	Prep	8011			34.5 mL	35 mL	668964	04/23/24 09:56	KR	EET PEN
Total/NA	Analysis	8011		1			669021	04/23/24 18:50	KR	EET PEN

**Laboratory References:**

EET PEN = Eurofins 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

Job ID: 400-254504-1

## GC/MS VOA

### Analysis Batch: 669455

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254504-1	TB-ROX-041524-8260	Total/NA	Water	8260D	
400-254504-3	MW13-ROX-041524	Total/NA	Water	8260D	
400-254504-4	P114R-ROX-041524	Total/NA	Water	8260D	
400-254504-5	MW9-ROX-041524	Total/NA	Water	8260D	
MB 400-669455/4	Method Blank	Total/NA	Water	8260D	
LCS 400-669455/1002	Lab Control Sample	Total/NA	Water	8260D	
400-254504-5 MS	MW9-ROX-041524	Total/NA	Water	8260D	
400-254504-5 MSD	MW9-ROX-041524	Total/NA	Water	8260D	

## GC/MS Semi VOA

### Prep Batch: 668738

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254504-3	MW13-ROX-041524	Total/NA	Water	3510C	
400-254504-4	P114R-ROX-041524	Total/NA	Water	3510C	
400-254504-5	MW9-ROX-041524	Total/NA	Water	3510C	
MB 400-668738/1-A	Method Blank	Total/NA	Water	3510C	
LCS 400-668738/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 400-668738/7-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 400-668738/8-A	Lab Control Sample Dup	Total/NA	Water	3510C	
400-254504-5 MS	MW9-ROX-041524	Total/NA	Water	3510C	
400-254504-5 MSD	MW9-ROX-041524	Total/NA	Water	3510C	

### Analysis Batch: 668876

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254504-3	MW13-ROX-041524	Total/NA	Water	8270E	668738
400-254504-4	P114R-ROX-041524	Total/NA	Water	8270E	668738
400-254504-5	MW9-ROX-041524	Total/NA	Water	8270E	668738
MB 400-668738/1-A	Method Blank	Total/NA	Water	8270E	668738
LCS 400-668738/2-A	Lab Control Sample	Total/NA	Water	8270E	668738
LCS 400-668738/7-A	Lab Control Sample	Total/NA	Water	8270E	668738
LCSD 400-668738/8-A	Lab Control Sample Dup	Total/NA	Water	8270E	668738
400-254504-5 MS	MW9-ROX-041524	Total/NA	Water	8270E	668738
400-254504-5 MSD	MW9-ROX-041524	Total/NA	Water	8270E	668738

### Analysis Batch: 668890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254504-3	MW13-ROX-041524	Total/NA	Water	8270E SIM	668738
400-254504-4	P114R-ROX-041524	Total/NA	Water	8270E SIM	668738
400-254504-5	MW9-ROX-041524	Total/NA	Water	8270E SIM	668738
MB 400-668738/1-A	Method Blank	Total/NA	Water	8270E SIM	668738
LCS 400-668738/2-A	Lab Control Sample	Total/NA	Water	8270E SIM	668738
400-254504-5 MS	MW9-ROX-041524	Total/NA	Water	8270E SIM	668738
400-254504-5 MSD	MW9-ROX-041524	Total/NA	Water	8270E SIM	668738

## GC Semi VOA

### Prep Batch: 668964

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254504-2	TB-ROX-041524-8011	Total/NA	Water	8011	
400-254504-3	MW13-ROX-041524	Total/NA	Water	8011	
400-254504-4	P114R-ROX-041524	Total/NA	Water	8011	

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# QC Association Summary

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

Job ID: 400-254504-1

## GC Semi VOA (Continued)

### Prep Batch: 668964 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254504-5	MW9-ROX-041524	Total/NA	Water	8011	
MB 400-668964/1-A	Method Blank	Total/NA	Water	8011	
LCS 400-668964/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 400-668964/3-A	Lab Control Sample Dup	Total/NA	Water	8011	
400-254504-5 MS	MW9-ROX-041524	Total/NA	Water	8011	
400-254504-5 MSD	MW9-ROX-041524	Total/NA	Water	8011	

### Analysis Batch: 669021

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254504-2	TB-ROX-041524-8011	Total/NA	Water	8011	668964
400-254504-3	MW13-ROX-041524	Total/NA	Water	8011	668964
400-254504-4	P114R-ROX-041524	Total/NA	Water	8011	668964
400-254504-5	MW9-ROX-041524	Total/NA	Water	8011	668964
MB 400-668964/1-A	Method Blank	Total/NA	Water	8011	668964
LCS 400-668964/2-A	Lab Control Sample	Total/NA	Water	8011	668964
LCSD 400-668964/3-A	Lab Control Sample Dup	Total/NA	Water	8011	668964
400-254504-5 MS	MW9-ROX-041524	Total/NA	Water	8011	668964
400-254504-5 MSD	MW9-ROX-041524	Total/NA	Water	8011	668964

# QC Sample Results

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

Job ID: 400-254504-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 400-669455/4**  
**Matrix: Water**  
**Analysis Batch: 669455**

**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			04/26/24 11:04	1
Acrolein	ND		20	3.3	ug/L			04/26/24 11:04	1
Acrylonitrile	ND		10	2.8	ug/L			04/26/24 11:04	1
Benzene	ND		1.0	0.50	ug/L			04/26/24 11:04	1
Bromobenzene	ND		1.0	0.54	ug/L			04/26/24 11:04	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/26/24 11:04	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/26/24 11:04	1
Bromoform	ND		5.0	0.25	ug/L			04/26/24 11:04	1
Bromomethane	ND		1.0	0.98	ug/L			04/26/24 11:04	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/26/24 11:04	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/26/24 11:04	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/26/24 11:04	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/26/24 11:04	1
Chloroethane	ND		1.0	0.76	ug/L			04/26/24 11:04	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/26/24 11:04	1
Chloroform	ND		1.0	0.90	ug/L			04/26/24 11:04	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/26/24 11:04	1
Chloromethane	ND		1.0	0.90	ug/L			04/26/24 11:04	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/26/24 11:04	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/26/24 11:04	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/26/24 11:04	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/26/24 11:04	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/26/24 11:04	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/26/24 11:04	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/26/24 11:04	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/26/24 11:04	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/26/24 11:04	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/26/24 11:04	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/26/24 11:04	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/26/24 11:04	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/26/24 11:04	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/26/24 11:04	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/26/24 11:04	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/26/24 11:04	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/26/24 11:04	1
2-Hexanone	ND		25	1.4	ug/L			04/26/24 11:04	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/26/24 11:04	1
Methylene bromide	ND		5.0	0.22	ug/L			04/26/24 11:04	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/26/24 11:04	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/26/24 11:04	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/26/24 11:04	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/26/24 11:04	1
Naphthalene	ND		5.0	3.0	ug/L			04/26/24 11:04	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/26/24 11:04	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/26/24 11:04	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/26/24 11:04	1
o-Xylene	ND		5.0	0.60	ug/L			04/26/24 11:04	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/26/24 11:04	1

# QC Sample Results

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

Job ID: 400-254504-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-669455/4**  
**Matrix: Water**  
**Analysis Batch: 669455**

**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			04/26/24 11:04	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/26/24 11:04	1
Styrene	ND		1.0	1.0	ug/L			04/26/24 11:04	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/26/24 11:04	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/26/24 11:04	1
1,1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/26/24 11:04	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/26/24 11:04	1
Toluene	ND		1.0	0.90	ug/L			04/26/24 11:04	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/26/24 11:04	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/26/24 11:04	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/26/24 11:04	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/26/24 11:04	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/26/24 11:04	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/26/24 11:04	1
Trichloroethene	ND		1.0	0.15	ug/L			04/26/24 11:04	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/26/24 11:04	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/26/24 11:04	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/26/24 11:04	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/26/24 11:04	1
Vinyl acetate	ND		25	0.93	ug/L			04/26/24 11:04	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/26/24 11:04	1
Xylenes, Total	ND		10	1.6	ug/L			04/26/24 11:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		72 - 130		04/26/24 11:04	1
Dibromofluoromethane	104		75 - 126		04/26/24 11:04	1
Toluene-d8 (Surr)	95		64 - 132		04/26/24 11:04	1

**Lab Sample ID: LCS 400-669455/1002**  
**Matrix: Water**  
**Analysis Batch: 669455**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	200	248		ug/L		124	43 - 160
Acrolein	500	557		ug/L		111	38 - 160
Acrylonitrile	500	570		ug/L		114	64 - 142
Benzene	50.0	53.0		ug/L		106	70 - 130
Bromobenzene	50.0	48.5		ug/L		97	70 - 132
Bromochloromethane	50.0	55.8		ug/L		112	70 - 130
Bromodichloromethane	50.0	56.1		ug/L		112	67 - 133
Bromoform	50.0	47.4		ug/L		95	57 - 140
Bromomethane	50.0	46.1		ug/L		92	10 - 160
2-Butanone (MEK)	200	246		ug/L		123	61 - 145
Carbon disulfide	50.0	44.2		ug/L		88	61 - 137
Carbon tetrachloride	50.0	51.5		ug/L		103	61 - 137
Chlorobenzene	50.0	48.7		ug/L		97	70 - 130
Chloroethane	50.0	40.7		ug/L		81	55 - 141
2-Chloroethyl vinyl ether	50.0	53.7		ug/L		107	10 - 160

# QC Sample Results

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

Job ID: 400-254504-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-669455/1002**  
**Matrix: Water**  
**Analysis Batch: 669455**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroform	50.0	55.6		ug/L		111	69 - 130
1-Chlorohexane	50.0	47.1		ug/L		94	69 - 130
Chloromethane	50.0	33.4		ug/L		67	58 - 137
cis-1,2-Dichloroethene	50.0	50.8		ug/L		102	68 - 130
cis-1,3-Dichloropropene	50.0	56.6		ug/L		113	69 - 132
Dibromochloromethane	50.0	49.8		ug/L		100	67 - 135
1,2-Dichlorobenzene	50.0	50.2		ug/L		100	67 - 130
1,3-Dichlorobenzene	50.0	49.4		ug/L		99	70 - 130
1,4-Dichlorobenzene	50.0	48.9		ug/L		98	70 - 130
Dichlorodifluoromethane	50.0	25.6		ug/L		51	41 - 146
1,1-Dichloroethane	50.0	56.8		ug/L		114	70 - 130
1,2-Dichloroethane	50.0	53.4		ug/L		107	69 - 130
1,1-Dichloroethene	50.0	52.0		ug/L		104	63 - 134
1,2-Dichloropropane	50.0	56.4		ug/L		113	70 - 130
1,3-Dichloropropane	50.0	47.7		ug/L		95	70 - 130
2,2-Dichloropropane	50.0	51.9		ug/L		104	52 - 135
1,1-Dichloropropene	50.0	52.4		ug/L		105	70 - 130
Ethylbenzene	50.0	47.9		ug/L		96	70 - 130
Ethyl methacrylate	50.0	48.7		ug/L		97	68 - 130
Hexachlorobutadiene	50.0	48.6		ug/L		97	53 - 140
2-Hexanone	200	178		ug/L		89	65 - 137
Isopropylbenzene	50.0	49.2		ug/L		98	70 - 130
Methylene bromide	50.0	53.9		ug/L		108	70 - 130
Methylene Chloride	50.0	53.0		ug/L		106	66 - 135
4-Methyl-2-pentanone (MIBK)	200	206		ug/L		103	69 - 138
Methyl tert-butyl ether	50.0	56.6		ug/L		113	66 - 130
m-Xylene & p-Xylene	50.0	48.2		ug/L		96	70 - 130
Naphthalene	50.0	47.3		ug/L		95	47 - 149
n-Butylbenzene	50.0	49.5		ug/L		99	67 - 130
N-Propylbenzene	50.0	50.2		ug/L		100	70 - 130
o-Chlorotoluene	50.0	47.3		ug/L		95	70 - 130
o-Xylene	50.0	48.3		ug/L		97	70 - 130
p-Chlorotoluene	50.0	49.4		ug/L		99	70 - 130
p-Isopropyltoluene	50.0	52.1		ug/L		104	65 - 130
sec-Butylbenzene	50.0	50.5		ug/L		101	66 - 130
Styrene	50.0	49.9		ug/L		100	70 - 130
tert-Butylbenzene	50.0	47.9		ug/L		96	64 - 139
1,1,1,2-Tetrachloroethane	50.0	49.0		ug/L		98	67 - 131
1,1,2,2-Tetrachloroethane	50.0	49.7		ug/L		99	70 - 131
Tetrachloroethene	50.0	46.7		ug/L		93	65 - 130
Toluene	50.0	47.2		ug/L		94	70 - 130
trans-1,2-Dichloroethene	50.0	53.8		ug/L		108	70 - 130
trans-1,3-Dichloropropene	50.0	49.0		ug/L		98	63 - 130
1,2,3-Trichlorobenzene	50.0	50.9		ug/L		102	60 - 138
1,2,4-Trichlorobenzene	50.0	51.3		ug/L		103	60 - 140
1,1,1-Trichloroethane	50.0	52.0		ug/L		104	68 - 130
1,1,2-Trichloroethane	50.0	49.7		ug/L		99	70 - 130
Trichloroethene	50.0	55.5		ug/L		111	70 - 130
Trichlorofluoromethane	50.0	46.0		ug/L		92	65 - 138

# QC Sample Results

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

Job ID: 400-254504-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-669455/1002**  
**Matrix: Water**  
**Analysis Batch: 669455**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	50.0	49.6		ug/L		99	70 - 130
1,2,4-Trimethylbenzene	50.0	49.8		ug/L		100	70 - 130
1,3,5-Trimethylbenzene	50.0	50.3		ug/L		101	69 - 130
Vinyl acetate	100	106		ug/L		106	26 - 160
Vinyl chloride	50.0	38.9		ug/L		78	59 - 136
Xylenes, Total	100	96.5		ug/L		97	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	99		72 - 130
Dibromofluoromethane	107		75 - 126
Toluene-d8 (Surr)	93		64 - 132

**Lab Sample ID: 400-254504-5 MS**  
**Matrix: Water**  
**Analysis Batch: 669455**

**Client Sample ID: MW9-ROX-041524**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	ND		200	151		ug/L		75	43 - 150
Acrolein	ND		500	505		ug/L		101	38 - 150
Acrylonitrile	ND		500	478		ug/L		96	62 - 149
Benzene	ND		50.0	43.1		ug/L		86	56 - 142
Bromobenzene	ND		50.0	41.8		ug/L		84	59 - 136
Bromochloromethane	ND		50.0	46.1		ug/L		92	64 - 140
Bromodichloromethane	ND		50.0	44.7		ug/L		89	59 - 143
Bromoform	ND		50.0	44.3		ug/L		89	50 - 140
Bromomethane	ND		50.0	39.3		ug/L		79	10 - 150
2-Butanone (MEK)	ND		200	190		ug/L		95	55 - 150
Carbon disulfide	ND		50.0	35.3		ug/L		71	48 - 150
Carbon tetrachloride	ND		50.0	42.6		ug/L		85	55 - 145
Chlorobenzene	ND		50.0	41.7		ug/L		83	64 - 130
Chloroethane	ND		50.0	36.8		ug/L		74	50 - 150
2-Chloroethyl vinyl ether	ND	F1	50.0	3.03	J F1	ug/L		6	10 - 150
Chloroform	ND		50.0	45.3		ug/L		91	60 - 141
1-Chlorohexane	ND		50.0	38.2		ug/L		76	56 - 136
Chloromethane	ND		50.0	29.4		ug/L		59	49 - 148
cis-1,2-Dichloroethene	ND		50.0	41.2		ug/L		82	59 - 143
cis-1,3-Dichloropropene	ND		50.0	44.3		ug/L		89	57 - 140
Dibromochloromethane	ND		50.0	44.9		ug/L		90	56 - 143
1,2-Dichlorobenzene	ND		50.0	41.9		ug/L		84	52 - 137
1,3-Dichlorobenzene	ND		50.0	39.9		ug/L		80	54 - 135
1,4-Dichlorobenzene	ND		50.0	40.2		ug/L		80	53 - 135
Dichlorodifluoromethane	ND		50.0	22.3		ug/L		45	16 - 150
1,1-Dichloroethane	ND		50.0	47.5		ug/L		95	61 - 144
1,2-Dichloroethane	ND		50.0	44.1		ug/L		88	60 - 141
1,1-Dichloroethene	ND		50.0	43.4		ug/L		87	54 - 147
1,2-Dichloropropane	ND		50.0	44.7		ug/L		89	66 - 137
1,3-Dichloropropane	ND		50.0	44.4		ug/L		89	66 - 133
2,2-Dichloropropane	ND		50.0	43.2		ug/L		86	42 - 144

# QC Sample Results

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

Job ID: 400-254504-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: 400-254504-5 MS**

**Matrix: Water**

**Analysis Batch: 669455**

**Client Sample ID: MW9-ROX-041524**

**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
1,1-Dichloropropene	ND		50.0	41.7		ug/L		83	65 - 136
Ethylbenzene	ND		50.0	40.1		ug/L		80	58 - 131
Ethyl methacrylate	ND		50.0	44.5		ug/L		89	64 - 130
Hexachlorobutadiene	ND		50.0	35.3		ug/L		71	31 - 149
2-Hexanone	ND		200	164		ug/L		82	65 - 140
Isopropylbenzene	ND		50.0	40.6		ug/L		81	56 - 133
Methylene bromide	ND		50.0	45.4		ug/L		91	63 - 138
Methylene Chloride	ND		50.0	42.5		ug/L		85	60 - 146
4-Methyl-2-pentanone (MIBK)	ND		200	171		ug/L		86	63 - 146
Methyl tert-butyl ether	ND		50.0	46.7		ug/L		93	59 - 137
m-Xylene & p-Xylene	ND		50.0	40.4		ug/L		81	57 - 130
Naphthalene	ND		50.0	37.7		ug/L		75	25 - 150
n-Butylbenzene	ND		50.0	38.8		ug/L		78	41 - 142
N-Propylbenzene	ND		50.0	41.6		ug/L		83	51 - 138
o-Chlorotoluene	ND		50.0	39.1		ug/L		78	53 - 134
o-Xylene	ND		50.0	40.8		ug/L		82	61 - 130
p-Chlorotoluene	ND		50.0	40.4		ug/L		81	54 - 133
p-Isopropyltoluene	ND		50.0	40.8		ug/L		82	48 - 139
sec-Butylbenzene	ND		50.0	41.6		ug/L		83	50 - 138
Styrene	ND		50.0	41.5		ug/L		83	58 - 131
tert-Butylbenzene	ND		50.0	39.8		ug/L		80	54 - 146
1,1,1,2-Tetrachloroethane	ND		50.0	43.2		ug/L		86	59 - 137
1,1,2,2-Tetrachloroethane	ND		50.0	48.6		ug/L		97	66 - 135
Tetrachloroethene	ND		50.0	37.6		ug/L		75	52 - 133
Toluene	ND		50.0	42.3		ug/L		85	65 - 130
trans-1,2-Dichloroethene	ND		50.0	41.4		ug/L		83	61 - 143
trans-1,3-Dichloropropene	ND		50.0	43.5		ug/L		87	53 - 133
1,2,3-Trichlorobenzene	ND		50.0	40.2		ug/L		80	43 - 145
1,2,4-Trichlorobenzene	ND		50.0	38.6		ug/L		77	39 - 148
1,1,1-Trichloroethane	ND		50.0	43.5		ug/L		87	57 - 142
1,1,2-Trichloroethane	ND		50.0	44.5		ug/L		89	66 - 131
Trichloroethene	ND		50.0	43.5		ug/L		87	64 - 136
Trichlorofluoromethane	ND		50.0	42.7		ug/L		85	54 - 150
1,2,3-Trichloropropane	ND		50.0	48.1		ug/L		96	65 - 133
1,2,4-Trimethylbenzene	ND		50.0	40.6		ug/L		81	50 - 139
1,3,5-Trimethylbenzene	ND		50.0	41.3		ug/L		83	52 - 135
Vinyl acetate	ND		100	92.6		ug/L		93	26 - 150
Vinyl chloride	ND		50.0	33.6		ug/L		67	46 - 150
Xylenes, Total	ND		100	81.2		ug/L		81	59 - 130

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	97		72 - 130
Dibromofluoromethane	104		75 - 126
Toluene-d8 (Surr)	98		64 - 132



# QC Sample Results

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

Job ID: 400-254504-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: 400-254504-5 MSD**

**Matrix: Water**

**Analysis Batch: 669455**

**Client Sample ID: MW9-ROX-041524**

**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	179		ug/L		90	43 - 150	17	30
Acrolein	ND		500	557		ug/L		111	38 - 150	10	31
Acrylonitrile	ND		500	520		ug/L		104	62 - 149	8	30
Benzene	ND		50.0	43.7		ug/L		87	56 - 142	1	30
Bromobenzene	ND		50.0	39.6		ug/L		79	59 - 136	5	30
Bromochloromethane	ND		50.0	46.5		ug/L		93	64 - 140	1	30
Bromodichloromethane	ND		50.0	45.0		ug/L		90	59 - 143	1	30
Bromoform	ND		50.0	44.0		ug/L		88	50 - 140	1	30
Bromomethane	ND		50.0	40.3		ug/L		81	10 - 150	3	50
2-Butanone (MEK)	ND		200	203		ug/L		102	55 - 150	7	30
Carbon disulfide	ND		50.0	36.3		ug/L		73	48 - 150	3	30
Carbon tetrachloride	ND		50.0	43.0		ug/L		86	55 - 145	1	30
Chlorobenzene	ND		50.0	41.3		ug/L		83	64 - 130	1	30
Chloroethane	ND		50.0	37.9		ug/L		76	50 - 150	3	30
2-Chloroethyl vinyl ether	ND	F1	50.0	ND	F1	ug/L		0	10 - 150	NC	50
Chloroform	ND		50.0	46.2		ug/L		92	60 - 141	2	30
1-Chlorohexane	ND		50.0	38.7		ug/L		77	56 - 136	1	30
Chloromethane	ND		50.0	30.9		ug/L		62	49 - 148	5	31
cis-1,2-Dichloroethene	ND		50.0	41.9		ug/L		84	59 - 143	2	30
cis-1,3-Dichloropropene	ND		50.0	44.6		ug/L		89	57 - 140	1	30
Dibromochloromethane	ND		50.0	45.6		ug/L		91	56 - 143	2	30
1,2-Dichlorobenzene	ND		50.0	39.3		ug/L		79	52 - 137	6	30
1,3-Dichlorobenzene	ND		50.0	37.3		ug/L		75	54 - 135	7	30
1,4-Dichlorobenzene	ND		50.0	36.7		ug/L		73	53 - 135	9	30
Dichlorodifluoromethane	ND		50.0	23.6		ug/L		47	16 - 150	6	31
1,1-Dichloroethane	ND		50.0	48.3		ug/L		97	61 - 144	2	30
1,2-Dichloroethane	ND		50.0	44.1		ug/L		88	60 - 141	0	30
1,1-Dichloroethene	ND		50.0	41.1		ug/L		82	54 - 147	6	30
1,2-Dichloropropane	ND		50.0	45.4		ug/L		91	66 - 137	2	30
1,3-Dichloropropane	ND		50.0	45.1		ug/L		90	66 - 133	2	30
2,2-Dichloropropane	ND		50.0	43.2		ug/L		86	42 - 144	0	31
1,1-Dichloropropene	ND		50.0	43.1		ug/L		86	65 - 136	3	30
Ethylbenzene	ND		50.0	40.3		ug/L		81	58 - 131	1	30
Ethyl methacrylate	ND		50.0	45.8		ug/L		92	64 - 130	3	30
Hexachlorobutadiene	ND		50.0	32.7		ug/L		65	31 - 149	8	36
2-Hexanone	ND		200	174		ug/L		87	65 - 140	6	30
Isopropylbenzene	ND		50.0	40.2		ug/L		80	56 - 133	1	30
Methylene bromide	ND		50.0	45.8		ug/L		92	63 - 138	1	30
Methylene Chloride	ND		50.0	43.8		ug/L		88	60 - 146	3	32
4-Methyl-2-pentanone (MIBK)	ND		200	180		ug/L		90	63 - 146	5	30
Methyl tert-butyl ether	ND		50.0	48.7		ug/L		97	59 - 137	4	30
m-Xylene & p-Xylene	ND		50.0	40.2		ug/L		80	57 - 130	0	30
Naphthalene	ND		50.0	34.3		ug/L		69	25 - 150	9	30
n-Butylbenzene	ND		50.0	36.9		ug/L		74	41 - 142	5	31
N-Propylbenzene	ND		50.0	39.2		ug/L		78	51 - 138	6	30
o-Chlorotoluene	ND		50.0	38.5		ug/L		77	53 - 134	2	30
o-Xylene	ND		50.0	40.3		ug/L		81	61 - 130	1	30
p-Chlorotoluene	ND		50.0	38.1		ug/L		76	54 - 133	6	30

# QC Sample Results

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

Job ID: 400-254504-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-254504-5 MSD

Matrix: Water

Analysis Batch: 669455

Client Sample ID: MW9-ROX-041524

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	38.4		ug/L		77	48 - 139	6	30
sec-Butylbenzene	ND		50.0	39.4		ug/L		79	50 - 138	5	30
Styrene	ND		50.0	40.7		ug/L		81	58 - 131	2	30
tert-Butylbenzene	ND		50.0	37.7		ug/L		75	54 - 146	5	30
1,1,1,2-Tetrachloroethane	ND		50.0	42.6		ug/L		85	59 - 137	1	30
1,1,2,2-Tetrachloroethane	ND		50.0	48.2		ug/L		96	66 - 135	1	30
Tetrachloroethene	ND		50.0	38.0		ug/L		76	52 - 133	1	30
Toluene	ND		50.0	42.5		ug/L		85	65 - 130	0	30
trans-1,2-Dichloroethene	ND		50.0	44.2		ug/L		88	61 - 143	6	30
trans-1,3-Dichloropropene	ND		50.0	43.7		ug/L		87	53 - 133	1	30
1,2,3-Trichlorobenzene	ND		50.0	35.7		ug/L		71	43 - 145	12	30
1,2,4-Trichlorobenzene	ND		50.0	34.3		ug/L		69	39 - 148	12	30
1,1,1-Trichloroethane	ND		50.0	44.2		ug/L		88	57 - 142	2	30
1,1,2-Trichloroethane	ND		50.0	45.4		ug/L		91	66 - 131	2	30
Trichloroethene	ND		50.0	43.0		ug/L		86	64 - 136	1	30
Trichlorofluoromethane	ND		50.0	46.0		ug/L		92	54 - 150	8	30
1,2,3-Trichloropropane	ND		50.0	46.1		ug/L		92	65 - 133	4	30
1,2,4-Trimethylbenzene	ND		50.0	38.4		ug/L		77	50 - 139	6	30
1,3,5-Trimethylbenzene	ND		50.0	39.7		ug/L		79	52 - 135	4	30
Vinyl acetate	ND		100	97.1		ug/L		97	26 - 150	5	33
Vinyl chloride	ND		50.0	36.6		ug/L		73	46 - 150	9	30
Xylenes, Total	ND		100	80.5		ug/L		80	59 - 130	1	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene	98		72 - 130
Dibromofluoromethane	104		75 - 126
Toluene-d8 (Surr)	98		64 - 132

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

Lab Sample ID: MB 400-668738/1-A

Matrix: Water

Analysis Batch: 668876

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 668738

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	8.7	ug/L		04/21/24 13:38	04/22/24 21:23	1
Benzenethiol	ND		10	9.9	ug/L		04/21/24 13:38	04/22/24 21:23	1
Benzoic acid	ND		30	24	ug/L		04/21/24 13:38	04/22/24 21:23	1
Benzyl alcohol	ND		10	7.3	ug/L		04/21/24 13:38	04/22/24 21:23	1
Bis(2-chloroethoxy)methane	ND		10	4.6	ug/L		04/21/24 13:38	04/22/24 21:23	1
Bis(2-chloroethyl)ether	ND		10	3.9	ug/L		04/21/24 13:38	04/22/24 21:23	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		04/21/24 13:38	04/22/24 21:23	1
Bis(2-ethylhexyl) phthalate	ND		10	8.9	ug/L		04/21/24 13:38	04/22/24 21:23	1
4-Bromophenyl phenyl ether	ND		10	8.6	ug/L		04/21/24 13:38	04/22/24 21:23	1
Butyl benzyl phthalate	ND		10	5.8	ug/L		04/21/24 13:38	04/22/24 21:23	1
4-Chloroaniline	ND		10	4.7	ug/L		04/21/24 13:38	04/22/24 21:23	1
4-Chloro-3-methylphenol	ND		10	5.3	ug/L		04/21/24 13:38	04/22/24 21:23	1
2-Chloronaphthalene	ND		10	3.8	ug/L		04/21/24 13:38	04/22/24 21:23	1
2-Chlorophenol	ND		10	4.1	ug/L		04/21/24 13:38	04/22/24 21:23	1

Eurofins Pensacola

# QC Sample Results

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

Job ID: 400-254504-1

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

**Lab Sample ID: MB 400-668738/1-A**  
**Matrix: Water**  
**Analysis Batch: 668876**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 668738**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
4-Chlorophenyl phenyl ether	ND		10	3.7	ug/L		04/21/24 13:38	04/22/24 21:23	1
Dibenz[a,h]acridine	ND		10	2.8	ug/L		04/21/24 13:38	04/22/24 21:23	1
Dibenzofuran	ND		10	4.0	ug/L		04/21/24 13:38	04/22/24 21:23	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/21/24 13:38	04/22/24 21:23	1
2,4-Dichlorophenol	ND		10	4.3	ug/L		04/21/24 13:38	04/22/24 21:23	1
Diethyl phthalate	ND		10	4.4	ug/L		04/21/24 13:38	04/22/24 21:23	1
2,4-Dimethylphenol	ND		10	5.2	ug/L		04/21/24 13:38	04/22/24 21:23	1
Dimethyl phthalate	ND		10	4.2	ug/L		04/21/24 13:38	04/22/24 21:23	1
Di-n-butyl phthalate	ND		10	4.6	ug/L		04/21/24 13:38	04/22/24 21:23	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		04/21/24 13:38	04/22/24 21:23	1
2,4-Dinitrophenol	ND		30	4.6	ug/L		04/21/24 13:38	04/22/24 21:23	1
2,4-Dinitrotoluene	ND		10	5.1	ug/L		04/21/24 13:38	04/22/24 21:23	1
2,6-Dinitrotoluene	ND		10	3.9	ug/L		04/21/24 13:38	04/22/24 21:23	1
Di-n-octyl phthalate	ND		10	6.0	ug/L		04/21/24 13:38	04/22/24 21:23	1
1,4-Dioxane	ND		10	4.3	ug/L		04/21/24 13:38	04/22/24 21:23	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.3	ug/L		04/21/24 13:38	04/22/24 21:23	1
Hexachlorobenzene	ND		10	9.7	ug/L		04/21/24 13:38	04/22/24 21:23	1
Hexachlorocyclopentadiene	ND		20	4.5	ug/L		04/21/24 13:38	04/22/24 21:23	1
Hexachloroethane	ND		10	5.2	ug/L		04/21/24 13:38	04/22/24 21:23	1
Indene	ND		10	3.6	ug/L		04/21/24 13:38	04/22/24 21:23	1
Isophorone	ND		10	5.2	ug/L		04/21/24 13:38	04/22/24 21:23	1
2-Methylphenol	ND		10	3.2	ug/L		04/21/24 13:38	04/22/24 21:23	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		04/21/24 13:38	04/22/24 21:23	1
2-Nitroaniline	ND		10	5.0	ug/L		04/21/24 13:38	04/22/24 21:23	1
3-Nitroaniline	ND		10	4.7	ug/L		04/21/24 13:38	04/22/24 21:23	1
4-Nitroaniline	ND		10	4.1	ug/L		04/21/24 13:38	04/22/24 21:23	1
Nitrobenzene	ND		10	4.7	ug/L		04/21/24 13:38	04/22/24 21:23	1
2-Nitrophenol	ND		10	4.6	ug/L		04/21/24 13:38	04/22/24 21:23	1
4-Nitrophenol	ND		10	3.3	ug/L		04/21/24 13:38	04/22/24 21:23	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		04/21/24 13:38	04/22/24 21:23	1
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		04/21/24 13:38	04/22/24 21:23	1
N-Nitrosodiphenylamine	ND		10	3.7	ug/L		04/21/24 13:38	04/22/24 21:23	1
Pentachlorophenol	ND		20	12	ug/L		04/21/24 13:38	04/22/24 21:23	1
Phenol	ND		10	4.2	ug/L		04/21/24 13:38	04/22/24 21:23	1
Pyridine	ND		10	10	ug/L		04/21/24 13:38	04/22/24 21:23	1
Quinoline	ND		10	2.4	ug/L		04/21/24 13:38	04/22/24 21:23	1
2,4,5-Trichlorophenol	ND		10	4.0	ug/L		04/21/24 13:38	04/22/24 21:23	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/21/24 13:38	04/22/24 21:23	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2-Fluorobiphenyl	65		21 - 114	04/21/24 13:38	04/22/24 21:23	1
2-Fluorophenol	45		10 - 105	04/21/24 13:38	04/22/24 21:23	1
Nitrobenzene-d5	57		16 - 127	04/21/24 13:38	04/22/24 21:23	1
Phenol-d5	32		10 - 129	04/21/24 13:38	04/22/24 21:23	1
Terphenyl-d14	76		13 - 150	04/21/24 13:38	04/22/24 21:23	1
2,4,6-Tribromophenol	57		10 - 150	04/21/24 13:38	04/22/24 21:23	1

# QC Sample Results

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

Job ID: 400-254504-1

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

**Lab Sample ID: LCS 400-668738/2-A**  
**Matrix: Water**  
**Analysis Batch: 668876**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 668738**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aniline	120	49.3		ug/L		41	10 - 127
Benzoic acid	492	225		ug/L		46	19 - 126
Benzyl alcohol	120	87.3		ug/L		73	17 - 109
Bis(2-chloroethoxy)methane	120	83.9		ug/L		70	24 - 125
Bis(2-chloroethyl)ether	120	84.3		ug/L		70	10 - 121
bis (2-chloroisopropyl) ether	120	84.7		ug/L		71	14 - 123
Bis(2-ethylhexyl) phthalate	120	112		ug/L		93	16 - 150
4-Bromophenyl phenyl ether	120	106		ug/L		89	17 - 150
Butyl benzyl phthalate	120	106		ug/L		88	21 - 150
4-Chloroaniline	120	86.5		ug/L		72	10 - 124
4-Chloro-3-methylphenol	120	87.6		ug/L		73	37 - 131
2-Chloronaphthalene	120	90.8		ug/L		76	24 - 132
2-Chlorophenol	120	88.6		ug/L		74	27 - 124
4-Chlorophenyl phenyl ether	120	95.6		ug/L		80	27 - 147
Dibenz[a,h]acridine	120	122		ug/L		102	40 - 140
Dibenzofuran	120	96.6		ug/L		81	30 - 135
3,3'-Dichlorobenzidine	160	141		ug/L		88	10 - 150
2,4-Dichlorophenol	120	85.3		ug/L		71	33 - 132
Diethyl phthalate	120	111		ug/L		92	37 - 145
2,4-Dimethylphenol	120	103		ug/L		86	38 - 132
Dimethyl phthalate	120	103		ug/L		86	32 - 137
Di-n-butyl phthalate	120	113		ug/L		95	27 - 150
4,6-Dinitro-ortho-cresol	240	239		ug/L		100	14 - 150
2,4-Dinitrophenol	240	311		ug/L		130	15 - 150
2,4-Dinitrotoluene	120	96.4		ug/L		80	35 - 136
2,6-Dinitrotoluene	120	89.5		ug/L		75	29 - 140
Di-n-octyl phthalate	120	98.8		ug/L		82	26 - 150
1,4-Dioxane	120	61.6		ug/L		51	10 - 87
1,2-Diphenylhydrazine (as Azobenzene)	120	110		ug/L		92	23 - 138
Hexachlorobenzene	120	111		ug/L		92	10 - 150
Hexachlorocyclopentadiene	120	97.1		ug/L		81	10 - 124
Hexachloroethane	120	82.6		ug/L		69	10 - 127
Indene	120	90.3		ug/L		75	18 - 150
Isophorone	120	85.7		ug/L		71	28 - 127
2-Methylphenol	120	90.7		ug/L		76	34 - 124
3 & 4 Methylphenol	120	88.0		ug/L		73	32 - 122
2-Nitroaniline	120	93.8		ug/L		78	24 - 139
3-Nitroaniline	120	80.7		ug/L		67	10 - 128
4-Nitroaniline	120	89.9		ug/L		75	28 - 118
Nitrobenzene	120	83.3		ug/L		69	29 - 120
2-Nitrophenol	120	82.0		ug/L		68	25 - 148
4-Nitrophenol	240	196		ug/L		82	12 - 129
N-Nitrosodimethylamine	120	65.3		ug/L		54	10 - 115
N-Nitrosodi-n-propylamine	120	98.3		ug/L		82	24 - 142
N-Nitrosodiphenylamine	119	104		ug/L		87	29 - 138
Pentachlorophenol	240	198		ug/L		83	19 - 150
Phenol	120	65.9		ug/L		55	11 - 95
Pyridine	240	65.2		ug/L		27	10 - 82

# QC Sample Results

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

Job ID: 400-254504-1

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

**Lab Sample ID: LCS 400-668738/2-A**  
**Matrix: Water**  
**Analysis Batch: 668876**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 668738**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Quinoline	120	94.4		ug/L		79	40 - 140
2,4,5-Trichlorophenol	120	90.0		ug/L		75	30 - 144
2,4,6-Trichlorophenol	120	92.2		ug/L		77	27 - 147

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	76		21 - 114
2-Fluorophenol	60		10 - 105
Nitrobenzene-d5	80		16 - 127
Phenol-d5	53		10 - 129
Terphenyl-d14	93		13 - 150
2,4,6-Tribromophenol	88		10 - 150

**Lab Sample ID: LCS 400-668738/7-A**  
**Matrix: Water**  
**Analysis Batch: 668876**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 668738**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzenethiol	120	77.7		ug/L		65	10 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	76		21 - 114
2-Fluorophenol	54		10 - 105
Nitrobenzene-d5	68		16 - 127
Phenol-d5	41		10 - 129
Terphenyl-d14	91		13 - 150
2,4,6-Tribromophenol	63		10 - 150

**Lab Sample ID: LCSD 400-668738/8-A**  
**Matrix: Water**  
**Analysis Batch: 668876**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 668738**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzenethiol	120	73.4		ug/L		61	10 - 140	NaN	40

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	69		21 - 114
2-Fluorophenol	49		10 - 105
Nitrobenzene-d5	60		16 - 127
Phenol-d5	38		10 - 129
Terphenyl-d14	87		13 - 150
2,4,6-Tribromophenol	59		10 - 150

**Lab Sample ID: 400-254504-5 MS**  
**Matrix: Water**  
**Analysis Batch: 668876**

**Client Sample ID: MW9-ROX-041524**  
**Prep Type: Total/NA**  
**Prep Batch: 668738**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Aniline	ND	F1	116	42.3	F1	ug/L		36	50 - 150

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# QC Sample Results

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

Job ID: 400-254504-1

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

**Lab Sample ID: 400-254504-5 MS**

**Matrix: Water**

**Analysis Batch: 668876**

**Client Sample ID: MW9-ROX-041524**

**Prep Type: Total/NA**

**Prep Batch: 668738**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
Benzoic acid	ND	F1	476	232	F1	ug/L		49	50 - 150
Benzyl alcohol	ND		116	84.0		ug/L		72	50 - 150
Bis(2-chloroethoxy)methane	ND		116	81.1		ug/L		70	50 - 150
Bis(2-chloroethyl)ether	ND		116	85.3		ug/L		73	50 - 150
bis (2-chloroisopropyl) ether	ND		116	84.7		ug/L		73	50 - 150
Bis(2-ethylhexyl) phthalate	ND		116	109		ug/L		94	50 - 150
4-Bromophenyl phenyl ether	ND		116	99.8		ug/L		86	50 - 150
Butyl benzyl phthalate	ND		116	103		ug/L		89	50 - 150
4-Chloroaniline	ND		116	80.1		ug/L		69	50 - 150
4-Chloro-3-methylphenol	ND		116	80.0		ug/L		69	50 - 150
2-Chloronaphthalene	ND		116	88.6		ug/L		76	50 - 150
2-Chlorophenol	ND		116	86.8		ug/L		75	50 - 150
4-Chlorophenyl phenyl ether	ND		116	89.1		ug/L		77	50 - 150
Dibenz[a,h]acridine	3.8	J	116	111		ug/L		92	50 - 150
Dibenzofuran	ND		116	90.3		ug/L		78	50 - 150
3,3'-Dichlorobenzidine	ND		155	129		ug/L		83	50 - 150
2,4-Dichlorophenol	ND		116	80.6		ug/L		69	50 - 150
Diethyl phthalate	ND		116	102		ug/L		88	50 - 150
2,4-Dimethylphenol	ND		116	97.1		ug/L		84	50 - 150
Dimethyl phthalate	ND		116	94.6		ug/L		81	50 - 150
Di-n-butyl phthalate	ND		116	105		ug/L		91	50 - 150
4,6-Dinitro-ortho-cresol	ND		232	213		ug/L		92	50 - 150
2,4-Dinitrophenol	ND		232	271		ug/L		117	50 - 150
2,4-Dinitrotoluene	ND		116	86.2		ug/L		74	50 - 150
2,6-Dinitrotoluene	ND		116	83.5		ug/L		72	50 - 150
Di-n-octyl phthalate	ND		116	96.5		ug/L		83	50 - 150
1,4-Dioxane	ND	F1	116	17.5	F1	ug/L		15	50 - 150
1,2-Diphenylhydrazine (as Azobenzene)	ND		116	105		ug/L		91	50 - 150
Hexachlorobenzene	ND		116	103		ug/L		88	50 - 150
Hexachlorocyclopentadiene	ND		116	93.1		ug/L		80	50 - 150
Hexachloroethane	ND		116	86.2		ug/L		74	50 - 150
Indene	ND		116	90.4		ug/L		78	50 - 150
Isophorone	ND		116	83.1		ug/L		72	50 - 150
2-Methylphenol	ND		116	85.4		ug/L		74	50 - 150
3 & 4 Methylphenol	ND		116	83.7		ug/L		72	50 - 150
2-Nitroaniline	ND		116	86.7		ug/L		75	50 - 150
3-Nitroaniline	ND		116	73.2		ug/L		63	50 - 150
4-Nitroaniline	ND		116	76.1		ug/L		66	50 - 150
Nitrobenzene	ND		116	81.6		ug/L		70	50 - 150
2-Nitrophenol	ND		116	80.8		ug/L		70	50 - 150
4-Nitrophenol	ND		232	168		ug/L		72	50 - 150
N-Nitrosodimethylamine	ND		116	61.0		ug/L		53	50 - 150
N-Nitrosodi-n-propylamine	ND		116	94.3		ug/L		81	50 - 150
N-Nitrosodiphenylamine	ND		115	95.1		ug/L		83	50 - 150
Pentachlorophenol	ND		232	172		ug/L		74	50 - 150
Phenol	ND		116	63.7		ug/L		55	50 - 150
Pyridine	ND	F1	232	69.6	F1	ug/L		30	50 - 150
Quinoline	ND		116	90.4		ug/L		78	50 - 150



# QC Sample Results

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

Job ID: 400-254504-1

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

**Lab Sample ID: 400-254504-5 MS**

**Matrix: Water**

**Analysis Batch: 668876**

**Client Sample ID: MW9-ROX-041524**

**Prep Type: Total/NA**

**Prep Batch: 668738**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier	Added	Result	Qualifier				
2,4,5-Trichlorophenol	ND		116	82.6		ug/L		71	50 - 150
2,4,6-Trichlorophenol	ND		116	86.1		ug/L		74	50 - 150
<b>MS MS</b>									
Surrogate	%Recovery	Qualifier	Limits						
2-Fluorobiphenyl	76		21 - 114						
2-Fluorophenol	61		10 - 105						
Nitrobenzene-d5	82		16 - 127						
Phenol-d5	54		10 - 129						
Terphenyl-d14	88		13 - 150						
2,4,6-Tribromophenol	85		10 - 150						

**Lab Sample ID: 400-254504-5 MSD**

**Matrix: Water**

**Analysis Batch: 668876**

**Client Sample ID: MW9-ROX-041524**

**Prep Type: Total/NA**

**Prep Batch: 668738**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier						
Aniline	ND	F1	118	51.7	F1	ug/L		44	50 - 150	20	40
Benzoic acid	ND	F1	483	263		ug/L		54	50 - 150	12	40
Benzyl alcohol	ND		118	84.8		ug/L		72	50 - 150	1	40
Bis(2-chloroethoxy)methane	ND		118	82.9		ug/L		70	50 - 150	2	40
Bis(2-chloroethyl)ether	ND		118	89.7		ug/L		76	50 - 150	5	40
bis (2-chloroisopropyl) ether	ND		118	84.4		ug/L		72	50 - 150	0	40
Bis(2-ethylhexyl) phthalate	ND		118	121		ug/L		103	50 - 150	10	40
4-Bromophenyl phenyl ether	ND		118	107		ug/L		91	50 - 150	7	40
Butyl benzyl phthalate	ND		118	114		ug/L		97	50 - 150	10	40
4-Chloroaniline	ND		118	85.0		ug/L		72	50 - 150	6	40
4-Chloro-3-methylphenol	ND		118	85.7		ug/L		73	50 - 150	7	40
2-Chloronaphthalene	ND		118	90.4		ug/L		77	50 - 150	2	40
2-Chlorophenol	ND		118	87.3		ug/L		74	50 - 150	1	40
4-Chlorophenyl phenyl ether	ND		118	95.0		ug/L		81	50 - 150	6	40
Dibenz[a,h]acridine	3.8	J	117	121		ug/L		100	50 - 150	9	40
Dibenzofuran	ND		118	95.1		ug/L		81	50 - 150	5	40
3,3'-Dichlorobenzidine	ND		157	145		ug/L		92	50 - 150	12	40
2,4-Dichlorophenol	ND		118	83.3		ug/L		71	50 - 150	3	40
Diethyl phthalate	ND		118	112		ug/L		95	50 - 150	9	40
2,4-Dimethylphenol	ND		118	101		ug/L		86	50 - 150	4	40
Dimethyl phthalate	ND		118	102		ug/L		87	50 - 150	8	40
Di-n-butyl phthalate	ND		118	119		ug/L		101	50 - 150	12	40
4,6-Dinitro-ortho-cresol	ND		235	243		ug/L		103	50 - 150	13	40
2,4-Dinitrophenol	ND		235	301		ug/L		128	50 - 150	11	40
2,4-Dinitrotoluene	ND		118	95.0		ug/L		81	50 - 150	10	40
2,6-Dinitrotoluene	ND		118	88.8		ug/L		75	50 - 150	6	40
Di-n-octyl phthalate	ND		118	109		ug/L		92	50 - 150	12	40
1,4-Dioxane	ND	F1	118	18.0	F1	ug/L		15	50 - 150	3	40
1,2-Diphenylhydrazine (as Azobenzene)	ND		118	112		ug/L		95	50 - 150	6	40
Hexachlorobenzene	ND		118	113		ug/L		96	50 - 150	9	40
Hexachlorocyclopentadiene	ND		118	93.9		ug/L		80	50 - 150	1	40
Hexachloroethane	ND		118	86.0		ug/L		73	50 - 150	0	40

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# QC Sample Results

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

Job ID: 400-254504-1

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

**Lab Sample ID: 400-254504-5 MSD**

**Matrix: Water**

**Analysis Batch: 668876**

**Client Sample ID: MW9-ROX-041524**

**Prep Type: Total/NA**

**Prep Batch: 668738**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier						
Indene	ND		118	90.6		ug/L		77	50 - 150	0	40
Isophorone	ND		118	84.8		ug/L		72	50 - 150	2	40
2-Methylphenol	ND		118	89.7		ug/L		76	50 - 150	5	40
3 & 4 Methylphenol	ND		118	87.1		ug/L		74	50 - 150	4	40
2-Nitroaniline	ND		118	92.1		ug/L		78	50 - 150	6	40
3-Nitroaniline	ND		118	78.6		ug/L		67	50 - 150	7	40
4-Nitroaniline	ND		118	84.4		ug/L		72	50 - 150	10	40
Nitrobenzene	ND		118	81.9		ug/L		70	50 - 150	0	40
2-Nitrophenol	ND		118	81.6		ug/L		69	50 - 150	1	40
4-Nitrophenol	ND		235	189		ug/L		80	50 - 150	12	40
N-Nitrosodimethylamine	ND		118	64.3		ug/L		55	50 - 150	5	40
N-Nitrosodi-n-propylamine	ND		118	96.5		ug/L		82	50 - 150	2	40
N-Nitrosodiphenylamine	ND		117	103		ug/L		89	50 - 150	8	40
Pentachlorophenol	ND		235	196		ug/L		83	50 - 150	13	40
Phenol	ND		118	66.3		ug/L		56	50 - 150	4	40
Pyridine	ND	F1	235	100	F1	ug/L		42	50 - 150	36	40
Quinoline	ND		117	98.3		ug/L		84	50 - 150	8	40
2,4,5-Trichlorophenol	ND		118	87.3		ug/L		74	50 - 150	6	40
2,4,6-Trichlorophenol	ND		118	89.9		ug/L		76	50 - 150	4	40

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	77		21 - 114
2-Fluorophenol	61		10 - 105
Nitrobenzene-d5	81		16 - 127
Phenol-d5	54		10 - 129
Terphenyl-d14	99		13 - 150
2,4,6-Tribromophenol	89		10 - 150

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

**Lab Sample ID: MB 400-668738/1-A**

**Matrix: Water**

**Analysis Batch: 668890**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 668738**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acenaphthene	ND		0.20	0.099	ug/L		04/21/24 13:38	04/23/24 08:12	1
Acenaphthylene	ND		0.20	0.044	ug/L		04/21/24 13:38	04/23/24 08:12	1
Anthracene	ND		0.20	0.047	ug/L		04/21/24 13:38	04/23/24 08:12	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		04/21/24 13:38	04/23/24 08:12	1
Benzo[a]pyrene	ND		0.20	0.064	ug/L		04/21/24 13:38	04/23/24 08:12	1
Benzo[b]fluoranthene	0.0597	J	0.20	0.037	ug/L		04/21/24 13:38	04/23/24 08:12	1
Benzo[g,h,i]perylene	0.0460	J	0.20	0.027	ug/L		04/21/24 13:38	04/23/24 08:12	1
Benzo[k]fluoranthene	0.0819	J	0.20	0.062	ug/L		04/21/24 13:38	04/23/24 08:12	1
Chrysene	0.0534	J	0.20	0.033	ug/L		04/21/24 13:38	04/23/24 08:12	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		04/21/24 13:38	04/23/24 08:12	1
Fluoranthene	ND		0.20	0.034	ug/L		04/21/24 13:38	04/23/24 08:12	1
Fluorene	ND		0.20	0.089	ug/L		04/21/24 13:38	04/23/24 08:12	1
Indeno[1,2,3-cd]pyrene	0.0441	J	0.20	0.034	ug/L		04/21/24 13:38	04/23/24 08:12	1
Phenanthrene	ND		0.20	0.090	ug/L		04/21/24 13:38	04/23/24 08:12	1

Eurofins Pensacola

# QC Sample Results

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

Job ID: 400-254504-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: MB 400-668738/1-A**  
**Matrix: Water**  
**Analysis Batch: 668890**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 668738**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Pyrene	ND		0.20	0.039	ug/L		04/21/24 13:38	04/23/24 08:12	1
1-Methylnaphthalene	ND		0.20	0.080	ug/L		04/21/24 13:38	04/23/24 08:12	1
2-Methylnaphthalene	ND		0.20	0.066	ug/L		04/21/24 13:38	04/23/24 08:12	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Terphenyl-d14	71		18 - 147	04/21/24 13:38	04/23/24 08:12	1
2-Fluorobiphenyl	50		15 - 128	04/21/24 13:38	04/23/24 08:12	1
Nitrobenzene-d5	49		10 - 144	04/21/24 13:38	04/23/24 08:12	1

**Lab Sample ID: LCS 400-668738/2-A**  
**Matrix: Water**  
**Analysis Batch: 668890**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 668738**

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Acenaphthene	120	89.2		ug/L		74	10 - 140
Acenaphthylene	120	80.0		ug/L		67	10 - 140
Anthracene	120	84.2		ug/L		70	19 - 140
Benzo[a]anthracene	120	79.8		ug/L		67	25 - 140
Benzo[a]pyrene	120	82.3		ug/L		69	24 - 140
Benzo[b]fluoranthene	120	95.9		ug/L		80	34 - 140
Benzo[g,h,i]perylene	120	102		ug/L		85	13 - 140
Benzo[k]fluoranthene	120	112		ug/L		93	21 - 140
Chrysene	120	101		ug/L		84	28 - 140
Dibenz(a,h)anthracene	120	101		ug/L		84	10 - 140
Fluoranthene	120	82.4		ug/L		69	18 - 140
Fluorene	120	93.9		ug/L		78	16 - 140
Indeno[1,2,3-cd]pyrene	120	101		ug/L		84	10 - 140
Phenanthrene	120	92.5		ug/L		77	22 - 140
Pyrene	120	87.6		ug/L		73	38 - 140
1-Methylnaphthalene	120	70.5		ug/L		59	10 - 140
2-Methylnaphthalene	120	69.3		ug/L		58	10 - 140

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Terphenyl-d14	81		18 - 147
2-Fluorobiphenyl	70		15 - 128
Nitrobenzene-d5	50		10 - 144

**Lab Sample ID: 400-254504-5 MS**  
**Matrix: Water**  
**Analysis Batch: 668890**

**Client Sample ID: MW9-ROX-041524**  
**Prep Type: Total/NA**  
**Prep Batch: 668738**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec Limits
				Result	Qualifier				
Acenaphthene	ND		116	80.3		ug/L		69	50 - 150
Acenaphthylene	ND		116	70.8		ug/L		61	50 - 150
Anthracene	ND		116	70.0		ug/L		60	50 - 150
Benzo[a]anthracene	ND		116	66.2		ug/L		57	50 - 150
Benzo[a]pyrene	ND		116	76.3		ug/L		66	50 - 150
Benzo[b]fluoranthene	ND		116	91.9		ug/L		79	50 - 150

# QC Sample Results

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

Job ID: 400-254504-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: 400-254504-5 MS**

**Matrix: Water**

**Analysis Batch: 668890**

**Client Sample ID: MW9-ROX-041524**

**Prep Type: Total/NA**

**Prep Batch: 668738**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier					
Benzo[g,h,i]perylene	ND		116	81.5		ug/L		70		50 - 150
Benzo[k]fluoranthene	ND		116	94.5		ug/L		81		50 - 150
Chrysene	ND		116	88.6		ug/L		76		50 - 150
Dibenz(a,h)anthracene	ND		116	73.3		ug/L		63		50 - 150
Fluoranthene	ND		116	62.9		ug/L		54		50 - 150
Fluorene	ND		116	79.6		ug/L		69		50 - 150
Indeno[1,2,3-cd]pyrene	ND		116	79.4		ug/L		68		50 - 150
Phenanthrene	ND		116	79.1		ug/L		68		50 - 150
Pyrene	ND		116	85.2		ug/L		73		50 - 150
1-Methylnaphthalene	ND		116	64.6		ug/L		56		50 - 150
2-Methylnaphthalene	ND		116	63.5		ug/L		55		50 - 150
		<b>MS</b>	<b>MS</b>							
<b>Surrogate</b>		<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>						
<i>Terphenyl-d14</i>		79		18 - 147						
<i>2-Fluorobiphenyl</i>		67		15 - 128						
<i>Nitrobenzene-d5</i>		49		10 - 144						

**Lab Sample ID: 400-254504-5 MSD**

**Matrix: Water**

**Analysis Batch: 668890**

**Client Sample ID: MW9-ROX-041524**

**Prep Type: Total/NA**

**Prep Batch: 668738**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier						
Acenaphthene	ND		118	75.7		ug/L		64		6	40
Acenaphthylene	ND		118	65.8		ug/L		56		7	40
Anthracene	ND		118	69.3		ug/L		59		1	40
Benzo[a]anthracene	ND		118	65.1		ug/L		55		2	40
Benzo[a]pyrene	ND		118	81.0		ug/L		69		6	40
Benzo[b]fluoranthene	ND		118	94.0		ug/L		80		2	40
Benzo[g,h,i]perylene	ND		118	83.7		ug/L		71		3	40
Benzo[k]fluoranthene	ND		118	104		ug/L		89		10	40
Chrysene	ND		118	89.1		ug/L		76		0	40
Dibenz(a,h)anthracene	ND		118	81.6		ug/L		69		11	40
Fluoranthene	ND		118	62.7		ug/L		53		0	40
Fluorene	ND		118	77.4		ug/L		66		3	40
Indeno[1,2,3-cd]pyrene	ND		118	78.3		ug/L		67		1	40
Phenanthrene	ND		118	77.8		ug/L		66		2	40
Pyrene	ND		118	82.8		ug/L		70		3	40
1-Methylnaphthalene	ND		118	60.4		ug/L		51		7	40
2-Methylnaphthalene	ND		118	59.3		ug/L		50		7	40
		<b>MSD</b>	<b>MSD</b>								
<b>Surrogate</b>		<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>							
<i>Terphenyl-d14</i>		72		18 - 147							
<i>2-Fluorobiphenyl</i>		61		15 - 128							
<i>Nitrobenzene-d5</i>		45		10 - 144							

# QC Sample Results

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

Job ID: 400-254504-1

## Method: 8011 - EDB and DBCP in Water by Microextraction

**Lab Sample ID: MB 400-668964/1-A**  
**Matrix: Water**  
**Analysis Batch: 669021**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 668964**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2-Dibromo-3-Chloropropane	ND		0.030	0.017	ug/L		04/23/24 09:56	04/23/24 16:02	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		04/23/24 09:56	04/23/24 16:02	1
		MB	MB						
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
4-Bromofluorobenzene	70		51 - 149			04/23/24 09:56	04/23/24 16:02	1	

**Lab Sample ID: LCS 400-668964/2-A**  
**Matrix: Water**  
**Analysis Batch: 669021**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 668964**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	Limits	RPD	Limit
		Result	Qualifier						
1,2-Dibromo-3-Chloropropane	0.101	0.117		ug/L		117	60 - 140		
1,2-Dibromoethane	0.100	0.114		ug/L		114	60 - 140		
		LCS	LCS			%Rec			
Surrogate	%Recovery	Qualifier	Limits						
4-Bromofluorobenzene	81	p	51 - 149						

**Lab Sample ID: LCSD 400-668964/3-A**  
**Matrix: Water**  
**Analysis Batch: 669021**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 668964**

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	Limits	RPD	Limit
		Result	Qualifier						
1,2-Dibromo-3-Chloropropane	0.101	0.117		ug/L		116	60 - 140	1	30
1,2-Dibromoethane	0.100	0.121		ug/L		121	60 - 140	6	30
		LCSD	LCSD			%Rec			
Surrogate	%Recovery	Qualifier	Limits						
4-Bromofluorobenzene	89	p	51 - 149						

**Lab Sample ID: 400-254504-5 MS**  
**Matrix: Water**  
**Analysis Batch: 669021**

**Client Sample ID: MW9-ROX-041524**  
**Prep Type: Total/NA**  
**Prep Batch: 668964**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS	MS	Unit	D	%Rec	Limits	RPD	Limit
				Result	Qualifier						
1,2-Dibromo-3-Chloropropane	ND	*+	0.0981	0.110		ug/L		112	10 - 150		
1,2-Dibromoethane	ND	*+	0.0977	0.133		ug/L		136	39 - 150		
		MS	MS					%Rec			
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene	93		51 - 149								

**Lab Sample ID: 400-254504-5 MSD**  
**Matrix: Water**  
**Analysis Batch: 669021**

**Client Sample ID: MW9-ROX-041524**  
**Prep Type: Total/NA**  
**Prep Batch: 668964**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD	MSD	Unit	D	%Rec	Limits	RPD	Limit
				Result	Qualifier						
1,2-Dibromo-3-Chloropropane	ND	*+	0.102	0.106		ug/L		104	10 - 150	4	20
1,2-Dibromoethane	ND	*+	0.102	0.115		ug/L		113	39 - 150	15	20

# QC Sample Results

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

Job ID: 400-254504-1

## Method: 8011 - EDB and DBCP in Water by Microextraction (Continued)

Lab Sample ID: 400-254504-5 MSD  
Matrix: Water  
Analysis Batch: 669021

Client Sample ID: MW9-ROX-041524  
Prep Type: Total/NA  
Prep Batch: 668964

<i>Surrogate</i>	<i>MSD</i>	<i>MSD</i>	<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
4-Bromofluorobenzene	80		51 - 149

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ACCOUNT ( )  
 CALSCIENCE ( )  
 TESTAMERICA (TestAmerica Pensacola; 3355 McLemore Dr. Pensacola, FL 32514 (850-474-1001))  
 Other ( )

PIPELINE  RETAIL  
 CHEMICALS  CONSULTANT  LUBES  
 TRANSPORTATION  OTHER\_ENV\_SERVICES

**Print Bill To Contact Name:** Melissa Remiger  
**PlatNet Site or Project ID:** 29278  
**PO #:** **GSAP Project ID:** USPC/00114/R/02  
**State:** IL  
**EDF DELIVERABLE TO (Name, Company, Office Location):** 900 South Central Ave; ROXANA  
**PHONE NO.:** 314-802-1207  
**EMAIL:** melissa.remiger@aecom.com  
**EDF DELIVERABLE TO (Name, Company, Office Location):** Roxana Quarterly GW  
**60721927 - 3.2.2**  
**LAB USE ONLY**  
**AECOM Project / Task Number:** 60721927 - 3.2.2  
**SAMPLER NAME(S) (Print):** M. Massa, T. Jenkins  
**SAFETY:**

**REQUESTED ANALYSIS:** 60721927 - 3.2.2  
**TEMPERATURE ON RECEIPT C°:**  
**Container PID Readings or Laboratory Notes:**

LAB USE ONLY	FIELD SAMPLE IDENTIFICATION		PRESERVATIVE			NO. OF CONT.		
	DATE	TIME	MATRIX	HCL	HNO3		H2SO4	NONE
	TB-ROX-041524-8260	0000	Water	2				2
	TB-ROX-041524-8011	0000	Water	2				2
	MW13-ROX-041524	1125	Water	6				8
	P114R-ROX-041524	1225	Water	6				8
	MW9-ROX-041524	1340	Water	6				8
	MW9-ROX-041524-MS	1340	Water	6				8
	MW9-ROX-041524-MSD	1340	Water	6				8

**SPECIAL INSTRUCTIONS OR NOTES:**  
 LA - RWQCB REPORT FORMAT  
 LEVEL 1  LEVEL 2  LEVEL 3  LEVEL 4  
 STANDARD (14 DAY)  5 DAYS  3 DAYS  2 DAYS  24 HOURS  WEEKEND  
 OTHER (SPECIFY) EDD  
 OTHER #3  
 SHELL CONTRACT RATE APPLIES  
 STATE REIMBURSEMENT RATE APPLIES  
 EDD NOT NEEDED  
 RECEIPT VERIFICATION REQUESTED  
 PROVIDE LEDD DISK

**RECEIVED BY (Signature):**  
**DATE:** 4/15/2024  
**TIME:** 1600

**RELINQUISHED BY (Signature):**  
**DATE:** 4/17/24  
**TIME:** 9:00

**FEDEX:** 7252 0540 5047, 7252 0540 5068, 7252 0540 5069  
**RELINQUISHED BY (Signature):**  
**RELINQUISHED BY (Signature):**  
**RELINQUISHED BY (Signature):**

**CUSTODY SEALS:** 1599875, 1599874, 1599876, 1599877, 1599878, 1599879.  
**2.9°C 2.0°C TEM**

# Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-254504-1

**Login Number: 254504**

**List Source: Eurofins Pensacola**

**List Number: 1**

**Creator: Perez, Trina M**

Question	Answer	Comment
Radioactivity wasn't checked or is </= 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	2.9°C, 2.0°C IR-11
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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (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

Job ID: 400-254504-1

## Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-24
Kansas	NELAP	E-10253	10-31-24
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-24
North Carolina (WW/SW)	State	314	12-31-24
Oklahoma	NELAP	9810	08-31-24
Pennsylvania	NELAP	68-00467	01-31-25
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-24
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	P330-21-00056	05-17-24
USDA	US Federal Programs	FLGNV23001	01-08-26
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-25

# Roxana Groundwater Quarterly – 2<sup>nd</sup> Quarter 2024 Data Review

Laboratory SDG: 400-254505-1

Data Reviewer: Andreia Vladimirescu

Peer Reviewer: Cheyana Cokley

Date Reviewed: 05/15/2024

Guidance: USEPA National Functional Guidelines for Organic Superfund Methods Data Review 2020

Sample Identification	Sample Identification
TB-ROX-041524-8260-BP	TB-ROX-041524-8011-BP
MW23-ROX-041524	-

## 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, and/or SVOC LCS/LCSD RPDs, were outside evaluation criteria. The PAH internal standard area recovery for perylene-d<sub>12</sub> was outside criteria in sample MW23-ROX-041524. The continuing calibration verifications (CCV) for several analytes were outside evaluation criteria, biased low. These issues are addressed further in the appropriate sections of this data review.

Three of 70 (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 400-668821/2-A/3-A	SVOCs	Aniline	29/12	81	10-127/40
LCS/LCSD 400-668821/2-A/3-A	SVOCs	2,4-Dinitrophenol	150/183	20	15-150/40
LCS/LCSD 400-668821/2-A/3-A	SVOCs	Pyridine	10/0.8	170	10-82/40
LCS/LCSD 400-668821/2-A/3-A	SVOCs	Benzenethiol	44/75	52	10-140/40

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 pyridine below evaluation criteria; pyridine 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 LCS/LCSD RPD alone outside evaluation criteria did not require qualification.

Sample ID	Parameter	Analyte	Qualification
MW23-ROX-041524	SVOCs	Pyridine	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?*

No

## 8.0 Internal Standard (IS) Recoveries

*Were internal standard area recoveries within evaluation criteria?*

No

Sample ID	Parameter	Analyte	IS Area Recovery	12/24 Hour Standard	IS Criteria
MW23-ROX-041524	SVOCs	Perylene-d <sub>12</sub>	324046	690896	345448 - 1381792

Qualifications due to internal standard recoveries are included in the table below.

Sample ID	Parameter	Analyte	Qualification
MW23-ROX-041524	SVOCs	Dibenz[a,h]acridine	UJ

## 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 verification (CCV) for vinyl chloride and chloromethane were outside evaluation criteria, biased low. Analytes are qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
MW23-ROX-041524	VOCs	Chloromethane	UJ
MW23-ROX-041524	VOCs	Vinyl chloride	UJ





# ANALYTICAL REPORT

## PREPARED FOR

Attn: Melissa Remiger  
AECOM Technical Services Inc.  
100 N. Broadway  
20th Floor  
St. Louis, Missouri 63102

Generated 4/29/2024 3:32:45 PM

## JOB DESCRIPTION

ROXANA QUARTERLY GW

## JOB NUMBER

400-254505-1

Reviewed 05/16/2024  
VA

# Eurofins Pensacola

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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## Authorization



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# Case Narrative

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

Job ID: 400-254505-1

**Job ID: 400-254505-1**

**Eurofins Pensacola**

## Job Narrative 400-254505-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 4/17/2024 9:40 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.0°C and 2.9°C.

### GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-669455 recovered outside acceptance criteria, low biased, for Chloromethane and Vinyl chloride. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: 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-041524-8260-BP (400-254505-1) and MW23-ROX-041524 (400-254505-3). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

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

### GC/MS Semi VOA

Method 8270E: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 400-668821 and analytical batch 400-669234 recovered outside control limits for the following analytes: Benzenethiol.

Method 8270E: The internal standard Perylene-d12 response were outside of acceptance limits for the following sample: MW23-ROX-041524 (400-254505-3). Results for the affected analytes are possibly biased high, non-detect are qualified accordingly; therefore, the data have been reported.

Method 8270E: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 400-668821 and analytical batch 400-669375 recovered outside control limits for the following analytes: Aniline and Pyridine.

Method 8270E: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 400-668821 and analytical batch 400-669375 recovered outside control limits for the following analyte(s): Pyridine. Pyridine has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method 8270E: The laboratory control sample duplicate (LCSD) for preparation batch 400-668821 and analytical batch 400-669375 recovered outside control limits for the following analytes: 2,4-Dinitrophenol. These analytes were biased high in the LCSD and were not detected in the associated samples; therefore, the data have been reported.

Method 8270E: The initial calibration verification (ICV) analyzed in batch 400-666244 was outside method criteria for the following analyte(s): 2,4-Dimethylphenol and Hexachlorocyclopentadiene. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

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

### GC Semi VOA

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

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# Case Narrative

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

Job ID: 400-254505-1

**Job ID: 400-254505-1 (Continued)**

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# Sample Summary

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

Job ID: 400-254505-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-254505-1	TB-ROX-041524-8260-BP	Water	04/15/24 00:00	04/17/24 09:40
400-254505-2	TB-ROX-041524-8011-BP	Water	04/15/24 00:00	04/17/24 09:40
400-254505-3	MW23-ROX-041524	Water	04/15/24 09:55	04/17/24 09:40

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# Detection Summary

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

Job ID: 400-254505-1

**Client Sample ID: TB-ROX-041524-8260-BP**

**Lab Sample ID: 400-254505-1**

No Detections.

**Client Sample ID: TB-ROX-041524-8011-BP**

**Lab Sample ID: 400-254505-2**

No Detections.

**Client Sample ID: MW23-ROX-041524**

**Lab Sample ID: 400-254505-3**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.49	J	1.0	0.20	ug/L	1		8260D	Total/NA
Methyl tert-butyl ether	1.3		1.0	0.22	ug/L	1		8260D	Total/NA
Trichloroethene	0.23	J	1.0	0.15	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

# Client Sample Results

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

Job ID: 400-254505-1

**Client Sample ID: TB-ROX-041524-8260-BP**

**Lab Sample ID: 400-254505-1**

**Date Collected: 04/15/24 00:00**

**Matrix: Water**

**Date Received: 04/17/24 09:40**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/26/24 17:59	1
Acrolein	ND		20	3.3	ug/L			04/26/24 17:59	1
Acrylonitrile	ND		10	2.8	ug/L			04/26/24 17:59	1
Benzene	ND		1.0	0.50	ug/L			04/26/24 17:59	1
Bromobenzene	ND		1.0	0.54	ug/L			04/26/24 17:59	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/26/24 17:59	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/26/24 17:59	1
Bromoform	ND		5.0	0.25	ug/L			04/26/24 17:59	1
Bromomethane	ND		1.0	0.98	ug/L			04/26/24 17:59	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/26/24 17:59	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/26/24 17:59	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/26/24 17:59	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/26/24 17:59	1
Chloroethane	ND		1.0	0.76	ug/L			04/26/24 17:59	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/26/24 17:59	1
Chloroform	ND		1.0	0.90	ug/L			04/26/24 17:59	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/26/24 17:59	1
Chloromethane	ND		1.0	0.90	ug/L			04/26/24 17:59	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/26/24 17:59	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/26/24 17:59	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/26/24 17:59	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/26/24 17:59	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/26/24 17:59	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/26/24 17:59	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/26/24 17:59	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/26/24 17:59	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/26/24 17:59	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/26/24 17:59	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/26/24 17:59	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/26/24 17:59	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/26/24 17:59	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/26/24 17:59	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/26/24 17:59	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/26/24 17:59	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/26/24 17:59	1
2-Hexanone	ND		25	1.4	ug/L			04/26/24 17:59	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/26/24 17:59	1
Methylene bromide	ND		5.0	0.22	ug/L			04/26/24 17:59	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/26/24 17:59	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/26/24 17:59	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/26/24 17:59	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/26/24 17:59	1
Naphthalene	ND		5.0	3.0	ug/L			04/26/24 17:59	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/26/24 17:59	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/26/24 17:59	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/26/24 17:59	1
o-Xylene	ND		5.0	0.60	ug/L			04/26/24 17:59	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/26/24 17:59	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/26/24 17:59	1

# Client Sample Results

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

Job ID: 400-254505-1

**Client Sample ID: TB-ROX-041524-8260-BP**

**Lab Sample ID: 400-254505-1**

**Date Collected: 04/15/24 00:00**

**Matrix: Water**

**Date Received: 04/17/24 09:40**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/26/24 17:59	1
Styrene	ND		1.0	1.0	ug/L			04/26/24 17:59	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/26/24 17:59	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/26/24 17:59	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/26/24 17:59	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/26/24 17:59	1
Toluene	ND		1.0	0.90	ug/L			04/26/24 17:59	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/26/24 17:59	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/26/24 17:59	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/26/24 17:59	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/26/24 17:59	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/26/24 17:59	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/26/24 17:59	1
Trichloroethene	ND		1.0	0.15	ug/L			04/26/24 17:59	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/26/24 17:59	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/26/24 17:59	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/26/24 17:59	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/26/24 17:59	1
Vinyl acetate	ND		25	0.93	ug/L			04/26/24 17:59	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/26/24 17:59	1
Xylenes, Total	ND		10	1.6	ug/L			04/26/24 17:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		72 - 130		04/26/24 17:59	1
Dibromofluoromethane	102		75 - 126		04/26/24 17:59	1
Toluene-d8 (Surr)	100		64 - 132		04/26/24 17:59	1

# Client Sample Results

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

Job ID: 400-254505-1

**Client Sample ID: TB-ROX-041524-8011-BP**

**Lab Sample ID: 400-254505-2**

Date Collected: 04/15/24 00:00

Matrix: Water

Date Received: 04/17/24 09:40

**Method: EPA 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	0.017	ug/L		04/23/24 09:56	04/23/24 19:12	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		04/23/24 09:56	04/23/24 19:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	97		51 - 149				04/23/24 09:56	04/23/24 19:12	1

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# Client Sample Results

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

Job ID: 400-254505-1

**Client Sample ID: MW23-ROX-041524**

**Lab Sample ID: 400-254505-3**

Date Collected: 04/15/24 09:55

Matrix: Water

Date Received: 04/17/24 09:40

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/26/24 18:24	1
Acrolein	ND		20	3.3	ug/L			04/26/24 18:24	1
Acrylonitrile	ND		10	2.8	ug/L			04/26/24 18:24	1
Benzene	ND		1.0	0.50	ug/L			04/26/24 18:24	1
Bromobenzene	ND		1.0	0.54	ug/L			04/26/24 18:24	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/26/24 18:24	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/26/24 18:24	1
Bromoform	ND		5.0	0.25	ug/L			04/26/24 18:24	1
Bromomethane	ND		1.0	0.98	ug/L			04/26/24 18:24	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/26/24 18:24	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/26/24 18:24	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/26/24 18:24	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/26/24 18:24	1
Chloroethane	ND		1.0	0.76	ug/L			04/26/24 18:24	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/26/24 18:24	1
Chloroform	ND		1.0	0.90	ug/L			04/26/24 18:24	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/26/24 18:24	1
Chloromethane	ND	UJ	1.0	0.90	ug/L			04/26/24 18:24	1
<b>cis-1,2-Dichloroethene</b>	<b>0.49</b>	<b>J</b>	1.0	0.20	ug/L			04/26/24 18:24	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/26/24 18:24	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/26/24 18:24	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/26/24 18:24	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/26/24 18:24	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/26/24 18:24	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/26/24 18:24	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/26/24 18:24	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/26/24 18:24	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/26/24 18:24	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/26/24 18:24	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/26/24 18:24	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/26/24 18:24	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/26/24 18:24	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/26/24 18:24	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/26/24 18:24	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/26/24 18:24	1
2-Hexanone	ND		25	1.4	ug/L			04/26/24 18:24	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/26/24 18:24	1
Methylene bromide	ND		5.0	0.22	ug/L			04/26/24 18:24	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/26/24 18:24	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/26/24 18:24	1
<b>Methyl tert-butyl ether</b>	<b>1.3</b>		1.0	0.22	ug/L			04/26/24 18:24	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/26/24 18:24	1
Naphthalene	ND		5.0	3.0	ug/L			04/26/24 18:24	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/26/24 18:24	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/26/24 18:24	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/26/24 18:24	1
o-Xylene	ND		5.0	0.60	ug/L			04/26/24 18:24	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/26/24 18:24	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/26/24 18:24	1

# Client Sample Results

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

Job ID: 400-254505-1

**Client Sample ID: MW23-ROX-041524**

**Lab Sample ID: 400-254505-3**

Date Collected: 04/15/24 09:55

Matrix: Water

Date Received: 04/17/24 09:40

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/26/24 18:24	1
Styrene	ND		1.0	1.0	ug/L			04/26/24 18:24	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/26/24 18:24	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/26/24 18:24	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/26/24 18:24	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/26/24 18:24	1
Toluene	ND		1.0	0.90	ug/L			04/26/24 18:24	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/26/24 18:24	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/26/24 18:24	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/26/24 18:24	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/26/24 18:24	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/26/24 18:24	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/26/24 18:24	1
<b>Trichloroethene</b>	<b>0.23</b>	<b>J</b>	1.0	0.15	ug/L			04/26/24 18:24	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/26/24 18:24	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/26/24 18:24	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/26/24 18:24	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/26/24 18:24	1
Vinyl acetate	ND		25	0.93	ug/L			04/26/24 18:24	1
Vinyl chloride	ND	<b>UU</b>	1.0	0.50	ug/L			04/26/24 18:24	1
Xylenes, Total	ND		10	1.6	ug/L			04/26/24 18:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		72 - 130		04/26/24 18:24	1
Dibromofluoromethane	104		75 - 126		04/26/24 18:24	1
Toluene-d8 (Surr)	99		64 - 132		04/26/24 18:24	1

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.095	ug/L		04/22/24 11:20	04/24/24 11:11	1
Acenaphthylene	ND		0.19	0.042	ug/L		04/22/24 11:20	04/24/24 11:11	1
Anthracene	ND		0.19	0.045	ug/L		04/22/24 11:20	04/24/24 11:11	1
Benzo[a]anthracene	ND		0.19	0.033	ug/L		04/22/24 11:20	04/24/24 11:11	1
Benzo[a]pyrene	ND		0.19	0.062	ug/L		04/22/24 11:20	04/24/24 11:11	1
Benzo[b]fluoranthene	ND		0.19	0.036	ug/L		04/22/24 11:20	04/24/24 11:11	1
Benzo[g,h,i]perylene	ND		0.19	0.026	ug/L		04/22/24 11:20	04/24/24 11:11	1
Benzo[k]fluoranthene	ND		0.19	0.060	ug/L		04/22/24 11:20	04/24/24 11:11	1
Chrysene	ND		0.19	0.032	ug/L		04/22/24 11:20	04/24/24 11:11	1
Dibenz(a,h)anthracene	ND		0.19	0.046	ug/L		04/22/24 11:20	04/24/24 11:11	1
Fluoranthene	ND		0.19	0.033	ug/L		04/22/24 11:20	04/24/24 11:11	1
Fluorene	ND		0.19	0.086	ug/L		04/22/24 11:20	04/24/24 11:11	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.033	ug/L		04/22/24 11:20	04/24/24 11:11	1
Phenanthrene	ND		0.19	0.087	ug/L		04/22/24 11:20	04/24/24 11:11	1
Pyrene	ND		0.19	0.038	ug/L		04/22/24 11:20	04/24/24 11:11	1
1-Methylnaphthalene	ND		0.19	0.077	ug/L		04/22/24 11:20	04/24/24 11:11	1
2-Methylnaphthalene	ND		0.19	0.064	ug/L		04/22/24 11:20	04/24/24 11:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	74		18 - 147	04/22/24 11:20	04/24/24 11:11	1
2-Fluorobiphenyl	51		15 - 128	04/22/24 11:20	04/24/24 11:11	1

Eurofins Pensacola



# Client Sample Results

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

Job ID: 400-254505-1

**Client Sample ID: MW23-ROX-041524**

**Lab Sample ID: 400-254505-3**

Date Collected: 04/15/24 09:55

Matrix: Water

Date Received: 04/17/24 09:40

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	49		10 - 144	04/22/24 11:20	04/24/24 11:11	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*1	9.6	8.4	ug/L		04/22/24 11:20	04/25/24 03:47	1
Benzenethiol	ND		9.6	9.5	ug/L		04/22/24 11:20	04/25/24 03:47	1
Benzoic acid	ND		29	23	ug/L		04/22/24 11:20	04/25/24 03:47	1
Benzyl alcohol	ND		9.6	7.0	ug/L		04/22/24 11:20	04/25/24 03:47	1
Bis(2-chloroethoxy)methane	ND		9.6	4.4	ug/L		04/22/24 11:20	04/25/24 03:47	1
Bis(2-chloroethyl)ether	ND		9.6	3.8	ug/L		04/22/24 11:20	04/25/24 03:47	1
bis (2-chloroisopropyl) ether	ND		9.6	1.7	ug/L		04/22/24 11:20	04/25/24 03:47	1
Bis(2-ethylhexyl) phthalate	ND		9.6	8.6	ug/L		04/22/24 11:20	04/25/24 03:47	1
4-Bromophenyl phenyl ether	ND		9.6	8.3	ug/L		04/22/24 11:20	04/25/24 03:47	1
Butyl benzyl phthalate	ND		9.6	5.6	ug/L		04/22/24 11:20	04/25/24 03:47	1
4-Chloroaniline	ND		9.6	4.5	ug/L		04/22/24 11:20	04/25/24 03:47	1
4-Chloro-3-methylphenol	ND		9.6	5.1	ug/L		04/22/24 11:20	04/25/24 03:47	1
2-Chloronaphthalene	ND		9.6	3.7	ug/L		04/22/24 11:20	04/25/24 03:47	1
2-Chlorophenol	ND		9.6	3.9	ug/L		04/22/24 11:20	04/25/24 03:47	1
4-Chlorophenyl phenyl ether	ND		9.6	3.6	ug/L		04/22/24 11:20	04/25/24 03:47	1
Dibenz[a,h]acridine	ND	*3 UJ	9.6	2.7	ug/L		04/22/24 11:20	04/25/24 03:47	1
Dibenzofuran	ND		9.6	3.9	ug/L		04/22/24 11:20	04/25/24 03:47	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/22/24 11:20	04/25/24 03:47	1
2,4-Dichlorophenol	ND		9.6	4.1	ug/L		04/22/24 11:20	04/25/24 03:47	1
Diethyl phthalate	ND		9.6	4.2	ug/L		04/22/24 11:20	04/25/24 03:47	1
2,4-Dimethylphenol	ND		9.6	5.0	ug/L		04/22/24 11:20	04/25/24 03:47	1
Dimethyl phthalate	ND		9.6	4.0	ug/L		04/22/24 11:20	04/25/24 03:47	1
Di-n-butyl phthalate	ND		9.6	4.4	ug/L		04/22/24 11:20	04/25/24 03:47	1
4,6-Dinitro-ortho-cresol	ND		9.6	9.6	ug/L		04/22/24 11:20	04/25/24 03:47	1
2,4-Dinitrophenol	ND	*+	29	4.4	ug/L		04/22/24 11:20	04/25/24 03:47	1
2,4-Dinitrotoluene	ND		9.6	4.9	ug/L		04/22/24 11:20	04/25/24 03:47	1
2,6-Dinitrotoluene	ND		9.6	3.8	ug/L		04/22/24 11:20	04/25/24 03:47	1
Di-n-octyl phthalate	ND		9.6	5.8	ug/L		04/22/24 11:20	04/25/24 03:47	1
1,4-Dioxane	ND		9.6	4.1	ug/L		04/22/24 11:20	04/25/24 03:47	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.6	3.2	ug/L		04/22/24 11:20	04/25/24 03:47	1
Hexachlorobenzene	ND		9.6	9.3	ug/L		04/22/24 11:20	04/25/24 03:47	1
Hexachlorocyclopentadiene	ND		19	4.3	ug/L		04/22/24 11:20	04/25/24 03:47	1
Hexachloroethane	ND		9.6	5.0	ug/L		04/22/24 11:20	04/25/24 03:47	1
Indene	ND		9.6	3.5	ug/L		04/22/24 11:20	04/25/24 03:47	1
Isophorone	ND		9.6	5.0	ug/L		04/22/24 11:20	04/25/24 03:47	1
2-Methylphenol	ND		9.6	3.1	ug/L		04/22/24 11:20	04/25/24 03:47	1
3 & 4 Methylphenol	ND		19	4.4	ug/L		04/22/24 11:20	04/25/24 03:47	1
2-Nitroaniline	ND		9.6	4.8	ug/L		04/22/24 11:20	04/25/24 03:47	1
3-Nitroaniline	ND		9.6	4.5	ug/L		04/22/24 11:20	04/25/24 03:47	1
4-Nitroaniline	ND		9.6	3.9	ug/L		04/22/24 11:20	04/25/24 03:47	1
Nitrobenzene	ND		9.6	4.5	ug/L		04/22/24 11:20	04/25/24 03:47	1
2-Nitrophenol	ND		9.6	4.4	ug/L		04/22/24 11:20	04/25/24 03:47	1
4-Nitrophenol	ND		9.6	3.2	ug/L		04/22/24 11:20	04/25/24 03:47	1
N-Nitrosodimethylamine	ND		9.6	2.1	ug/L		04/22/24 11:20	04/25/24 03:47	1

# Client Sample Results

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

Job ID: 400-254505-1

**Client Sample ID: MW23-ROX-041524**

**Lab Sample ID: 400-254505-3**

Date Collected: 04/15/24 09:55

Matrix: Water

Date Received: 04/17/24 09:40

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.6	2.4	ug/L		04/22/24 11:20	04/25/24 03:47	1
N-Nitrosodiphenylamine	ND		9.6	3.6	ug/L		04/22/24 11:20	04/25/24 03:47	1
Pentachlorophenol	ND		19	11	ug/L		04/22/24 11:20	04/25/24 03:47	1
Phenol	ND		9.6	4.0	ug/L		04/22/24 11:20	04/25/24 03:47	1
Pyridine	ND	*- *1 UJ	9.6	9.6	ug/L		04/22/24 11:20	04/25/24 03:47	1
Quinoline	ND		9.6	2.3	ug/L		04/22/24 11:20	04/25/24 03:47	1
2,4,5-Trichlorophenol	ND		9.6	3.9	ug/L		04/22/24 11:20	04/25/24 03:47	1
2,4,6-Trichlorophenol	ND		9.6	3.4	ug/L		04/22/24 11:20	04/25/24 03:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	60		21 - 114	04/22/24 11:20	04/25/24 03:47	1
2-Fluorophenol	44		10 - 105	04/22/24 11:20	04/25/24 03:47	1
Nitrobenzene-d5	58		16 - 127	04/22/24 11:20	04/25/24 03:47	1
Phenol-d5	35		10 - 129	04/22/24 11:20	04/25/24 03:47	1
Terphenyl-d14	84		13 - 150	04/22/24 11:20	04/25/24 03:47	1
2,4,6-Tribromophenol	62		10 - 150	04/22/24 11:20	04/25/24 03:47	1

**Method: EPA 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	0.017	ug/L		04/23/24 09:56	04/23/24 19:54	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		04/23/24 09:56	04/23/24 19:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	72		51 - 149	04/23/24 09:56	04/23/24 19:54	1

# Definitions/Glossary

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

Job ID: 400-254505-1

## 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.

### GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*1	LCS/LCSD RPD exceeds control limits.
*3	ISTD response or retention time outside acceptable 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.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

# Surrogate Summary

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

Job ID: 400-254505-1

## Method: 8260D - Volatile Organic Compounds by 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 (72-130)	DBFM (75-126)	TOL (64-132)
400-254505-1	TB-ROX-041524-8260-BP	101	102	100
400-254505-3	MW23-ROX-041524	101	104	99
LCS 400-669455/1002	Lab Control Sample	99	107	93
MB 400-669455/4	Method Blank	101	104	95

### Surrogate Legend

BFB = 4-Bromofluorobenzene  
DBFM = Dibromofluoromethane  
TOL = Toluene-d8 (Surr)

## Method: 8270E - 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 (21-114)	2FP (10-105)	NBZ (16-127)	PHL (10-129)	TPHL (13-150)	TBP (10-150)
400-254505-3	MW23-ROX-041524	60	44	58	35	84	62
LCS 400-668821/17-A	Lab Control Sample	52	54	54	52	91	38
LCS 400-668821/2-A	Lab Control Sample	68	52	76	45	83	88
LCSD 400-668821/18-A	Lab Control Sample Dup	76	69	79	59	116	45
LCSD 400-668821/3-A	Lab Control Sample Dup	72	57	83	51	86	93
MB 400-668821/1-A	Method Blank	74	47	66	35	94	72

### Surrogate Legend

FBP = 2-Fluorobiphenyl  
2FP = 2-Fluorophenol  
NBZ = Nitrobenzene-d5  
PHL = Phenol-d5  
TPHL = Terphenyl-d14  
TBP = 2,4,6-Tribromophenol

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TPHL (18-147)	FBP (15-128)	NBZ (10-144)
400-254505-3	MW23-ROX-041524	74	51	49
LCS 400-668821/2-A	Lab Control Sample	73	60	50
LCSD 400-668821/3-A	Lab Control Sample Dup	76	64	53
MB 400-668821/1-A	Method Blank	72	52	53

### Surrogate Legend

TPHL = Terphenyl-d14  
FBP = 2-Fluorobiphenyl  
NBZ = Nitrobenzene-d5

# Surrogate Summary

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

Job ID: 400-254505-1

## 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	BFB1 (51-149)
400-254505-2	TB-ROX-041524-8011-BP	97
400-254505-3	MW23-ROX-041524	72
LCS 400-668964/2-A	Lab Control Sample	81 p
LCSD 400-668964/3-A	Lab Control Sample Dup	89 p
MB 400-668964/1-A	Method Blank	70

#### 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

Job ID: 400-254505-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET PEN
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET PEN
8270E SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	EET PEN
8011	EDB and DBCP in Water by Microextraction	EPA	EET PEN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET PEN
5030C	Purge and Trap	SW846	EET PEN
8011	Microextraction	SW846	EET 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:**

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001





# Lab Chronicle

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

Job ID: 400-254505-1

**Client Sample ID: TB-ROX-041524-8260-BP**

**Lab Sample ID: 400-254505-1**

Date Collected: 04/15/24 00:00

Matrix: Water

Date Received: 04/17/24 09:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	669455	04/26/24 17:59	WPD	EET PEN

**Client Sample ID: TB-ROX-041524-8011-BP**

**Lab Sample ID: 400-254505-2**

Date Collected: 04/15/24 00:00

Matrix: Water

Date Received: 04/17/24 09:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35.4 mL	35 mL	668964	04/23/24 09:56	KR	EET PEN
Total/NA	Analysis	8011		1			669021	04/23/24 19:12	KR	EET PEN

**Client Sample ID: MW23-ROX-041524**

**Lab Sample ID: 400-254505-3**

Date Collected: 04/15/24 09:55

Matrix: Water

Date Received: 04/17/24 09:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	669455	04/26/24 18:24	WPD	EET PEN
Total/NA	Prep	3510C			259.6 mL	1 mL	668821	04/22/24 11:20	SNG	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	669234	04/25/24 03:47	S1B	EET PEN
Total/NA	Prep	3510C			259.6 mL	1 mL	668821	04/22/24 11:20	SNG	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	669118	04/24/24 11:11	JAW	EET PEN
Total/NA	Prep	8011			34.2 mL	35 mL	668964	04/23/24 09:56	KR	EET PEN
Total/NA	Analysis	8011		1			669021	04/23/24 19:54	KR	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-668821/1-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	3510C			250 mL	1 mL	668821	04/22/24 11:20	SNG	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	669375	04/25/24 15:17	VC1	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	668821	04/22/24 11:20	SNG	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	669007	04/23/24 21:33	JAW	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-668964/1-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	668964	04/23/24 09:56	KR	EET PEN
Total/NA	Analysis	8011		1			669021	04/23/24 16:02	KR	EET PEN

# Lab Chronicle

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

Job ID: 400-254505-1

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-669455/4**

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	8260D		1	5 mL	5 mL	669455	04/26/24 11:04	WPD	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-668821/17-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	3510C			250 mL	1 mL	668821	04/22/24 11:20	SNG	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	669234	04/25/24 03:04	S1B	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-668821/2-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	3510C			250 mL	1 mL	668821	04/22/24 11:20	SNG	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	669375	04/25/24 15:40	VC1	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	668821	04/22/24 11:20	SNG	EET PEN
Total/NA	Analysis	8270E SIM		100	0.4 mL	0.4 mL	669007	04/23/24 21:54	JAW	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-668964/2-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	668964	04/23/24 09:56	KR	EET PEN
Total/NA	Analysis	8011		1			669021	04/23/24 16:23	KR	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-669455/1002**

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	8260D		1	5 mL	5 mL	669455	04/26/24 10:08	WPD	EET PEN

**Client Sample ID: Lab Control Sample Dup**

**Lab Sample ID: LCSD 400-668821/18-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	3510C			250 mL	1 mL	668821	04/22/24 11:20	SNG	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	669234	04/25/24 03:26	S1B	EET PEN

# Lab Chronicle

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

Job ID: 400-254505-1

**Client Sample ID: Lab Control Sample Dup**

**Lab Sample ID: LCSD 400-668821/3-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	3510C			250 mL	1 mL	668821	04/22/24 11:20	SNG	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	669375	04/25/24 16:02	VC1	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	668821	04/22/24 11:20	SNG	EET PEN
Total/NA	Analysis	8270E SIM		100	0.4 mL	0.4 mL	669007	04/23/24 22:14	JAW	EET PEN

**Client Sample ID: Lab Control Sample Dup**

**Lab Sample ID: LCSD 400-668964/3-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	668964	04/23/24 09:56	KR	EET PEN
Total/NA	Analysis	8011		1			669021	04/23/24 16:44	KR	EET PEN

**Laboratory References:**

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001



# QC Association Summary

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

Job ID: 400-254505-1

## GC/MS VOA

### Analysis Batch: 669455

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254505-1	TB-ROX-041524-8260-BP	Total/NA	Water	8260D	
400-254505-3	MW23-ROX-041524	Total/NA	Water	8260D	
MB 400-669455/4	Method Blank	Total/NA	Water	8260D	
LCS 400-669455/1002	Lab Control Sample	Total/NA	Water	8260D	

## GC/MS Semi VOA

### Prep Batch: 668821

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254505-3	MW23-ROX-041524	Total/NA	Water	3510C	
MB 400-668821/1-A	Method Blank	Total/NA	Water	3510C	
LCS 400-668821/17-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 400-668821/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 400-668821/18-A	Lab Control Sample Dup	Total/NA	Water	3510C	
LCSD 400-668821/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

### Analysis Batch: 669007

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-668821/1-A	Method Blank	Total/NA	Water	8270E SIM	668821
LCS 400-668821/2-A	Lab Control Sample	Total/NA	Water	8270E SIM	668821
LCSD 400-668821/3-A	Lab Control Sample Dup	Total/NA	Water	8270E SIM	668821

### Analysis Batch: 669118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254505-3	MW23-ROX-041524	Total/NA	Water	8270E SIM	668821

### Analysis Batch: 669234

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254505-3	MW23-ROX-041524	Total/NA	Water	8270E	668821
LCS 400-668821/17-A	Lab Control Sample	Total/NA	Water	8270E	668821
LCSD 400-668821/18-A	Lab Control Sample Dup	Total/NA	Water	8270E	668821

### Analysis Batch: 669375

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-668821/1-A	Method Blank	Total/NA	Water	8270E	668821
LCS 400-668821/2-A	Lab Control Sample	Total/NA	Water	8270E	668821
LCSD 400-668821/3-A	Lab Control Sample Dup	Total/NA	Water	8270E	668821

## GC Semi VOA

### Prep Batch: 668964

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254505-2	TB-ROX-041524-8011-BP	Total/NA	Water	8011	
400-254505-3	MW23-ROX-041524	Total/NA	Water	8011	
MB 400-668964/1-A	Method Blank	Total/NA	Water	8011	
LCS 400-668964/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 400-668964/3-A	Lab Control Sample Dup	Total/NA	Water	8011	

### Analysis Batch: 669021

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254505-2	TB-ROX-041524-8011-BP	Total/NA	Water	8011	668964
400-254505-3	MW23-ROX-041524	Total/NA	Water	8011	668964

Eurofins Pensacola

# QC Association Summary

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

Job ID: 400-254505-1

## GC Semi VOA (Continued)

### Analysis Batch: 669021 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-668964/1-A	Method Blank	Total/NA	Water	8011	668964
LCS 400-668964/2-A	Lab Control Sample	Total/NA	Water	8011	668964
LCSD 400-668964/3-A	Lab Control Sample Dup	Total/NA	Water	8011	668964

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# QC Sample Results

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

Job ID: 400-254505-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 400-669455/4**  
**Matrix: Water**  
**Analysis Batch: 669455**

**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			04/26/24 11:04	1
Acrolein	ND		20	3.3	ug/L			04/26/24 11:04	1
Acrylonitrile	ND		10	2.8	ug/L			04/26/24 11:04	1
Benzene	ND		1.0	0.50	ug/L			04/26/24 11:04	1
Bromobenzene	ND		1.0	0.54	ug/L			04/26/24 11:04	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/26/24 11:04	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/26/24 11:04	1
Bromoform	ND		5.0	0.25	ug/L			04/26/24 11:04	1
Bromomethane	ND		1.0	0.98	ug/L			04/26/24 11:04	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/26/24 11:04	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/26/24 11:04	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/26/24 11:04	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/26/24 11:04	1
Chloroethane	ND		1.0	0.76	ug/L			04/26/24 11:04	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/26/24 11:04	1
Chloroform	ND		1.0	0.90	ug/L			04/26/24 11:04	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/26/24 11:04	1
Chloromethane	ND		1.0	0.90	ug/L			04/26/24 11:04	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/26/24 11:04	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/26/24 11:04	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/26/24 11:04	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/26/24 11:04	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/26/24 11:04	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/26/24 11:04	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/26/24 11:04	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/26/24 11:04	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/26/24 11:04	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/26/24 11:04	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/26/24 11:04	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/26/24 11:04	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/26/24 11:04	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/26/24 11:04	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/26/24 11:04	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/26/24 11:04	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/26/24 11:04	1
2-Hexanone	ND		25	1.4	ug/L			04/26/24 11:04	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/26/24 11:04	1
Methylene bromide	ND		5.0	0.22	ug/L			04/26/24 11:04	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/26/24 11:04	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/26/24 11:04	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/26/24 11:04	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/26/24 11:04	1
Naphthalene	ND		5.0	3.0	ug/L			04/26/24 11:04	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/26/24 11:04	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/26/24 11:04	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/26/24 11:04	1
o-Xylene	ND		5.0	0.60	ug/L			04/26/24 11:04	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/26/24 11:04	1



# QC Sample Results

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

Job ID: 400-254505-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-669455/4**  
**Matrix: Water**  
**Analysis Batch: 669455**

**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			04/26/24 11:04	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/26/24 11:04	1
Styrene	ND		1.0	1.0	ug/L			04/26/24 11:04	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/26/24 11:04	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/26/24 11:04	1
1,1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/26/24 11:04	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/26/24 11:04	1
Toluene	ND		1.0	0.90	ug/L			04/26/24 11:04	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/26/24 11:04	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/26/24 11:04	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/26/24 11:04	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/26/24 11:04	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/26/24 11:04	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/26/24 11:04	1
Trichloroethene	ND		1.0	0.15	ug/L			04/26/24 11:04	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/26/24 11:04	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/26/24 11:04	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/26/24 11:04	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/26/24 11:04	1
Vinyl acetate	ND		25	0.93	ug/L			04/26/24 11:04	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/26/24 11:04	1
Xylenes, Total	ND		10	1.6	ug/L			04/26/24 11:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		72 - 130		04/26/24 11:04	1
Dibromofluoromethane	104		75 - 126		04/26/24 11:04	1
Toluene-d8 (Surr)	95		64 - 132		04/26/24 11:04	1

**Lab Sample ID: LCS 400-669455/1002**  
**Matrix: Water**  
**Analysis Batch: 669455**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	200	248		ug/L		124	43 - 160
Acrolein	500	557		ug/L		111	38 - 160
Acrylonitrile	500	570		ug/L		114	64 - 142
Benzene	50.0	53.0		ug/L		106	70 - 130
Bromobenzene	50.0	48.5		ug/L		97	70 - 132
Bromochloromethane	50.0	55.8		ug/L		112	70 - 130
Bromodichloromethane	50.0	56.1		ug/L		112	67 - 133
Bromoform	50.0	47.4		ug/L		95	57 - 140
Bromomethane	50.0	46.1		ug/L		92	10 - 160
2-Butanone (MEK)	200	246		ug/L		123	61 - 145
Carbon disulfide	50.0	44.2		ug/L		88	61 - 137
Carbon tetrachloride	50.0	51.5		ug/L		103	61 - 137
Chlorobenzene	50.0	48.7		ug/L		97	70 - 130
Chloroethane	50.0	40.7		ug/L		81	55 - 141
2-Chloroethyl vinyl ether	50.0	53.7		ug/L		107	10 - 160

# QC Sample Results

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

Job ID: 400-254505-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-669455/1002**  
**Matrix: Water**  
**Analysis Batch: 669455**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroform	50.0	55.6		ug/L		111	69 - 130
1-Chlorohexane	50.0	47.1		ug/L		94	69 - 130
Chloromethane	50.0	33.4		ug/L		67	58 - 137
cis-1,2-Dichloroethene	50.0	50.8		ug/L		102	68 - 130
cis-1,3-Dichloropropene	50.0	56.6		ug/L		113	69 - 132
Dibromochloromethane	50.0	49.8		ug/L		100	67 - 135
1,2-Dichlorobenzene	50.0	50.2		ug/L		100	67 - 130
1,3-Dichlorobenzene	50.0	49.4		ug/L		99	70 - 130
1,4-Dichlorobenzene	50.0	48.9		ug/L		98	70 - 130
Dichlorodifluoromethane	50.0	25.6		ug/L		51	41 - 146
1,1-Dichloroethane	50.0	56.8		ug/L		114	70 - 130
1,2-Dichloroethane	50.0	53.4		ug/L		107	69 - 130
1,1-Dichloroethene	50.0	52.0		ug/L		104	63 - 134
1,2-Dichloropropane	50.0	56.4		ug/L		113	70 - 130
1,3-Dichloropropane	50.0	47.7		ug/L		95	70 - 130
2,2-Dichloropropane	50.0	51.9		ug/L		104	52 - 135
1,1-Dichloropropene	50.0	52.4		ug/L		105	70 - 130
Ethylbenzene	50.0	47.9		ug/L		96	70 - 130
Ethyl methacrylate	50.0	48.7		ug/L		97	68 - 130
Hexachlorobutadiene	50.0	48.6		ug/L		97	53 - 140
2-Hexanone	200	178		ug/L		89	65 - 137
Isopropylbenzene	50.0	49.2		ug/L		98	70 - 130
Methylene bromide	50.0	53.9		ug/L		108	70 - 130
Methylene Chloride	50.0	53.0		ug/L		106	66 - 135
4-Methyl-2-pentanone (MIBK)	200	206		ug/L		103	69 - 138
Methyl tert-butyl ether	50.0	56.6		ug/L		113	66 - 130
m-Xylene & p-Xylene	50.0	48.2		ug/L		96	70 - 130
Naphthalene	50.0	47.3		ug/L		95	47 - 149
n-Butylbenzene	50.0	49.5		ug/L		99	67 - 130
N-Propylbenzene	50.0	50.2		ug/L		100	70 - 130
o-Chlorotoluene	50.0	47.3		ug/L		95	70 - 130
o-Xylene	50.0	48.3		ug/L		97	70 - 130
p-Chlorotoluene	50.0	49.4		ug/L		99	70 - 130
p-Isopropyltoluene	50.0	52.1		ug/L		104	65 - 130
sec-Butylbenzene	50.0	50.5		ug/L		101	66 - 130
Styrene	50.0	49.9		ug/L		100	70 - 130
tert-Butylbenzene	50.0	47.9		ug/L		96	64 - 139
1,1,1,2-Tetrachloroethane	50.0	49.0		ug/L		98	67 - 131
1,1,1,2,2-Tetrachloroethane	50.0	49.7		ug/L		99	70 - 131
Tetrachloroethene	50.0	46.7		ug/L		93	65 - 130
Toluene	50.0	47.2		ug/L		94	70 - 130
trans-1,2-Dichloroethene	50.0	53.8		ug/L		108	70 - 130
trans-1,3-Dichloropropene	50.0	49.0		ug/L		98	63 - 130
1,2,3-Trichlorobenzene	50.0	50.9		ug/L		102	60 - 138
1,2,4-Trichlorobenzene	50.0	51.3		ug/L		103	60 - 140
1,1,1-Trichloroethane	50.0	52.0		ug/L		104	68 - 130
1,1,2-Trichloroethane	50.0	49.7		ug/L		99	70 - 130
Trichloroethene	50.0	55.5		ug/L		111	70 - 130
Trichlorofluoromethane	50.0	46.0		ug/L		92	65 - 138

# QC Sample Results

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

Job ID: 400-254505-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-669455/1002**  
**Matrix: Water**  
**Analysis Batch: 669455**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	50.0	49.6		ug/L		99	70 - 130
1,2,4-Trimethylbenzene	50.0	49.8		ug/L		100	70 - 130
1,3,5-Trimethylbenzene	50.0	50.3		ug/L		101	69 - 130
Vinyl acetate	100	106		ug/L		106	26 - 160
Vinyl chloride	50.0	38.9		ug/L		78	59 - 136
Xylenes, Total	100	96.5		ug/L		97	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	99		72 - 130
Dibromofluoromethane	107		75 - 126
Toluene-d8 (Surr)	93		64 - 132

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

**Lab Sample ID: MB 400-668821/1-A**  
**Matrix: Water**  
**Analysis Batch: 669375**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 668821**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	8.7	ug/L		04/22/24 11:20	04/25/24 15:17	1
Benzenethiol	ND		10	9.9	ug/L		04/22/24 11:20	04/25/24 15:17	1
Benzoic acid	ND		30	24	ug/L		04/22/24 11:20	04/25/24 15:17	1
Benzyl alcohol	ND		10	7.3	ug/L		04/22/24 11:20	04/25/24 15:17	1
Bis(2-chloroethoxy)methane	ND		10	4.6	ug/L		04/22/24 11:20	04/25/24 15:17	1
Bis(2-chloroethyl)ether	ND		10	3.9	ug/L		04/22/24 11:20	04/25/24 15:17	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		04/22/24 11:20	04/25/24 15:17	1
Bis(2-ethylhexyl) phthalate	ND		10	8.9	ug/L		04/22/24 11:20	04/25/24 15:17	1
4-Bromophenyl phenyl ether	ND		10	8.6	ug/L		04/22/24 11:20	04/25/24 15:17	1
Butyl benzyl phthalate	ND		10	5.8	ug/L		04/22/24 11:20	04/25/24 15:17	1
4-Chloroaniline	ND		10	4.7	ug/L		04/22/24 11:20	04/25/24 15:17	1
4-Chloro-3-methylphenol	ND		10	5.3	ug/L		04/22/24 11:20	04/25/24 15:17	1
2-Chloronaphthalene	ND		10	3.8	ug/L		04/22/24 11:20	04/25/24 15:17	1
2-Chlorophenol	ND		10	4.1	ug/L		04/22/24 11:20	04/25/24 15:17	1
4-Chlorophenyl phenyl ether	ND		10	3.7	ug/L		04/22/24 11:20	04/25/24 15:17	1
Dibenz[a,h]acridine	ND		10	2.8	ug/L		04/22/24 11:20	04/25/24 15:17	1
Dibenzofuran	ND		10	4.0	ug/L		04/22/24 11:20	04/25/24 15:17	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/22/24 11:20	04/25/24 15:17	1
2,4-Dichlorophenol	ND		10	4.3	ug/L		04/22/24 11:20	04/25/24 15:17	1
Diethyl phthalate	ND		10	4.4	ug/L		04/22/24 11:20	04/25/24 15:17	1
2,4-Dimethylphenol	ND		10	5.2	ug/L		04/22/24 11:20	04/25/24 15:17	1
Dimethyl phthalate	ND		10	4.2	ug/L		04/22/24 11:20	04/25/24 15:17	1
Di-n-butyl phthalate	ND		10	4.6	ug/L		04/22/24 11:20	04/25/24 15:17	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		04/22/24 11:20	04/25/24 15:17	1
2,4-Dinitrophenol	ND		30	4.6	ug/L		04/22/24 11:20	04/25/24 15:17	1
2,4-Dinitrotoluene	ND		10	5.1	ug/L		04/22/24 11:20	04/25/24 15:17	1
2,6-Dinitrotoluene	ND		10	3.9	ug/L		04/22/24 11:20	04/25/24 15:17	1
Di-n-octyl phthalate	ND		10	6.0	ug/L		04/22/24 11:20	04/25/24 15:17	1
1,4-Dioxane	ND		10	4.3	ug/L		04/22/24 11:20	04/25/24 15:17	1

# QC Sample Results

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

Job ID: 400-254505-1

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

**Lab Sample ID: MB 400-668821/1-A**  
**Matrix: Water**  
**Analysis Batch: 669375**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 668821**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.3	ug/L		04/22/24 11:20	04/25/24 15:17	1
Hexachlorobenzene	ND		10	9.7	ug/L		04/22/24 11:20	04/25/24 15:17	1
Hexachlorocyclopentadiene	ND		20	4.5	ug/L		04/22/24 11:20	04/25/24 15:17	1
Hexachloroethane	ND		10	5.2	ug/L		04/22/24 11:20	04/25/24 15:17	1
Indene	ND		10	3.6	ug/L		04/22/24 11:20	04/25/24 15:17	1
Isophorone	ND		10	5.2	ug/L		04/22/24 11:20	04/25/24 15:17	1
2-Methylphenol	ND		10	3.2	ug/L		04/22/24 11:20	04/25/24 15:17	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		04/22/24 11:20	04/25/24 15:17	1
2-Nitroaniline	ND		10	5.0	ug/L		04/22/24 11:20	04/25/24 15:17	1
3-Nitroaniline	ND		10	4.7	ug/L		04/22/24 11:20	04/25/24 15:17	1
4-Nitroaniline	ND		10	4.1	ug/L		04/22/24 11:20	04/25/24 15:17	1
Nitrobenzene	ND		10	4.7	ug/L		04/22/24 11:20	04/25/24 15:17	1
2-Nitrophenol	ND		10	4.6	ug/L		04/22/24 11:20	04/25/24 15:17	1
4-Nitrophenol	ND		10	3.3	ug/L		04/22/24 11:20	04/25/24 15:17	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		04/22/24 11:20	04/25/24 15:17	1
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		04/22/24 11:20	04/25/24 15:17	1
N-Nitrosodiphenylamine	ND		10	3.7	ug/L		04/22/24 11:20	04/25/24 15:17	1
Pentachlorophenol	ND		20	12	ug/L		04/22/24 11:20	04/25/24 15:17	1
Phenol	ND		10	4.2	ug/L		04/22/24 11:20	04/25/24 15:17	1
Pyridine	ND		10	10	ug/L		04/22/24 11:20	04/25/24 15:17	1
Quinoline	ND		10	2.4	ug/L		04/22/24 11:20	04/25/24 15:17	1
2,4,5-Trichlorophenol	ND		10	4.0	ug/L		04/22/24 11:20	04/25/24 15:17	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/22/24 11:20	04/25/24 15:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	74		21 - 114	04/22/24 11:20	04/25/24 15:17	1
2-Fluorophenol	47		10 - 105	04/22/24 11:20	04/25/24 15:17	1
Nitrobenzene-d5	66		16 - 127	04/22/24 11:20	04/25/24 15:17	1
Phenol-d5	35		10 - 129	04/22/24 11:20	04/25/24 15:17	1
Terphenyl-d14	94		13 - 150	04/22/24 11:20	04/25/24 15:17	1
2,4,6-Tribromophenol	72		10 - 150	04/22/24 11:20	04/25/24 15:17	1

**Lab Sample ID: LCS 400-668821/17-A**  
**Matrix: Water**  
**Analysis Batch: 669234**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 668821**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzenethiol	120	53.0		ug/L		44	10 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	52		21 - 114
2-Fluorophenol	54		10 - 105
Nitrobenzene-d5	54		16 - 127
Phenol-d5	52		10 - 129
Terphenyl-d14	91		13 - 150
2,4,6-Tribromophenol	38		10 - 150

# QC Sample Results

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

Job ID: 400-254505-1

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

**Lab Sample ID: LCS 400-668821/2-A**  
**Matrix: Water**  
**Analysis Batch: 669375**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 668821**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aniline	120	34.9		ug/L		29	10 - 127
Benzoic acid	492	260		ug/L		53	19 - 126
Benzyl alcohol	120	79.9		ug/L		67	17 - 109
Bis(2-chloroethoxy)methane	120	78.5		ug/L		65	24 - 125
Bis(2-chloroethyl)ether	120	56.1		ug/L		47	10 - 121
bis (2-chloroisopropyl) ether	120	73.4		ug/L		61	14 - 123
Bis(2-ethylhexyl) phthalate	120	103		ug/L		86	16 - 150
4-Bromophenyl phenyl ether	120	95.5		ug/L		80	17 - 150
Butyl benzyl phthalate	120	97.1		ug/L		81	21 - 150
4-Chloroaniline	120	78.5		ug/L		65	10 - 124
4-Chloro-3-methylphenol	120	85.5		ug/L		71	37 - 131
2-Chloronaphthalene	120	79.3		ug/L		66	24 - 132
2-Chlorophenol	120	79.9		ug/L		67	27 - 124
4-Chlorophenyl phenyl ether	120	88.9		ug/L		74	27 - 147
Dibenz[a,h]acridine	59.9	49.0		ug/L		82	40 - 140
Dibenzofuran	120	87.1		ug/L		73	30 - 135
3,3'-Dichlorobenzidine	160	125		ug/L		78	10 - 150
2,4-Dichlorophenol	120	81.2		ug/L		68	33 - 132
Diethyl phthalate	120	101		ug/L		84	37 - 145
2,4-Dimethylphenol	120	100		ug/L		84	38 - 132
Dimethyl phthalate	120	92.9		ug/L		77	32 - 137
Di-n-butyl phthalate	120	103		ug/L		85	27 - 150
4,6-Dinitro-ortho-cresol	240	237		ug/L		99	14 - 150
2,4-Dinitrophenol	240	360		ug/L		150	15 - 150
2,4-Dinitrotoluene	120	89.5		ug/L		75	35 - 136
2,6-Dinitrotoluene	120	82.7		ug/L		69	29 - 140
Di-n-octyl phthalate	120	94.0		ug/L		78	26 - 150
1,4-Dioxane	120	39.8		ug/L		33	10 - 87
1,2-Diphenylhydrazine (as Azobenzene)	120	95.5		ug/L		80	23 - 138
Hexachlorobenzene	120	99.6		ug/L		83	10 - 150
Hexachlorocyclopentadiene	120	77.5		ug/L		65	10 - 124
Hexachloroethane	120	65.6		ug/L		55	10 - 127
Indene	120	74.0		ug/L		62	18 - 150
Isophorone	120	80.2		ug/L		67	28 - 127
2-Methylphenol	120	82.1		ug/L		68	34 - 124
3 & 4 Methylphenol	120	80.2		ug/L		67	32 - 122
2-Nitroaniline	120	92.8		ug/L		77	24 - 139
3-Nitroaniline	120	75.2		ug/L		63	10 - 128
4-Nitroaniline	120	75.3		ug/L		63	28 - 118
Nitrobenzene	120	78.7		ug/L		66	29 - 120
2-Nitrophenol	120	75.9		ug/L		63	25 - 148
4-Nitrophenol	240	194		ug/L		81	12 - 129
N-Nitrosodimethylamine	120	58.4		ug/L		49	10 - 115
N-Nitrosodi-n-propylamine	120	93.3		ug/L		78	24 - 142
N-Nitrosodiphenylamine	119	93.6		ug/L		79	29 - 138
Pentachlorophenol	240	203		ug/L		84	19 - 150
Phenol	120	50.9		ug/L		42	11 - 95
Pyridine	240	23.9		ug/L		10	10 - 82

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# QC Sample Results

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

Job ID: 400-254505-1

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

**Lab Sample ID: LCS 400-668821/2-A**  
**Matrix: Water**  
**Analysis Batch: 669375**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 668821**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Quinoline	59.9	30.6		ug/L		51	40 - 140
2,4,5-Trichlorophenol	120	83.4		ug/L		69	30 - 144
2,4,6-Trichlorophenol	120	84.0		ug/L		70	27 - 147

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	68		21 - 114
2-Fluorophenol	52		10 - 105
Nitrobenzene-d5	76		16 - 127
Phenol-d5	45		10 - 129
Terphenyl-d14	83		13 - 150
2,4,6-Tribromophenol	88		10 - 150

**Lab Sample ID: LCSD 400-668821/18-A**  
**Matrix: Water**  
**Analysis Batch: 669234**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 668821**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzenethiol	120	90.3	*1	ug/L		75	10 - 140	52	40

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	76		21 - 114
2-Fluorophenol	69		10 - 105
Nitrobenzene-d5	79		16 - 127
Phenol-d5	59		10 - 129
Terphenyl-d14	116		13 - 150
2,4,6-Tribromophenol	45		10 - 150

**Lab Sample ID: LCSD 400-668821/3-A**  
**Matrix: Water**  
**Analysis Batch: 669375**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 668821**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Aniline	120	14.7	*1	ug/L		12	10 - 127	81	40
Benzoic acid	492	319		ug/L		65	19 - 126	20	40
Benzyl alcohol	120	90.5		ug/L		75	17 - 109	12	40
Bis(2-chloroethoxy)methane	120	84.9		ug/L		71	24 - 125	8	40
Bis(2-chloroethyl)ether	120	58.2		ug/L		49	10 - 121	4	40
bis (2-chloroisopropyl) ether	120	79.5		ug/L		66	14 - 123	8	40
Bis(2-ethylhexyl) phthalate	120	110		ug/L		91	16 - 150	6	40
4-Bromophenyl phenyl ether	120	105		ug/L		87	17 - 150	9	40
Butyl benzyl phthalate	120	104		ug/L		87	21 - 150	7	40
4-Chloroaniline	120	82.0		ug/L		68	10 - 124	4	40
4-Chloro-3-methylphenol	120	96.1		ug/L		80	37 - 131	12	40
2-Chloronaphthalene	120	87.4		ug/L		73	24 - 132	10	40
2-Chlorophenol	120	89.9		ug/L		75	27 - 124	12	40
4-Chlorophenyl phenyl ether	120	96.8		ug/L		81	27 - 147	8	40
Dibenz[a,h]acridine	59.9	53.0		ug/L		89	40 - 140	8	40
Dibenzofuran	120	95.3		ug/L		79	30 - 135	9	40

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# QC Sample Results

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

Job ID: 400-254505-1

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

**Lab Sample ID: LCSD 400-668821/3-A**  
**Matrix: Water**  
**Analysis Batch: 669375**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 668821**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
3,3'-Dichlorobenzidine	160	138		ug/L		86	10 - 150	10	40
2,4-Dichlorophenol	120	91.1		ug/L		76	33 - 132	12	40
Diethyl phthalate	120	111		ug/L		92	37 - 145	9	40
2,4-Dimethylphenol	120	110		ug/L		92	38 - 132	9	40
Dimethyl phthalate	120	101		ug/L		84	32 - 137	8	40
Di-n-butyl phthalate	120	110		ug/L		92	27 - 150	7	40
4,6-Dinitro-ortho-cresol	240	268		ug/L		111	14 - 150	12	40
2,4-Dinitrophenol	240	438	*+	ug/L		183	15 - 150	20	40
2,4-Dinitrotoluene	120	99.0		ug/L		83	35 - 136	10	40
2,6-Dinitrotoluene	120	89.4		ug/L		75	29 - 140	8	40
Di-n-octyl phthalate	120	101		ug/L		84	26 - 150	7	40
1,4-Dioxane	120	43.8		ug/L		36	10 - 87	9	40
1,2-Diphenylhydrazine (as Azobenzene)	120	102		ug/L		85	23 - 138	6	40
Hexachlorobenzene	120	108		ug/L		90	10 - 150	8	40
Hexachlorocyclopentadiene	120	89.5		ug/L		75	10 - 124	14	40
Hexachloroethane	120	73.3		ug/L		61	10 - 127	11	40
Indene	120	88.0		ug/L		73	18 - 150	17	40
Isophorone	120	86.6		ug/L		72	28 - 127	8	40
2-Methylphenol	120	90.4		ug/L		75	34 - 124	10	40
3 & 4 Methylphenol	120	89.2		ug/L		74	32 - 122	11	40
2-Nitroaniline	120	102		ug/L		85	24 - 139	10	40
3-Nitroaniline	120	83.4		ug/L		70	10 - 128	10	40
4-Nitroaniline	120	90.0		ug/L		75	28 - 118	18	40
Nitrobenzene	120	86.6		ug/L		72	29 - 120	9	40
2-Nitrophenol	120	86.6		ug/L		72	25 - 148	13	40
4-Nitrophenol	240	228		ug/L		95	12 - 129	16	40
N-Nitrosodimethylamine	120	67.7		ug/L		56	10 - 115	15	40
N-Nitrosodi-n-propylamine	120	100		ug/L		84	24 - 142	7	40
N-Nitrosodiphenylamine	119	100		ug/L		84	29 - 138	7	40
Pentachlorophenol	240	235		ug/L		98	19 - 150	15	40
Phenol	120	61.3		ug/L		51	11 - 95	18	40
Pyridine	240	ND	*- *1	ug/L		0.8	10 - 82	170	40
Quinoline	59.9	27.4		ug/L		46	40 - 140	11	40
2,4,5-Trichlorophenol	120	92.9		ug/L		77	30 - 144	11	40
2,4,6-Trichlorophenol	120	94.1		ug/L		78	27 - 147	11	40

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	72		21 - 114
2-Fluorophenol	57		10 - 105
Nitrobenzene-d5	83		16 - 127
Phenol-d5	51		10 - 129
Terphenyl-d14	86		13 - 150
2,4,6-Tribromophenol	93		10 - 150

# QC Sample Results

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

Job ID: 400-254505-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

**Lab Sample ID: MB 400-668821/1-A**  
**Matrix: Water**  
**Analysis Batch: 669007**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 668821**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acenaphthene	ND		0.20	0.099	ug/L		04/22/24 11:20	04/23/24 21:33	1
Acenaphthylene	ND		0.20	0.044	ug/L		04/22/24 11:20	04/23/24 21:33	1
Anthracene	ND		0.20	0.047	ug/L		04/22/24 11:20	04/23/24 21:33	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		04/22/24 11:20	04/23/24 21:33	1
Benzo[a]pyrene	ND		0.20	0.064	ug/L		04/22/24 11:20	04/23/24 21:33	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		04/22/24 11:20	04/23/24 21:33	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		04/22/24 11:20	04/23/24 21:33	1
Benzo[k]fluoranthene	ND		0.20	0.062	ug/L		04/22/24 11:20	04/23/24 21:33	1
Chrysene	ND		0.20	0.033	ug/L		04/22/24 11:20	04/23/24 21:33	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		04/22/24 11:20	04/23/24 21:33	1
Fluoranthene	ND		0.20	0.034	ug/L		04/22/24 11:20	04/23/24 21:33	1
Fluorene	ND		0.20	0.089	ug/L		04/22/24 11:20	04/23/24 21:33	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		04/22/24 11:20	04/23/24 21:33	1
Phenanthrene	ND		0.20	0.090	ug/L		04/22/24 11:20	04/23/24 21:33	1
Pyrene	ND		0.20	0.039	ug/L		04/22/24 11:20	04/23/24 21:33	1
1-Methylnaphthalene	ND		0.20	0.080	ug/L		04/22/24 11:20	04/23/24 21:33	1
2-Methylnaphthalene	ND		0.20	0.066	ug/L		04/22/24 11:20	04/23/24 21:33	1
Surrogate	MB	MB	Limits			D	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier							
Terphenyl-d14	72		18 - 147				04/22/24 11:20	04/23/24 21:33	1
2-Fluorobiphenyl	52		15 - 128				04/22/24 11:20	04/23/24 21:33	1
Nitrobenzene-d5	53		10 - 144				04/22/24 11:20	04/23/24 21:33	1

**Lab Sample ID: LCS 400-668821/2-A**  
**Matrix: Water**  
**Analysis Batch: 669007**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 668821**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	Limits	
		Result	Qualifier					
Acenaphthene	120	79.5		ug/L		66	10 - 140	
Acenaphthylene	120	75.6		ug/L		63	10 - 140	
Anthracene	120	81.4		ug/L		68	19 - 140	
Benzo[a]anthracene	120	81.1		ug/L		68	25 - 140	
Benzo[a]pyrene	120	83.3		ug/L		69	24 - 140	
Benzo[b]fluoranthene	120	77.9		ug/L		65	34 - 140	
Benzo[g,h,i]perylene	120	78.1		ug/L		65	13 - 140	
Benzo[k]fluoranthene	120	91.7		ug/L		76	21 - 140	
Chrysene	120	90.2		ug/L		75	28 - 140	
Dibenz(a,h)anthracene	120	81.9		ug/L		68	10 - 140	
Fluoranthene	120	75.1		ug/L		63	18 - 140	
Fluorene	120	85.8		ug/L		71	16 - 140	
Indeno[1,2,3-cd]pyrene	120	81.9		ug/L		68	10 - 140	
Phenanthrene	120	82.1		ug/L		68	22 - 140	
Pyrene	120	87.6		ug/L		73	38 - 140	
1-Methylnaphthalene	120	67.5		ug/L		56	10 - 140	
2-Methylnaphthalene	120	66.9		ug/L		56	10 - 140	
Surrogate	LCS		Limits			D	%Rec	Limits
	%Recovery	Qualifier						
Terphenyl-d14	73		18 - 147					

# QC Sample Results

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

Job ID: 400-254505-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: LCS 400-668821/2-A**  
**Matrix: Water**  
**Analysis Batch: 669007**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 668821**

Surrogate	LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	60		15 - 128
Nitrobenzene-d5	50		10 - 144

**Lab Sample ID: LCSD 400-668821/3-A**  
**Matrix: Water**  
**Analysis Batch: 669007**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 668821**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Acenaphthene	120	84.3		ug/L		70	10 - 140	6	40	
Acenaphthylene	120	81.7		ug/L		68	10 - 140	8	40	
Anthracene	120	86.2		ug/L		72	19 - 140	6	40	
Benzo[a]anthracene	120	84.2		ug/L		70	25 - 140	4	40	
Benzo[a]pyrene	120	90.1		ug/L		75	24 - 140	8	40	
Benzo[b]fluoranthene	120	82.6		ug/L		69	34 - 140	6	40	
Benzo[g,h,i]perylene	120	85.0		ug/L		71	13 - 140	8	40	
Benzo[k]fluoranthene	120	103		ug/L		85	21 - 140	11	40	
Chrysene	120	97.0		ug/L		81	28 - 140	7	40	
Dibenz(a,h)anthracene	120	93.3		ug/L		78	10 - 140	13	40	
Fluoranthene	120	78.0		ug/L		65	18 - 140	4	40	
Fluorene	120	91.5		ug/L		76	16 - 140	6	40	
Indeno[1,2,3-cd]pyrene	120	91.0		ug/L		76	10 - 140	11	40	
Phenanthrene	120	87.8		ug/L		73	22 - 140	7	40	
Pyrene	120	95.0		ug/L		79	38 - 140	8	40	
1-Methylnaphthalene	120	71.8		ug/L		60	10 - 140	6	40	
2-Methylnaphthalene	120	71.1		ug/L		59	10 - 140	6	40	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
Terphenyl-d14	76		18 - 147
2-Fluorobiphenyl	64		15 - 128
Nitrobenzene-d5	53		10 - 144

## Method: 8011 - EDB and DBCP in Water by Microextraction

**Lab Sample ID: MB 400-668964/1-A**  
**Matrix: Water**  
**Analysis Batch: 669021**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 668964**

Analyte	MB		RL	MDL	Unit	D	Prepared		Analyzed		Dil Fac
	Result	Qualifier									
1,2-Dibromo-3-Chloropropane	ND		0.030	0.017	ug/L		04/23/24 09:56	04/23/24 16:02			1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		04/23/24 09:56	04/23/24 16:02			1

Surrogate	MB		Limits	Prepared		Analyzed		Dil Fac
	%Recovery	Qualifier						
4-Bromofluorobenzene	70		51 - 149	04/23/24 09:56	04/23/24 16:02			1

# QC Sample Results

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

Job ID: 400-254505-1

## Method: 8011 - EDB and DBCP in Water by Microextraction (Continued)

**Lab Sample ID: LCS 400-668964/2-A**  
**Matrix: Water**  
**Analysis Batch: 669021**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 668964**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
							Lower	Upper
1,2-Dibromo-3-Chloropropane	0.101	0.117		ug/L		117	60	140
1,2-Dibromoethane	0.100	0.114		ug/L		114	60	140
<b>LCS LCS</b>								
Surrogate	%Recovery	Qualifier	Limits					
4-Bromofluorobenzene	81	p	51 - 149					

**Lab Sample ID: LCSD 400-668964/3-A**  
**Matrix: Water**  
**Analysis Batch: 669021**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 668964**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits		RPD Limit	
							Lower	Upper	RPD	Limit
1,2-Dibromo-3-Chloropropane	0.101	0.117		ug/L		116	60	140	1	30
1,2-Dibromoethane	0.100	0.121		ug/L		121	60	140	6	30
<b>LCSD LCSD</b>										
Surrogate	%Recovery	Qualifier	Limits							
4-Bromofluorobenzene	89	p	51 - 149							

ACCOUNT ( )  
 CALSCIENCE ( )  
 TESTAMERICA (TestAmerica Pensacola; 3355 McLemore Dr. Pensacola, FL 32514 (850-474-1001))  
 Other ( )

**Please Check Appropriate Box:**  
 SGW FDG  PIPELINE  RETAIL  
 CHEMICALS  CONSULTANT  LUBES  
 TRANSPORTATION  OTHER - ENV. SERVICES

**Print Bill To Contact Name:** Melissa Remiger  
**PlanNet Site or Project ID:** 25278  
**DATE:** 4/15/2024  
**PAGE:** 1 of 1

**PO #** 60721927 - 3.2.2  
**USP/00114/R/02**  
**AECOM Project/Task Number:** Roxana Quarry GW 60721927 - 3.2.2  
**E-MAIL:** melissa.remiger@aecom.com  
**PHONE NO.:** 314-429-0100  
**STATE:** IL

**SAMPLER NAME(S) (Print):** M. Massa, T. Jenkins  
**EDF DELIVERABLE TO Name, Company, Office Location:** Melissa Remiger - please see special instructions  
**LOG CODE:**

**TURNAROUND TIME (CALENDAR DAYS):**  STANDARD (1-4 DAY)  5 DAYS  2 DAYS  24 HOURS  WEEKEND  
 LA - RWQCB REPORT FORMAT

**DELIVERABLES:**  LEVEL 1  LEVEL 2  LEVEL 3  LEVEL 4  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**  
 LAB USE ONLY  

LAB USE ONLY	SAMPLING		PRESERVATIVE			NO. OF CONT.
	DATE	TIME	HCL	H2SO4	OTHER	
TB-ROX-041524-8260-BP	4/15/2024	0000	Water	2		2
TB-ROX-041524-8011-BP	4/15/2024	0000	Water	2		2
MW23-ROX-041524	4/15/2024	0955	Water	6	2	8

**REQUESTED ANALYSIS**  
 60721927 - 3.2.2  
 VOC 8260 X  
 8011 EDB + DBCP X  
 SVOC 8270 X  
 PAH 8270 SIMS X

**TEMPERATURE ON RECEIPT C°:**  
**CONTAINER PID READINGS or Laboratory Notes:**

**FIELD NOTES:**  
 400-254505 COC

**RECEIVED BY (SIGNATURE):** [Signature]  
**DATE:** 4/15/2024  
**TIME:** 1600

**FEDEX:** 7252 0540 5047, 7252 0540 5058, 7252 0540 5069  
**RECEIVED BY (SIGNATURE):** [Signature]

**RELIQUISHED BY (SIGNATURE):** [Signature]

# Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-254505-1

**Login Number: 254505**

**List Source: Eurofins Pensacola**

**List Number: 1**

**Creator: Perez, Trina M**

Question	Answer	Comment
Radioactivity wasn't checked or is </= 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	2.9°C, 2.0°C IR-11
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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (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

Job ID: 400-254505-1

## Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-24
Kansas	NELAP	E-10253	10-31-24
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-24
North Carolina (WW/SW)	State	314	12-31-24
Oklahoma	NELAP	9810	08-31-24
Pennsylvania	NELAP	68-00467	01-31-25
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-24
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	P330-21-00056	05-17-24
USDA	US Federal Programs	FLGNV23001	01-08-26
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-25

# Roxana Groundwater Quarterly – 2<sup>nd</sup> Quarter 2024 Data Review

Laboratory SDG: 400-254564-1

Data Reviewer: Adelina Gita

Peer Reviewer: Cheyana Cokley

Date Reviewed: 05/16/2024

Guidance: USEPA National Functional Guidelines for Organic Superfund Methods  
Data Review 2020

Sample Identification	Sample Identification
TB-ROX-041724-8260	TB-ROX-041724-8011
P58-ROX-041724	MW2-ROX-041724-EB
MW2-ROX-041724	-

## 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 2-Butanone (MEK) and 1-methylnaphthalene were detected in equipment blank MW2-ROX-041724-EB. 2-Methylnaphthalene was detected in method blank MB 400-669184/1-A. Several SVOC LCS/LCSD recoveries and/or LCS/LCSD RPDs, were outside evaluation criteria. The surrogate recovery for terphenyl-d<sub>14</sub> was outside criteria in a PAH method blank. The PAH internal standard area recovery for anthracene-d<sub>10</sub> was outside criteria in sample MW2-ROX-041724. The continuing calibration verifications (CCV) for several analytes were outside evaluation criteria, biased low. These issues are addressed further in the appropriate sections of this data review.

Three of 70 (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?*

Yes

Blank ID	Parameter	Analyte	Concentration /Amount
MW2-ROX-041724-EB	VOCs	2-Butanone (MEK)	3.6 ug/L

Blank ID	Parameter	Analyte	Concentration /Amount
MW2-ROX-041724-EB	PAHs	2-Methylnaphthalene	0.13 ug/L
MB 400-669184/1-A	PAHs	2-Methylnaphthalene	0.0675 ug/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 400-669184/2-A/3-A	SVOCs	Aniline	14/33	79	10-127/40
LCS/LCSD 400-669184/2-A/3-A	SVOCs	Pyridine	3/11	111	10-82/40
LCS/LCSD 400-669184/2-A/3-A	SVOCs	Quinoline	28/44	47	10-141/40

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 pyridine below evaluation criteria; pyridine has been identified as a poor performing analyte under Method 8270. Analytical data associated with LCS/LCSD RPD alone outside evaluation criteria did not require qualification.

Sample ID	Parameter	Analyte	Qualification
P58-ROX-041724	SVOCs	Pyridine	UJ
MW2-ROX-041724	SVOCs	Pyridine	UJ

## 6.0 Surrogate Recoveries

*Were surrogate recoveries within evaluation criteria?*

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
MB 400-669184/1-A	PAHs	Terphenyl-d <sub>14</sub>	154	18-147

Method blanks 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?*

No

## 8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

No

Sample ID	Parameter	Analyte	IS Area Recovery	12/24 Hour Standard	IS Criteria
MW2-ROX-041724	PAHs	Acenaphthene-d <sub>10</sub>	33024	15597	7799 - 31194

Analytical data that were reported as non-detect and associated with internal standard recoveries above evaluation criteria, 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?

Yes, the continuing calibration verification (CCV) for bis(2-chloroethyl)ether, 2,4,6-trichlorophenol, indene, quinoline, dibenz[a,h]acridine, dibenz(a,h)anthracene, 1,2-dibromo-3-chloropropane and 1,2-dibromoethane were outside evaluation criteria, biased low. Pyridine in samples P58-ROX-041724 and MW2-ROX-041724 was previously qualified in section 5.0 of this data review, due to a laboratory control sample recovery outside evaluation criteria; no further qualification is required. Analytes are qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
P58-ROX-041724	SVOCs	Bis(2-chloroethyl)ether	UJ
MW2-ROX-041724	SVOCs	Bis(2-chloroethyl)ether	UJ
P58-ROX-041724	SVOCs	2,4,6-Trichlorophenol	UJ
MW2-ROX-041724	SVOCs	2,4,6-Trichlorophenol	UJ
P58-ROX-041724	SVOCs	Indene	UJ
MW2-ROX-041724	SVOCs	Indene	UJ
P58-ROX-041724	SVOCs	Quinoline	UJ
MW2-ROX-041724	SVOCs	Quinoline	UJ
P58-ROX-041724	SVOCs	Dibenz[a,h]acridine	UJ
MW2-ROX-041724	SVOCs	Dibenz[a,h]acridine	UJ
P58-ROX-041724	PAHs	Dibenz(a,h)anthracene	UJ

Sample ID	Parameter	Analyte	Qualification
MW2-ROX-041724	PAHs	Dibenz(a,h)anthracene	UJ
P58-ROX-041724	VOCs by 8011	1,2-Dibromoethane	UJ
MW2-ROX-041724	VOCs by 8011	1,2-Dibromoethane	UJ
P58-ROX-041724	VOCs by 8011	1,2-Dibromo-3-Chloropropane	UJ
MW2-ROX-041724	VOCs by 8011	1,2-Dibromo-3-Chloropropane	UJ



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Melissa Remiger  
AECOM Technical Services Inc.  
100 N. Broadway  
20th Floor  
St. Louis, Missouri 63102

Generated 5/3/2024 3:16:13 PM

## JOB DESCRIPTION

ROXANA QUARTERLY GW

## JOB NUMBER

400-254564-1

Reviewed 05/16/2024  
AG



# Eurofins Pensacola

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

## Authorization



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Authorized for release by  
Leah Klingensmith, Senior Project Manager  
[Leah.Klingensmith@et.eurofinsus.com](mailto:Leah.Klingensmith@et.eurofinsus.com)  
(615)301-5038



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# Case Narrative

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

Job ID: 400-254564-1

**Job ID: 400-254564-1**

**Eurofins Pensacola**

## Job Narrative 400-254564-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 4/18/2024 9:24 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.0°C and 2.4°C.

### Receipt Exceptions

Sample was not sent for re-extract for verification of detects as historical data confirms results. P58-ROX-041724 (400-254564-3), MW2-ROX-041724-EB (400-254564-4) and MW2-ROX-041724 (400-254564-5)

### GC/MS VOA

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: P58-ROX-041724 (400-254564-3). Elevated reporting limits (RLs) are provided.

Method 8260D: The preservative used in the sample containers provided is not compatible with one of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-ROX-041724-8260 (400-254564-1), P58-ROX-041724 (400-254564-3) and MW2-ROX-041724 (400-254564-5). The requested target analyte list includes 2-Chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrades in an acidic medium.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-669709 recovered above the upper control limit for Acrolein, Trichlorofluoromethane and Vinyl acetate. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: P58-ROX-041724 (400-254564-3). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-670014 recovered above the upper control limit for 1,1-Dichloroethane, Acrolein, Chloromethane, Trichlorofluoromethane and Vinyl acetate. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: Sample MW2-ROX-041724-EB (400-254564-4) contained 2-Butanone (MEK) between the method detection limit and the reporting limit. Reanalysis was performed with concurring results.

Method 8260D: The preservative used in the sample containers provided is not compatible with one of the Method 8260 analytes requested. The following sample was received preserved with hydrochloric acid: MW2-ROX-041724-EB (400-254564-4). The requested target analyte list includes 2-Chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrades 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 8270E: The initial calibration verification (ICV) analyzed in batch 400-663332 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 8270E: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 400-669184 and analytical batch 400-669650 recovered outside control limits for the following analytes: Quinoline, Pyridine

Eurofins Pensacola

## Case Narrative

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

Job ID: 400-254564-1

### Job ID: 400-254564-1 (Continued)

Eurofins Pensacola

and Aniline.

Method 8270E: The continuing calibration verification (CCV) associated with batch 400-669650 recovered outside acceptance criteria, low biased, for 2,4,6-Trichlorophenol, Indene, Bis(2-chloroethyl)ether, Quinoline, Pyridine and Dibenz[a,h]acridine. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8270E: The laboratory control sample (LCS) for preparation batch 400-669184 and analytical batch 400-669650 recovered outside control limits for the following analyte(s): Pyridine. Pyridine has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method 8270E: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 400-669184 and analytical batch 400-669650 recovered outside control limits for the following analytes: Aniline, Quinoline and Pyridine.

Method 8270E\_SIM: The continuing calibration verification (CCV) associated with batch 400-669713 recovered outside acceptance criteria, low biased, for Dibenz(a,h)anthracene. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8270E\_SIM: Three 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 method blank contained an allowable number of surrogate compounds outside limits: (MB 400-669184/1-A). These results have been reported and qualified.

Method 8270E\_SIM: The method blank for preparation batch 400-669184 and analytical batch 400-669713 contained 2-Methylnaphthalene above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8270E\_SIM: Sample was not sent for re-extract for verification of detects as historical data confirms results. P58-ROX-041724 (400-254564-3), MW2-ROX-041724-EB (400-254564-4) and MW2-ROX-041724 (400-254564-5)

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

#### GC Semi VOA

Method 8011: The continuing calibration verification (CCV) associated with batch 400-669181 recovered outside acceptance criteria, low biased, for 1,2-Dibromo-3-Chloropropane and 1,2-Dibromoethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

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

Eurofins Pensacola

# Sample Summary

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

Job ID: 400-254564-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-254564-1	TB-ROX-041724-8260	Water	04/17/24 00:00	04/18/24 09:24
400-254564-2	TB-ROX-041724-8011	Water	04/17/24 00:00	04/18/24 09:24
400-254564-3	P58-ROX-041724	Water	04/17/24 09:35	04/18/24 09:24
400-254564-4	MW2-ROX-041724-EB	Water	04/17/24 11:45	04/18/24 09:24
400-254564-5	MW2-ROX-041724	Water	04/17/24 13:35	04/18/24 09:24

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# Detection Summary

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

Job ID: 400-254564-1

## Client Sample ID: TB-ROX-041724-8260

Lab Sample ID: 400-254564-1

No Detections.

## Client Sample ID: TB-ROX-041724-8011

Lab Sample ID: 400-254564-2

No Detections.

## Client Sample ID: P58-ROX-041724

Lab Sample ID: 400-254564-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	280	J	500	250	ug/L	500		8260D	Total/NA
Benzene - DL	430000		2000	1000	ug/L	2000		8260D	Total/NA
Acenaphthene	0.63		0.20	0.099	ug/L	1		8270E SIM	Total/NA
Anthracene	0.30		0.20	0.047	ug/L	1		8270E SIM	Total/NA
Benzo[a]anthracene	0.23		0.20	0.034	ug/L	1		8270E SIM	Total/NA
Benzo[a]pyrene	0.13	J	0.20	0.064	ug/L	1		8270E SIM	Total/NA
Benzo[b]fluoranthene	0.072	J	0.20	0.037	ug/L	1		8270E SIM	Total/NA
Benzo[g,h,i]perylene	0.038	J	0.20	0.027	ug/L	1		8270E SIM	Total/NA
Chrysene	0.28		0.20	0.033	ug/L	1		8270E SIM	Total/NA
Fluoranthene	0.16	J	0.20	0.034	ug/L	1		8270E SIM	Total/NA
Fluorene	1.3		0.20	0.089	ug/L	1		8270E SIM	Total/NA
Phenanthrene	1.1		0.20	0.090	ug/L	1		8270E SIM	Total/NA
Pyrene	0.45		0.20	0.039	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	31		0.20	0.080	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	13	B	0.20	0.066	ug/L	1		8270E SIM	Total/NA
Phenol	190		10	4.2	ug/L	1		8270E	Total/NA

## Client Sample ID: MW2-ROX-041724-EB

Lab Sample ID: 400-254564-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	3.6	J	25	2.6	ug/L	1		8260D	Total/NA
2-Methylnaphthalene	0.13	J B	0.20	0.065	ug/L	1		8270E SIM	Total/NA

## Client Sample ID: MW2-ROX-041724

Lab Sample ID: 400-254564-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	52		25	10	ug/L	1		8260D	Total/NA
Benzene	2.6		1.0	0.50	ug/L	1		8260D	Total/NA
2-Butanone (MEK)	22	J	25	2.6	ug/L	1		8260D	Total/NA
Ethylbenzene	210		1.0	0.50	ug/L	1		8260D	Total/NA
Isopropylbenzene	43		1.0	0.53	ug/L	1		8260D	Total/NA
m-Xylene & p-Xylene	110		5.0	0.63	ug/L	1		8260D	Total/NA
Naphthalene	16		5.0	3.0	ug/L	1		8260D	Total/NA
n-Butylbenzene	4.5		1.0	0.76	ug/L	1		8260D	Total/NA
N-Propylbenzene	63		1.0	0.69	ug/L	1		8260D	Total/NA
o-Xylene	10		5.0	0.60	ug/L	1		8260D	Total/NA
p-Isopropyltoluene	4.1		1.0	0.71	ug/L	1		8260D	Total/NA
sec-Butylbenzene	5.1		1.0	0.70	ug/L	1		8260D	Total/NA
tert-Butylbenzene	0.71	J	1.0	0.63	ug/L	1		8260D	Total/NA
Toluene	3.3		1.0	0.90	ug/L	1		8260D	Total/NA
1,2,4-Trimethylbenzene	24		1.0	0.82	ug/L	1		8260D	Total/NA
1,3,5-Trimethylbenzene	23		1.0	0.56	ug/L	1		8260D	Total/NA
Xylenes, Total	120		10	1.6	ug/L	1		8260D	Total/NA
1-Methylnaphthalene	5.5		0.19	0.077	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	9.0	B	0.19	0.064	ug/L	1		8270E SIM	Total/NA

This Detection Summary does not include radiochemical test results.



# Client Sample Results

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

Job ID: 400-254564-1

**Client Sample ID: TB-ROX-041724-8260**

**Lab Sample ID: 400-254564-1**

**Date Collected: 04/17/24 00:00**

**Matrix: Water**

**Date Received: 04/18/24 09:24**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			04/29/24 17:16	1
Acrolein	ND		20	3.3	ug/L			04/29/24 17:16	1
Acrylonitrile	ND		10	2.8	ug/L			04/29/24 17:16	1
Benzene	ND		1.0	0.50	ug/L			04/29/24 17:16	1
Bromobenzene	ND		1.0	0.54	ug/L			04/29/24 17:16	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/29/24 17:16	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/29/24 17:16	1
Bromoform	ND		5.0	0.25	ug/L			04/29/24 17:16	1
Bromomethane	ND		1.0	0.98	ug/L			04/29/24 17:16	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/29/24 17:16	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/29/24 17:16	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/29/24 17:16	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/29/24 17:16	1
Chloroethane	ND		1.0	0.76	ug/L			04/29/24 17:16	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/29/24 17:16	1
Chloroform	ND		1.0	0.90	ug/L			04/29/24 17:16	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/29/24 17:16	1
Chloromethane	ND		1.0	0.90	ug/L			04/29/24 17:16	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/29/24 17:16	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/29/24 17:16	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/29/24 17:16	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/29/24 17:16	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/29/24 17:16	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/29/24 17:16	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/29/24 17:16	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/29/24 17:16	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/29/24 17:16	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/29/24 17:16	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/29/24 17:16	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/29/24 17:16	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/29/24 17:16	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/29/24 17:16	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/29/24 17:16	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/29/24 17:16	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/29/24 17:16	1
2-Hexanone	ND		25	1.4	ug/L			04/29/24 17:16	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/29/24 17:16	1
Methylene bromide	ND		5.0	0.22	ug/L			04/29/24 17:16	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/29/24 17:16	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/29/24 17:16	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/29/24 17:16	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/29/24 17:16	1
Naphthalene	ND		5.0	3.0	ug/L			04/29/24 17:16	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/29/24 17:16	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/29/24 17:16	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/29/24 17:16	1
o-Xylene	ND		5.0	0.60	ug/L			04/29/24 17:16	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/29/24 17:16	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			04/29/24 17:16	1

# Client Sample Results

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

Job ID: 400-254564-1

**Client Sample ID: TB-ROX-041724-8260**

**Lab Sample ID: 400-254564-1**

**Date Collected: 04/17/24 00:00**

**Matrix: Water**

**Date Received: 04/18/24 09:24**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/29/24 17:16	1
Styrene	ND		1.0	1.0	ug/L			04/29/24 17:16	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/29/24 17:16	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/29/24 17:16	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/29/24 17:16	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/29/24 17:16	1
Toluene	ND		1.0	0.90	ug/L			04/29/24 17:16	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/29/24 17:16	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/29/24 17:16	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/29/24 17:16	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/29/24 17:16	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/29/24 17:16	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/29/24 17:16	1
Trichloroethene	ND		1.0	0.15	ug/L			04/29/24 17:16	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/29/24 17:16	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/29/24 17:16	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/29/24 17:16	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/29/24 17:16	1
Vinyl acetate	ND		25	0.93	ug/L			04/29/24 17:16	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/29/24 17:16	1
Xylenes, Total	ND		10	1.6	ug/L			04/29/24 17:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		72 - 130		04/29/24 17:16	1
Dibromofluoromethane	106		75 - 126		04/29/24 17:16	1
Toluene-d8 (Surr)	96		64 - 132		04/29/24 17:16	1

# Client Sample Results

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

Job ID: 400-254564-1

**Client Sample ID: TB-ROX-041724-8011**

**Lab Sample ID: 400-254564-2**

**Date Collected: 04/17/24 00:00**

**Matrix: Water**

**Date Received: 04/18/24 09:24**

**Method: EPA 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	0.017	ug/L		04/24/24 08:38	04/24/24 21:55	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		04/24/24 08:38	04/24/24 21:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	75		51 - 149				04/24/24 08:38	04/24/24 21:55	1

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# Client Sample Results

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

Job ID: 400-254564-1

**Client Sample ID: P58-ROX-041724**

**Lab Sample ID: 400-254564-3**

Date Collected: 04/17/24 09:35

Matrix: Water

Date Received: 04/18/24 09:24

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		13000	5000	ug/L			04/29/24 20:31	500
Acrolein	ND		10000	1700	ug/L			04/29/24 20:31	500
Acrylonitrile	ND		5000	1400	ug/L			04/29/24 20:31	500
Bromobenzene	ND		500	270	ug/L			04/29/24 20:31	500
Bromochloromethane	ND		500	110	ug/L			04/29/24 20:31	500
Bromodichloromethane	ND		500	250	ug/L			04/29/24 20:31	500
Bromoform	ND		2500	130	ug/L			04/29/24 20:31	500
Bromomethane	ND		500	490	ug/L			04/29/24 20:31	500
2-Butanone (MEK)	ND		13000	1300	ug/L			04/29/24 20:31	500
Carbon disulfide	ND		500	250	ug/L			04/29/24 20:31	500
Carbon tetrachloride	ND		500	95	ug/L			04/29/24 20:31	500
Chlorobenzene	ND		500	450	ug/L			04/29/24 20:31	500
Chloroethane	ND		500	380	ug/L			04/29/24 20:31	500
2-Chloroethyl vinyl ether	ND		2500	1000	ug/L			04/29/24 20:31	500
Chloroform	ND		500	450	ug/L			04/29/24 20:31	500
1-Chlorohexane	ND		500	160	ug/L			04/29/24 20:31	500
Chloromethane	ND		500	450	ug/L			04/29/24 20:31	500
cis-1,2-Dichloroethene	ND		500	100	ug/L			04/29/24 20:31	500
cis-1,3-Dichloropropene	ND		2500	250	ug/L			04/29/24 20:31	500
Dibromochloromethane	ND		500	120	ug/L			04/29/24 20:31	500
1,2-Dichlorobenzene	ND		500	250	ug/L			04/29/24 20:31	500
1,3-Dichlorobenzene	ND		500	270	ug/L			04/29/24 20:31	500
1,4-Dichlorobenzene	ND		500	320	ug/L			04/29/24 20:31	500
Dichlorodifluoromethane	ND		500	430	ug/L			04/29/24 20:31	500
1,1-Dichloroethane	ND		500	250	ug/L			04/29/24 20:31	500
1,2-Dichloroethane	ND		500	95	ug/L			04/29/24 20:31	500
1,1-Dichloroethene	ND		500	250	ug/L			04/29/24 20:31	500
1,2-Dichloropropane	ND		500	250	ug/L			04/29/24 20:31	500
1,3-Dichloropropane	ND		500	250	ug/L			04/29/24 20:31	500
2,2-Dichloropropane	ND		500	250	ug/L			04/29/24 20:31	500
1,1-Dichloropropene	ND		500	250	ug/L			04/29/24 20:31	500
<b>Ethylbenzene</b>	<b>280</b>	<b>J</b>	500	250	ug/L			04/29/24 20:31	500
Ethyl methacrylate	ND		500	300	ug/L			04/29/24 20:31	500
Hexachlorobutadiene	ND		2500	450	ug/L			04/29/24 20:31	500
2-Hexanone	ND		13000	700	ug/L			04/29/24 20:31	500
Isopropylbenzene	ND		500	270	ug/L			04/29/24 20:31	500
Methylene bromide	ND		2500	110	ug/L			04/29/24 20:31	500
Methylene Chloride	ND		2500	1500	ug/L			04/29/24 20:31	500
4-Methyl-2-pentanone (MIBK)	ND		13000	900	ug/L			04/29/24 20:31	500
Methyl tert-butyl ether	ND		500	110	ug/L			04/29/24 20:31	500
m-Xylene & p-Xylene	ND		2500	320	ug/L			04/29/24 20:31	500
Naphthalene	ND		2500	1500	ug/L			04/29/24 20:31	500
n-Butylbenzene	ND		500	380	ug/L			04/29/24 20:31	500
N-Propylbenzene	ND		500	350	ug/L			04/29/24 20:31	500
o-Chlorotoluene	ND		500	290	ug/L			04/29/24 20:31	500
o-Xylene	ND		2500	300	ug/L			04/29/24 20:31	500
p-Chlorotoluene	ND		500	280	ug/L			04/29/24 20:31	500
p-Isopropyltoluene	ND		500	360	ug/L			04/29/24 20:31	500
sec-Butylbenzene	ND		500	350	ug/L			04/29/24 20:31	500

# Client Sample Results

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

Job ID: 400-254564-1

**Client Sample ID: P58-ROX-041724**

**Lab Sample ID: 400-254564-3**

Date Collected: 04/17/24 09:35

Matrix: Water

Date Received: 04/18/24 09:24

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		500	500	ug/L			04/29/24 20:31	500
tert-Butylbenzene	ND		500	320	ug/L			04/29/24 20:31	500
1,1,1,2-Tetrachloroethane	ND		500	80	ug/L			04/29/24 20:31	500
1,1,2,2-Tetrachloroethane	ND		500	250	ug/L			04/29/24 20:31	500
Tetrachloroethene	ND		500	450	ug/L			04/29/24 20:31	500
Toluene	ND		500	450	ug/L			04/29/24 20:31	500
trans-1,2-Dichloroethene	ND		500	250	ug/L			04/29/24 20:31	500
trans-1,3-Dichloropropene	ND		2500	100	ug/L			04/29/24 20:31	500
1,2,3-Trichlorobenzene	ND		500	450	ug/L			04/29/24 20:31	500
1,2,4-Trichlorobenzene	ND		500	410	ug/L			04/29/24 20:31	500
1,1,1-Trichloroethane	ND		500	90	ug/L			04/29/24 20:31	500
1,1,2-Trichloroethane	ND		2500	110	ug/L			04/29/24 20:31	500
Trichloroethene	ND		500	75	ug/L			04/29/24 20:31	500
Trichlorofluoromethane	ND		500	260	ug/L			04/29/24 20:31	500
1,2,3-Trichloropropane	ND		2500	420	ug/L			04/29/24 20:31	500
1,2,4-Trimethylbenzene	ND		500	410	ug/L			04/29/24 20:31	500
1,3,5-Trimethylbenzene	ND		500	280	ug/L			04/29/24 20:31	500
Vinyl acetate	ND		13000	470	ug/L			04/29/24 20:31	500
Vinyl chloride	ND		500	250	ug/L			04/29/24 20:31	500
Xylenes, Total	ND		5000	800	ug/L			04/29/24 20:31	500

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		72 - 130		04/29/24 20:31	500
Dibromofluoromethane	108		75 - 126		04/29/24 20:31	500
Toluene-d8 (Surr)	95		64 - 132		04/29/24 20:31	500

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Benzene</b>	<b>430000</b>		2000	1000	ug/L			04/30/24 12:51	2000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	109		72 - 130		04/30/24 12:51	2000
Dibromofluoromethane	104		75 - 126		04/30/24 12:51	2000
Toluene-d8 (Surr)	98		64 - 132		04/30/24 12:51	2000

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acenaphthene</b>	<b>0.63</b>		0.20	0.099	ug/L		04/24/24 11:56	04/29/24 16:48	1
Acenaphthylene	ND		0.20	0.044	ug/L		04/24/24 11:56	04/29/24 16:48	1
<b>Anthracene</b>	<b>0.30</b>		0.20	0.047	ug/L		04/24/24 11:56	04/29/24 16:48	1
<b>Benzo[a]anthracene</b>	<b>0.23</b>		0.20	0.034	ug/L		04/24/24 11:56	04/29/24 16:48	1
<b>Benzo[a]pyrene</b>	<b>0.13</b>	J	0.20	0.064	ug/L		04/24/24 11:56	04/29/24 16:48	1
<b>Benzo[b]fluoranthene</b>	<b>0.072</b>	J	0.20	0.037	ug/L		04/24/24 11:56	04/29/24 16:48	1
<b>Benzo[g,h,i]perylene</b>	<b>0.038</b>	J	0.20	0.027	ug/L		04/24/24 11:56	04/29/24 16:48	1
Benzo[k]fluoranthene	ND		0.20	0.062	ug/L		04/24/24 11:56	04/29/24 16:48	1
<b>Chrysene</b>	<b>0.28</b>		0.20	0.033	ug/L		04/24/24 11:56	04/29/24 16:48	1
Dibenz(a,h)anthracene	ND	UJ	0.20	0.048	ug/L		04/24/24 11:56	04/29/24 16:48	1
<b>Fluoranthene</b>	<b>0.16</b>	J	0.20	0.034	ug/L		04/24/24 11:56	04/29/24 16:48	1
<b>Fluorene</b>	<b>1.3</b>		0.20	0.089	ug/L		04/24/24 11:56	04/29/24 16:48	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		04/24/24 11:56	04/29/24 16:48	1

Eurofins Pensacola

# Client Sample Results

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

Job ID: 400-254564-1

**Client Sample ID: P58-ROX-041724**

**Lab Sample ID: 400-254564-3**

Date Collected: 04/17/24 09:35

Matrix: Water

Date Received: 04/18/24 09:24

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	1.1		0.20	0.090	ug/L		04/24/24 11:56	04/29/24 16:48	1
Pyrene	0.45		0.20	0.039	ug/L		04/24/24 11:56	04/29/24 16:48	1
1-Methylnaphthalene	31		0.20	0.080	ug/L		04/24/24 11:56	04/29/24 16:48	1
2-Methylnaphthalene	13	B	0.20	0.066	ug/L		04/24/24 11:56	04/29/24 16:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	109		18 - 147				04/24/24 11:56	04/29/24 16:48	1
2-Fluorobiphenyl	57		15 - 128				04/24/24 11:56	04/29/24 16:48	1
Nitrobenzene-d5	53		10 - 144				04/24/24 11:56	04/29/24 16:48	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*1	10	8.7	ug/L		04/24/24 11:56	04/27/24 20:36	1
Benzenethiol	ND		10	9.9	ug/L		04/24/24 11:56	04/27/24 20:36	1
Benzoic acid	ND		30	24	ug/L		04/24/24 11:56	04/27/24 20:36	1
Benzyl alcohol	ND		10	7.3	ug/L		04/24/24 11:56	04/27/24 20:36	1
Bis(2-chloroethoxy)methane	ND		10	4.6	ug/L		04/24/24 11:56	04/27/24 20:36	1
Bis(2-chloroethyl)ether	ND	UJ	10	3.9	ug/L		04/24/24 11:56	04/27/24 20:36	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		04/24/24 11:56	04/27/24 20:36	1
Bis(2-ethylhexyl) phthalate	ND		10	8.9	ug/L		04/24/24 11:56	04/27/24 20:36	1
4-Bromophenyl phenyl ether	ND		10	8.6	ug/L		04/24/24 11:56	04/27/24 20:36	1
Butyl benzyl phthalate	ND		10	5.8	ug/L		04/24/24 11:56	04/27/24 20:36	1
4-Chloroaniline	ND		10	4.7	ug/L		04/24/24 11:56	04/27/24 20:36	1
4-Chloro-3-methylphenol	ND		10	5.3	ug/L		04/24/24 11:56	04/27/24 20:36	1
2-Chloronaphthalene	ND		10	3.8	ug/L		04/24/24 11:56	04/27/24 20:36	1
2-Chlorophenol	ND		10	4.1	ug/L		04/24/24 11:56	04/27/24 20:36	1
4-Chlorophenyl phenyl ether	ND		10	3.7	ug/L		04/24/24 11:56	04/27/24 20:36	1
Dibenz[a,h]acridine	ND	UJ	10	2.8	ug/L		04/24/24 11:56	04/27/24 20:36	1
Dibenzofuran	ND		10	4.0	ug/L		04/24/24 11:56	04/27/24 20:36	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/24/24 11:56	04/27/24 20:36	1
2,4-Dichlorophenol	ND		10	4.3	ug/L		04/24/24 11:56	04/27/24 20:36	1
Diethyl phthalate	ND		10	4.4	ug/L		04/24/24 11:56	04/27/24 20:36	1
2,4-Dimethylphenol	ND		10	5.2	ug/L		04/24/24 11:56	04/27/24 20:36	1
Dimethyl phthalate	ND		10	4.2	ug/L		04/24/24 11:56	04/27/24 20:36	1
Di-n-butyl phthalate	ND		10	4.6	ug/L		04/24/24 11:56	04/27/24 20:36	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		04/24/24 11:56	04/27/24 20:36	1
2,4-Dinitrophenol	ND		30	4.6	ug/L		04/24/24 11:56	04/27/24 20:36	1
2,4-Dinitrotoluene	ND		10	5.1	ug/L		04/24/24 11:56	04/27/24 20:36	1
2,6-Dinitrotoluene	ND		10	3.9	ug/L		04/24/24 11:56	04/27/24 20:36	1
Di-n-octyl phthalate	ND		10	6.0	ug/L		04/24/24 11:56	04/27/24 20:36	1
1,4-Dioxane	ND		10	4.3	ug/L		04/24/24 11:56	04/27/24 20:36	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.3	ug/L		04/24/24 11:56	04/27/24 20:36	1
Hexachlorobenzene	ND		10	9.7	ug/L		04/24/24 11:56	04/27/24 20:36	1
Hexachlorocyclopentadiene	ND		20	4.5	ug/L		04/24/24 11:56	04/27/24 20:36	1
Hexachloroethane	ND		10	5.2	ug/L		04/24/24 11:56	04/27/24 20:36	1
Indene	ND	UJ	10	3.6	ug/L		04/24/24 11:56	04/27/24 20:36	1
Isophorone	ND		10	5.2	ug/L		04/24/24 11:56	04/27/24 20:36	1
2-Methylphenol	ND		10	3.2	ug/L		04/24/24 11:56	04/27/24 20:36	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		04/24/24 11:56	04/27/24 20:36	1



# Client Sample Results

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

Job ID: 400-254564-1

**Client Sample ID: P58-ROX-041724**

**Lab Sample ID: 400-254564-3**

Date Collected: 04/17/24 09:35

Matrix: Water

Date Received: 04/18/24 09:24

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		10	5.0	ug/L		04/24/24 11:56	04/27/24 20:36	1
3-Nitroaniline	ND		10	4.7	ug/L		04/24/24 11:56	04/27/24 20:36	1
4-Nitroaniline	ND		10	4.1	ug/L		04/24/24 11:56	04/27/24 20:36	1
Nitrobenzene	ND		10	4.7	ug/L		04/24/24 11:56	04/27/24 20:36	1
2-Nitrophenol	ND		10	4.6	ug/L		04/24/24 11:56	04/27/24 20:36	1
4-Nitrophenol	ND		10	3.3	ug/L		04/24/24 11:56	04/27/24 20:36	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		04/24/24 11:56	04/27/24 20:36	1
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		04/24/24 11:56	04/27/24 20:36	1
N-Nitrosodiphenylamine	ND		10	3.7	ug/L		04/24/24 11:56	04/27/24 20:36	1
Pentachlorophenol	ND		20	12	ug/L		04/24/24 11:56	04/27/24 20:36	1
<b>Phenol</b>	<b>190</b>		10	4.2	ug/L		04/24/24 11:56	04/27/24 20:36	1
Pyridine	ND	*- *1 UJ	10	10	ug/L		04/24/24 11:56	04/27/24 20:36	1
Quinoline	ND	*1 UJ	10	2.4	ug/L		04/24/24 11:56	04/27/24 20:36	1
2,4,5-Trichlorophenol	ND		10	4.0	ug/L		04/24/24 11:56	04/27/24 20:36	1
2,4,6-Trichlorophenol	ND	UJ	10	3.5	ug/L		04/24/24 11:56	04/27/24 20:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	51		21 - 114				04/24/24 11:56	04/27/24 20:36	1
2-Fluorophenol	34		10 - 105				04/24/24 11:56	04/27/24 20:36	1
Nitrobenzene-d5	51		16 - 127				04/24/24 11:56	04/27/24 20:36	1
Phenol-d5	30		10 - 129				04/24/24 11:56	04/27/24 20:36	1
Terphenyl-d14	85		13 - 150				04/24/24 11:56	04/27/24 20:36	1
2,4,6-Tribromophenol	92		10 - 150				04/24/24 11:56	04/27/24 20:36	1

**Method: EPA 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	UJ	0.031	0.017	ug/L		04/24/24 08:38	04/24/24 22:16	1
1,2-Dibromoethane	ND	UJ	0.020	0.015	ug/L		04/24/24 08:38	04/24/24 22:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	87		51 - 149				04/24/24 08:38	04/24/24 22:16	1

# Client Sample Results

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

Job ID: 400-254564-1

**Client Sample ID: MW2-ROX-041724-EB**

**Lab Sample ID: 400-254564-4**

**Date Collected: 04/17/24 11:45**

**Matrix: Water**

**Date Received: 04/18/24 09:24**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			05/01/24 12:15	1
Acrolein	ND		20	3.3	ug/L			05/01/24 12:15	1
Acrylonitrile	ND		10	2.8	ug/L			05/01/24 12:15	1
Benzene	ND		1.0	0.50	ug/L			05/01/24 12:15	1
Bromobenzene	ND		1.0	0.54	ug/L			05/01/24 12:15	1
Bromochloromethane	ND		1.0	0.21	ug/L			05/01/24 12:15	1
Bromodichloromethane	ND		1.0	0.50	ug/L			05/01/24 12:15	1
Bromoform	ND		5.0	0.25	ug/L			05/01/24 12:15	1
Bromomethane	ND		1.0	0.98	ug/L			05/01/24 12:15	1
<b>2-Butanone (MEK)</b>	<b>3.6</b>	<b>J</b>	25	2.6	ug/L			05/01/24 12:15	1
Carbon disulfide	ND		1.0	0.50	ug/L			05/01/24 12:15	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			05/01/24 12:15	1
Chlorobenzene	ND		1.0	0.90	ug/L			05/01/24 12:15	1
Chloroethane	ND		1.0	0.76	ug/L			05/01/24 12:15	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			05/01/24 12:15	1
Chloroform	ND		1.0	0.90	ug/L			05/01/24 12:15	1
1-Chlorohexane	ND		1.0	0.32	ug/L			05/01/24 12:15	1
Chloromethane	ND		1.0	0.90	ug/L			05/01/24 12:15	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			05/01/24 12:15	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			05/01/24 12:15	1
Dibromochloromethane	ND		1.0	0.24	ug/L			05/01/24 12:15	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			05/01/24 12:15	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			05/01/24 12:15	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			05/01/24 12:15	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			05/01/24 12:15	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			05/01/24 12:15	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			05/01/24 12:15	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			05/01/24 12:15	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			05/01/24 12:15	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			05/01/24 12:15	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			05/01/24 12:15	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			05/01/24 12:15	1
Ethylbenzene	ND		1.0	0.50	ug/L			05/01/24 12:15	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			05/01/24 12:15	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			05/01/24 12:15	1
2-Hexanone	ND		25	1.4	ug/L			05/01/24 12:15	1
Isopropylbenzene	ND		1.0	0.53	ug/L			05/01/24 12:15	1
Methylene bromide	ND		5.0	0.22	ug/L			05/01/24 12:15	1
Methylene Chloride	ND		5.0	3.0	ug/L			05/01/24 12:15	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			05/01/24 12:15	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			05/01/24 12:15	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			05/01/24 12:15	1
Naphthalene	ND		5.0	3.0	ug/L			05/01/24 12:15	1
n-Butylbenzene	ND		1.0	0.76	ug/L			05/01/24 12:15	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/01/24 12:15	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			05/01/24 12:15	1
o-Xylene	ND		5.0	0.60	ug/L			05/01/24 12:15	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			05/01/24 12:15	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			05/01/24 12:15	1

# Client Sample Results

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

Job ID: 400-254564-1

**Client Sample ID: MW2-ROX-041724-EB**

**Lab Sample ID: 400-254564-4**

Date Collected: 04/17/24 11:45

Matrix: Water

Date Received: 04/18/24 09:24

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			05/01/24 12:15	1
Styrene	ND		1.0	1.0	ug/L			05/01/24 12:15	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			05/01/24 12:15	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			05/01/24 12:15	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			05/01/24 12:15	1
Tetrachloroethene	ND		1.0	0.90	ug/L			05/01/24 12:15	1
Toluene	ND		1.0	0.90	ug/L			05/01/24 12:15	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			05/01/24 12:15	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			05/01/24 12:15	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			05/01/24 12:15	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			05/01/24 12:15	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			05/01/24 12:15	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			05/01/24 12:15	1
Trichloroethene	ND		1.0	0.15	ug/L			05/01/24 12:15	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			05/01/24 12:15	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			05/01/24 12:15	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			05/01/24 12:15	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			05/01/24 12:15	1
Vinyl acetate	ND		25	0.93	ug/L			05/01/24 12:15	1
Vinyl chloride	ND		1.0	0.50	ug/L			05/01/24 12:15	1
Xylenes, Total	ND		10	1.6	ug/L			05/01/24 12:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	110		72 - 130		05/01/24 12:15	1
Dibromofluoromethane	109		75 - 126		05/01/24 12:15	1
Toluene-d8 (Surr)	92		64 - 132		05/01/24 12:15	1

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.098	ug/L		04/24/24 11:56	04/29/24 17:29	1
Acenaphthylene	ND		0.20	0.044	ug/L		04/24/24 11:56	04/29/24 17:29	1
Anthracene	ND		0.20	0.047	ug/L		04/24/24 11:56	04/29/24 17:29	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		04/24/24 11:56	04/29/24 17:29	1
Benzo[a]pyrene	ND		0.20	0.063	ug/L		04/24/24 11:56	04/29/24 17:29	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		04/24/24 11:56	04/29/24 17:29	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		04/24/24 11:56	04/29/24 17:29	1
Benzo[k]fluoranthene	ND		0.20	0.061	ug/L		04/24/24 11:56	04/29/24 17:29	1
Chrysene	ND		0.20	0.033	ug/L		04/24/24 11:56	04/29/24 17:29	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		04/24/24 11:56	04/29/24 17:29	1
Fluoranthene	ND		0.20	0.034	ug/L		04/24/24 11:56	04/29/24 17:29	1
Fluorene	ND		0.20	0.088	ug/L		04/24/24 11:56	04/29/24 17:29	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		04/24/24 11:56	04/29/24 17:29	1
Phenanthrene	ND		0.20	0.089	ug/L		04/24/24 11:56	04/29/24 17:29	1
Pyrene	ND		0.20	0.039	ug/L		04/24/24 11:56	04/29/24 17:29	1
1-Methylnaphthalene	ND		0.20	0.079	ug/L		04/24/24 11:56	04/29/24 17:29	1
<b>2-Methylnaphthalene</b>	<b>0.13</b>	<b>J B</b>	0.20	0.065	ug/L		04/24/24 11:56	04/29/24 17:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	141		18 - 147	04/24/24 11:56	04/29/24 17:29	1
2-Fluorobiphenyl	79		15 - 128	04/24/24 11:56	04/29/24 17:29	1

Eurofins Pensacola

# Client Sample Results

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

Job ID: 400-254564-1

**Client Sample ID: MW2-ROX-041724-EB**

**Lab Sample ID: 400-254564-4**

Date Collected: 04/17/24 11:45

Matrix: Water

Date Received: 04/18/24 09:24

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	75		10 - 144	04/24/24 11:56	04/29/24 17:29	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*1	9.9	8.6	ug/L		04/24/24 11:56	04/27/24 20:58	1
Benzenethiol	ND		9.9	9.8	ug/L		04/24/24 11:56	04/27/24 20:58	1
Benzoic acid	ND		30	24	ug/L		04/24/24 11:56	04/27/24 20:58	1
Benzyl alcohol	ND		9.9	7.2	ug/L		04/24/24 11:56	04/27/24 20:58	1
Bis(2-chloroethoxy)methane	ND		9.9	4.6	ug/L		04/24/24 11:56	04/27/24 20:58	1
Bis(2-chloroethyl)ether	ND		9.9	3.9	ug/L		04/24/24 11:56	04/27/24 20:58	1
bis (2-chloroisopropyl) ether	ND		9.9	1.8	ug/L		04/24/24 11:56	04/27/24 20:58	1
Bis(2-ethylhexyl) phthalate	ND		9.9	8.8	ug/L		04/24/24 11:56	04/27/24 20:58	1
4-Bromophenyl phenyl ether	ND		9.9	8.5	ug/L		04/24/24 11:56	04/27/24 20:58	1
Butyl benzyl phthalate	ND		9.9	5.7	ug/L		04/24/24 11:56	04/27/24 20:58	1
4-Chloroaniline	ND		9.9	4.7	ug/L		04/24/24 11:56	04/27/24 20:58	1
4-Chloro-3-methylphenol	ND		9.9	5.2	ug/L		04/24/24 11:56	04/27/24 20:58	1
2-Chloronaphthalene	ND		9.9	3.8	ug/L		04/24/24 11:56	04/27/24 20:58	1
2-Chlorophenol	ND		9.9	4.1	ug/L		04/24/24 11:56	04/27/24 20:58	1
4-Chlorophenyl phenyl ether	ND		9.9	3.7	ug/L		04/24/24 11:56	04/27/24 20:58	1
Dibenz[a,h]acridine	ND		9.9	2.8	ug/L		04/24/24 11:56	04/27/24 20:58	1
Dibenzofuran	ND		9.9	4.0	ug/L		04/24/24 11:56	04/27/24 20:58	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/24/24 11:56	04/27/24 20:58	1
2,4-Dichlorophenol	ND		9.9	4.3	ug/L		04/24/24 11:56	04/27/24 20:58	1
Diethyl phthalate	ND		9.9	4.4	ug/L		04/24/24 11:56	04/27/24 20:58	1
2,4-Dimethylphenol	ND		9.9	5.2	ug/L		04/24/24 11:56	04/27/24 20:58	1
Dimethyl phthalate	ND		9.9	4.2	ug/L		04/24/24 11:56	04/27/24 20:58	1
Di-n-butyl phthalate	ND		9.9	4.6	ug/L		04/24/24 11:56	04/27/24 20:58	1
4,6-Dinitro-ortho-cresol	ND		9.9	9.9	ug/L		04/24/24 11:56	04/27/24 20:58	1
2,4-Dinitrophenol	ND		30	4.6	ug/L		04/24/24 11:56	04/27/24 20:58	1
2,4-Dinitrotoluene	ND		9.9	5.1	ug/L		04/24/24 11:56	04/27/24 20:58	1
2,6-Dinitrotoluene	ND		9.9	3.9	ug/L		04/24/24 11:56	04/27/24 20:58	1
Di-n-octyl phthalate	ND		9.9	5.9	ug/L		04/24/24 11:56	04/27/24 20:58	1
1,4-Dioxane	ND		9.9	4.3	ug/L		04/24/24 11:56	04/27/24 20:58	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	3.3	ug/L		04/24/24 11:56	04/27/24 20:58	1
Hexachlorobenzene	ND		9.9	9.6	ug/L		04/24/24 11:56	04/27/24 20:58	1
Hexachlorocyclopentadiene	ND		20	4.5	ug/L		04/24/24 11:56	04/27/24 20:58	1
Hexachloroethane	ND		9.9	5.2	ug/L		04/24/24 11:56	04/27/24 20:58	1
Indene	ND		9.9	3.6	ug/L		04/24/24 11:56	04/27/24 20:58	1
Isophorone	ND		9.9	5.2	ug/L		04/24/24 11:56	04/27/24 20:58	1
2-Methylphenol	ND		9.9	3.2	ug/L		04/24/24 11:56	04/27/24 20:58	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		04/24/24 11:56	04/27/24 20:58	1
2-Nitroaniline	ND		9.9	5.0	ug/L		04/24/24 11:56	04/27/24 20:58	1
3-Nitroaniline	ND		9.9	4.7	ug/L		04/24/24 11:56	04/27/24 20:58	1
4-Nitroaniline	ND		9.9	4.1	ug/L		04/24/24 11:56	04/27/24 20:58	1
Nitrobenzene	ND		9.9	4.7	ug/L		04/24/24 11:56	04/27/24 20:58	1
2-Nitrophenol	ND		9.9	4.6	ug/L		04/24/24 11:56	04/27/24 20:58	1
4-Nitrophenol	ND		9.9	3.3	ug/L		04/24/24 11:56	04/27/24 20:58	1
N-Nitrosodimethylamine	ND		9.9	2.2	ug/L		04/24/24 11:56	04/27/24 20:58	1

# Client Sample Results

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

Job ID: 400-254564-1

**Client Sample ID: MW2-ROX-041724-EB**

**Lab Sample ID: 400-254564-4**

**Date Collected: 04/17/24 11:45**

**Matrix: Water**

**Date Received: 04/18/24 09:24**

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.9	2.5	ug/L		04/24/24 11:56	04/27/24 20:58	1
N-Nitrosodiphenylamine	ND		9.9	3.7	ug/L		04/24/24 11:56	04/27/24 20:58	1
Pentachlorophenol	ND		20	12	ug/L		04/24/24 11:56	04/27/24 20:58	1
Phenol	ND		9.9	4.2	ug/L		04/24/24 11:56	04/27/24 20:58	1
Pyridine	ND	*_ *1	9.9	9.9	ug/L		04/24/24 11:56	04/27/24 20:58	1
Quinoline	ND	*1	9.9	2.4	ug/L		04/24/24 11:56	04/27/24 20:58	1
2,4,5-Trichlorophenol	ND		9.9	4.0	ug/L		04/24/24 11:56	04/27/24 20:58	1
2,4,6-Trichlorophenol	ND		9.9	3.5	ug/L		04/24/24 11:56	04/27/24 20:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	65		21 - 114	04/24/24 11:56	04/27/24 20:58	1
2-Fluorophenol	48		10 - 105	04/24/24 11:56	04/27/24 20:58	1
Nitrobenzene-d5	67		16 - 127	04/24/24 11:56	04/27/24 20:58	1
Phenol-d5	36		10 - 129	04/24/24 11:56	04/27/24 20:58	1
Terphenyl-d14	91		13 - 150	04/24/24 11:56	04/27/24 20:58	1
2,4,6-Tribromophenol	90		10 - 150	04/24/24 11:56	04/27/24 20:58	1

**Method: EPA 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	0.018	ug/L		04/24/24 08:38	04/24/24 22:37	1
1,2-Dibromoethane	ND		0.021	0.016	ug/L		04/24/24 08:38	04/24/24 22:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	90		51 - 149	04/24/24 08:38	04/24/24 22:37	1

# Client Sample Results

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

Job ID: 400-254564-1

**Client Sample ID: MW2-ROX-041724**

**Lab Sample ID: 400-254564-5**

Date Collected: 04/17/24 13:35

Matrix: Water

Date Received: 04/18/24 09:24

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acetone</b>	<b>52</b>		25	10	ug/L			04/29/24 17:40	1
Acrolein	ND		20	3.3	ug/L			04/29/24 17:40	1
Acrylonitrile	ND		10	2.8	ug/L			04/29/24 17:40	1
<b>Benzene</b>	<b>2.6</b>		1.0	0.50	ug/L			04/29/24 17:40	1
Bromobenzene	ND		1.0	0.54	ug/L			04/29/24 17:40	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/29/24 17:40	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/29/24 17:40	1
Bromoform	ND		5.0	0.25	ug/L			04/29/24 17:40	1
Bromomethane	ND		1.0	0.98	ug/L			04/29/24 17:40	1
<b>2-Butanone (MEK)</b>	<b>22 J</b>		25	2.6	ug/L			04/29/24 17:40	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/29/24 17:40	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/29/24 17:40	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/29/24 17:40	1
Chloroethane	ND		1.0	0.76	ug/L			04/29/24 17:40	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/29/24 17:40	1
Chloroform	ND		1.0	0.90	ug/L			04/29/24 17:40	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/29/24 17:40	1
Chloromethane	ND		1.0	0.90	ug/L			04/29/24 17:40	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/29/24 17:40	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/29/24 17:40	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/29/24 17:40	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/29/24 17:40	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/29/24 17:40	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/29/24 17:40	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/29/24 17:40	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/29/24 17:40	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/29/24 17:40	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/29/24 17:40	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/29/24 17:40	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/29/24 17:40	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/29/24 17:40	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/29/24 17:40	1
<b>Ethylbenzene</b>	<b>210</b>		1.0	0.50	ug/L			04/29/24 17:40	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/29/24 17:40	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/29/24 17:40	1
2-Hexanone	ND		25	1.4	ug/L			04/29/24 17:40	1
<b>Isopropylbenzene</b>	<b>43</b>		1.0	0.53	ug/L			04/29/24 17:40	1
Methylene bromide	ND		5.0	0.22	ug/L			04/29/24 17:40	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/29/24 17:40	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/29/24 17:40	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/29/24 17:40	1
<b>m-Xylene &amp; p-Xylene</b>	<b>110</b>		5.0	0.63	ug/L			04/29/24 17:40	1
<b>Naphthalene</b>	<b>16</b>		5.0	3.0	ug/L			04/29/24 17:40	1
<b>n-Butylbenzene</b>	<b>4.5</b>		1.0	0.76	ug/L			04/29/24 17:40	1
<b>N-Propylbenzene</b>	<b>63</b>		1.0	0.69	ug/L			04/29/24 17:40	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/29/24 17:40	1
<b>o-Xylene</b>	<b>10</b>		5.0	0.60	ug/L			04/29/24 17:40	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/29/24 17:40	1
<b>p-Isopropyltoluene</b>	<b>4.1</b>		1.0	0.71	ug/L			04/29/24 17:40	1



# Client Sample Results

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

Job ID: 400-254564-1

**Client Sample ID: MW2-ROX-041724**

**Lab Sample ID: 400-254564-5**

Date Collected: 04/17/24 13:35

Matrix: Water

Date Received: 04/18/24 09:24

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>sec-Butylbenzene</b>	<b>5.1</b>		1.0	0.70	ug/L			04/29/24 17:40	1
Styrene	ND		1.0	1.0	ug/L			04/29/24 17:40	1
<b>tert-Butylbenzene</b>	<b>0.71</b>	<b>J</b>	1.0	0.63	ug/L			04/29/24 17:40	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/29/24 17:40	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/29/24 17:40	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/29/24 17:40	1
<b>Toluene</b>	<b>3.3</b>		1.0	0.90	ug/L			04/29/24 17:40	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/29/24 17:40	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/29/24 17:40	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/29/24 17:40	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/29/24 17:40	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/29/24 17:40	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/29/24 17:40	1
Trichloroethene	ND		1.0	0.15	ug/L			04/29/24 17:40	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/29/24 17:40	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/29/24 17:40	1
<b>1,2,4-Trimethylbenzene</b>	<b>24</b>		1.0	0.82	ug/L			04/29/24 17:40	1
<b>1,3,5-Trimethylbenzene</b>	<b>23</b>		1.0	0.56	ug/L			04/29/24 17:40	1
Vinyl acetate	ND		25	0.93	ug/L			04/29/24 17:40	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/29/24 17:40	1
<b>Xylenes, Total</b>	<b>120</b>		10	1.6	ug/L			04/29/24 17:40	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene	101		72 - 130					04/29/24 17:40	1
Dibromofluoromethane	108		75 - 126					04/29/24 17:40	1
Toluene-d8 (Surr)	94		64 - 132					04/29/24 17:40	1

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.096	ug/L		04/24/24 11:56	04/30/24 13:55	1
Acenaphthylene	ND		0.19	0.043	ug/L		04/24/24 11:56	04/30/24 13:55	1
Anthracene	ND		0.19	0.045	ug/L		04/24/24 11:56	04/29/24 17:09	1
Benzo[a]anthracene	ND		0.19	0.033	ug/L		04/24/24 11:56	04/29/24 17:09	1
Benzo[a]pyrene	ND		0.19	0.062	ug/L		04/24/24 11:56	04/29/24 17:09	1
Benzo[b]fluoranthene	ND		0.19	0.036	ug/L		04/24/24 11:56	04/29/24 17:09	1
Benzo[g,h,i]perylene	ND		0.19	0.026	ug/L		04/24/24 11:56	04/29/24 17:09	1
Benzo[k]fluoranthene	ND		0.19	0.060	ug/L		04/24/24 11:56	04/29/24 17:09	1
Chrysene	ND		0.19	0.032	ug/L		04/24/24 11:56	04/29/24 17:09	1
Dibenz(a,h)anthracene	ND	<b>UJ</b>	0.19	0.046	ug/L		04/24/24 11:56	04/29/24 17:09	1
Fluoranthene	ND		0.19	0.033	ug/L		04/24/24 11:56	04/29/24 17:09	1
Fluorene	ND		0.19	0.086	ug/L		04/24/24 11:56	04/30/24 13:55	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.033	ug/L		04/24/24 11:56	04/29/24 17:09	1
Phenanthrene	ND		0.19	0.087	ug/L		04/24/24 11:56	04/29/24 17:09	1
Pyrene	ND		0.19	0.038	ug/L		04/24/24 11:56	04/29/24 17:09	1
<b>1-Methylnaphthalene</b>	<b>5.5</b>		0.19	0.077	ug/L		04/24/24 11:56	04/29/24 17:09	1
<b>2-Methylnaphthalene</b>	<b>9.0</b>	<b>B</b>	0.19	0.064	ug/L		04/24/24 11:56	04/29/24 17:09	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Terphenyl-d14	139		18 - 147				04/24/24 11:56	04/29/24 17:09	1
2-Fluorobiphenyl	38		15 - 128				04/24/24 11:56	04/30/24 13:55	1

Eurofins Pensacola

# Client Sample Results

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

Job ID: 400-254564-1

**Client Sample ID: MW2-ROX-041724**

**Lab Sample ID: 400-254564-5**

Date Collected: 04/17/24 13:35

Matrix: Water

Date Received: 04/18/24 09:24

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	79		10 - 144	04/24/24 11:56	04/29/24 17:09	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*1	9.7	8.4	ug/L		04/24/24 11:56	04/27/24 21:20	1
Benzenethiol	ND		9.7	9.6	ug/L		04/24/24 11:56	04/27/24 21:20	1
Benzoic acid	ND		29	23	ug/L		04/24/24 11:56	04/27/24 21:20	1
Benzyl alcohol	ND		9.7	7.1	ug/L		04/24/24 11:56	04/27/24 21:20	1
Bis(2-chloroethoxy)methane	ND		9.7	4.4	ug/L		04/24/24 11:56	04/27/24 21:20	1
Bis(2-chloroethyl)ether	ND	UJ	9.7	3.8	ug/L		04/24/24 11:56	04/27/24 21:20	1
bis (2-chloroisopropyl) ether	ND		9.7	1.7	ug/L		04/24/24 11:56	04/27/24 21:20	1
Bis(2-ethylhexyl) phthalate	ND		9.7	8.6	ug/L		04/24/24 11:56	04/27/24 21:20	1
4-Bromophenyl phenyl ether	ND		9.7	8.3	ug/L		04/24/24 11:56	04/27/24 21:20	1
Butyl benzyl phthalate	ND		9.7	5.6	ug/L		04/24/24 11:56	04/27/24 21:20	1
4-Chloroaniline	ND		9.7	4.5	ug/L		04/24/24 11:56	04/27/24 21:20	1
4-Chloro-3-methylphenol	ND		9.7	5.1	ug/L		04/24/24 11:56	04/27/24 21:20	1
2-Chloronaphthalene	ND		9.7	3.7	ug/L		04/24/24 11:56	04/27/24 21:20	1
2-Chlorophenol	ND		9.7	4.0	ug/L		04/24/24 11:56	04/27/24 21:20	1
4-Chlorophenyl phenyl ether	ND		9.7	3.6	ug/L		04/24/24 11:56	04/27/24 21:20	1
Dibenz[a,h]acridine	ND	UJ	9.7	2.7	ug/L		04/24/24 11:56	04/27/24 21:20	1
Dibenzofuran	ND		9.7	3.9	ug/L		04/24/24 11:56	04/27/24 21:20	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/24/24 11:56	04/27/24 21:20	1
2,4-Dichlorophenol	ND		9.7	4.2	ug/L		04/24/24 11:56	04/27/24 21:20	1
Diethyl phthalate	ND		9.7	4.3	ug/L		04/24/24 11:56	04/27/24 21:20	1
2,4-Dimethylphenol	ND		9.7	5.0	ug/L		04/24/24 11:56	04/27/24 21:20	1
Dimethyl phthalate	ND		9.7	4.1	ug/L		04/24/24 11:56	04/27/24 21:20	1
Di-n-butyl phthalate	ND		9.7	4.4	ug/L		04/24/24 11:56	04/27/24 21:20	1
4,6-Dinitro-ortho-cresol	ND		9.7	9.7	ug/L		04/24/24 11:56	04/27/24 21:20	1
2,4-Dinitrophenol	ND		29	4.4	ug/L		04/24/24 11:56	04/27/24 21:20	1
2,4-Dinitrotoluene	ND		9.7	4.9	ug/L		04/24/24 11:56	04/27/24 21:20	1
2,6-Dinitrotoluene	ND		9.7	3.8	ug/L		04/24/24 11:56	04/27/24 21:20	1
Di-n-octyl phthalate	ND		9.7	5.8	ug/L		04/24/24 11:56	04/27/24 21:20	1
1,4-Dioxane	ND		9.7	4.2	ug/L		04/24/24 11:56	04/27/24 21:20	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	3.2	ug/L		04/24/24 11:56	04/27/24 21:20	1
Hexachlorobenzene	ND		9.7	9.4	ug/L		04/24/24 11:56	04/27/24 21:20	1
Hexachlorocyclopentadiene	ND		19	4.3	ug/L		04/24/24 11:56	04/27/24 21:20	1
Hexachloroethane	ND		9.7	5.0	ug/L		04/24/24 11:56	04/27/24 21:20	1
Indene	ND	UJ	9.7	3.5	ug/L		04/24/24 11:56	04/27/24 21:20	1
Isophorone	ND		9.7	5.0	ug/L		04/24/24 11:56	04/27/24 21:20	1
2-Methylphenol	ND		9.7	3.1	ug/L		04/24/24 11:56	04/27/24 21:20	1
3 & 4 Methylphenol	ND		19	4.4	ug/L		04/24/24 11:56	04/27/24 21:20	1
2-Nitroaniline	ND		9.7	4.8	ug/L		04/24/24 11:56	04/27/24 21:20	1
3-Nitroaniline	ND		9.7	4.5	ug/L		04/24/24 11:56	04/27/24 21:20	1
4-Nitroaniline	ND		9.7	4.0	ug/L		04/24/24 11:56	04/27/24 21:20	1
Nitrobenzene	ND		9.7	4.5	ug/L		04/24/24 11:56	04/27/24 21:20	1
2-Nitrophenol	ND		9.7	4.4	ug/L		04/24/24 11:56	04/27/24 21:20	1
4-Nitrophenol	ND		9.7	3.2	ug/L		04/24/24 11:56	04/27/24 21:20	1
N-Nitrosodimethylamine	ND		9.7	2.1	ug/L		04/24/24 11:56	04/27/24 21:20	1

# Client Sample Results

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

Job ID: 400-254564-1

**Client Sample ID: MW2-ROX-041724**

**Lab Sample ID: 400-254564-5**

Date Collected: 04/17/24 13:35

Matrix: Water

Date Received: 04/18/24 09:24

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.7	2.4	ug/L		04/24/24 11:56	04/27/24 21:20	1
N-Nitrosodiphenylamine	ND		9.7	3.6	ug/L		04/24/24 11:56	04/27/24 21:20	1
Pentachlorophenol	ND		19	11	ug/L		04/24/24 11:56	04/27/24 21:20	1
Phenol	ND		9.7	4.1	ug/L		04/24/24 11:56	04/27/24 21:20	1
Pyridine	ND	*- *1 UJ	9.7	9.7	ug/L		04/24/24 11:56	04/27/24 21:20	1
Quinoline	ND	*1 UJ	9.7	2.3	ug/L		04/24/24 11:56	04/27/24 21:20	1
2,4,5-Trichlorophenol	ND		9.7	3.9	ug/L		04/24/24 11:56	04/27/24 21:20	1
2,4,6-Trichlorophenol	ND	UJ	9.7	3.4	ug/L		04/24/24 11:56	04/27/24 21:20	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorobiphenyl	66		21 - 114				04/24/24 11:56	04/27/24 21:20	1
2-Fluorophenol	47		10 - 105				04/24/24 11:56	04/27/24 21:20	1
Nitrobenzene-d5	68		16 - 127				04/24/24 11:56	04/27/24 21:20	1
Phenol-d5	36		10 - 129				04/24/24 11:56	04/27/24 21:20	1
Terphenyl-d14	91		13 - 150				04/24/24 11:56	04/27/24 21:20	1
2,4,6-Tribromophenol	72		10 - 150				04/24/24 11:56	04/27/24 21:20	1

**Method: EPA 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	UJ	0.031	0.017	ug/L		04/24/24 08:38	04/24/24 22:58	1
1,2-Dibromoethane	ND	UJ	0.020	0.015	ug/L		04/24/24 08:38	04/24/24 22:58	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene	79		51 - 149				04/24/24 08:38	04/24/24 22:58	1

# Definitions/Glossary

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

Job ID: 400-254564-1

## 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.

### GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*1	LCS/LCSD RPD exceeds control limits.
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.
S1+	Surrogate recovery exceeds control limits, high biased.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

# Surrogate Summary

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

Job ID: 400-254564-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (72-130)	DBFM (75-126)	TOL (64-132)
400-254564-1	TB-ROX-041724-8260	101	106	96
400-254564-3	P58-ROX-041724	99	108	95
400-254564-3 - DL	P58-ROX-041724	109	104	98
400-254564-4	MW2-ROX-041724-EB	110	109	92
400-254564-5	MW2-ROX-041724	101	108	94
LCS 400-669709/1002	Lab Control Sample	100	105	96
LCS 400-669839/1002	Lab Control Sample	110	102	98
LCS 400-670014/1002	Lab Control Sample	106	102	96
MB 400-669709/5	Method Blank	101	105	97
MB 400-669839/5	Method Blank	110	102	100
MB 400-670014/5	Method Blank	108	105	94

**Surrogate Legend**

BFB = 4-Bromofluorobenzene  
DBFM = Dibromofluoromethane  
TOL = Toluene-d8 (Surr)

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (21-114)	2FP (10-105)	NBZ (16-127)	PHL (10-129)	TPHL (13-150)	TBP (10-150)
400-254564-3	P58-ROX-041724	51	34	51	30	85	92
400-254564-4	MW2-ROX-041724-EB	65	48	67	36	91	90
400-254564-5	MW2-ROX-041724	66	47	68	36	91	72
LCS 400-669184/2-A	Lab Control Sample	71	59	78	54	91	97
LCS 400-669184/4-A	Lab Control Sample	63	51	66	42	93	72
LCSD 400-669184/3-A	Lab Control Sample Dup	67	54	73	49	87	92
LCSD 400-669184/5-A	Lab Control Sample Dup	65	58	69	47	99	72
MB 400-669184/1-A	Method Blank	67	60	75	49	102	71

**Surrogate Legend**

FBP = 2-Fluorobiphenyl  
2FP = 2-Fluorophenol  
NBZ = Nitrobenzene-d5  
PHL = Phenol-d5  
TPHL = Terphenyl-d14  
TBP = 2,4,6-Tribromophenol

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TPHL (18-147)	FBP (15-128)	NBZ (10-144)
400-254564-3	P58-ROX-041724	109	57	53
400-254564-4	MW2-ROX-041724-EB	141	79	75
400-254564-5	MW2-ROX-041724	139	79	
400-254564-5	MW2-ROX-041724		38	
LCS 400-669184/2-A	Lab Control Sample	119	98	104

# Surrogate Summary

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

Job ID: 400-254564-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TPHL (18-147)	FBP (15-128)	NBZ (10-144)
LCSD 400-669184/3-A	Lab Control Sample Dup	90	82	88
MB 400-669184/1-A	Method Blank	154 S1+	88	92

#### 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

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1 (51-149)
400-254564-2	TB-ROX-041724-8011	75
400-254564-3	P58-ROX-041724	87
400-254564-4	MW2-ROX-041724-EB	90
400-254564-5	MW2-ROX-041724	79
LCS 400-669128/2-A	Lab Control Sample	64
LCSD 400-669128/3-A	Lab Control Sample Dup	67
MB 400-669128/1-A	Method Blank	64

#### Surrogate Legend

BFB = 4-Bromofluorobenzene



# Method Summary

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

Job ID: 400-254564-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET PEN
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET PEN
8270E SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	EET PEN
8011	EDB and DBCP in Water by Microextraction	EPA	EET PEN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET PEN
5030C	Purge and Trap	SW846	EET PEN
8011	Microextraction	SW846	EET 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:**

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

# Lab Chronicle

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

Job ID: 400-254564-1

**Client Sample ID: TB-ROX-041724-8260**

**Lab Sample ID: 400-254564-1**

Date Collected: 04/17/24 00:00

Matrix: Water

Date Received: 04/18/24 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	8260D		1	5 mL	5 mL	669709	04/29/24 17:16	BPO	EET PEN

**Client Sample ID: TB-ROX-041724-8011**

**Lab Sample ID: 400-254564-2**

Date Collected: 04/17/24 00:00

Matrix: Water

Date Received: 04/18/24 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			34.4 mL	35 mL	669128	04/24/24 08:38	KR	EET PEN
Total/NA	Analysis	8011		1			669181	04/24/24 21:55	KR	EET PEN

**Client Sample ID: P58-ROX-041724**

**Lab Sample ID: 400-254564-3**

Date Collected: 04/17/24 09:35

Matrix: Water

Date Received: 04/18/24 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	8260D		500	5 mL	5 mL	669709	04/29/24 20:31	BPO	EET PEN
Total/NA	Analysis	8260D	DL	2000	5 mL	5 mL	669839	04/30/24 12:51	WPD	EET PEN
Total/NA	Prep	3510C			251.2 mL	1 mL	669184	04/24/24 11:56	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	669650	04/27/24 20:36	VC1	EET PEN
Total/NA	Prep	3510C			251.2 mL	1 mL	669184	04/24/24 11:56	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	669713	04/29/24 16:48	JAW	EET PEN
Total/NA	Prep	8011			34.4 mL	35 mL	669128	04/24/24 08:38	KR	EET PEN
Total/NA	Analysis	8011		1			669181	04/24/24 22:16	KR	EET PEN

**Client Sample ID: MW2-ROX-041724-EB**

**Lab Sample ID: 400-254564-4**

Date Collected: 04/17/24 11:45

Matrix: Water

Date Received: 04/18/24 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	8260D		1	5 mL	5 mL	670014	05/01/24 12:15	WPD	EET PEN
Total/NA	Prep	3510C			252.4 mL	1 mL	669184	04/24/24 11:56	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	669650	04/27/24 20:58	VC1	EET PEN
Total/NA	Prep	3510C			252.4 mL	1 mL	669184	04/24/24 11:56	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	669713	04/29/24 17:29	JAW	EET PEN
Total/NA	Prep	8011			32.6 mL	35 mL	669128	04/24/24 08:38	KR	EET PEN
Total/NA	Analysis	8011		1			669181	04/24/24 22:37	KR	EET PEN

**Client Sample ID: MW2-ROX-041724**

**Lab Sample ID: 400-254564-5**

Date Collected: 04/17/24 13:35

Matrix: Water

Date Received: 04/18/24 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	8260D		1	5 mL	5 mL	669709	04/29/24 17:40	BPO	EET PEN
Total/NA	Prep	3510C			258.8 mL	1 mL	669184	04/24/24 11:56	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	669650	04/27/24 21:20	VC1	EET PEN

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# Lab Chronicle

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

Job ID: 400-254564-1

**Client Sample ID: MW2-ROX-041724**

**Lab Sample ID: 400-254564-5**

**Date Collected: 04/17/24 13:35**

**Matrix: Water**

**Date Received: 04/18/24 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	3510C			258.8 mL	1 mL	669184	04/24/24 11:56	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	669713	04/29/24 17:09	JAW	EET PEN
Total/NA	Prep	3510C			258.8 mL	1 mL	669184	04/24/24 11:56	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	669847	04/30/24 13:55	JAW	EET PEN
Total/NA	Prep	8011			34.4 mL	35 mL	669128	04/24/24 08:38	KR	EET PEN
Total/NA	Analysis	8011		1			669181	04/24/24 22:58	KR	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-669128/1-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	669128	04/24/24 08:38	KR	EET PEN
Total/NA	Analysis	8011		1			669181	04/24/24 16:18	KR	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-669184/1-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	3510C			250 mL	1 mL	669184	04/24/24 11:56	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	669650	04/27/24 18:45	VC1	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	669184	04/24/24 11:56	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	669713	04/29/24 15:47	JAW	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-669709/5**

**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	8260D		1	5 mL	5 mL	669709	04/29/24 11:08	BPO	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-669839/5**

**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	8260D		1	5 mL	5 mL	669839	04/30/24 10:00	WPD	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-670014/5**

**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	8260D		1	5 mL	5 mL	670014	05/01/24 08:11	WPD	EET PEN

# Lab Chronicle

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

Job ID: 400-254564-1

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-669128/2-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	669128	04/24/24 08:38	KR	EET PEN
Total/NA	Analysis	8011		1			669181	04/24/24 16:39	KR	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-669184/2-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	3510C			250 mL	1 mL	669184	04/24/24 11:56	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	669650	04/27/24 19:07	VC1	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	669184	04/24/24 11:56	STC	EET PEN
Total/NA	Analysis	8270E SIM		100	0.4 mL	0.4 mL	669713	04/29/24 16:07	JAW	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-669184/4-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	3510C			250 mL	1 mL	669184	04/24/24 11:56	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	669650	04/27/24 19:51	VC1	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-669709/1002

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	8260D		1	5 mL	5 mL	669709	04/29/24 09:56	BPO	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-669839/1002

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	8260D		1	5 mL	5 mL	669839	04/30/24 08:47	WPD	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-670014/1002

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	8260D		1	5 mL	5 mL	670014	05/01/24 07:16	WPD	EET PEN

# Lab Chronicle

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

Job ID: 400-254564-1

**Client Sample ID: Lab Control Sample Dup**

**Lab Sample ID: LCSD 400-669128/3-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	669128	04/24/24 08:38	KR	EET PEN
Total/NA	Analysis	8011		1			669181	04/24/24 17:00	KR	EET PEN

**Client Sample ID: Lab Control Sample Dup**

**Lab Sample ID: LCSD 400-669184/3-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	3510C			250 mL	1 mL	669184	04/24/24 11:56	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	669650	04/27/24 19:29	VC1	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	669184	04/24/24 11:56	STC	EET PEN
Total/NA	Analysis	8270E SIM		100	0.4 mL	0.4 mL	669713	04/29/24 16:28	JAW	EET PEN

**Client Sample ID: Lab Control Sample Dup**

**Lab Sample ID: LCSD 400-669184/5-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	3510C			250 mL	1 mL	669184	04/24/24 11:56	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	669650	04/27/24 20:13	VC1	EET PEN

**Laboratory References:**

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

# QC Association Summary

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

Job ID: 400-254564-1

## GC/MS VOA

### Analysis Batch: 669709

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254564-1	TB-ROX-041724-8260	Total/NA	Water	8260D	
400-254564-3	P58-ROX-041724	Total/NA	Water	8260D	
400-254564-5	MW2-ROX-041724	Total/NA	Water	8260D	
MB 400-669709/5	Method Blank	Total/NA	Water	8260D	
LCS 400-669709/1002	Lab Control Sample	Total/NA	Water	8260D	

### Analysis Batch: 669839

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254564-3 - DL	P58-ROX-041724	Total/NA	Water	8260D	
MB 400-669839/5	Method Blank	Total/NA	Water	8260D	
LCS 400-669839/1002	Lab Control Sample	Total/NA	Water	8260D	

### Analysis Batch: 670014

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254564-4	MW2-ROX-041724-EB	Total/NA	Water	8260D	
MB 400-670014/5	Method Blank	Total/NA	Water	8260D	
LCS 400-670014/1002	Lab Control Sample	Total/NA	Water	8260D	

## GC/MS Semi VOA

### Prep Batch: 669184

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254564-3	P58-ROX-041724	Total/NA	Water	3510C	
400-254564-4	MW2-ROX-041724-EB	Total/NA	Water	3510C	
400-254564-5	MW2-ROX-041724	Total/NA	Water	3510C	
MB 400-669184/1-A	Method Blank	Total/NA	Water	3510C	
LCS 400-669184/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 400-669184/4-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 400-669184/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
LCSD 400-669184/5-A	Lab Control Sample Dup	Total/NA	Water	3510C	

### Analysis Batch: 669650

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254564-3	P58-ROX-041724	Total/NA	Water	8270E	669184
400-254564-4	MW2-ROX-041724-EB	Total/NA	Water	8270E	669184
400-254564-5	MW2-ROX-041724	Total/NA	Water	8270E	669184
MB 400-669184/1-A	Method Blank	Total/NA	Water	8270E	669184
LCS 400-669184/2-A	Lab Control Sample	Total/NA	Water	8270E	669184
LCS 400-669184/4-A	Lab Control Sample	Total/NA	Water	8270E	669184
LCSD 400-669184/3-A	Lab Control Sample Dup	Total/NA	Water	8270E	669184
LCSD 400-669184/5-A	Lab Control Sample Dup	Total/NA	Water	8270E	669184

### Analysis Batch: 669713

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254564-3	P58-ROX-041724	Total/NA	Water	8270E SIM	669184
400-254564-4	MW2-ROX-041724-EB	Total/NA	Water	8270E SIM	669184
400-254564-5	MW2-ROX-041724	Total/NA	Water	8270E SIM	669184
MB 400-669184/1-A	Method Blank	Total/NA	Water	8270E SIM	669184
LCS 400-669184/2-A	Lab Control Sample	Total/NA	Water	8270E SIM	669184
LCSD 400-669184/3-A	Lab Control Sample Dup	Total/NA	Water	8270E SIM	669184



# QC Association Summary

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

Job ID: 400-254564-1

## GC/MS Semi VOA

### Analysis Batch: 669847

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254564-5	MW2-ROX-041724	Total/NA	Water	8270E SIM	669184

## GC Semi VOA

### Prep Batch: 669128

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254564-2	TB-ROX-041724-8011	Total/NA	Water	8011	
400-254564-3	P58-ROX-041724	Total/NA	Water	8011	
400-254564-4	MW2-ROX-041724-EB	Total/NA	Water	8011	
400-254564-5	MW2-ROX-041724	Total/NA	Water	8011	
MB 400-669128/1-A	Method Blank	Total/NA	Water	8011	
LCS 400-669128/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 400-669128/3-A	Lab Control Sample Dup	Total/NA	Water	8011	

### Analysis Batch: 669181

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254564-2	TB-ROX-041724-8011	Total/NA	Water	8011	669128
400-254564-3	P58-ROX-041724	Total/NA	Water	8011	669128
400-254564-4	MW2-ROX-041724-EB	Total/NA	Water	8011	669128
400-254564-5	MW2-ROX-041724	Total/NA	Water	8011	669128
MB 400-669128/1-A	Method Blank	Total/NA	Water	8011	669128
LCS 400-669128/2-A	Lab Control Sample	Total/NA	Water	8011	669128
LCSD 400-669128/3-A	Lab Control Sample Dup	Total/NA	Water	8011	669128

# QC Sample Results

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

Job ID: 400-254564-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 400-669709/5**  
**Matrix: Water**  
**Analysis Batch: 669709**

**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			04/29/24 11:08	1
Acrolein	ND		20	3.3	ug/L			04/29/24 11:08	1
Acrylonitrile	ND		10	2.8	ug/L			04/29/24 11:08	1
Benzene	ND		1.0	0.50	ug/L			04/29/24 11:08	1
Bromobenzene	ND		1.0	0.54	ug/L			04/29/24 11:08	1
Bromochloromethane	ND		1.0	0.21	ug/L			04/29/24 11:08	1
Bromodichloromethane	ND		1.0	0.50	ug/L			04/29/24 11:08	1
Bromoform	ND		5.0	0.25	ug/L			04/29/24 11:08	1
Bromomethane	ND		1.0	0.98	ug/L			04/29/24 11:08	1
2-Butanone (MEK)	ND		25	2.6	ug/L			04/29/24 11:08	1
Carbon disulfide	ND		1.0	0.50	ug/L			04/29/24 11:08	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			04/29/24 11:08	1
Chlorobenzene	ND		1.0	0.90	ug/L			04/29/24 11:08	1
Chloroethane	ND		1.0	0.76	ug/L			04/29/24 11:08	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			04/29/24 11:08	1
Chloroform	ND		1.0	0.90	ug/L			04/29/24 11:08	1
1-Chlorohexane	ND		1.0	0.32	ug/L			04/29/24 11:08	1
Chloromethane	ND		1.0	0.90	ug/L			04/29/24 11:08	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			04/29/24 11:08	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			04/29/24 11:08	1
Dibromochloromethane	ND		1.0	0.24	ug/L			04/29/24 11:08	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			04/29/24 11:08	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			04/29/24 11:08	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			04/29/24 11:08	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			04/29/24 11:08	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			04/29/24 11:08	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			04/29/24 11:08	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			04/29/24 11:08	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			04/29/24 11:08	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			04/29/24 11:08	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			04/29/24 11:08	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			04/29/24 11:08	1
Ethylbenzene	ND		1.0	0.50	ug/L			04/29/24 11:08	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			04/29/24 11:08	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			04/29/24 11:08	1
2-Hexanone	ND		25	1.4	ug/L			04/29/24 11:08	1
Isopropylbenzene	ND		1.0	0.53	ug/L			04/29/24 11:08	1
Methylene bromide	ND		5.0	0.22	ug/L			04/29/24 11:08	1
Methylene Chloride	ND		5.0	3.0	ug/L			04/29/24 11:08	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			04/29/24 11:08	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			04/29/24 11:08	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			04/29/24 11:08	1
Naphthalene	ND		5.0	3.0	ug/L			04/29/24 11:08	1
n-Butylbenzene	ND		1.0	0.76	ug/L			04/29/24 11:08	1
N-Propylbenzene	ND		1.0	0.69	ug/L			04/29/24 11:08	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			04/29/24 11:08	1
o-Xylene	ND		5.0	0.60	ug/L			04/29/24 11:08	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			04/29/24 11:08	1

# QC Sample Results

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

Job ID: 400-254564-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-669709/5**  
**Matrix: Water**  
**Analysis Batch: 669709**

**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			04/29/24 11:08	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			04/29/24 11:08	1
Styrene	ND		1.0	1.0	ug/L			04/29/24 11:08	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			04/29/24 11:08	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			04/29/24 11:08	1
1,1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			04/29/24 11:08	1
Tetrachloroethene	ND		1.0	0.90	ug/L			04/29/24 11:08	1
Toluene	ND		1.0	0.90	ug/L			04/29/24 11:08	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			04/29/24 11:08	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			04/29/24 11:08	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			04/29/24 11:08	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			04/29/24 11:08	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			04/29/24 11:08	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			04/29/24 11:08	1
Trichloroethene	ND		1.0	0.15	ug/L			04/29/24 11:08	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			04/29/24 11:08	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			04/29/24 11:08	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			04/29/24 11:08	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			04/29/24 11:08	1
Vinyl acetate	ND		25	0.93	ug/L			04/29/24 11:08	1
Vinyl chloride	ND		1.0	0.50	ug/L			04/29/24 11:08	1
Xylenes, Total	ND		10	1.6	ug/L			04/29/24 11:08	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		72 - 130		04/29/24 11:08	1
Dibromofluoromethane	105		75 - 126		04/29/24 11:08	1
Toluene-d8 (Surr)	97		64 - 132		04/29/24 11:08	1

**Lab Sample ID: LCS 400-669709/1002**  
**Matrix: Water**  
**Analysis Batch: 669709**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	200	217		ug/L		109	43 - 160
Acrolein	500	619		ug/L		124	38 - 160
Acrylonitrile	500	502		ug/L		100	64 - 142
Benzene	50.0	51.3		ug/L		103	70 - 130
Bromobenzene	50.0	51.3		ug/L		103	70 - 132
Bromochloromethane	50.0	54.6		ug/L		109	70 - 130
Bromodichloromethane	50.0	55.0		ug/L		110	67 - 133
Bromoform	50.0	50.7		ug/L		101	57 - 140
Bromomethane	50.0	62.3		ug/L		125	10 - 160
2-Butanone (MEK)	200	210		ug/L		105	61 - 145
Carbon disulfide	50.0	40.4		ug/L		81	61 - 137
Carbon tetrachloride	50.0	52.8		ug/L		106	61 - 137
Chlorobenzene	50.0	52.5		ug/L		105	70 - 130
Chloroethane	50.0	52.0		ug/L		104	55 - 141
2-Chloroethyl vinyl ether	50.0	56.4		ug/L		113	10 - 160

# QC Sample Results

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

Job ID: 400-254564-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-669709/1002**  
**Matrix: Water**  
**Analysis Batch: 669709**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroform	50.0	54.7		ug/L		109	69 - 130
1-Chlorohexane	50.0	49.9		ug/L		100	69 - 130
Chloromethane	50.0	49.1		ug/L		98	58 - 137
cis-1,2-Dichloroethene	50.0	51.0		ug/L		102	68 - 130
cis-1,3-Dichloropropene	50.0	54.7		ug/L		109	69 - 132
Dibromochloromethane	50.0	53.3		ug/L		107	67 - 135
1,2-Dichlorobenzene	50.0	53.9		ug/L		108	67 - 130
1,3-Dichlorobenzene	50.0	53.1		ug/L		106	70 - 130
1,4-Dichlorobenzene	50.0	53.4		ug/L		107	70 - 130
Dichlorodifluoromethane	50.0	44.5		ug/L		89	41 - 146
1,1-Dichloroethane	50.0	56.3		ug/L		113	70 - 130
1,2-Dichloroethane	50.0	51.9		ug/L		104	69 - 130
1,1-Dichloroethene	50.0	49.3		ug/L		99	63 - 134
1,2-Dichloropropane	50.0	53.9		ug/L		108	70 - 130
1,3-Dichloropropane	50.0	50.1		ug/L		100	70 - 130
2,2-Dichloropropane	50.0	52.0		ug/L		104	52 - 135
1,1-Dichloropropene	50.0	51.2		ug/L		102	70 - 130
Ethylbenzene	50.0	50.7		ug/L		101	70 - 130
Ethyl methacrylate	50.0	48.4		ug/L		97	68 - 130
Hexachlorobutadiene	50.0	51.7		ug/L		103	53 - 140
2-Hexanone	200	184		ug/L		92	65 - 137
Isopropylbenzene	50.0	53.0		ug/L		106	70 - 130
Methylene bromide	50.0	53.7		ug/L		107	70 - 130
Methylene Chloride	50.0	50.4		ug/L		101	66 - 135
4-Methyl-2-pentanone (MIBK)	200	188		ug/L		94	69 - 138
Methyl tert-butyl ether	50.0	54.1		ug/L		108	66 - 130
m-Xylene & p-Xylene	50.0	52.4		ug/L		105	70 - 130
Naphthalene	50.0	43.0		ug/L		86	47 - 149
n-Butylbenzene	50.0	55.1		ug/L		110	67 - 130
N-Propylbenzene	50.0	54.7		ug/L		109	70 - 130
o-Chlorotoluene	50.0	51.4		ug/L		103	70 - 130
o-Xylene	50.0	51.5		ug/L		103	70 - 130
p-Chlorotoluene	50.0	52.6		ug/L		105	70 - 130
p-Isopropyltoluene	50.0	56.0		ug/L		112	65 - 130
sec-Butylbenzene	50.0	55.4		ug/L		111	66 - 130
Styrene	50.0	52.8		ug/L		106	70 - 130
tert-Butylbenzene	50.0	52.0		ug/L		104	64 - 139
1,1,1,2-Tetrachloroethane	50.0	53.9		ug/L		108	67 - 131
1,1,2,2-Tetrachloroethane	50.0	53.0		ug/L		106	70 - 131
Tetrachloroethene	50.0	45.4		ug/L		91	65 - 130
Toluene	50.0	50.5		ug/L		101	70 - 130
trans-1,2-Dichloroethene	50.0	51.1		ug/L		102	70 - 130
trans-1,3-Dichloropropene	50.0	51.2		ug/L		102	63 - 130
1,2,3-Trichlorobenzene	50.0	50.4		ug/L		101	60 - 138
1,2,4-Trichlorobenzene	50.0	49.8		ug/L		100	60 - 140
1,1,1-Trichloroethane	50.0	53.2		ug/L		106	68 - 130
1,1,2-Trichloroethane	50.0	51.9		ug/L		104	70 - 130
Trichloroethene	50.0	53.4		ug/L		107	70 - 130
Trichlorofluoromethane	50.0	60.2		ug/L		120	65 - 138

# QC Sample Results

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

Job ID: 400-254564-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-669709/1002**  
**Matrix: Water**  
**Analysis Batch: 669709**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	50.0	52.2		ug/L		104	70 - 130
1,2,4-Trimethylbenzene	50.0	53.8		ug/L		108	70 - 130
1,3,5-Trimethylbenzene	50.0	55.0		ug/L		110	69 - 130
Vinyl acetate	100	124		ug/L		124	26 - 160
Vinyl chloride	50.0	55.9		ug/L		112	59 - 136
Xylenes, Total	100	104		ug/L		104	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	100		72 - 130
Dibromofluoromethane	105		75 - 126
Toluene-d8 (Surr)	96		64 - 132

**Lab Sample ID: MB 400-669839/5**  
**Matrix: Water**  
**Analysis Batch: 669839**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0	0.50	ug/L			04/30/24 10:00	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	110		72 - 130		04/30/24 10:00	1
Dibromofluoromethane	102		75 - 126		04/30/24 10:00	1
Toluene-d8 (Surr)	100		64 - 132		04/30/24 10:00	1

**Lab Sample ID: LCS 400-669839/1002**  
**Matrix: Water**  
**Analysis Batch: 669839**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	50.0	53.5		ug/L		107	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	110		72 - 130
Dibromofluoromethane	102		75 - 126
Toluene-d8 (Surr)	98		64 - 132

**Lab Sample ID: MB 400-670014/5**  
**Matrix: Water**  
**Analysis Batch: 670014**

**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			05/01/24 08:11	1
Acrolein	ND		20	3.3	ug/L			05/01/24 08:11	1
Acrylonitrile	ND		10	2.8	ug/L			05/01/24 08:11	1
Benzene	ND		1.0	0.50	ug/L			05/01/24 08:11	1
Bromobenzene	ND		1.0	0.54	ug/L			05/01/24 08:11	1
Bromochloromethane	ND		1.0	0.21	ug/L			05/01/24 08:11	1
Bromodichloromethane	ND		1.0	0.50	ug/L			05/01/24 08:11	1

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# QC Sample Results

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

Job ID: 400-254564-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-670014/5**  
**Matrix: Water**  
**Analysis Batch: 670014**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromoform	ND		5.0	0.25	ug/L			05/01/24 08:11	1
Bromomethane	ND		1.0	0.98	ug/L			05/01/24 08:11	1
2-Butanone (MEK)	ND		25	2.6	ug/L			05/01/24 08:11	1
Carbon disulfide	ND		1.0	0.50	ug/L			05/01/24 08:11	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			05/01/24 08:11	1
Chlorobenzene	ND		1.0	0.90	ug/L			05/01/24 08:11	1
Chloroethane	ND		1.0	0.76	ug/L			05/01/24 08:11	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			05/01/24 08:11	1
Chloroform	ND		1.0	0.90	ug/L			05/01/24 08:11	1
1-Chlorohexane	ND		1.0	0.32	ug/L			05/01/24 08:11	1
Chloromethane	ND		1.0	0.90	ug/L			05/01/24 08:11	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			05/01/24 08:11	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			05/01/24 08:11	1
Dibromochloromethane	ND		1.0	0.24	ug/L			05/01/24 08:11	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			05/01/24 08:11	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			05/01/24 08:11	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			05/01/24 08:11	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			05/01/24 08:11	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			05/01/24 08:11	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			05/01/24 08:11	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			05/01/24 08:11	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			05/01/24 08:11	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			05/01/24 08:11	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			05/01/24 08:11	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			05/01/24 08:11	1
Ethylbenzene	ND		1.0	0.50	ug/L			05/01/24 08:11	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			05/01/24 08:11	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			05/01/24 08:11	1
2-Hexanone	ND		25	1.4	ug/L			05/01/24 08:11	1
Isopropylbenzene	ND		1.0	0.53	ug/L			05/01/24 08:11	1
Methylene bromide	ND		5.0	0.22	ug/L			05/01/24 08:11	1
Methylene Chloride	ND		5.0	3.0	ug/L			05/01/24 08:11	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			05/01/24 08:11	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			05/01/24 08:11	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			05/01/24 08:11	1
Naphthalene	ND		5.0	3.0	ug/L			05/01/24 08:11	1
n-Butylbenzene	ND		1.0	0.76	ug/L			05/01/24 08:11	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/01/24 08:11	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			05/01/24 08:11	1
o-Xylene	ND		5.0	0.60	ug/L			05/01/24 08:11	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			05/01/24 08:11	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			05/01/24 08:11	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			05/01/24 08:11	1
Styrene	ND		1.0	1.0	ug/L			05/01/24 08:11	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			05/01/24 08:11	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			05/01/24 08:11	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			05/01/24 08:11	1
Tetrachloroethene	ND		1.0	0.90	ug/L			05/01/24 08:11	1
Toluene	ND		1.0	0.90	ug/L			05/01/24 08:11	1

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# QC Sample Results

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

Job ID: 400-254564-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-670014/5**  
**Matrix: Water**  
**Analysis Batch: 670014**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			05/01/24 08:11	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			05/01/24 08:11	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			05/01/24 08:11	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			05/01/24 08:11	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			05/01/24 08:11	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			05/01/24 08:11	1
Trichloroethene	ND		1.0	0.15	ug/L			05/01/24 08:11	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			05/01/24 08:11	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			05/01/24 08:11	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			05/01/24 08:11	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			05/01/24 08:11	1
Vinyl acetate	ND		25	0.93	ug/L			05/01/24 08:11	1
Vinyl chloride	ND		1.0	0.50	ug/L			05/01/24 08:11	1
Xylenes, Total	ND		10	1.6	ug/L			05/01/24 08:11	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	108		72 - 130		05/01/24 08:11	1
Dibromofluoromethane	105		75 - 126		05/01/24 08:11	1
Toluene-d8 (Surr)	94		64 - 132		05/01/24 08:11	1

**Lab Sample ID: LCS 400-670014/1002**  
**Matrix: Water**  
**Analysis Batch: 670014**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	200	280		ug/L		140	43 - 160
Acrolein	500	703		ug/L		141	38 - 160
Acrylonitrile	500	584		ug/L		117	64 - 142
Benzene	50.0	54.5		ug/L		109	70 - 130
Bromobenzene	50.0	47.5		ug/L		95	70 - 132
Bromochloromethane	50.0	50.8		ug/L		102	70 - 130
Bromodichloromethane	50.0	57.8		ug/L		116	67 - 133
Bromoform	50.0	47.2		ug/L		94	57 - 140
Bromomethane	50.0	55.2		ug/L		110	10 - 160
2-Butanone (MEK)	200	239		ug/L		120	61 - 145
Carbon disulfide	50.0	40.0		ug/L		80	61 - 137
Carbon tetrachloride	50.0	51.8		ug/L		104	61 - 137
Chlorobenzene	50.0	48.2		ug/L		96	70 - 130
Chloroethane	50.0	54.4		ug/L		109	55 - 141
2-Chloroethyl vinyl ether	50.0	62.6		ug/L		125	10 - 160
Chloroform	50.0	56.2		ug/L		112	69 - 130
1-Chlorohexane	50.0	53.7		ug/L		107	69 - 130
Chloromethane	50.0	61.1		ug/L		122	58 - 137
cis-1,2-Dichloroethene	50.0	54.3		ug/L		109	68 - 130
cis-1,3-Dichloropropene	50.0	58.5		ug/L		117	69 - 132
Dibromochloromethane	50.0	46.6		ug/L		93	67 - 135
1,2-Dichlorobenzene	50.0	47.6		ug/L		95	67 - 130
1,3-Dichlorobenzene	50.0	47.6		ug/L		95	70 - 130

# QC Sample Results

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

Job ID: 400-254564-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-670014/1002**  
**Matrix: Water**  
**Analysis Batch: 670014**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dichlorobenzene	50.0	47.3		ug/L		95	70 - 130
Dichlorodifluoromethane	50.0	45.3		ug/L		91	41 - 146
1,1-Dichloroethane	50.0	60.7		ug/L		121	70 - 130
1,2-Dichloroethane	50.0	57.9		ug/L		116	69 - 130
1,1-Dichloroethene	50.0	48.1		ug/L		96	63 - 134
1,2-Dichloropropane	50.0	59.4		ug/L		119	70 - 130
1,3-Dichloropropane	50.0	51.7		ug/L		103	70 - 130
2,2-Dichloropropane	50.0	55.8		ug/L		112	52 - 135
1,1-Dichloropropene	50.0	54.7		ug/L		109	70 - 130
Ethylbenzene	50.0	48.6		ug/L		97	70 - 130
Ethyl methacrylate	50.0	51.0		ug/L		102	68 - 130
Hexachlorobutadiene	50.0	47.6		ug/L		95	53 - 140
2-Hexanone	200	222		ug/L		111	65 - 137
Isopropylbenzene	50.0	48.9		ug/L		98	70 - 130
Methylene bromide	50.0	57.2		ug/L		114	70 - 130
Methylene Chloride	50.0	49.7		ug/L		99	66 - 135
4-Methyl-2-pentanone (MIBK)	200	248		ug/L		124	69 - 138
Methyl tert-butyl ether	50.0	58.1		ug/L		116	66 - 130
m-Xylene & p-Xylene	50.0	49.3		ug/L		99	70 - 130
Naphthalene	50.0	37.2		ug/L		74	47 - 149
n-Butylbenzene	50.0	51.0		ug/L		102	67 - 130
N-Propylbenzene	50.0	48.2		ug/L		96	70 - 130
o-Chlorotoluene	50.0	48.9		ug/L		98	70 - 130
o-Xylene	50.0	48.9		ug/L		98	70 - 130
p-Chlorotoluene	50.0	49.3		ug/L		99	70 - 130
p-Isopropyltoluene	50.0	47.6		ug/L		95	65 - 130
sec-Butylbenzene	50.0	49.5		ug/L		99	66 - 130
Styrene	50.0	48.7		ug/L		97	70 - 130
tert-Butylbenzene	50.0	48.8		ug/L		98	64 - 139
1,1,1,2-Tetrachloroethane	50.0	47.6		ug/L		95	67 - 131
1,1,1,2,2-Tetrachloroethane	50.0	52.3		ug/L		105	70 - 131
Tetrachloroethene	50.0	41.1		ug/L		82	65 - 130
Toluene	50.0	47.0		ug/L		94	70 - 130
trans-1,2-Dichloroethene	50.0	50.9		ug/L		102	70 - 130
trans-1,3-Dichloropropene	50.0	53.1		ug/L		106	63 - 130
1,2,3-Trichlorobenzene	50.0	46.6		ug/L		93	60 - 138
1,2,4-Trichlorobenzene	50.0	45.9		ug/L		92	60 - 140
1,1,1-Trichloroethane	50.0	52.8		ug/L		106	68 - 130
1,1,2-Trichloroethane	50.0	50.3		ug/L		101	70 - 130
Trichloroethene	50.0	52.4		ug/L		105	70 - 130
Trichlorofluoromethane	50.0	61.7		ug/L		123	65 - 138
1,2,3-Trichloropropane	50.0	49.6		ug/L		99	70 - 130
1,2,4-Trimethylbenzene	50.0	48.4		ug/L		97	70 - 130
1,3,5-Trimethylbenzene	50.0	48.6		ug/L		97	69 - 130
Vinyl acetate	100	137		ug/L		137	26 - 160
Vinyl chloride	50.0	56.2		ug/L		112	59 - 136
Xylenes, Total	100	98.2		ug/L		98	70 - 130

# QC Sample Results

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

Job ID: 400-254564-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-670014/1002**  
**Matrix: Water**  
**Analysis Batch: 670014**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	106		72 - 130
Dibromofluoromethane	102		75 - 126
Toluene-d8 (Surr)	96		64 - 132

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

**Lab Sample ID: MB 400-669184/1-A**  
**Matrix: Water**  
**Analysis Batch: 669650**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 669184**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aniline	ND		10	8.7	ug/L		04/24/24 11:56	04/27/24 18:45	1
Benzenethiol	ND		10	9.9	ug/L		04/24/24 11:56	04/27/24 18:45	1
Benzoic acid	ND		30	24	ug/L		04/24/24 11:56	04/27/24 18:45	1
Benzyl alcohol	ND		10	7.3	ug/L		04/24/24 11:56	04/27/24 18:45	1
Bis(2-chloroethoxy)methane	ND		10	4.6	ug/L		04/24/24 11:56	04/27/24 18:45	1
Bis(2-chloroethyl)ether	ND		10	3.9	ug/L		04/24/24 11:56	04/27/24 18:45	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		04/24/24 11:56	04/27/24 18:45	1
Bis(2-ethylhexyl) phthalate	ND		10	8.9	ug/L		04/24/24 11:56	04/27/24 18:45	1
4-Bromophenyl phenyl ether	ND		10	8.6	ug/L		04/24/24 11:56	04/27/24 18:45	1
Butyl benzyl phthalate	ND		10	5.8	ug/L		04/24/24 11:56	04/27/24 18:45	1
4-Chloroaniline	ND		10	4.7	ug/L		04/24/24 11:56	04/27/24 18:45	1
4-Chloro-3-methylphenol	ND		10	5.3	ug/L		04/24/24 11:56	04/27/24 18:45	1
2-Chloronaphthalene	ND		10	3.8	ug/L		04/24/24 11:56	04/27/24 18:45	1
2-Chlorophenol	ND		10	4.1	ug/L		04/24/24 11:56	04/27/24 18:45	1
4-Chlorophenyl phenyl ether	ND		10	3.7	ug/L		04/24/24 11:56	04/27/24 18:45	1
Dibenz[a,h]acridine	ND		10	2.8	ug/L		04/24/24 11:56	04/27/24 18:45	1
Dibenzofuran	ND		10	4.0	ug/L		04/24/24 11:56	04/27/24 18:45	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/24/24 11:56	04/27/24 18:45	1
2,4-Dichlorophenol	ND		10	4.3	ug/L		04/24/24 11:56	04/27/24 18:45	1
Diethyl phthalate	ND		10	4.4	ug/L		04/24/24 11:56	04/27/24 18:45	1
2,4-Dimethylphenol	ND		10	5.2	ug/L		04/24/24 11:56	04/27/24 18:45	1
Dimethyl phthalate	ND		10	4.2	ug/L		04/24/24 11:56	04/27/24 18:45	1
Di-n-butyl phthalate	ND		10	4.6	ug/L		04/24/24 11:56	04/27/24 18:45	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		04/24/24 11:56	04/27/24 18:45	1
2,4-Dinitrophenol	ND		30	4.6	ug/L		04/24/24 11:56	04/27/24 18:45	1
2,4-Dinitrotoluene	ND		10	5.1	ug/L		04/24/24 11:56	04/27/24 18:45	1
2,6-Dinitrotoluene	ND		10	3.9	ug/L		04/24/24 11:56	04/27/24 18:45	1
Di-n-octyl phthalate	ND		10	6.0	ug/L		04/24/24 11:56	04/27/24 18:45	1
1,4-Dioxane	ND		10	4.3	ug/L		04/24/24 11:56	04/27/24 18:45	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.3	ug/L		04/24/24 11:56	04/27/24 18:45	1
Hexachlorobenzene	ND		10	9.7	ug/L		04/24/24 11:56	04/27/24 18:45	1
Hexachlorocyclopentadiene	ND		20	4.5	ug/L		04/24/24 11:56	04/27/24 18:45	1
Hexachloroethane	ND		10	5.2	ug/L		04/24/24 11:56	04/27/24 18:45	1
Indene	ND		10	3.6	ug/L		04/24/24 11:56	04/27/24 18:45	1
Isophorone	ND		10	5.2	ug/L		04/24/24 11:56	04/27/24 18:45	1
2-Methylphenol	ND		10	3.2	ug/L		04/24/24 11:56	04/27/24 18:45	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		04/24/24 11:56	04/27/24 18:45	1

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# QC Sample Results

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

Job ID: 400-254564-1

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

**Lab Sample ID: MB 400-669184/1-A**  
**Matrix: Water**  
**Analysis Batch: 669650**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 669184**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		10	5.0	ug/L		04/24/24 11:56	04/27/24 18:45	1
3-Nitroaniline	ND		10	4.7	ug/L		04/24/24 11:56	04/27/24 18:45	1
4-Nitroaniline	ND		10	4.1	ug/L		04/24/24 11:56	04/27/24 18:45	1
Nitrobenzene	ND		10	4.7	ug/L		04/24/24 11:56	04/27/24 18:45	1
2-Nitrophenol	ND		10	4.6	ug/L		04/24/24 11:56	04/27/24 18:45	1
4-Nitrophenol	ND		10	3.3	ug/L		04/24/24 11:56	04/27/24 18:45	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		04/24/24 11:56	04/27/24 18:45	1
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		04/24/24 11:56	04/27/24 18:45	1
N-Nitrosodiphenylamine	ND		10	3.7	ug/L		04/24/24 11:56	04/27/24 18:45	1
Pentachlorophenol	ND		20	12	ug/L		04/24/24 11:56	04/27/24 18:45	1
Phenol	ND		10	4.2	ug/L		04/24/24 11:56	04/27/24 18:45	1
Pyridine	ND		10	10	ug/L		04/24/24 11:56	04/27/24 18:45	1
Quinoline	ND		10	2.4	ug/L		04/24/24 11:56	04/27/24 18:45	1
2,4,5-Trichlorophenol	ND		10	4.0	ug/L		04/24/24 11:56	04/27/24 18:45	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/24/24 11:56	04/27/24 18:45	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	67		21 - 114	04/24/24 11:56	04/27/24 18:45	1
2-Fluorophenol	60		10 - 105	04/24/24 11:56	04/27/24 18:45	1
Nitrobenzene-d5	75		16 - 127	04/24/24 11:56	04/27/24 18:45	1
Phenol-d5	49		10 - 129	04/24/24 11:56	04/27/24 18:45	1
Terphenyl-d14	102		13 - 150	04/24/24 11:56	04/27/24 18:45	1
2,4,6-Tribromophenol	71		10 - 150	04/24/24 11:56	04/27/24 18:45	1

**Lab Sample ID: LCS 400-669184/2-A**  
**Matrix: Water**  
**Analysis Batch: 669650**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669184**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aniline	120	17.0		ug/L		14	10 - 127
Benzoic acid	492	173		ug/L		35	19 - 126
Benzyl alcohol	120	67.9		ug/L		57	17 - 109
Bis(2-chloroethoxy)methane	120	62.1		ug/L		52	24 - 125
Bis(2-chloroethyl)ether	120	42.9		ug/L		36	10 - 121
bis (2-chloroisopropyl) ether	120	57.4		ug/L		48	14 - 123
Bis(2-ethylhexyl) phthalate	120	83.6		ug/L		70	16 - 150
4-Bromophenyl phenyl ether	120	77.4		ug/L		65	17 - 150
Butyl benzyl phthalate	120	82.0		ug/L		68	21 - 150
4-Chloroaniline	120	55.7		ug/L		46	10 - 124
4-Chloro-3-methylphenol	120	74.5		ug/L		62	37 - 131
2-Chloronaphthalene	120	67.1		ug/L		56	24 - 132
2-Chlorophenol	120	66.9		ug/L		56	27 - 124
4-Chlorophenyl phenyl ether	120	75.9		ug/L		63	27 - 147
Dibenz[a,h]acridine	59.9	39.2		ug/L		65	40 - 140
Dibenzofuran	120	77.2		ug/L		64	30 - 135
3,3'-Dichlorobenzidine	160	99.0		ug/L		62	10 - 150
2,4-Dichlorophenol	120	69.9		ug/L		58	33 - 132
Diethyl phthalate	120	86.6		ug/L		72	37 - 145

# QC Sample Results

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

Job ID: 400-254564-1

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

**Lab Sample ID: LCS 400-669184/2-A**  
**Matrix: Water**  
**Analysis Batch: 669650**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669184**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4-Dimethylphenol	120	85.5		ug/L		71	38 - 132
Dimethyl phthalate	120	76.7		ug/L		64	32 - 137
Di-n-butyl phthalate	120	82.7		ug/L		69	27 - 150
4,6-Dinitro-ortho-cresol	240	183		ug/L		76	14 - 150
2,4-Dinitrophenol	240	272		ug/L		113	15 - 150
2,4-Dinitrotoluene	120	76.9		ug/L		64	35 - 136
2,6-Dinitrotoluene	120	70.1		ug/L		58	29 - 140
Di-n-octyl phthalate	120	76.9		ug/L		64	26 - 150
1,4-Dioxane	120	34.9		ug/L		29	10 - 87
1,2-Diphenylhydrazine (as Azobenzene)	120	76.4		ug/L		64	23 - 138
Hexachlorobenzene	120	85.6		ug/L		71	10 - 150
Hexachlorocyclopentadiene	120	79.6		ug/L		66	10 - 124
Hexachloroethane	120	53.4		ug/L		45	10 - 127
Indene	120	63.9		ug/L		53	18 - 150
Isophorone	120	65.0		ug/L		54	28 - 127
2-Methylphenol	120	68.3		ug/L		57	34 - 124
3 & 4 Methylphenol	120	69.2		ug/L		58	32 - 122
2-Nitroaniline	120	78.8		ug/L		66	24 - 139
3-Nitroaniline	120	62.0		ug/L		52	10 - 128
4-Nitroaniline	120	71.6		ug/L		60	28 - 118
Nitrobenzene	120	64.7		ug/L		54	29 - 120
2-Nitrophenol	120	67.9		ug/L		57	25 - 148
4-Nitrophenol	240	185		ug/L		77	12 - 129
N-Nitrosodimethylamine	120	48.6		ug/L		40	10 - 115
N-Nitrosodi-n-propylamine	120	77.0		ug/L		64	24 - 142
N-Nitrosodiphenylamine	119	72.8		ug/L		61	29 - 138
Pentachlorophenol	240	151		ug/L		63	19 - 150
Phenol	120	48.5		ug/L		40	11 - 95
Pyridine	240	ND	*	ug/L		3	10 - 82
Quinoline	59.9	16.5		ug/L		28	10 - 141
2,4,5-Trichlorophenol	120	72.5		ug/L		60	30 - 144
2,4,6-Trichlorophenol	120	70.9		ug/L		59	27 - 147

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	71		21 - 114
2-Fluorophenol	59		10 - 105
Nitrobenzene-d5	78		16 - 127
Phenol-d5	54		10 - 129
Terphenyl-d14	91		13 - 150
2,4,6-Tribromophenol	97		10 - 150

**Lab Sample ID: LCS 400-669184/4-A**  
**Matrix: Water**  
**Analysis Batch: 669650**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669184**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzenethiol	120	59.3		ug/L		49	10 - 140

# QC Sample Results

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

Job ID: 400-254564-1

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

**Lab Sample ID: LCS 400-669184/4-A**  
**Matrix: Water**  
**Analysis Batch: 669650**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669184**

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	63		21 - 114
2-Fluorophenol	51		10 - 105
Nitrobenzene-d5	66		16 - 127
Phenol-d5	42		10 - 129
Terphenyl-d14	93		13 - 150
2,4,6-Tribromophenol	72		10 - 150

**Lab Sample ID: LCSD 400-669184/3-A**  
**Matrix: Water**  
**Analysis Batch: 669650**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669184**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Aniline	120	39.3	*1	ug/L		33	10 - 127	79	40
Benzoic acid	492	176		ug/L		36	19 - 126	2	40
Benzyl alcohol	120	65.3		ug/L		54	17 - 109	4	40
Bis(2-chloroethoxy)methane	120	59.3		ug/L		49	24 - 125	5	40
Bis(2-chloroethyl)ether	120	43.1		ug/L		36	10 - 121	0	40
bis (2-chloroisopropyl) ether	120	55.0		ug/L		46	14 - 123	4	40
Bis(2-ethylhexyl) phthalate	120	82.2		ug/L		68	16 - 150	2	40
4-Bromophenyl phenyl ether	120	74.0		ug/L		62	17 - 150	5	40
Butyl benzyl phthalate	120	80.5		ug/L		67	21 - 150	2	40
4-Chloroaniline	120	62.8		ug/L		52	10 - 124	12	40
4-Chloro-3-methylphenol	120	71.8		ug/L		60	37 - 131	4	40
2-Chloronaphthalene	120	63.9		ug/L		53	24 - 132	5	40
2-Chlorophenol	120	63.6		ug/L		53	27 - 124	5	40
4-Chlorophenyl phenyl ether	120	72.0		ug/L		60	27 - 147	5	40
Dibenz[a,h]acridine	59.9	36.9		ug/L		62	40 - 140	6	40
Dibenzofuran	120	72.8		ug/L		61	30 - 135	6	40
3,3'-Dichlorobenzidine	160	96.7		ug/L		60	10 - 150	2	40
2,4-Dichlorophenol	120	66.3		ug/L		55	33 - 132	5	40
Diethyl phthalate	120	83.7		ug/L		70	37 - 145	3	40
2,4-Dimethylphenol	120	80.1		ug/L		67	38 - 132	6	40
Dimethyl phthalate	120	73.4		ug/L		61	32 - 137	4	40
Di-n-butyl phthalate	120	79.8		ug/L		66	27 - 150	4	40
4,6-Dinitro-ortho-cresol	240	168		ug/L		70	14 - 150	8	40
2,4-Dinitrophenol	240	239		ug/L		100	15 - 150	13	40
2,4-Dinitrotoluene	120	74.6		ug/L		62	35 - 136	3	40
2,6-Dinitrotoluene	120	66.6		ug/L		56	29 - 140	5	40
Di-n-octyl phthalate	120	75.4		ug/L		63	26 - 150	2	40
1,4-Dioxane	120	29.0		ug/L		24	10 - 87	18	40
1,2-Diphenylhydrazine (as Azobenzene)	120	73.0		ug/L		61	23 - 138	5	40
Hexachlorobenzene	120	81.8		ug/L		68	10 - 150	4	40
Hexachlorocyclopentadiene	120	70.1		ug/L		58	10 - 124	13	40
Hexachloroethane	120	49.9		ug/L		42	10 - 127	7	40
Indene	120	60.6		ug/L		51	18 - 150	5	40
Isophorone	120	62.1		ug/L		52	28 - 127	5	40
2-Methylphenol	120	63.9		ug/L		53	34 - 124	7	40
3 & 4 Methylphenol	120	65.5		ug/L		55	32 - 122	5	40

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# QC Sample Results

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

Job ID: 400-254564-1

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

**Lab Sample ID: LCSD 400-669184/3-A**  
**Matrix: Water**  
**Analysis Batch: 669650**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669184**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2-Nitroaniline	120	75.9		ug/L		63	24 - 139	4	40
3-Nitroaniline	120	62.6		ug/L		52	10 - 128	1	40
4-Nitroaniline	120	68.3		ug/L		57	28 - 118	5	40
Nitrobenzene	120	61.6		ug/L		51	29 - 120	5	40
2-Nitrophenol	120	63.8		ug/L		53	25 - 148	6	40
4-Nitrophenol	240	169		ug/L		71	12 - 129	9	40
N-Nitrosodimethylamine	120	48.5		ug/L		40	10 - 115	0	40
N-Nitrosodi-n-propylamine	120	73.5		ug/L		61	24 - 142	5	40
N-Nitrosodiphenylamine	119	69.2		ug/L		58	29 - 138	5	40
Pentachlorophenol	240	142		ug/L		59	19 - 150	6	40
Phenol	120	44.7		ug/L		37	11 - 95	8	40
Pyridine	240	25.4	*1	ug/L		11	10 - 82	111	40
Quinoline	59.9	26.5	*1	ug/L		44	10 - 141	47	40
2,4,5-Trichlorophenol	120	67.8		ug/L		57	30 - 144	7	40
2,4,6-Trichlorophenol	120	67.3		ug/L		56	27 - 147	5	40

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
2-Fluorobiphenyl	67		21 - 114
2-Fluorophenol	54		10 - 105
Nitrobenzene-d5	73		16 - 127
Phenol-d5	49		10 - 129
Terphenyl-d14	87		13 - 150
2,4,6-Tribromophenol	92		10 - 150

**Lab Sample ID: LCSD 400-669184/5-A**  
**Matrix: Water**  
**Analysis Batch: 669650**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669184**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzenethiol	120	68.7		ug/L		57	10 - 140	15	40

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
2-Fluorobiphenyl	65		21 - 114
2-Fluorophenol	58		10 - 105
Nitrobenzene-d5	69		16 - 127
Phenol-d5	47		10 - 129
Terphenyl-d14	99		13 - 150
2,4,6-Tribromophenol	72		10 - 150

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

**Lab Sample ID: MB 400-669184/1-A**  
**Matrix: Water**  
**Analysis Batch: 669713**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 669184**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.099	ug/L		04/24/24 11:56	04/29/24 15:47	1
Acenaphthylene	ND		0.20	0.044	ug/L		04/24/24 11:56	04/29/24 15:47	1

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# QC Sample Results

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

Job ID: 400-254564-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: MB 400-669184/1-A**  
**Matrix: Water**  
**Analysis Batch: 669713**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 669184**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Anthracene	ND		0.20	0.047	ug/L		04/24/24 11:56	04/29/24 15:47	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		04/24/24 11:56	04/29/24 15:47	1
Benzo[a]pyrene	ND		0.20	0.064	ug/L		04/24/24 11:56	04/29/24 15:47	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		04/24/24 11:56	04/29/24 15:47	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		04/24/24 11:56	04/29/24 15:47	1
Benzo[k]fluoranthene	ND		0.20	0.062	ug/L		04/24/24 11:56	04/29/24 15:47	1
Chrysene	ND		0.20	0.033	ug/L		04/24/24 11:56	04/29/24 15:47	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		04/24/24 11:56	04/29/24 15:47	1
Fluoranthene	ND		0.20	0.034	ug/L		04/24/24 11:56	04/29/24 15:47	1
Fluorene	ND		0.20	0.089	ug/L		04/24/24 11:56	04/29/24 15:47	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		04/24/24 11:56	04/29/24 15:47	1
Phenanthrene	ND		0.20	0.090	ug/L		04/24/24 11:56	04/29/24 15:47	1
Pyrene	ND		0.20	0.039	ug/L		04/24/24 11:56	04/29/24 15:47	1
1-Methylnaphthalene	ND		0.20	0.080	ug/L		04/24/24 11:56	04/29/24 15:47	1
2-Methylnaphthalene	0.0675	J	0.20	0.066	ug/L		04/24/24 11:56	04/29/24 15:47	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Terphenyl-d14	154	S1+	18 - 147	04/24/24 11:56	04/29/24 15:47	1
2-Fluorobiphenyl	88		15 - 128	04/24/24 11:56	04/29/24 15:47	1
Nitrobenzene-d5	92		10 - 144	04/24/24 11:56	04/29/24 15:47	1

**Lab Sample ID: LCS 400-669184/2-A**  
**Matrix: Water**  
**Analysis Batch: 669713**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669184**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Acenaphthylene	120	108		ug/L		90	10 - 140
Anthracene	120	118		ug/L		98	19 - 140
Benzo[a]anthracene	120	126		ug/L		105	25 - 140
Benzo[a]pyrene	120	91.9		ug/L		77	24 - 140
Benzo[b]fluoranthene	120	94.5		ug/L		79	34 - 140
Benzo[g,h,i]perylene	120	74.9		ug/L		62	13 - 140
Benzo[k]fluoranthene	120	81.4		ug/L		68	21 - 140
Chrysene	120	95.5		ug/L		80	28 - 140
Dibenz(a,h)anthracene	120	85.0		ug/L		71	10 - 140
Fluoranthene	120	108		ug/L		90	18 - 140
Fluorene	120	103		ug/L		85	16 - 140
Indeno[1,2,3-cd]pyrene	120	85.8		ug/L		72	10 - 140
Phenanthrene	120	93.6		ug/L		78	22 - 140
Pyrene	120	110		ug/L		92	38 - 140
1-Methylnaphthalene	120	86.2		ug/L		72	10 - 140
2-Methylnaphthalene	120	86.2		ug/L		72	10 - 140

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Terphenyl-d14	119		18 - 147
2-Fluorobiphenyl	98		15 - 128
Nitrobenzene-d5	104		10 - 144

# QC Sample Results

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

Job ID: 400-254564-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

**Lab Sample ID: LCSD 400-669184/3-A**  
**Matrix: Water**  
**Analysis Batch: 669713**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669184**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Acenaphthene	120	83.1		ug/L		69	10 - 140	14	40
Acenaphthylene	120	90.6		ug/L		75	10 - 140	18	40
Anthracene	120	99.4		ug/L		83	19 - 140	17	40
Benzo[a]anthracene	120	108		ug/L		90	25 - 140	15	40
Benzo[a]pyrene	120	84.1		ug/L		70	24 - 140	9	40
Benzo[b]fluoranthene	120	83.8		ug/L		70	34 - 140	12	40
Benzo[g,h,i]perylene	120	62.9		ug/L		52	13 - 140	17	40
Benzo[k]fluoranthene	120	80.8		ug/L		67	21 - 140	1	40
Chrysene	120	83.6		ug/L		70	28 - 140	13	40
Dibenz(a,h)anthracene	120	66.5		ug/L		55	10 - 140	24	40
Fluoranthene	120	94.6		ug/L		79	18 - 140	13	40
Fluorene	120	90.3		ug/L		75	16 - 140	13	40
Indeno[1,2,3-cd]pyrene	120	72.6		ug/L		61	10 - 140	17	40
Phenanthrene	120	81.5		ug/L		68	22 - 140	14	40
Pyrene	120	87.4		ug/L		73	38 - 140	23	40
1-Methylnaphthalene	120	73.8		ug/L		61	10 - 140	16	40
2-Methylnaphthalene	120	74.2		ug/L		62	10 - 140	15	40

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
Terphenyl-d14	90		18 - 147
2-Fluorobiphenyl	82		15 - 128
Nitrobenzene-d5	88		10 - 144

## Method: 8011 - EDB and DBCP in Water by Microextraction

**Lab Sample ID: MB 400-669128/1-A**  
**Matrix: Water**  
**Analysis Batch: 669181**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 669128**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.030	0.017	ug/L		04/24/24 08:38	04/24/24 16:18	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		04/24/24 08:38	04/24/24 16:18	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	64		51 - 149	04/24/24 08:38	04/24/24 16:18	1

**Lab Sample ID: LCS 400-669128/2-A**  
**Matrix: Water**  
**Analysis Batch: 669181**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669128**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dibromo-3-Chloropropane	0.101	0.0853		ug/L		85	60 - 140
1,2-Dibromoethane	0.100	0.0911		ug/L		91	60 - 140

Surrogate	LCS %Recovery	LCS Qualifier	LCS Limits
4-Bromofluorobenzene	64		51 - 149

# QC Sample Results

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

Job ID: 400-254564-1

## Method: 8011 - EDB and DBCP in Water by Microextraction (Continued)

**Lab Sample ID: LCSD 400-669128/3-A**  
**Matrix: Water**  
**Analysis Batch: 669181**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669128**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dibromo-3-Chloropropane	0.101	0.0859		ug/L		85	60 - 140	1	30
1,2-Dibromoethane	0.100	0.0927		ug/L		92	60 - 140	2	30
<b>LCSD %Recovery</b>									
<b>Surrogate</b>	<b>LCSD</b>	<b>Qualifier</b>	<b>Limits</b>						
4-Bromofluorobenzene	67		51 - 149						

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ACCUTEST ( )  
 CALSCIENCE ( )  
 TESTAMERICA (TestAmerica Pensacola; 3355 McLemore Dr. Pensacola, FL 32514 (850-474-1001))  
 Other ( )

SGW FDG  
 CHEMICALS  
 TRANSPORTATION  
 PIPELINE  
 CONSULTANT  
 OTHER\_ENV\_SERVICES

CHECK IF NO INCIDENT # APPLIES  
 DATE: 4/17/2024  
 PAGE: 1 of 1

Print Bill To Contact Name: Melissa Remiger  
 PlanNet Site or Project ID: 25278  
 PO #: 60721927 - 3.2.2  
 GSAP Project ID: USPC/00114/R/02

AECOM Project / Task Number: Roxana Quarterly GW 60721927 - 3.2.2  
 SITE ADDRESS: Street and City: 900 South Central Ave; ROXANA, IL  
 E-MAIL: melissa.remiger@aecom.com  
 PHONE NO.: 314-802-1207  
 ED DELIVERABLE TO (Name, Company, Office Location): Melissa Remiger - please see special instructions  
 SAMPLER NAME(S) (Print): M. Massa, T. Jenkins

Bill To Contact E-MAIL: melissa.remiger@aecom.com  
 314-429-0100  
 314-429-0462

TURNAROUND TIME (CALENDAR DAYS):  
 STANDARD (14 DAY)  5 DAYS  3 DAYS  2 DAYS  24 HOURS  WEEKEND  
 LA - RWQCB REPORT FORMAT

DELIVERABLES:  LEVEL 1  LEVEL 2  LEVEL 3  LEVEL 4  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

Please include "J" values on Reports.  
 Please provide sample receipt upon login.  
 Please send EquiS EDDs to EDDSubmissions@aecomshell.com; Vlad.Virjan@aecom.com

REQUESTED ANALYSIS: 60721927 - 3.2.2  
 REQUESTED ANALYSIS: 60721927 - 3.2.2

TEMPERATURE ON RECEIPT °C:

Container PID Readings or Laboratory Notes:

LAB USE ONLY	Field Sample Identification		SAMPLING		MATRIX	PRESERVATIVE			NO. OF CONT.	
	DATE	TIME	DATE	TIME		HCL	HNO3	H2SO4		NONE
	TB-ROX-041724-8260	0000	4/17/2024	0000	Water				2	X
	TB-ROX-041724-8011	0000	4/17/2024	0000	Water				2	X
	P58-ROX-041724	0935	4/17/2024	0935	Water			2	8	X X
	MW2-ROX-041724-EB	1145	4/17/2024	1145	Water			2	8	X X
	MW2-ROX-041724	1335	4/17/2024	1335	Water			2	8	X X
	<i>[Handwritten Signature]</i>									

Relinquished by: (Signature) \_\_\_\_\_ Date: 4/17/2024 Time: 1600  
**MARY MASSA**  
 Relinquished by: (Signature) \_\_\_\_\_ Date: 4/18/24 Time: 0924  
*[Handwritten Signature]*  
 Relinquished by: (Signature) \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

FEDEX: 7252 0540 5003, 7252 0540 5014  
 Relinquished by: (Signature) \_\_\_\_\_ Date: 4/18/24 Time: 0924  
*[Handwritten Signature]*  
 Relinquished by: (Signature) \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_



# Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-254564-1

**Login Number: 254564**

**List Source: Eurofins Pensacola**

**List Number: 1**

**Creator: Perez, Trina M**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> 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	2.4°C, 1.0°C IR-10
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.	True	



# Accreditation/Certification Summary

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

Job ID: 400-254564-1

## Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-24
Kansas	NELAP	E-10253	10-31-24
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-24
North Carolina (WW/SW)	State	314	12-31-24
Oklahoma	NELAP	9810	08-31-24
Pennsylvania	NELAP	68-00467	01-31-25
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-24
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	P330-21-00056	05-17-24
USDA	US Federal Programs	FLGNV23001	01-08-26
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-25

# Roxana Groundwater Quarterly – 2<sup>nd</sup> Quarter 2024 Data Review

Laboratory SDG: 400-254703-1

Data Reviewer: Andrei Niculau

Peer Reviewer: Cheyana Cokley

Date Reviewed: 05/16/2024

Guidance: USEPA National Functional Guidelines for Organic Superfund Methods Data Review 2020

Sample Identification	Sample Identification
TB-ROX-041824-8260-SS	P56-ROX-041824
TB-ROX-041824-8011-SS	P93A-ROX-041824

## 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 SVOC LCS/LCSD recoveries, and/or LCS/LCSD RPDs, were outside evaluation criteria. The PAH internal standard area recoveries for perylene-d<sub>12</sub> were outside criteria in samples P56-ROX-041824 and P93A-ROX-041824. The continuing calibration verifications (CCV) for benzo[k]fluoranthene was outside evaluation criteria, biased low. These issues are addressed further in the appropriate sections of this data review.

Three of 70 (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 400-669420/2-A/3-A	SVOCs	Pyridine	12/6	71	10-82/40

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 pyridine below evaluation criteria; pyridine has been identified as a poor performing analyte under Method 8270.

Sample ID	Parameter	Analyte	Qualification
P56-ROX-041824	SVOCs	Pyridine	UJ
P93A-ROX-041824	SVOCs	Pyridine	UJ

## 6.0 Surrogate Recoveries

*Were surrogate recoveries within evaluation criteria?*

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
P93A-ROX-041824	PAHs	Terphenyl-d <sub>14</sub>	155	18-147
MB 400-669420/1-A	PAHs	Terphenyl-d <sub>14</sub>	172	18-147

Qualifications due to surrogate recoveries were not required if only one of three base/neutral ~~and/or acid~~ surrogate recoveries were outside evaluation criteria. Method blanks 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?*

No

## 8.0 Internal Standard (IS) Recoveries

*Were internal standard area recoveries within evaluation criteria?*

No

Sample ID	Parameter	Analyte	IS Area Recovery	12/24 Hour Standard	IS Criteria
P56-ROX-041824	SVOCs	Perylene-d <sub>12</sub>	203437	414789	207395 - 829578
P93A-ROX-041824	SVOCs	Perylene-d <sub>12</sub>	184494	414789	207395 - 829578

Qualifications due to internal standard recoveries are included in the table below.

Sample ID	Parameter	Analyte	Qualification
P56-ROX-041824	SVOCs	Dibenz[a,h]acridine	UJ

Sample ID	Parameter	Analyte	Qualification
P93A-ROX-041824	SVOCs	Dibenz[a,h]acridine	UJ

**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?*

Yes, the continuing calibration verification (CCV) for benzo[k]fluoranthene was outside evaluation criteria, biased low. Dibenz[a,h]acridine in samples P56-ROX-041824 and P93A-ROX-041824 was previously qualified in Section 8.0 of this data review, due to internal area standard recoveries outside of criteria. Analytes are qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
P56-ROX-041824	PAHs	Benzo[k]fluoranthene	UJ
P93A-ROX-041824	PAHs	Benzo[k]fluoranthene	UJ



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Melissa Remiger  
AECOM Technical Services Inc.  
100 N. Broadway  
20th Floor  
St. Louis, Missouri 63102

Generated 5/7/2024 11:04:48 AM

## JOB DESCRIPTION

ROXANA QUARTERLY GW

## JOB NUMBER

400-254703-1

Reviewed 05/16/2024  
AN

# Eurofins Pensacola

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

## Authorization



Generated  
5/7/2024 11:04:48 AM

Authorized for release by  
Leah Klingensmith, Senior Project Manager  
[Leah.Klingensmith@et.eurofinsus.com](mailto:Leah.Klingensmith@et.eurofinsus.com)  
(615)301-5038





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# Case Narrative

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

Job ID: 400-254703-1

**Job ID: 400-254703-1**

**Eurofins Pensacola**

## Job Narrative 400-254703-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 4/20/2024 8:09 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.0°C and 0.2°C.

### GC/MS VOA

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: P93A-ROX-041824 (400-254703-4). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-670014 recovered above the upper control limit for 1,1-Dichloroethane, Acrolein, Chloromethane, Trichlorofluoromethane and Vinyl acetate. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The preservative used in the sample containers provided is not compatible with one of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-ROX-041824-8260-SS (400-254703-1), P56-ROX-041824 (400-254703-3) and P93A-ROX-041824 (400-254703-4). The requested target analyte list includes 2-Chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrades 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 8270E: The laboratory control sample duplicate (LCSD) for preparation batch 400-669420 and analytical batch 400-670083 recovered outside control limits for the following analyte(s): Pyridine. Pyridine has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method 8270E: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 400-669420 and analytical batch 400-670083 recovered outside control limits for the following analytes: Pyridine.

Method 8270E: The internal standard Perylene-d12 response were outside of acceptance limits for the following samples: P56-ROX-041824 (400-254703-3) and P93A-ROX-041824 (400-254703-4). Results for the affected analytes are possibly biased high, non-detect are qualified accordingly; therefore, the data have been reported.

Method 8270E: The continuing calibration verification (CCV) associated with batch 400-670083 recovered outside acceptance criteria, low biased, for Dibenz[a,h]acridine. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8270E: The initial calibration verification (ICV) analyzed in batch 400-669549 was outside method criteria for the following analyte(s): Pyridine. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270E\_SIM: Three 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 method blank contained an allowable number of surrogate compounds outside limits: (MB 400-669420/1-A). These results have been reported and qualified.

Method 8270E\_SIM: Three surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be

Eurofins Pensacola

# Case Narrative

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

Job ID: 400-254703-1

## Job ID: 400-254703-1 (Continued)

**Eurofins Pensacola**

outside acceptance criteria without performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: P93A-ROX-041824 (400-254703-4). These results have been reported and qualified.

Method 8270E\_SIM: The continuing calibration verification (CCV) associated with batch 400-669847 recovered outside acceptance criteria, low biased, for Benzo[k]fluoranthene. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8270E\_SIM: Detections in the following samples compare with historical results. Re-extraction therefore not performed. P56-ROX-041824 (400-254703-3) and P93A-ROX-041824 (400-254703-4)

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

### GC Semi VOA

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

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# Sample Summary

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

Job ID: 400-254703-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-254703-1	TB-ROX-041824-8260-SS	Water	04/18/24 00:00	04/20/24 08:09
400-254703-2	TB-ROX-041824-8011-SS	Water	04/18/24 00:00	04/20/24 08:09
400-254703-3	P56-ROX-041824	Water	04/18/24 10:10	04/20/24 08:09
400-254703-4	P93A-ROX-041824	Water	04/18/24 11:20	04/20/24 08:09

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# Detection Summary

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

Job ID: 400-254703-1

## Client Sample ID: TB-ROX-041824-8260-SS

Lab Sample ID: 400-254703-1

No Detections.

## Client Sample ID: TB-ROX-041824-8011-SS

Lab Sample ID: 400-254703-2

No Detections.

## Client Sample ID: P56-ROX-041824

Lab Sample ID: 400-254703-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.63	J	1.0	0.50	ug/L	1		8260D	Total/NA
Carbon disulfide	0.89	J	1.0	0.50	ug/L	1		8260D	Total/NA
Isopropylbenzene	12		1.0	0.53	ug/L	1		8260D	Total/NA
m-Xylene & p-Xylene	1.4	J	5.0	0.63	ug/L	1		8260D	Total/NA
N-Propylbenzene	14		1.0	0.69	ug/L	1		8260D	Total/NA
sec-Butylbenzene	1.9		1.0	0.70	ug/L	1		8260D	Total/NA
Acenaphthene	0.37		0.22	0.11	ug/L	1		8270E SIM	Total/NA
Anthracene	0.061	J	0.22	0.051	ug/L	1		8270E SIM	Total/NA
Fluorene	0.22		0.22	0.097	ug/L	1		8270E SIM	Total/NA
Phenanthrene	0.29		0.22	0.098	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	2.6		0.22	0.087	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	0.87		0.22	0.072	ug/L	1		8270E SIM	Total/NA

## Client Sample ID: P93A-ROX-041824

Lab Sample ID: 400-254703-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	850		5.0	2.5	ug/L	5		8260D	Total/NA
tert-Butylbenzene	5.0		5.0	3.2	ug/L	5		8260D	Total/NA
1-Methylnaphthalene	0.22		0.21	0.085	ug/L	1		8270E SIM	Total/NA
Phenol	9.8	J	11	4.4	ug/L	1		8270E	Total/NA

This Detection Summary does not include radiochemical test results.

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# Client Sample Results

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

Job ID: 400-254703-1

**Client Sample ID: TB-ROX-041824-8260-SS**

**Lab Sample ID: 400-254703-1**

**Date Collected: 04/18/24 00:00**

**Matrix: Water**

**Date Received: 04/20/24 08:09**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			05/01/24 08:35	1
Acrolein	ND		20	3.3	ug/L			05/01/24 08:35	1
Acrylonitrile	ND		10	2.8	ug/L			05/01/24 08:35	1
Benzene	ND		1.0	0.50	ug/L			05/01/24 08:35	1
Bromobenzene	ND		1.0	0.54	ug/L			05/01/24 08:35	1
Bromochloromethane	ND		1.0	0.21	ug/L			05/01/24 08:35	1
Bromodichloromethane	ND		1.0	0.50	ug/L			05/01/24 08:35	1
Bromoform	ND		5.0	0.25	ug/L			05/01/24 08:35	1
Bromomethane	ND		1.0	0.98	ug/L			05/01/24 08:35	1
2-Butanone (MEK)	ND		25	2.6	ug/L			05/01/24 08:35	1
Carbon disulfide	ND		1.0	0.50	ug/L			05/01/24 08:35	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			05/01/24 08:35	1
Chlorobenzene	ND		1.0	0.90	ug/L			05/01/24 08:35	1
Chloroethane	ND		1.0	0.76	ug/L			05/01/24 08:35	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			05/01/24 08:35	1
Chloroform	ND		1.0	0.90	ug/L			05/01/24 08:35	1
1-Chlorohexane	ND		1.0	0.32	ug/L			05/01/24 08:35	1
Chloromethane	ND		1.0	0.90	ug/L			05/01/24 08:35	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			05/01/24 08:35	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			05/01/24 08:35	1
Dibromochloromethane	ND		1.0	0.24	ug/L			05/01/24 08:35	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			05/01/24 08:35	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			05/01/24 08:35	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			05/01/24 08:35	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			05/01/24 08:35	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			05/01/24 08:35	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			05/01/24 08:35	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			05/01/24 08:35	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			05/01/24 08:35	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			05/01/24 08:35	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			05/01/24 08:35	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			05/01/24 08:35	1
Ethylbenzene	ND		1.0	0.50	ug/L			05/01/24 08:35	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			05/01/24 08:35	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			05/01/24 08:35	1
2-Hexanone	ND		25	1.4	ug/L			05/01/24 08:35	1
Isopropylbenzene	ND		1.0	0.53	ug/L			05/01/24 08:35	1
Methylene bromide	ND		5.0	0.22	ug/L			05/01/24 08:35	1
Methylene Chloride	ND		5.0	3.0	ug/L			05/01/24 08:35	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			05/01/24 08:35	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			05/01/24 08:35	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			05/01/24 08:35	1
Naphthalene	ND		5.0	3.0	ug/L			05/01/24 08:35	1
n-Butylbenzene	ND		1.0	0.76	ug/L			05/01/24 08:35	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/01/24 08:35	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			05/01/24 08:35	1
o-Xylene	ND		5.0	0.60	ug/L			05/01/24 08:35	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			05/01/24 08:35	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			05/01/24 08:35	1



# Client Sample Results

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

Job ID: 400-254703-1

**Client Sample ID: TB-ROX-041824-8260-SS**

**Lab Sample ID: 400-254703-1**

**Date Collected: 04/18/24 00:00**

**Matrix: Water**

**Date Received: 04/20/24 08:09**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			05/01/24 08:35	1
Styrene	ND		1.0	1.0	ug/L			05/01/24 08:35	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			05/01/24 08:35	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			05/01/24 08:35	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			05/01/24 08:35	1
Tetrachloroethene	ND		1.0	0.90	ug/L			05/01/24 08:35	1
Toluene	ND		1.0	0.90	ug/L			05/01/24 08:35	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			05/01/24 08:35	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			05/01/24 08:35	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			05/01/24 08:35	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			05/01/24 08:35	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			05/01/24 08:35	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			05/01/24 08:35	1
Trichloroethene	ND		1.0	0.15	ug/L			05/01/24 08:35	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			05/01/24 08:35	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			05/01/24 08:35	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			05/01/24 08:35	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			05/01/24 08:35	1
Vinyl acetate	ND		25	0.93	ug/L			05/01/24 08:35	1
Vinyl chloride	ND		1.0	0.50	ug/L			05/01/24 08:35	1
Xylenes, Total	ND		10	1.6	ug/L			05/01/24 08:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	109		72 - 130		05/01/24 08:35	1
Dibromofluoromethane	105		75 - 126		05/01/24 08:35	1
Toluene-d8 (Surr)	93		64 - 132		05/01/24 08:35	1

# Client Sample Results

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

Job ID: 400-254703-1

**Client Sample ID: TB-ROX-041824-8011-SS**

**Lab Sample ID: 400-254703-2**

Date Collected: 04/18/24 00:00

Matrix: Water

Date Received: 04/20/24 08:09

**Method: EPA 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	0.018	ug/L		04/30/24 07:31	05/01/24 18:28	1
1,2-Dibromoethane	ND		0.021	0.015	ug/L		04/30/24 07:31	05/01/24 18:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	86		51 - 149				04/30/24 07:31	05/01/24 18:28	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

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

Job ID: 400-254703-1

**Client Sample ID: P56-ROX-041824**

**Lab Sample ID: 400-254703-3**

Date Collected: 04/18/24 10:10

Matrix: Water

Date Received: 04/20/24 08:09

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			05/01/24 10:37	1
Acrolein	ND		20	3.3	ug/L			05/01/24 10:37	1
Acrylonitrile	ND		10	2.8	ug/L			05/01/24 10:37	1
<b>Benzene</b>	<b>0.63</b>	<b>J</b>	1.0	0.50	ug/L			05/01/24 10:37	1
Bromobenzene	ND		1.0	0.54	ug/L			05/01/24 10:37	1
Bromochloromethane	ND		1.0	0.21	ug/L			05/01/24 10:37	1
Bromodichloromethane	ND		1.0	0.50	ug/L			05/01/24 10:37	1
Bromoform	ND		5.0	0.25	ug/L			05/01/24 10:37	1
Bromomethane	ND		1.0	0.98	ug/L			05/01/24 10:37	1
2-Butanone (MEK)	ND		25	2.6	ug/L			05/01/24 10:37	1
<b>Carbon disulfide</b>	<b>0.89</b>	<b>J</b>	1.0	0.50	ug/L			05/01/24 10:37	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			05/01/24 10:37	1
Chlorobenzene	ND		1.0	0.90	ug/L			05/01/24 10:37	1
Chloroethane	ND		1.0	0.76	ug/L			05/01/24 10:37	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			05/01/24 10:37	1
Chloroform	ND		1.0	0.90	ug/L			05/01/24 10:37	1
1-Chlorohexane	ND		1.0	0.32	ug/L			05/01/24 10:37	1
Chloromethane	ND		1.0	0.90	ug/L			05/01/24 10:37	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			05/01/24 10:37	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			05/01/24 10:37	1
Dibromochloromethane	ND		1.0	0.24	ug/L			05/01/24 10:37	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			05/01/24 10:37	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			05/01/24 10:37	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			05/01/24 10:37	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			05/01/24 10:37	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			05/01/24 10:37	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			05/01/24 10:37	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			05/01/24 10:37	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			05/01/24 10:37	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			05/01/24 10:37	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			05/01/24 10:37	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			05/01/24 10:37	1
Ethylbenzene	ND		1.0	0.50	ug/L			05/01/24 10:37	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			05/01/24 10:37	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			05/01/24 10:37	1
2-Hexanone	ND		25	1.4	ug/L			05/01/24 10:37	1
<b>Isopropylbenzene</b>	<b>12</b>		1.0	0.53	ug/L			05/01/24 10:37	1
Methylene bromide	ND		5.0	0.22	ug/L			05/01/24 10:37	1
Methylene Chloride	ND		5.0	3.0	ug/L			05/01/24 10:37	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			05/01/24 10:37	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			05/01/24 10:37	1
<b>m-Xylene &amp; p-Xylene</b>	<b>1.4</b>	<b>J</b>	5.0	0.63	ug/L			05/01/24 10:37	1
Naphthalene	ND		5.0	3.0	ug/L			05/01/24 10:37	1
n-Butylbenzene	ND		1.0	0.76	ug/L			05/01/24 10:37	1
<b>N-Propylbenzene</b>	<b>14</b>		1.0	0.69	ug/L			05/01/24 10:37	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			05/01/24 10:37	1
o-Xylene	ND		5.0	0.60	ug/L			05/01/24 10:37	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			05/01/24 10:37	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			05/01/24 10:37	1

# Client Sample Results

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

Job ID: 400-254703-1

**Client Sample ID: P56-ROX-041824**

**Lab Sample ID: 400-254703-3**

Date Collected: 04/18/24 10:10

Matrix: Water

Date Received: 04/20/24 08:09

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>sec-Butylbenzene</b>	<b>1.9</b>		1.0	0.70	ug/L			05/01/24 10:37	1
Styrene	ND		1.0	1.0	ug/L			05/01/24 10:37	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			05/01/24 10:37	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			05/01/24 10:37	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			05/01/24 10:37	1
Tetrachloroethene	ND		1.0	0.90	ug/L			05/01/24 10:37	1
Toluene	ND		1.0	0.90	ug/L			05/01/24 10:37	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			05/01/24 10:37	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			05/01/24 10:37	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			05/01/24 10:37	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			05/01/24 10:37	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			05/01/24 10:37	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			05/01/24 10:37	1
Trichloroethene	ND		1.0	0.15	ug/L			05/01/24 10:37	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			05/01/24 10:37	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			05/01/24 10:37	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			05/01/24 10:37	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			05/01/24 10:37	1
Vinyl acetate	ND		25	0.93	ug/L			05/01/24 10:37	1
Vinyl chloride	ND		1.0	0.50	ug/L			05/01/24 10:37	1
Xylenes, Total	ND		10	1.6	ug/L			05/01/24 10:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	108		72 - 130		05/01/24 10:37	1
Dibromofluoromethane	107		75 - 126		05/01/24 10:37	1
Toluene-d8 (Surr)	94		64 - 132		05/01/24 10:37	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acenaphthene</b>	<b>0.37</b>		0.22	0.11	ug/L		04/25/24 18:18	04/30/24 16:19	1
Acenaphthylene	ND		0.22	0.048	ug/L		04/25/24 18:18	04/30/24 16:19	1
<b>Anthracene</b>	<b>0.061</b>	<b>J</b>	0.22	0.051	ug/L		04/25/24 18:18	04/30/24 16:19	1
Benzo[a]anthracene	ND		0.22	0.037	ug/L		04/25/24 18:18	04/30/24 16:19	1
Benzo[a]pyrene	ND		0.22	0.070	ug/L		04/25/24 18:18	04/30/24 16:19	1
Benzo[b]fluoranthene	ND		0.22	0.040	ug/L		04/25/24 18:18	04/30/24 16:19	1
Benzo[g,h,i]perylene	ND		0.22	0.029	ug/L		04/25/24 18:18	04/30/24 16:19	1
Benzo[k]fluoranthene	ND	<b>UJ</b>	0.22	0.067	ug/L		04/25/24 18:18	04/30/24 16:19	1
Chrysene	ND		0.22	0.036	ug/L		04/25/24 18:18	04/30/24 16:19	1
Dibenz(a,h)anthracene	ND		0.22	0.052	ug/L		04/25/24 18:18	04/30/24 16:19	1
Fluoranthene	ND		0.22	0.037	ug/L		04/25/24 18:18	04/30/24 16:19	1
<b>Fluorene</b>	<b>0.22</b>		0.22	0.097	ug/L		04/25/24 18:18	04/30/24 16:19	1
Indeno[1,2,3-cd]pyrene	ND		0.22	0.037	ug/L		04/25/24 18:18	04/30/24 16:19	1
<b>Phenanthrene</b>	<b>0.29</b>		0.22	0.098	ug/L		04/25/24 18:18	04/30/24 16:19	1
Pyrene	ND		0.22	0.042	ug/L		04/25/24 18:18	04/30/24 16:19	1
<b>1-Methylnaphthalene</b>	<b>2.6</b>		0.22	0.087	ug/L		04/25/24 18:18	04/30/24 16:19	1
<b>2-Methylnaphthalene</b>	<b>0.87</b>		0.22	0.072	ug/L		04/25/24 18:18	04/30/24 16:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	102		18 - 147	04/25/24 18:18	04/30/24 16:19	1
2-Fluorobiphenyl	55		15 - 128	04/25/24 18:18	04/30/24 16:19	1

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# Client Sample Results

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

Job ID: 400-254703-1

**Client Sample ID: P56-ROX-041824**

**Lab Sample ID: 400-254703-3**

Date Collected: 04/18/24 10:10

Matrix: Water

Date Received: 04/20/24 08:09

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	62		10 - 144	04/25/24 18:18	04/30/24 16:19	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		11	9.4	ug/L		04/25/24 18:18	05/01/24 23:28	1
Benzenethiol	ND		11	11	ug/L		04/25/24 18:18	05/01/24 23:28	1
Benzoic acid	ND		33	26	ug/L		04/25/24 18:18	05/01/24 23:28	1
Benzyl alcohol	ND		11	7.9	ug/L		04/25/24 18:18	05/01/24 23:28	1
Bis(2-chloroethoxy)methane	ND		11	5.0	ug/L		04/25/24 18:18	05/01/24 23:28	1
Bis(2-chloroethyl)ether	ND		11	4.2	ug/L		04/25/24 18:18	05/01/24 23:28	1
bis (2-chloroisopropyl) ether	ND		11	2.0	ug/L		04/25/24 18:18	05/01/24 23:28	1
Bis(2-ethylhexyl) phthalate	ND		11	9.7	ug/L		04/25/24 18:18	05/01/24 23:28	1
4-Bromophenyl phenyl ether	ND		11	9.3	ug/L		04/25/24 18:18	05/01/24 23:28	1
Butyl benzyl phthalate	ND		11	6.3	ug/L		04/25/24 18:18	05/01/24 23:28	1
4-Chloroaniline	ND		11	5.1	ug/L		04/25/24 18:18	05/01/24 23:28	1
4-Chloro-3-methylphenol	ND		11	5.8	ug/L		04/25/24 18:18	05/01/24 23:28	1
2-Chloronaphthalene	ND		11	4.1	ug/L		04/25/24 18:18	05/01/24 23:28	1
2-Chlorophenol	ND		11	4.5	ug/L		04/25/24 18:18	05/01/24 23:28	1
4-Chlorophenyl phenyl ether	ND		11	4.0	ug/L		04/25/24 18:18	05/01/24 23:28	1
Dibenz[a,h]acridine	ND	*3 UJ	11	3.0	ug/L		04/25/24 18:18	05/01/24 23:28	1
Dibenzofuran	ND		11	4.3	ug/L		04/25/24 18:18	05/01/24 23:28	1
3,3'-Dichlorobenzidine	ND		12	12	ug/L		04/25/24 18:18	05/01/24 23:28	1
2,4-Dichlorophenol	ND		11	4.7	ug/L		04/25/24 18:18	05/01/24 23:28	1
Diethyl phthalate	ND		11	4.8	ug/L		04/25/24 18:18	05/01/24 23:28	1
2,4-Dimethylphenol	ND		11	5.6	ug/L		04/25/24 18:18	05/01/24 23:28	1
Dimethyl phthalate	ND		11	4.6	ug/L		04/25/24 18:18	05/01/24 23:28	1
Di-n-butyl phthalate	ND		11	5.0	ug/L		04/25/24 18:18	05/01/24 23:28	1
4,6-Dinitro-ortho-cresol	ND		11	11	ug/L		04/25/24 18:18	05/01/24 23:28	1
2,4-Dinitrophenol	ND		33	5.0	ug/L		04/25/24 18:18	05/01/24 23:28	1
2,4-Dinitrotoluene	ND		11	5.5	ug/L		04/25/24 18:18	05/01/24 23:28	1
2,6-Dinitrotoluene	ND		11	4.2	ug/L		04/25/24 18:18	05/01/24 23:28	1
Di-n-octyl phthalate	ND		11	6.5	ug/L		04/25/24 18:18	05/01/24 23:28	1
1,4-Dioxane	ND		11	4.7	ug/L		04/25/24 18:18	05/01/24 23:28	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		11	3.6	ug/L		04/25/24 18:18	05/01/24 23:28	1
Hexachlorobenzene	ND		11	11	ug/L		04/25/24 18:18	05/01/24 23:28	1
Hexachlorocyclopentadiene	ND		22	4.9	ug/L		04/25/24 18:18	05/01/24 23:28	1
Hexachloroethane	ND		11	5.6	ug/L		04/25/24 18:18	05/01/24 23:28	1
Indene	ND		11	3.9	ug/L		04/25/24 18:18	05/01/24 23:28	1
Isophorone	ND		11	5.6	ug/L		04/25/24 18:18	05/01/24 23:28	1
2-Methylphenol	ND		11	3.5	ug/L		04/25/24 18:18	05/01/24 23:28	1
3 & 4 Methylphenol	ND		22	5.0	ug/L		04/25/24 18:18	05/01/24 23:28	1
2-Nitroaniline	ND		11	5.4	ug/L		04/25/24 18:18	05/01/24 23:28	1
3-Nitroaniline	ND		11	5.1	ug/L		04/25/24 18:18	05/01/24 23:28	1
4-Nitroaniline	ND		11	4.5	ug/L		04/25/24 18:18	05/01/24 23:28	1
Nitrobenzene	ND		11	5.1	ug/L		04/25/24 18:18	05/01/24 23:28	1
2-Nitrophenol	ND		11	5.0	ug/L		04/25/24 18:18	05/01/24 23:28	1
4-Nitrophenol	ND		11	3.6	ug/L		04/25/24 18:18	05/01/24 23:28	1
N-Nitrosodimethylamine	ND		11	2.4	ug/L		04/25/24 18:18	05/01/24 23:28	1

# Client Sample Results

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

Job ID: 400-254703-1

**Client Sample ID: P56-ROX-041824**

**Lab Sample ID: 400-254703-3**

Date Collected: 04/18/24 10:10

Matrix: Water

Date Received: 04/20/24 08:09

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		11	2.7	ug/L		04/25/24 18:18	05/01/24 23:28	1
N-Nitrosodiphenylamine	ND		11	4.0	ug/L		04/25/24 18:18	05/01/24 23:28	1
Pentachlorophenol	ND		22	13	ug/L		04/25/24 18:18	05/01/24 23:28	1
Phenol	ND		11	4.6	ug/L		04/25/24 18:18	05/01/24 23:28	1
Pyridine	ND	*- *1 UJ	11	11	ug/L		04/25/24 18:18	05/01/24 23:28	1
Quinoline	ND		11	2.6	ug/L		04/25/24 18:18	05/01/24 23:28	1
2,4,5-Trichlorophenol	ND		11	4.3	ug/L		04/25/24 18:18	05/01/24 23:28	1
2,4,6-Trichlorophenol	ND		11	3.8	ug/L		04/25/24 18:18	05/01/24 23:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	70		21 - 114	04/25/24 18:18	05/01/24 23:28	1
2-Fluorophenol	51		10 - 105	04/25/24 18:18	05/01/24 23:28	1
Nitrobenzene-d5	58		16 - 127	04/25/24 18:18	05/01/24 23:28	1
Phenol-d5	37		10 - 129	04/25/24 18:18	05/01/24 23:28	1
Terphenyl-d14	102		13 - 150	04/25/24 18:18	05/01/24 23:28	1
2,4,6-Tribromophenol	84		10 - 150	04/25/24 18:18	05/01/24 23:28	1

**Method: EPA 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	0.017	ug/L		04/30/24 07:31	05/01/24 18:49	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		04/30/24 07:31	05/01/24 18:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	89		51 - 149	04/30/24 07:31	05/01/24 18:49	1



# Client Sample Results

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

Job ID: 400-254703-1

**Client Sample ID: P93A-ROX-041824**

**Lab Sample ID: 400-254703-4**

Date Collected: 04/18/24 11:20

Matrix: Water

Date Received: 04/20/24 08:09

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		130	50	ug/L			05/01/24 12:40	5
Acrolein	ND		100	17	ug/L			05/01/24 12:40	5
Acrylonitrile	ND		50	14	ug/L			05/01/24 12:40	5
<b>Benzene</b>	<b>850</b>		5.0	2.5	ug/L			05/01/24 12:40	5
Bromobenzene	ND		5.0	2.7	ug/L			05/01/24 12:40	5
Bromochloromethane	ND		5.0	1.1	ug/L			05/01/24 12:40	5
Bromodichloromethane	ND		5.0	2.5	ug/L			05/01/24 12:40	5
Bromoform	ND		25	1.3	ug/L			05/01/24 12:40	5
Bromomethane	ND		5.0	4.9	ug/L			05/01/24 12:40	5
2-Butanone (MEK)	ND		130	13	ug/L			05/01/24 12:40	5
Carbon disulfide	ND		5.0	2.5	ug/L			05/01/24 12:40	5
Carbon tetrachloride	ND		5.0	0.95	ug/L			05/01/24 12:40	5
Chlorobenzene	ND		5.0	4.5	ug/L			05/01/24 12:40	5
Chloroethane	ND		5.0	3.8	ug/L			05/01/24 12:40	5
2-Chloroethyl vinyl ether	ND		25	10	ug/L			05/01/24 12:40	5
Chloroform	ND		5.0	4.5	ug/L			05/01/24 12:40	5
1-Chlorohexane	ND		5.0	1.6	ug/L			05/01/24 12:40	5
Chloromethane	ND		5.0	4.5	ug/L			05/01/24 12:40	5
cis-1,2-Dichloroethene	ND		5.0	1.0	ug/L			05/01/24 12:40	5
cis-1,3-Dichloropropene	ND		25	2.5	ug/L			05/01/24 12:40	5
Dibromochloromethane	ND		5.0	1.2	ug/L			05/01/24 12:40	5
1,2-Dichlorobenzene	ND		5.0	2.5	ug/L			05/01/24 12:40	5
1,3-Dichlorobenzene	ND		5.0	2.7	ug/L			05/01/24 12:40	5
1,4-Dichlorobenzene	ND		5.0	3.2	ug/L			05/01/24 12:40	5
Dichlorodifluoromethane	ND		5.0	4.3	ug/L			05/01/24 12:40	5
1,1-Dichloroethane	ND		5.0	2.5	ug/L			05/01/24 12:40	5
1,2-Dichloroethane	ND		5.0	0.95	ug/L			05/01/24 12:40	5
1,1-Dichloroethene	ND		5.0	2.5	ug/L			05/01/24 12:40	5
1,2-Dichloropropane	ND		5.0	2.5	ug/L			05/01/24 12:40	5
1,3-Dichloropropane	ND		5.0	2.5	ug/L			05/01/24 12:40	5
2,2-Dichloropropane	ND		5.0	2.5	ug/L			05/01/24 12:40	5
1,1-Dichloropropene	ND		5.0	2.5	ug/L			05/01/24 12:40	5
Ethylbenzene	ND		5.0	2.5	ug/L			05/01/24 12:40	5
Ethyl methacrylate	ND		5.0	3.0	ug/L			05/01/24 12:40	5
Hexachlorobutadiene	ND		25	4.5	ug/L			05/01/24 12:40	5
2-Hexanone	ND		130	7.0	ug/L			05/01/24 12:40	5
Isopropylbenzene	ND		5.0	2.7	ug/L			05/01/24 12:40	5
Methylene bromide	ND		25	1.1	ug/L			05/01/24 12:40	5
Methylene Chloride	ND		25	15	ug/L			05/01/24 12:40	5
4-Methyl-2-pentanone (MIBK)	ND		130	9.0	ug/L			05/01/24 12:40	5
Methyl tert-butyl ether	ND		5.0	1.1	ug/L			05/01/24 12:40	5
m-Xylene & p-Xylene	ND		25	3.2	ug/L			05/01/24 12:40	5
Naphthalene	ND		25	15	ug/L			05/01/24 12:40	5
n-Butylbenzene	ND		5.0	3.8	ug/L			05/01/24 12:40	5
N-Propylbenzene	ND		5.0	3.5	ug/L			05/01/24 12:40	5
o-Chlorotoluene	ND		5.0	2.9	ug/L			05/01/24 12:40	5
o-Xylene	ND		25	3.0	ug/L			05/01/24 12:40	5
p-Chlorotoluene	ND		5.0	2.8	ug/L			05/01/24 12:40	5
p-Isopropyltoluene	ND		5.0	3.6	ug/L			05/01/24 12:40	5

# Client Sample Results

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

Job ID: 400-254703-1

**Client Sample ID: P93A-ROX-041824**

**Lab Sample ID: 400-254703-4**

Date Collected: 04/18/24 11:20

Matrix: Water

Date Received: 04/20/24 08:09

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		5.0	3.5	ug/L			05/01/24 12:40	5
Styrene	ND		5.0	5.0	ug/L			05/01/24 12:40	5
<b>tert-Butylbenzene</b>	<b>5.0</b>		5.0	3.2	ug/L			05/01/24 12:40	5
1,1,1,2-Tetrachloroethane	ND		5.0	0.80	ug/L			05/01/24 12:40	5
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/L			05/01/24 12:40	5
Tetrachloroethene	ND		5.0	4.5	ug/L			05/01/24 12:40	5
Toluene	ND		5.0	4.5	ug/L			05/01/24 12:40	5
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/L			05/01/24 12:40	5
trans-1,3-Dichloropropene	ND		25	1.0	ug/L			05/01/24 12:40	5
1,2,3-Trichlorobenzene	ND		5.0	4.5	ug/L			05/01/24 12:40	5
1,2,4-Trichlorobenzene	ND		5.0	4.1	ug/L			05/01/24 12:40	5
1,1,1-Trichloroethane	ND		5.0	0.90	ug/L			05/01/24 12:40	5
1,1,2-Trichloroethane	ND		25	1.1	ug/L			05/01/24 12:40	5
Trichloroethene	ND		5.0	0.75	ug/L			05/01/24 12:40	5
Trichlorofluoromethane	ND		5.0	2.6	ug/L			05/01/24 12:40	5
1,2,3-Trichloropropane	ND		25	4.2	ug/L			05/01/24 12:40	5
1,2,4-Trimethylbenzene	ND		5.0	4.1	ug/L			05/01/24 12:40	5
1,3,5-Trimethylbenzene	ND		5.0	2.8	ug/L			05/01/24 12:40	5
Vinyl acetate	ND		130	4.7	ug/L			05/01/24 12:40	5
Vinyl chloride	ND		5.0	2.5	ug/L			05/01/24 12:40	5
Xylenes, Total	ND		50	8.0	ug/L			05/01/24 12:40	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107		72 - 130		05/01/24 12:40	5
Dibromofluoromethane	106		75 - 126		05/01/24 12:40	5
Toluene-d8 (Surr)	91		64 - 132		05/01/24 12:40	5

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.21	0.10	ug/L		04/25/24 18:18	04/30/24 16:40	1
Acenaphthylene	ND		0.21	0.047	ug/L		04/25/24 18:18	04/30/24 16:40	1
Anthracene	ND		0.21	0.050	ug/L		04/25/24 18:18	04/30/24 16:40	1
Benzo[a]anthracene	ND		0.21	0.036	ug/L		04/25/24 18:18	04/30/24 16:40	1
Benzo[a]pyrene	ND		0.21	0.068	ug/L		04/25/24 18:18	04/30/24 16:40	1
Benzo[b]fluoranthene	ND		0.21	0.039	ug/L		04/25/24 18:18	04/30/24 16:40	1
Benzo[g,h,i]perylene	ND		0.21	0.029	ug/L		04/25/24 18:18	04/30/24 16:40	1
Benzo[k]fluoranthene	ND	UJ	0.21	0.066	ug/L		04/25/24 18:18	04/30/24 16:40	1
Chrysene	ND		0.21	0.035	ug/L		04/25/24 18:18	04/30/24 16:40	1
Dibenz(a,h)anthracene	ND		0.21	0.051	ug/L		04/25/24 18:18	04/30/24 16:40	1
Fluoranthene	ND		0.21	0.036	ug/L		04/25/24 18:18	04/30/24 16:40	1
Fluorene	ND		0.21	0.094	ug/L		04/25/24 18:18	04/30/24 16:40	1
Indeno[1,2,3-cd]pyrene	ND		0.21	0.036	ug/L		04/25/24 18:18	04/30/24 16:40	1
Phenanthrene	ND		0.21	0.095	ug/L		04/25/24 18:18	04/30/24 16:40	1
Pyrene	ND		0.21	0.041	ug/L		04/25/24 18:18	04/30/24 16:40	1
<b>1-Methylnaphthalene</b>	<b>0.22</b>		0.21	0.085	ug/L		04/25/24 18:18	04/30/24 16:40	1
2-Methylnaphthalene	ND		0.21	0.070	ug/L		04/25/24 18:18	04/30/24 16:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	155	S1+	18 - 147	04/25/24 18:18	04/30/24 16:40	1
2-Fluorobiphenyl	82		15 - 128	04/25/24 18:18	04/30/24 16:40	1

Eurofins Pensacola

# Client Sample Results

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

Job ID: 400-254703-1

**Client Sample ID: P93A-ROX-041824**

**Lab Sample ID: 400-254703-4**

Date Collected: 04/18/24 11:20

Matrix: Water

Date Received: 04/20/24 08:09

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	80		10 - 144	04/25/24 18:18	04/30/24 16:40	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		11	9.2	ug/L		04/25/24 18:18	05/01/24 23:53	1
Benzenethiol	ND		11	10	ug/L		04/25/24 18:18	05/01/24 23:53	1
Benzoic acid	ND		32	25	ug/L		04/25/24 18:18	05/01/24 23:53	1
Benzyl alcohol	ND		11	7.7	ug/L		04/25/24 18:18	05/01/24 23:53	1
Bis(2-chloroethoxy)methane	ND		11	4.9	ug/L		04/25/24 18:18	05/01/24 23:53	1
Bis(2-chloroethyl)ether	ND		11	4.1	ug/L		04/25/24 18:18	05/01/24 23:53	1
bis (2-chloroisopropyl) ether	ND		11	1.9	ug/L		04/25/24 18:18	05/01/24 23:53	1
Bis(2-ethylhexyl) phthalate	ND		11	9.4	ug/L		04/25/24 18:18	05/01/24 23:53	1
4-Bromophenyl phenyl ether	ND		11	9.1	ug/L		04/25/24 18:18	05/01/24 23:53	1
Butyl benzyl phthalate	ND		11	6.1	ug/L		04/25/24 18:18	05/01/24 23:53	1
4-Chloroaniline	ND		11	5.0	ug/L		04/25/24 18:18	05/01/24 23:53	1
4-Chloro-3-methylphenol	ND		11	5.6	ug/L		04/25/24 18:18	05/01/24 23:53	1
2-Chloronaphthalene	ND		11	4.0	ug/L		04/25/24 18:18	05/01/24 23:53	1
2-Chlorophenol	ND		11	4.3	ug/L		04/25/24 18:18	05/01/24 23:53	1
4-Chlorophenyl phenyl ether	ND		11	3.9	ug/L		04/25/24 18:18	05/01/24 23:53	1
Dibenz[a,h]acridine	ND	*3 UJ	11	3.0	ug/L		04/25/24 18:18	05/01/24 23:53	1
Dibenzofuran	ND		11	4.2	ug/L		04/25/24 18:18	05/01/24 23:53	1
3,3'-Dichlorobenzidine	ND		12	12	ug/L		04/25/24 18:18	05/01/24 23:53	1
2,4-Dichlorophenol	ND		11	4.6	ug/L		04/25/24 18:18	05/01/24 23:53	1
Diethyl phthalate	ND		11	4.7	ug/L		04/25/24 18:18	05/01/24 23:53	1
2,4-Dimethylphenol	ND		11	5.5	ug/L		04/25/24 18:18	05/01/24 23:53	1
Dimethyl phthalate	ND		11	4.4	ug/L		04/25/24 18:18	05/01/24 23:53	1
Di-n-butyl phthalate	ND		11	4.9	ug/L		04/25/24 18:18	05/01/24 23:53	1
4,6-Dinitro-ortho-cresol	ND		11	11	ug/L		04/25/24 18:18	05/01/24 23:53	1
2,4-Dinitrophenol	ND		32	4.9	ug/L		04/25/24 18:18	05/01/24 23:53	1
2,4-Dinitrotoluene	ND		11	5.4	ug/L		04/25/24 18:18	05/01/24 23:53	1
2,6-Dinitrotoluene	ND		11	4.1	ug/L		04/25/24 18:18	05/01/24 23:53	1
Di-n-octyl phthalate	ND		11	6.4	ug/L		04/25/24 18:18	05/01/24 23:53	1
1,4-Dioxane	ND		11	4.6	ug/L		04/25/24 18:18	05/01/24 23:53	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		11	3.5	ug/L		04/25/24 18:18	05/01/24 23:53	1
Hexachlorobenzene	ND		11	10	ug/L		04/25/24 18:18	05/01/24 23:53	1
Hexachlorocyclopentadiene	ND		21	4.8	ug/L		04/25/24 18:18	05/01/24 23:53	1
Hexachloroethane	ND		11	5.5	ug/L		04/25/24 18:18	05/01/24 23:53	1
Indene	ND		11	3.8	ug/L		04/25/24 18:18	05/01/24 23:53	1
Isophorone	ND		11	5.5	ug/L		04/25/24 18:18	05/01/24 23:53	1
2-Methylphenol	ND		11	3.4	ug/L		04/25/24 18:18	05/01/24 23:53	1
3 & 4 Methylphenol	ND		21	4.9	ug/L		04/25/24 18:18	05/01/24 23:53	1
2-Nitroaniline	ND		11	5.3	ug/L		04/25/24 18:18	05/01/24 23:53	1
3-Nitroaniline	ND		11	5.0	ug/L		04/25/24 18:18	05/01/24 23:53	1
4-Nitroaniline	ND		11	4.3	ug/L		04/25/24 18:18	05/01/24 23:53	1
Nitrobenzene	ND		11	5.0	ug/L		04/25/24 18:18	05/01/24 23:53	1
2-Nitrophenol	ND		11	4.9	ug/L		04/25/24 18:18	05/01/24 23:53	1
4-Nitrophenol	ND		11	3.5	ug/L		04/25/24 18:18	05/01/24 23:53	1
N-Nitrosodimethylamine	ND		11	2.3	ug/L		04/25/24 18:18	05/01/24 23:53	1

# Client Sample Results

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

Job ID: 400-254703-1

**Client Sample ID: P93A-ROX-041824**

**Lab Sample ID: 400-254703-4**

Date Collected: 04/18/24 11:20

Matrix: Water

Date Received: 04/20/24 08:09

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		11	2.6	ug/L		04/25/24 18:18	05/01/24 23:53	1
N-Nitrosodiphenylamine	ND		11	3.9	ug/L		04/25/24 18:18	05/01/24 23:53	1
Pentachlorophenol	ND		21	13	ug/L		04/25/24 18:18	05/01/24 23:53	1
<b>Phenol</b>	<b>9.8</b>	<b>J</b>	11	4.4	ug/L		04/25/24 18:18	05/01/24 23:53	1
Pyridine	ND	*- *1 UJ	11	11	ug/L		04/25/24 18:18	05/01/24 23:53	1
Quinoline	ND		11	2.5	ug/L		04/25/24 18:18	05/01/24 23:53	1
2,4,5-Trichlorophenol	ND		11	4.2	ug/L		04/25/24 18:18	05/01/24 23:53	1
2,4,6-Trichlorophenol	ND		11	3.7	ug/L		04/25/24 18:18	05/01/24 23:53	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorobiphenyl	89		21 - 114				04/25/24 18:18	05/01/24 23:53	1
2-Fluorophenol	56		10 - 105				04/25/24 18:18	05/01/24 23:53	1
Nitrobenzene-d5	75		16 - 127				04/25/24 18:18	05/01/24 23:53	1
Phenol-d5	43		10 - 129				04/25/24 18:18	05/01/24 23:53	1
Terphenyl-d14	130		13 - 150				04/25/24 18:18	05/01/24 23:53	1
2,4,6-Tribromophenol	103		10 - 150				04/25/24 18:18	05/01/24 23:53	1

**Method: EPA 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	0.018	ug/L		04/30/24 07:31	05/01/24 19:10	1
1,2-Dibromoethane	ND		0.021	0.015	ug/L		04/30/24 07:31	05/01/24 19:10	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene	93		51 - 149				04/30/24 07:31	05/01/24 19:10	1

# Definitions/Glossary

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

Job ID: 400-254703-1

## 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.

### GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*1	LCS/LCSD RPD exceeds control limits.
*3	ISTD response or retention time outside acceptable limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1+	Surrogate recovery exceeds control limits, high biased.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

# Surrogate Summary

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

Job ID: 400-254703-1

## Method: 8260D - Volatile Organic Compounds by 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 (72-130)	DBFM (75-126)	TOL (64-132)
400-254703-1	TB-ROX-041824-8260-SS	109	105	93
400-254703-3	P56-ROX-041824	108	107	94
400-254703-4	P93A-ROX-041824	107	106	91
LCS 400-670014/1002	Lab Control Sample	106	102	96
MB 400-670014/5	Method Blank	108	105	94

#### Surrogate Legend

BFB = 4-Bromofluorobenzene  
DBFM = Dibromofluoromethane  
TOL = Toluene-d8 (Surr)

## Method: 8270E - 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 (21-114)	2FP (10-105)	NBZ (16-127)	PHL (10-129)	TPHL (13-150)	TBP (10-150)
400-254703-3	P56-ROX-041824	70	51	58	37	102	84
400-254703-4	P93A-ROX-041824	89	56	75	43	130	103
LCS 400-669420/2-A	Lab Control Sample	80	59	78	51	112	114
LCS 400-669420/4-A	Lab Control Sample	85	60	77	48	136	83
LCS 400-669420/3-A	Lab Control Sample Dup	86	61	84	52	115	118
LCS 400-669420/5-A	Lab Control Sample Dup	85	64	79	49	129	80
MB 400-669420/1-A	Method Blank	93	61	84	45	129	90

#### Surrogate Legend

FBP = 2-Fluorobiphenyl  
2FP = 2-Fluorophenol  
NBZ = Nitrobenzene-d5  
PHL = Phenol-d5  
TPHL = Terphenyl-d14  
TBP = 2,4,6-Tribromophenol

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TPHL (18-147)	FBP (15-128)	NBZ (10-144)
400-254703-3	P56-ROX-041824	102	55	62
400-254703-4	P93A-ROX-041824	155 S1+	82	80
LCS 400-669420/2-A	Lab Control Sample	99	73	88
LCS 400-669420/3-A	Lab Control Sample Dup	107	81	93
MB 400-669420/1-A	Method Blank	172 S1+	89	89

#### Surrogate Legend

TPHL = Terphenyl-d14  
FBP = 2-Fluorobiphenyl  
NBZ = Nitrobenzene-d5



# Surrogate Summary

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

Job ID: 400-254703-1

**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)
400-254703-2	TB-ROX-041824-8011-SS	86
400-254703-3	P56-ROX-041824	89
400-254703-4	P93A-ROX-041824	93
LCS 400-669843/2-A	Lab Control Sample	71
LCSD 400-669843/3-A	Lab Control Sample Dup	66
MB 400-669843/1-A	Method Blank	76

### Surrogate Legend

BFB = 4-Bromofluorobenzene

# Method Summary

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

Job ID: 400-254703-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET PEN
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET PEN
8270E SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	EET PEN
8011	EDB and DBCP in Water by Microextraction	EPA	EET PEN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET PEN
5030C	Purge and Trap	SW846	EET PEN
8011	Microextraction	SW846	EET 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:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

# Lab Chronicle

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

Job ID: 400-254703-1

**Client Sample ID: TB-ROX-041824-8260-SS**

**Lab Sample ID: 400-254703-1**

Date Collected: 04/18/24 00:00

Matrix: Water

Date Received: 04/20/24 08:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	670014	05/01/24 08:35	WPD	EET PEN

**Client Sample ID: TB-ROX-041824-8011-SS**

**Lab Sample ID: 400-254703-2**

Date Collected: 04/18/24 00:00

Matrix: Water

Date Received: 04/20/24 08:09

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	669843	04/30/24 07:31	KR	EET PEN
Total/NA	Analysis	8011		1			670017	05/01/24 18:28	PG	EET PEN

**Client Sample ID: P56-ROX-041824**

**Lab Sample ID: 400-254703-3**

Date Collected: 04/18/24 10:10

Matrix: Water

Date Received: 04/20/24 08:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	670014	05/01/24 10:37	WPD	EET PEN
Total/NA	Prep	3510C			230.2 mL	1 mL	669420	04/25/24 18:18	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670083	05/01/24 23:28	S1B	EET PEN
Total/NA	Prep	3510C			230.2 mL	1 mL	669420	04/25/24 18:18	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	669847	04/30/24 16:19	JAW	EET PEN
Total/NA	Prep	8011			35 mL	35 mL	669843	04/30/24 07:31	KR	EET PEN
Total/NA	Analysis	8011		1			670017	05/01/24 18:49	PG	EET PEN

**Client Sample ID: P93A-ROX-041824**

**Lab Sample ID: 400-254703-4**

Date Collected: 04/18/24 11:20

Matrix: Water

Date Received: 04/20/24 08:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		5	5 mL	5 mL	670014	05/01/24 12:40	WPD	EET PEN
Total/NA	Prep	3510C			236.2 mL	1 mL	669420	04/25/24 18:18	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670083	05/01/24 23:53	S1B	EET PEN
Total/NA	Prep	3510C			236.2 mL	1 mL	669420	04/25/24 18:18	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	669847	04/30/24 16:40	JAW	EET PEN
Total/NA	Prep	8011			33.9 mL	35 mL	669843	04/30/24 07:31	KR	EET PEN
Total/NA	Analysis	8011		1			670017	05/01/24 19:10	PG	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-669420/1-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	3510C			250 mL	1 mL	669420	04/25/24 18:17	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670083	05/01/24 21:19	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	669420	04/25/24 18:17	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	669847	04/30/24 15:17	JAW	EET PEN

Eurofins Pensacola

# Lab Chronicle

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

Job ID: 400-254703-1

## Client Sample ID: Method Blank

Lab Sample ID: MB 400-669843/1-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	669843	04/30/24 07:31	KR	EET PEN
Total/NA	Analysis	8011		1			670017	05/01/24 15:42	PG	EET PEN

## Client Sample ID: Method Blank

Lab Sample ID: MB 400-670014/5

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	8260D		1	5 mL	5 mL	670014	05/01/24 08:11	WPD	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-669420/2-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	3510C			250 mL	1 mL	669420	04/25/24 18:17	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670083	05/01/24 21:45	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	669420	04/25/24 18:17	BAW	EET PEN
Total/NA	Analysis	8270E SIM		100	0.4 mL	0.4 mL	669847	04/30/24 15:38	JAW	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-669420/4-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	3510C			250 mL	1 mL	669420	04/25/24 18:18	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670083	05/01/24 22:36	S1B	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-669843/2-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	669843	04/30/24 07:31	KR	EET PEN
Total/NA	Analysis	8011		1			670017	05/01/24 16:03	PG	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-670014/1002

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	8260D		1	5 mL	5 mL	670014	05/01/24 07:16	WPD	EET PEN

# Lab Chronicle

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

Job ID: 400-254703-1

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-669420/3-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	3510C			250 mL	1 mL	669420	04/25/24 18:17	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670083	05/01/24 22:10	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	669420	04/25/24 18:17	BAW	EET PEN
Total/NA	Analysis	8270E SIM		100	0.4 mL	0.4 mL	669847	04/30/24 15:58	JAW	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-669420/5-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	3510C			250 mL	1 mL	669420	04/25/24 18:18	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670083	05/01/24 23:02	S1B	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-669843/3-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	669843	04/30/24 07:31	KR	EET PEN
Total/NA	Analysis	8011		1			670017	05/01/24 16:24	PG	EET PEN

**Laboratory References:**

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

# QC Association Summary

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

Job ID: 400-254703-1

## GC/MS VOA

### Analysis Batch: 670014

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254703-1	TB-ROX-041824-8260-SS	Total/NA	Water	8260D	
400-254703-3	P56-ROX-041824	Total/NA	Water	8260D	
400-254703-4	P93A-ROX-041824	Total/NA	Water	8260D	
MB 400-670014/5	Method Blank	Total/NA	Water	8260D	
LCS 400-670014/1002	Lab Control Sample	Total/NA	Water	8260D	

## GC/MS Semi VOA

### Prep Batch: 669420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254703-3	P56-ROX-041824	Total/NA	Water	3510C	
400-254703-4	P93A-ROX-041824	Total/NA	Water	3510C	
MB 400-669420/1-A	Method Blank	Total/NA	Water	3510C	
LCS 400-669420/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 400-669420/4-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 400-669420/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
LCSD 400-669420/5-A	Lab Control Sample Dup	Total/NA	Water	3510C	

### Analysis Batch: 669847

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254703-3	P56-ROX-041824	Total/NA	Water	8270E SIM	669420
400-254703-4	P93A-ROX-041824	Total/NA	Water	8270E SIM	669420
MB 400-669420/1-A	Method Blank	Total/NA	Water	8270E SIM	669420
LCS 400-669420/2-A	Lab Control Sample	Total/NA	Water	8270E SIM	669420
LCSD 400-669420/3-A	Lab Control Sample Dup	Total/NA	Water	8270E SIM	669420

### Analysis Batch: 670083

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254703-3	P56-ROX-041824	Total/NA	Water	8270E	669420
400-254703-4	P93A-ROX-041824	Total/NA	Water	8270E	669420
MB 400-669420/1-A	Method Blank	Total/NA	Water	8270E	669420
LCS 400-669420/2-A	Lab Control Sample	Total/NA	Water	8270E	669420
LCS 400-669420/4-A	Lab Control Sample	Total/NA	Water	8270E	669420
LCSD 400-669420/3-A	Lab Control Sample Dup	Total/NA	Water	8270E	669420
LCSD 400-669420/5-A	Lab Control Sample Dup	Total/NA	Water	8270E	669420

## GC Semi VOA

### Prep Batch: 669843

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254703-2	TB-ROX-041824-8011-SS	Total/NA	Water	8011	
400-254703-3	P56-ROX-041824	Total/NA	Water	8011	
400-254703-4	P93A-ROX-041824	Total/NA	Water	8011	
MB 400-669843/1-A	Method Blank	Total/NA	Water	8011	
LCS 400-669843/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 400-669843/3-A	Lab Control Sample Dup	Total/NA	Water	8011	

### Analysis Batch: 670017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254703-2	TB-ROX-041824-8011-SS	Total/NA	Water	8011	669843
400-254703-3	P56-ROX-041824	Total/NA	Water	8011	669843
400-254703-4	P93A-ROX-041824	Total/NA	Water	8011	669843

Eurofins Pensacola



# QC Association Summary

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

Job ID: 400-254703-1

## GC Semi VOA (Continued)

### Analysis Batch: 670017 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-669843/1-A	Method Blank	Total/NA	Water	8011	669843
LCS 400-669843/2-A	Lab Control Sample	Total/NA	Water	8011	669843
LCSD 400-669843/3-A	Lab Control Sample Dup	Total/NA	Water	8011	669843

- 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

Job ID: 400-254703-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 400-670014/5**  
**Matrix: Water**  
**Analysis Batch: 670014**

**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			05/01/24 08:11	1
Acrolein	ND		20	3.3	ug/L			05/01/24 08:11	1
Acrylonitrile	ND		10	2.8	ug/L			05/01/24 08:11	1
Benzene	ND		1.0	0.50	ug/L			05/01/24 08:11	1
Bromobenzene	ND		1.0	0.54	ug/L			05/01/24 08:11	1
Bromochloromethane	ND		1.0	0.21	ug/L			05/01/24 08:11	1
Bromodichloromethane	ND		1.0	0.50	ug/L			05/01/24 08:11	1
Bromoform	ND		5.0	0.25	ug/L			05/01/24 08:11	1
Bromomethane	ND		1.0	0.98	ug/L			05/01/24 08:11	1
2-Butanone (MEK)	ND		25	2.6	ug/L			05/01/24 08:11	1
Carbon disulfide	ND		1.0	0.50	ug/L			05/01/24 08:11	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			05/01/24 08:11	1
Chlorobenzene	ND		1.0	0.90	ug/L			05/01/24 08:11	1
Chloroethane	ND		1.0	0.76	ug/L			05/01/24 08:11	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			05/01/24 08:11	1
Chloroform	ND		1.0	0.90	ug/L			05/01/24 08:11	1
1-Chlorohexane	ND		1.0	0.32	ug/L			05/01/24 08:11	1
Chloromethane	ND		1.0	0.90	ug/L			05/01/24 08:11	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			05/01/24 08:11	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			05/01/24 08:11	1
Dibromochloromethane	ND		1.0	0.24	ug/L			05/01/24 08:11	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			05/01/24 08:11	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			05/01/24 08:11	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			05/01/24 08:11	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			05/01/24 08:11	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			05/01/24 08:11	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			05/01/24 08:11	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			05/01/24 08:11	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			05/01/24 08:11	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			05/01/24 08:11	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			05/01/24 08:11	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			05/01/24 08:11	1
Ethylbenzene	ND		1.0	0.50	ug/L			05/01/24 08:11	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			05/01/24 08:11	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			05/01/24 08:11	1
2-Hexanone	ND		25	1.4	ug/L			05/01/24 08:11	1
Isopropylbenzene	ND		1.0	0.53	ug/L			05/01/24 08:11	1
Methylene bromide	ND		5.0	0.22	ug/L			05/01/24 08:11	1
Methylene Chloride	ND		5.0	3.0	ug/L			05/01/24 08:11	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			05/01/24 08:11	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			05/01/24 08:11	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			05/01/24 08:11	1
Naphthalene	ND		5.0	3.0	ug/L			05/01/24 08:11	1
n-Butylbenzene	ND		1.0	0.76	ug/L			05/01/24 08:11	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/01/24 08:11	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			05/01/24 08:11	1
o-Xylene	ND		5.0	0.60	ug/L			05/01/24 08:11	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			05/01/24 08:11	1

# QC Sample Results

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

Job ID: 400-254703-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-670014/5**  
**Matrix: Water**  
**Analysis Batch: 670014**

**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			05/01/24 08:11	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			05/01/24 08:11	1
Styrene	ND		1.0	1.0	ug/L			05/01/24 08:11	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			05/01/24 08:11	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			05/01/24 08:11	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.50	ug/L			05/01/24 08:11	1
Tetrachloroethene	ND		1.0	0.90	ug/L			05/01/24 08:11	1
Toluene	ND		1.0	0.90	ug/L			05/01/24 08:11	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			05/01/24 08:11	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			05/01/24 08:11	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			05/01/24 08:11	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			05/01/24 08:11	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			05/01/24 08:11	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			05/01/24 08:11	1
Trichloroethene	ND		1.0	0.15	ug/L			05/01/24 08:11	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			05/01/24 08:11	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			05/01/24 08:11	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			05/01/24 08:11	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			05/01/24 08:11	1
Vinyl acetate	ND		25	0.93	ug/L			05/01/24 08:11	1
Vinyl chloride	ND		1.0	0.50	ug/L			05/01/24 08:11	1
Xylenes, Total	ND		10	1.6	ug/L			05/01/24 08:11	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	108		72 - 130		05/01/24 08:11	1
Dibromofluoromethane	105		75 - 126		05/01/24 08:11	1
Toluene-d8 (Surr)	94		64 - 132		05/01/24 08:11	1

**Lab Sample ID: LCS 400-670014/1002**  
**Matrix: Water**  
**Analysis Batch: 670014**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	200	280		ug/L		140	43 - 160
Acrolein	500	703		ug/L		141	38 - 160
Acrylonitrile	500	584		ug/L		117	64 - 142
Benzene	50.0	54.5		ug/L		109	70 - 130
Bromobenzene	50.0	47.5		ug/L		95	70 - 132
Bromochloromethane	50.0	50.8		ug/L		102	70 - 130
Bromodichloromethane	50.0	57.8		ug/L		116	67 - 133
Bromoform	50.0	47.2		ug/L		94	57 - 140
Bromomethane	50.0	55.2		ug/L		110	10 - 160
2-Butanone (MEK)	200	239		ug/L		120	61 - 145
Carbon disulfide	50.0	40.0		ug/L		80	61 - 137
Carbon tetrachloride	50.0	51.8		ug/L		104	61 - 137
Chlorobenzene	50.0	48.2		ug/L		96	70 - 130
Chloroethane	50.0	54.4		ug/L		109	55 - 141
2-Chloroethyl vinyl ether	50.0	62.6		ug/L		125	10 - 160

# QC Sample Results

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

Job ID: 400-254703-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-670014/1002**  
**Matrix: Water**  
**Analysis Batch: 670014**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroform	50.0	56.2		ug/L		112	69 - 130
1-Chlorohexane	50.0	53.7		ug/L		107	69 - 130
Chloromethane	50.0	61.1		ug/L		122	58 - 137
cis-1,2-Dichloroethene	50.0	54.3		ug/L		109	68 - 130
cis-1,3-Dichloropropene	50.0	58.5		ug/L		117	69 - 132
Dibromochloromethane	50.0	46.6		ug/L		93	67 - 135
1,2-Dichlorobenzene	50.0	47.6		ug/L		95	67 - 130
1,3-Dichlorobenzene	50.0	47.6		ug/L		95	70 - 130
1,4-Dichlorobenzene	50.0	47.3		ug/L		95	70 - 130
Dichlorodifluoromethane	50.0	45.3		ug/L		91	41 - 146
1,1-Dichloroethane	50.0	60.7		ug/L		121	70 - 130
1,2-Dichloroethane	50.0	57.9		ug/L		116	69 - 130
1,1-Dichloroethene	50.0	48.1		ug/L		96	63 - 134
1,2-Dichloropropane	50.0	59.4		ug/L		119	70 - 130
1,3-Dichloropropane	50.0	51.7		ug/L		103	70 - 130
2,2-Dichloropropane	50.0	55.8		ug/L		112	52 - 135
1,1-Dichloropropene	50.0	54.7		ug/L		109	70 - 130
Ethylbenzene	50.0	48.6		ug/L		97	70 - 130
Ethyl methacrylate	50.0	51.0		ug/L		102	68 - 130
Hexachlorobutadiene	50.0	47.6		ug/L		95	53 - 140
2-Hexanone	200	222		ug/L		111	65 - 137
Isopropylbenzene	50.0	48.9		ug/L		98	70 - 130
Methylene bromide	50.0	57.2		ug/L		114	70 - 130
Methylene Chloride	50.0	49.7		ug/L		99	66 - 135
4-Methyl-2-pentanone (MIBK)	200	248		ug/L		124	69 - 138
Methyl tert-butyl ether	50.0	58.1		ug/L		116	66 - 130
m-Xylene & p-Xylene	50.0	49.3		ug/L		99	70 - 130
Naphthalene	50.0	37.2		ug/L		74	47 - 149
n-Butylbenzene	50.0	51.0		ug/L		102	67 - 130
N-Propylbenzene	50.0	48.2		ug/L		96	70 - 130
o-Chlorotoluene	50.0	48.9		ug/L		98	70 - 130
o-Xylene	50.0	48.9		ug/L		98	70 - 130
p-Chlorotoluene	50.0	49.3		ug/L		99	70 - 130
p-Isopropyltoluene	50.0	47.6		ug/L		95	65 - 130
sec-Butylbenzene	50.0	49.5		ug/L		99	66 - 130
Styrene	50.0	48.7		ug/L		97	70 - 130
tert-Butylbenzene	50.0	48.8		ug/L		98	64 - 139
1,1,1,2-Tetrachloroethane	50.0	47.6		ug/L		95	67 - 131
1,1,2,2-Tetrachloroethane	50.0	52.3		ug/L		105	70 - 131
Tetrachloroethene	50.0	41.1		ug/L		82	65 - 130
Toluene	50.0	47.0		ug/L		94	70 - 130
trans-1,2-Dichloroethene	50.0	50.9		ug/L		102	70 - 130
trans-1,3-Dichloropropene	50.0	53.1		ug/L		106	63 - 130
1,2,3-Trichlorobenzene	50.0	46.6		ug/L		93	60 - 138
1,2,4-Trichlorobenzene	50.0	45.9		ug/L		92	60 - 140
1,1,1-Trichloroethane	50.0	52.8		ug/L		106	68 - 130
1,1,2-Trichloroethane	50.0	50.3		ug/L		101	70 - 130
Trichloroethene	50.0	52.4		ug/L		105	70 - 130
Trichlorofluoromethane	50.0	61.7		ug/L		123	65 - 138

# QC Sample Results

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

Job ID: 400-254703-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-670014/1002**  
**Matrix: Water**  
**Analysis Batch: 670014**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	50.0	49.6		ug/L		99	70 - 130
1,2,4-Trimethylbenzene	50.0	48.4		ug/L		97	70 - 130
1,3,5-Trimethylbenzene	50.0	48.6		ug/L		97	69 - 130
Vinyl acetate	100	137		ug/L		137	26 - 160
Vinyl chloride	50.0	56.2		ug/L		112	59 - 136
Xylenes, Total	100	98.2		ug/L		98	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	106		72 - 130
Dibromofluoromethane	102		75 - 126
Toluene-d8 (Surr)	96		64 - 132

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

**Lab Sample ID: MB 400-669420/1-A**  
**Matrix: Water**  
**Analysis Batch: 670083**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 669420**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	8.7	ug/L		04/25/24 18:17	05/01/24 21:19	1
Benzenethiol	ND		10	9.9	ug/L		04/25/24 18:17	05/01/24 21:19	1
Benzoic acid	ND		30	24	ug/L		04/25/24 18:17	05/01/24 21:19	1
Benzyl alcohol	ND		10	7.3	ug/L		04/25/24 18:17	05/01/24 21:19	1
Bis(2-chloroethoxy)methane	ND		10	4.6	ug/L		04/25/24 18:17	05/01/24 21:19	1
Bis(2-chloroethyl)ether	ND		10	3.9	ug/L		04/25/24 18:17	05/01/24 21:19	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		04/25/24 18:17	05/01/24 21:19	1
Bis(2-ethylhexyl) phthalate	ND		10	8.9	ug/L		04/25/24 18:17	05/01/24 21:19	1
4-Bromophenyl phenyl ether	ND		10	8.6	ug/L		04/25/24 18:17	05/01/24 21:19	1
Butyl benzyl phthalate	ND		10	5.8	ug/L		04/25/24 18:17	05/01/24 21:19	1
4-Chloroaniline	ND		10	4.7	ug/L		04/25/24 18:17	05/01/24 21:19	1
4-Chloro-3-methylphenol	ND		10	5.3	ug/L		04/25/24 18:17	05/01/24 21:19	1
2-Chloronaphthalene	ND		10	3.8	ug/L		04/25/24 18:17	05/01/24 21:19	1
2-Chlorophenol	ND		10	4.1	ug/L		04/25/24 18:17	05/01/24 21:19	1
4-Chlorophenyl phenyl ether	ND		10	3.7	ug/L		04/25/24 18:17	05/01/24 21:19	1
Dibenz[a,h]acridine	ND		10	2.8	ug/L		04/25/24 18:17	05/01/24 21:19	1
Dibenzofuran	ND		10	4.0	ug/L		04/25/24 18:17	05/01/24 21:19	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/25/24 18:17	05/01/24 21:19	1
2,4-Dichlorophenol	ND		10	4.3	ug/L		04/25/24 18:17	05/01/24 21:19	1
Diethyl phthalate	ND		10	4.4	ug/L		04/25/24 18:17	05/01/24 21:19	1
2,4-Dimethylphenol	ND		10	5.2	ug/L		04/25/24 18:17	05/01/24 21:19	1
Dimethyl phthalate	ND		10	4.2	ug/L		04/25/24 18:17	05/01/24 21:19	1
Di-n-butyl phthalate	ND		10	4.6	ug/L		04/25/24 18:17	05/01/24 21:19	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		04/25/24 18:17	05/01/24 21:19	1
2,4-Dinitrophenol	ND		30	4.6	ug/L		04/25/24 18:17	05/01/24 21:19	1
2,4-Dinitrotoluene	ND		10	5.1	ug/L		04/25/24 18:17	05/01/24 21:19	1
2,6-Dinitrotoluene	ND		10	3.9	ug/L		04/25/24 18:17	05/01/24 21:19	1
Di-n-octyl phthalate	ND		10	6.0	ug/L		04/25/24 18:17	05/01/24 21:19	1
1,4-Dioxane	ND		10	4.3	ug/L		04/25/24 18:17	05/01/24 21:19	1

# QC Sample Results

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

Job ID: 400-254703-1

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

**Lab Sample ID: MB 400-669420/1-A**  
**Matrix: Water**  
**Analysis Batch: 670083**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 669420**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.3	ug/L		04/25/24 18:17	05/01/24 21:19	1
Hexachlorobenzene	ND		10	9.7	ug/L		04/25/24 18:17	05/01/24 21:19	1
Hexachlorocyclopentadiene	ND		20	4.5	ug/L		04/25/24 18:17	05/01/24 21:19	1
Hexachloroethane	ND		10	5.2	ug/L		04/25/24 18:17	05/01/24 21:19	1
Indene	ND		10	3.6	ug/L		04/25/24 18:17	05/01/24 21:19	1
Isophorone	ND		10	5.2	ug/L		04/25/24 18:17	05/01/24 21:19	1
2-Methylphenol	ND		10	3.2	ug/L		04/25/24 18:17	05/01/24 21:19	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		04/25/24 18:17	05/01/24 21:19	1
2-Nitroaniline	ND		10	5.0	ug/L		04/25/24 18:17	05/01/24 21:19	1
3-Nitroaniline	ND		10	4.7	ug/L		04/25/24 18:17	05/01/24 21:19	1
4-Nitroaniline	ND		10	4.1	ug/L		04/25/24 18:17	05/01/24 21:19	1
Nitrobenzene	ND		10	4.7	ug/L		04/25/24 18:17	05/01/24 21:19	1
2-Nitrophenol	ND		10	4.6	ug/L		04/25/24 18:17	05/01/24 21:19	1
4-Nitrophenol	ND		10	3.3	ug/L		04/25/24 18:17	05/01/24 21:19	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		04/25/24 18:17	05/01/24 21:19	1
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		04/25/24 18:17	05/01/24 21:19	1
N-Nitrosodiphenylamine	ND		10	3.7	ug/L		04/25/24 18:17	05/01/24 21:19	1
Pentachlorophenol	ND		20	12	ug/L		04/25/24 18:17	05/01/24 21:19	1
Phenol	ND		10	4.2	ug/L		04/25/24 18:17	05/01/24 21:19	1
Pyridine	ND		10	10	ug/L		04/25/24 18:17	05/01/24 21:19	1
Quinoline	ND		10	2.4	ug/L		04/25/24 18:17	05/01/24 21:19	1
2,4,5-Trichlorophenol	ND		10	4.0	ug/L		04/25/24 18:17	05/01/24 21:19	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/25/24 18:17	05/01/24 21:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	93		21 - 114	04/25/24 18:17	05/01/24 21:19	1
2-Fluorophenol	61		10 - 105	04/25/24 18:17	05/01/24 21:19	1
Nitrobenzene-d5	84		16 - 127	04/25/24 18:17	05/01/24 21:19	1
Phenol-d5	45		10 - 129	04/25/24 18:17	05/01/24 21:19	1
Terphenyl-d14	129		13 - 150	04/25/24 18:17	05/01/24 21:19	1
2,4,6-Tribromophenol	90		10 - 150	04/25/24 18:17	05/01/24 21:19	1

**Lab Sample ID: LCS 400-669420/2-A**  
**Matrix: Water**  
**Analysis Batch: 670083**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669420**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aniline	120	45.3		ug/L		38	10 - 127
Benzoic acid	492	209		ug/L		43	19 - 126
Benzyl alcohol	120	71.6		ug/L		60	17 - 109
Bis(2-chloroethoxy)methane	120	68.1		ug/L		57	24 - 125
Bis(2-chloroethyl)ether	120	56.9		ug/L		47	10 - 121
bis (2-chloroisopropyl) ether	120	54.5		ug/L		45	14 - 123
Bis(2-ethylhexyl) phthalate	120	98.0		ug/L		82	16 - 150
4-Bromophenyl phenyl ether	120	88.1		ug/L		73	17 - 150
Butyl benzyl phthalate	120	101		ug/L		84	21 - 150
4-Chloroaniline	120	65.7		ug/L		55	10 - 124
4-Chloro-3-methylphenol	120	84.2		ug/L		70	37 - 131

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# QC Sample Results

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

Job ID: 400-254703-1

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

**Lab Sample ID: LCS 400-669420/2-A**  
**Matrix: Water**  
**Analysis Batch: 670083**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669420**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2-Chloronaphthalene	120	87.0		ug/L		73	24 - 132
2-Chlorophenol	120	73.1		ug/L		61	27 - 124
4-Chlorophenyl phenyl ether	120	91.6		ug/L		76	27 - 147
Dibenz[a,h]acridine	59.9	37.5		ug/L		63	40 - 140
Dibenzofuran	120	87.0		ug/L		72	30 - 135
3,3'-Dichlorobenzidine	160	98.1		ug/L		61	10 - 150
2,4-Dichlorophenol	120	80.2		ug/L		67	33 - 132
Diethyl phthalate	120	99.8		ug/L		83	37 - 145
2,4-Dimethylphenol	120	85.3		ug/L		71	38 - 132
Dimethyl phthalate	120	93.0		ug/L		77	32 - 137
Di-n-butyl phthalate	120	107		ug/L		89	27 - 150
4,6-Dinitro-ortho-cresol	240	214		ug/L		89	14 - 150
2,4-Dinitrophenol	240	240		ug/L		100	15 - 150
2,4-Dinitrotoluene	120	98.2		ug/L		82	35 - 136
2,6-Dinitrotoluene	120	94.8		ug/L		79	29 - 140
Di-n-octyl phthalate	120	87.3		ug/L		73	26 - 150
1,4-Dioxane	120	32.0		ug/L		27	10 - 87
1,2-Diphenylhydrazine (as Azobenzene)	120	77.8		ug/L		65	23 - 138
Hexachlorobenzene	120	92.1		ug/L		77	10 - 150
Hexachlorocyclopentadiene	120	95.7		ug/L		80	10 - 124
Hexachloroethane	120	63.2		ug/L		53	10 - 127
Indene	120	72.2		ug/L		60	18 - 150
Isophorone	120	71.7		ug/L		60	28 - 127
2-Methylphenol	120	73.1		ug/L		61	34 - 124
3 & 4 Methylphenol	120	73.2		ug/L		61	32 - 122
2-Nitroaniline	120	84.0		ug/L		70	24 - 139
3-Nitroaniline	120	77.7		ug/L		65	10 - 128
4-Nitroaniline	120	87.6		ug/L		73	28 - 118
Nitrobenzene	120	69.3		ug/L		58	29 - 120
2-Nitrophenol	120	78.3		ug/L		65	25 - 148
4-Nitrophenol	240	200		ug/L		84	12 - 129
N-Nitrosodimethylamine	120	50.1		ug/L		42	10 - 115
N-Nitrosodi-n-propylamine	120	68.9		ug/L		57	24 - 142
N-Nitrosodiphenylamine	119	86.7		ug/L		73	29 - 138
Pentachlorophenol	240	213		ug/L		89	19 - 150
Phenol	120	50.2		ug/L		42	11 - 95
Pyridine	240	29.3		ug/L		12	10 - 82
Quinoline	59.9	34.6		ug/L		58	10 - 141
2,4,5-Trichlorophenol	120	92.0		ug/L		77	30 - 144
2,4,6-Trichlorophenol	120	88.9		ug/L		74	27 - 147

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	80		21 - 114
2-Fluorophenol	59		10 - 105
Nitrobenzene-d5	78		16 - 127
Phenol-d5	51		10 - 129
Terphenyl-d14	112		13 - 150

# QC Sample Results

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

Job ID: 400-254703-1

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

**Lab Sample ID: LCS 400-669420/2-A**  
**Matrix: Water**  
**Analysis Batch: 670083**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669420**

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol	114		10 - 150

**Lab Sample ID: LCS 400-669420/4-A**  
**Matrix: Water**  
**Analysis Batch: 670083**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669420**

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	Limits	%Rec
		Result	Qualifier					
Benzenethiol	120	57.7		ug/L		48	10 - 140	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	85		21 - 114
2-Fluorophenol	60		10 - 105
Nitrobenzene-d5	77		16 - 127
Phenol-d5	48		10 - 129
Terphenyl-d14	136		13 - 150
2,4,6-Tribromophenol	83		10 - 150

**Lab Sample ID: LCSD 400-669420/3-A**  
**Matrix: Water**  
**Analysis Batch: 670083**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669420**

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	Limits	RPD	Limit
		Result	Qualifier						
Aniline	120	32.3		ug/L		27	10 - 127	34	40
Benzoic acid	492	195		ug/L		40	19 - 126	7	40
Benzyl alcohol	120	73.8		ug/L		62	17 - 109	3	40
Bis(2-chloroethoxy)methane	120	72.9		ug/L		61	24 - 125	7	40
Bis(2-chloroethyl)ether	120	60.3		ug/L		50	10 - 121	6	40
bis (2-chloroisopropyl) ether	120	58.8		ug/L		49	14 - 123	8	40
Bis(2-ethylhexyl) phthalate	120	104		ug/L		87	16 - 150	6	40
4-Bromophenyl phenyl ether	120	93.5		ug/L		78	17 - 150	6	40
Butyl benzyl phthalate	120	106		ug/L		88	21 - 150	5	40
4-Chloroaniline	120	68.9		ug/L		57	10 - 124	5	40
4-Chloro-3-methylphenol	120	90.2		ug/L		75	37 - 131	7	40
2-Chloronaphthalene	120	94.5		ug/L		79	24 - 132	8	40
2-Chlorophenol	120	78.3		ug/L		65	27 - 124	7	40
4-Chlorophenyl phenyl ether	120	98.0		ug/L		82	27 - 147	7	40
Dibenz[a,h]acridine	59.9	40.6		ug/L		68	40 - 140	8	40
Dibenzofuran	120	94.4		ug/L		79	30 - 135	8	40
3,3'-Dichlorobenzidine	160	97.0		ug/L		61	10 - 150	1	40
2,4-Dichlorophenol	120	87.2		ug/L		73	33 - 132	8	40
Diethyl phthalate	120	106		ug/L		89	37 - 145	6	40
2,4-Dimethylphenol	120	91.4		ug/L		76	38 - 132	7	40
Dimethyl phthalate	120	99.9		ug/L		83	32 - 137	7	40
Di-n-butyl phthalate	120	112		ug/L		93	27 - 150	4	40
4,6-Dinitro-ortho-cresol	240	233		ug/L		97	14 - 150	8	40
2,4-Dinitrophenol	240	263		ug/L		110	15 - 150	9	40
2,4-Dinitrotoluene	120	106		ug/L		88	35 - 136	7	40
2,6-Dinitrotoluene	120	100		ug/L		84	29 - 140	6	40

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# QC Sample Results

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

Job ID: 400-254703-1

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

**Lab Sample ID: LCSD 400-669420/3-A**  
**Matrix: Water**  
**Analysis Batch: 670083**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669420**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Di-n-octyl phthalate	120	93.8		ug/L		78	26 - 150	7	40	
1,4-Dioxane	120	31.2		ug/L		26	10 - 87	3	40	
1,2-Diphenylhydrazine (as Azobenzene)	120	82.5		ug/L		69	23 - 138	6	40	
Hexachlorobenzene	120	97.0		ug/L		81	10 - 150	5	40	
Hexachlorocyclopentadiene	120	105		ug/L		87	10 - 124	9	40	
Hexachloroethane	120	70.2		ug/L		59	10 - 127	11	40	
Indene	120	79.7		ug/L		66	18 - 150	10	40	
Isophorone	120	77.4		ug/L		65	28 - 127	8	40	
2-Methylphenol	120	77.8		ug/L		65	34 - 124	6	40	
3 & 4 Methylphenol	120	77.6		ug/L		65	32 - 122	6	40	
2-Nitroaniline	120	88.7		ug/L		74	24 - 139	5	40	
3-Nitroaniline	120	77.2		ug/L		64	10 - 128	1	40	
4-Nitroaniline	120	91.5		ug/L		76	28 - 118	4	40	
Nitrobenzene	120	74.6		ug/L		62	29 - 120	7	40	
2-Nitrophenol	120	87.0		ug/L		73	25 - 148	10	40	
4-Nitrophenol	240	209		ug/L		87	12 - 129	4	40	
N-Nitrosodimethylamine	120	50.7		ug/L		42	10 - 115	1	40	
N-Nitrosodi-n-propylamine	120	75.3		ug/L		63	24 - 142	9	40	
N-Nitrosodiphenylamine	119	91.2		ug/L		77	29 - 138	5	40	
Pentachlorophenol	240	225		ug/L		94	19 - 150	6	40	
Phenol	120	52.2		ug/L		44	11 - 95	4	40	
Pyridine	240	14.0	*- *1	ug/L		6	10 - 82	71	40	
Quinoline	59.9	28.5		ug/L		48	10 - 141	20	40	
2,4,5-Trichlorophenol	120	99.8		ug/L		83	30 - 144	8	40	
2,4,6-Trichlorophenol	120	97.6		ug/L		81	27 - 147	9	40	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	86		21 - 114
2-Fluorophenol	61		10 - 105
Nitrobenzene-d5	84		16 - 127
Phenol-d5	52		10 - 129
Terphenyl-d14	115		13 - 150
2,4,6-Tribromophenol	118		10 - 150

**Lab Sample ID: LCSD 400-669420/5-A**  
**Matrix: Water**  
**Analysis Batch: 670083**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669420**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Benzenethiol	120	55.6		ug/L		46	10 - 140	4	40	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	85		21 - 114
2-Fluorophenol	64		10 - 105
Nitrobenzene-d5	79		16 - 127
Phenol-d5	49		10 - 129
Terphenyl-d14	129		13 - 150

# QC Sample Results

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

Job ID: 400-254703-1

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

Lab Sample ID: LCSD 400-669420/5-A  
Matrix: Water  
Analysis Batch: 670083

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 669420

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol	80		10 - 150

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 400-669420/1-A  
Matrix: Water  
Analysis Batch: 669847

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 669420

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.099	ug/L		04/25/24 18:17	04/30/24 15:17	1
Acenaphthylene	ND		0.20	0.044	ug/L		04/25/24 18:17	04/30/24 15:17	1
Anthracene	ND		0.20	0.047	ug/L		04/25/24 18:17	04/30/24 15:17	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		04/25/24 18:17	04/30/24 15:17	1
Benzo[a]pyrene	ND		0.20	0.064	ug/L		04/25/24 18:17	04/30/24 15:17	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		04/25/24 18:17	04/30/24 15:17	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		04/25/24 18:17	04/30/24 15:17	1
Benzo[k]fluoranthene	ND		0.20	0.062	ug/L		04/25/24 18:17	04/30/24 15:17	1
Chrysene	ND		0.20	0.033	ug/L		04/25/24 18:17	04/30/24 15:17	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		04/25/24 18:17	04/30/24 15:17	1
Fluoranthene	ND		0.20	0.034	ug/L		04/25/24 18:17	04/30/24 15:17	1
Fluorene	ND		0.20	0.089	ug/L		04/25/24 18:17	04/30/24 15:17	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		04/25/24 18:17	04/30/24 15:17	1
Phenanthrene	ND		0.20	0.090	ug/L		04/25/24 18:17	04/30/24 15:17	1
Pyrene	ND		0.20	0.039	ug/L		04/25/24 18:17	04/30/24 15:17	1
1-Methylnaphthalene	ND		0.20	0.080	ug/L		04/25/24 18:17	04/30/24 15:17	1
2-Methylnaphthalene	ND		0.20	0.066	ug/L		04/25/24 18:17	04/30/24 15:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	172	S1+	18 - 147	04/25/24 18:17	04/30/24 15:17	1
2-Fluorobiphenyl	89		15 - 128	04/25/24 18:17	04/30/24 15:17	1
Nitrobenzene-d5	89		10 - 144	04/25/24 18:17	04/30/24 15:17	1

Lab Sample ID: LCS 400-669420/2-A  
Matrix: Water  
Analysis Batch: 669847

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 669420

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	120	83.7		ug/L		70	10 - 140
Acenaphthylene	120	87.1		ug/L		73	10 - 140
Anthracene	120	97.8		ug/L		82	19 - 140
Benzo[a]anthracene	120	105		ug/L		88	25 - 140
Benzo[a]pyrene	120	86.2		ug/L		72	24 - 140
Benzo[b]fluoranthene	120	84.9		ug/L		71	34 - 140
Benzo[g,h,i]perylene	120	61.5		ug/L		51	13 - 140
Benzo[k]fluoranthene	120	81.3		ug/L		68	21 - 140
Chrysene	120	84.4		ug/L		70	28 - 140
Dibenz(a,h)anthracene	120	76.8		ug/L		64	10 - 140
Fluoranthene	120	94.1		ug/L		78	18 - 140

# QC Sample Results

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

Job ID: 400-254703-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: LCS 400-669420/2-A**  
**Matrix: Water**  
**Analysis Batch: 669847**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669420**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluorene	120	90.0		ug/L		75	16 - 140
Indeno[1,2,3-cd]pyrene	120	71.9		ug/L		60	10 - 140
Phenanthrene	120	82.1		ug/L		68	22 - 140
Pyrene	120	92.4		ug/L		77	38 - 140
1-Methylnaphthalene	120	77.1		ug/L		64	10 - 140
2-Methylnaphthalene	120	77.8		ug/L		65	10 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	99		18 - 147
2-Fluorobiphenyl	73		15 - 128
Nitrobenzene-d5	88		10 - 144

**Lab Sample ID: LCSD 400-669420/3-A**  
**Matrix: Water**  
**Analysis Batch: 669847**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669420**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Acenaphthene	120	91.3		ug/L		76	10 - 140	9	40
Acenaphthylene	120	93.8		ug/L		78	10 - 140	7	40
Anthracene	120	103		ug/L		86	19 - 140	5	40
Benzo[a]anthracene	120	108		ug/L		90	25 - 140	3	40
Benzo[a]pyrene	120	87.5		ug/L		73	24 - 140	2	40
Benzo[b]fluoranthene	120	88.3		ug/L		74	34 - 140	4	40
Benzo[g,h,i]perylene	120	61.3		ug/L		51	13 - 140	0	40
Benzo[k]fluoranthene	120	84.7		ug/L		71	21 - 140	4	40
Chrysene	120	90.6		ug/L		75	28 - 140	7	40
Dibenz(a,h)anthracene	120	72.9		ug/L		61	10 - 140	5	40
Fluoranthene	120	93.9		ug/L		78	18 - 140	0	40
Fluorene	120	95.5		ug/L		80	16 - 140	6	40
Indeno[1,2,3-cd]pyrene	120	73.3		ug/L		61	10 - 140	2	40
Phenanthrene	120	87.6		ug/L		73	22 - 140	6	40
Pyrene	120	101		ug/L		84	38 - 140	9	40
1-Methylnaphthalene	120	83.2		ug/L		69	10 - 140	8	40
2-Methylnaphthalene	120	84.0		ug/L		70	10 - 140	8	40

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Terphenyl-d14	107		18 - 147
2-Fluorobiphenyl	81		15 - 128
Nitrobenzene-d5	93		10 - 144

## Method: 8011 - EDB and DBCP in Water by Microextraction

**Lab Sample ID: MB 400-669843/1-A**  
**Matrix: Water**  
**Analysis Batch: 670017**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 669843**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.030	0.017	ug/L		04/30/24 07:31	05/01/24 15:42	1

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# QC Sample Results

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

Job ID: 400-254703-1

## Method: 8011 - EDB and DBCP in Water by Microextraction (Continued)

**Lab Sample ID: MB 400-669843/1-A**  
**Matrix: Water**  
**Analysis Batch: 670017**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 669843**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		0.020	0.015	ug/L		04/30/24 07:31	05/01/24 15:42	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	76		51 - 149				04/30/24 07:31	05/01/24 15:42	1

**Lab Sample ID: LCS 400-669843/2-A**  
**Matrix: Water**  
**Analysis Batch: 670017**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669843**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dibromo-3-Chloropropane	0.101	0.101		ug/L		100	60 - 140
1,2-Dibromoethane	0.100	0.0788		ug/L		79	60 - 140
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene	71		51 - 149				

**Lab Sample ID: LCSD 400-669843/3-A**  
**Matrix: Water**  
**Analysis Batch: 670017**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669843**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dibromo-3-Chloropropane	0.101	0.0985		ug/L		98	60 - 140	2	30
1,2-Dibromoethane	0.100	0.0834		ug/L		83	60 - 140	6	30
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene	66		51 - 149						





LAB (LOCATION)

ACQUEST ( )  
 CALCSCIENCE ( )  
 TESTAMERICA (TestAmerica Pensacola; 3355 McLenore Dr, Pensacola, FL 32514 (850-474-1000))  
 Other ( )

Print Bill To Contact Name: Melissa Remiger  
 PO #  
 60721927 - 3.2.2

PlaNat Site or Project ID: 25278  
 GSAP Project ID

CHECK IF NO INCIDENT # APPLIES:   
 DATE: 4/18/2024  
 PAGE: 1 of 1

STATE: IL

900 South Central Ave; ROXANA  
 EDf DELIVERABLE TO (Name, Company, Office Location):  
 Melissa Remiger - please see special instructions

PHONE NO: 314-802-1207  
 E-MAIL: melissa.remiger@aecom.com

AECOM Project / Task Number:  
 Roxana Quarterly GW  
 60721927 - 3.2.2

SAMPLER NAME(S) (Print): J. Mayer, C. Keim  
 LAB USE ONLY

LOG CODE: \_\_\_\_\_

RESULTS NEEDED ON WEEKEND:  24 HOURS  WEEKEND

3 DAYS  2 DAYS  5 DAYS

LA - RWQCS REPORT FORMAT:

DELIVERABLES:  LEVEL 1  LEVEL 2  LEVEL 3  LEVEL 4  OTHER (SPECIFY) EDD

TEMPERATURE ON RECEIPT °C: \_\_\_\_\_ Cooler #1 \_\_\_\_\_ Cooler #2 \_\_\_\_\_ Cooler #3 \_\_\_\_\_

**SPLIT REPORT**

SPECIAL INSTRUCTIONS OR NOTES:  
 Email reports to: melissa.remiger@aecom.com  
 mary.mass@aecom.com; brett.howell@aecom.com

Please include "I" values on Reports.  
 Please provide sample receipt upon login.  
 Please send EQUIS EDBs to EDDSubmissions@aecomshell.com; viad.vrjan@aecom.com

LAB USE ONLY	Field Sample Identification		SAMPLING DATE	TIME	MATRIX	PRESERVATIVE			NO. OF CONT.
						HCL	HNO3	H2SO4	
	TB-ROX-041824-8260-SS	↓	4/18/2024	0000	Water	2			2
	TB-ROX-041824-8011-SS	↓	4/18/2024	0000	Water	2			2
	P56-ROX-041824	↓	4/18/2024	1010	Water	6		2	8
	P93A-ROX-041824	↓	4/18/2024	1120	Water	6		2	8

REQUESTED ANALYSIS: 60721927 - 3.2.2

TEMPERATURE ON RECEIPT °C: \_\_\_\_\_

Container PID Readings or Laboratory Notes: \_\_\_\_\_

Received by: (Signature)

FEDEX: 7252 0540 4555, 7252 0540 4990

Received by: (Signature)

Received by: (Signature)

Date: 4/18/2024 Time: 1600

Date: 4/18/2024 Time: 8:09

CUSTOMY SEALS: 1599888, 1599889, 1599890, 1599891

Version: 27/Sep/23

0.006 1188  
 0.202 1188



# Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-254703-1

**Login Number: 254703**

**List Source: Eurofins Pensacola**

**List Number: 1**

**Creator: Perez, Trina M**

Question	Answer	Comment
Radioactivity wasn't checked or is </= 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, 0.2°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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (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

Job ID: 400-254703-1

## Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-24
Kansas	NELAP	E-10253	10-31-24
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-24
North Carolina (WW/SW)	State	314	12-31-24
Oklahoma	NELAP	9810	08-31-24
Pennsylvania	NELAP	68-00467	01-31-25
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-24
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	P330-21-00056	05-17-24
USDA	US Federal Programs	FLGNV23001	01-08-26
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-25

# Roxana Groundwater Quarterly – 2<sup>nd</sup> Quarter 2024 Data Review

Laboratory SDG: 400-254705-1

Data Reviewer: Andrei Niculau

Peer Reviewer: Cheyana Cokley

Date Reviewed: 05/17/2024

Guidance: USEPA National Functional Guidelines for Organic Superfund Methods Data Review 2020

Sample Identification	Sample Identification
TB-ROX-041824-8260	P57-ROX-041824
TB-ROX-041824-8011	P57-ROX-041824-DUP
MW22-ROX-041824	P74-ROX-041824
MW22-ROX-041824-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 SVOC LCS/LCSD recoveries and/or LCS/LCSD RPDs, were outside evaluation criteria. The surrogate recovery for terphenyl-d<sub>14</sub> was outside criteria in a PAH method blank. The results for isopropylbenzene and n-propylbenzene in field duplicate pair P57-ROX-041824/ P57-ROX-041824-DUP were qualified as estimated (**J/J**) due to field duplicate RPD above evaluation criteria. The initial continuing calibration (ICV) for chloromethane and chloroethane were outside evaluation criteria, biased low. The continuing calibration verifications (CCV) for several analytes were outside evaluation criteria, biased low. These issues are addressed further in the appropriate sections of this data review.

Three of 70 (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 400-670010/1002	VOCs	Bromomethane	186	N/A	10-160
LCS/LCSD 400-669420/2-A/3-A	SVOCs	Pyridine	12/6	70	10-82/40

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 pyridine below evaluation criteria; pyridine has been identified as a poor performing analyte under Method 8270.

Sample ID	Parameter	Analyte	Qualification
MW22-ROX-041824	SVOCs	Pyridine	UJ
MW22-ROX-041824-DUP	SVOCs	Pyridine	UJ
P57-ROX-041824	SVOCs	Pyridine	UJ
P57-ROX-041824-DUP	SVOCs	Pyridine	UJ
P74-ROX-041824	SVOCs	Pyridine	UJ

## 6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery (%)	Criteria (%)
MB 400-669420/1-A	PAHs	Terphenyl-d <sub>14</sub>	172	18-147

Method blanks 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?

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?*

Yes

Field ID	Field Duplicate ID
MW22-ROX-041824	MW22-ROX-041824-DUP
P57-ROX-041824	P57-ROX-041824-DUP

*Were field duplicates within evaluation criteria?*

No

Field ID	Field Duplicate ID	Parameter	Analyte	RPD	Qualification
P57-ROX-041824	P57-ROX-041824-DUP	VOCs	Isopropylbenzene	48	J/J
P57-ROX-041824	P57-ROX-041824-DUP	VOCs	N-Propylbenzene	55	J/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?*

Yes, the initial continuing calibration (ICV) for chloromethane and chloroethane were outside evaluation criteria, biased low. The continuing calibration verification (CCV) for several analytes were outside evaluation criteria, biased low. Pyridine in samples P57-ROX-041824, P57-ROX-041824-DUP, P74-ROX-041824, MW22-ROX-041824, and MW22-ROX-041824-DUP were previously qualified in Section 5.0 of this data review due to a laboratory control sample recovery outside evaluation criteria; no further qualification is required. Analytes are qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
P57-ROX-041824	VOCs	Chloromethane	UJ
P57-ROX-041824-DUP	VOCs	Chloromethane	UJ
P74-ROX-041824	VOCs	Chloromethane	UJ
MW22-ROX-041824	VOCs	Chloromethane	UJ
MW22-ROX-041824-DUP	VOCs	Chloromethane	UJ
P57-ROX-041824	VOCs	Chloroethane	UJ
P57-ROX-041824-DUP	VOCs	Chloroethane	UJ
P74-ROX-041824	VOCs	Chloroethane	UJ
MW22-ROX-041824	VOCs	Chloroethane	UJ
MW22-ROX-041824-DUP	VOCs	Chloroethane	UJ
P57-ROX-041824	SVOCs	1,4-Dioxane	UJ
P57-ROX-041824-DUP	SVOCs	1,4-Dioxane	UJ



Sample ID	Parameter	Analyte	Qualification
P74-ROX-041824	SVOCs	1,4-Dioxane	UJ
MW22-ROX-041824	SVOCs	1,4-Dioxane	UJ
MW22-ROX-041824-DUP	SVOCs	1,4-Dioxane	UJ
P57-ROX-041824	SVOCs	Bis(2-chloroethyl)ether	UJ
P57-ROX-041824-DUP	SVOCs	Bis(2-chloroethyl)ether	UJ
P74-ROX-041824	SVOCs	Bis(2-chloroethyl)ether	UJ
MW22-ROX-041824	SVOCs	Bis(2-chloroethyl)ether	UJ
MW22-ROX-041824-DUP	SVOCs	Bis(2-chloroethyl)ether	UJ
P57-ROX-041824	SVOCs	N-Nitrosodi-n-propylamine	UJ
P57-ROX-041824-DUP	SVOCs	N-Nitrosodi-n-propylamine	UJ
P74-ROX-041824	SVOCs	N-Nitrosodi-n-propylamine	UJ
MW22-ROX-041824	SVOCs	N-Nitrosodi-n-propylamine	UJ
MW22-ROX-041824-DUP	SVOCs	N-Nitrosodi-n-propylamine	UJ
P57-ROX-041824	SVOCs	Isophorone	UJ
P57-ROX-041824-DUP	SVOCs	Isophorone	UJ
P74-ROX-041824	SVOCs	Isophorone	UJ
MW22-ROX-041824	SVOCs	Isophorone	UJ
MW22-ROX-041824-DUP	SVOCs	Isophorone	UJ
P57-ROX-041824	SVOCs	Bis(2-chloroethoxy)methane	UJ
P57-ROX-041824-DUP	SVOCs	Bis(2-chloroethoxy)methane	UJ
P74-ROX-041824	SVOCs	Bis(2-chloroethoxy)methane	UJ
MW22-ROX-041824	SVOCs	Bis(2-chloroethoxy)methane	UJ
MW22-ROX-041824-DUP	SVOCs	Bis(2-chloroethoxy)methane	UJ
P57-ROX-041824	SVOCs	1,2-Diphenylhydrazine (as Azobenzene)	UJ
P57-ROX-041824-DUP	SVOCs	1,2-Diphenylhydrazine (as Azobenzene)	UJ
P74-ROX-041824	SVOCs	1,2-Diphenylhydrazine (as Azobenzene)	UJ
MW22-ROX-041824	SVOCs	1,2-Diphenylhydrazine (as Azobenzene)	UJ
MW22-ROX-041824-DUP	SVOCs	1,2-Diphenylhydrazine (as Azobenzene)	UJ
P57-ROX-041824	SVOCs	Dibenz[a,h]acridine	UJ
P57-ROX-041824-DUP	SVOCs	Dibenz[a,h]acridine	UJ
P74-ROX-041824	SVOCs	Dibenz[a,h]acridine	UJ
MW22-ROX-041824	SVOCs	Dibenz[a,h]acridine	UJ
MW22-ROX-041824-DUP	SVOCs	Dibenz[a,h]acridine	UJ
P57-ROX-041824	PAHs	Benzo[k]fluoranthene	UJ
P57-ROX-041824-DUP	PAHs	Benzo[k]fluoranthene	UJ
P74-ROX-041824	PAHs	Benzo[k]fluoranthene	UJ
MW22-ROX-041824	PAHs	Benzo[k]fluoranthene	UJ
MW22-ROX-041824-DUP	PAHs	Benzo[k]fluoranthene	UJ



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Melissa Remiger  
AECOM Technical Services Inc.  
100 N. Broadway  
20th Floor  
St. Louis, Missouri 63102

Generated 5/3/2024 3:42:40 PM

## JOB DESCRIPTION

ROXANA QUARTERLY GW

## JOB NUMBER

400-254705-1

Reviewed 05/17/2024  
AN

# Eurofins Pensacola

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

## Authorization



Generated  
5/3/2024 3:42:40 PM

Authorized for release by  
Leah Klingensmith, Senior Project Manager  
[Leah.Klingensmith@et.eurofinsus.com](mailto:Leah.Klingensmith@et.eurofinsus.com)  
(615)301-5038



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# Case Narrative

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

Job ID: 400-254705-1

**Job ID: 400-254705-1**

**Eurofins Pensacola**

## Job Narrative 400-254705-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 4/20/2024 8:09 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.0°C and 0.2°C.

### GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-670010 recovered outside acceptance criteria, low biased, for Chloromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-670010 recovered above the upper control limit for Bromomethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The following samples were diluted due to the abundance of non-target analytes: MW22-ROX-041824 (400-254705-3) and MW22-ROX-041824-DUP (400-254705-4). Elevated reporting limits (RLs) are provided.

Method 8260D: The laboratory control sample (LCS) for analytical batch 400-670010 recovered outside control limits for the following analytes: Bromomethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The preservative used in the sample containers provided is not compatible with one of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-ROX-041824-8260 (400-254705-1), MW22-ROX-041824 (400-254705-3), MW22-ROX-041824-DUP (400-254705-4), P57-ROX-041824 (400-254705-5), P57-ROX-041824-DUP (400-254705-6) and P74-ROX-041824 (400-254705-7). The requested target analyte list includes 2-Chloroethyl vinyl ether, an acid-labile compound that degrades in an acidic medium.

Method 8260D: The initial calibration verification (ICV) analyzed in batch 400-669337 was outside method criteria for the following analyte(s): Bromomethane, Chloroethane and Chloromethane. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) 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 8270E: The laboratory control sample duplicate (LCSD) for preparation batch 400-669420 and analytical batch 400-670083 recovered outside control limits for the following analyte(s): Pyridine. Pyridine has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method 8270E: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 400-669420 and analytical batch 400-670083 recovered outside control limits for the following analytes: Pyridine.

Method 8270E: The continuing calibration verification (CCV) associated with batch 400-670135 recovered outside acceptance criteria, low biased, for 1,4-Dioxane, 1,2-Diphenylhydrazine (as Azobenzene), Bis(2-chloroethoxy)methane, Bis(2-chloroethyl)ether, Dibenz[a,h]acridine, Isophorone, N-Nitrosodi-n-propylamine and Pyridine. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Eurofins Pensacola

# Case Narrative

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

Job ID: 400-254705-1

**Job ID: 400-254705-1 (Continued)**

**Eurofins Pensacola**

Method 8270E\_SIM: The continuing calibration verification (CCV) associated with batch 400-669847 recovered outside acceptance criteria, low biased, for Benzo[k]fluoranthene. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8270E\_SIM: The surrogate recovery for the blank associated with preparation batch 400-669420 and analytical batch 400-669847 was outside the upper control limits.

Method 8270E\_SIM: The initial calibration verification (ICV) analyzed in batch 400-669149 was outside method criteria for the following analyte(s): Acenaphthylene and Benzo[k]fluoranthene. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

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

### **GC Semi VOA**

Method 8011: The continuing calibration verification (CCV) associated with batch 400-669503 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 associated sample is impacted: (CCV 400-669513/20-A).

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



# Sample Summary

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

Job ID: 400-254705-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-254705-1	TB-ROX-041824-8260	Water	04/18/24 00:00	04/20/24 08:09
400-254705-2	TB-ROX-041824-8011	Water	04/18/24 00:00	04/20/24 08:09
400-254705-3	MW22-ROX-041824	Water	04/18/24 09:35	04/20/24 08:09
400-254705-4	MW22-ROX-041824-DUP	Water	04/18/24 09:35	04/20/24 08:09
400-254705-5	P57-ROX-041824	Water	04/18/24 10:55	04/20/24 08:09
400-254705-6	P57-ROX-041824-DUP	Water	04/18/24 10:55	04/20/24 08:09
400-254705-7	P74-ROX-041824	Water	04/18/24 12:00	04/20/24 08:09

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Detection Summary

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

Job ID: 400-254705-1

## Client Sample ID: TB-ROX-041824-8260

Lab Sample ID: 400-254705-1

No Detections.

## Client Sample ID: TB-ROX-041824-8011

Lab Sample ID: 400-254705-2

No Detections.

## Client Sample ID: MW22-ROX-041824

Lab Sample ID: 400-254705-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	57		5.0	2.5	ug/L	5		8260D	Total/NA
Ethylbenzene	72		5.0	2.5	ug/L	5		8260D	Total/NA
Isopropylbenzene	14		5.0	2.7	ug/L	5		8260D	Total/NA
m-Xylene & p-Xylene	210		25	3.2	ug/L	5		8260D	Total/NA
Naphthalene	63		25	15	ug/L	5		8260D	Total/NA
N-Propylbenzene	20		5.0	3.5	ug/L	5		8260D	Total/NA
o-Xylene	10	J	25	3.0	ug/L	5		8260D	Total/NA
Toluene	26		5.0	4.5	ug/L	5		8260D	Total/NA
1,2,4-Trimethylbenzene	18		5.0	4.1	ug/L	5		8260D	Total/NA
1,3,5-Trimethylbenzene	28		5.0	2.8	ug/L	5		8260D	Total/NA
Xylenes, Total	220		50	8.0	ug/L	5		8260D	Total/NA
Acenaphthene	0.11	J	0.22	0.11	ug/L	1		8270E SIM	Total/NA
Anthracene	0.084	J	0.22	0.052	ug/L	1		8270E SIM	Total/NA
Fluorene	0.13	J	0.22	0.099	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	7.6		0.22	0.089	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	10		0.22	0.073	ug/L	1		8270E SIM	Total/NA

## Client Sample ID: MW22-ROX-041824-DUP

Lab Sample ID: 400-254705-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	52		5.0	2.5	ug/L	5		8260D	Total/NA
Ethylbenzene	64		5.0	2.5	ug/L	5		8260D	Total/NA
Isopropylbenzene	12		5.0	2.7	ug/L	5		8260D	Total/NA
m-Xylene & p-Xylene	180		25	3.2	ug/L	5		8260D	Total/NA
Naphthalene	57		25	15	ug/L	5		8260D	Total/NA
N-Propylbenzene	18		5.0	3.5	ug/L	5		8260D	Total/NA
o-Xylene	8.9	J	25	3.0	ug/L	5		8260D	Total/NA
Toluene	24		5.0	4.5	ug/L	5		8260D	Total/NA
1,2,4-Trimethylbenzene	16		5.0	4.1	ug/L	5		8260D	Total/NA
1,3,5-Trimethylbenzene	24		5.0	2.8	ug/L	5		8260D	Total/NA
Xylenes, Total	190		50	8.0	ug/L	5		8260D	Total/NA
Anthracene	0.071	J	0.21	0.048	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	8.4		0.21	0.082	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	11		0.21	0.068	ug/L	1		8270E SIM	Total/NA
2,4-Dimethylphenol	5.4	J	10	5.3	ug/L	1		8270E	Total/NA

## Client Sample ID: P57-ROX-041824

Lab Sample ID: 400-254705-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	8.9		1.0	0.50	ug/L	1		8260D	Total/NA
Ethylbenzene	0.68	J	1.0	0.50	ug/L	1		8260D	Total/NA
Isopropylbenzene	15	J	1.0	0.53	ug/L	1		8260D	Total/NA
m-Xylene & p-Xylene	0.99	J	5.0	0.63	ug/L	1		8260D	Total/NA
n-Butylbenzene	1.0		1.0	0.76	ug/L	1		8260D	Total/NA
N-Propylbenzene	16	J	1.0	0.69	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

# Detection Summary

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

Job ID: 400-254705-1

## Client Sample ID: P57-ROX-041824 (Continued)

## Lab Sample ID: 400-254705-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
sec-Butylbenzene	3.1		1.0	0.70	ug/L	1		8260D	Total/NA
tert-Butylbenzene	3.8		1.0	0.63	ug/L	1		8260D	Total/NA
Toluene	4.5		1.0	0.90	ug/L	1		8260D	Total/NA
Acenaphthene	0.29		0.21	0.10	ug/L	1		8270E SIM	Total/NA
Acenaphthylene	0.052	J	0.21	0.047	ug/L	1		8270E SIM	Total/NA
Anthracene	0.18	J	0.21	0.050	ug/L	1		8270E SIM	Total/NA
Fluoranthene	0.044	J	0.21	0.036	ug/L	1		8270E SIM	Total/NA
Fluorene	0.42		0.21	0.094	ug/L	1		8270E SIM	Total/NA
Phenanthrene	0.25		0.21	0.095	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	15		0.21	0.085	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	1.4		0.21	0.070	ug/L	1		8270E SIM	Total/NA

## Client Sample ID: P57-ROX-041824-DUP

## Lab Sample ID: 400-254705-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	7.8		1.0	0.50	ug/L	1		8260D	Total/NA
Isopropylbenzene	9.2	J	1.0	0.53	ug/L	1		8260D	Total/NA
m-Xylene & p-Xylene	0.65	J	5.0	0.63	ug/L	1		8260D	Total/NA
N-Propylbenzene	9.1	J	1.0	0.69	ug/L	1		8260D	Total/NA
sec-Butylbenzene	1.7		1.0	0.70	ug/L	1		8260D	Total/NA
tert-Butylbenzene	2.2		1.0	0.63	ug/L	1		8260D	Total/NA
Toluene	3.1		1.0	0.90	ug/L	1		8260D	Total/NA
Acenaphthene	0.23		0.22	0.11	ug/L	1		8270E SIM	Total/NA
Anthracene	0.074	J	0.22	0.051	ug/L	1		8270E SIM	Total/NA
Fluorene	0.36		0.22	0.097	ug/L	1		8270E SIM	Total/NA
Phenanthrene	0.19	J	0.22	0.098	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	15		0.22	0.087	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	1.5		0.22	0.072	ug/L	1		8270E SIM	Total/NA

## Client Sample ID: P74-ROX-041824

## Lab Sample ID: 400-254705-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	24	J	25	10	ug/L	1		8260D	Total/NA
Benzene	55		1.0	0.50	ug/L	1		8260D	Total/NA
2-Butanone (MEK)	8.3	J	25	2.6	ug/L	1		8260D	Total/NA
Ethylbenzene	0.67	J	1.0	0.50	ug/L	1		8260D	Total/NA
m-Xylene & p-Xylene	1.2	J	5.0	0.63	ug/L	1		8260D	Total/NA
Toluene	1.3		1.0	0.90	ug/L	1		8260D	Total/NA
Acenaphthylene	0.086	J	0.22	0.049	ug/L	1		8270E SIM	Total/NA
Anthracene	0.11	J	0.22	0.052	ug/L	1		8270E SIM	Total/NA
Fluoranthene	0.085	J	0.22	0.038	ug/L	1		8270E SIM	Total/NA
Fluorene	0.11	J	0.22	0.099	ug/L	1		8270E SIM	Total/NA
Phenanthrene	0.10	J	0.22	0.10	ug/L	1		8270E SIM	Total/NA
Pyrene	0.063	J	0.22	0.044	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	0.20	J	0.22	0.089	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	0.20	J	0.22	0.074	ug/L	1		8270E SIM	Total/NA

This Detection Summary does not include radiochemical test results.

# Client Sample Results

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

Job ID: 400-254705-1

**Client Sample ID: TB-ROX-041824-8260**

**Lab Sample ID: 400-254705-1**

**Date Collected: 04/18/24 00:00**

**Matrix: Water**

**Date Received: 04/20/24 08:09**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			05/01/24 14:33	1
Acrolein	ND		20	3.3	ug/L			05/01/24 14:33	1
Acrylonitrile	ND		10	2.8	ug/L			05/01/24 14:33	1
Benzene	ND		1.0	0.50	ug/L			05/01/24 14:33	1
Bromobenzene	ND		1.0	0.54	ug/L			05/01/24 14:33	1
Bromochloromethane	ND		1.0	0.21	ug/L			05/01/24 14:33	1
Bromodichloromethane	ND		1.0	0.50	ug/L			05/01/24 14:33	1
Bromoform	ND		5.0	0.25	ug/L			05/01/24 14:33	1
Bromomethane	ND	*+	1.0	0.98	ug/L			05/01/24 14:33	1
2-Butanone (MEK)	ND		25	2.6	ug/L			05/01/24 14:33	1
Carbon disulfide	ND		1.0	0.50	ug/L			05/01/24 14:33	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			05/01/24 14:33	1
Chlorobenzene	ND		1.0	0.90	ug/L			05/01/24 14:33	1
Chloroethane	ND		1.0	0.76	ug/L			05/01/24 14:33	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			05/01/24 14:33	1
Chloroform	ND		1.0	0.90	ug/L			05/01/24 14:33	1
1-Chlorohexane	ND		1.0	0.32	ug/L			05/01/24 14:33	1
Chloromethane	ND		1.0	0.90	ug/L			05/01/24 14:33	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			05/01/24 14:33	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			05/01/24 14:33	1
Dibromochloromethane	ND		1.0	0.24	ug/L			05/01/24 14:33	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			05/01/24 14:33	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			05/01/24 14:33	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			05/01/24 14:33	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			05/01/24 14:33	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			05/01/24 14:33	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			05/01/24 14:33	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			05/01/24 14:33	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			05/01/24 14:33	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			05/01/24 14:33	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			05/01/24 14:33	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			05/01/24 14:33	1
Ethylbenzene	ND		1.0	0.50	ug/L			05/01/24 14:33	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			05/01/24 14:33	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			05/01/24 14:33	1
2-Hexanone	ND		25	1.4	ug/L			05/01/24 14:33	1
Isopropylbenzene	ND		1.0	0.53	ug/L			05/01/24 14:33	1
Methylene bromide	ND		5.0	0.22	ug/L			05/01/24 14:33	1
Methylene Chloride	ND		5.0	3.0	ug/L			05/01/24 14:33	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			05/01/24 14:33	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			05/01/24 14:33	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			05/01/24 14:33	1
Naphthalene	ND		5.0	3.0	ug/L			05/01/24 14:33	1
n-Butylbenzene	ND		1.0	0.76	ug/L			05/01/24 14:33	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/01/24 14:33	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			05/01/24 14:33	1
o-Xylene	ND		5.0	0.60	ug/L			05/01/24 14:33	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			05/01/24 14:33	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			05/01/24 14:33	1

# Client Sample Results

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

Job ID: 400-254705-1

**Client Sample ID: TB-ROX-041824-8260**

**Lab Sample ID: 400-254705-1**

**Date Collected: 04/18/24 00:00**

**Matrix: Water**

**Date Received: 04/20/24 08:09**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			05/01/24 14:33	1
Styrene	ND		1.0	1.0	ug/L			05/01/24 14:33	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			05/01/24 14:33	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			05/01/24 14:33	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			05/01/24 14:33	1
Tetrachloroethene	ND		1.0	0.90	ug/L			05/01/24 14:33	1
Toluene	ND		1.0	0.90	ug/L			05/01/24 14:33	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			05/01/24 14:33	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			05/01/24 14:33	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			05/01/24 14:33	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			05/01/24 14:33	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			05/01/24 14:33	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			05/01/24 14:33	1
Trichloroethene	ND		1.0	0.15	ug/L			05/01/24 14:33	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			05/01/24 14:33	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			05/01/24 14:33	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			05/01/24 14:33	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			05/01/24 14:33	1
Vinyl acetate	ND		25	0.93	ug/L			05/01/24 14:33	1
Vinyl chloride	ND		1.0	0.50	ug/L			05/01/24 14:33	1
Xylenes, Total	ND		10	1.6	ug/L			05/01/24 14:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		72 - 130		05/01/24 14:33	1
Dibromofluoromethane	94		75 - 126		05/01/24 14:33	1
Toluene-d8 (Surr)	101		64 - 132		05/01/24 14:33	1

# Client Sample Results

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

Job ID: 400-254705-1

**Client Sample ID: TB-ROX-041824-8011**

**Lab Sample ID: 400-254705-2**

**Date Collected: 04/18/24 00:00**

**Matrix: Water**

**Date Received: 04/20/24 08:09**

**Method: EPA 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	0.017	ug/L		04/26/24 12:15	04/26/24 18:23	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		04/26/24 12:15	04/26/24 18:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	112		51 - 149				04/26/24 12:15	04/26/24 18:23	1

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- 15



# Client Sample Results

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

Job ID: 400-254705-1

**Client Sample ID: MW22-ROX-041824**

**Lab Sample ID: 400-254705-3**

Date Collected: 04/18/24 09:35

Matrix: Water

Date Received: 04/20/24 08:09

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		130	50	ug/L			05/01/24 17:03	5
Acrolein	ND		100	17	ug/L			05/01/24 17:03	5
Acrylonitrile	ND		50	14	ug/L			05/01/24 17:03	5
<b>Benzene</b>	<b>57</b>		5.0	2.5	ug/L			05/01/24 17:03	5
Bromobenzene	ND		5.0	2.7	ug/L			05/01/24 17:03	5
Bromochloromethane	ND		5.0	1.1	ug/L			05/01/24 17:03	5
Bromodichloromethane	ND		5.0	2.5	ug/L			05/01/24 17:03	5
Bromoform	ND		25	1.3	ug/L			05/01/24 17:03	5
Bromomethane	ND	*+	5.0	4.9	ug/L			05/01/24 17:03	5
2-Butanone (MEK)	ND		130	13	ug/L			05/01/24 17:03	5
Carbon disulfide	ND		5.0	2.5	ug/L			05/01/24 17:03	5
Carbon tetrachloride	ND		5.0	0.95	ug/L			05/01/24 17:03	5
Chlorobenzene	ND		5.0	4.5	ug/L			05/01/24 17:03	5
Chloroethane	ND	UJ	5.0	3.8	ug/L			05/01/24 17:03	5
2-Chloroethyl vinyl ether	ND		25	10	ug/L			05/01/24 17:03	5
Chloroform	ND		5.0	4.5	ug/L			05/01/24 17:03	5
1-Chlorohexane	ND		5.0	1.6	ug/L			05/01/24 17:03	5
Chloromethane	ND	UJ	5.0	4.5	ug/L			05/01/24 17:03	5
cis-1,2-Dichloroethene	ND		5.0	1.0	ug/L			05/01/24 17:03	5
cis-1,3-Dichloropropene	ND		25	2.5	ug/L			05/01/24 17:03	5
Dibromochloromethane	ND		5.0	1.2	ug/L			05/01/24 17:03	5
1,2-Dichlorobenzene	ND		5.0	2.5	ug/L			05/01/24 17:03	5
1,3-Dichlorobenzene	ND		5.0	2.7	ug/L			05/01/24 17:03	5
1,4-Dichlorobenzene	ND		5.0	3.2	ug/L			05/01/24 17:03	5
Dichlorodifluoromethane	ND		5.0	4.3	ug/L			05/01/24 17:03	5
1,1-Dichloroethane	ND		5.0	2.5	ug/L			05/01/24 17:03	5
1,2-Dichloroethane	ND		5.0	0.95	ug/L			05/01/24 17:03	5
1,1-Dichloroethene	ND		5.0	2.5	ug/L			05/01/24 17:03	5
1,2-Dichloropropane	ND		5.0	2.5	ug/L			05/01/24 17:03	5
1,3-Dichloropropane	ND		5.0	2.5	ug/L			05/01/24 17:03	5
2,2-Dichloropropane	ND		5.0	2.5	ug/L			05/01/24 17:03	5
1,1-Dichloropropene	ND		5.0	2.5	ug/L			05/01/24 17:03	5
<b>Ethylbenzene</b>	<b>72</b>		5.0	2.5	ug/L			05/01/24 17:03	5
Ethyl methacrylate	ND		5.0	3.0	ug/L			05/01/24 17:03	5
Hexachlorobutadiene	ND		25	4.5	ug/L			05/01/24 17:03	5
2-Hexanone	ND		130	7.0	ug/L			05/01/24 17:03	5
<b>Isopropylbenzene</b>	<b>14</b>		5.0	2.7	ug/L			05/01/24 17:03	5
Methylene bromide	ND		25	1.1	ug/L			05/01/24 17:03	5
Methylene Chloride	ND		25	15	ug/L			05/01/24 17:03	5
4-Methyl-2-pentanone (MIBK)	ND		130	9.0	ug/L			05/01/24 17:03	5
Methyl tert-butyl ether	ND		5.0	1.1	ug/L			05/01/24 17:03	5
<b>m-Xylene &amp; p-Xylene</b>	<b>210</b>		25	3.2	ug/L			05/01/24 17:03	5
<b>Naphthalene</b>	<b>63</b>		25	15	ug/L			05/01/24 17:03	5
n-Butylbenzene	ND		5.0	3.8	ug/L			05/01/24 17:03	5
<b>N-Propylbenzene</b>	<b>20</b>		5.0	3.5	ug/L			05/01/24 17:03	5
o-Chlorotoluene	ND		5.0	2.9	ug/L			05/01/24 17:03	5
<b>o-Xylene</b>	<b>10 J</b>		25	3.0	ug/L			05/01/24 17:03	5
p-Chlorotoluene	ND		5.0	2.8	ug/L			05/01/24 17:03	5
p-Isopropyltoluene	ND		5.0	3.6	ug/L			05/01/24 17:03	5

# Client Sample Results

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

Job ID: 400-254705-1

**Client Sample ID: MW22-ROX-041824**

**Lab Sample ID: 400-254705-3**

Date Collected: 04/18/24 09:35

Matrix: Water

Date Received: 04/20/24 08:09

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		5.0	3.5	ug/L			05/01/24 17:03	5
Styrene	ND		5.0	5.0	ug/L			05/01/24 17:03	5
tert-Butylbenzene	ND		5.0	3.2	ug/L			05/01/24 17:03	5
1,1,1,2-Tetrachloroethane	ND		5.0	0.80	ug/L			05/01/24 17:03	5
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/L			05/01/24 17:03	5
Tetrachloroethene	ND		5.0	4.5	ug/L			05/01/24 17:03	5
<b>Toluene</b>	<b>26</b>		5.0	4.5	ug/L			05/01/24 17:03	5
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/L			05/01/24 17:03	5
trans-1,3-Dichloropropene	ND		25	1.0	ug/L			05/01/24 17:03	5
1,2,3-Trichlorobenzene	ND		5.0	4.5	ug/L			05/01/24 17:03	5
1,2,4-Trichlorobenzene	ND		5.0	4.1	ug/L			05/01/24 17:03	5
1,1,1-Trichloroethane	ND		5.0	0.90	ug/L			05/01/24 17:03	5
1,1,2-Trichloroethane	ND		25	1.1	ug/L			05/01/24 17:03	5
Trichloroethene	ND		5.0	0.75	ug/L			05/01/24 17:03	5
Trichlorofluoromethane	ND		5.0	2.6	ug/L			05/01/24 17:03	5
1,2,3-Trichloropropane	ND		25	4.2	ug/L			05/01/24 17:03	5
<b>1,2,4-Trimethylbenzene</b>	<b>18</b>		5.0	4.1	ug/L			05/01/24 17:03	5
<b>1,3,5-Trimethylbenzene</b>	<b>28</b>		5.0	2.8	ug/L			05/01/24 17:03	5
Vinyl acetate	ND		130	4.7	ug/L			05/01/24 17:03	5
Vinyl chloride	ND		5.0	2.5	ug/L			05/01/24 17:03	5
<b>Xylenes, Total</b>	<b>220</b>		50	8.0	ug/L			05/01/24 17:03	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	97		72 - 130		05/01/24 17:03	5
Dibromofluoromethane	103		75 - 126		05/01/24 17:03	5
Toluene-d8 (Surr)	101		64 - 132		05/01/24 17:03	5

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acenaphthene</b>	<b>0.11</b>	<b>J</b>	0.22	0.11	ug/L		04/25/24 18:18	04/30/24 17:00	1
Acenaphthylene	ND		0.22	0.049	ug/L		04/25/24 18:18	04/30/24 17:00	1
<b>Anthracene</b>	<b>0.084</b>	<b>J</b>	0.22	0.052	ug/L		04/25/24 18:18	04/30/24 17:00	1
Benzo[a]anthracene	ND		0.22	0.038	ug/L		04/25/24 18:18	04/30/24 17:00	1
Benzo[a]pyrene	ND		0.22	0.071	ug/L		04/25/24 18:18	04/30/24 17:00	1
Benzo[b]fluoranthene	ND		0.22	0.041	ug/L		04/25/24 18:18	04/30/24 17:00	1
Benzo[g,h,i]perylene	ND		0.22	0.030	ug/L		04/25/24 18:18	04/30/24 17:00	1
Benzo[k]fluoranthene	ND	<b>UJ</b>	0.22	0.069	ug/L		04/25/24 18:18	04/30/24 17:00	1
Chrysene	ND		0.22	0.037	ug/L		04/25/24 18:18	04/30/24 17:00	1
Dibenz(a,h)anthracene	ND		0.22	0.053	ug/L		04/25/24 18:18	04/30/24 17:00	1
Fluoranthene	ND		0.22	0.038	ug/L		04/25/24 18:18	04/30/24 17:00	1
<b>Fluorene</b>	<b>0.13</b>	<b>J</b>	0.22	0.099	ug/L		04/25/24 18:18	04/30/24 17:00	1
Indeno[1,2,3-cd]pyrene	ND		0.22	0.038	ug/L		04/25/24 18:18	04/30/24 17:00	1
Phenanthrene	ND		0.22	0.10	ug/L		04/25/24 18:18	04/30/24 17:00	1
Pyrene	ND		0.22	0.043	ug/L		04/25/24 18:18	04/30/24 17:00	1
<b>1-Methylnaphthalene</b>	<b>7.6</b>		0.22	0.089	ug/L		04/25/24 18:18	04/30/24 17:00	1
<b>2-Methylnaphthalene</b>	<b>10</b>		0.22	0.073	ug/L		04/25/24 18:18	04/30/24 17:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	118		18 - 147	04/25/24 18:18	04/30/24 17:00	1
2-Fluorobiphenyl	64		15 - 128	04/25/24 18:18	04/30/24 17:00	1

Eurofins Pensacola

# Client Sample Results

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

Job ID: 400-254705-1

**Client Sample ID: MW22-ROX-041824**

**Lab Sample ID: 400-254705-3**

Date Collected: 04/18/24 09:35

Matrix: Water

Date Received: 04/20/24 08:09

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	57		10 - 144	04/25/24 18:18	04/30/24 17:00	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		11	9.6	ug/L		04/25/24 18:18	05/02/24 03:19	1
Benzenethiol	ND		11	11	ug/L		04/25/24 18:18	05/02/24 03:19	1
Benzoic acid	ND		33	27	ug/L		04/25/24 18:18	05/02/24 03:19	1
Benzyl alcohol	ND		11	8.1	ug/L		04/25/24 18:18	05/02/24 03:19	1
Bis(2-chloroethoxy)methane	ND	UJ	11	5.1	ug/L		04/25/24 18:18	05/02/24 03:19	1
Bis(2-chloroethyl)ether	ND	UJ	11	4.3	ug/L		04/25/24 18:18	05/02/24 03:19	1
bis (2-chloroisopropyl) ether	ND		11	2.0	ug/L		04/25/24 18:18	05/02/24 03:19	1
Bis(2-ethylhexyl) phthalate	ND		11	9.9	ug/L		04/25/24 18:18	05/02/24 03:19	1
4-Bromophenyl phenyl ether	ND		11	9.5	ug/L		04/25/24 18:18	05/02/24 03:19	1
Butyl benzyl phthalate	ND		11	6.4	ug/L		04/25/24 18:18	05/02/24 03:19	1
4-Chloroaniline	ND		11	5.2	ug/L		04/25/24 18:18	05/02/24 03:19	1
4-Chloro-3-methylphenol	ND		11	5.9	ug/L		04/25/24 18:18	05/02/24 03:19	1
2-Chloronaphthalene	ND		11	4.2	ug/L		04/25/24 18:18	05/02/24 03:19	1
2-Chlorophenol	ND		11	4.5	ug/L		04/25/24 18:18	05/02/24 03:19	1
4-Chlorophenyl phenyl ether	ND		11	4.1	ug/L		04/25/24 18:18	05/02/24 03:19	1
Dibenz[a,h]acridine	ND	UJ	11	3.1	ug/L		04/25/24 18:18	05/02/24 03:19	1
Dibenzofuran	ND		11	4.4	ug/L		04/25/24 18:18	05/02/24 03:19	1
3,3'-Dichlorobenzidine	ND		12	12	ug/L		04/25/24 18:18	05/02/24 03:19	1
2,4-Dichlorophenol	ND		11	4.8	ug/L		04/25/24 18:18	05/02/24 03:19	1
Diethyl phthalate	ND		11	4.9	ug/L		04/25/24 18:18	05/02/24 03:19	1
2,4-Dimethylphenol	ND		11	5.8	ug/L		04/25/24 18:18	05/02/24 03:19	1
Dimethyl phthalate	ND		11	4.7	ug/L		04/25/24 18:18	05/02/24 03:19	1
Di-n-butyl phthalate	ND		11	5.1	ug/L		04/25/24 18:18	05/02/24 03:19	1
4,6-Dinitro-ortho-cresol	ND		11	11	ug/L		04/25/24 18:18	05/02/24 03:19	1
2,4-Dinitrophenol	ND		33	5.1	ug/L		04/25/24 18:18	05/02/24 03:19	1
2,4-Dinitrotoluene	ND		11	5.7	ug/L		04/25/24 18:18	05/02/24 03:19	1
2,6-Dinitrotoluene	ND		11	4.3	ug/L		04/25/24 18:18	05/02/24 03:19	1
Di-n-octyl phthalate	ND		11	6.6	ug/L		04/25/24 18:18	05/02/24 03:19	1
1,4-Dioxane	ND	UJ	11	4.8	ug/L		04/25/24 18:18	05/02/24 03:19	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	UJ	11	3.7	ug/L		04/25/24 18:18	05/02/24 03:19	1
Hexachlorobenzene	ND		11	11	ug/L		04/25/24 18:18	05/02/24 03:19	1
Hexachlorocyclopentadiene	ND		22	5.0	ug/L		04/25/24 18:18	05/02/24 03:19	1
Hexachloroethane	ND		11	5.8	ug/L		04/25/24 18:18	05/02/24 03:19	1
Indene	ND		11	4.0	ug/L		04/25/24 18:18	05/02/24 03:19	1
Isophorone	ND	UJ	11	5.8	ug/L		04/25/24 18:18	05/02/24 03:19	1
2-Methylphenol	ND		11	3.5	ug/L		04/25/24 18:18	05/02/24 03:19	1
3 & 4 Methylphenol	ND		22	5.1	ug/L		04/25/24 18:18	05/02/24 03:19	1
2-Nitroaniline	ND		11	5.5	ug/L		04/25/24 18:18	05/02/24 03:19	1
3-Nitroaniline	ND		11	5.2	ug/L		04/25/24 18:18	05/02/24 03:19	1
4-Nitroaniline	ND		11	4.5	ug/L		04/25/24 18:18	05/02/24 03:19	1
Nitrobenzene	ND		11	5.2	ug/L		04/25/24 18:18	05/02/24 03:19	1
2-Nitrophenol	ND		11	5.1	ug/L		04/25/24 18:18	05/02/24 03:19	1
4-Nitrophenol	ND		11	3.7	ug/L		04/25/24 18:18	05/02/24 03:19	1
N-Nitrosodimethylamine	ND		11	2.4	ug/L		04/25/24 18:18	05/02/24 03:19	1

# Client Sample Results

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

Job ID: 400-254705-1

**Client Sample ID: MW22-ROX-041824**

**Lab Sample ID: 400-254705-3**

Date Collected: 04/18/24 09:35

Matrix: Water

Date Received: 04/20/24 08:09

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND	UJ	11	2.8	ug/L		04/25/24 18:18	05/02/24 03:19	1
N-Nitrosodiphenylamine	ND		11	4.1	ug/L		04/25/24 18:18	05/02/24 03:19	1
Pentachlorophenol	ND		22	13	ug/L		04/25/24 18:18	05/02/24 03:19	1
Phenol	ND		11	4.7	ug/L		04/25/24 18:18	05/02/24 03:19	1
Pyridine	ND	*- *1 UJ	11	11	ug/L		04/25/24 18:18	05/02/24 03:19	1
Quinoline	ND		11	2.7	ug/L		04/25/24 18:18	05/02/24 03:19	1
2,4,5-Trichlorophenol	ND		11	4.4	ug/L		04/25/24 18:18	05/02/24 03:19	1
2,4,6-Trichlorophenol	ND		11	3.9	ug/L		04/25/24 18:18	05/02/24 03:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	73		21 - 114	04/25/24 18:18	05/02/24 03:19	1
2-Fluorophenol	51		10 - 105	04/25/24 18:18	05/02/24 03:19	1
Nitrobenzene-d5	62		16 - 127	04/25/24 18:18	05/02/24 03:19	1
Phenol-d5	38		10 - 129	04/25/24 18:18	05/02/24 03:19	1
Terphenyl-d14	111		13 - 150	04/25/24 18:18	05/02/24 03:19	1
2,4,6-Tribromophenol	105		10 - 150	04/25/24 18:18	05/02/24 03:19	1

**Method: EPA 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	0.018	ug/L		04/26/24 12:15	04/26/24 18:44	1
1,2-Dibromoethane	ND		0.021	0.016	ug/L		04/26/24 12:15	04/26/24 18:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	103		51 - 149	04/26/24 12:15	04/26/24 18:44	1

# Client Sample Results

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

Job ID: 400-254705-1

**Client Sample ID: MW22-ROX-041824-DUP**

**Lab Sample ID: 400-254705-4**

Date Collected: 04/18/24 09:35

Matrix: Water

Date Received: 04/20/24 08:09

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		130	50	ug/L			05/01/24 17:28	5
Acrolein	ND		100	17	ug/L			05/01/24 17:28	5
Acrylonitrile	ND		50	14	ug/L			05/01/24 17:28	5
<b>Benzene</b>	<b>52</b>		5.0	2.5	ug/L			05/01/24 17:28	5
Bromobenzene	ND		5.0	2.7	ug/L			05/01/24 17:28	5
Bromochloromethane	ND		5.0	1.1	ug/L			05/01/24 17:28	5
Bromodichloromethane	ND		5.0	2.5	ug/L			05/01/24 17:28	5
Bromoform	ND		25	1.3	ug/L			05/01/24 17:28	5
Bromomethane	ND	*+	5.0	4.9	ug/L			05/01/24 17:28	5
2-Butanone (MEK)	ND		130	13	ug/L			05/01/24 17:28	5
Carbon disulfide	ND		5.0	2.5	ug/L			05/01/24 17:28	5
Carbon tetrachloride	ND		5.0	0.95	ug/L			05/01/24 17:28	5
Chlorobenzene	ND		5.0	4.5	ug/L			05/01/24 17:28	5
Chloroethane	ND	UJ	5.0	3.8	ug/L			05/01/24 17:28	5
2-Chloroethyl vinyl ether	ND		25	10	ug/L			05/01/24 17:28	5
Chloroform	ND		5.0	4.5	ug/L			05/01/24 17:28	5
1-Chlorohexane	ND		5.0	1.6	ug/L			05/01/24 17:28	5
Chloromethane	ND	UJ	5.0	4.5	ug/L			05/01/24 17:28	5
cis-1,2-Dichloroethene	ND		5.0	1.0	ug/L			05/01/24 17:28	5
cis-1,3-Dichloropropene	ND		25	2.5	ug/L			05/01/24 17:28	5
Dibromochloromethane	ND		5.0	1.2	ug/L			05/01/24 17:28	5
1,2-Dichlorobenzene	ND		5.0	2.5	ug/L			05/01/24 17:28	5
1,3-Dichlorobenzene	ND		5.0	2.7	ug/L			05/01/24 17:28	5
1,4-Dichlorobenzene	ND		5.0	3.2	ug/L			05/01/24 17:28	5
Dichlorodifluoromethane	ND		5.0	4.3	ug/L			05/01/24 17:28	5
1,1-Dichloroethane	ND		5.0	2.5	ug/L			05/01/24 17:28	5
1,2-Dichloroethane	ND		5.0	0.95	ug/L			05/01/24 17:28	5
1,1-Dichloroethene	ND		5.0	2.5	ug/L			05/01/24 17:28	5
1,2-Dichloropropane	ND		5.0	2.5	ug/L			05/01/24 17:28	5
1,3-Dichloropropane	ND		5.0	2.5	ug/L			05/01/24 17:28	5
2,2-Dichloropropane	ND		5.0	2.5	ug/L			05/01/24 17:28	5
1,1-Dichloropropene	ND		5.0	2.5	ug/L			05/01/24 17:28	5
<b>Ethylbenzene</b>	<b>64</b>		5.0	2.5	ug/L			05/01/24 17:28	5
Ethyl methacrylate	ND		5.0	3.0	ug/L			05/01/24 17:28	5
Hexachlorobutadiene	ND		25	4.5	ug/L			05/01/24 17:28	5
2-Hexanone	ND		130	7.0	ug/L			05/01/24 17:28	5
<b>Isopropylbenzene</b>	<b>12</b>		5.0	2.7	ug/L			05/01/24 17:28	5
Methylene bromide	ND		25	1.1	ug/L			05/01/24 17:28	5
Methylene Chloride	ND		25	15	ug/L			05/01/24 17:28	5
4-Methyl-2-pentanone (MIBK)	ND		130	9.0	ug/L			05/01/24 17:28	5
Methyl tert-butyl ether	ND		5.0	1.1	ug/L			05/01/24 17:28	5
<b>m-Xylene &amp; p-Xylene</b>	<b>180</b>		25	3.2	ug/L			05/01/24 17:28	5
<b>Naphthalene</b>	<b>57</b>		25	15	ug/L			05/01/24 17:28	5
n-Butylbenzene	ND		5.0	3.8	ug/L			05/01/24 17:28	5
<b>N-Propylbenzene</b>	<b>18</b>		5.0	3.5	ug/L			05/01/24 17:28	5
o-Chlorotoluene	ND		5.0	2.9	ug/L			05/01/24 17:28	5
<b>o-Xylene</b>	<b>8.9 J</b>		25	3.0	ug/L			05/01/24 17:28	5
p-Chlorotoluene	ND		5.0	2.8	ug/L			05/01/24 17:28	5
p-Isopropyltoluene	ND		5.0	3.6	ug/L			05/01/24 17:28	5

# Client Sample Results

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

Job ID: 400-254705-1

**Client Sample ID: MW22-ROX-041824-DUP**

**Lab Sample ID: 400-254705-4**

Date Collected: 04/18/24 09:35

Matrix: Water

Date Received: 04/20/24 08:09

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		5.0	3.5	ug/L			05/01/24 17:28	5
Styrene	ND		5.0	5.0	ug/L			05/01/24 17:28	5
tert-Butylbenzene	ND		5.0	3.2	ug/L			05/01/24 17:28	5
1,1,1,2-Tetrachloroethane	ND		5.0	0.80	ug/L			05/01/24 17:28	5
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/L			05/01/24 17:28	5
Tetrachloroethene	ND		5.0	4.5	ug/L			05/01/24 17:28	5
<b>Toluene</b>	<b>24</b>		5.0	4.5	ug/L			05/01/24 17:28	5
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/L			05/01/24 17:28	5
trans-1,3-Dichloropropene	ND		25	1.0	ug/L			05/01/24 17:28	5
1,2,3-Trichlorobenzene	ND		5.0	4.5	ug/L			05/01/24 17:28	5
1,2,4-Trichlorobenzene	ND		5.0	4.1	ug/L			05/01/24 17:28	5
1,1,1-Trichloroethane	ND		5.0	0.90	ug/L			05/01/24 17:28	5
1,1,2-Trichloroethane	ND		25	1.1	ug/L			05/01/24 17:28	5
Trichloroethene	ND		5.0	0.75	ug/L			05/01/24 17:28	5
Trichlorofluoromethane	ND		5.0	2.6	ug/L			05/01/24 17:28	5
1,2,3-Trichloropropane	ND		25	4.2	ug/L			05/01/24 17:28	5
<b>1,2,4-Trimethylbenzene</b>	<b>16</b>		5.0	4.1	ug/L			05/01/24 17:28	5
<b>1,3,5-Trimethylbenzene</b>	<b>24</b>		5.0	2.8	ug/L			05/01/24 17:28	5
Vinyl acetate	ND		130	4.7	ug/L			05/01/24 17:28	5
Vinyl chloride	ND		5.0	2.5	ug/L			05/01/24 17:28	5
<b>Xylenes, Total</b>	<b>190</b>		50	8.0	ug/L			05/01/24 17:28	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		72 - 130					05/01/24 17:28	5
Dibromofluoromethane	101		75 - 126					05/01/24 17:28	5
Toluene-d8 (Surr)	101		64 - 132					05/01/24 17:28	5

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.21	0.10	ug/L		04/25/24 18:18	04/30/24 17:21	1
Acenaphthylene	ND		0.21	0.045	ug/L		04/25/24 18:18	04/30/24 17:21	1
<b>Anthracene</b>	<b>0.071</b>	<b>J</b>	0.21	0.048	ug/L		04/25/24 18:18	04/30/24 17:21	1
Benzo[a]anthracene	ND		0.21	0.035	ug/L		04/25/24 18:18	04/30/24 17:21	1
Benzo[a]pyrene	ND		0.21	0.066	ug/L		04/25/24 18:18	04/30/24 17:21	1
Benzo[b]fluoranthene	ND		0.21	0.038	ug/L		04/25/24 18:18	04/30/24 17:21	1
Benzo[g,h,i]perylene	ND		0.21	0.028	ug/L		04/25/24 18:18	04/30/24 17:21	1
Benzo[k]fluoranthene	ND	<b>UJ</b>	0.21	0.064	ug/L		04/25/24 18:18	04/30/24 17:21	1
Chrysene	ND		0.21	0.034	ug/L		04/25/24 18:18	04/30/24 17:21	1
Dibenz(a,h)anthracene	ND		0.21	0.049	ug/L		04/25/24 18:18	04/30/24 17:21	1
Fluoranthene	ND		0.21	0.035	ug/L		04/25/24 18:18	04/30/24 17:21	1
Fluorene	ND		0.21	0.092	ug/L		04/25/24 18:18	04/30/24 17:21	1
Indeno[1,2,3-cd]pyrene	ND		0.21	0.035	ug/L		04/25/24 18:18	04/30/24 17:21	1
Phenanthrene	ND		0.21	0.093	ug/L		04/25/24 18:18	04/30/24 17:21	1
Pyrene	ND		0.21	0.040	ug/L		04/25/24 18:18	04/30/24 17:21	1
<b>1-Methylnaphthalene</b>	<b>8.4</b>		0.21	0.082	ug/L		04/25/24 18:18	04/30/24 17:21	1
<b>2-Methylnaphthalene</b>	<b>11</b>		0.21	0.068	ug/L		04/25/24 18:18	04/30/24 17:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	133		18 - 147				04/25/24 18:18	04/30/24 17:21	1
2-Fluorobiphenyl	62		15 - 128				04/25/24 18:18	04/30/24 17:21	1

Eurofins Pensacola



# Client Sample Results

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

Job ID: 400-254705-1

**Client Sample ID: MW22-ROX-041824-DUP**

**Lab Sample ID: 400-254705-4**

Date Collected: 04/18/24 09:35

Matrix: Water

Date Received: 04/20/24 08:09

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	63		10 - 144	04/25/24 18:18	04/30/24 17:21	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	9.0	ug/L		04/25/24 18:18	05/02/24 03:44	1
Benzenethiol	ND		10	10	ug/L		04/25/24 18:18	05/02/24 03:44	1
Benzoic acid	ND		31	25	ug/L		04/25/24 18:18	05/02/24 03:44	1
Benzyl alcohol	ND		10	7.5	ug/L		04/25/24 18:18	05/02/24 03:44	1
Bis(2-chloroethoxy)methane	ND	UJ	10	4.7	ug/L		04/25/24 18:18	05/02/24 03:44	1
Bis(2-chloroethyl)ether	ND	UJ	10	4.0	ug/L		04/25/24 18:18	05/02/24 03:44	1
bis (2-chloroisopropyl) ether	ND		10	1.9	ug/L		04/25/24 18:18	05/02/24 03:44	1
Bis(2-ethylhexyl) phthalate	ND		10	9.2	ug/L		04/25/24 18:18	05/02/24 03:44	1
4-Bromophenyl phenyl ether	ND		10	8.8	ug/L		04/25/24 18:18	05/02/24 03:44	1
Butyl benzyl phthalate	ND		10	6.0	ug/L		04/25/24 18:18	05/02/24 03:44	1
4-Chloroaniline	ND		10	4.8	ug/L		04/25/24 18:18	05/02/24 03:44	1
4-Chloro-3-methylphenol	ND		10	5.5	ug/L		04/25/24 18:18	05/02/24 03:44	1
2-Chloronaphthalene	ND		10	3.9	ug/L		04/25/24 18:18	05/02/24 03:44	1
2-Chlorophenol	ND		10	4.2	ug/L		04/25/24 18:18	05/02/24 03:44	1
4-Chlorophenyl phenyl ether	ND		10	3.8	ug/L		04/25/24 18:18	05/02/24 03:44	1
Dibenz[a,h]acridine	ND	UJ	10	2.9	ug/L		04/25/24 18:18	05/02/24 03:44	1
Dibenzofuran	ND		10	4.1	ug/L		04/25/24 18:18	05/02/24 03:44	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/25/24 18:18	05/02/24 03:44	1
2,4-Dichlorophenol	ND		10	4.4	ug/L		04/25/24 18:18	05/02/24 03:44	1
Diethyl phthalate	ND		10	4.5	ug/L		04/25/24 18:18	05/02/24 03:44	1
<b>2,4-Dimethylphenol</b>	<b>5.4</b>	<b>J</b>	10	5.3	ug/L		04/25/24 18:18	05/02/24 03:44	1
Dimethyl phthalate	ND		10	4.3	ug/L		04/25/24 18:18	05/02/24 03:44	1
Di-n-butyl phthalate	ND		10	4.7	ug/L		04/25/24 18:18	05/02/24 03:44	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		04/25/24 18:18	05/02/24 03:44	1
2,4-Dinitrophenol	ND		31	4.7	ug/L		04/25/24 18:18	05/02/24 03:44	1
2,4-Dinitrotoluene	ND		10	5.2	ug/L		04/25/24 18:18	05/02/24 03:44	1
2,6-Dinitrotoluene	ND		10	4.0	ug/L		04/25/24 18:18	05/02/24 03:44	1
Di-n-octyl phthalate	ND		10	6.2	ug/L		04/25/24 18:18	05/02/24 03:44	1
1,4-Dioxane	ND	UJ	10	4.4	ug/L		04/25/24 18:18	05/02/24 03:44	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	UJ	10	3.4	ug/L		04/25/24 18:18	05/02/24 03:44	1
Hexachlorobenzene	ND		10	10	ug/L		04/25/24 18:18	05/02/24 03:44	1
Hexachlorocyclopentadiene	ND		21	4.6	ug/L		04/25/24 18:18	05/02/24 03:44	1
Hexachloroethane	ND		10	5.3	ug/L		04/25/24 18:18	05/02/24 03:44	1
Indene	ND		10	3.7	ug/L		04/25/24 18:18	05/02/24 03:44	1
Isophorone	ND	UJ	10	5.3	ug/L		04/25/24 18:18	05/02/24 03:44	1
2-Methylphenol	ND		10	3.3	ug/L		04/25/24 18:18	05/02/24 03:44	1
3 & 4 Methylphenol	ND		21	4.7	ug/L		04/25/24 18:18	05/02/24 03:44	1
2-Nitroaniline	ND		10	5.1	ug/L		04/25/24 18:18	05/02/24 03:44	1
3-Nitroaniline	ND		10	4.8	ug/L		04/25/24 18:18	05/02/24 03:44	1
4-Nitroaniline	ND		10	4.2	ug/L		04/25/24 18:18	05/02/24 03:44	1
Nitrobenzene	ND		10	4.8	ug/L		04/25/24 18:18	05/02/24 03:44	1
2-Nitrophenol	ND		10	4.7	ug/L		04/25/24 18:18	05/02/24 03:44	1
4-Nitrophenol	ND		10	3.4	ug/L		04/25/24 18:18	05/02/24 03:44	1
N-Nitrosodimethylamine	ND		10	2.3	ug/L		04/25/24 18:18	05/02/24 03:44	1

# Client Sample Results

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

Job ID: 400-254705-1

**Client Sample ID: MW22-ROX-041824-DUP**

**Lab Sample ID: 400-254705-4**

Date Collected: 04/18/24 09:35

Matrix: Water

Date Received: 04/20/24 08:09

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND	UJ	10	2.6	ug/L		04/25/24 18:18	05/02/24 03:44	1
N-Nitrosodiphenylamine	ND		10	3.8	ug/L		04/25/24 18:18	05/02/24 03:44	1
Pentachlorophenol	ND		21	12	ug/L		04/25/24 18:18	05/02/24 03:44	1
Phenol	ND		10	4.3	ug/L		04/25/24 18:18	05/02/24 03:44	1
Pyridine	ND	*- *1 UJ	10	10	ug/L		04/25/24 18:18	05/02/24 03:44	1
Quinoline	ND		10	2.5	ug/L		04/25/24 18:18	05/02/24 03:44	1
2,4,5-Trichlorophenol	ND		10	4.1	ug/L		04/25/24 18:18	05/02/24 03:44	1
2,4,6-Trichlorophenol	ND		10	3.6	ug/L		04/25/24 18:18	05/02/24 03:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	79		21 - 114	04/25/24 18:18	05/02/24 03:44	1
2-Fluorophenol	51		10 - 105	04/25/24 18:18	05/02/24 03:44	1
Nitrobenzene-d5	66		16 - 127	04/25/24 18:18	05/02/24 03:44	1
Phenol-d5	38		10 - 129	04/25/24 18:18	05/02/24 03:44	1
Terphenyl-d14	120		13 - 150	04/25/24 18:18	05/02/24 03:44	1
2,4,6-Tribromophenol	122		10 - 150	04/25/24 18:18	05/02/24 03:44	1

**Method: EPA 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	0.018	ug/L		04/26/24 12:15	04/26/24 19:05	1
1,2-Dibromoethane	ND		0.021	0.015	ug/L		04/26/24 12:15	04/26/24 19:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		51 - 149	04/26/24 12:15	04/26/24 19:05	1

# Client Sample Results

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

Job ID: 400-254705-1

**Client Sample ID: P57-ROX-041824**

**Lab Sample ID: 400-254705-5**

Date Collected: 04/18/24 10:55

Matrix: Water

Date Received: 04/20/24 08:09

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			05/01/24 15:48	1
Acrolein	ND		20	3.3	ug/L			05/01/24 15:48	1
Acrylonitrile	ND		10	2.8	ug/L			05/01/24 15:48	1
<b>Benzene</b>	<b>8.9</b>		1.0	0.50	ug/L			05/01/24 15:48	1
Bromobenzene	ND		1.0	0.54	ug/L			05/01/24 15:48	1
Bromochloromethane	ND		1.0	0.21	ug/L			05/01/24 15:48	1
Bromodichloromethane	ND		1.0	0.50	ug/L			05/01/24 15:48	1
Bromoform	ND		5.0	0.25	ug/L			05/01/24 15:48	1
Bromomethane	ND	*+	1.0	0.98	ug/L			05/01/24 15:48	1
2-Butanone (MEK)	ND		25	2.6	ug/L			05/01/24 15:48	1
Carbon disulfide	ND		1.0	0.50	ug/L			05/01/24 15:48	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			05/01/24 15:48	1
Chlorobenzene	ND		1.0	0.90	ug/L			05/01/24 15:48	1
Chloroethane	ND	UJ	1.0	0.76	ug/L			05/01/24 15:48	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			05/01/24 15:48	1
Chloroform	ND		1.0	0.90	ug/L			05/01/24 15:48	1
1-Chlorohexane	ND		1.0	0.32	ug/L			05/01/24 15:48	1
Chloromethane	ND	UJ	1.0	0.90	ug/L			05/01/24 15:48	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			05/01/24 15:48	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			05/01/24 15:48	1
Dibromochloromethane	ND		1.0	0.24	ug/L			05/01/24 15:48	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			05/01/24 15:48	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			05/01/24 15:48	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			05/01/24 15:48	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			05/01/24 15:48	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			05/01/24 15:48	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			05/01/24 15:48	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			05/01/24 15:48	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			05/01/24 15:48	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			05/01/24 15:48	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			05/01/24 15:48	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			05/01/24 15:48	1
<b>Ethylbenzene</b>	<b>0.68</b>	J	1.0	0.50	ug/L			05/01/24 15:48	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			05/01/24 15:48	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			05/01/24 15:48	1
2-Hexanone	ND		25	1.4	ug/L			05/01/24 15:48	1
<b>Isopropylbenzene</b>	<b>15</b>	J	1.0	0.53	ug/L			05/01/24 15:48	1
Methylene bromide	ND		5.0	0.22	ug/L			05/01/24 15:48	1
Methylene Chloride	ND		5.0	3.0	ug/L			05/01/24 15:48	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			05/01/24 15:48	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			05/01/24 15:48	1
<b>m-Xylene &amp; p-Xylene</b>	<b>0.99</b>	J	5.0	0.63	ug/L			05/01/24 15:48	1
Naphthalene	ND		5.0	3.0	ug/L			05/01/24 15:48	1
<b>n-Butylbenzene</b>	<b>1.0</b>		1.0	0.76	ug/L			05/01/24 15:48	1
<b>N-Propylbenzene</b>	<b>16</b>	J	1.0	0.69	ug/L			05/01/24 15:48	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			05/01/24 15:48	1
o-Xylene	ND		5.0	0.60	ug/L			05/01/24 15:48	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			05/01/24 15:48	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			05/01/24 15:48	1

# Client Sample Results

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

Job ID: 400-254705-1

**Client Sample ID: P57-ROX-041824**

**Lab Sample ID: 400-254705-5**

Date Collected: 04/18/24 10:55

Matrix: Water

Date Received: 04/20/24 08:09

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>sec-Butylbenzene</b>	<b>3.1</b>		1.0	0.70	ug/L			05/01/24 15:48	1
Styrene	ND		1.0	1.0	ug/L			05/01/24 15:48	1
<b>tert-Butylbenzene</b>	<b>3.8</b>		1.0	0.63	ug/L			05/01/24 15:48	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			05/01/24 15:48	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			05/01/24 15:48	1
Tetrachloroethene	ND		1.0	0.90	ug/L			05/01/24 15:48	1
<b>Toluene</b>	<b>4.5</b>		1.0	0.90	ug/L			05/01/24 15:48	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			05/01/24 15:48	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			05/01/24 15:48	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			05/01/24 15:48	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			05/01/24 15:48	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			05/01/24 15:48	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			05/01/24 15:48	1
Trichloroethene	ND		1.0	0.15	ug/L			05/01/24 15:48	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			05/01/24 15:48	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			05/01/24 15:48	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			05/01/24 15:48	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			05/01/24 15:48	1
Vinyl acetate	ND		25	0.93	ug/L			05/01/24 15:48	1
Vinyl chloride	ND		1.0	0.50	ug/L			05/01/24 15:48	1
Xylenes, Total	ND		10	1.6	ug/L			05/01/24 15:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	100		72 - 130		05/01/24 15:48	1
Dibromofluoromethane	99		75 - 126		05/01/24 15:48	1
Toluene-d8 (Surr)	100		64 - 132		05/01/24 15:48	1

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acenaphthene</b>	<b>0.29</b>		0.21	0.10	ug/L		04/25/24 18:18	04/30/24 17:41	1
<b>Acenaphthylene</b>	<b>0.052</b>	<b>J</b>	0.21	0.047	ug/L		04/25/24 18:18	04/30/24 17:41	1
<b>Anthracene</b>	<b>0.18</b>	<b>J</b>	0.21	0.050	ug/L		04/25/24 18:18	04/30/24 17:41	1
Benzo[a]anthracene	ND		0.21	0.036	ug/L		04/25/24 18:18	04/30/24 17:41	1
Benzo[a]pyrene	ND		0.21	0.068	ug/L		04/25/24 18:18	04/30/24 17:41	1
Benzo[b]fluoranthene	ND		0.21	0.039	ug/L		04/25/24 18:18	04/30/24 17:41	1
Benzo[g,h,i]perylene	ND		0.21	0.029	ug/L		04/25/24 18:18	04/30/24 17:41	1
Benzo[k]fluoranthene	ND	<b>UJ</b>	0.21	0.066	ug/L		04/25/24 18:18	04/30/24 17:41	1
Chrysene	ND		0.21	0.035	ug/L		04/25/24 18:18	04/30/24 17:41	1
Dibenz(a,h)anthracene	ND		0.21	0.051	ug/L		04/25/24 18:18	04/30/24 17:41	1
<b>Fluoranthene</b>	<b>0.044</b>	<b>J</b>	0.21	0.036	ug/L		04/25/24 18:18	04/30/24 17:41	1
<b>Fluorene</b>	<b>0.42</b>		0.21	0.094	ug/L		04/25/24 18:18	04/30/24 17:41	1
Indeno[1,2,3-cd]pyrene	ND		0.21	0.036	ug/L		04/25/24 18:18	04/30/24 17:41	1
<b>Phenanthrene</b>	<b>0.25</b>		0.21	0.095	ug/L		04/25/24 18:18	04/30/24 17:41	1
Pyrene	ND		0.21	0.041	ug/L		04/25/24 18:18	04/30/24 17:41	1
<b>1-Methylnaphthalene</b>	<b>15</b>		0.21	0.085	ug/L		04/25/24 18:18	04/30/24 17:41	1
<b>2-Methylnaphthalene</b>	<b>1.4</b>		0.21	0.070	ug/L		04/25/24 18:18	04/30/24 17:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	123		18 - 147	04/25/24 18:18	04/30/24 17:41	1
2-Fluorobiphenyl	55		15 - 128	04/25/24 18:18	04/30/24 17:41	1

Eurofins Pensacola

# Client Sample Results

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

Job ID: 400-254705-1

**Client Sample ID: P57-ROX-041824**

**Lab Sample ID: 400-254705-5**

Date Collected: 04/18/24 10:55

Matrix: Water

Date Received: 04/20/24 08:09

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	80		10 - 144	04/25/24 18:18	04/30/24 17:41	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		11	9.2	ug/L		04/25/24 18:18	05/02/24 04:10	1
Benzenethiol	ND		11	10	ug/L		04/25/24 18:18	05/02/24 04:10	1
Benzoic acid	ND		32	25	ug/L		04/25/24 18:18	05/02/24 04:10	1
Benzyl alcohol	ND		11	7.7	ug/L		04/25/24 18:18	05/02/24 04:10	1
Bis(2-chloroethoxy)methane	ND	UJ	11	4.9	ug/L		04/25/24 18:18	05/02/24 04:10	1
Bis(2-chloroethyl)ether	ND	UJ	11	4.1	ug/L		04/25/24 18:18	05/02/24 04:10	1
bis (2-chloroisopropyl) ether	ND		11	1.9	ug/L		04/25/24 18:18	05/02/24 04:10	1
Bis(2-ethylhexyl) phthalate	ND		11	9.4	ug/L		04/25/24 18:18	05/02/24 04:10	1
4-Bromophenyl phenyl ether	ND		11	9.1	ug/L		04/25/24 18:18	05/02/24 04:10	1
Butyl benzyl phthalate	ND		11	6.1	ug/L		04/25/24 18:18	05/02/24 04:10	1
4-Chloroaniline	ND		11	5.0	ug/L		04/25/24 18:18	05/02/24 04:10	1
4-Chloro-3-methylphenol	ND		11	5.6	ug/L		04/25/24 18:18	05/02/24 04:10	1
2-Chloronaphthalene	ND		11	4.0	ug/L		04/25/24 18:18	05/02/24 04:10	1
2-Chlorophenol	ND		11	4.3	ug/L		04/25/24 18:18	05/02/24 04:10	1
4-Chlorophenyl phenyl ether	ND		11	3.9	ug/L		04/25/24 18:18	05/02/24 04:10	1
Dibenz[a,h]acridine	ND	UJ	11	3.0	ug/L		04/25/24 18:18	05/02/24 04:10	1
Dibenzofuran	ND		11	4.2	ug/L		04/25/24 18:18	05/02/24 04:10	1
3,3'-Dichlorobenzidine	ND		12	12	ug/L		04/25/24 18:18	05/02/24 04:10	1
2,4-Dichlorophenol	ND		11	4.6	ug/L		04/25/24 18:18	05/02/24 04:10	1
Diethyl phthalate	ND		11	4.7	ug/L		04/25/24 18:18	05/02/24 04:10	1
2,4-Dimethylphenol	ND		11	5.5	ug/L		04/25/24 18:18	05/02/24 04:10	1
Dimethyl phthalate	ND		11	4.4	ug/L		04/25/24 18:18	05/02/24 04:10	1
Di-n-butyl phthalate	ND		11	4.9	ug/L		04/25/24 18:18	05/02/24 04:10	1
4,6-Dinitro-ortho-cresol	ND		11	11	ug/L		04/25/24 18:18	05/02/24 04:10	1
2,4-Dinitrophenol	ND		32	4.9	ug/L		04/25/24 18:18	05/02/24 04:10	1
2,4-Dinitrotoluene	ND		11	5.4	ug/L		04/25/24 18:18	05/02/24 04:10	1
2,6-Dinitrotoluene	ND		11	4.1	ug/L		04/25/24 18:18	05/02/24 04:10	1
Di-n-octyl phthalate	ND		11	6.4	ug/L		04/25/24 18:18	05/02/24 04:10	1
1,4-Dioxane	ND	UJ	11	4.6	ug/L		04/25/24 18:18	05/02/24 04:10	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	UJ	11	3.5	ug/L		04/25/24 18:18	05/02/24 04:10	1
Hexachlorobenzene	ND		11	10	ug/L		04/25/24 18:18	05/02/24 04:10	1
Hexachlorocyclopentadiene	ND		21	4.8	ug/L		04/25/24 18:18	05/02/24 04:10	1
Hexachloroethane	ND		11	5.5	ug/L		04/25/24 18:18	05/02/24 04:10	1
Indene	ND		11	3.8	ug/L		04/25/24 18:18	05/02/24 04:10	1
Isophorone	ND	UJ	11	5.5	ug/L		04/25/24 18:18	05/02/24 04:10	1
2-Methylphenol	ND		11	3.4	ug/L		04/25/24 18:18	05/02/24 04:10	1
3 & 4 Methylphenol	ND		21	4.9	ug/L		04/25/24 18:18	05/02/24 04:10	1
2-Nitroaniline	ND		11	5.3	ug/L		04/25/24 18:18	05/02/24 04:10	1
3-Nitroaniline	ND		11	5.0	ug/L		04/25/24 18:18	05/02/24 04:10	1
4-Nitroaniline	ND		11	4.3	ug/L		04/25/24 18:18	05/02/24 04:10	1
Nitrobenzene	ND		11	5.0	ug/L		04/25/24 18:18	05/02/24 04:10	1
2-Nitrophenol	ND		11	4.9	ug/L		04/25/24 18:18	05/02/24 04:10	1
4-Nitrophenol	ND		11	3.5	ug/L		04/25/24 18:18	05/02/24 04:10	1
N-Nitrosodimethylamine	ND		11	2.3	ug/L		04/25/24 18:18	05/02/24 04:10	1

# Client Sample Results

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

Job ID: 400-254705-1

**Client Sample ID: P57-ROX-041824**

**Lab Sample ID: 400-254705-5**

Date Collected: 04/18/24 10:55

Matrix: Water

Date Received: 04/20/24 08:09

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND	UJ	11	2.6	ug/L		04/25/24 18:18	05/02/24 04:10	1
N-Nitrosodiphenylamine	ND		11	3.9	ug/L		04/25/24 18:18	05/02/24 04:10	1
Pentachlorophenol	ND		21	13	ug/L		04/25/24 18:18	05/02/24 04:10	1
Phenol	ND		11	4.4	ug/L		04/25/24 18:18	05/02/24 04:10	1
Pyridine	ND	*- *1 UJ	11	11	ug/L		04/25/24 18:18	05/02/24 04:10	1
Quinoline	ND		11	2.5	ug/L		04/25/24 18:18	05/02/24 04:10	1
2,4,5-Trichlorophenol	ND		11	4.2	ug/L		04/25/24 18:18	05/02/24 04:10	1
2,4,6-Trichlorophenol	ND		11	3.7	ug/L		04/25/24 18:18	05/02/24 04:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	88		21 - 114	04/25/24 18:18	05/02/24 04:10	1
2-Fluorophenol	61		10 - 105	04/25/24 18:18	05/02/24 04:10	1
Nitrobenzene-d5	77		16 - 127	04/25/24 18:18	05/02/24 04:10	1
Phenol-d5	46		10 - 129	04/25/24 18:18	05/02/24 04:10	1
Terphenyl-d14	126		13 - 150	04/25/24 18:18	05/02/24 04:10	1
2,4,6-Tribromophenol	127		10 - 150	04/25/24 18:18	05/02/24 04:10	1

**Method: EPA 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	0.018	ug/L		04/26/24 12:15	04/26/24 19:26	1
1,2-Dibromoethane	ND		0.021	0.015	ug/L		04/26/24 12:15	04/26/24 19:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	106		51 - 149	04/26/24 12:15	04/26/24 19:26	1



# Client Sample Results

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

Job ID: 400-254705-1

**Client Sample ID: P57-ROX-041824-DUP**

**Lab Sample ID: 400-254705-6**

Date Collected: 04/18/24 10:55

Matrix: Water

Date Received: 04/20/24 08:09

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			05/01/24 16:13	1
Acrolein	ND		20	3.3	ug/L			05/01/24 16:13	1
Acrylonitrile	ND		10	2.8	ug/L			05/01/24 16:13	1
<b>Benzene</b>	<b>7.8</b>		1.0	0.50	ug/L			05/01/24 16:13	1
Bromobenzene	ND		1.0	0.54	ug/L			05/01/24 16:13	1
Bromochloromethane	ND		1.0	0.21	ug/L			05/01/24 16:13	1
Bromodichloromethane	ND		1.0	0.50	ug/L			05/01/24 16:13	1
Bromoform	ND		5.0	0.25	ug/L			05/01/24 16:13	1
Bromomethane	ND	*+	1.0	0.98	ug/L			05/01/24 16:13	1
2-Butanone (MEK)	ND		25	2.6	ug/L			05/01/24 16:13	1
Carbon disulfide	ND		1.0	0.50	ug/L			05/01/24 16:13	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			05/01/24 16:13	1
Chlorobenzene	ND		1.0	0.90	ug/L			05/01/24 16:13	1
Chloroethane	ND	UJ	1.0	0.76	ug/L			05/01/24 16:13	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			05/01/24 16:13	1
Chloroform	ND		1.0	0.90	ug/L			05/01/24 16:13	1
1-Chlorohexane	ND		1.0	0.32	ug/L			05/01/24 16:13	1
Chloromethane	ND	UJ	1.0	0.90	ug/L			05/01/24 16:13	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			05/01/24 16:13	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			05/01/24 16:13	1
Dibromochloromethane	ND		1.0	0.24	ug/L			05/01/24 16:13	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			05/01/24 16:13	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			05/01/24 16:13	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			05/01/24 16:13	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			05/01/24 16:13	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			05/01/24 16:13	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			05/01/24 16:13	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			05/01/24 16:13	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			05/01/24 16:13	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			05/01/24 16:13	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			05/01/24 16:13	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			05/01/24 16:13	1
Ethylbenzene	ND		1.0	0.50	ug/L			05/01/24 16:13	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			05/01/24 16:13	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			05/01/24 16:13	1
2-Hexanone	ND		25	1.4	ug/L			05/01/24 16:13	1
<b>Isopropylbenzene</b>	<b>9.2</b>	J	1.0	0.53	ug/L			05/01/24 16:13	1
Methylene bromide	ND		5.0	0.22	ug/L			05/01/24 16:13	1
Methylene Chloride	ND		5.0	3.0	ug/L			05/01/24 16:13	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			05/01/24 16:13	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			05/01/24 16:13	1
<b>m-Xylene &amp; p-Xylene</b>	<b>0.65</b>	J	5.0	0.63	ug/L			05/01/24 16:13	1
Naphthalene	ND		5.0	3.0	ug/L			05/01/24 16:13	1
n-Butylbenzene	ND		1.0	0.76	ug/L			05/01/24 16:13	1
<b>N-Propylbenzene</b>	<b>9.1</b>	J	1.0	0.69	ug/L			05/01/24 16:13	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			05/01/24 16:13	1
o-Xylene	ND		5.0	0.60	ug/L			05/01/24 16:13	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			05/01/24 16:13	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			05/01/24 16:13	1

# Client Sample Results

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

Job ID: 400-254705-1

**Client Sample ID: P57-ROX-041824-DUP**

**Lab Sample ID: 400-254705-6**

Date Collected: 04/18/24 10:55

Matrix: Water

Date Received: 04/20/24 08:09

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>sec-Butylbenzene</b>	<b>1.7</b>		1.0	0.70	ug/L			05/01/24 16:13	1
Styrene	ND		1.0	1.0	ug/L			05/01/24 16:13	1
<b>tert-Butylbenzene</b>	<b>2.2</b>		1.0	0.63	ug/L			05/01/24 16:13	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			05/01/24 16:13	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			05/01/24 16:13	1
Tetrachloroethene	ND		1.0	0.90	ug/L			05/01/24 16:13	1
<b>Toluene</b>	<b>3.1</b>		1.0	0.90	ug/L			05/01/24 16:13	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			05/01/24 16:13	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			05/01/24 16:13	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			05/01/24 16:13	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			05/01/24 16:13	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			05/01/24 16:13	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			05/01/24 16:13	1
Trichloroethene	ND		1.0	0.15	ug/L			05/01/24 16:13	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			05/01/24 16:13	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			05/01/24 16:13	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			05/01/24 16:13	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			05/01/24 16:13	1
Vinyl acetate	ND		25	0.93	ug/L			05/01/24 16:13	1
Vinyl chloride	ND		1.0	0.50	ug/L			05/01/24 16:13	1
Xylenes, Total	ND		10	1.6	ug/L			05/01/24 16:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		72 - 130		05/01/24 16:13	1
Dibromofluoromethane	101		75 - 126		05/01/24 16:13	1
Toluene-d8 (Surr)	99		64 - 132		05/01/24 16:13	1

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acenaphthene</b>	<b>0.23</b>		0.22	0.11	ug/L		04/25/24 18:18	04/30/24 18:02	1
Acenaphthylene	ND		0.22	0.048	ug/L		04/25/24 18:18	04/30/24 18:02	1
<b>Anthracene</b>	<b>0.074</b>	<b>J</b>	0.22	0.051	ug/L		04/25/24 18:18	04/30/24 18:02	1
Benzo[a]anthracene	ND		0.22	0.037	ug/L		04/25/24 18:18	04/30/24 18:02	1
Benzo[a]pyrene	ND		0.22	0.070	ug/L		04/25/24 18:18	04/30/24 18:02	1
Benzo[b]fluoranthene	ND		0.22	0.040	ug/L		04/25/24 18:18	04/30/24 18:02	1
Benzo[g,h,i]perylene	ND		0.22	0.029	ug/L		04/25/24 18:18	04/30/24 18:02	1
Benzo[k]fluoranthene	ND	<b>UJ</b>	0.22	0.068	ug/L		04/25/24 18:18	04/30/24 18:02	1
Chrysene	ND		0.22	0.036	ug/L		04/25/24 18:18	04/30/24 18:02	1
Dibenz(a,h)anthracene	ND		0.22	0.052	ug/L		04/25/24 18:18	04/30/24 18:02	1
Fluoranthene	ND		0.22	0.037	ug/L		04/25/24 18:18	04/30/24 18:02	1
<b>Fluorene</b>	<b>0.36</b>		0.22	0.097	ug/L		04/25/24 18:18	04/30/24 18:02	1
Indeno[1,2,3-cd]pyrene	ND		0.22	0.037	ug/L		04/25/24 18:18	04/30/24 18:02	1
<b>Phenanthrene</b>	<b>0.19</b>	<b>J</b>	0.22	0.098	ug/L		04/25/24 18:18	04/30/24 18:02	1
Pyrene	ND		0.22	0.042	ug/L		04/25/24 18:18	04/30/24 18:02	1
<b>1-Methylnaphthalene</b>	<b>15</b>		0.22	0.087	ug/L		04/25/24 18:18	04/30/24 18:02	1
<b>2-Methylnaphthalene</b>	<b>1.5</b>		0.22	0.072	ug/L		04/25/24 18:18	04/30/24 18:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	114		18 - 147	04/25/24 18:18	04/30/24 18:02	1
2-Fluorobiphenyl	55		15 - 128	04/25/24 18:18	04/30/24 18:02	1

Eurofins Pensacola

# Client Sample Results

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

Job ID: 400-254705-1

**Client Sample ID: P57-ROX-041824-DUP**

**Lab Sample ID: 400-254705-6**

Date Collected: 04/18/24 10:55

Matrix: Water

Date Received: 04/20/24 08:09

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	80		10 - 144	04/25/24 18:18	04/30/24 18:02	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		11	9.5	ug/L		04/25/24 18:18	05/02/24 04:35	1
Benzenethiol	ND		11	11	ug/L		04/25/24 18:18	05/02/24 04:35	1
Benzoic acid	ND		33	26	ug/L		04/25/24 18:18	05/02/24 04:35	1
Benzyl alcohol	ND		11	7.9	ug/L		04/25/24 18:18	05/02/24 04:35	1
Bis(2-chloroethoxy)methane	ND	UJ	11	5.0	ug/L		04/25/24 18:18	05/02/24 04:35	1
Bis(2-chloroethyl)ether	ND	UJ	11	4.2	ug/L		04/25/24 18:18	05/02/24 04:35	1
bis (2-chloroisopropyl) ether	ND		11	2.0	ug/L		04/25/24 18:18	05/02/24 04:35	1
Bis(2-ethylhexyl) phthalate	ND		11	9.7	ug/L		04/25/24 18:18	05/02/24 04:35	1
4-Bromophenyl phenyl ether	ND		11	9.4	ug/L		04/25/24 18:18	05/02/24 04:35	1
Butyl benzyl phthalate	ND		11	6.3	ug/L		04/25/24 18:18	05/02/24 04:35	1
4-Chloroaniline	ND		11	5.1	ug/L		04/25/24 18:18	05/02/24 04:35	1
4-Chloro-3-methylphenol	ND		11	5.8	ug/L		04/25/24 18:18	05/02/24 04:35	1
2-Chloronaphthalene	ND		11	4.1	ug/L		04/25/24 18:18	05/02/24 04:35	1
2-Chlorophenol	ND		11	4.5	ug/L		04/25/24 18:18	05/02/24 04:35	1
4-Chlorophenyl phenyl ether	ND		11	4.0	ug/L		04/25/24 18:18	05/02/24 04:35	1
Dibenz[a,h]acridine	ND	UJ	11	3.0	ug/L		04/25/24 18:18	05/02/24 04:35	1
Dibenzofuran	ND		11	4.4	ug/L		04/25/24 18:18	05/02/24 04:35	1
3,3'-Dichlorobenzidine	ND		12	12	ug/L		04/25/24 18:18	05/02/24 04:35	1
2,4-Dichlorophenol	ND		11	4.7	ug/L		04/25/24 18:18	05/02/24 04:35	1
Diethyl phthalate	ND		11	4.8	ug/L		04/25/24 18:18	05/02/24 04:35	1
2,4-Dimethylphenol	ND		11	5.7	ug/L		04/25/24 18:18	05/02/24 04:35	1
Dimethyl phthalate	ND		11	4.6	ug/L		04/25/24 18:18	05/02/24 04:35	1
Di-n-butyl phthalate	ND		11	5.0	ug/L		04/25/24 18:18	05/02/24 04:35	1
4,6-Dinitro-ortho-cresol	ND		11	11	ug/L		04/25/24 18:18	05/02/24 04:35	1
2,4-Dinitrophenol	ND		33	5.0	ug/L		04/25/24 18:18	05/02/24 04:35	1
2,4-Dinitrotoluene	ND		11	5.6	ug/L		04/25/24 18:18	05/02/24 04:35	1
2,6-Dinitrotoluene	ND		11	4.2	ug/L		04/25/24 18:18	05/02/24 04:35	1
Di-n-octyl phthalate	ND		11	6.5	ug/L		04/25/24 18:18	05/02/24 04:35	1
1,4-Dioxane	ND	UJ	11	4.7	ug/L		04/25/24 18:18	05/02/24 04:35	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	UJ	11	3.6	ug/L		04/25/24 18:18	05/02/24 04:35	1
Hexachlorobenzene	ND		11	11	ug/L		04/25/24 18:18	05/02/24 04:35	1
Hexachlorocyclopentadiene	ND		22	4.9	ug/L		04/25/24 18:18	05/02/24 04:35	1
Hexachloroethane	ND		11	5.7	ug/L		04/25/24 18:18	05/02/24 04:35	1
Indene	ND		11	3.9	ug/L		04/25/24 18:18	05/02/24 04:35	1
Isophorone	ND	UJ	11	5.7	ug/L		04/25/24 18:18	05/02/24 04:35	1
2-Methylphenol	ND		11	3.5	ug/L		04/25/24 18:18	05/02/24 04:35	1
3 & 4 Methylphenol	ND		22	5.0	ug/L		04/25/24 18:18	05/02/24 04:35	1
2-Nitroaniline	ND		11	5.4	ug/L		04/25/24 18:18	05/02/24 04:35	1
3-Nitroaniline	ND		11	5.1	ug/L		04/25/24 18:18	05/02/24 04:35	1
4-Nitroaniline	ND		11	4.5	ug/L		04/25/24 18:18	05/02/24 04:35	1
Nitrobenzene	ND		11	5.1	ug/L		04/25/24 18:18	05/02/24 04:35	1
2-Nitrophenol	ND		11	5.0	ug/L		04/25/24 18:18	05/02/24 04:35	1
4-Nitrophenol	ND		11	3.6	ug/L		04/25/24 18:18	05/02/24 04:35	1
N-Nitrosodimethylamine	ND		11	2.4	ug/L		04/25/24 18:18	05/02/24 04:35	1

# Client Sample Results

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

Job ID: 400-254705-1

**Client Sample ID: P57-ROX-041824-DUP**

**Lab Sample ID: 400-254705-6**

Date Collected: 04/18/24 10:55

Matrix: Water

Date Received: 04/20/24 08:09

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND	UJ	11	2.7	ug/L		04/25/24 18:18	05/02/24 04:35	1
N-Nitrosodiphenylamine	ND		11	4.0	ug/L		04/25/24 18:18	05/02/24 04:35	1
Pentachlorophenol	ND		22	13	ug/L		04/25/24 18:18	05/02/24 04:35	1
Phenol	ND		11	4.6	ug/L		04/25/24 18:18	05/02/24 04:35	1
Pyridine	ND	*- *1 UJ	11	11	ug/L		04/25/24 18:18	05/02/24 04:35	1
Quinoline	ND		11	2.6	ug/L		04/25/24 18:18	05/02/24 04:35	1
2,4,5-Trichlorophenol	ND		11	4.4	ug/L		04/25/24 18:18	05/02/24 04:35	1
2,4,6-Trichlorophenol	ND		11	3.8	ug/L		04/25/24 18:18	05/02/24 04:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	87		21 - 114	04/25/24 18:18	05/02/24 04:35	1
2-Fluorophenol	57		10 - 105	04/25/24 18:18	05/02/24 04:35	1
Nitrobenzene-d5	74		16 - 127	04/25/24 18:18	05/02/24 04:35	1
Phenol-d5	43		10 - 129	04/25/24 18:18	05/02/24 04:35	1
Terphenyl-d14	119		13 - 150	04/25/24 18:18	05/02/24 04:35	1
2,4,6-Tribromophenol	113		10 - 150	04/25/24 18:18	05/02/24 04:35	1

**Method: EPA 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	0.017	ug/L		04/26/24 12:15	04/26/24 19:47	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		04/26/24 12:15	04/26/24 19:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	120		51 - 149	04/26/24 12:15	04/26/24 19:47	1

# Client Sample Results

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

Job ID: 400-254705-1

**Client Sample ID: P74-ROX-041824**

**Lab Sample ID: 400-254705-7**

Date Collected: 04/18/24 12:00

Matrix: Water

Date Received: 04/20/24 08:09

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acetone</b>	<b>24</b>	<b>J</b>	25	10	ug/L			05/01/24 16:38	1
Acrolein	ND		20	3.3	ug/L			05/01/24 16:38	1
Acrylonitrile	ND		10	2.8	ug/L			05/01/24 16:38	1
<b>Benzene</b>	<b>55</b>		1.0	0.50	ug/L			05/01/24 16:38	1
Bromobenzene	ND		1.0	0.54	ug/L			05/01/24 16:38	1
Bromochloromethane	ND		1.0	0.21	ug/L			05/01/24 16:38	1
Bromodichloromethane	ND		1.0	0.50	ug/L			05/01/24 16:38	1
Bromoform	ND		5.0	0.25	ug/L			05/01/24 16:38	1
Bromomethane	ND	*+	1.0	0.98	ug/L			05/01/24 16:38	1
<b>2-Butanone (MEK)</b>	<b>8.3</b>	<b>J</b>	25	2.6	ug/L			05/01/24 16:38	1
Carbon disulfide	ND		1.0	0.50	ug/L			05/01/24 16:38	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			05/01/24 16:38	1
Chlorobenzene	ND		1.0	0.90	ug/L			05/01/24 16:38	1
Chloroethane	ND	UJ	1.0	0.76	ug/L			05/01/24 16:38	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			05/01/24 16:38	1
Chloroform	ND		1.0	0.90	ug/L			05/01/24 16:38	1
1-Chlorohexane	ND		1.0	0.32	ug/L			05/01/24 16:38	1
Chloromethane	ND	UJ	1.0	0.90	ug/L			05/01/24 16:38	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			05/01/24 16:38	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			05/01/24 16:38	1
Dibromochloromethane	ND		1.0	0.24	ug/L			05/01/24 16:38	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			05/01/24 16:38	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			05/01/24 16:38	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			05/01/24 16:38	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			05/01/24 16:38	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			05/01/24 16:38	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			05/01/24 16:38	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			05/01/24 16:38	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			05/01/24 16:38	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			05/01/24 16:38	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			05/01/24 16:38	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			05/01/24 16:38	1
<b>Ethylbenzene</b>	<b>0.67</b>	<b>J</b>	1.0	0.50	ug/L			05/01/24 16:38	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			05/01/24 16:38	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			05/01/24 16:38	1
2-Hexanone	ND		25	1.4	ug/L			05/01/24 16:38	1
Isopropylbenzene	ND		1.0	0.53	ug/L			05/01/24 16:38	1
Methylene bromide	ND		5.0	0.22	ug/L			05/01/24 16:38	1
Methylene Chloride	ND		5.0	3.0	ug/L			05/01/24 16:38	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			05/01/24 16:38	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			05/01/24 16:38	1
<b>m-Xylene &amp; p-Xylene</b>	<b>1.2</b>	<b>J</b>	5.0	0.63	ug/L			05/01/24 16:38	1
Naphthalene	ND		5.0	3.0	ug/L			05/01/24 16:38	1
n-Butylbenzene	ND		1.0	0.76	ug/L			05/01/24 16:38	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/01/24 16:38	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			05/01/24 16:38	1
o-Xylene	ND		5.0	0.60	ug/L			05/01/24 16:38	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			05/01/24 16:38	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			05/01/24 16:38	1

# Client Sample Results

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

Job ID: 400-254705-1

**Client Sample ID: P74-ROX-041824**

**Lab Sample ID: 400-254705-7**

Date Collected: 04/18/24 12:00

Matrix: Water

Date Received: 04/20/24 08:09

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			05/01/24 16:38	1
Styrene	ND		1.0	1.0	ug/L			05/01/24 16:38	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			05/01/24 16:38	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			05/01/24 16:38	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			05/01/24 16:38	1
Tetrachloroethene	ND		1.0	0.90	ug/L			05/01/24 16:38	1
<b>Toluene</b>	<b>1.3</b>		1.0	0.90	ug/L			05/01/24 16:38	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			05/01/24 16:38	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			05/01/24 16:38	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			05/01/24 16:38	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			05/01/24 16:38	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			05/01/24 16:38	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			05/01/24 16:38	1
Trichloroethene	ND		1.0	0.15	ug/L			05/01/24 16:38	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			05/01/24 16:38	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			05/01/24 16:38	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			05/01/24 16:38	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			05/01/24 16:38	1
Vinyl acetate	ND		25	0.93	ug/L			05/01/24 16:38	1
Vinyl chloride	ND		1.0	0.50	ug/L			05/01/24 16:38	1
Xylenes, Total	ND		10	1.6	ug/L			05/01/24 16:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		72 - 130		05/01/24 16:38	1
Dibromofluoromethane	104		75 - 126		05/01/24 16:38	1
Toluene-d8 (Surr)	100		64 - 132		05/01/24 16:38	1

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.22	0.11	ug/L		04/25/24 18:18	04/30/24 18:23	1
<b>Acenaphthylene</b>	<b>0.086</b>	<b>J</b>	0.22	0.049	ug/L		04/25/24 18:18	04/30/24 18:23	1
<b>Anthracene</b>	<b>0.11</b>	<b>J</b>	0.22	0.052	ug/L		04/25/24 18:18	04/30/24 18:23	1
Benzo[a]anthracene	ND		0.22	0.038	ug/L		04/25/24 18:18	04/30/24 18:23	1
Benzo[a]pyrene	ND		0.22	0.071	ug/L		04/25/24 18:18	04/30/24 18:23	1
Benzo[b]fluoranthene	ND		0.22	0.041	ug/L		04/25/24 18:18	04/30/24 18:23	1
Benzo[g,h,i]perylene	ND		0.22	0.030	ug/L		04/25/24 18:18	04/30/24 18:23	1
Benzo[k]fluoranthene	ND	<b>UJ</b>	0.22	0.069	ug/L		04/25/24 18:18	04/30/24 18:23	1
Chrysene	ND		0.22	0.037	ug/L		04/25/24 18:18	04/30/24 18:23	1
Dibenz(a,h)anthracene	ND		0.22	0.054	ug/L		04/25/24 18:18	04/30/24 18:23	1
<b>Fluoranthene</b>	<b>0.085</b>	<b>J</b>	0.22	0.038	ug/L		04/25/24 18:18	04/30/24 18:23	1
<b>Fluorene</b>	<b>0.11</b>	<b>J</b>	0.22	0.099	ug/L		04/25/24 18:18	04/30/24 18:23	1
Indeno[1,2,3-cd]pyrene	ND		0.22	0.038	ug/L		04/25/24 18:18	04/30/24 18:23	1
<b>Phenanthrene</b>	<b>0.10</b>	<b>J</b>	0.22	0.10	ug/L		04/25/24 18:18	04/30/24 18:23	1
<b>Pyrene</b>	<b>0.063</b>	<b>J</b>	0.22	0.044	ug/L		04/25/24 18:18	04/30/24 18:23	1
<b>1-Methylnaphthalene</b>	<b>0.20</b>	<b>J</b>	0.22	0.089	ug/L		04/25/24 18:18	04/30/24 18:23	1
<b>2-Methylnaphthalene</b>	<b>0.20</b>	<b>J</b>	0.22	0.074	ug/L		04/25/24 18:18	04/30/24 18:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	145		18 - 147	04/25/24 18:18	04/30/24 18:23	1
2-Fluorobiphenyl	74		15 - 128	04/25/24 18:18	04/30/24 18:23	1

Eurofins Pensacola



# Client Sample Results

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

Job ID: 400-254705-1

**Client Sample ID: P74-ROX-041824**

**Lab Sample ID: 400-254705-7**

Date Collected: 04/18/24 12:00

Matrix: Water

Date Received: 04/20/24 08:09

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	75		10 - 144	04/25/24 18:18	04/30/24 18:23	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		11	9.7	ug/L		04/25/24 18:18	05/02/24 05:01	1
Benzenethiol	ND		11	11	ug/L		04/25/24 18:18	05/02/24 05:01	1
Benzoic acid	ND		33	27	ug/L		04/25/24 18:18	05/02/24 05:01	1
Benzyl alcohol	ND		11	8.1	ug/L		04/25/24 18:18	05/02/24 05:01	1
Bis(2-chloroethoxy)methane	ND	UJ	11	5.1	ug/L		04/25/24 18:18	05/02/24 05:01	1
Bis(2-chloroethyl)ether	ND	UJ	11	4.4	ug/L		04/25/24 18:18	05/02/24 05:01	1
bis (2-chloroisopropyl) ether	ND		11	2.0	ug/L		04/25/24 18:18	05/02/24 05:01	1
Bis(2-ethylhexyl) phthalate	ND		11	9.9	ug/L		04/25/24 18:18	05/02/24 05:01	1
4-Bromophenyl phenyl ether	ND		11	9.6	ug/L		04/25/24 18:18	05/02/24 05:01	1
Butyl benzyl phthalate	ND		11	6.5	ug/L		04/25/24 18:18	05/02/24 05:01	1
4-Chloroaniline	ND		11	5.2	ug/L		04/25/24 18:18	05/02/24 05:01	1
4-Chloro-3-methylphenol	ND		11	5.9	ug/L		04/25/24 18:18	05/02/24 05:01	1
2-Chloronaphthalene	ND		11	4.2	ug/L		04/25/24 18:18	05/02/24 05:01	1
2-Chlorophenol	ND		11	4.6	ug/L		04/25/24 18:18	05/02/24 05:01	1
4-Chlorophenyl phenyl ether	ND		11	4.1	ug/L		04/25/24 18:18	05/02/24 05:01	1
Dibenz[a,h]acridine	ND	UJ	11	3.1	ug/L		04/25/24 18:18	05/02/24 05:01	1
Dibenzofuran	ND		11	4.5	ug/L		04/25/24 18:18	05/02/24 05:01	1
3,3'-Dichlorobenzidine	ND		12	12	ug/L		04/25/24 18:18	05/02/24 05:01	1
2,4-Dichlorophenol	ND		11	4.8	ug/L		04/25/24 18:18	05/02/24 05:01	1
Diethyl phthalate	ND		11	4.9	ug/L		04/25/24 18:18	05/02/24 05:01	1
2,4-Dimethylphenol	ND		11	5.8	ug/L		04/25/24 18:18	05/02/24 05:01	1
Dimethyl phthalate	ND		11	4.7	ug/L		04/25/24 18:18	05/02/24 05:01	1
Di-n-butyl phthalate	ND		11	5.1	ug/L		04/25/24 18:18	05/02/24 05:01	1
4,6-Dinitro-ortho-cresol	ND		11	11	ug/L		04/25/24 18:18	05/02/24 05:01	1
2,4-Dinitrophenol	ND		33	5.1	ug/L		04/25/24 18:18	05/02/24 05:01	1
2,4-Dinitrotoluene	ND		11	5.7	ug/L		04/25/24 18:18	05/02/24 05:01	1
2,6-Dinitrotoluene	ND		11	4.4	ug/L		04/25/24 18:18	05/02/24 05:01	1
Di-n-octyl phthalate	ND		11	6.7	ug/L		04/25/24 18:18	05/02/24 05:01	1
1,4-Dioxane	ND	UJ	11	4.8	ug/L		04/25/24 18:18	05/02/24 05:01	1
1,2-Diphenylhydrazine (as Azobenzene)	ND	UJ	11	3.7	ug/L		04/25/24 18:18	05/02/24 05:01	1
Hexachlorobenzene	ND		11	11	ug/L		04/25/24 18:18	05/02/24 05:01	1
Hexachlorocyclopentadiene	ND		22	5.0	ug/L		04/25/24 18:18	05/02/24 05:01	1
Hexachloroethane	ND		11	5.8	ug/L		04/25/24 18:18	05/02/24 05:01	1
Indene	ND		11	4.0	ug/L		04/25/24 18:18	05/02/24 05:01	1
Isophorone	ND	UJ	11	5.8	ug/L		04/25/24 18:18	05/02/24 05:01	1
2-Methylphenol	ND		11	3.6	ug/L		04/25/24 18:18	05/02/24 05:01	1
3 & 4 Methylphenol	ND		22	5.1	ug/L		04/25/24 18:18	05/02/24 05:01	1
2-Nitroaniline	ND		11	5.6	ug/L		04/25/24 18:18	05/02/24 05:01	1
3-Nitroaniline	ND		11	5.2	ug/L		04/25/24 18:18	05/02/24 05:01	1
4-Nitroaniline	ND		11	4.6	ug/L		04/25/24 18:18	05/02/24 05:01	1
Nitrobenzene	ND		11	5.2	ug/L		04/25/24 18:18	05/02/24 05:01	1
2-Nitrophenol	ND		11	5.1	ug/L		04/25/24 18:18	05/02/24 05:01	1
4-Nitrophenol	ND		11	3.7	ug/L		04/25/24 18:18	05/02/24 05:01	1
N-Nitrosodimethylamine	ND		11	2.5	ug/L		04/25/24 18:18	05/02/24 05:01	1

# Client Sample Results

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

Job ID: 400-254705-1

**Client Sample ID: P74-ROX-041824**

**Lab Sample ID: 400-254705-7**

**Date Collected: 04/18/24 12:00**

**Matrix: Water**

**Date Received: 04/20/24 08:09**

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND	UJ	11	2.8	ug/L		04/25/24 18:18	05/02/24 05:01	1
N-Nitrosodiphenylamine	ND		11	4.1	ug/L		04/25/24 18:18	05/02/24 05:01	1
Pentachlorophenol	ND		22	13	ug/L		04/25/24 18:18	05/02/24 05:01	1
Phenol	ND		11	4.7	ug/L		04/25/24 18:18	05/02/24 05:01	1
Pyridine	ND	*- *1 UJ	11	11	ug/L		04/25/24 18:18	05/02/24 05:01	1
Quinoline	ND		11	2.7	ug/L		04/25/24 18:18	05/02/24 05:01	1
2,4,5-Trichlorophenol	ND		11	4.5	ug/L		04/25/24 18:18	05/02/24 05:01	1
2,4,6-Trichlorophenol	ND		11	3.9	ug/L		04/25/24 18:18	05/02/24 05:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	85		21 - 114	04/25/24 18:18	05/02/24 05:01	1
2-Fluorophenol	56		10 - 105	04/25/24 18:18	05/02/24 05:01	1
Nitrobenzene-d5	73		16 - 127	04/25/24 18:18	05/02/24 05:01	1
Phenol-d5	43		10 - 129	04/25/24 18:18	05/02/24 05:01	1
Terphenyl-d14	132		13 - 150	04/25/24 18:18	05/02/24 05:01	1
2,4,6-Tribromophenol	108		10 - 150	04/25/24 18:18	05/02/24 05:01	1

**Method: EPA 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	0.018	ug/L		04/26/24 12:15	04/26/24 20:08	1
1,2-Dibromoethane	ND		0.021	0.016	ug/L		04/26/24 12:15	04/26/24 20:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	109		51 - 149	04/26/24 12:15	04/26/24 20:08	1

# Definitions/Glossary

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

Job ID: 400-254705-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
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
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*1	LCS/LCSD RPD exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1+	Surrogate recovery exceeds control limits, high biased.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

# Surrogate Summary

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

Job ID: 400-254705-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (72-130)	DBFM (75-126)	TOL (64-132)
400-254705-1	TB-ROX-041824-8260	98	94	101
400-254705-3	MW22-ROX-041824	97	103	101
400-254705-4	MW22-ROX-041824-DUP	99	101	101
400-254705-5	P57-ROX-041824	100	99	100
400-254705-6	P57-ROX-041824-DUP	99	101	99
400-254705-7	P74-ROX-041824	98	104	100
LCS 400-670010/1002	Lab Control Sample	98	103	99
MB 400-670010/5	Method Blank	99	95	99

**Surrogate Legend**  
 BFB = 4-Bromofluorobenzene  
 DBFM = Dibromofluoromethane  
 TOL = Toluene-d8 (Surr)

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (21-114)	2FP (10-105)	NBZ (16-127)	PHL (10-129)	TPHL (13-150)	TBP (10-150)
400-254705-3	MW22-ROX-041824	73	51	62	38	111	105
400-254705-4	MW22-ROX-041824-DUP	79	51	66	38	120	122
400-254705-5	P57-ROX-041824	88	61	77	46	126	127
400-254705-6	P57-ROX-041824-DUP	87	57	74	43	119	113
400-254705-7	P74-ROX-041824	85	56	73	43	132	108
LCS 400-669420/2-A	Lab Control Sample	80	59	78	51	112	114
LCS 400-669420/4-A	Lab Control Sample	85	60	77	48	136	83
LCSD 400-669420/3-A	Lab Control Sample Dup	86	61	84	52	115	118
LCSD 400-669420/5-A	Lab Control Sample Dup	85	64	79	49	129	80
MB 400-669420/1-A	Method Blank	93	61	84	45	129	90

**Surrogate Legend**  
 FBP = 2-Fluorobiphenyl  
 2FP = 2-Fluorophenol  
 NBZ = Nitrobenzene-d5  
 PHL = Phenol-d5  
 TPHL = Terphenyl-d14  
 TBP = 2,4,6-Tribromophenol

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TPHL (18-147)	FBP (15-128)	NBZ (10-144)
400-254705-3	MW22-ROX-041824	118	64	57
400-254705-4	MW22-ROX-041824-DUP	133	62	63
400-254705-5	P57-ROX-041824	123	55	80
400-254705-6	P57-ROX-041824-DUP	114	55	80
400-254705-7	P74-ROX-041824	145	74	75
LCS 400-669420/2-A	Lab Control Sample	99	73	88

# Surrogate Summary

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

Job ID: 400-254705-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TPHL	FBP	NBZ
		(18-147)	(15-128)	(10-144)
LCSD 400-669420/3-A	Lab Control Sample Dup	107	81	93
MB 400-669420/1-A	Method Blank	172 S1+	89	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

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB2
		(51-149)
400-254705-2	TB-ROX-041824-8011	112
400-254705-3	MW22-ROX-041824	103
400-254705-4	MW22-ROX-041824-DUP	102
400-254705-5	P57-ROX-041824	106
400-254705-6	P57-ROX-041824-DUP	120
400-254705-7	P74-ROX-041824	109
LCS 400-669513/2-A	Lab Control Sample	74
LCSD 400-669513/3-A	Lab Control Sample Dup	100
MB 400-669513/1-A	Method Blank	88

#### Surrogate Legend

BFB = 4-Bromofluorobenzene

# Method Summary

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

Job ID: 400-254705-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET PEN
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET PEN
8270E SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	EET PEN
8011	EDB and DBCP in Water by Microextraction	EPA	EET PEN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET PEN
5030C	Purge and Trap	SW846	EET PEN
8011	Microextraction	SW846	EET 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:**

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001





# Lab Chronicle

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

Job ID: 400-254705-1

**Client Sample ID: TB-ROX-041824-8260**

**Lab Sample ID: 400-254705-1**

Date Collected: 04/18/24 00:00

Matrix: Water

Date Received: 04/20/24 08:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	670010	05/01/24 14:33	LSS	EET PEN

**Client Sample ID: TB-ROX-041824-8011**

**Lab Sample ID: 400-254705-2**

Date Collected: 04/18/24 00:00

Matrix: Water

Date Received: 04/20/24 08:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			34.7 mL	35 mL	669513	04/26/24 12:15	KR	EET PEN
Total/NA	Analysis	8011		1			669503	04/26/24 18:23	PG	EET PEN

**Client Sample ID: MW22-ROX-041824**

**Lab Sample ID: 400-254705-3**

Date Collected: 04/18/24 09:35

Matrix: Water

Date Received: 04/20/24 08:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		5	5 mL	5 mL	670010	05/01/24 17:03	LSS	EET PEN
Total/NA	Prep	3510C			225.6 mL	1 mL	669420	04/25/24 18:18	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670135	05/02/24 03:19	S1B	EET PEN
Total/NA	Prep	3510C			225.6 mL	1 mL	669420	04/25/24 18:18	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	669847	04/30/24 17:00	JAW	EET PEN
Total/NA	Prep	8011			33.5 mL	35 mL	669513	04/26/24 12:15	KR	EET PEN
Total/NA	Analysis	8011		1			669503	04/26/24 18:44	PG	EET PEN

**Client Sample ID: MW22-ROX-041824-DUP**

**Lab Sample ID: 400-254705-4**

Date Collected: 04/18/24 09:35

Matrix: Water

Date Received: 04/20/24 08:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		5	5 mL	5 mL	670010	05/01/24 17:28	LSS	EET PEN
Total/NA	Prep	3510C			243 mL	1 mL	669420	04/25/24 18:18	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670135	05/02/24 03:44	S1B	EET PEN
Total/NA	Prep	3510C			243 mL	1 mL	669420	04/25/24 18:18	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	669847	04/30/24 17:21	JAW	EET PEN
Total/NA	Prep	8011			34 mL	35 mL	669513	04/26/24 12:15	KR	EET PEN
Total/NA	Analysis	8011		1			669503	04/26/24 19:05	PG	EET PEN

**Client Sample ID: P57-ROX-041824**

**Lab Sample ID: 400-254705-5**

Date Collected: 04/18/24 10:55

Matrix: Water

Date Received: 04/20/24 08:09

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	670010	05/01/24 15:48	LSS	EET PEN
Total/NA	Prep	3510C			236 mL	1 mL	669420	04/25/24 18:18	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670135	05/02/24 04:10	S1B	EET PEN

# Lab Chronicle

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

Job ID: 400-254705-1

**Client Sample ID: P57-ROX-041824**

**Lab Sample ID: 400-254705-5**

**Date Collected: 04/18/24 10:55**

**Matrix: Water**

**Date Received: 04/20/24 08:09**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			236 mL	1 mL	669420	04/25/24 18:18	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	669847	04/30/24 17:41	JAW	EET PEN
Total/NA	Prep	8011			33.9 mL	35 mL	669513	04/26/24 12:15	KR	EET PEN
Total/NA	Analysis	8011		1			669503	04/26/24 19:26	PG	EET PEN

**Client Sample ID: P57-ROX-041824-DUP**

**Lab Sample ID: 400-254705-6**

**Date Collected: 04/18/24 10:55**

**Matrix: Water**

**Date Received: 04/20/24 08:09**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	670010	05/01/24 16:13	LSS	EET PEN
Total/NA	Prep	3510C			229.6 mL	1 mL	669420	04/25/24 18:18	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670135	05/02/24 04:35	S1B	EET PEN
Total/NA	Prep	3510C			229.6 mL	1 mL	669420	04/25/24 18:18	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	669847	04/30/24 18:02	JAW	EET PEN
Total/NA	Prep	8011			34.8 mL	35 mL	669513	04/26/24 12:15	KR	EET PEN
Total/NA	Analysis	8011		1			669503	04/26/24 19:47	PG	EET PEN

**Client Sample ID: P74-ROX-041824**

**Lab Sample ID: 400-254705-7**

**Date Collected: 04/18/24 12:00**

**Matrix: Water**

**Date Received: 04/20/24 08:09**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	670010	05/01/24 16:38	LSS	EET PEN
Total/NA	Prep	3510C			224 mL	1 mL	669420	04/25/24 18:18	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670135	05/02/24 05:01	S1B	EET PEN
Total/NA	Prep	3510C			224 mL	1 mL	669420	04/25/24 18:18	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	669847	04/30/24 18:23	JAW	EET PEN
Total/NA	Prep	8011			33.5 mL	35 mL	669513	04/26/24 12:15	KR	EET PEN
Total/NA	Analysis	8011		1			669503	04/26/24 20:08	PG	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-669420/1-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	3510C			250 mL	1 mL	669420	04/25/24 18:17	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670083	05/01/24 21:19	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	669420	04/25/24 18:17	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	669847	04/30/24 15:17	JAW	EET PEN

# Lab Chronicle

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

Job ID: 400-254705-1

## Client Sample ID: Method Blank

Lab Sample ID: MB 400-669513/1-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	669513	04/26/24 12:15	KR	EET PEN
Total/NA	Analysis	8011		1			669503	04/26/24 17:20	PG	EET PEN

## Client Sample ID: Method Blank

Lab Sample ID: MB 400-670010/5

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	8260D		1	5 mL	5 mL	670010	05/01/24 07:30	LSS	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-669420/2-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	3510C			250 mL	1 mL	669420	04/25/24 18:17	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670083	05/01/24 21:45	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	669420	04/25/24 18:17	BAW	EET PEN
Total/NA	Analysis	8270E SIM		100	0.4 mL	0.4 mL	669847	04/30/24 15:38	JAW	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-669420/4-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	3510C			250 mL	1 mL	669420	04/25/24 18:18	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670083	05/01/24 22:36	S1B	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-669513/2-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	669513	04/26/24 12:15	KR	EET PEN
Total/NA	Analysis	8011		1			669503	04/26/24 17:41	PG	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-670010/1002

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	8260D		1	5 mL	5 mL	670010	05/01/24 05:35	LSS	EET PEN

# Lab Chronicle

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

Job ID: 400-254705-1

**Client Sample ID: Lab Control Sample Dup**

**Lab Sample ID: LCSD 400-669420/3-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	3510C			250 mL	1 mL	669420	04/25/24 18:17	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670083	05/01/24 22:10	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	669420	04/25/24 18:17	BAW	EET PEN
Total/NA	Analysis	8270E SIM		100	0.4 mL	0.4 mL	669847	04/30/24 15:58	JAW	EET PEN

**Client Sample ID: Lab Control Sample Dup**

**Lab Sample ID: LCSD 400-669420/5-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	3510C			250 mL	1 mL	669420	04/25/24 18:18	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670083	05/01/24 23:02	S1B	EET PEN

**Client Sample ID: Lab Control Sample Dup**

**Lab Sample ID: LCSD 400-669513/3-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	669513	04/26/24 12:15	KR	EET PEN
Total/NA	Analysis	8011		1			669503	04/26/24 18:02	PG	EET PEN

**Laboratory References:**

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

# QC Association Summary

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

Job ID: 400-254705-1

## GC/MS VOA

### Analysis Batch: 670010

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254705-1	TB-ROX-041824-8260	Total/NA	Water	8260D	
400-254705-3	MW22-ROX-041824	Total/NA	Water	8260D	
400-254705-4	MW22-ROX-041824-DUP	Total/NA	Water	8260D	
400-254705-5	P57-ROX-041824	Total/NA	Water	8260D	
400-254705-6	P57-ROX-041824-DUP	Total/NA	Water	8260D	
400-254705-7	P74-ROX-041824	Total/NA	Water	8260D	
MB 400-670010/5	Method Blank	Total/NA	Water	8260D	
LCS 400-670010/1002	Lab Control Sample	Total/NA	Water	8260D	

## GC/MS Semi VOA

### Prep Batch: 669420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254705-3	MW22-ROX-041824	Total/NA	Water	3510C	
400-254705-4	MW22-ROX-041824-DUP	Total/NA	Water	3510C	
400-254705-5	P57-ROX-041824	Total/NA	Water	3510C	
400-254705-6	P57-ROX-041824-DUP	Total/NA	Water	3510C	
400-254705-7	P74-ROX-041824	Total/NA	Water	3510C	
MB 400-669420/1-A	Method Blank	Total/NA	Water	3510C	
LCS 400-669420/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 400-669420/4-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 400-669420/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
LCSD 400-669420/5-A	Lab Control Sample Dup	Total/NA	Water	3510C	

### Analysis Batch: 669847

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254705-3	MW22-ROX-041824	Total/NA	Water	8270E SIM	669420
400-254705-4	MW22-ROX-041824-DUP	Total/NA	Water	8270E SIM	669420
400-254705-5	P57-ROX-041824	Total/NA	Water	8270E SIM	669420
400-254705-6	P57-ROX-041824-DUP	Total/NA	Water	8270E SIM	669420
400-254705-7	P74-ROX-041824	Total/NA	Water	8270E SIM	669420
MB 400-669420/1-A	Method Blank	Total/NA	Water	8270E SIM	669420
LCS 400-669420/2-A	Lab Control Sample	Total/NA	Water	8270E SIM	669420
LCSD 400-669420/3-A	Lab Control Sample Dup	Total/NA	Water	8270E SIM	669420

### Analysis Batch: 670083

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-669420/1-A	Method Blank	Total/NA	Water	8270E	669420
LCS 400-669420/2-A	Lab Control Sample	Total/NA	Water	8270E	669420
LCS 400-669420/4-A	Lab Control Sample	Total/NA	Water	8270E	669420
LCSD 400-669420/3-A	Lab Control Sample Dup	Total/NA	Water	8270E	669420
LCSD 400-669420/5-A	Lab Control Sample Dup	Total/NA	Water	8270E	669420

### Analysis Batch: 670135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254705-3	MW22-ROX-041824	Total/NA	Water	8270E	669420
400-254705-4	MW22-ROX-041824-DUP	Total/NA	Water	8270E	669420
400-254705-5	P57-ROX-041824	Total/NA	Water	8270E	669420
400-254705-6	P57-ROX-041824-DUP	Total/NA	Water	8270E	669420
400-254705-7	P74-ROX-041824	Total/NA	Water	8270E	669420

# QC Association Summary

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

Job ID: 400-254705-1

## GC Semi VOA

### Analysis Batch: 669503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254705-2	TB-ROX-041824-8011	Total/NA	Water	8011	669513
400-254705-3	MW22-ROX-041824	Total/NA	Water	8011	669513
400-254705-4	MW22-ROX-041824-DUP	Total/NA	Water	8011	669513
400-254705-5	P57-ROX-041824	Total/NA	Water	8011	669513
400-254705-6	P57-ROX-041824-DUP	Total/NA	Water	8011	669513
400-254705-7	P74-ROX-041824	Total/NA	Water	8011	669513
MB 400-669513/1-A	Method Blank	Total/NA	Water	8011	669513
LCS 400-669513/2-A	Lab Control Sample	Total/NA	Water	8011	669513
LCSD 400-669513/3-A	Lab Control Sample Dup	Total/NA	Water	8011	669513

### Prep Batch: 669513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254705-2	TB-ROX-041824-8011	Total/NA	Water	8011	669513
400-254705-3	MW22-ROX-041824	Total/NA	Water	8011	669513
400-254705-4	MW22-ROX-041824-DUP	Total/NA	Water	8011	669513
400-254705-5	P57-ROX-041824	Total/NA	Water	8011	669513
400-254705-6	P57-ROX-041824-DUP	Total/NA	Water	8011	669513
400-254705-7	P74-ROX-041824	Total/NA	Water	8011	669513
MB 400-669513/1-A	Method Blank	Total/NA	Water	8011	669513
LCS 400-669513/2-A	Lab Control Sample	Total/NA	Water	8011	669513
LCSD 400-669513/3-A	Lab Control Sample Dup	Total/NA	Water	8011	669513



# QC Sample Results

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

Job ID: 400-254705-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 400-670010/5**  
**Matrix: Water**  
**Analysis Batch: 670010**

**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			05/01/24 07:30	1
Acrolein	ND		20	3.3	ug/L			05/01/24 07:30	1
Acrylonitrile	ND		10	2.8	ug/L			05/01/24 07:30	1
Benzene	ND		1.0	0.50	ug/L			05/01/24 07:30	1
Bromobenzene	ND		1.0	0.54	ug/L			05/01/24 07:30	1
Bromochloromethane	ND		1.0	0.21	ug/L			05/01/24 07:30	1
Bromodichloromethane	ND		1.0	0.50	ug/L			05/01/24 07:30	1
Bromoform	ND		5.0	0.25	ug/L			05/01/24 07:30	1
Bromomethane	ND		1.0	0.98	ug/L			05/01/24 07:30	1
2-Butanone (MEK)	ND		25	2.6	ug/L			05/01/24 07:30	1
Carbon disulfide	ND		1.0	0.50	ug/L			05/01/24 07:30	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			05/01/24 07:30	1
Chlorobenzene	ND		1.0	0.90	ug/L			05/01/24 07:30	1
Chloroethane	ND		1.0	0.76	ug/L			05/01/24 07:30	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			05/01/24 07:30	1
Chloroform	ND		1.0	0.90	ug/L			05/01/24 07:30	1
1-Chlorohexane	ND		1.0	0.32	ug/L			05/01/24 07:30	1
Chloromethane	ND		1.0	0.90	ug/L			05/01/24 07:30	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			05/01/24 07:30	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			05/01/24 07:30	1
Dibromochloromethane	ND		1.0	0.24	ug/L			05/01/24 07:30	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			05/01/24 07:30	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			05/01/24 07:30	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			05/01/24 07:30	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			05/01/24 07:30	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			05/01/24 07:30	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			05/01/24 07:30	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			05/01/24 07:30	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			05/01/24 07:30	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			05/01/24 07:30	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			05/01/24 07:30	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			05/01/24 07:30	1
Ethylbenzene	ND		1.0	0.50	ug/L			05/01/24 07:30	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			05/01/24 07:30	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			05/01/24 07:30	1
2-Hexanone	ND		25	1.4	ug/L			05/01/24 07:30	1
Isopropylbenzene	ND		1.0	0.53	ug/L			05/01/24 07:30	1
Methylene bromide	ND		5.0	0.22	ug/L			05/01/24 07:30	1
Methylene Chloride	ND		5.0	3.0	ug/L			05/01/24 07:30	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			05/01/24 07:30	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			05/01/24 07:30	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			05/01/24 07:30	1
Naphthalene	ND		5.0	3.0	ug/L			05/01/24 07:30	1
n-Butylbenzene	ND		1.0	0.76	ug/L			05/01/24 07:30	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/01/24 07:30	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			05/01/24 07:30	1
o-Xylene	ND		5.0	0.60	ug/L			05/01/24 07:30	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			05/01/24 07:30	1

# QC Sample Results

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

Job ID: 400-254705-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-670010/5**  
**Matrix: Water**  
**Analysis Batch: 670010**

**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			05/01/24 07:30	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			05/01/24 07:30	1
Styrene	ND		1.0	1.0	ug/L			05/01/24 07:30	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			05/01/24 07:30	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			05/01/24 07:30	1
1,1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			05/01/24 07:30	1
Tetrachloroethene	ND		1.0	0.90	ug/L			05/01/24 07:30	1
Toluene	ND		1.0	0.90	ug/L			05/01/24 07:30	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			05/01/24 07:30	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			05/01/24 07:30	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			05/01/24 07:30	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			05/01/24 07:30	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			05/01/24 07:30	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			05/01/24 07:30	1
Trichloroethene	ND		1.0	0.15	ug/L			05/01/24 07:30	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			05/01/24 07:30	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			05/01/24 07:30	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			05/01/24 07:30	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			05/01/24 07:30	1
Vinyl acetate	ND		25	0.93	ug/L			05/01/24 07:30	1
Vinyl chloride	ND		1.0	0.50	ug/L			05/01/24 07:30	1
Xylenes, Total	ND		10	1.6	ug/L			05/01/24 07:30	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		72 - 130		05/01/24 07:30	1
Dibromofluoromethane	95		75 - 126		05/01/24 07:30	1
Toluene-d8 (Surr)	99		64 - 132		05/01/24 07:30	1

**Lab Sample ID: LCS 400-670010/1002**  
**Matrix: Water**  
**Analysis Batch: 670010**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	200	186		ug/L		93	43 - 160
Acrolein	250	251		ug/L		101	38 - 160
Acrylonitrile	500	481		ug/L		96	64 - 142
Benzene	50.0	48.5		ug/L		97	70 - 130
Bromobenzene	50.0	48.5		ug/L		97	70 - 132
Bromochloromethane	50.0	47.1		ug/L		94	70 - 130
Bromodichloromethane	50.0	48.2		ug/L		96	67 - 133
Bromoform	50.0	44.1		ug/L		88	57 - 140
Bromomethane	25.0	46.4	*+	ug/L		186	10 - 160
2-Butanone (MEK)	200	188		ug/L		94	61 - 145
Carbon disulfide	50.0	47.7		ug/L		95	61 - 137
Carbon tetrachloride	50.0	47.4		ug/L		95	61 - 137
Chlorobenzene	50.0	49.4		ug/L		99	70 - 130
Chloroethane	25.0	24.1		ug/L		96	55 - 141
2-Chloroethyl vinyl ether	25.0	23.8		ug/L		95	10 - 160

# QC Sample Results

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

Job ID: 400-254705-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-670010/1002**  
**Matrix: Water**  
**Analysis Batch: 670010**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroform	50.0	47.6		ug/L		95	69 - 130
1-Chlorohexane	50.0	57.4		ug/L		115	69 - 130
Chloromethane	25.0	19.7		ug/L		79	58 - 137
cis-1,2-Dichloroethene	50.0	48.5		ug/L		97	68 - 130
cis-1,3-Dichloropropene	50.0	49.6		ug/L		99	69 - 132
Dibromochloromethane	50.0	48.1		ug/L		96	67 - 135
1,2-Dichlorobenzene	50.0	48.8		ug/L		98	67 - 130
1,3-Dichlorobenzene	50.0	49.8		ug/L		100	70 - 130
1,4-Dichlorobenzene	50.0	49.3		ug/L		99	70 - 130
Dichlorodifluoromethane	25.0	24.2		ug/L		97	41 - 146
1,1-Dichloroethane	50.0	47.9		ug/L		96	70 - 130
1,2-Dichloroethane	50.0	47.6		ug/L		95	69 - 130
1,1-Dichloroethene	50.0	49.2		ug/L		98	63 - 134
1,2-Dichloropropane	50.0	48.6		ug/L		97	70 - 130
1,3-Dichloropropane	50.0	49.8		ug/L		100	70 - 130
2,2-Dichloropropane	50.0	48.5		ug/L		97	52 - 135
1,1-Dichloropropene	50.0	48.2		ug/L		96	70 - 130
Ethylbenzene	50.0	51.0		ug/L		102	70 - 130
Ethyl methacrylate	50.0	47.1		ug/L		94	68 - 130
Hexachlorobutadiene	50.0	48.7		ug/L		97	53 - 140
2-Hexanone	200	196		ug/L		98	65 - 137
Isopropylbenzene	50.0	51.8		ug/L		104	70 - 130
Methylene bromide	50.0	47.9		ug/L		96	70 - 130
Methylene Chloride	50.0	44.8		ug/L		90	66 - 135
4-Methyl-2-pentanone (MIBK)	200	193		ug/L		96	69 - 138
Methyl tert-butyl ether	50.0	47.0		ug/L		94	66 - 130
m-Xylene & p-Xylene	50.0	50.4		ug/L		101	70 - 130
Naphthalene	50.0	46.3		ug/L		93	47 - 149
n-Butylbenzene	50.0	52.8		ug/L		106	67 - 130
N-Propylbenzene	50.0	51.8		ug/L		104	70 - 130
o-Chlorotoluene	50.0	50.2		ug/L		100	70 - 130
o-Xylene	50.0	50.1		ug/L		100	70 - 130
p-Chlorotoluene	50.0	49.8		ug/L		100	70 - 130
p-Isopropyltoluene	50.0	52.8		ug/L		106	65 - 130
sec-Butylbenzene	50.0	52.3		ug/L		105	66 - 130
Styrene	50.0	49.9		ug/L		100	70 - 130
tert-Butylbenzene	50.0	50.6		ug/L		101	64 - 139
1,1,1,2-Tetrachloroethane	50.0	46.6		ug/L		93	67 - 131
1,1,1,2,2-Tetrachloroethane	50.0	44.9		ug/L		90	70 - 131
Tetrachloroethene	50.0	51.9		ug/L		104	65 - 130
Toluene	50.0	48.5		ug/L		97	70 - 130
trans-1,2-Dichloroethene	50.0	47.6		ug/L		95	70 - 130
trans-1,3-Dichloropropene	50.0	52.4		ug/L		105	63 - 130
1,2,3-Trichlorobenzene	50.0	47.8		ug/L		96	60 - 138
1,2,4-Trichlorobenzene	50.0	48.7		ug/L		97	60 - 140
1,1,1-Trichloroethane	50.0	47.7		ug/L		95	68 - 130
1,1,2-Trichloroethane	50.0	49.2		ug/L		98	70 - 130
Trichloroethene	50.0	48.4		ug/L		97	70 - 130
Trichlorofluoromethane	25.0	25.4		ug/L		101	65 - 138

# QC Sample Results

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

Job ID: 400-254705-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-670010/1002**  
**Matrix: Water**  
**Analysis Batch: 670010**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	50.0	49.9		ug/L		100	70 - 130
1,2,4-Trimethylbenzene	50.0	51.3		ug/L		103	70 - 130
1,3,5-Trimethylbenzene	50.0	51.4		ug/L		103	69 - 130
Vinyl acetate	50.0	54.7		ug/L		109	26 - 160
Vinyl chloride	25.0	25.7		ug/L		103	59 - 136
Xylenes, Total	100	101		ug/L		101	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	98		72 - 130
Dibromofluoromethane	103		75 - 126
Toluene-d8 (Surr)	99		64 - 132

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

**Lab Sample ID: MB 400-669420/1-A**  
**Matrix: Water**  
**Analysis Batch: 670083**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 669420**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	8.7	ug/L		04/25/24 18:17	05/01/24 21:19	1
Benzenethiol	ND		10	9.9	ug/L		04/25/24 18:17	05/01/24 21:19	1
Benzoic acid	ND		30	24	ug/L		04/25/24 18:17	05/01/24 21:19	1
Benzyl alcohol	ND		10	7.3	ug/L		04/25/24 18:17	05/01/24 21:19	1
Bis(2-chloroethoxy)methane	ND		10	4.6	ug/L		04/25/24 18:17	05/01/24 21:19	1
Bis(2-chloroethyl)ether	ND		10	3.9	ug/L		04/25/24 18:17	05/01/24 21:19	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		04/25/24 18:17	05/01/24 21:19	1
Bis(2-ethylhexyl) phthalate	ND		10	8.9	ug/L		04/25/24 18:17	05/01/24 21:19	1
4-Bromophenyl phenyl ether	ND		10	8.6	ug/L		04/25/24 18:17	05/01/24 21:19	1
Butyl benzyl phthalate	ND		10	5.8	ug/L		04/25/24 18:17	05/01/24 21:19	1
4-Chloroaniline	ND		10	4.7	ug/L		04/25/24 18:17	05/01/24 21:19	1
4-Chloro-3-methylphenol	ND		10	5.3	ug/L		04/25/24 18:17	05/01/24 21:19	1
2-Chloronaphthalene	ND		10	3.8	ug/L		04/25/24 18:17	05/01/24 21:19	1
2-Chlorophenol	ND		10	4.1	ug/L		04/25/24 18:17	05/01/24 21:19	1
4-Chlorophenyl phenyl ether	ND		10	3.7	ug/L		04/25/24 18:17	05/01/24 21:19	1
Dibenz[a,h]acridine	ND		10	2.8	ug/L		04/25/24 18:17	05/01/24 21:19	1
Dibenzofuran	ND		10	4.0	ug/L		04/25/24 18:17	05/01/24 21:19	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/25/24 18:17	05/01/24 21:19	1
2,4-Dichlorophenol	ND		10	4.3	ug/L		04/25/24 18:17	05/01/24 21:19	1
Diethyl phthalate	ND		10	4.4	ug/L		04/25/24 18:17	05/01/24 21:19	1
2,4-Dimethylphenol	ND		10	5.2	ug/L		04/25/24 18:17	05/01/24 21:19	1
Dimethyl phthalate	ND		10	4.2	ug/L		04/25/24 18:17	05/01/24 21:19	1
Di-n-butyl phthalate	ND		10	4.6	ug/L		04/25/24 18:17	05/01/24 21:19	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		04/25/24 18:17	05/01/24 21:19	1
2,4-Dinitrophenol	ND		30	4.6	ug/L		04/25/24 18:17	05/01/24 21:19	1
2,4-Dinitrotoluene	ND		10	5.1	ug/L		04/25/24 18:17	05/01/24 21:19	1
2,6-Dinitrotoluene	ND		10	3.9	ug/L		04/25/24 18:17	05/01/24 21:19	1
Di-n-octyl phthalate	ND		10	6.0	ug/L		04/25/24 18:17	05/01/24 21:19	1
1,4-Dioxane	ND		10	4.3	ug/L		04/25/24 18:17	05/01/24 21:19	1

# QC Sample Results

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

Job ID: 400-254705-1

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

**Lab Sample ID: MB 400-669420/1-A**  
**Matrix: Water**  
**Analysis Batch: 670083**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 669420**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.3	ug/L		04/25/24 18:17	05/01/24 21:19	1
Hexachlorobenzene	ND		10	9.7	ug/L		04/25/24 18:17	05/01/24 21:19	1
Hexachlorocyclopentadiene	ND		20	4.5	ug/L		04/25/24 18:17	05/01/24 21:19	1
Hexachloroethane	ND		10	5.2	ug/L		04/25/24 18:17	05/01/24 21:19	1
Indene	ND		10	3.6	ug/L		04/25/24 18:17	05/01/24 21:19	1
Isophorone	ND		10	5.2	ug/L		04/25/24 18:17	05/01/24 21:19	1
2-Methylphenol	ND		10	3.2	ug/L		04/25/24 18:17	05/01/24 21:19	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		04/25/24 18:17	05/01/24 21:19	1
2-Nitroaniline	ND		10	5.0	ug/L		04/25/24 18:17	05/01/24 21:19	1
3-Nitroaniline	ND		10	4.7	ug/L		04/25/24 18:17	05/01/24 21:19	1
4-Nitroaniline	ND		10	4.1	ug/L		04/25/24 18:17	05/01/24 21:19	1
Nitrobenzene	ND		10	4.7	ug/L		04/25/24 18:17	05/01/24 21:19	1
2-Nitrophenol	ND		10	4.6	ug/L		04/25/24 18:17	05/01/24 21:19	1
4-Nitrophenol	ND		10	3.3	ug/L		04/25/24 18:17	05/01/24 21:19	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		04/25/24 18:17	05/01/24 21:19	1
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		04/25/24 18:17	05/01/24 21:19	1
N-Nitrosodiphenylamine	ND		10	3.7	ug/L		04/25/24 18:17	05/01/24 21:19	1
Pentachlorophenol	ND		20	12	ug/L		04/25/24 18:17	05/01/24 21:19	1
Phenol	ND		10	4.2	ug/L		04/25/24 18:17	05/01/24 21:19	1
Pyridine	ND		10	10	ug/L		04/25/24 18:17	05/01/24 21:19	1
Quinoline	ND		10	2.4	ug/L		04/25/24 18:17	05/01/24 21:19	1
2,4,5-Trichlorophenol	ND		10	4.0	ug/L		04/25/24 18:17	05/01/24 21:19	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/25/24 18:17	05/01/24 21:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	93		21 - 114	04/25/24 18:17	05/01/24 21:19	1
2-Fluorophenol	61		10 - 105	04/25/24 18:17	05/01/24 21:19	1
Nitrobenzene-d5	84		16 - 127	04/25/24 18:17	05/01/24 21:19	1
Phenol-d5	45		10 - 129	04/25/24 18:17	05/01/24 21:19	1
Terphenyl-d14	129		13 - 150	04/25/24 18:17	05/01/24 21:19	1
2,4,6-Tribromophenol	90		10 - 150	04/25/24 18:17	05/01/24 21:19	1

**Lab Sample ID: LCS 400-669420/2-A**  
**Matrix: Water**  
**Analysis Batch: 670083**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669420**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aniline	120	45.3		ug/L		38	10 - 127
Benzoic acid	492	209		ug/L		43	19 - 126
Benzyl alcohol	120	71.6		ug/L		60	17 - 109
Bis(2-chloroethoxy)methane	120	68.1		ug/L		57	24 - 125
Bis(2-chloroethyl)ether	120	56.9		ug/L		47	10 - 121
bis (2-chloroisopropyl) ether	120	54.5		ug/L		45	14 - 123
Bis(2-ethylhexyl) phthalate	120	98.0		ug/L		82	16 - 150
4-Bromophenyl phenyl ether	120	88.1		ug/L		73	17 - 150
Butyl benzyl phthalate	120	101		ug/L		84	21 - 150
4-Chloroaniline	120	65.7		ug/L		55	10 - 124
4-Chloro-3-methylphenol	120	84.2		ug/L		70	37 - 131

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# QC Sample Results

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

Job ID: 400-254705-1

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

**Lab Sample ID: LCS 400-669420/2-A**  
**Matrix: Water**  
**Analysis Batch: 670083**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669420**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2-Chloronaphthalene	120	87.0		ug/L		73	24 - 132
2-Chlorophenol	120	73.1		ug/L		61	27 - 124
4-Chlorophenyl phenyl ether	120	91.6		ug/L		76	27 - 147
Dibenz[a,h]acridine	59.9	37.5		ug/L		63	40 - 140
Dibenzofuran	120	87.0		ug/L		72	30 - 135
3,3'-Dichlorobenzidine	160	98.1		ug/L		61	10 - 150
2,4-Dichlorophenol	120	80.2		ug/L		67	33 - 132
Diethyl phthalate	120	99.8		ug/L		83	37 - 145
2,4-Dimethylphenol	120	85.3		ug/L		71	38 - 132
Dimethyl phthalate	120	93.0		ug/L		77	32 - 137
Di-n-butyl phthalate	120	107		ug/L		89	27 - 150
4,6-Dinitro-ortho-cresol	240	214		ug/L		89	14 - 150
2,4-Dinitrophenol	240	240		ug/L		100	15 - 150
2,4-Dinitrotoluene	120	98.2		ug/L		82	35 - 136
2,6-Dinitrotoluene	120	94.8		ug/L		79	29 - 140
Di-n-octyl phthalate	120	87.3		ug/L		73	26 - 150
1,4-Dioxane	120	32.0		ug/L		27	10 - 87
1,2-Diphenylhydrazine (as Azobenzene)	120	77.8		ug/L		65	23 - 138
Hexachlorobenzene	120	92.1		ug/L		77	10 - 150
Hexachlorocyclopentadiene	120	95.7		ug/L		80	10 - 124
Hexachloroethane	120	63.2		ug/L		53	10 - 127
Indene	120	72.2		ug/L		60	18 - 150
Isophorone	120	71.7		ug/L		60	28 - 127
2-Methylphenol	120	73.1		ug/L		61	34 - 124
3 & 4 Methylphenol	120	73.2		ug/L		61	32 - 122
2-Nitroaniline	120	84.0		ug/L		70	24 - 139
3-Nitroaniline	120	77.7		ug/L		65	10 - 128
4-Nitroaniline	120	87.6		ug/L		73	28 - 118
Nitrobenzene	120	69.3		ug/L		58	29 - 120
2-Nitrophenol	120	78.3		ug/L		65	25 - 148
4-Nitrophenol	240	200		ug/L		84	12 - 129
N-Nitrosodimethylamine	120	50.1		ug/L		42	10 - 115
N-Nitrosodi-n-propylamine	120	68.9		ug/L		57	24 - 142
N-Nitrosodiphenylamine	119	86.7		ug/L		73	29 - 138
Pentachlorophenol	240	213		ug/L		89	19 - 150
Phenol	120	50.2		ug/L		42	11 - 95
Pyridine	240	29.3		ug/L		12	10 - 82
Quinoline	59.9	34.6		ug/L		58	10 - 141
2,4,5-Trichlorophenol	120	92.0		ug/L		77	30 - 144
2,4,6-Trichlorophenol	120	88.9		ug/L		74	27 - 147

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	80		21 - 114
2-Fluorophenol	59		10 - 105
Nitrobenzene-d5	78		16 - 127
Phenol-d5	51		10 - 129
Terphenyl-d14	112		13 - 150



# QC Sample Results

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

Job ID: 400-254705-1

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

**Lab Sample ID: LCS 400-669420/2-A**  
**Matrix: Water**  
**Analysis Batch: 670083**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669420**

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol	114		10 - 150

**Lab Sample ID: LCS 400-669420/4-A**  
**Matrix: Water**  
**Analysis Batch: 670083**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669420**

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	Limits	%Rec
		Result	Qualifier					
Benzenethiol	120	57.7		ug/L		48	10 - 140	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	85		21 - 114
2-Fluorophenol	60		10 - 105
Nitrobenzene-d5	77		16 - 127
Phenol-d5	48		10 - 129
Terphenyl-d14	136		13 - 150
2,4,6-Tribromophenol	83		10 - 150

**Lab Sample ID: LCSD 400-669420/3-A**  
**Matrix: Water**  
**Analysis Batch: 670083**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669420**

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	Limits	RPD	Limit
		Result	Qualifier						
Aniline	120	32.3		ug/L		27	10 - 127	34	40
Benzoic acid	492	195		ug/L		40	19 - 126	7	40
Benzyl alcohol	120	73.8		ug/L		62	17 - 109	3	40
Bis(2-chloroethoxy)methane	120	72.9		ug/L		61	24 - 125	7	40
Bis(2-chloroethyl)ether	120	60.3		ug/L		50	10 - 121	6	40
bis (2-chloroisopropyl) ether	120	58.8		ug/L		49	14 - 123	8	40
Bis(2-ethylhexyl) phthalate	120	104		ug/L		87	16 - 150	6	40
4-Bromophenyl phenyl ether	120	93.5		ug/L		78	17 - 150	6	40
Butyl benzyl phthalate	120	106		ug/L		88	21 - 150	5	40
4-Chloroaniline	120	68.9		ug/L		57	10 - 124	5	40
4-Chloro-3-methylphenol	120	90.2		ug/L		75	37 - 131	7	40
2-Chloronaphthalene	120	94.5		ug/L		79	24 - 132	8	40
2-Chlorophenol	120	78.3		ug/L		65	27 - 124	7	40
4-Chlorophenyl phenyl ether	120	98.0		ug/L		82	27 - 147	7	40
Dibenz[a,h]acridine	59.9	40.6		ug/L		68	40 - 140	8	40
Dibenzofuran	120	94.4		ug/L		79	30 - 135	8	40
3,3'-Dichlorobenzidine	160	97.0		ug/L		61	10 - 150	1	40
2,4-Dichlorophenol	120	87.2		ug/L		73	33 - 132	8	40
Diethyl phthalate	120	106		ug/L		89	37 - 145	6	40
2,4-Dimethylphenol	120	91.4		ug/L		76	38 - 132	7	40
Dimethyl phthalate	120	99.9		ug/L		83	32 - 137	7	40
Di-n-butyl phthalate	120	112		ug/L		93	27 - 150	4	40
4,6-Dinitro-ortho-cresol	240	233		ug/L		97	14 - 150	8	40
2,4-Dinitrophenol	240	263		ug/L		110	15 - 150	9	40
2,4-Dinitrotoluene	120	106		ug/L		88	35 - 136	7	40
2,6-Dinitrotoluene	120	100		ug/L		84	29 - 140	6	40

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# QC Sample Results

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

Job ID: 400-254705-1

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

**Lab Sample ID: LCSD 400-669420/3-A**  
**Matrix: Water**  
**Analysis Batch: 670083**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669420**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Di-n-octyl phthalate	120	93.8		ug/L		78	26 - 150	7	40	
1,4-Dioxane	120	31.2		ug/L		26	10 - 87	3	40	
1,2-Diphenylhydrazine (as Azobenzene)	120	82.5		ug/L		69	23 - 138	6	40	
Hexachlorobenzene	120	97.0		ug/L		81	10 - 150	5	40	
Hexachlorocyclopentadiene	120	105		ug/L		87	10 - 124	9	40	
Hexachloroethane	120	70.2		ug/L		59	10 - 127	11	40	
Indene	120	79.7		ug/L		66	18 - 150	10	40	
Isophorone	120	77.4		ug/L		65	28 - 127	8	40	
2-Methylphenol	120	77.8		ug/L		65	34 - 124	6	40	
3 & 4 Methylphenol	120	77.6		ug/L		65	32 - 122	6	40	
2-Nitroaniline	120	88.7		ug/L		74	24 - 139	5	40	
3-Nitroaniline	120	77.2		ug/L		64	10 - 128	1	40	
4-Nitroaniline	120	91.5		ug/L		76	28 - 118	4	40	
Nitrobenzene	120	74.6		ug/L		62	29 - 120	7	40	
2-Nitrophenol	120	87.0		ug/L		73	25 - 148	10	40	
4-Nitrophenol	240	209		ug/L		87	12 - 129	4	40	
N-Nitrosodimethylamine	120	50.7		ug/L		42	10 - 115	1	40	
N-Nitrosodi-n-propylamine	120	75.3		ug/L		63	24 - 142	9	40	
N-Nitrosodiphenylamine	119	91.2		ug/L		77	29 - 138	5	40	
Pentachlorophenol	240	225		ug/L		94	19 - 150	6	40	
Phenol	120	52.2		ug/L		44	11 - 95	4	40	
Pyridine	240	14.0	*- *1	ug/L		6	10 - 82	71	40	
Quinoline	59.9	28.5		ug/L		48	10 - 141	20	40	
2,4,5-Trichlorophenol	120	99.8		ug/L		83	30 - 144	8	40	
2,4,6-Trichlorophenol	120	97.6		ug/L		81	27 - 147	9	40	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	86		21 - 114
2-Fluorophenol	61		10 - 105
Nitrobenzene-d5	84		16 - 127
Phenol-d5	52		10 - 129
Terphenyl-d14	115		13 - 150
2,4,6-Tribromophenol	118		10 - 150

**Lab Sample ID: LCSD 400-669420/5-A**  
**Matrix: Water**  
**Analysis Batch: 670083**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669420**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Benzenethiol	120	55.6		ug/L		46	10 - 140	4	40	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	85		21 - 114
2-Fluorophenol	64		10 - 105
Nitrobenzene-d5	79		16 - 127
Phenol-d5	49		10 - 129
Terphenyl-d14	129		13 - 150

# QC Sample Results

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

Job ID: 400-254705-1

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

Lab Sample ID: LCSD 400-669420/5-A  
Matrix: Water  
Analysis Batch: 670083

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 669420

Surrogate	%Recovery	LCSD Qualifier	LCSD Limits
2,4,6-Tribromophenol	80		10 - 150

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 400-669420/1-A  
Matrix: Water  
Analysis Batch: 669847

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 669420

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.099	ug/L		04/25/24 18:17	04/30/24 15:17	1
Acenaphthylene	ND		0.20	0.044	ug/L		04/25/24 18:17	04/30/24 15:17	1
Anthracene	ND		0.20	0.047	ug/L		04/25/24 18:17	04/30/24 15:17	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		04/25/24 18:17	04/30/24 15:17	1
Benzo[a]pyrene	ND		0.20	0.064	ug/L		04/25/24 18:17	04/30/24 15:17	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		04/25/24 18:17	04/30/24 15:17	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		04/25/24 18:17	04/30/24 15:17	1
Benzo[k]fluoranthene	ND		0.20	0.062	ug/L		04/25/24 18:17	04/30/24 15:17	1
Chrysene	ND		0.20	0.033	ug/L		04/25/24 18:17	04/30/24 15:17	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		04/25/24 18:17	04/30/24 15:17	1
Fluoranthene	ND		0.20	0.034	ug/L		04/25/24 18:17	04/30/24 15:17	1
Fluorene	ND		0.20	0.089	ug/L		04/25/24 18:17	04/30/24 15:17	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		04/25/24 18:17	04/30/24 15:17	1
Phenanthrene	ND		0.20	0.090	ug/L		04/25/24 18:17	04/30/24 15:17	1
Pyrene	ND		0.20	0.039	ug/L		04/25/24 18:17	04/30/24 15:17	1
1-Methylnaphthalene	ND		0.20	0.080	ug/L		04/25/24 18:17	04/30/24 15:17	1
2-Methylnaphthalene	ND		0.20	0.066	ug/L		04/25/24 18:17	04/30/24 15:17	1

Surrogate	%Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	172	S1+	18 - 147	04/25/24 18:17	04/30/24 15:17	1
2-Fluorobiphenyl	89		15 - 128	04/25/24 18:17	04/30/24 15:17	1
Nitrobenzene-d5	89		10 - 144	04/25/24 18:17	04/30/24 15:17	1

Lab Sample ID: LCS 400-669420/2-A  
Matrix: Water  
Analysis Batch: 669847

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 669420

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	120	83.7		ug/L		70	10 - 140
Acenaphthylene	120	87.1		ug/L		73	10 - 140
Anthracene	120	97.8		ug/L		82	19 - 140
Benzo[a]anthracene	120	105		ug/L		88	25 - 140
Benzo[a]pyrene	120	86.2		ug/L		72	24 - 140
Benzo[b]fluoranthene	120	84.9		ug/L		71	34 - 140
Benzo[g,h,i]perylene	120	61.5		ug/L		51	13 - 140
Benzo[k]fluoranthene	120	81.3		ug/L		68	21 - 140
Chrysene	120	84.4		ug/L		70	28 - 140
Dibenz(a,h)anthracene	120	76.8		ug/L		64	10 - 140
Fluoranthene	120	94.1		ug/L		78	18 - 140

# QC Sample Results

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

Job ID: 400-254705-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID:** LCS 400-669420/2-A  
**Matrix:** Water  
**Analysis Batch:** 669847

**Client Sample ID:** Lab Control Sample  
**Prep Type:** Total/NA  
**Prep Batch:** 669420

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluorene	120	90.0		ug/L		75	16 - 140
Indeno[1,2,3-cd]pyrene	120	71.9		ug/L		60	10 - 140
Phenanthrene	120	82.1		ug/L		68	22 - 140
Pyrene	120	92.4		ug/L		77	38 - 140
1-Methylnaphthalene	120	77.1		ug/L		64	10 - 140
2-Methylnaphthalene	120	77.8		ug/L		65	10 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	99		18 - 147
2-Fluorobiphenyl	73		15 - 128
Nitrobenzene-d5	88		10 - 144

**Lab Sample ID:** LCSD 400-669420/3-A  
**Matrix:** Water  
**Analysis Batch:** 669847

**Client Sample ID:** Lab Control Sample Dup  
**Prep Type:** Total/NA  
**Prep Batch:** 669420

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Acenaphthene	120	91.3		ug/L		76	10 - 140	9	40
Acenaphthylene	120	93.8		ug/L		78	10 - 140	7	40
Anthracene	120	103		ug/L		86	19 - 140	5	40
Benzo[a]anthracene	120	108		ug/L		90	25 - 140	3	40
Benzo[a]pyrene	120	87.5		ug/L		73	24 - 140	2	40
Benzo[b]fluoranthene	120	88.3		ug/L		74	34 - 140	4	40
Benzo[g,h,i]perylene	120	61.3		ug/L		51	13 - 140	0	40
Benzo[k]fluoranthene	120	84.7		ug/L		71	21 - 140	4	40
Chrysene	120	90.6		ug/L		75	28 - 140	7	40
Dibenz(a,h)anthracene	120	72.9		ug/L		61	10 - 140	5	40
Fluoranthene	120	93.9		ug/L		78	18 - 140	0	40
Fluorene	120	95.5		ug/L		80	16 - 140	6	40
Indeno[1,2,3-cd]pyrene	120	73.3		ug/L		61	10 - 140	2	40
Phenanthrene	120	87.6		ug/L		73	22 - 140	6	40
Pyrene	120	101		ug/L		84	38 - 140	9	40
1-Methylnaphthalene	120	83.2		ug/L		69	10 - 140	8	40
2-Methylnaphthalene	120	84.0		ug/L		70	10 - 140	8	40

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Terphenyl-d14	107		18 - 147
2-Fluorobiphenyl	81		15 - 128
Nitrobenzene-d5	93		10 - 144

## Method: 8011 - EDB and DBCP in Water by Microextraction

**Lab Sample ID:** MB 400-669513/1-A  
**Matrix:** Water  
**Analysis Batch:** 669503

**Client Sample ID:** Method Blank  
**Prep Type:** Total/NA  
**Prep Batch:** 669513

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.030	0.017	ug/L		04/26/24 12:15	04/26/24 17:20	1

Eurofins Pensacola

# QC Sample Results

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

Job ID: 400-254705-1

## Method: 8011 - EDB and DBCP in Water by Microextraction (Continued)

**Lab Sample ID: MB 400-669513/1-A**  
**Matrix: Water**  
**Analysis Batch: 669503**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 669513**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		0.020	0.015	ug/L		04/26/24 12:15	04/26/24 17:20	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	88		51 - 149				04/26/24 12:15	04/26/24 17:20	1

**Lab Sample ID: LCS 400-669513/2-A**  
**Matrix: Water**  
**Analysis Batch: 669503**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669513**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dibromo-3-Chloropropane	0.101	0.104		ug/L		103	60 - 140
1,2-Dibromoethane	0.100	0.0883		ug/L		88	60 - 140
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene	74		51 - 149				

**Lab Sample ID: LCSD 400-669513/3-A**  
**Matrix: Water**  
**Analysis Batch: 669503**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669513**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dibromo-3-Chloropropane	0.101	0.124		ug/L		123	60 - 140	11	30
1,2-Dibromoethane	0.100	0.103		ug/L		103	60 - 140	15	30
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene	100		51 - 149						



ACCOUNT ( )  
 CALCSCIENCE ( )  
 TESTAMERICA (TestAmerica Pensacola; 3355 McLemore Dr. Pensacola, FL 32514 (850-474-1001))  
 Other ( )

**Print Bill To Contact Name:** Melissa Remiger  
**PlanNet Site or Project ID:** 26278  
**PO #:** 60721927 - 3.2.2  
**GSAP Project ID:** USPC/00114/R/02

CHECK IF NO INCIDENT # APPLIES  
 DATE: 4/18/2024  
 PAGE: 1 of 1

**SAMPLING COMPANY:**  
 ADDRESS: 100 N. Broadway, 20th Floor, ST. LOUIS, MO 63102, USA  
 PROJECT CONTACT (hardcopy or PDF Report to): Melissa Remiger, Mary Massa, Brett Howell  
 TELEPHONE: 314-429-0100 FAX: 314-429-0462  
 BILL TO CONTACT EMAIL: melissa.remiger@aecom.com

TURNAROUND TIME (CALENDAR DAYS):  5 DAYS  2 DAYS  24 HOURS  WEEKEND  
 STANDARD (14 DAY)

LA - RWQCB REPORT FORMAT  
 LEVEL 1  LEVEL 2  LEVEL 3  LEVEL 4  
 RESULTS NEEDED ON:  24 HOURS  WEEKEND

**DELIVERABLES:**  COOLER #1  COOLER #2  COOLER #3  
 TEMPERATURE ON RECEIPT °C:

**SPECIAL INSTRUCTIONS OR NOTES:**  
 Email reports to: melissa.remiger@aecom.com; mary.massa@aecom.com; brett.howell@aecom.com  
 \* Please include "J" values on Reports.  
 \* Please provide sample receipt upon login.  
 \* Please send Equis EDDs to EDDSubmissions@aecomshell.com; Vlad.Vrjian@aecom.com

SHELL CONTRACT RATE APPLIES  
 STATE REIMBURSEMENT RATE APPLIES  
 EDD NOT NEEDED  
 RECEIPT VERIFICATION REQUESTED  
 PROVIDE LEDD DISK

**Field Sample Identification**

LAB USE ONLY	SAMPLING		MATRIX	PRESERVATIVE			NO. OF CONT.
	DATE	TIME		HCL	H2SO4	NONE OTHER	
TB-ROX-041824-8260	4/18/2024	0000	Water	2			2
TB-ROX-041824-8011	4/18/2024	0000	Water	2			2
MW22-ROX-041824	4/18/2024	0935	Water	6	2		8
MW22-ROX-041824-DUP	4/18/2024	0935	Water	6	2		8
P57-ROX-041824	4/18/2024	1055	Water	6	2		8
P57-ROX-041824-DUP	4/18/2024	1055	Water	6	2		8
P74-ROX-041824	4/18/2024	1200	Water	6	2		8

VOC 8260 X  
 SVOC 8270  
 PAH 8270 SIMS  
 8011 EDB + DCP

**REQUESTED ANALYSIS:** 60721927 - 3.2.2  
**FIELD NOTES:**  
 400-254705 COC  
 Container PID Readings or Laboratory Notes:

Relinquished by: (Signature) *Mary Massa*  
**MARY MASSA**  
 Relinquished by: (Signature)  
 Relinquished by: (Signature)

Received by: (Signature) *PAH*  
 FEDEX: 7252 0540 4555, 7252 0540 4990  
 Received by: (Signature)  
 Received by: (Signature)

Date: 4/18/2024 Time: 1600  
 Date: 4/18/2024 Time: 8:00 AM  
 Date: 4/18/2024 Time: 8:00 AM

CUSTODY SEALS: 1599888, 1599889, 1599890, 1599891  
 0.00c MKS  
 0.20c JRS





# Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-254705-1

**Login Number: 254705**

**List Source: Eurofins Pensacola**

**List Number: 1**

**Creator: Perez, Trina M**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> 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, 0.2°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.	N/A	
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

Job ID: 400-254705-1

## Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-24
Kansas	NELAP	E-10253	10-31-24
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-24
North Carolina (WW/SW)	State	314	12-31-24
Oklahoma	NELAP	9810	08-31-24
Pennsylvania	NELAP	68-00467	01-31-25
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-24
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	P330-21-00056	05-17-24
USDA	US Federal Programs	FLGNV23001	01-08-26
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-25

# Roxana Groundwater Quarterly – 2<sup>nd</sup> Quarter 2024 Data Review

Laboratory SDG: 400-254744-1

Data Reviewer: Adelina Gita

Peer Reviewer: Cheyana Cokley

Date Reviewed: 05/17/2024

Guidance: USEPA National Functional Guidelines for Organic Superfund Methods Data Review 2020

Sample Identification	Sample Identification
TB-ROX-041924-8260-SS	TB-ROX-041924-8011-SS
T12-ROX-041924	P59-ROX-041924
P93C-ROX-041924	P93B-ROX-041924

## 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 VOC and SVOC LCS/LCSD recoveries and/or LCS/LCSD RPDs, were outside evaluation criteria. VOCs in sample P93B-ROX-041924 were diluted to bring target analytes into calibration range of the instrument. The continuing calibration verifications (CCV) for several analytes were outside evaluation criteria, biased low. These issues are addressed further in the appropriate sections of this data review.

Three of 70 (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 400-670170/1002	VOCs	Hexachlorobutadiene	148	NA	53-140
LCS 400-670328/1002	VOCs	Hexachlorobutadiene	157	NA	53-140
LCS/LCSD 400-669567/2-A/3-A	SVOCs	Pyridine	5/15	94	10-82/40
LCS/LCSD 400-669567/2-A/3-A	SVOCs	Aniline	13/30	78	10-127/40
LCS/LCSD 400-669567/2-A/3-A	SVOCs	Quinoline	30/58	64	10-141/40

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 pyridine below evaluation criteria; pyridine 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 LCS/LCSD RPD alone outside evaluation criteria did not require qualification.

Sample ID	Parameter	Analyte	Qualification
T12-ROX-041924	SVOCs	Pyridine	UJ
P93C-ROX-041924	SVOCs	Pyridine	UJ
P59-ROX-041924	SVOCs	Pyridine	UJ
P93B-ROX-041924	SVOCs	Pyridine	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?*

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 with the exception of non-detect VOCs in sample P93B-ROX-041924 were diluted to bring benzene into calibration range of the instrument. VOCs were non-detect at a dilution factor of 2000X, with raised reporting limits between 2000 and 50000 µg/L. Due to historical detections, please see section 12.0 of the data review for additional qualifications.

### 12.0 Additional Qualifications

*Were additional qualifications applied?*

Yes, the continuing calibration verification (CCV) for chloroethane, acrolein, trichlorofluoromethane, hexachlorocyclopentadiene, pyrene, and chrysene were outside evaluation criteria, biased low. Chloroethane, acrolein and trichlorofluoromethane in sample P93B-ROX-041924 were previously qualified in Section 11.0 of this data review due to a sample dilution; no further qualification is required. Analytes are qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
T12-ROX-041924	VOCs	Chloroethane	UJ
T12-ROX-041924	VOCs	Acrolein	UJ
P93C-ROX-041924	VOCs	Chloroethane	UJ
P93C-ROX-041924	VOCs	Acrolein	UJ
P59-ROX-041924	VOCs	Chloroethane	UJ
P59-ROX-041924	VOCs	Acrolein	UJ
P59-ROX-041924	VOCs	Trichlorofluoromethane	UJ
T12-ROX-041924	SVOCs	Hexachlorocyclopentadiene	UJ
P93C-ROX-041924	SVOCs	Hexachlorocyclopentadiene	UJ
P59-ROX-041924	SVOCs	Hexachlorocyclopentadiene	UJ
P93B-ROX-041924	SVOCs	Hexachlorocyclopentadiene	UJ
T12-ROX-041924	PAHs	Pyrene	UJ
P93C-ROX-041924	PAHs	Pyrene	UJ
P93B-ROX-041924	PAHs	Pyrene	UJ
T12-ROX-041924	PAHs	Chrysene	UJ
P93C-ROX-041924	PAHs	Chrysene	UJ
P59-ROX-041924	PAHs	Chrysene	J
P93B-ROX-041924	PAHs	Chrysene	UJ

Additionally, VOCs in sample P93B-ROX-041924 were qualified as estimated non-detect due to sample dilution and historical detections.

Sample ID	Parameter	Analyte	Qualification
P93B-ROX-041924	VOCs	All non-detects	UJ



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Melissa Remiger  
AECOM Technical Services Inc.  
100 N. Broadway  
20th Floor  
St. Louis, Missouri 63102

Generated 5/7/2024 3:14:35 PM

## JOB DESCRIPTION

ROXANA QUARTERLY GW

## JOB NUMBER

400-254744-1

Reviewed 05/17/2024  
AG



# Eurofins Pensacola

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

## Authorization



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Authorized for release by  
Leah Klingensmith, Senior Project Manager  
[Leah.Klingensmith@et.eurofinsus.com](mailto:Leah.Klingensmith@et.eurofinsus.com)  
(615)301-5038



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# Case Narrative

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

Job ID: 400-254744-1

Job ID: 400-254744-1

Eurofins Pensacola

## Job Narrative 400-254744-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 4/22/2024 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.1°C and 3.6°C.

### GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-670170 recovered above the upper control limit for 1,2,4-Trichlorobenzene, Hexachlorobutadiene and Tetrachloroethene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-670170 recovered outside acceptance criteria, low biased, for Acrolein and Chloroethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The preservative used in the sample containers provided is not compatible with one of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-ROX-041924-8260-SS (400-254744-1), T12-ROX-041924 (400-254744-3) and P93C-ROX-041924 (400-254744-5). The requested target analyte list includes 2-Chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrades in an acidic medium.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: T12-ROX-041924 (400-254744-3) and P93C-ROX-041924 (400-254744-5). Elevated reporting limits (RLs) are provided.

Method 8260D: The laboratory control sample (LCS) for analytical batch 400-670170 recovered outside control limits for the following analytes: Hexachlorobutadiene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: P59-ROX-041924 (400-254744-4) and P93B-ROX-041924 (400-254744-6). Elevated reporting limits (RLs) are provided.

Method 8260D: 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: P59-ROX-041924 (400-254744-4) and P93B-ROX-041924 (400-254744-6). 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 8260D: The laboratory control sample (LCS) for analytical batch 400-670328 recovered outside control limits for the following analyte: Hexachlorobutadiene. This analyte was biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-670328 recovered above the upper control limit for 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene and Hexachlorobutadiene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-670328 recovered outside acceptance criteria, low biased, for Acrolein, Chloroethane and Trichlorofluoromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Eurofins Pensacola

## Case Narrative

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

Job ID: 400-254744-1

### Job ID: 400-254744-1 (Continued)

Eurofins Pensacola

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

#### GC/MS Semi VOA

Method 8270E: The laboratory control sample (LCS) for preparation batch 400-669567 and analytical batch 400-670069 recovered outside control limits for the following analyte(s): Pyridine. Pyridine has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method 8270E: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 400-669567 and analytical batch 400-670069 recovered outside control limits for the following analytes: Quinoline, Pyridine and Aniline.

Method 8270E: The continuing calibration verification (CCV) associated with batch 400-670069 recovered outside acceptance criteria, low biased, for Hexachlorocyclopentadiene. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8270E: The initial calibration verification (ICV) analyzed in batch 400-666244 was outside method criteria for the following analyte(s): 2,4-Dimethylphenol and Hexachlorocyclopentadiene. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270E\_SIM: The continuing calibration verification (CCV) associated with batch 400-670176 recovered outside acceptance criteria, low biased, for Chrysene and Pyrene. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8270E\_SIM: Sample was not sent for re-extract for verification of detects as historical data confirms results. P59-ROX-041924 (400-254744-4)

Method 8270E\_SIM: Sample was not sent for re-extract for verification of detects as historical data confirms results.

T12-ROX-041924 (400-254744-3), P59-ROX-041924 (400-254744-4) and P93B-ROX-041924 (400-254744-6)

Method 8270E\_SIM: Detections in the following samples correspond to historical data. Re-extraction therefore not performed.

T12-ROX-041924 (400-254744-3), P59-ROX-041924 (400-254744-4), P93C-ROX-041924 (400-254744-5) and P93B-ROX-041924 (400-254744-6)

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

#### GC Semi VOA

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

# Sample Summary

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

Job ID: 400-254744-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-254744-1	TB-ROX-041924-8260-SS	Water	04/19/24 00:00	04/22/24 09:30
400-254744-2	TB-ROX-041924-8011-SS	Water	04/19/24 00:00	04/22/24 09:30
400-254744-3	T12-ROX-041924	Water	04/19/24 09:40	04/22/24 09:30
400-254744-4	P59-ROX-041924	Water	04/19/24 11:15	04/22/24 09:30
400-254744-5	P93C-ROX-041924	Water	04/19/24 12:15	04/22/24 09:30
400-254744-6	P93B-ROX-041924	Water	04/19/24 13:10	04/22/24 09:30

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# Detection Summary

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

Job ID: 400-254744-1

## Client Sample ID: TB-ROX-041924-8260-SS

Lab Sample ID: 400-254744-1

No Detections.

## Client Sample ID: TB-ROX-041924-8011-SS

Lab Sample ID: 400-254744-2

No Detections.

## Client Sample ID: T12-ROX-041924

Lab Sample ID: 400-254744-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1200		10	5.0	ug/L	10		8260D	Total/NA
Isopropylbenzene	6.1	J	10	5.3	ug/L	10		8260D	Total/NA
m-Xylene & p-Xylene	17	J	50	6.3	ug/L	10		8260D	Total/NA
Toluene	23		10	9.0	ug/L	10		8260D	Total/NA
Xylenes, Total	17	J	100	16	ug/L	10		8260D	Total/NA
Acenaphthene	0.40		0.22	0.11	ug/L	1		8270E SIM	Total/NA
Anthracene	0.11	J	0.22	0.051	ug/L	1		8270E SIM	Total/NA
Fluorene	0.35		0.22	0.097	ug/L	1		8270E SIM	Total/NA
Phenanthrene	0.54		0.22	0.098	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	16		0.22	0.087	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	23		0.22	0.072	ug/L	1		8270E SIM	Total/NA
Phenol	32		11	4.6	ug/L	1		8270E	Total/NA

## Client Sample ID: P59-ROX-041924

Lab Sample ID: 400-254744-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	180		130	50	ug/L	5		8260D	Total/NA
Benzene	910		5.0	2.5	ug/L	5		8260D	Total/NA
2-Butanone (MEK)	51	J	130	13	ug/L	5		8260D	Total/NA
Ethylbenzene	72		5.0	2.5	ug/L	5		8260D	Total/NA
Isopropylbenzene	52		5.0	2.7	ug/L	5		8260D	Total/NA
m-Xylene & p-Xylene	110		25	3.2	ug/L	5		8260D	Total/NA
Naphthalene	26		25	15	ug/L	5		8260D	Total/NA
n-Butylbenzene	4.8	J	5.0	3.8	ug/L	5		8260D	Total/NA
N-Propylbenzene	76		5.0	3.5	ug/L	5		8260D	Total/NA
o-Xylene	3.4	J	25	3.0	ug/L	5		8260D	Total/NA
Toluene	57		5.0	4.5	ug/L	5		8260D	Total/NA
1,2,4-Trimethylbenzene	17		5.0	4.1	ug/L	5		8260D	Total/NA
1,3,5-Trimethylbenzene	30		5.0	2.8	ug/L	5		8260D	Total/NA
Xylenes, Total	120		50	8.0	ug/L	5		8260D	Total/NA
Acenaphthene	0.47		0.21	0.11	ug/L	1		8270E SIM	Total/NA
Anthracene	0.52		0.21	0.050	ug/L	1		8270E SIM	Total/NA
Benzo[a]anthracene	0.12	J	0.21	0.036	ug/L	1		8270E SIM	Total/NA
Chrysene	0.20	J	0.21	0.035	ug/L	1		8270E SIM	Total/NA
Fluorene	0.37		0.21	0.095	ug/L	1		8270E SIM	Total/NA
Phenanthrene	0.73		0.21	0.096	ug/L	1		8270E SIM	Total/NA
Pyrene	0.63		0.21	0.041	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	9.0		0.21	0.085	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	12		0.21	0.070	ug/L	1		8270E SIM	Total/NA
Phenol	7.1	J	11	4.5	ug/L	1		8270E	Total/NA

## Client Sample ID: P93C-ROX-041924

Lab Sample ID: 400-254744-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	180000		1000	500	ug/L	1000		8260D	Total/NA

This Detection Summary does not include radiochemical test results.



# Detection Summary

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

Job ID: 400-254744-1

## Client Sample ID: P93C-ROX-041924 (Continued)

Lab Sample ID: 400-254744-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Phenol	59		11	4.4	ug/L	1		8270E	Total/NA

## Client Sample ID: P93B-ROX-041924

Lab Sample ID: 400-254744-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene - DL	1000000		5000	2500	ug/L	5000		8260D	Total/NA
Acenaphthene	0.27		0.21	0.11	ug/L	1		8270E SIM	Total/NA
Acenaphthylene	0.18	J	0.21	0.047	ug/L	1		8270E SIM	Total/NA
Anthracene	0.089	J	0.21	0.050	ug/L	1		8270E SIM	Total/NA
Fluoranthene	0.036	J	0.21	0.036	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	0.18	J	0.21	0.085	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	0.19	J	0.21	0.070	ug/L	1		8270E SIM	Total/NA
Phenol	170		11	4.5	ug/L	1		8270E	Total/NA

This Detection Summary does not include radiochemical test results.

# Client Sample Results

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

Job ID: 400-254744-1

**Client Sample ID: TB-ROX-041924-8260-SS**

**Lab Sample ID: 400-254744-1**

**Date Collected: 04/19/24 00:00**

**Matrix: Water**

**Date Received: 04/22/24 09:30**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			05/02/24 18:22	1
Acrolein	ND		20	3.3	ug/L			05/02/24 18:22	1
Acrylonitrile	ND		10	2.8	ug/L			05/02/24 18:22	1
Benzene	ND		1.0	0.50	ug/L			05/02/24 18:22	1
Bromobenzene	ND		1.0	0.54	ug/L			05/02/24 18:22	1
Bromochloromethane	ND		1.0	0.21	ug/L			05/02/24 18:22	1
Bromodichloromethane	ND		1.0	0.50	ug/L			05/02/24 18:22	1
Bromoform	ND		5.0	0.25	ug/L			05/02/24 18:22	1
Bromomethane	ND		1.0	0.98	ug/L			05/02/24 18:22	1
2-Butanone (MEK)	ND		25	2.6	ug/L			05/02/24 18:22	1
Carbon disulfide	ND		1.0	0.50	ug/L			05/02/24 18:22	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			05/02/24 18:22	1
Chlorobenzene	ND		1.0	0.90	ug/L			05/02/24 18:22	1
Chloroethane	ND		1.0	0.76	ug/L			05/02/24 18:22	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			05/02/24 18:22	1
Chloroform	ND		1.0	0.90	ug/L			05/02/24 18:22	1
1-Chlorohexane	ND		1.0	0.32	ug/L			05/02/24 18:22	1
Chloromethane	ND		1.0	0.90	ug/L			05/02/24 18:22	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			05/02/24 18:22	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			05/02/24 18:22	1
Dibromochloromethane	ND		1.0	0.24	ug/L			05/02/24 18:22	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			05/02/24 18:22	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			05/02/24 18:22	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			05/02/24 18:22	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			05/02/24 18:22	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			05/02/24 18:22	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			05/02/24 18:22	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			05/02/24 18:22	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			05/02/24 18:22	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			05/02/24 18:22	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			05/02/24 18:22	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			05/02/24 18:22	1
Ethylbenzene	ND		1.0	0.50	ug/L			05/02/24 18:22	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			05/02/24 18:22	1
Hexachlorobutadiene	ND	*+	5.0	0.90	ug/L			05/02/24 18:22	1
2-Hexanone	ND		25	1.4	ug/L			05/02/24 18:22	1
Isopropylbenzene	ND		1.0	0.53	ug/L			05/02/24 18:22	1
Methylene bromide	ND		5.0	0.22	ug/L			05/02/24 18:22	1
Methylene Chloride	ND		5.0	3.0	ug/L			05/02/24 18:22	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			05/02/24 18:22	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			05/02/24 18:22	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			05/02/24 18:22	1
Naphthalene	ND		5.0	3.0	ug/L			05/02/24 18:22	1
n-Butylbenzene	ND		1.0	0.76	ug/L			05/02/24 18:22	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/02/24 18:22	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			05/02/24 18:22	1
o-Xylene	ND		5.0	0.60	ug/L			05/02/24 18:22	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			05/02/24 18:22	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			05/02/24 18:22	1

# Client Sample Results

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

Job ID: 400-254744-1

**Client Sample ID: TB-ROX-041924-8260-SS**

**Lab Sample ID: 400-254744-1**

**Date Collected: 04/19/24 00:00**

**Matrix: Water**

**Date Received: 04/22/24 09:30**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			05/02/24 18:22	1
Styrene	ND		1.0	1.0	ug/L			05/02/24 18:22	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			05/02/24 18:22	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			05/02/24 18:22	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			05/02/24 18:22	1
Tetrachloroethene	ND		1.0	0.90	ug/L			05/02/24 18:22	1
Toluene	ND		1.0	0.90	ug/L			05/02/24 18:22	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			05/02/24 18:22	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			05/02/24 18:22	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			05/02/24 18:22	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			05/02/24 18:22	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			05/02/24 18:22	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			05/02/24 18:22	1
Trichloroethene	ND		1.0	0.15	ug/L			05/02/24 18:22	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			05/02/24 18:22	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			05/02/24 18:22	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			05/02/24 18:22	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			05/02/24 18:22	1
Vinyl acetate	ND		25	0.93	ug/L			05/02/24 18:22	1
Vinyl chloride	ND		1.0	0.50	ug/L			05/02/24 18:22	1
Xylenes, Total	ND		10	1.6	ug/L			05/02/24 18:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		72 - 130		05/02/24 18:22	1
Dibromofluoromethane	104		75 - 126		05/02/24 18:22	1
Toluene-d8 (Surr)	91		64 - 132		05/02/24 18:22	1

# Client Sample Results

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

Job ID: 400-254744-1

**Client Sample ID: TB-ROX-041924-8011-SS**

**Lab Sample ID: 400-254744-2**

Date Collected: 04/19/24 00:00

Matrix: Water

Date Received: 04/22/24 09:30

**Method: EPA 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	0.018	ug/L		04/30/24 07:31	05/01/24 19:31	1
1,2-Dibromoethane	ND		0.021	0.016	ug/L		04/30/24 07:31	05/01/24 19:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	74		51 - 149				04/30/24 07:31	05/01/24 19:31	1

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# Client Sample Results

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

Job ID: 400-254744-1

**Client Sample ID: T12-ROX-041924**

**Lab Sample ID: 400-254744-3**

Date Collected: 04/19/24 09:40

Matrix: Water

Date Received: 04/22/24 09:30

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		250	100	ug/L			05/02/24 20:10	10
Acrolein	ND	UJ	200	33	ug/L			05/02/24 20:10	10
Acrylonitrile	ND		100	28	ug/L			05/02/24 20:10	10
<b>Benzene</b>	<b>1200</b>		10	5.0	ug/L			05/02/24 20:10	10
Bromobenzene	ND		10	5.4	ug/L			05/02/24 20:10	10
Bromochloromethane	ND		10	2.1	ug/L			05/02/24 20:10	10
Bromodichloromethane	ND		10	5.0	ug/L			05/02/24 20:10	10
Bromoform	ND		50	2.5	ug/L			05/02/24 20:10	10
Bromomethane	ND		10	9.8	ug/L			05/02/24 20:10	10
2-Butanone (MEK)	ND		250	26	ug/L			05/02/24 20:10	10
Carbon disulfide	ND		10	5.0	ug/L			05/02/24 20:10	10
Carbon tetrachloride	ND		10	1.9	ug/L			05/02/24 20:10	10
Chlorobenzene	ND		10	9.0	ug/L			05/02/24 20:10	10
Chloroethane	ND	UJ	10	7.6	ug/L			05/02/24 20:10	10
2-Chloroethyl vinyl ether	ND		50	20	ug/L			05/02/24 20:10	10
Chloroform	ND		10	9.0	ug/L			05/02/24 20:10	10
1-Chlorohexane	ND		10	3.2	ug/L			05/02/24 20:10	10
Chloromethane	ND		10	9.0	ug/L			05/02/24 20:10	10
cis-1,2-Dichloroethene	ND		10	2.0	ug/L			05/02/24 20:10	10
cis-1,3-Dichloropropene	ND		50	5.0	ug/L			05/02/24 20:10	10
Dibromochloromethane	ND		10	2.4	ug/L			05/02/24 20:10	10
1,2-Dichlorobenzene	ND		10	5.0	ug/L			05/02/24 20:10	10
1,3-Dichlorobenzene	ND		10	5.4	ug/L			05/02/24 20:10	10
1,4-Dichlorobenzene	ND		10	6.4	ug/L			05/02/24 20:10	10
Dichlorodifluoromethane	ND		10	8.5	ug/L			05/02/24 20:10	10
1,1-Dichloroethane	ND		10	5.0	ug/L			05/02/24 20:10	10
1,2-Dichloroethane	ND		10	1.9	ug/L			05/02/24 20:10	10
1,1-Dichloroethene	ND		10	5.0	ug/L			05/02/24 20:10	10
1,2-Dichloropropane	ND		10	5.0	ug/L			05/02/24 20:10	10
1,3-Dichloropropane	ND		10	5.0	ug/L			05/02/24 20:10	10
2,2-Dichloropropane	ND		10	5.0	ug/L			05/02/24 20:10	10
1,1-Dichloropropene	ND		10	5.0	ug/L			05/02/24 20:10	10
Ethylbenzene	ND		10	5.0	ug/L			05/02/24 20:10	10
Ethyl methacrylate	ND		10	6.0	ug/L			05/02/24 20:10	10
Hexachlorobutadiene	ND	*+	50	9.0	ug/L			05/02/24 20:10	10
2-Hexanone	ND		250	14	ug/L			05/02/24 20:10	10
<b>Isopropylbenzene</b>	<b>6.1</b>	<b>J</b>	10	5.3	ug/L			05/02/24 20:10	10
Methylene bromide	ND		50	2.2	ug/L			05/02/24 20:10	10
Methylene Chloride	ND		50	30	ug/L			05/02/24 20:10	10
4-Methyl-2-pentanone (MIBK)	ND		250	18	ug/L			05/02/24 20:10	10
Methyl tert-butyl ether	ND		10	2.2	ug/L			05/02/24 20:10	10
<b>m-Xylene &amp; p-Xylene</b>	<b>17</b>	<b>J</b>	50	6.3	ug/L			05/02/24 20:10	10
Naphthalene	ND		50	30	ug/L			05/02/24 20:10	10
n-Butylbenzene	ND		10	7.6	ug/L			05/02/24 20:10	10
N-Propylbenzene	ND		10	6.9	ug/L			05/02/24 20:10	10
o-Chlorotoluene	ND		10	5.7	ug/L			05/02/24 20:10	10
o-Xylene	ND		50	6.0	ug/L			05/02/24 20:10	10
p-Chlorotoluene	ND		10	5.6	ug/L			05/02/24 20:10	10
p-Isopropyltoluene	ND		10	7.1	ug/L			05/02/24 20:10	10

# Client Sample Results

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

Job ID: 400-254744-1

**Client Sample ID: T12-ROX-041924**

**Lab Sample ID: 400-254744-3**

Date Collected: 04/19/24 09:40

Matrix: Water

Date Received: 04/22/24 09:30

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		10	7.0	ug/L			05/02/24 20:10	10
Styrene	ND		10	10	ug/L			05/02/24 20:10	10
tert-Butylbenzene	ND		10	6.3	ug/L			05/02/24 20:10	10
1,1,1,2-Tetrachloroethane	ND		10	1.6	ug/L			05/02/24 20:10	10
1,1,2,2-Tetrachloroethane	ND		10	5.0	ug/L			05/02/24 20:10	10
Tetrachloroethene	ND		10	9.0	ug/L			05/02/24 20:10	10
<b>Toluene</b>	<b>23</b>		10	9.0	ug/L			05/02/24 20:10	10
trans-1,2-Dichloroethene	ND		10	5.0	ug/L			05/02/24 20:10	10
trans-1,3-Dichloropropene	ND		50	2.0	ug/L			05/02/24 20:10	10
1,2,3-Trichlorobenzene	ND		10	9.0	ug/L			05/02/24 20:10	10
1,2,4-Trichlorobenzene	ND		10	8.2	ug/L			05/02/24 20:10	10
1,1,1-Trichloroethane	ND		10	1.8	ug/L			05/02/24 20:10	10
1,1,2-Trichloroethane	ND		50	2.1	ug/L			05/02/24 20:10	10
Trichloroethene	ND		10	1.5	ug/L			05/02/24 20:10	10
Trichlorofluoromethane	ND		10	5.2	ug/L			05/02/24 20:10	10
1,2,3-Trichloropropane	ND		50	8.4	ug/L			05/02/24 20:10	10
1,2,4-Trimethylbenzene	ND		10	8.2	ug/L			05/02/24 20:10	10
1,3,5-Trimethylbenzene	ND		10	5.6	ug/L			05/02/24 20:10	10
Vinyl acetate	ND		250	9.3	ug/L			05/02/24 20:10	10
Vinyl chloride	ND		10	5.0	ug/L			05/02/24 20:10	10
<b>Xylenes, Total</b>	<b>17 J</b>		100	16	ug/L			05/02/24 20:10	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		72 - 130		05/02/24 20:10	10
Dibromofluoromethane	101		75 - 126		05/02/24 20:10	10
Toluene-d8 (Surr)	94		64 - 132		05/02/24 20:10	10

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acenaphthene</b>	<b>0.40</b>		0.22	0.11	ug/L		04/26/24 17:40	05/02/24 19:38	1
Acenaphthylene	ND		0.22	0.048	ug/L		04/26/24 17:40	05/02/24 19:38	1
<b>Anthracene</b>	<b>0.11 J</b>		0.22	0.051	ug/L		04/26/24 17:40	05/02/24 19:38	1
Benzo[a]anthracene	ND		0.22	0.037	ug/L		04/26/24 17:40	05/02/24 19:38	1
Benzo[a]pyrene	ND		0.22	0.070	ug/L		04/26/24 17:40	05/02/24 19:38	1
Benzo[b]fluoranthene	ND		0.22	0.040	ug/L		04/26/24 17:40	05/02/24 19:38	1
Benzo[g,h,i]perylene	ND		0.22	0.029	ug/L		04/26/24 17:40	05/02/24 19:38	1
Benzo[k]fluoranthene	ND		0.22	0.067	ug/L		04/26/24 17:40	05/02/24 19:38	1
Chrysene	ND	UU	0.22	0.036	ug/L		04/26/24 17:40	05/02/24 19:38	1
Dibenz(a,h)anthracene	ND		0.22	0.052	ug/L		04/26/24 17:40	05/02/24 19:38	1
Fluoranthene	ND		0.22	0.037	ug/L		04/26/24 17:40	05/02/24 19:38	1
<b>Fluorene</b>	<b>0.35</b>		0.22	0.097	ug/L		04/26/24 17:40	05/02/24 19:38	1
Indeno[1,2,3-cd]pyrene	ND		0.22	0.037	ug/L		04/26/24 17:40	05/02/24 19:38	1
<b>Phenanthrene</b>	<b>0.54</b>		0.22	0.098	ug/L		04/26/24 17:40	05/02/24 19:38	1
Pyrene	ND	UU	0.22	0.042	ug/L		04/26/24 17:40	05/02/24 19:38	1
<b>1-Methylnaphthalene</b>	<b>16</b>		0.22	0.087	ug/L		04/26/24 17:40	05/02/24 19:38	1
<b>2-Methylnaphthalene</b>	<b>23</b>		0.22	0.072	ug/L		04/26/24 17:40	05/02/24 19:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	64		18 - 147	04/26/24 17:40	05/02/24 19:38	1
2-Fluorobiphenyl	64		15 - 128	04/26/24 17:40	05/02/24 19:38	1

Eurofins Pensacola



# Client Sample Results

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

Job ID: 400-254744-1

**Client Sample ID: T12-ROX-041924**

**Lab Sample ID: 400-254744-3**

Date Collected: 04/19/24 09:40

Matrix: Water

Date Received: 04/22/24 09:30

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	52		10 - 144	04/26/24 17:40	05/02/24 19:38	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*1	11	9.5	ug/L		04/26/24 17:40	05/01/24 19:53	1
Benzenethiol	ND		11	11	ug/L		04/26/24 17:40	05/01/24 19:53	1
Benzoic acid	ND		33	26	ug/L		04/26/24 17:40	05/01/24 19:53	1
Benzyl alcohol	ND		11	7.9	ug/L		04/26/24 17:40	05/01/24 19:53	1
Bis(2-chloroethoxy)methane	ND		11	5.0	ug/L		04/26/24 17:40	05/01/24 19:53	1
Bis(2-chloroethyl)ether	ND		11	4.2	ug/L		04/26/24 17:40	05/01/24 19:53	1
bis (2-chloroisopropyl) ether	ND		11	2.0	ug/L		04/26/24 17:40	05/01/24 19:53	1
Bis(2-ethylhexyl) phthalate	ND		11	9.7	ug/L		04/26/24 17:40	05/01/24 19:53	1
4-Bromophenyl phenyl ether	ND		11	9.3	ug/L		04/26/24 17:40	05/01/24 19:53	1
Butyl benzyl phthalate	ND		11	6.3	ug/L		04/26/24 17:40	05/01/24 19:53	1
4-Chloroaniline	ND		11	5.1	ug/L		04/26/24 17:40	05/01/24 19:53	1
4-Chloro-3-methylphenol	ND		11	5.8	ug/L		04/26/24 17:40	05/01/24 19:53	1
2-Chloronaphthalene	ND		11	4.1	ug/L		04/26/24 17:40	05/01/24 19:53	1
2-Chlorophenol	ND		11	4.5	ug/L		04/26/24 17:40	05/01/24 19:53	1
4-Chlorophenyl phenyl ether	ND		11	4.0	ug/L		04/26/24 17:40	05/01/24 19:53	1
Dibenz[a,h]acridine	ND		11	3.0	ug/L		04/26/24 17:40	05/01/24 19:53	1
Dibenzofuran	ND		11	4.3	ug/L		04/26/24 17:40	05/01/24 19:53	1
3,3'-Dichlorobenzidine	ND		12	12	ug/L		04/26/24 17:40	05/01/24 19:53	1
2,4-Dichlorophenol	ND		11	4.7	ug/L		04/26/24 17:40	05/01/24 19:53	1
Diethyl phthalate	ND		11	4.8	ug/L		04/26/24 17:40	05/01/24 19:53	1
2,4-Dimethylphenol	ND		11	5.7	ug/L		04/26/24 17:40	05/01/24 19:53	1
Dimethyl phthalate	ND		11	4.6	ug/L		04/26/24 17:40	05/01/24 19:53	1
Di-n-butyl phthalate	ND		11	5.0	ug/L		04/26/24 17:40	05/01/24 19:53	1
4,6-Dinitro-ortho-cresol	ND		11	11	ug/L		04/26/24 17:40	05/01/24 19:53	1
2,4-Dinitrophenol	ND		33	5.0	ug/L		04/26/24 17:40	05/01/24 19:53	1
2,4-Dinitrotoluene	ND		11	5.5	ug/L		04/26/24 17:40	05/01/24 19:53	1
2,6-Dinitrotoluene	ND		11	4.2	ug/L		04/26/24 17:40	05/01/24 19:53	1
Di-n-octyl phthalate	ND		11	6.5	ug/L		04/26/24 17:40	05/01/24 19:53	1
1,4-Dioxane	ND		11	4.7	ug/L		04/26/24 17:40	05/01/24 19:53	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		11	3.6	ug/L		04/26/24 17:40	05/01/24 19:53	1
Hexachlorobenzene	ND		11	11	ug/L		04/26/24 17:40	05/01/24 19:53	1
Hexachlorocyclopentadiene	ND	UJ	22	4.9	ug/L		04/26/24 17:40	05/01/24 19:53	1
Hexachloroethane	ND		11	5.7	ug/L		04/26/24 17:40	05/01/24 19:53	1
Indene	ND		11	3.9	ug/L		04/26/24 17:40	05/01/24 19:53	1
Isophorone	ND		11	5.7	ug/L		04/26/24 17:40	05/01/24 19:53	1
2-Methylphenol	ND		11	3.5	ug/L		04/26/24 17:40	05/01/24 19:53	1
3 & 4 Methylphenol	ND		22	5.0	ug/L		04/26/24 17:40	05/01/24 19:53	1
2-Nitroaniline	ND		11	5.4	ug/L		04/26/24 17:40	05/01/24 19:53	1
3-Nitroaniline	ND		11	5.1	ug/L		04/26/24 17:40	05/01/24 19:53	1
4-Nitroaniline	ND		11	4.5	ug/L		04/26/24 17:40	05/01/24 19:53	1
Nitrobenzene	ND		11	5.1	ug/L		04/26/24 17:40	05/01/24 19:53	1
2-Nitrophenol	ND		11	5.0	ug/L		04/26/24 17:40	05/01/24 19:53	1
4-Nitrophenol	ND		11	3.6	ug/L		04/26/24 17:40	05/01/24 19:53	1
N-Nitrosodimethylamine	ND		11	2.4	ug/L		04/26/24 17:40	05/01/24 19:53	1

# Client Sample Results

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

Job ID: 400-254744-1

**Client Sample ID: T12-ROX-041924**

**Lab Sample ID: 400-254744-3**

Date Collected: 04/19/24 09:40

Matrix: Water

Date Received: 04/22/24 09:30

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		11	2.7	ug/L		04/26/24 17:40	05/01/24 19:53	1
N-Nitrosodiphenylamine	ND		11	4.0	ug/L		04/26/24 17:40	05/01/24 19:53	1
Pentachlorophenol	ND		22	13	ug/L		04/26/24 17:40	05/01/24 19:53	1
<b>Phenol</b>	<b>32</b>		11	4.6	ug/L		04/26/24 17:40	05/01/24 19:53	1
Pyridine	ND	*_ *1 UJ	11	11	ug/L		04/26/24 17:40	05/01/24 19:53	1
Quinoline	ND	*1	11	2.6	ug/L		04/26/24 17:40	05/01/24 19:53	1
2,4,5-Trichlorophenol	ND		11	4.3	ug/L		04/26/24 17:40	05/01/24 19:53	1
2,4,6-Trichlorophenol	ND		11	3.8	ug/L		04/26/24 17:40	05/01/24 19:53	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorobiphenyl	73		21 - 114				04/26/24 17:40	05/01/24 19:53	1
2-Fluorophenol	62		10 - 105				04/26/24 17:40	05/01/24 19:53	1
Nitrobenzene-d5	73		16 - 127				04/26/24 17:40	05/01/24 19:53	1
Phenol-d5	50		10 - 129				04/26/24 17:40	05/01/24 19:53	1
Terphenyl-d14	69		13 - 150				04/26/24 17:40	05/01/24 19:53	1
2,4,6-Tribromophenol	82		10 - 150				04/26/24 17:40	05/01/24 19:53	1

**Method: EPA 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	0.018	ug/L		04/30/24 07:31	05/01/24 19:52	1
1,2-Dibromoethane	ND		0.021	0.015	ug/L		04/30/24 07:31	05/01/24 19:52	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene	71		51 - 149				04/30/24 07:31	05/01/24 19:52	1

# Client Sample Results

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

Job ID: 400-254744-1

**Client Sample ID: P59-ROX-041924**

**Lab Sample ID: 400-254744-4**

Date Collected: 04/19/24 11:15

Matrix: Water

Date Received: 04/22/24 09:30

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acetone</b>	<b>180</b>		130	50	ug/L			05/03/24 13:49	5
Acrolein	ND	UJ	100	17	ug/L			05/03/24 13:49	5
Acrylonitrile	ND		50	14	ug/L			05/03/24 13:49	5
<b>Benzene</b>	<b>910</b>		5.0	2.5	ug/L			05/03/24 13:49	5
Bromobenzene	ND		5.0	2.7	ug/L			05/03/24 13:49	5
Bromochloromethane	ND		5.0	1.1	ug/L			05/03/24 13:49	5
Bromodichloromethane	ND		5.0	2.5	ug/L			05/03/24 13:49	5
Bromoform	ND		25	1.3	ug/L			05/03/24 13:49	5
Bromomethane	ND		5.0	4.9	ug/L			05/03/24 13:49	5
<b>2-Butanone (MEK)</b>	<b>51</b>	J	130	13	ug/L			05/03/24 13:49	5
Carbon disulfide	ND		5.0	2.5	ug/L			05/03/24 13:49	5
Carbon tetrachloride	ND		5.0	0.95	ug/L			05/03/24 13:49	5
Chlorobenzene	ND		5.0	4.5	ug/L			05/03/24 13:49	5
Chloroethane	ND	UJ	5.0	3.8	ug/L			05/03/24 13:49	5
2-Chloroethyl vinyl ether	ND		25	10	ug/L			05/03/24 13:49	5
Chloroform	ND		5.0	4.5	ug/L			05/03/24 13:49	5
1-Chlorohexane	ND		5.0	1.6	ug/L			05/03/24 13:49	5
Chloromethane	ND		5.0	4.5	ug/L			05/03/24 13:49	5
cis-1,2-Dichloroethene	ND		5.0	1.0	ug/L			05/03/24 13:49	5
cis-1,3-Dichloropropene	ND		25	2.5	ug/L			05/03/24 13:49	5
Dibromochloromethane	ND		5.0	1.2	ug/L			05/03/24 13:49	5
1,2-Dichlorobenzene	ND		5.0	2.5	ug/L			05/03/24 13:49	5
1,3-Dichlorobenzene	ND		5.0	2.7	ug/L			05/03/24 13:49	5
1,4-Dichlorobenzene	ND		5.0	3.2	ug/L			05/03/24 13:49	5
Dichlorodifluoromethane	ND		5.0	4.3	ug/L			05/03/24 13:49	5
1,1-Dichloroethane	ND		5.0	2.5	ug/L			05/03/24 13:49	5
1,2-Dichloroethane	ND		5.0	0.95	ug/L			05/03/24 13:49	5
1,1-Dichloroethene	ND		5.0	2.5	ug/L			05/03/24 13:49	5
1,2-Dichloropropane	ND		5.0	2.5	ug/L			05/03/24 13:49	5
1,3-Dichloropropane	ND		5.0	2.5	ug/L			05/03/24 13:49	5
2,2-Dichloropropane	ND		5.0	2.5	ug/L			05/03/24 13:49	5
1,1-Dichloropropene	ND		5.0	2.5	ug/L			05/03/24 13:49	5
<b>Ethylbenzene</b>	<b>72</b>		5.0	2.5	ug/L			05/03/24 13:49	5
Ethyl methacrylate	ND		5.0	3.0	ug/L			05/03/24 13:49	5
Hexachlorobutadiene	ND	*+	25	4.5	ug/L			05/03/24 13:49	5
2-Hexanone	ND		130	7.0	ug/L			05/03/24 13:49	5
<b>Isopropylbenzene</b>	<b>52</b>		5.0	2.7	ug/L			05/03/24 13:49	5
Methylene bromide	ND		25	1.1	ug/L			05/03/24 13:49	5
Methylene Chloride	ND		25	15	ug/L			05/03/24 13:49	5
4-Methyl-2-pentanone (MIBK)	ND		130	9.0	ug/L			05/03/24 13:49	5
Methyl tert-butyl ether	ND		5.0	1.1	ug/L			05/03/24 13:49	5
<b>m-Xylene &amp; p-Xylene</b>	<b>110</b>		25	3.2	ug/L			05/03/24 13:49	5
<b>Naphthalene</b>	<b>26</b>		25	15	ug/L			05/03/24 13:49	5
<b>n-Butylbenzene</b>	<b>4.8</b>	J	5.0	3.8	ug/L			05/03/24 13:49	5
<b>N-Propylbenzene</b>	<b>76</b>		5.0	3.5	ug/L			05/03/24 13:49	5
o-Chlorotoluene	ND		5.0	2.9	ug/L			05/03/24 13:49	5
<b>o-Xylene</b>	<b>3.4</b>	J	25	3.0	ug/L			05/03/24 13:49	5
p-Chlorotoluene	ND		5.0	2.8	ug/L			05/03/24 13:49	5
p-Isopropyltoluene	ND		5.0	3.6	ug/L			05/03/24 13:49	5

# Client Sample Results

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

Job ID: 400-254744-1

**Client Sample ID: P59-ROX-041924**

**Lab Sample ID: 400-254744-4**

Date Collected: 04/19/24 11:15

Matrix: Water

Date Received: 04/22/24 09:30

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		5.0	3.5	ug/L			05/03/24 13:49	5
Styrene	ND		5.0	5.0	ug/L			05/03/24 13:49	5
tert-Butylbenzene	ND		5.0	3.2	ug/L			05/03/24 13:49	5
1,1,1,2-Tetrachloroethane	ND		5.0	0.80	ug/L			05/03/24 13:49	5
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/L			05/03/24 13:49	5
Tetrachloroethene	ND		5.0	4.5	ug/L			05/03/24 13:49	5
<b>Toluene</b>	<b>57</b>		5.0	4.5	ug/L			05/03/24 13:49	5
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/L			05/03/24 13:49	5
trans-1,3-Dichloropropene	ND		25	1.0	ug/L			05/03/24 13:49	5
1,2,3-Trichlorobenzene	ND		5.0	4.5	ug/L			05/03/24 13:49	5
1,2,4-Trichlorobenzene	ND		5.0	4.1	ug/L			05/03/24 13:49	5
1,1,1-Trichloroethane	ND		5.0	0.90	ug/L			05/03/24 13:49	5
1,1,2-Trichloroethane	ND		25	1.1	ug/L			05/03/24 13:49	5
Trichloroethene	ND		5.0	0.75	ug/L			05/03/24 13:49	5
Trichlorofluoromethane	ND	UJ	5.0	2.6	ug/L			05/03/24 13:49	5
1,2,3-Trichloropropane	ND		25	4.2	ug/L			05/03/24 13:49	5
<b>1,2,4-Trimethylbenzene</b>	<b>17</b>		5.0	4.1	ug/L			05/03/24 13:49	5
<b>1,3,5-Trimethylbenzene</b>	<b>30</b>		5.0	2.8	ug/L			05/03/24 13:49	5
Vinyl acetate	ND		130	4.7	ug/L			05/03/24 13:49	5
Vinyl chloride	ND		5.0	2.5	ug/L			05/03/24 13:49	5
<b>Xylenes, Total</b>	<b>120</b>		50	8.0	ug/L			05/03/24 13:49	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	100		72 - 130					05/03/24 13:49	5
Dibromofluoromethane	99		75 - 126					05/03/24 13:49	5
Toluene-d8 (Surr)	92		64 - 132					05/03/24 13:49	5

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acenaphthene</b>	<b>0.47</b>		0.21	0.11	ug/L		04/26/24 17:40	05/02/24 19:58	1
Acenaphthylene	ND		0.21	0.047	ug/L		04/26/24 17:40	05/02/24 19:58	1
<b>Anthracene</b>	<b>0.52</b>		0.21	0.050	ug/L		04/26/24 17:40	05/02/24 19:58	1
<b>Benzo[a]anthracene</b>	<b>0.12</b>	J	0.21	0.036	ug/L		04/26/24 17:40	05/02/24 19:58	1
Benzo[a]pyrene	ND		0.21	0.068	ug/L		04/26/24 17:40	05/02/24 19:58	1
Benzo[b]fluoranthene	ND		0.21	0.039	ug/L		04/26/24 17:40	05/02/24 19:58	1
Benzo[g,h,i]perylene	ND		0.21	0.029	ug/L		04/26/24 17:40	05/02/24 19:58	1
Benzo[k]fluoranthene	ND		0.21	0.066	ug/L		04/26/24 17:40	05/02/24 19:58	1
<b>Chrysene</b>	<b>0.20</b>	J J	0.21	0.035	ug/L		04/26/24 17:40	05/03/24 14:08	1
Dibenz(a,h)anthracene	ND		0.21	0.051	ug/L		04/26/24 17:40	05/02/24 19:58	1
Fluoranthene	ND		0.21	0.036	ug/L		04/26/24 17:40	05/02/24 19:58	1
<b>Fluorene</b>	<b>0.37</b>		0.21	0.095	ug/L		04/26/24 17:40	05/02/24 19:58	1
Indeno[1,2,3-cd]pyrene	ND		0.21	0.036	ug/L		04/26/24 17:40	05/02/24 19:58	1
<b>Phenanthrene</b>	<b>0.73</b>		0.21	0.096	ug/L		04/26/24 17:40	05/02/24 19:58	1
<b>Pyrene</b>	<b>0.63</b>		0.21	0.041	ug/L		04/26/24 17:40	05/03/24 14:08	1
<b>1-Methylnaphthalene</b>	<b>9.0</b>		0.21	0.085	ug/L		04/26/24 17:40	05/02/24 19:58	1
<b>2-Methylnaphthalene</b>	<b>12</b>		0.21	0.070	ug/L		04/26/24 17:40	05/02/24 19:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	61		18 - 147				04/26/24 17:40	05/02/24 19:58	1
2-Fluorobiphenyl	52		15 - 128				04/26/24 17:40	05/02/24 19:58	1

Eurofins Pensacola

# Client Sample Results

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

Job ID: 400-254744-1

**Client Sample ID: P59-ROX-041924**

**Lab Sample ID: 400-254744-4**

Date Collected: 04/19/24 11:15

Matrix: Water

Date Received: 04/22/24 09:30

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	43		10 - 144	04/26/24 17:40	05/02/24 19:58	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*1	11	9.3	ug/L		04/26/24 17:40	05/01/24 20:16	1
Benzenethiol	ND		11	11	ug/L		04/26/24 17:40	05/01/24 20:16	1
Benzoic acid	ND		32	26	ug/L		04/26/24 17:40	05/01/24 20:16	1
Benzyl alcohol	ND		11	7.8	ug/L		04/26/24 17:40	05/01/24 20:16	1
Bis(2-chloroethoxy)methane	ND		11	4.9	ug/L		04/26/24 17:40	05/01/24 20:16	1
Bis(2-chloroethyl)ether	ND		11	4.1	ug/L		04/26/24 17:40	05/01/24 20:16	1
bis (2-chloroisopropyl) ether	ND		11	1.9	ug/L		04/26/24 17:40	05/01/24 20:16	1
Bis(2-ethylhexyl) phthalate	ND		11	9.5	ug/L		04/26/24 17:40	05/01/24 20:16	1
4-Bromophenyl phenyl ether	ND		11	9.1	ug/L		04/26/24 17:40	05/01/24 20:16	1
Butyl benzyl phthalate	ND		11	6.2	ug/L		04/26/24 17:40	05/01/24 20:16	1
4-Chloroaniline	ND		11	5.0	ug/L		04/26/24 17:40	05/01/24 20:16	1
4-Chloro-3-methylphenol	ND		11	5.6	ug/L		04/26/24 17:40	05/01/24 20:16	1
2-Chloronaphthalene	ND		11	4.0	ug/L		04/26/24 17:40	05/01/24 20:16	1
2-Chlorophenol	ND		11	4.4	ug/L		04/26/24 17:40	05/01/24 20:16	1
4-Chlorophenyl phenyl ether	ND		11	3.9	ug/L		04/26/24 17:40	05/01/24 20:16	1
Dibenz[a,h]acridine	ND		11	3.0	ug/L		04/26/24 17:40	05/01/24 20:16	1
Dibenzofuran	ND		11	4.3	ug/L		04/26/24 17:40	05/01/24 20:16	1
3,3'-Dichlorobenzidine	ND		12	12	ug/L		04/26/24 17:40	05/01/24 20:16	1
2,4-Dichlorophenol	ND		11	4.6	ug/L		04/26/24 17:40	05/01/24 20:16	1
Diethyl phthalate	ND		11	4.7	ug/L		04/26/24 17:40	05/01/24 20:16	1
2,4-Dimethylphenol	ND		11	5.5	ug/L		04/26/24 17:40	05/01/24 20:16	1
Dimethyl phthalate	ND		11	4.5	ug/L		04/26/24 17:40	05/01/24 20:16	1
Di-n-butyl phthalate	ND		11	4.9	ug/L		04/26/24 17:40	05/01/24 20:16	1
4,6-Dinitro-ortho-cresol	ND		11	11	ug/L		04/26/24 17:40	05/01/24 20:16	1
2,4-Dinitrophenol	ND		32	4.9	ug/L		04/26/24 17:40	05/01/24 20:16	1
2,4-Dinitrotoluene	ND		11	5.4	ug/L		04/26/24 17:40	05/01/24 20:16	1
2,6-Dinitrotoluene	ND		11	4.1	ug/L		04/26/24 17:40	05/01/24 20:16	1
Di-n-octyl phthalate	ND		11	6.4	ug/L		04/26/24 17:40	05/01/24 20:16	1
1,4-Dioxane	ND		11	4.6	ug/L		04/26/24 17:40	05/01/24 20:16	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		11	3.5	ug/L		04/26/24 17:40	05/01/24 20:16	1
Hexachlorobenzene	ND		11	10	ug/L		04/26/24 17:40	05/01/24 20:16	1
Hexachlorocyclopentadiene	ND	UJ	21	4.8	ug/L		04/26/24 17:40	05/01/24 20:16	1
Hexachloroethane	ND		11	5.5	ug/L		04/26/24 17:40	05/01/24 20:16	1
Indene	ND		11	3.8	ug/L		04/26/24 17:40	05/01/24 20:16	1
Isophorone	ND		11	5.5	ug/L		04/26/24 17:40	05/01/24 20:16	1
2-Methylphenol	ND		11	3.4	ug/L		04/26/24 17:40	05/01/24 20:16	1
3 & 4 Methylphenol	ND		21	4.9	ug/L		04/26/24 17:40	05/01/24 20:16	1
2-Nitroaniline	ND		11	5.3	ug/L		04/26/24 17:40	05/01/24 20:16	1
3-Nitroaniline	ND		11	5.0	ug/L		04/26/24 17:40	05/01/24 20:16	1
4-Nitroaniline	ND		11	4.4	ug/L		04/26/24 17:40	05/01/24 20:16	1
Nitrobenzene	ND		11	5.0	ug/L		04/26/24 17:40	05/01/24 20:16	1
2-Nitrophenol	ND		11	4.9	ug/L		04/26/24 17:40	05/01/24 20:16	1
4-Nitrophenol	ND		11	3.5	ug/L		04/26/24 17:40	05/01/24 20:16	1
N-Nitrosodimethylamine	ND		11	2.3	ug/L		04/26/24 17:40	05/01/24 20:16	1

# Client Sample Results

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

Job ID: 400-254744-1

**Client Sample ID: P59-ROX-041924**

**Lab Sample ID: 400-254744-4**

Date Collected: 04/19/24 11:15

Matrix: Water

Date Received: 04/22/24 09:30

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		11	2.7	ug/L		04/26/24 17:40	05/01/24 20:16	1
N-Nitrosodiphenylamine	ND		11	3.9	ug/L		04/26/24 17:40	05/01/24 20:16	1
Pentachlorophenol	ND		21	13	ug/L		04/26/24 17:40	05/01/24 20:16	1
<b>Phenol</b>	<b>7.1</b>	<b>J</b>	11	4.5	ug/L		04/26/24 17:40	05/01/24 20:16	1
Pyridine	ND	*- *1 UJ	11	11	ug/L		04/26/24 17:40	05/01/24 20:16	1
Quinoline	ND	*1	11	2.6	ug/L		04/26/24 17:40	05/01/24 20:16	1
2,4,5-Trichlorophenol	ND		11	4.3	ug/L		04/26/24 17:40	05/01/24 20:16	1
2,4,6-Trichlorophenol	ND		11	3.7	ug/L		04/26/24 17:40	05/01/24 20:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	73		21 - 114	04/26/24 17:40	05/01/24 20:16	1
2-Fluorophenol	56		10 - 105	04/26/24 17:40	05/01/24 20:16	1
Nitrobenzene-d5	67		16 - 127	04/26/24 17:40	05/01/24 20:16	1
Phenol-d5	51		10 - 129	04/26/24 17:40	05/01/24 20:16	1
Terphenyl-d14	81		13 - 150	04/26/24 17:40	05/01/24 20:16	1
2,4,6-Tribromophenol	113		10 - 150	04/26/24 17:40	05/01/24 20:16	1

**Method: EPA 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	0.017	ug/L		04/30/24 07:31	05/01/24 20:13	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		04/30/24 07:31	05/01/24 20:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	76		51 - 149	04/30/24 07:31	05/01/24 20:13	1



# Client Sample Results

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

Job ID: 400-254744-1

**Client Sample ID: P93C-ROX-041924**

**Lab Sample ID: 400-254744-5**

Date Collected: 04/19/24 12:15

Matrix: Water

Date Received: 04/22/24 09:30

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25000	10000	ug/L			05/02/24 21:30	1000
Acrolein	ND	UJ	20000	3300	ug/L			05/02/24 21:30	1000
Acrylonitrile	ND		10000	2800	ug/L			05/02/24 21:30	1000
<b>Benzene</b>	<b>180000</b>		1000	500	ug/L			05/02/24 21:30	1000
Bromobenzene	ND		1000	540	ug/L			05/02/24 21:30	1000
Bromochloromethane	ND		1000	210	ug/L			05/02/24 21:30	1000
Bromodichloromethane	ND		1000	500	ug/L			05/02/24 21:30	1000
Bromoform	ND		5000	250	ug/L			05/02/24 21:30	1000
Bromomethane	ND		1000	980	ug/L			05/02/24 21:30	1000
2-Butanone (MEK)	ND		25000	2600	ug/L			05/02/24 21:30	1000
Carbon disulfide	ND		1000	500	ug/L			05/02/24 21:30	1000
Carbon tetrachloride	ND		1000	190	ug/L			05/02/24 21:30	1000
Chlorobenzene	ND		1000	900	ug/L			05/02/24 21:30	1000
Chloroethane	ND	UJ	1000	760	ug/L			05/02/24 21:30	1000
2-Chloroethyl vinyl ether	ND		5000	2000	ug/L			05/02/24 21:30	1000
Chloroform	ND		1000	900	ug/L			05/02/24 21:30	1000
1-Chlorohexane	ND		1000	320	ug/L			05/02/24 21:30	1000
Chloromethane	ND		1000	900	ug/L			05/02/24 21:30	1000
cis-1,2-Dichloroethene	ND		1000	200	ug/L			05/02/24 21:30	1000
cis-1,3-Dichloropropene	ND		5000	500	ug/L			05/02/24 21:30	1000
Dibromochloromethane	ND		1000	240	ug/L			05/02/24 21:30	1000
1,2-Dichlorobenzene	ND		1000	500	ug/L			05/02/24 21:30	1000
1,3-Dichlorobenzene	ND		1000	540	ug/L			05/02/24 21:30	1000
1,4-Dichlorobenzene	ND		1000	640	ug/L			05/02/24 21:30	1000
Dichlorodifluoromethane	ND		1000	850	ug/L			05/02/24 21:30	1000
1,1-Dichloroethane	ND		1000	500	ug/L			05/02/24 21:30	1000
1,2-Dichloroethane	ND		1000	190	ug/L			05/02/24 21:30	1000
1,1-Dichloroethene	ND		1000	500	ug/L			05/02/24 21:30	1000
1,2-Dichloropropane	ND		1000	500	ug/L			05/02/24 21:30	1000
1,3-Dichloropropane	ND		1000	500	ug/L			05/02/24 21:30	1000
2,2-Dichloropropane	ND		1000	500	ug/L			05/02/24 21:30	1000
1,1-Dichloropropene	ND		1000	500	ug/L			05/02/24 21:30	1000
Ethylbenzene	ND		1000	500	ug/L			05/02/24 21:30	1000
Ethyl methacrylate	ND		1000	600	ug/L			05/02/24 21:30	1000
Hexachlorobutadiene	ND	*+	5000	900	ug/L			05/02/24 21:30	1000
2-Hexanone	ND		25000	1400	ug/L			05/02/24 21:30	1000
Isopropylbenzene	ND		1000	530	ug/L			05/02/24 21:30	1000
Methylene bromide	ND		5000	220	ug/L			05/02/24 21:30	1000
Methylene Chloride	ND		5000	3000	ug/L			05/02/24 21:30	1000
4-Methyl-2-pentanone (MIBK)	ND		25000	1800	ug/L			05/02/24 21:30	1000
Methyl tert-butyl ether	ND		1000	220	ug/L			05/02/24 21:30	1000
m-Xylene & p-Xylene	ND		5000	630	ug/L			05/02/24 21:30	1000
Naphthalene	ND		5000	3000	ug/L			05/02/24 21:30	1000
n-Butylbenzene	ND		1000	760	ug/L			05/02/24 21:30	1000
N-Propylbenzene	ND		1000	690	ug/L			05/02/24 21:30	1000
o-Chlorotoluene	ND		1000	570	ug/L			05/02/24 21:30	1000
o-Xylene	ND		5000	600	ug/L			05/02/24 21:30	1000
p-Chlorotoluene	ND		1000	560	ug/L			05/02/24 21:30	1000
p-Isopropyltoluene	ND		1000	710	ug/L			05/02/24 21:30	1000

# Client Sample Results

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

Job ID: 400-254744-1

**Client Sample ID: P93C-ROX-041924**

**Lab Sample ID: 400-254744-5**

Date Collected: 04/19/24 12:15

Matrix: Water

Date Received: 04/22/24 09:30

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1000	700	ug/L			05/02/24 21:30	1000
Styrene	ND		1000	1000	ug/L			05/02/24 21:30	1000
tert-Butylbenzene	ND		1000	630	ug/L			05/02/24 21:30	1000
1,1,1,2-Tetrachloroethane	ND		1000	160	ug/L			05/02/24 21:30	1000
1,1,2,2-Tetrachloroethane	ND		1000	500	ug/L			05/02/24 21:30	1000
Tetrachloroethene	ND		1000	900	ug/L			05/02/24 21:30	1000
Toluene	ND		1000	900	ug/L			05/02/24 21:30	1000
trans-1,2-Dichloroethene	ND		1000	500	ug/L			05/02/24 21:30	1000
trans-1,3-Dichloropropene	ND		5000	200	ug/L			05/02/24 21:30	1000
1,2,3-Trichlorobenzene	ND		1000	900	ug/L			05/02/24 21:30	1000
1,2,4-Trichlorobenzene	ND		1000	820	ug/L			05/02/24 21:30	1000
1,1,1-Trichloroethane	ND		1000	180	ug/L			05/02/24 21:30	1000
1,1,2-Trichloroethane	ND		5000	210	ug/L			05/02/24 21:30	1000
Trichloroethene	ND		1000	150	ug/L			05/02/24 21:30	1000
Trichlorofluoromethane	ND		1000	520	ug/L			05/02/24 21:30	1000
1,2,3-Trichloropropane	ND		5000	840	ug/L			05/02/24 21:30	1000
1,2,4-Trimethylbenzene	ND		1000	820	ug/L			05/02/24 21:30	1000
1,3,5-Trimethylbenzene	ND		1000	560	ug/L			05/02/24 21:30	1000
Vinyl acetate	ND		25000	930	ug/L			05/02/24 21:30	1000
Vinyl chloride	ND		1000	500	ug/L			05/02/24 21:30	1000
Xylenes, Total	ND		10000	1600	ug/L			05/02/24 21:30	1000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		72 - 130		05/02/24 21:30	1000
Dibromofluoromethane	100		75 - 126		05/02/24 21:30	1000
Toluene-d8 (Surr)	93		64 - 132		05/02/24 21:30	1000

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.21	0.10	ug/L		04/26/24 17:40	05/02/24 20:19	1
Acenaphthylene	ND		0.21	0.046	ug/L		04/26/24 17:40	05/02/24 20:19	1
Anthracene	ND		0.21	0.049	ug/L		04/26/24 17:40	05/02/24 20:19	1
Benzo[a]anthracene	ND		0.21	0.036	ug/L		04/26/24 17:40	05/02/24 20:19	1
Benzo[a]pyrene	ND		0.21	0.067	ug/L		04/26/24 17:40	05/02/24 20:19	1
Benzo[b]fluoranthene	ND		0.21	0.039	ug/L		04/26/24 17:40	05/02/24 20:19	1
Benzo[g,h,i]perylene	ND		0.21	0.028	ug/L		04/26/24 17:40	05/02/24 20:19	1
Benzo[k]fluoranthene	ND		0.21	0.065	ug/L		04/26/24 17:40	05/02/24 20:19	1
Chrysene	ND	UJ	0.21	0.035	ug/L		04/26/24 17:40	05/02/24 20:19	1
Dibenz(a,h)anthracene	ND		0.21	0.051	ug/L		04/26/24 17:40	05/02/24 20:19	1
Fluoranthene	ND		0.21	0.036	ug/L		04/26/24 17:40	05/02/24 20:19	1
Fluorene	ND		0.21	0.094	ug/L		04/26/24 17:40	05/02/24 20:19	1
Indeno[1,2,3-cd]pyrene	ND		0.21	0.036	ug/L		04/26/24 17:40	05/02/24 20:19	1
Phenanthrene	ND		0.21	0.095	ug/L		04/26/24 17:40	05/02/24 20:19	1
Pyrene	ND	UJ	0.21	0.041	ug/L		04/26/24 17:40	05/02/24 20:19	1
1-Methylnaphthalene	ND		0.21	0.084	ug/L		04/26/24 17:40	05/02/24 20:19	1
2-Methylnaphthalene	ND		0.21	0.069	ug/L		04/26/24 17:40	05/02/24 20:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	71		18 - 147	04/26/24 17:40	05/02/24 20:19	1
2-Fluorobiphenyl	56		15 - 128	04/26/24 17:40	05/02/24 20:19	1

Eurofins Pensacola

# Client Sample Results

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

Job ID: 400-254744-1

**Client Sample ID: P93C-ROX-041924**

**Lab Sample ID: 400-254744-5**

Date Collected: 04/19/24 12:15

Matrix: Water

Date Received: 04/22/24 09:30

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	44		10 - 144	04/26/24 17:40	05/02/24 20:19	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*1	11	9.2	ug/L		04/26/24 17:40	05/01/24 20:40	1
Benzenethiol	ND		11	10	ug/L		04/26/24 17:40	05/01/24 20:40	1
Benzoic acid	ND		32	25	ug/L		04/26/24 17:40	05/01/24 20:40	1
Benzyl alcohol	ND		11	7.7	ug/L		04/26/24 17:40	05/01/24 20:40	1
Bis(2-chloroethoxy)methane	ND		11	4.8	ug/L		04/26/24 17:40	05/01/24 20:40	1
Bis(2-chloroethyl)ether	ND		11	4.1	ug/L		04/26/24 17:40	05/01/24 20:40	1
bis (2-chloroisopropyl) ether	ND		11	1.9	ug/L		04/26/24 17:40	05/01/24 20:40	1
Bis(2-ethylhexyl) phthalate	ND		11	9.4	ug/L		04/26/24 17:40	05/01/24 20:40	1
4-Bromophenyl phenyl ether	ND		11	9.0	ug/L		04/26/24 17:40	05/01/24 20:40	1
Butyl benzyl phthalate	ND		11	6.1	ug/L		04/26/24 17:40	05/01/24 20:40	1
4-Chloroaniline	ND		11	4.9	ug/L		04/26/24 17:40	05/01/24 20:40	1
4-Chloro-3-methylphenol	ND		11	5.6	ug/L		04/26/24 17:40	05/01/24 20:40	1
2-Chloronaphthalene	ND		11	4.0	ug/L		04/26/24 17:40	05/01/24 20:40	1
2-Chlorophenol	ND		11	4.3	ug/L		04/26/24 17:40	05/01/24 20:40	1
4-Chlorophenyl phenyl ether	ND		11	3.9	ug/L		04/26/24 17:40	05/01/24 20:40	1
Dibenz[a,h]acridine	ND		11	2.9	ug/L		04/26/24 17:40	05/01/24 20:40	1
Dibenzofuran	ND		11	4.2	ug/L		04/26/24 17:40	05/01/24 20:40	1
3,3'-Dichlorobenzidine	ND		12	12	ug/L		04/26/24 17:40	05/01/24 20:40	1
2,4-Dichlorophenol	ND		11	4.5	ug/L		04/26/24 17:40	05/01/24 20:40	1
Diethyl phthalate	ND		11	4.6	ug/L		04/26/24 17:40	05/01/24 20:40	1
2,4-Dimethylphenol	ND		11	5.5	ug/L		04/26/24 17:40	05/01/24 20:40	1
Dimethyl phthalate	ND		11	4.4	ug/L		04/26/24 17:40	05/01/24 20:40	1
Di-n-butyl phthalate	ND		11	4.8	ug/L		04/26/24 17:40	05/01/24 20:40	1
4,6-Dinitro-ortho-cresol	ND		11	11	ug/L		04/26/24 17:40	05/01/24 20:40	1
2,4-Dinitrophenol	ND		32	4.8	ug/L		04/26/24 17:40	05/01/24 20:40	1
2,4-Dinitrotoluene	ND		11	5.4	ug/L		04/26/24 17:40	05/01/24 20:40	1
2,6-Dinitrotoluene	ND		11	4.1	ug/L		04/26/24 17:40	05/01/24 20:40	1
Di-n-octyl phthalate	ND		11	6.3	ug/L		04/26/24 17:40	05/01/24 20:40	1
1,4-Dioxane	ND		11	4.5	ug/L		04/26/24 17:40	05/01/24 20:40	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		11	3.5	ug/L		04/26/24 17:40	05/01/24 20:40	1
Hexachlorobenzene	ND		11	10	ug/L		04/26/24 17:40	05/01/24 20:40	1
Hexachlorocyclopentadiene	ND	UJ	21	4.7	ug/L		04/26/24 17:40	05/01/24 20:40	1
Hexachloroethane	ND		11	5.5	ug/L		04/26/24 17:40	05/01/24 20:40	1
Indene	ND		11	3.8	ug/L		04/26/24 17:40	05/01/24 20:40	1
Isophorone	ND		11	5.5	ug/L		04/26/24 17:40	05/01/24 20:40	1
2-Methylphenol	ND		11	3.4	ug/L		04/26/24 17:40	05/01/24 20:40	1
3 & 4 Methylphenol	ND		21	4.8	ug/L		04/26/24 17:40	05/01/24 20:40	1
2-Nitroaniline	ND		11	5.3	ug/L		04/26/24 17:40	05/01/24 20:40	1
3-Nitroaniline	ND		11	4.9	ug/L		04/26/24 17:40	05/01/24 20:40	1
4-Nitroaniline	ND		11	4.3	ug/L		04/26/24 17:40	05/01/24 20:40	1
Nitrobenzene	ND		11	4.9	ug/L		04/26/24 17:40	05/01/24 20:40	1
2-Nitrophenol	ND		11	4.8	ug/L		04/26/24 17:40	05/01/24 20:40	1
4-Nitrophenol	ND		11	3.5	ug/L		04/26/24 17:40	05/01/24 20:40	1
N-Nitrosodimethylamine	ND		11	2.3	ug/L		04/26/24 17:40	05/01/24 20:40	1

# Client Sample Results

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

Job ID: 400-254744-1

**Client Sample ID: P93C-ROX-041924**

**Lab Sample ID: 400-254744-5**

Date Collected: 04/19/24 12:15

Matrix: Water

Date Received: 04/22/24 09:30

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		11	2.6	ug/L		04/26/24 17:40	05/01/24 20:40	1
N-Nitrosodiphenylamine	ND		11	3.9	ug/L		04/26/24 17:40	05/01/24 20:40	1
Pentachlorophenol	ND		21	13	ug/L		04/26/24 17:40	05/01/24 20:40	1
<b>Phenol</b>	<b>59</b>		11	4.4	ug/L		04/26/24 17:40	05/01/24 20:40	1
Pyridine	ND	*- *1 UJ	11	11	ug/L		04/26/24 17:40	05/01/24 20:40	1
Quinoline	ND	*1	11	2.5	ug/L		04/26/24 17:40	05/01/24 20:40	1
2,4,5-Trichlorophenol	ND		11	4.2	ug/L		04/26/24 17:40	05/01/24 20:40	1
2,4,6-Trichlorophenol	ND		11	3.7	ug/L		04/26/24 17:40	05/01/24 20:40	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorobiphenyl	73		21 - 114				04/26/24 17:40	05/01/24 20:40	1
2-Fluorophenol	58		10 - 105				04/26/24 17:40	05/01/24 20:40	1
Nitrobenzene-d5	72		16 - 127				04/26/24 17:40	05/01/24 20:40	1
Phenol-d5	48		10 - 129				04/26/24 17:40	05/01/24 20:40	1
Terphenyl-d14	90		13 - 150				04/26/24 17:40	05/01/24 20:40	1
2,4,6-Tribromophenol	98		10 - 150				04/26/24 17:40	05/01/24 20:40	1

**Method: EPA 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	0.017	ug/L		04/30/24 07:31	05/01/24 20:34	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		04/30/24 07:31	05/01/24 20:34	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene	77		51 - 149				04/30/24 07:31	05/01/24 20:34	1

# Client Sample Results

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

Job ID: 400-254744-1

**Client Sample ID: P93B-ROX-041924**

**Lab Sample ID: 400-254744-6**

**Date Collected: 04/19/24 13:10**

**Matrix: Water**

**Date Received: 04/22/24 09:30**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND	UJ	50000	20000	ug/L			05/03/24 14:16	2000
Acrolein	ND	UJ	40000	6600	ug/L			05/03/24 14:16	2000
Acrylonitrile	ND	UJ	20000	5600	ug/L			05/03/24 14:16	2000
Bromobenzene	ND	UJ	2000	1100	ug/L			05/03/24 14:16	2000
Bromochloromethane	ND	UJ	2000	420	ug/L			05/03/24 14:16	2000
Bromodichloromethane	ND	UJ	2000	1000	ug/L			05/03/24 14:16	2000
Bromoform	ND	UJ	10000	500	ug/L			05/03/24 14:16	2000
Bromomethane	ND	UJ	2000	2000	ug/L			05/03/24 14:16	2000
2-Butanone (MEK)	ND	UJ	50000	5200	ug/L			05/03/24 14:16	2000
Carbon disulfide	ND	UJ	2000	1000	ug/L			05/03/24 14:16	2000
Carbon tetrachloride	ND	UJ	2000	380	ug/L			05/03/24 14:16	2000
Chlorobenzene	ND	UJ	2000	1800	ug/L			05/03/24 14:16	2000
Chloroethane	ND	UJ	2000	1500	ug/L			05/03/24 14:16	2000
2-Chloroethyl vinyl ether	ND	UJ	10000	4000	ug/L			05/03/24 14:16	2000
Chloroform	ND	UJ	2000	1800	ug/L			05/03/24 14:16	2000
1-Chlorohexane	ND	UJ	2000	640	ug/L			05/03/24 14:16	2000
Chloromethane	ND	UJ	2000	1800	ug/L			05/03/24 14:16	2000
cis-1,2-Dichloroethene	ND	UJ	2000	400	ug/L			05/03/24 14:16	2000
cis-1,3-Dichloropropene	ND	UJ	10000	1000	ug/L			05/03/24 14:16	2000
Dibromochloromethane	ND	UJ	2000	480	ug/L			05/03/24 14:16	2000
1,2-Dichlorobenzene	ND	UJ	2000	1000	ug/L			05/03/24 14:16	2000
1,3-Dichlorobenzene	ND	UJ	2000	1100	ug/L			05/03/24 14:16	2000
1,4-Dichlorobenzene	ND	UJ	2000	1300	ug/L			05/03/24 14:16	2000
Dichlorodifluoromethane	ND	UJ	2000	1700	ug/L			05/03/24 14:16	2000
1,1-Dichloroethane	ND	UJ	2000	1000	ug/L			05/03/24 14:16	2000
1,2-Dichloroethane	ND	UJ	2000	380	ug/L			05/03/24 14:16	2000
1,1-Dichloroethene	ND	UJ	2000	1000	ug/L			05/03/24 14:16	2000
1,2-Dichloropropane	ND	UJ	2000	1000	ug/L			05/03/24 14:16	2000
1,3-Dichloropropane	ND	UJ	2000	1000	ug/L			05/03/24 14:16	2000
2,2-Dichloropropane	ND	UJ	2000	1000	ug/L			05/03/24 14:16	2000
1,1-Dichloropropene	ND	UJ	2000	1000	ug/L			05/03/24 14:16	2000
Ethylbenzene	ND	UJ	2000	1000	ug/L			05/03/24 14:16	2000
Ethyl methacrylate	ND	UJ	2000	1200	ug/L			05/03/24 14:16	2000
Hexachlorobutadiene	ND	*UJ	10000	1800	ug/L			05/03/24 14:16	2000
2-Hexanone	ND	UJ	50000	2800	ug/L			05/03/24 14:16	2000
Isopropylbenzene	ND	UJ	2000	1100	ug/L			05/03/24 14:16	2000
Methylene bromide	ND	UJ	10000	440	ug/L			05/03/24 14:16	2000
Methylene Chloride	ND	UJ	10000	6000	ug/L			05/03/24 14:16	2000
4-Methyl-2-pentanone (MIBK)	ND	UJ	50000	3600	ug/L			05/03/24 14:16	2000
Methyl tert-butyl ether	ND	UJ	2000	440	ug/L			05/03/24 14:16	2000
m-Xylene & p-Xylene	ND	UJ	10000	1300	ug/L			05/03/24 14:16	2000
Naphthalene	ND	UJ	10000	6000	ug/L			05/03/24 14:16	2000
n-Butylbenzene	ND	UJ	2000	1500	ug/L			05/03/24 14:16	2000
N-Propylbenzene	ND	UJ	2000	1400	ug/L			05/03/24 14:16	2000
o-Chlorotoluene	ND	UJ	2000	1100	ug/L			05/03/24 14:16	2000
o-Xylene	ND	UJ	10000	1200	ug/L			05/03/24 14:16	2000
p-Chlorotoluene	ND	UJ	2000	1100	ug/L			05/03/24 14:16	2000
p-Isopropyltoluene	ND	UJ	2000	1400	ug/L			05/03/24 14:16	2000
sec-Butylbenzene	ND	UJ	2000	1400	ug/L			05/03/24 14:16	2000

# Client Sample Results

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

Job ID: 400-254744-1

**Client Sample ID: P93B-ROX-041924**

**Lab Sample ID: 400-254744-6**

Date Collected: 04/19/24 13:10

Matrix: Water

Date Received: 04/22/24 09:30

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND	UJ	2000	2000	ug/L			05/03/24 14:16	2000
tert-Butylbenzene	ND	UJ	2000	1300	ug/L			05/03/24 14:16	2000
1,1,1,2-Tetrachloroethane	ND	UJ	2000	320	ug/L			05/03/24 14:16	2000
1,1,1,2-Tetrachloroethane	ND	UJ	2000	1000	ug/L			05/03/24 14:16	2000
Tetrachloroethene	ND	UJ	2000	1800	ug/L			05/03/24 14:16	2000
Toluene	ND	UJ	2000	1800	ug/L			05/03/24 14:16	2000
trans-1,2-Dichloroethene	ND	UJ	2000	1000	ug/L			05/03/24 14:16	2000
trans-1,3-Dichloropropene	ND	UJ	10000	400	ug/L			05/03/24 14:16	2000
1,2,3-Trichlorobenzene	ND	UJ	2000	1800	ug/L			05/03/24 14:16	2000
1,2,4-Trichlorobenzene	ND	UJ	2000	1600	ug/L			05/03/24 14:16	2000
1,1,1-Trichloroethane	ND	UJ	2000	360	ug/L			05/03/24 14:16	2000
1,1,2-Trichloroethane	ND	UJ	10000	420	ug/L			05/03/24 14:16	2000
Trichloroethene	ND	UJ	2000	300	ug/L			05/03/24 14:16	2000
Trichlorofluoromethane	ND	UJ	2000	1000	ug/L			05/03/24 14:16	2000
1,2,3-Trichloropropane	ND	UJ	10000	1700	ug/L			05/03/24 14:16	2000
1,2,4-Trimethylbenzene	ND	UJ	2000	1600	ug/L			05/03/24 14:16	2000
1,3,5-Trimethylbenzene	ND	UJ	2000	1100	ug/L			05/03/24 14:16	2000
Vinyl acetate	ND	UJ	50000	1900	ug/L			05/03/24 14:16	2000
Vinyl chloride	ND	UJ	2000	1000	ug/L			05/03/24 14:16	2000
Xylenes, Total	ND	UJ	20000	3200	ug/L			05/03/24 14:16	2000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		72 - 130		05/03/24 14:16	2000
Dibromofluoromethane	96		75 - 126		05/03/24 14:16	2000
Toluene-d8 (Surr)	94		64 - 132		05/03/24 14:16	2000

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Benzene</b>	<b>1000000</b>		5000	2500	ug/L			05/03/24 16:31	5000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	97		72 - 130		05/03/24 16:31	5000
Dibromofluoromethane	97		75 - 126		05/03/24 16:31	5000
Toluene-d8 (Surr)	93		64 - 132		05/03/24 16:31	5000

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acenaphthene</b>	<b>0.27</b>		0.21	0.11	ug/L		04/26/24 17:40	05/02/24 20:39	1
<b>Acenaphthylene</b>	<b>0.18</b>	J	0.21	0.047	ug/L		04/26/24 17:40	05/02/24 20:39	1
<b>Anthracene</b>	<b>0.089</b>	J	0.21	0.050	ug/L		04/26/24 17:40	05/02/24 20:39	1
Benzo[a]anthracene	ND		0.21	0.036	ug/L		04/26/24 17:40	05/02/24 20:39	1
Benzo[a]pyrene	ND		0.21	0.068	ug/L		04/26/24 17:40	05/02/24 20:39	1
Benzo[b]fluoranthene	ND		0.21	0.039	ug/L		04/26/24 17:40	05/02/24 20:39	1
Benzo[g,h,i]perylene	ND		0.21	0.029	ug/L		04/26/24 17:40	05/02/24 20:39	1
Benzo[k]fluoranthene	ND		0.21	0.066	ug/L		04/26/24 17:40	05/02/24 20:39	1
Chrysene	ND	UJ	0.21	0.035	ug/L		04/26/24 17:40	05/02/24 20:39	1
Dibenz(a,h)anthracene	ND		0.21	0.051	ug/L		04/26/24 17:40	05/02/24 20:39	1
<b>Fluoranthene</b>	<b>0.036</b>	J	0.21	0.036	ug/L		04/26/24 17:40	05/02/24 20:39	1
Fluorene	ND		0.21	0.095	ug/L		04/26/24 17:40	05/02/24 20:39	1
Indeno[1,2,3-cd]pyrene	ND		0.21	0.036	ug/L		04/26/24 17:40	05/02/24 20:39	1



# Client Sample Results

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

Job ID: 400-254744-1

**Client Sample ID: P93B-ROX-041924**

**Lab Sample ID: 400-254744-6**

Date Collected: 04/19/24 13:10

Matrix: Water

Date Received: 04/22/24 09:30

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	ND		0.21	0.096	ug/L		04/26/24 17:40	05/02/24 20:39	1
Pyrene	ND	UJ	0.21	0.042	ug/L		04/26/24 17:40	05/02/24 20:39	1
<b>1-Methylnaphthalene</b>	<b>0.18</b>	<b>J</b>	0.21	0.085	ug/L		04/26/24 17:40	05/02/24 20:39	1
<b>2-Methylnaphthalene</b>	<b>0.19</b>	<b>J</b>	0.21	0.070	ug/L		04/26/24 17:40	05/02/24 20:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	72		18 - 147				04/26/24 17:40	05/02/24 20:39	1
2-Fluorobiphenyl	59		15 - 128				04/26/24 17:40	05/02/24 20:39	1
Nitrobenzene-d5	38		10 - 144				04/26/24 17:40	05/02/24 20:39	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		11	9.3	ug/L		04/26/24 17:40	05/01/24 21:04	1
Benzenethiol	ND		11	11	ug/L		04/26/24 17:40	05/01/24 21:04	1
Benzoic acid	ND		32	26	ug/L		04/26/24 17:40	05/01/24 21:04	1
Benzyl alcohol	ND		11	7.8	ug/L		04/26/24 17:40	05/01/24 21:04	1
Bis(2-chloroethoxy)methane	ND		11	4.9	ug/L		04/26/24 17:40	05/01/24 21:04	1
Bis(2-chloroethyl)ether	ND		11	4.2	ug/L		04/26/24 17:40	05/01/24 21:04	1
bis (2-chloroisopropyl) ether	ND		11	1.9	ug/L		04/26/24 17:40	05/01/24 21:04	1
Bis(2-ethylhexyl) phthalate	ND		11	9.5	ug/L		04/26/24 17:40	05/01/24 21:04	1
4-Bromophenyl phenyl ether	ND		11	9.2	ug/L		04/26/24 17:40	05/01/24 21:04	1
Butyl benzyl phthalate	ND		11	6.2	ug/L		04/26/24 17:40	05/01/24 21:04	1
4-Chloroaniline	ND		11	5.0	ug/L		04/26/24 17:40	05/01/24 21:04	1
4-Chloro-3-methylphenol	ND		11	5.7	ug/L		04/26/24 17:40	05/01/24 21:04	1
2-Chloronaphthalene	ND		11	4.1	ug/L		04/26/24 17:40	05/01/24 21:04	1
2-Chlorophenol	ND		11	4.4	ug/L		04/26/24 17:40	05/01/24 21:04	1
4-Chlorophenyl phenyl ether	ND		11	3.9	ug/L		04/26/24 17:40	05/01/24 21:04	1
Dibenz[a,h]acridine	ND		11	3.0	ug/L		04/26/24 17:40	05/01/24 21:04	1
Dibenzofuran	ND		11	4.3	ug/L		04/26/24 17:40	05/01/24 21:04	1
3,3'-Dichlorobenzidine	ND		12	12	ug/L		04/26/24 17:40	05/01/24 21:04	1
2,4-Dichlorophenol	ND		11	4.6	ug/L		04/26/24 17:40	05/01/24 21:04	1
Diethyl phthalate	ND		11	4.7	ug/L		04/26/24 17:40	05/01/24 21:04	1
2,4-Dimethylphenol	ND		11	5.6	ug/L		04/26/24 17:40	05/01/24 21:04	1
Dimethyl phthalate	ND		11	4.5	ug/L		04/26/24 17:40	05/01/24 21:04	1
Di-n-butyl phthalate	ND		11	4.9	ug/L		04/26/24 17:40	05/01/24 21:04	1
4,6-Dinitro-ortho-cresol	ND		11	11	ug/L		04/26/24 17:40	05/01/24 21:04	1
2,4-Dinitrophenol	ND		32	4.9	ug/L		04/26/24 17:40	05/01/24 21:04	1
2,4-Dinitrotoluene	ND		11	5.4	ug/L		04/26/24 17:40	05/01/24 21:04	1
2,6-Dinitrotoluene	ND		11	4.2	ug/L		04/26/24 17:40	05/01/24 21:04	1
Di-n-octyl phthalate	ND		11	6.4	ug/L		04/26/24 17:40	05/01/24 21:04	1
1,4-Dioxane	ND		11	4.6	ug/L		04/26/24 17:40	05/01/24 21:04	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		11	3.5	ug/L		04/26/24 17:40	05/01/24 21:04	1
Hexachlorobenzene	ND		11	10	ug/L		04/26/24 17:40	05/01/24 21:04	1
Hexachlorocyclopentadiene	ND	UJ	21	4.8	ug/L		04/26/24 17:40	05/01/24 21:04	1
Hexachloroethane	ND		11	5.6	ug/L		04/26/24 17:40	05/01/24 21:04	1
Indene	ND		11	3.8	ug/L		04/26/24 17:40	05/01/24 21:04	1
Isophorone	ND		11	5.6	ug/L		04/26/24 17:40	05/01/24 21:04	1
2-Methylphenol	ND		11	3.4	ug/L		04/26/24 17:40	05/01/24 21:04	1
3 & 4 Methylphenol	ND		21	4.9	ug/L		04/26/24 17:40	05/01/24 21:04	1

# Client Sample Results

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

Job ID: 400-254744-1

**Client Sample ID: P93B-ROX-041924**

**Lab Sample ID: 400-254744-6**

Date Collected: 04/19/24 13:10

Matrix: Water

Date Received: 04/22/24 09:30

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		11	5.3	ug/L		04/26/24 17:40	05/01/24 21:04	1
3-Nitroaniline	ND		11	5.0	ug/L		04/26/24 17:40	05/01/24 21:04	1
4-Nitroaniline	ND		11	4.4	ug/L		04/26/24 17:40	05/01/24 21:04	1
Nitrobenzene	ND		11	5.0	ug/L		04/26/24 17:40	05/01/24 21:04	1
2-Nitrophenol	ND		11	4.9	ug/L		04/26/24 17:40	05/01/24 21:04	1
4-Nitrophenol	ND		11	3.5	ug/L		04/26/24 17:40	05/01/24 21:04	1
N-Nitrosodimethylamine	ND		11	2.3	ug/L		04/26/24 17:40	05/01/24 21:04	1
N-Nitrosodi-n-propylamine	ND		11	2.7	ug/L		04/26/24 17:40	05/01/24 21:04	1
N-Nitrosodiphenylamine	ND		11	3.9	ug/L		04/26/24 17:40	05/01/24 21:04	1
Pentachlorophenol	ND		21	13	ug/L		04/26/24 17:40	05/01/24 21:04	1
<b>Phenol</b>	<b>170</b>		11	4.5	ug/L		04/26/24 17:40	05/01/24 21:04	1
Pyridine	ND	UJ	11	11	ug/L		04/26/24 17:40	05/01/24 21:04	1
Quinoline	ND		11	2.6	ug/L		04/26/24 17:40	05/01/24 21:04	1
2,4,5-Trichlorophenol	ND		11	4.3	ug/L		04/26/24 17:40	05/01/24 21:04	1
2,4,6-Trichlorophenol	ND		11	3.7	ug/L		04/26/24 17:40	05/01/24 21:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	72		21 - 114				04/26/24 17:40	05/01/24 21:04	1
2-Fluorophenol	57		10 - 105				04/26/24 17:40	05/01/24 21:04	1
Nitrobenzene-d5	67		16 - 127				04/26/24 17:40	05/01/24 21:04	1
Phenol-d5	47		10 - 129				04/26/24 17:40	05/01/24 21:04	1
Terphenyl-d14	81		13 - 150				04/26/24 17:40	05/01/24 21:04	1
2,4,6-Tribromophenol	100		10 - 150				04/26/24 17:40	05/01/24 21:04	1

**Method: EPA 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	0.018	ug/L		04/30/24 07:31	05/01/24 20:55	1
1,2-Dibromoethane	ND		0.021	0.016	ug/L		04/30/24 07:31	05/01/24 20:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	73		51 - 149				04/30/24 07:31	05/01/24 20:55	1

# Definitions/Glossary

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

Job ID: 400-254744-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
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
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*1	LCS/LCSD RPD exceeds control 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.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

# Surrogate Summary

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

Job ID: 400-254744-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (72-130)	DBFM (75-126)	TOL (64-132)
400-254744-1	TB-ROX-041924-8260-SS	99	104	91
400-254744-3	T12-ROX-041924	99	101	94
400-254744-4	P59-ROX-041924	100	99	92
400-254744-5	P93C-ROX-041924	98	100	93
400-254744-6	P93B-ROX-041924	99	96	94
400-254744-6 - DL	P93B-ROX-041924	97	97	93
LCS 400-670170/1002	Lab Control Sample	99	96	94
LCS 400-670328/1002	Lab Control Sample	97	97	95
MB 400-670170/5	Method Blank	99	102	93
MB 400-670328/5	Method Blank	99	102	92

### Surrogate Legend

BFB = 4-Bromofluorobenzene  
DBFM = Dibromofluoromethane  
TOL = Toluene-d8 (Surr)

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (21-114)	2FP (10-105)	NBZ (16-127)	PHL (10-129)	TPHL (13-150)	TBP (10-150)
400-254744-3	T12-ROX-041924	73	62	73	50	69	82
400-254744-4	P59-ROX-041924	73	56	67	51	81	113
400-254744-5	P93C-ROX-041924	73	58	72	48	90	98
400-254744-6	P93B-ROX-041924	72	57	67	47	81	100
LCS 400-669567/2-A	Lab Control Sample	66	55	66	50	76	77
LCS 400-669567/8-A	Lab Control Sample	59	47	59	36	71	51
LCSD 400-669567/3-A	Lab Control Sample Dup	69	58	69	53	84	81
LCSD 400-669567/9-A	Lab Control Sample Dup	64	51	61	40	76	56
MB 400-669567/1-A	Method Blank	54	44	53	33	66	44

### Surrogate Legend

FBP = 2-Fluorobiphenyl  
2FP = 2-Fluorophenol  
NBZ = Nitrobenzene-d5  
PHL = Phenol-d5  
TPHL = Terphenyl-d14  
TBP = 2,4,6-Tribromophenol

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TPHL (18-147)	FBP (15-128)	NBZ (10-144)
400-254744-3	T12-ROX-041924	64	64	52
400-254744-4	P59-ROX-041924	61	52	43
400-254744-5	P93C-ROX-041924	71	56	44
400-254744-6	P93B-ROX-041924	72	59	38
LCS 400-669567/2-A	Lab Control Sample	59	51	37

# Surrogate Summary

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

Job ID: 400-254744-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TPHL (18-147)	FBP (15-128)	NBZ (10-144)
LCSD 400-669567/3-A	Lab Control Sample Dup	68	56	39
MB 400-669567/1-A	Method Blank	67	52	39

#### 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

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB2 (51-149)
400-254744-2	TB-ROX-041924-8011-SS	74
400-254744-3	T12-ROX-041924	71
400-254744-4	P59-ROX-041924	76
400-254744-5	P93C-ROX-041924	77
400-254744-6	P93B-ROX-041924	73
LCS 400-669843/2-A	Lab Control Sample	71
LCSD 400-669843/3-A	Lab Control Sample Dup	66
MB 400-669843/1-A	Method Blank	76

#### Surrogate Legend

BFB = 4-Bromofluorobenzene

# Method Summary

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

Job ID: 400-254744-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET PEN
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET PEN
8270E SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	EET PEN
8011	EDB and DBCP in Water by Microextraction	EPA	EET PEN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET PEN
5030C	Purge and Trap	SW846	EET PEN
8011	Microextraction	SW846	EET 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:**

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001





# Lab Chronicle

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

Job ID: 400-254744-1

**Client Sample ID: TB-ROX-041924-8260-SS**

**Lab Sample ID: 400-254744-1**

Date Collected: 04/19/24 00:00

Matrix: Water

Date Received: 04/22/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	670170	05/02/24 18:22	CAR	EET PEN

**Client Sample ID: TB-ROX-041924-8011-SS**

**Lab Sample ID: 400-254744-2**

Date Collected: 04/19/24 00:00

Matrix: Water

Date Received: 04/22/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			32.6 mL	35 mL	669843	04/30/24 07:31	KR	EET PEN
Total/NA	Analysis	8011		1			670017	05/01/24 19:31	PG	EET PEN

**Client Sample ID: T12-ROX-041924**

**Lab Sample ID: 400-254744-3**

Date Collected: 04/19/24 09:40

Matrix: Water

Date Received: 04/22/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		10	5 mL	5 mL	670170	05/02/24 20:10	CAR	EET PEN
Total/NA	Prep	3510C			230 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670069	05/01/24 19:53	S1B	EET PEN
Total/NA	Prep	3510C			230 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	670176	05/02/24 19:38	JAW	EET PEN
Total/NA	Prep	8011			34 mL	35 mL	669843	04/30/24 07:31	KR	EET PEN
Total/NA	Analysis	8011		1			670017	05/01/24 19:52	PG	EET PEN

**Client Sample ID: P59-ROX-041924**

**Lab Sample ID: 400-254744-4**

Date Collected: 04/19/24 11:15

Matrix: Water

Date Received: 04/22/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		5	5 mL	5 mL	670328	05/03/24 13:49	CAR	EET PEN
Total/NA	Prep	3510C			235 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670069	05/01/24 20:16	S1B	EET PEN
Total/NA	Prep	3510C			235 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	670176	05/02/24 19:58	JAW	EET PEN
Total/NA	Prep	3510C			235 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	670367	05/03/24 14:08	JAW	EET PEN
Total/NA	Prep	8011			35.1 mL	35 mL	669843	04/30/24 07:31	KR	EET PEN
Total/NA	Analysis	8011		1			670017	05/01/24 20:13	PG	EET PEN

**Client Sample ID: P93C-ROX-041924**

**Lab Sample ID: 400-254744-5**

Date Collected: 04/19/24 12:15

Matrix: Water

Date Received: 04/22/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1000	5 mL	5 mL	670170	05/02/24 21:30	CAR	EET PEN

# Lab Chronicle

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

Job ID: 400-254744-1

**Client Sample ID: P93C-ROX-041924**

**Lab Sample ID: 400-254744-5**

Date Collected: 04/19/24 12:15

Matrix: Water

Date Received: 04/22/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			237.6 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670069	05/01/24 20:40	S1B	EET PEN
Total/NA	Prep	3510C			237.6 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	670176	05/02/24 20:19	JAW	EET PEN
Total/NA	Prep	8011			34.2 mL	35 mL	669843	04/30/24 07:31	KR	EET PEN
Total/NA	Analysis	8011		1			670017	05/01/24 20:34	PG	EET PEN

**Client Sample ID: P93B-ROX-041924**

**Lab Sample ID: 400-254744-6**

Date Collected: 04/19/24 13:10

Matrix: Water

Date Received: 04/22/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		2000	5 mL	5 mL	670328	05/03/24 14:16	CAR	EET PEN
Total/NA	Analysis	8260D	DL	5000	5 mL	5 mL	670328	05/03/24 16:31	CAR	EET PEN
Total/NA	Prep	3510C			234.2 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670069	05/01/24 21:04	S1B	EET PEN
Total/NA	Prep	3510C			234.2 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	670176	05/02/24 20:39	JAW	EET PEN
Total/NA	Prep	8011			33.1 mL	35 mL	669843	04/30/24 07:31	KR	EET PEN
Total/NA	Analysis	8011		1			670017	05/01/24 20:55	PG	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-669567/1-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	3510C			250 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670069	05/01/24 17:06	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	670176	05/02/24 18:36	JAW	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-669843/1-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	669843	04/30/24 07:31	KR	EET PEN
Total/NA	Analysis	8011		1			670017	05/01/24 15:42	PG	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-670170/5**

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	8260D		1	5 mL	5 mL	670170	05/02/24 11:39	CAR	EET PEN

# Lab Chronicle

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

Job ID: 400-254744-1

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-670328/5**

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	8260D		1	5 mL	5 mL	670328	05/03/24 12:28	CAR	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-669567/2-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	3510C			250 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670069	05/01/24 17:30	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E SIM		100	0.4 mL	0.4 mL	670176	05/02/24 18:57	JAW	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-669567/8-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	3510C			250 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670069	05/01/24 19:05	S1B	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-669843/2-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	669843	04/30/24 07:31	KR	EET PEN
Total/NA	Analysis	8011		1			670017	05/01/24 16:03	PG	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-670170/1002**

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	8260D		1	5 mL	5 mL	670170	05/02/24 09:55	CAR	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-670328/1002**

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	8260D		1	5 mL	5 mL	670328	05/03/24 10:50	CAR	EET PEN

# Lab Chronicle

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

Job ID: 400-254744-1

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-669567/3-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	3510C			250 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670069	05/01/24 17:54	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E SIM		100	0.4 mL	0.4 mL	670176	05/02/24 19:17	JAW	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-669567/9-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	3510C			250 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670069	05/01/24 19:29	S1B	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-669843/3-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	669843	04/30/24 07:31	KR	EET PEN
Total/NA	Analysis	8011		1			670017	05/01/24 16:24	PG	EET PEN

**Laboratory References:**

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

# QC Association Summary

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

Job ID: 400-254744-1

## GC/MS VOA

### Analysis Batch: 670170

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254744-1	TB-ROX-041924-8260-SS	Total/NA	Water	8260D	
400-254744-3	T12-ROX-041924	Total/NA	Water	8260D	
400-254744-5	P93C-ROX-041924	Total/NA	Water	8260D	
MB 400-670170/5	Method Blank	Total/NA	Water	8260D	
LCS 400-670170/1002	Lab Control Sample	Total/NA	Water	8260D	

### Analysis Batch: 670328

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254744-4	P59-ROX-041924	Total/NA	Water	8260D	
400-254744-6	P93B-ROX-041924	Total/NA	Water	8260D	
400-254744-6 - DL	P93B-ROX-041924	Total/NA	Water	8260D	
MB 400-670328/5	Method Blank	Total/NA	Water	8260D	
LCS 400-670328/1002	Lab Control Sample	Total/NA	Water	8260D	

## GC/MS Semi VOA

### Prep Batch: 669567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254744-3	T12-ROX-041924	Total/NA	Water	3510C	
400-254744-4	P59-ROX-041924	Total/NA	Water	3510C	
400-254744-5	P93C-ROX-041924	Total/NA	Water	3510C	
400-254744-6	P93B-ROX-041924	Total/NA	Water	3510C	
MB 400-669567/1-A	Method Blank	Total/NA	Water	3510C	
LCS 400-669567/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 400-669567/8-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 400-669567/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
LCSD 400-669567/9-A	Lab Control Sample Dup	Total/NA	Water	3510C	

### Analysis Batch: 670069

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254744-3	T12-ROX-041924	Total/NA	Water	8270E	669567
400-254744-4	P59-ROX-041924	Total/NA	Water	8270E	669567
400-254744-5	P93C-ROX-041924	Total/NA	Water	8270E	669567
400-254744-6	P93B-ROX-041924	Total/NA	Water	8270E	669567
MB 400-669567/1-A	Method Blank	Total/NA	Water	8270E	669567
LCS 400-669567/2-A	Lab Control Sample	Total/NA	Water	8270E	669567
LCS 400-669567/8-A	Lab Control Sample	Total/NA	Water	8270E	669567
LCSD 400-669567/3-A	Lab Control Sample Dup	Total/NA	Water	8270E	669567
LCSD 400-669567/9-A	Lab Control Sample Dup	Total/NA	Water	8270E	669567

### Analysis Batch: 670176

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254744-3	T12-ROX-041924	Total/NA	Water	8270E SIM	669567
400-254744-4	P59-ROX-041924	Total/NA	Water	8270E SIM	669567
400-254744-5	P93C-ROX-041924	Total/NA	Water	8270E SIM	669567
400-254744-6	P93B-ROX-041924	Total/NA	Water	8270E SIM	669567
MB 400-669567/1-A	Method Blank	Total/NA	Water	8270E SIM	669567
LCS 400-669567/2-A	Lab Control Sample	Total/NA	Water	8270E SIM	669567
LCSD 400-669567/3-A	Lab Control Sample Dup	Total/NA	Water	8270E SIM	669567

# QC Association Summary

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

Job ID: 400-254744-1

## GC/MS Semi VOA

### Analysis Batch: 670367

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254744-4	P59-ROX-041924	Total/NA	Water	8270E SIM	669567

## GC Semi VOA

### Prep Batch: 669843

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254744-2	TB-ROX-041924-8011-SS	Total/NA	Water	8011	
400-254744-3	T12-ROX-041924	Total/NA	Water	8011	
400-254744-4	P59-ROX-041924	Total/NA	Water	8011	
400-254744-5	P93C-ROX-041924	Total/NA	Water	8011	
400-254744-6	P93B-ROX-041924	Total/NA	Water	8011	
MB 400-669843/1-A	Method Blank	Total/NA	Water	8011	
LCS 400-669843/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 400-669843/3-A	Lab Control Sample Dup	Total/NA	Water	8011	

### Analysis Batch: 670017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254744-2	TB-ROX-041924-8011-SS	Total/NA	Water	8011	669843
400-254744-3	T12-ROX-041924	Total/NA	Water	8011	669843
400-254744-4	P59-ROX-041924	Total/NA	Water	8011	669843
400-254744-5	P93C-ROX-041924	Total/NA	Water	8011	669843
400-254744-6	P93B-ROX-041924	Total/NA	Water	8011	669843
MB 400-669843/1-A	Method Blank	Total/NA	Water	8011	669843
LCS 400-669843/2-A	Lab Control Sample	Total/NA	Water	8011	669843
LCSD 400-669843/3-A	Lab Control Sample Dup	Total/NA	Water	8011	669843



# QC Sample Results

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

Job ID: 400-254744-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 400-670170/5**  
**Matrix: Water**  
**Analysis Batch: 670170**

**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			05/02/24 11:39	1
Acrolein	ND		20	3.3	ug/L			05/02/24 11:39	1
Acrylonitrile	ND		10	2.8	ug/L			05/02/24 11:39	1
Benzene	ND		1.0	0.50	ug/L			05/02/24 11:39	1
Bromobenzene	ND		1.0	0.54	ug/L			05/02/24 11:39	1
Bromochloromethane	ND		1.0	0.21	ug/L			05/02/24 11:39	1
Bromodichloromethane	ND		1.0	0.50	ug/L			05/02/24 11:39	1
Bromoform	ND		5.0	0.25	ug/L			05/02/24 11:39	1
Bromomethane	ND		1.0	0.98	ug/L			05/02/24 11:39	1
2-Butanone (MEK)	ND		25	2.6	ug/L			05/02/24 11:39	1
Carbon disulfide	ND		1.0	0.50	ug/L			05/02/24 11:39	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			05/02/24 11:39	1
Chlorobenzene	ND		1.0	0.90	ug/L			05/02/24 11:39	1
Chloroethane	ND		1.0	0.76	ug/L			05/02/24 11:39	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			05/02/24 11:39	1
Chloroform	ND		1.0	0.90	ug/L			05/02/24 11:39	1
1-Chlorohexane	ND		1.0	0.32	ug/L			05/02/24 11:39	1
Chloromethane	ND		1.0	0.90	ug/L			05/02/24 11:39	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			05/02/24 11:39	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			05/02/24 11:39	1
Dibromochloromethane	ND		1.0	0.24	ug/L			05/02/24 11:39	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			05/02/24 11:39	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			05/02/24 11:39	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			05/02/24 11:39	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			05/02/24 11:39	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			05/02/24 11:39	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			05/02/24 11:39	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			05/02/24 11:39	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			05/02/24 11:39	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			05/02/24 11:39	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			05/02/24 11:39	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			05/02/24 11:39	1
Ethylbenzene	ND		1.0	0.50	ug/L			05/02/24 11:39	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			05/02/24 11:39	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			05/02/24 11:39	1
2-Hexanone	ND		25	1.4	ug/L			05/02/24 11:39	1
Isopropylbenzene	ND		1.0	0.53	ug/L			05/02/24 11:39	1
Methylene bromide	ND		5.0	0.22	ug/L			05/02/24 11:39	1
Methylene Chloride	ND		5.0	3.0	ug/L			05/02/24 11:39	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			05/02/24 11:39	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			05/02/24 11:39	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			05/02/24 11:39	1
Naphthalene	ND		5.0	3.0	ug/L			05/02/24 11:39	1
n-Butylbenzene	ND		1.0	0.76	ug/L			05/02/24 11:39	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/02/24 11:39	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			05/02/24 11:39	1
o-Xylene	ND		5.0	0.60	ug/L			05/02/24 11:39	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			05/02/24 11:39	1

# QC Sample Results

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

Job ID: 400-254744-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-670170/5**  
**Matrix: Water**  
**Analysis Batch: 670170**

**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			05/02/24 11:39	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			05/02/24 11:39	1
Styrene	ND		1.0	1.0	ug/L			05/02/24 11:39	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			05/02/24 11:39	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			05/02/24 11:39	1
1,1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			05/02/24 11:39	1
Tetrachloroethene	ND		1.0	0.90	ug/L			05/02/24 11:39	1
Toluene	ND		1.0	0.90	ug/L			05/02/24 11:39	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			05/02/24 11:39	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			05/02/24 11:39	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			05/02/24 11:39	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			05/02/24 11:39	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			05/02/24 11:39	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			05/02/24 11:39	1
Trichloroethene	ND		1.0	0.15	ug/L			05/02/24 11:39	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			05/02/24 11:39	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			05/02/24 11:39	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			05/02/24 11:39	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			05/02/24 11:39	1
Vinyl acetate	ND		25	0.93	ug/L			05/02/24 11:39	1
Vinyl chloride	ND		1.0	0.50	ug/L			05/02/24 11:39	1
Xylenes, Total	ND		10	1.6	ug/L			05/02/24 11:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		72 - 130		05/02/24 11:39	1
Dibromofluoromethane	102		75 - 126		05/02/24 11:39	1
Toluene-d8 (Surr)	93		64 - 132		05/02/24 11:39	1

**Lab Sample ID: LCS 400-670170/1002**  
**Matrix: Water**  
**Analysis Batch: 670170**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	200	124		ug/L		62	43 - 160
Acrolein	500	330		ug/L		66	38 - 160
Acrylonitrile	500	512		ug/L		102	64 - 142
Benzene	50.0	53.8		ug/L		108	70 - 130
Bromobenzene	50.0	53.9		ug/L		108	70 - 132
Bromochloromethane	50.0	54.3		ug/L		109	70 - 130
Bromodichloromethane	50.0	51.5		ug/L		103	67 - 133
Bromoform	50.0	49.4		ug/L		99	57 - 140
Bromomethane	50.0	34.8		ug/L		70	10 - 160
2-Butanone (MEK)	200	184		ug/L		92	61 - 145
Carbon disulfide	50.0	42.1		ug/L		84	61 - 137
Carbon tetrachloride	50.0	53.9		ug/L		108	61 - 137
Chlorobenzene	50.0	53.3		ug/L		107	70 - 130
Chloroethane	50.0	38.7		ug/L		77	55 - 141
2-Chloroethyl vinyl ether	50.0	53.6		ug/L		107	10 - 160

# QC Sample Results

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

Job ID: 400-254744-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-670170/1002**  
**Matrix: Water**  
**Analysis Batch: 670170**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroform	50.0	51.4		ug/L		103	69 - 130
1-Chlorohexane	50.0	53.8		ug/L		108	69 - 130
Chloromethane	50.0	47.8		ug/L		96	58 - 137
cis-1,2-Dichloroethene	50.0	55.0		ug/L		110	68 - 130
cis-1,3-Dichloropropene	50.0	53.0		ug/L		106	69 - 132
Dibromochloromethane	50.0	49.5		ug/L		99	67 - 135
1,2-Dichlorobenzene	50.0	50.5		ug/L		101	67 - 130
1,3-Dichlorobenzene	50.0	54.7		ug/L		109	70 - 130
1,4-Dichlorobenzene	50.0	52.7		ug/L		105	70 - 130
Dichlorodifluoromethane	50.0	49.3		ug/L		99	41 - 146
1,1-Dichloroethane	50.0	54.0		ug/L		108	70 - 130
1,2-Dichloroethane	50.0	47.5		ug/L		95	69 - 130
1,1-Dichloroethene	50.0	43.3		ug/L		87	63 - 134
1,2-Dichloropropane	50.0	55.9		ug/L		112	70 - 130
1,3-Dichloropropane	50.0	48.7		ug/L		97	70 - 130
2,2-Dichloropropane	50.0	49.5		ug/L		99	52 - 135
1,1-Dichloropropene	50.0	53.0		ug/L		106	70 - 130
Ethylbenzene	50.0	52.9		ug/L		106	70 - 130
Ethyl methacrylate	50.0	45.5		ug/L		91	68 - 130
Hexachlorobutadiene	50.0	74.1	*+	ug/L		148	53 - 140
2-Hexanone	200	161		ug/L		80	65 - 137
Isopropylbenzene	50.0	55.0		ug/L		110	70 - 130
Methylene bromide	50.0	47.4		ug/L		95	70 - 130
Methylene Chloride	50.0	55.0		ug/L		110	66 - 135
4-Methyl-2-pentanone (MIBK)	200	169		ug/L		85	69 - 138
Methyl tert-butyl ether	50.0	47.0		ug/L		94	66 - 130
m-Xylene & p-Xylene	50.0	54.4		ug/L		109	70 - 130
Naphthalene	50.0	49.0		ug/L		98	47 - 149
n-Butylbenzene	50.0	51.6		ug/L		103	67 - 130
N-Propylbenzene	50.0	53.4		ug/L		107	70 - 130
o-Chlorotoluene	50.0	51.3		ug/L		103	70 - 130
o-Xylene	50.0	52.2		ug/L		104	70 - 130
p-Chlorotoluene	50.0	52.0		ug/L		104	70 - 130
p-Isopropyltoluene	50.0	55.4		ug/L		111	65 - 130
sec-Butylbenzene	50.0	54.4		ug/L		109	66 - 130
Styrene	50.0	53.5		ug/L		107	70 - 130
tert-Butylbenzene	50.0	52.0		ug/L		104	64 - 139
1,1,1,2-Tetrachloroethane	50.0	52.5		ug/L		105	67 - 131
1,1,2,2-Tetrachloroethane	50.0	44.5		ug/L		89	70 - 131
Tetrachloroethene	50.0	61.0		ug/L		122	65 - 130
Toluene	50.0	51.9		ug/L		104	70 - 130
trans-1,2-Dichloroethene	50.0	54.5		ug/L		109	70 - 130
trans-1,3-Dichloropropene	50.0	46.9		ug/L		94	63 - 130
1,2,3-Trichlorobenzene	50.0	59.9		ug/L		120	60 - 138
1,2,4-Trichlorobenzene	50.0	60.8		ug/L		122	60 - 140
1,1,1-Trichloroethane	50.0	51.1		ug/L		102	68 - 130
1,1,2-Trichloroethane	50.0	47.7		ug/L		95	70 - 130
Trichloroethene	50.0	57.9		ug/L		116	70 - 130
Trichlorofluoromethane	50.0	40.7		ug/L		81	65 - 138

# QC Sample Results

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

Job ID: 400-254744-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-670170/1002**  
**Matrix: Water**  
**Analysis Batch: 670170**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	50.0	44.4		ug/L		89	70 - 130
1,2,4-Trimethylbenzene	50.0	53.4		ug/L		107	70 - 130
1,3,5-Trimethylbenzene	50.0	53.2		ug/L		106	69 - 130
Vinyl acetate	100	97.0		ug/L		97	26 - 160
Vinyl chloride	50.0	52.2		ug/L		104	59 - 136
Xylenes, Total	100	107		ug/L		107	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	99		72 - 130
Dibromofluoromethane	96		75 - 126
Toluene-d8 (Surr)	94		64 - 132

**Lab Sample ID: MB 400-670328/5**  
**Matrix: Water**  
**Analysis Batch: 670328**

**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			05/03/24 12:28	1
Acrolein	ND		20	3.3	ug/L			05/03/24 12:28	1
Acrylonitrile	ND		10	2.8	ug/L			05/03/24 12:28	1
Benzene	ND		1.0	0.50	ug/L			05/03/24 12:28	1
Bromobenzene	ND		1.0	0.54	ug/L			05/03/24 12:28	1
Bromochloromethane	ND		1.0	0.21	ug/L			05/03/24 12:28	1
Bromodichloromethane	ND		1.0	0.50	ug/L			05/03/24 12:28	1
Bromoform	ND		5.0	0.25	ug/L			05/03/24 12:28	1
Bromomethane	ND		1.0	0.98	ug/L			05/03/24 12:28	1
2-Butanone (MEK)	ND		25	2.6	ug/L			05/03/24 12:28	1
Carbon disulfide	ND		1.0	0.50	ug/L			05/03/24 12:28	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			05/03/24 12:28	1
Chlorobenzene	ND		1.0	0.90	ug/L			05/03/24 12:28	1
Chloroethane	ND		1.0	0.76	ug/L			05/03/24 12:28	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			05/03/24 12:28	1
Chloroform	ND		1.0	0.90	ug/L			05/03/24 12:28	1
1-Chlorohexane	ND		1.0	0.32	ug/L			05/03/24 12:28	1
Chloromethane	ND		1.0	0.90	ug/L			05/03/24 12:28	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			05/03/24 12:28	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			05/03/24 12:28	1
Dibromochloromethane	ND		1.0	0.24	ug/L			05/03/24 12:28	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			05/03/24 12:28	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			05/03/24 12:28	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			05/03/24 12:28	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			05/03/24 12:28	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			05/03/24 12:28	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			05/03/24 12:28	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			05/03/24 12:28	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			05/03/24 12:28	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			05/03/24 12:28	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			05/03/24 12:28	1

# QC Sample Results

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

Job ID: 400-254744-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-670328/5**  
**Matrix: Water**  
**Analysis Batch: 670328**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloropropene	ND		1.0	0.50	ug/L			05/03/24 12:28	1
Ethylbenzene	ND		1.0	0.50	ug/L			05/03/24 12:28	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			05/03/24 12:28	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			05/03/24 12:28	1
2-Hexanone	ND		25	1.4	ug/L			05/03/24 12:28	1
Isopropylbenzene	ND		1.0	0.53	ug/L			05/03/24 12:28	1
Methylene bromide	ND		5.0	0.22	ug/L			05/03/24 12:28	1
Methylene Chloride	ND		5.0	3.0	ug/L			05/03/24 12:28	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			05/03/24 12:28	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			05/03/24 12:28	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			05/03/24 12:28	1
Naphthalene	ND		5.0	3.0	ug/L			05/03/24 12:28	1
n-Butylbenzene	ND		1.0	0.76	ug/L			05/03/24 12:28	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/03/24 12:28	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			05/03/24 12:28	1
o-Xylene	ND		5.0	0.60	ug/L			05/03/24 12:28	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			05/03/24 12:28	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			05/03/24 12:28	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			05/03/24 12:28	1
Styrene	ND		1.0	1.0	ug/L			05/03/24 12:28	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			05/03/24 12:28	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			05/03/24 12:28	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			05/03/24 12:28	1
Tetrachloroethene	ND		1.0	0.90	ug/L			05/03/24 12:28	1
Toluene	ND		1.0	0.90	ug/L			05/03/24 12:28	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			05/03/24 12:28	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			05/03/24 12:28	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			05/03/24 12:28	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			05/03/24 12:28	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			05/03/24 12:28	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			05/03/24 12:28	1
Trichloroethene	ND		1.0	0.15	ug/L			05/03/24 12:28	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			05/03/24 12:28	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			05/03/24 12:28	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			05/03/24 12:28	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			05/03/24 12:28	1
Vinyl acetate	ND		25	0.93	ug/L			05/03/24 12:28	1
Vinyl chloride	ND		1.0	0.50	ug/L			05/03/24 12:28	1
Xylenes, Total	ND		10	1.6	ug/L			05/03/24 12:28	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		72 - 130		05/03/24 12:28	1
Dibromofluoromethane	102		75 - 126		05/03/24 12:28	1
Toluene-d8 (Surr)	92		64 - 132		05/03/24 12:28	1

# QC Sample Results

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

Job ID: 400-254744-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-670328/1002**  
**Matrix: Water**  
**Analysis Batch: 670328**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	200	122		ug/L		61	43 - 160
Acrolein	500	252		ug/L		50	38 - 160
Acrylonitrile	500	491		ug/L		98	64 - 142
Benzene	50.0	54.7		ug/L		109	70 - 130
Bromobenzene	50.0	55.6		ug/L		111	70 - 132
Bromochloromethane	50.0	54.5		ug/L		109	70 - 130
Bromodichloromethane	50.0	53.2		ug/L		106	67 - 133
Bromoform	50.0	48.8		ug/L		98	57 - 140
Bromomethane	50.0	29.6		ug/L		59	10 - 160
2-Butanone (MEK)	200	174		ug/L		87	61 - 145
Carbon disulfide	50.0	42.0		ug/L		84	61 - 137
Carbon tetrachloride	50.0	54.6		ug/L		109	61 - 137
Chlorobenzene	50.0	54.9		ug/L		110	70 - 130
Chloroethane	50.0	34.0		ug/L		68	55 - 141
2-Chloroethyl vinyl ether	50.0	42.7		ug/L		85	10 - 160
Chloroform	50.0	52.5		ug/L		105	69 - 130
1-Chlorohexane	50.0	55.5		ug/L		111	69 - 130
Chloromethane	50.0	40.2		ug/L		80	58 - 137
cis-1,2-Dichloroethene	50.0	55.3		ug/L		111	68 - 130
cis-1,3-Dichloropropene	50.0	53.7		ug/L		107	69 - 132
Dibromochloromethane	50.0	50.9		ug/L		102	67 - 135
1,2-Dichlorobenzene	50.0	52.1		ug/L		104	67 - 130
1,3-Dichlorobenzene	50.0	56.6		ug/L		113	70 - 130
1,4-Dichlorobenzene	50.0	55.4		ug/L		111	70 - 130
Dichlorodifluoromethane	50.0	41.5		ug/L		83	41 - 146
1,1-Dichloroethane	50.0	55.4		ug/L		111	70 - 130
1,2-Dichloroethane	50.0	47.4		ug/L		95	69 - 130
1,1-Dichloroethene	50.0	43.3		ug/L		87	63 - 134
1,2-Dichloropropane	50.0	54.9		ug/L		110	70 - 130
1,3-Dichloropropane	50.0	48.8		ug/L		98	70 - 130
2,2-Dichloropropane	50.0	50.3		ug/L		101	52 - 135
1,1-Dichloropropene	50.0	53.6		ug/L		107	70 - 130
Ethylbenzene	50.0	54.8		ug/L		110	70 - 130
Ethyl methacrylate	50.0	44.9		ug/L		90	68 - 130
Hexachlorobutadiene	50.0	78.6	+	ug/L		157	53 - 140
2-Hexanone	200	155		ug/L		78	65 - 137
Isopropylbenzene	50.0	56.9		ug/L		114	70 - 130
Methylene bromide	50.0	47.0		ug/L		94	70 - 130
Methylene Chloride	50.0	58.6		ug/L		117	66 - 135
4-Methyl-2-pentanone (MIBK)	200	161		ug/L		81	69 - 138
Methyl tert-butyl ether	50.0	46.8		ug/L		94	66 - 130
m-Xylene & p-Xylene	50.0	55.6		ug/L		111	70 - 130
Naphthalene	50.0	47.2		ug/L		94	47 - 149
n-Butylbenzene	50.0	53.5		ug/L		107	67 - 130
N-Propylbenzene	50.0	56.3		ug/L		113	70 - 130
o-Chlorotoluene	50.0	52.7		ug/L		105	70 - 130
o-Xylene	50.0	54.3		ug/L		109	70 - 130
p-Chlorotoluene	50.0	53.8		ug/L		108	70 - 130



# QC Sample Results

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

Job ID: 400-254744-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-670328/1002**  
**Matrix: Water**  
**Analysis Batch: 670328**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
p-Isopropyltoluene	50.0	57.6		ug/L		115	65 - 130
sec-Butylbenzene	50.0	56.5		ug/L		113	66 - 130
Styrene	50.0	54.9		ug/L		110	70 - 130
tert-Butylbenzene	50.0	53.7		ug/L		107	64 - 139
1,1,1,2-Tetrachloroethane	50.0	53.2		ug/L		106	67 - 131
1,1,1,2,2-Tetrachloroethane	50.0	43.3		ug/L		87	70 - 131
Tetrachloroethene	50.0	59.9		ug/L		120	65 - 130
Toluene	50.0	52.7		ug/L		105	70 - 130
trans-1,2-Dichloroethene	50.0	55.2		ug/L		110	70 - 130
trans-1,3-Dichloropropene	50.0	47.6		ug/L		95	63 - 130
1,2,3-Trichlorobenzene	50.0	60.9		ug/L		122	60 - 138
1,2,4-Trichlorobenzene	50.0	62.1		ug/L		124	60 - 140
1,1,1-Trichloroethane	50.0	51.7		ug/L		103	68 - 130
1,1,2-Trichloroethane	50.0	47.6		ug/L		95	70 - 130
Trichloroethene	50.0	59.1		ug/L		118	70 - 130
Trichlorofluoromethane	50.0	34.9		ug/L		70	65 - 138
1,2,3-Trichloropropane	50.0	44.0		ug/L		88	70 - 130
1,2,4-Trimethylbenzene	50.0	55.4		ug/L		111	70 - 130
1,3,5-Trimethylbenzene	50.0	54.5		ug/L		109	69 - 130
Vinyl acetate	100	80.6		ug/L		81	26 - 160
Vinyl chloride	50.0	44.3		ug/L		89	59 - 136
Xylenes, Total	100	110		ug/L		110	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	97		72 - 130
Dibromofluoromethane	97		75 - 126
Toluene-d8 (Surr)	95		64 - 132

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

**Lab Sample ID: MB 400-669567/1-A**  
**Matrix: Water**  
**Analysis Batch: 670069**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 669567**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	8.7	ug/L		04/26/24 17:40	05/01/24 17:06	1
Benzenethiol	ND		10	9.9	ug/L		04/26/24 17:40	05/01/24 17:06	1
Benzoic acid	ND		30	24	ug/L		04/26/24 17:40	05/01/24 17:06	1
Benzyl alcohol	ND		10	7.3	ug/L		04/26/24 17:40	05/01/24 17:06	1
Bis(2-chloroethoxy)methane	ND		10	4.6	ug/L		04/26/24 17:40	05/01/24 17:06	1
Bis(2-chloroethyl)ether	ND		10	3.9	ug/L		04/26/24 17:40	05/01/24 17:06	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		04/26/24 17:40	05/01/24 17:06	1
Bis(2-ethylhexyl) phthalate	ND		10	8.9	ug/L		04/26/24 17:40	05/01/24 17:06	1
4-Bromophenyl phenyl ether	ND		10	8.6	ug/L		04/26/24 17:40	05/01/24 17:06	1
Butyl benzyl phthalate	ND		10	5.8	ug/L		04/26/24 17:40	05/01/24 17:06	1
4-Chloroaniline	ND		10	4.7	ug/L		04/26/24 17:40	05/01/24 17:06	1
4-Chloro-3-methylphenol	ND		10	5.3	ug/L		04/26/24 17:40	05/01/24 17:06	1
2-Chloronaphthalene	ND		10	3.8	ug/L		04/26/24 17:40	05/01/24 17:06	1
2-Chlorophenol	ND		10	4.1	ug/L		04/26/24 17:40	05/01/24 17:06	1

Eurofins Pensacola

# QC Sample Results

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

Job ID: 400-254744-1

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

**Lab Sample ID: MB 400-669567/1-A**  
**Matrix: Water**  
**Analysis Batch: 670069**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 669567**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorophenyl phenyl ether	ND		10	3.7	ug/L		04/26/24 17:40	05/01/24 17:06	1
Dibenz[a,h]acridine	ND		10	2.8	ug/L		04/26/24 17:40	05/01/24 17:06	1
Dibenzofuran	ND		10	4.0	ug/L		04/26/24 17:40	05/01/24 17:06	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/26/24 17:40	05/01/24 17:06	1
2,4-Dichlorophenol	ND		10	4.3	ug/L		04/26/24 17:40	05/01/24 17:06	1
Diethyl phthalate	ND		10	4.4	ug/L		04/26/24 17:40	05/01/24 17:06	1
2,4-Dimethylphenol	ND		10	5.2	ug/L		04/26/24 17:40	05/01/24 17:06	1
Dimethyl phthalate	ND		10	4.2	ug/L		04/26/24 17:40	05/01/24 17:06	1
Di-n-butyl phthalate	ND		10	4.6	ug/L		04/26/24 17:40	05/01/24 17:06	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		04/26/24 17:40	05/01/24 17:06	1
2,4-Dinitrophenol	ND		30	4.6	ug/L		04/26/24 17:40	05/01/24 17:06	1
2,4-Dinitrotoluene	ND		10	5.1	ug/L		04/26/24 17:40	05/01/24 17:06	1
2,6-Dinitrotoluene	ND		10	3.9	ug/L		04/26/24 17:40	05/01/24 17:06	1
Di-n-octyl phthalate	ND		10	6.0	ug/L		04/26/24 17:40	05/01/24 17:06	1
1,4-Dioxane	ND		10	4.3	ug/L		04/26/24 17:40	05/01/24 17:06	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.3	ug/L		04/26/24 17:40	05/01/24 17:06	1
Hexachlorobenzene	ND		10	9.7	ug/L		04/26/24 17:40	05/01/24 17:06	1
Hexachlorocyclopentadiene	ND		20	4.5	ug/L		04/26/24 17:40	05/01/24 17:06	1
Hexachloroethane	ND		10	5.2	ug/L		04/26/24 17:40	05/01/24 17:06	1
Indene	ND		10	3.6	ug/L		04/26/24 17:40	05/01/24 17:06	1
Isophorone	ND		10	5.2	ug/L		04/26/24 17:40	05/01/24 17:06	1
2-Methylphenol	ND		10	3.2	ug/L		04/26/24 17:40	05/01/24 17:06	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		04/26/24 17:40	05/01/24 17:06	1
2-Nitroaniline	ND		10	5.0	ug/L		04/26/24 17:40	05/01/24 17:06	1
3-Nitroaniline	ND		10	4.7	ug/L		04/26/24 17:40	05/01/24 17:06	1
4-Nitroaniline	ND		10	4.1	ug/L		04/26/24 17:40	05/01/24 17:06	1
Nitrobenzene	ND		10	4.7	ug/L		04/26/24 17:40	05/01/24 17:06	1
2-Nitrophenol	ND		10	4.6	ug/L		04/26/24 17:40	05/01/24 17:06	1
4-Nitrophenol	ND		10	3.3	ug/L		04/26/24 17:40	05/01/24 17:06	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		04/26/24 17:40	05/01/24 17:06	1
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		04/26/24 17:40	05/01/24 17:06	1
N-Nitrosodiphenylamine	ND		10	3.7	ug/L		04/26/24 17:40	05/01/24 17:06	1
Pentachlorophenol	ND		20	12	ug/L		04/26/24 17:40	05/01/24 17:06	1
Phenol	ND		10	4.2	ug/L		04/26/24 17:40	05/01/24 17:06	1
Pyridine	ND		10	10	ug/L		04/26/24 17:40	05/01/24 17:06	1
Quinoline	ND		10	2.4	ug/L		04/26/24 17:40	05/01/24 17:06	1
2,4,5-Trichlorophenol	ND		10	4.0	ug/L		04/26/24 17:40	05/01/24 17:06	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/26/24 17:40	05/01/24 17:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	54		21 - 114	04/26/24 17:40	05/01/24 17:06	1
2-Fluorophenol	44		10 - 105	04/26/24 17:40	05/01/24 17:06	1
Nitrobenzene-d5	53		16 - 127	04/26/24 17:40	05/01/24 17:06	1
Phenol-d5	33		10 - 129	04/26/24 17:40	05/01/24 17:06	1
Terphenyl-d14	66		13 - 150	04/26/24 17:40	05/01/24 17:06	1
2,4,6-Tribromophenol	44		10 - 150	04/26/24 17:40	05/01/24 17:06	1

# QC Sample Results

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

Job ID: 400-254744-1

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

**Lab Sample ID: LCS 400-669567/2-A**  
**Matrix: Water**  
**Analysis Batch: 670069**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669567**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aniline	120	15.7		ug/L		13	10 - 127
Benzoic acid	492	166		ug/L		34	19 - 126
Benzyl alcohol	120	80.2		ug/L		67	17 - 109
Bis(2-chloroethoxy)methane	120	74.5		ug/L		62	24 - 125
Bis(2-chloroethyl)ether	120	70.3		ug/L		59	10 - 121
bis (2-chloroisopropyl) ether	120	67.8		ug/L		56	14 - 123
Bis(2-ethylhexyl) phthalate	120	95.3		ug/L		79	16 - 150
4-Bromophenyl phenyl ether	120	101		ug/L		84	17 - 150
Butyl benzyl phthalate	120	89.2		ug/L		74	21 - 150
4-Chloroaniline	120	47.9		ug/L		40	10 - 124
4-Chloro-3-methylphenol	120	88.1		ug/L		73	37 - 131
2-Chloronaphthalene	120	75.2		ug/L		63	24 - 132
2-Chlorophenol	120	76.3		ug/L		64	27 - 124
4-Chlorophenyl phenyl ether	120	86.6		ug/L		72	27 - 147
Dibenz[a,h]acridine	59.9	50.4		ug/L		84	40 - 140
Dibenzofuran	120	83.1		ug/L		69	30 - 135
3,3'-Dichlorobenzidine	240	116		ug/L		48	10 - 150
2,4-Dichlorophenol	120	73.4		ug/L		61	33 - 132
Diethyl phthalate	120	88.1		ug/L		73	37 - 145
2,4-Dimethylphenol	120	89.8		ug/L		75	38 - 132
Dimethyl phthalate	120	102		ug/L		85	32 - 137
Di-n-butyl phthalate	120	94.7		ug/L		79	27 - 150
4,6-Dinitro-ortho-cresol	240	183		ug/L		76	14 - 150
2,4-Dinitrophenol	240	157		ug/L		66	15 - 150
2,4-Dinitrotoluene	120	94.9		ug/L		79	35 - 136
2,6-Dinitrotoluene	120	93.8		ug/L		78	29 - 140
Di-n-octyl phthalate	120	104		ug/L		87	26 - 150
1,4-Dioxane	120	39.8		ug/L		33	10 - 87
1,2-Diphenylhydrazine (as Azobenzene)	120	89.3		ug/L		74	23 - 138
Hexachlorobenzene	120	99.2		ug/L		83	10 - 150
Hexachlorocyclopentadiene	120	63.5		ug/L		53	10 - 124
Hexachloroethane	120	62.0		ug/L		52	10 - 127
Indene	120	70.0		ug/L		58	18 - 150
Isophorone	120	72.9		ug/L		61	28 - 127
2-Methylphenol	120	76.7		ug/L		64	34 - 124
3 & 4 Methylphenol	120	75.8		ug/L		63	32 - 122
2-Nitroaniline	120	86.5		ug/L		72	24 - 139
3-Nitroaniline	120	75.4		ug/L		63	10 - 128
4-Nitroaniline	120	97.5		ug/L		81	28 - 118
Nitrobenzene	120	70.5		ug/L		59	29 - 120
2-Nitrophenol	120	73.1		ug/L		61	25 - 148
4-Nitrophenol	240	175		ug/L		73	12 - 129
N-Nitrosodimethylamine	120	50.7		ug/L		42	10 - 115
N-Nitrosodi-n-propylamine	120	73.5		ug/L		61	24 - 142
N-Nitrosodiphenylamine	119	86.7		ug/L		73	29 - 138
Pentachlorophenol	240	170		ug/L		71	19 - 150
Phenol	120	54.8		ug/L		46	11 - 95
Pyridine	240	12.9	*-	ug/L		5	10 - 82

# QC Sample Results

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

Job ID: 400-254744-1

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

**Lab Sample ID: LCS 400-669567/2-A**  
**Matrix: Water**  
**Analysis Batch: 670069**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669567**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Quinoline	59.9	17.9		ug/L		30	10 - 141
2,4,5-Trichlorophenol	120	85.8		ug/L		72	30 - 144
2,4,6-Trichlorophenol	120	83.3		ug/L		69	27 - 147

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	66		21 - 114
2-Fluorophenol	55		10 - 105
Nitrobenzene-d5	66		16 - 127
Phenol-d5	50		10 - 129
Terphenyl-d14	76		13 - 150
2,4,6-Tribromophenol	77		10 - 150

**Lab Sample ID: LCS 400-669567/8-A**  
**Matrix: Water**  
**Analysis Batch: 670069**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669567**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzenethiol	120	70.9		ug/L		59	10 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	59		21 - 114
2-Fluorophenol	47		10 - 105
Nitrobenzene-d5	59		16 - 127
Phenol-d5	36		10 - 129
Terphenyl-d14	71		13 - 150
2,4,6-Tribromophenol	51		10 - 150

**Lab Sample ID: LCSD 400-669567/3-A**  
**Matrix: Water**  
**Analysis Batch: 670069**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669567**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Aniline	120	35.9	*1	ug/L		30	10 - 127	78	40
Benzoic acid	492	203		ug/L		41	19 - 126	20	40
Benzyl alcohol	120	86.0		ug/L		72	17 - 109	7	40
Bis(2-chloroethoxy)methane	120	81.0		ug/L		67	24 - 125	8	40
Bis(2-chloroethyl)ether	120	79.1		ug/L		66	10 - 121	12	40
bis (2-chloroisopropyl) ether	120	74.7		ug/L		62	14 - 123	10	40
Bis(2-ethylhexyl) phthalate	120	109		ug/L		91	16 - 150	14	40
4-Bromophenyl phenyl ether	120	111		ug/L		93	17 - 150	10	40
Butyl benzyl phthalate	120	102		ug/L		85	21 - 150	13	40
4-Chloroaniline	120	63.6		ug/L		53	10 - 124	28	40
4-Chloro-3-methylphenol	120	96.7		ug/L		81	37 - 131	9	40
2-Chloronaphthalene	120	82.3		ug/L		69	24 - 132	9	40
2-Chlorophenol	120	86.2		ug/L		72	27 - 124	12	40
4-Chlorophenyl phenyl ether	120	95.5		ug/L		80	27 - 147	10	40
Dibenz[a,h]acridine	59.9	57.9		ug/L		97	40 - 140	14	40
Dibenzofuran	120	90.5		ug/L		75	30 - 135	9	40

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# QC Sample Results

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

Job ID: 400-254744-1

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

**Lab Sample ID: LCSD 400-669567/3-A**  
**Matrix: Water**  
**Analysis Batch: 670069**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669567**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD
									Limit
3,3'-Dichlorobenzidine	240	137		ug/L		57	10 - 150	17	40
2,4-Dichlorophenol	120	80.9		ug/L		67	33 - 132	10	40
Diethyl phthalate	120	98.8		ug/L		82	37 - 145	11	40
2,4-Dimethylphenol	120	98.3		ug/L		82	38 - 132	9	40
Dimethyl phthalate	120	112		ug/L		94	32 - 137	9	40
Di-n-butyl phthalate	120	108		ug/L		90	27 - 150	13	40
4,6-Dinitro-ortho-cresol	240	214		ug/L		89	14 - 150	15	40
2,4-Dinitrophenol	240	191		ug/L		80	15 - 150	19	40
2,4-Dinitrotoluene	120	104		ug/L		87	35 - 136	9	40
2,6-Dinitrotoluene	120	103		ug/L		86	29 - 140	10	40
Di-n-octyl phthalate	120	119		ug/L		99	26 - 150	13	40
1,4-Dioxane	120	42.4		ug/L		35	10 - 87	6	40
1,2-Diphenylhydrazine (as Azobenzene)	120	101		ug/L		84	23 - 138	12	40
Hexachlorobenzene	120	109		ug/L		90	10 - 150	9	40
Hexachlorocyclopentadiene	120	69.4		ug/L		58	10 - 124	9	40
Hexachloroethane	120	68.3		ug/L		57	10 - 127	10	40
Indene	120	80.6		ug/L		67	18 - 150	14	40
Isophorone	120	78.8		ug/L		66	28 - 127	8	40
2-Methylphenol	120	84.1		ug/L		70	34 - 124	9	40
3 & 4 Methylphenol	120	83.1		ug/L		69	32 - 122	9	40
2-Nitroaniline	120	96.5		ug/L		80	24 - 139	11	40
3-Nitroaniline	120	86.2		ug/L		72	10 - 128	13	40
4-Nitroaniline	120	106		ug/L		88	28 - 118	8	40
Nitrobenzene	120	76.7		ug/L		64	29 - 120	8	40
2-Nitrophenol	120	82.1		ug/L		68	25 - 148	12	40
4-Nitrophenol	240	202		ug/L		84	12 - 129	14	40
N-Nitrosodimethylamine	120	54.2		ug/L		45	10 - 115	7	40
N-Nitrosodi-n-propylamine	120	80.4		ug/L		67	24 - 142	9	40
N-Nitrosodiphenylamine	119	97.6		ug/L		82	29 - 138	12	40
Pentachlorophenol	240	201		ug/L		84	19 - 150	17	40
Phenol	120	59.7		ug/L		50	11 - 95	9	40
Pyridine	240	35.8	*1	ug/L		15	10 - 82	94	40
Quinoline	59.9	34.6	*1	ug/L		58	10 - 141	64	40
2,4,5-Trichlorophenol	120	97.3		ug/L		81	30 - 144	13	40
2,4,6-Trichlorophenol	120	92.3		ug/L		77	27 - 147	10	40

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	69		21 - 114
2-Fluorophenol	58		10 - 105
Nitrobenzene-d5	69		16 - 127
Phenol-d5	53		10 - 129
Terphenyl-d14	84		13 - 150
2,4,6-Tribromophenol	81		10 - 150

# QC Sample Results

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

Job ID: 400-254744-1

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

**Lab Sample ID: LCSD 400-669567/9-A**  
**Matrix: Water**  
**Analysis Batch: 670069**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669567**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzenethiol	120	67.5		ug/L		56	10 - 140	5	40
<b>Surrogate</b>									
	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>						
2-Fluorobiphenyl	64		21 - 114						
2-Fluorophenol	51		10 - 105						
Nitrobenzene-d5	61		16 - 127						
Phenol-d5	40		10 - 129						
Terphenyl-d14	76		13 - 150						
2,4,6-Tribromophenol	56		10 - 150						

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

**Lab Sample ID: MB 400-669567/1-A**  
**Matrix: Water**  
**Analysis Batch: 670176**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 669567**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.099	ug/L		04/26/24 17:40	05/02/24 18:36	1
Acenaphthylene	ND		0.20	0.044	ug/L		04/26/24 17:40	05/02/24 18:36	1
Anthracene	ND		0.20	0.047	ug/L		04/26/24 17:40	05/02/24 18:36	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		04/26/24 17:40	05/02/24 18:36	1
Benzo[a]pyrene	ND		0.20	0.064	ug/L		04/26/24 17:40	05/02/24 18:36	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		04/26/24 17:40	05/02/24 18:36	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		04/26/24 17:40	05/02/24 18:36	1
Benzo[k]fluoranthene	ND		0.20	0.062	ug/L		04/26/24 17:40	05/02/24 18:36	1
Chrysene	ND		0.20	0.033	ug/L		04/26/24 17:40	05/02/24 18:36	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		04/26/24 17:40	05/02/24 18:36	1
Fluoranthene	ND		0.20	0.034	ug/L		04/26/24 17:40	05/02/24 18:36	1
Fluorene	ND		0.20	0.089	ug/L		04/26/24 17:40	05/02/24 18:36	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		04/26/24 17:40	05/02/24 18:36	1
Phenanthrene	ND		0.20	0.090	ug/L		04/26/24 17:40	05/02/24 18:36	1
Pyrene	ND		0.20	0.039	ug/L		04/26/24 17:40	05/02/24 18:36	1
1-Methylnaphthalene	ND		0.20	0.080	ug/L		04/26/24 17:40	05/02/24 18:36	1
2-Methylnaphthalene	ND		0.20	0.066	ug/L		04/26/24 17:40	05/02/24 18:36	1
<b>Surrogate</b>									
	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Terphenyl-d14	67		18 - 147				04/26/24 17:40	05/02/24 18:36	1
2-Fluorobiphenyl	52		15 - 128				04/26/24 17:40	05/02/24 18:36	1
Nitrobenzene-d5	39		10 - 144				04/26/24 17:40	05/02/24 18:36	1

**Lab Sample ID: LCS 400-669567/2-A**  
**Matrix: Water**  
**Analysis Batch: 670176**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669567**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	120	66.2		ug/L		55	10 - 140
Acenaphthylene	120	64.0		ug/L		53	10 - 140
Anthracene	120	67.9		ug/L		57	19 - 140

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# QC Sample Results

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

Job ID: 400-254744-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: LCS 400-669567/2-A**  
**Matrix: Water**  
**Analysis Batch: 670176**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669567**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzo[a]anthracene	120	73.1		ug/L		61	25 - 140
Benzo[a]pyrene	120	65.6		ug/L		55	24 - 140
Benzo[b]fluoranthene	120	63.5		ug/L		53	34 - 140
Benzo[g,h,i]perylene	120	66.4		ug/L		55	13 - 140
Benzo[k]fluoranthene	120	63.8		ug/L		53	21 - 140
Chrysene	120	70.3		ug/L		59	28 - 140
Dibenz(a,h)anthracene	120	67.5		ug/L		56	10 - 140
Fluoranthene	120	80.2		ug/L		67	18 - 140
Fluorene	120	77.6		ug/L		65	16 - 140
Indeno[1,2,3-cd]pyrene	120	68.1		ug/L		57	10 - 140
Phenanthrene	120	68.6		ug/L		57	22 - 140
Pyrene	120	64.2		ug/L		53	38 - 140
1-Methylnaphthalene	120	62.6		ug/L		52	10 - 140
2-Methylnaphthalene	120	61.5		ug/L		51	10 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	59		18 - 147
2-Fluorobiphenyl	51		15 - 128
Nitrobenzene-d5	37		10 - 144

**Lab Sample ID: LCSD 400-669567/3-A**  
**Matrix: Water**  
**Analysis Batch: 670176**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669567**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Acenaphthene	120	73.7		ug/L		61	10 - 140	11	40
Acenaphthylene	120	70.6		ug/L		59	10 - 140	10	40
Anthracene	120	75.2		ug/L		63	19 - 140	10	40
Benzo[a]anthracene	120	80.0		ug/L		67	25 - 140	9	40
Benzo[a]pyrene	120	73.6		ug/L		61	24 - 140	12	40
Benzo[b]fluoranthene	120	73.2		ug/L		61	34 - 140	14	40
Benzo[g,h,i]perylene	120	78.2		ug/L		65	13 - 140	16	40
Benzo[k]fluoranthene	120	72.3		ug/L		60	21 - 140	13	40
Chrysene	120	82.0		ug/L		68	28 - 140	15	40
Dibenz(a,h)anthracene	120	78.0		ug/L		65	10 - 140	15	40
Fluoranthene	120	89.0		ug/L		74	18 - 140	10	40
Fluorene	120	86.5		ug/L		72	16 - 140	11	40
Indeno[1,2,3-cd]pyrene	120	78.2		ug/L		65	10 - 140	14	40
Phenanthrene	120	78.2		ug/L		65	22 - 140	13	40
Pyrene	120	73.9		ug/L		62	38 - 140	14	40
1-Methylnaphthalene	120	68.7		ug/L		57	10 - 140	9	40
2-Methylnaphthalene	120	67.8		ug/L		56	10 - 140	10	40

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Terphenyl-d14	68		18 - 147
2-Fluorobiphenyl	56		15 - 128
Nitrobenzene-d5	39		10 - 144

# QC Sample Results

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

Job ID: 400-254744-1

## Method: 8011 - EDB and DBCP in Water by Microextraction

**Lab Sample ID: MB 400-669843/1-A**  
**Matrix: Water**  
**Analysis Batch: 670017**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 669843**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2-Dibromo-3-Chloropropane	ND		0.030	0.017	ug/L		04/30/24 07:31	05/01/24 15:42	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		04/30/24 07:31	05/01/24 15:42	1
		MB MB	Limits			D	Prepared	Analyzed	Dil Fac
Surrogate	%Recovery	Qualifier							
4-Bromofluorobenzene	76		51 - 149				04/30/24 07:31	05/01/24 15:42	1

**Lab Sample ID: LCS 400-669843/2-A**  
**Matrix: Water**  
**Analysis Batch: 670017**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669843**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
1,2-Dibromo-3-Chloropropane	0.101	0.101		ug/L		100	60 - 140		
1,2-Dibromoethane	0.100	0.0788		ug/L		79	60 - 140		
		LCS LCS	Limits			D	Prepared	Analyzed	Dil Fac
Surrogate	%Recovery	Qualifier							
4-Bromofluorobenzene	71		51 - 149				04/30/24 07:31	05/01/24 15:42	1

**Lab Sample ID: LCSD 400-669843/3-A**  
**Matrix: Water**  
**Analysis Batch: 670017**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669843**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	
								RPD	Limit
1,2-Dibromo-3-Chloropropane	0.101	0.0985		ug/L		98	60 - 140	2	30
1,2-Dibromoethane	0.100	0.0834		ug/L		83	60 - 140	6	30
		LCSD LCSD	Limits			D	Prepared	Analyzed	Dil Fac
Surrogate	%Recovery	Qualifier							
4-Bromofluorobenzene	66		51 - 149				04/30/24 07:31	05/01/24 15:42	1

ACCUTEST ( )  
 CALSCIENCE ( )  
 TESTAMERICA (TestAmerica Pensacola, 3355 McLemore Dr. Pensacola, FL 32514 (850-474-1001))  
 Other ( )

Print Bill To Contact Name: Melissa Remiger  
 PlanNet Site or Project ID: 25278  
 GSAP Project ID: USPC/00114/R/02

DATE: 4/19/2024  
 PAGE: 1 of 1

Check if no incident # applies:

Check appropriate box:  
 SGW FDG  
 PIPELINE  
 RETAIL  
 CHEMICALS  
 CONSULTANT  
 LUBES  
 TRANSPORTATION  
 OTHER ENV. SERVICES

LOG CODE: \_\_\_\_\_

SITE ADDRESS: Street and City  
 900 South Central Ave; ROYANA  
 State: IL

EDF DELIVERABLE TO Name, Company, Office Location: 314-802-1207  
 PHONE NO.:  
 E-MAIL: melissa.remiger@aecom.com

AECOM Project / Task Number: Roxana Quarterly GW 60721927 - 3.2.2  
 AECOM Other ID:

SAMPLER NAME(S) (Print): J. Mayer, E. Chalfant

REQUESTED ANALYSIS: 60721927 - 3.2.2

TEMPERATURE ON RECEIPT °C: \_\_\_\_\_

Container PID Readings or Laboratory Notes: \_\_\_\_\_

TEMPERATURE ON RECEIPT °C: \_\_\_\_\_

FIELD NOTES:

Requested Analysis: 60721927 - 3.2.2

Barcode: 400-254744 COC

LAB USE ONLY	Field Sample Identification		SAMPLING		PRESERVATIVE			NO. OF CONT.		
	DATE	TIME	DATE	TIME	MATRIX	HCL	HNO3		H2SO4	NONE
	TB-ROX-041924-8260-SS	0000	4/19/2024	0000	Water	2				2
	TB-ROX-041924-8011-SS	0000	4/19/2024	0000	Water	2				2
	T12-ROX-041924	0840	4/19/2024	0840	Water	6		2		8
	P89-ROX-041924	1115	4/19/2024	1115	Water	6		2		8
	P93C-ROX-041924	1215	4/19/2024	1215	Water	6		2		8
	P93B-ROX-041924	1310	4/19/2024	1310	Water	6		2		8

Handwritten: 90C 04/19/24

RECEIVED BY: (Signature) \_\_\_\_\_ Date: 4/19/2024 Time: 1600

FEDEX: 7252 0540 4463, 7252 0540 4474

RECEIVED BY: (Signature) \_\_\_\_\_ Date: 4-22-24 Time: 9:30

CUSTOMER SEALS: 1599892, 1599893, 1599894, 1599895

3.6°C, 3.1°C IRP

Version: 27Sep23



# Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-254744-1

**Login Number: 254744**

**List Source: Eurofins Pensacola**

**List Number: 1**

**Creator: Perez, Trina M**

Question	Answer	Comment
Radioactivity wasn't checked or is </= 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	3.6°C, 3.1°C IR-10
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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (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

Job ID: 400-254744-1

## Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-24
Kansas	NELAP	E-10253	10-31-24
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-24
North Carolina (WW/SW)	State	314	12-31-24
Oklahoma	NELAP	9810	08-31-24
Pennsylvania	NELAP	68-00467	01-31-25
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-24
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	P330-21-00056	05-17-24
USDA	US Federal Programs	FLGNV23001	01-08-26
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-25

# Roxana Groundwater Quarterly – 2<sup>nd</sup> Quarter 2024 Data Review

Laboratory SDG: 400-254745-1

Data Reviewer: Andrei Niculau

Peer Reviewer: Cheyana Cokley

Date Reviewed: 05/17/2024

Guidance: USEPA National Functional Guidelines for Organic Superfund Methods Data Review 2020

Sample Identification	Sample Identification
TB-ROX-041924-8260	MW25-ROX-041924
TB-ROX-041924-8011	MW7-ROX-041924
MW4-ROX-041924-EB	MW7-ROX-041924-DUP
MW4-ROX-041924	--

## 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 VOC and SVOC LCS/LCSD recoveries and/or LCS/LCSD RPDs, were outside evaluation criteria. 2-Methylnaphthalene was detected in equipment blank MW4-ROX-041924-EB. Several VOC MS/MSD recoveries were outside evaluation criteria in sample MW4-ROX-041924. The initial continuing calibration (ICV) for chloromethane and chloroethane were outside evaluation criteria, biased low. The continuing calibration verification (CCV) for several analytes were outside evaluation criteria, biased low. These issues are addressed further in the appropriate sections of this data review.

Three of 70 (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?*

Yes



Blank ID	Parameter	Analyte	Concentration /Amount
MW4-ROX-041924-EB	PAHs	2-Methylnaphthalene	0.11 ug/L fi

Qualifications due to blank contamination are included in the table below.

Sample ID	Parameter	Analyte	New Reporting Limit (RL)	Qualification
MW4-ROX-041924	PAHs	2-Methylnaphthalene	-	<b>U</b>

## 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 400-670166/1002	VOCs	Bromomethane	<b>177</b>	<b>79</b>	10-160
LCS/LCSD 400-669567/2-A/3-A	SVOCs	Pyridine	<b>5/15</b>	<b>94</b>	10-82/40
LCS/LCSD 400-669567/2-A/3-A	SVOCs	Aniline	13/30	<b>78</b>	10-127/40
LCS/LCSD 400-669567/2-A/3-A	SVOCs	Quinoline	30/58	<b>64</b>	10-141/40

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 pyridine below evaluation criteria; pyridine 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 LCS/LCSD RPD alone outside evaluation criteria did not require qualification.

Sample ID	Parameter	Analyte	Qualification
MW4-ROX-041924	SVOCs	Pyridine	<b>UJ</b>
MW25-ROX-041924	SVOCs	Pyridine	<b>UJ</b>
MW7-ROX-041924	SVOCs	Pyridine	<b>UJ</b>
MW7-ROX-041924-DUP	SVOCs	Pyridine	<b>UJ</b>

## 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, although not requested, sample MW4-ROX-041924 was spiked and analyzed for VOCs.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
MW4-ROX-041924 MS/MSD	VOCs	2-Chloroethyl vinyl ether	0/0	NC	10-150/50
MW4-ROX-041924 MS/MSD	VOCs	Chloromethane	42/42	0	49-148/31
MW4-ROX-041924 MS/MSD	VOCs	Trichlorofluoromethane	53/53	1	54-150/30

Analytical data that required qualification based on MS/MSD data are included in the table below. Professional judgement was used to qualify; however, not reject the data associated with 2-chloroethyl vinyl ether due to acceptable LCS recoveries and to the acid reactive nature of 2-chloroethyl vinyl ether.

Sample ID	Parameter	Analyte	Qualification
MW4-ROX-041924	VOCs	2-Chloroethyl vinyl ether	UJ
MW4-ROX-041924	VOCs	Chloromethane	UJ
MW4-ROX-041924	VOCs	Trichlorofluoromethane	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-041924	MW7-ROX-041924-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 initial continuing calibration (ICV) for chloromethane and chloroethane were outside evaluation criteria, biased low. The continuing calibration verification (CCV) for hexachlorocyclopentadiene, chrysene, and pyrene were outside evaluation criteria, biased low. Chloromethane in sample MW4-ROX-041924 was previously qualified in section 7.0 of this data review, due to matrix spike and matrix spike duplicate recoveries outside evaluation criteria; no further qualification is required. Analytes are qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
MW4-ROX-041924	VOCs	Chloroethane	UJ
MW25-ROX-041924	VOCs	Chloroethane	UJ
MW7-ROX-041924	VOCs	Chloroethane	UJ
MW7-ROX-041924-DUP	VOCs	Chloroethane	UJ
MW25-ROX-041924	VOCs	Chloromethane	UJ
MW7-ROX-041924	VOCs	Chloromethane	UJ
MW7-ROX-041924-DUP	VOCs	Chloromethane	UJ
MW4-ROX-041924	SVOCs	Hexachlorocyclopentadiene	UJ
MW25-ROX-041924	SVOCs	Hexachlorocyclopentadiene	UJ
MW7-ROX-041924	SVOCs	Hexachlorocyclopentadiene	UJ
MW7-ROX-041924-DUP	SVOCs	Hexachlorocyclopentadiene	UJ
MW4-ROX-041924	PAHs	Chrysene	UJ
MW25-ROX-041924	PAHs	Chrysene	UJ
MW7-ROX-041924-DUP	PAHs	Chrysene	UJ
MW4-ROX-041924	PAHs	Pyrene	UJ
MW25-ROX-041924	PAHs	Pyrene	UJ
MW7-ROX-041924	PAHs	Pyrene	UJ



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Melissa Remiger  
AECOM Technical Services Inc.  
100 N. Broadway  
20th Floor  
St. Louis, Missouri 63102

Generated 5/7/2024 2:56:04 PM

## JOB DESCRIPTION

ROXANA QUARTERLY GW

## JOB NUMBER

400-254745-1

Reviewed 05/17/2024  
AN

# Eurofins Pensacola

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

## Authorization



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Authorized for release by  
Leah Klingensmith, Senior Project Manager  
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# Case Narrative

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

Job ID: 400-254745-1

**Job ID: 400-254745-1**

**Eurofins Pensacola**

## Job Narrative 400-254745-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 4/22/2024 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.1°C and 3.6°C.

### GC/MS VOA

Method 8260D: The initial calibration verification (ICV) analyzed in batch 400-669337 was outside method criteria for the following analyte(s): Bromomethane, Chloroethane and Chloromethane. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-670166 recovered above the upper control limit for Bromomethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The laboratory control sample (LCS) for analytical batch 400-670166 recovered outside control limits for the following analytes: Bromomethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-670166 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW7-ROX-041924 (400-254745-6) and MW7-ROX-041924-DUP (400-254745-7). Elevated reporting limits (RLs) are provided.

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-670166 were outside control limits for 2-Chloroethyl vinyl ether due to the acidic nature of the parent sample.

Method 8260D: The RPD for the MS/MSD for 2-chloroethyl vinyl ether was not calculable for analytical batch 400-670166 because the recoveries were below the reporting limit due to the acidic nature of the parent sample.

Method 8260D: 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-041924-8260 (400-254745-1), MW4-ROX-041924-EB (400-254745-3), MW4-ROX-041924 (400-254745-4), MW25-ROX-041924 (400-254745-5), MW7-ROX-041924 (400-254745-6) and MW7-ROX-041924-DUP (400-254745-7). 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 8270E: The laboratory control sample (LCS) for preparation batch 400-669567 and analytical batch 400-670069 recovered outside control limits for the following analyte(s): Pyridine. Pyridine has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method 8270E: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation

Eurofins Pensacola

## Case Narrative

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

Job ID: 400-254745-1

### Job ID: 400-254745-1 (Continued)

Eurofins Pensacola

batch 400-669567 and analytical batch 400-670069 recovered outside control limits for the following analytes: Quinoline, Pyridine and Aniline.

Method 8270E: The continuing calibration verification (CCV) associated with batch 400-670069 recovered outside acceptance criteria, low biased, for Hexachlorocyclopentadiene. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8270E: The initial calibration verification (ICV) analyzed in batch 400-666244 was outside method criteria for the following analyte(s): 2,4-Dimethylphenol and Hexachlorocyclopentadiene. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270E\_SIM: The continuing calibration verification (CCV) associated with batch 400-670176 recovered outside acceptance criteria, low biased, for Chrysene and Pyrene. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8270E\_SIM: Detections in the following samples were confirmed by historical data. Therefore, re-extraction was not performed.

MW4-ROX-041924 (400-254745-4), MW25-ROX-041924 (400-254745-5), MW7-ROX-041924 (400-254745-6) and MW7-ROX-041924-DUP (400-254745-7)

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

#### GC Semi VOA

Method 8011: The continuing calibration verification (CCV) associated with batch 400-669503 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 associated sample is impacted: (CCV 400-669513/20-A).

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

# Sample Summary

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

Job ID: 400-254745-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-254745-1	TB-ROX-041924-8260	Water	04/19/24 00:00	04/22/24 09:30
400-254745-2	TB-ROX-041924-8011	Water	04/19/24 00:00	04/22/24 09:30
400-254745-3	MW4-ROX-041924-EB	Water	04/19/24 08:30	04/22/24 09:30
400-254745-4	MW4-ROX-041924	Water	04/19/24 10:15	04/22/24 09:30
400-254745-5	MW25-ROX-041924	Water	04/19/24 11:30	04/22/24 09:30
400-254745-6	MW7-ROX-041924	Water	04/19/24 12:55	04/22/24 09:30
400-254745-7	MW7-ROX-041924-DUP	Water	04/19/24 12:55	04/22/24 09:30

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Detection Summary

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

Job ID: 400-254745-1

## Client Sample ID: TB-ROX-041924-8260

Lab Sample ID: 400-254745-1

No Detections.

## Client Sample ID: TB-ROX-041924-8011

Lab Sample ID: 400-254745-2

No Detections.

## Client Sample ID: MW4-ROX-041924-EB

Lab Sample ID: 400-254745-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Methylnaphthalene	0.11	J	0.19	0.064	ug/L	1		8270E SIM	Total/NA

## Client Sample ID: MW4-ROX-041924

Lab Sample ID: 400-254745-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	1.1		1.0	0.22	ug/L	1		8260D	Total/NA
1-Methylnaphthalene	0.33		0.20	0.078	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	0.48	U	0.20	0.065	ug/L	1		8270E SIM	Total/NA

## Client Sample ID: MW25-ROX-041924

Lab Sample ID: 400-254745-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	14	J	25	10	ug/L	1		8260D	Total/NA
Benzene	44		1.0	0.50	ug/L	1		8260D	Total/NA
Methyl tert-butyl ether	0.89	J	1.0	0.22	ug/L	1		8260D	Total/NA
tert-Butylbenzene	0.93	J	1.0	0.63	ug/L	1		8260D	Total/NA

## Client Sample ID: MW7-ROX-041924

Lab Sample ID: 400-254745-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	190000		1000	500	ug/L	1000		8260D	Total/NA
Acenaphthene	0.25		0.20	0.098	ug/L	1		8270E SIM	Total/NA
Fluorene	0.24		0.20	0.088	ug/L	1		8270E SIM	Total/NA
Phenanthrene	0.51		0.20	0.089	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	2.1		0.20	0.079	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	1.9		0.20	0.065	ug/L	1		8270E SIM	Total/NA
Phenol	45		9.9	4.1	ug/L	1		8270E	Total/NA

## Client Sample ID: MW7-ROX-041924-DUP

Lab Sample ID: 400-254745-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	220000		1000	500	ug/L	1000		8260D	Total/NA
Acenaphthene	0.34		0.19	0.096	ug/L	1		8270E SIM	Total/NA
Anthracene	0.047	J	0.19	0.046	ug/L	1		8270E SIM	Total/NA
Fluoranthene	0.033	J	0.19	0.033	ug/L	1		8270E SIM	Total/NA
Fluorene	0.26		0.19	0.087	ug/L	1		8270E SIM	Total/NA
Phenanthrene	0.58		0.19	0.088	ug/L	1		8270E SIM	Total/NA
Pyrene	0.094	J	0.19	0.038	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	2.0		0.19	0.078	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	2.0		0.19	0.064	ug/L	1		8270E SIM	Total/NA
Phenol	51		9.7	4.1	ug/L	1		8270E	Total/NA

This Detection Summary does not include radiochemical test results.

# Client Sample Results

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

Job ID: 400-254745-1

**Client Sample ID: TB-ROX-041924-8260**

**Lab Sample ID: 400-254745-1**

**Date Collected: 04/19/24 00:00**

**Matrix: Water**

**Date Received: 04/22/24 09:30**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			05/02/24 11:50	1
Acrolein	ND		20	3.3	ug/L			05/02/24 11:50	1
Acrylonitrile	ND		10	2.8	ug/L			05/02/24 11:50	1
Benzene	ND		1.0	0.50	ug/L			05/02/24 11:50	1
Bromobenzene	ND		1.0	0.54	ug/L			05/02/24 11:50	1
Bromochloromethane	ND		1.0	0.21	ug/L			05/02/24 11:50	1
Bromodichloromethane	ND		1.0	0.50	ug/L			05/02/24 11:50	1
Bromoform	ND		5.0	0.25	ug/L			05/02/24 11:50	1
Bromomethane	ND	*+	1.0	0.98	ug/L			05/02/24 11:50	1
2-Butanone (MEK)	ND		25	2.6	ug/L			05/02/24 11:50	1
Carbon disulfide	ND		1.0	0.50	ug/L			05/02/24 11:50	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			05/02/24 11:50	1
Chlorobenzene	ND		1.0	0.90	ug/L			05/02/24 11:50	1
Chloroethane	ND		1.0	0.76	ug/L			05/02/24 11:50	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			05/02/24 11:50	1
Chloroform	ND		1.0	0.90	ug/L			05/02/24 11:50	1
1-Chlorohexane	ND		1.0	0.32	ug/L			05/02/24 11:50	1
Chloromethane	ND		1.0	0.90	ug/L			05/02/24 11:50	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			05/02/24 11:50	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			05/02/24 11:50	1
Dibromochloromethane	ND		1.0	0.24	ug/L			05/02/24 11:50	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			05/02/24 11:50	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			05/02/24 11:50	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			05/02/24 11:50	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			05/02/24 11:50	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			05/02/24 11:50	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			05/02/24 11:50	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			05/02/24 11:50	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			05/02/24 11:50	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			05/02/24 11:50	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			05/02/24 11:50	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			05/02/24 11:50	1
Ethylbenzene	ND		1.0	0.50	ug/L			05/02/24 11:50	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			05/02/24 11:50	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			05/02/24 11:50	1
2-Hexanone	ND		25	1.4	ug/L			05/02/24 11:50	1
Isopropylbenzene	ND		1.0	0.53	ug/L			05/02/24 11:50	1
Methylene bromide	ND		5.0	0.22	ug/L			05/02/24 11:50	1
Methylene Chloride	ND		5.0	3.0	ug/L			05/02/24 11:50	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			05/02/24 11:50	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			05/02/24 11:50	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			05/02/24 11:50	1
Naphthalene	ND		5.0	3.0	ug/L			05/02/24 11:50	1
n-Butylbenzene	ND		1.0	0.76	ug/L			05/02/24 11:50	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/02/24 11:50	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			05/02/24 11:50	1
o-Xylene	ND		5.0	0.60	ug/L			05/02/24 11:50	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			05/02/24 11:50	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			05/02/24 11:50	1

# Client Sample Results

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

Job ID: 400-254745-1

**Client Sample ID: TB-ROX-041924-8260**

**Lab Sample ID: 400-254745-1**

**Date Collected: 04/19/24 00:00**

**Matrix: Water**

**Date Received: 04/22/24 09:30**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			05/02/24 11:50	1
Styrene	ND		1.0	1.0	ug/L			05/02/24 11:50	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			05/02/24 11:50	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			05/02/24 11:50	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			05/02/24 11:50	1
Tetrachloroethene	ND		1.0	0.90	ug/L			05/02/24 11:50	1
Toluene	ND		1.0	0.90	ug/L			05/02/24 11:50	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			05/02/24 11:50	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			05/02/24 11:50	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			05/02/24 11:50	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			05/02/24 11:50	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			05/02/24 11:50	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			05/02/24 11:50	1
Trichloroethene	ND		1.0	0.15	ug/L			05/02/24 11:50	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			05/02/24 11:50	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			05/02/24 11:50	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			05/02/24 11:50	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			05/02/24 11:50	1
Vinyl acetate	ND		25	0.93	ug/L			05/02/24 11:50	1
Vinyl chloride	ND		1.0	0.50	ug/L			05/02/24 11:50	1
Xylenes, Total	ND		10	1.6	ug/L			05/02/24 11:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		72 - 130		05/02/24 11:50	1
Dibromofluoromethane	89		75 - 126		05/02/24 11:50	1
Toluene-d8 (Surr)	100		64 - 132		05/02/24 11:50	1



# Client Sample Results

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

Job ID: 400-254745-1

**Client Sample ID: TB-ROX-041924-8011**

**Lab Sample ID: 400-254745-2**

**Date Collected: 04/19/24 00:00**

**Matrix: Water**

**Date Received: 04/22/24 09:30**

**Method: EPA 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	0.018	ug/L		04/26/24 12:15	04/26/24 22:15	1
1,2-Dibromoethane	ND		0.021	0.016	ug/L		04/26/24 12:15	04/26/24 22:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	95		51 - 149				04/26/24 12:15	04/26/24 22:15	1

- 1
- 2
- 3
- 4
- 5
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- 10
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- 12
- 13
- 14
- 15

# Client Sample Results

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

Job ID: 400-254745-1

**Client Sample ID: MW4-ROX-041924-EB**

**Lab Sample ID: 400-254745-3**

**Date Collected: 04/19/24 08:30**

**Matrix: Water**

**Date Received: 04/22/24 09:30**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			05/02/24 12:16	1
Acrolein	ND		20	3.3	ug/L			05/02/24 12:16	1
Acrylonitrile	ND		10	2.8	ug/L			05/02/24 12:16	1
Benzene	ND		1.0	0.50	ug/L			05/02/24 12:16	1
Bromobenzene	ND		1.0	0.54	ug/L			05/02/24 12:16	1
Bromochloromethane	ND		1.0	0.21	ug/L			05/02/24 12:16	1
Bromodichloromethane	ND		1.0	0.50	ug/L			05/02/24 12:16	1
Bromoform	ND		5.0	0.25	ug/L			05/02/24 12:16	1
Bromomethane	ND	*+	1.0	0.98	ug/L			05/02/24 12:16	1
2-Butanone (MEK)	ND		25	2.6	ug/L			05/02/24 12:16	1
Carbon disulfide	ND		1.0	0.50	ug/L			05/02/24 12:16	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			05/02/24 12:16	1
Chlorobenzene	ND		1.0	0.90	ug/L			05/02/24 12:16	1
Chloroethane	ND		1.0	0.76	ug/L			05/02/24 12:16	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			05/02/24 12:16	1
Chloroform	ND		1.0	0.90	ug/L			05/02/24 12:16	1
1-Chlorohexane	ND		1.0	0.32	ug/L			05/02/24 12:16	1
Chloromethane	ND		1.0	0.90	ug/L			05/02/24 12:16	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			05/02/24 12:16	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			05/02/24 12:16	1
Dibromochloromethane	ND		1.0	0.24	ug/L			05/02/24 12:16	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			05/02/24 12:16	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			05/02/24 12:16	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			05/02/24 12:16	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			05/02/24 12:16	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			05/02/24 12:16	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			05/02/24 12:16	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			05/02/24 12:16	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			05/02/24 12:16	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			05/02/24 12:16	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			05/02/24 12:16	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			05/02/24 12:16	1
Ethylbenzene	ND		1.0	0.50	ug/L			05/02/24 12:16	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			05/02/24 12:16	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			05/02/24 12:16	1
2-Hexanone	ND		25	1.4	ug/L			05/02/24 12:16	1
Isopropylbenzene	ND		1.0	0.53	ug/L			05/02/24 12:16	1
Methylene bromide	ND		5.0	0.22	ug/L			05/02/24 12:16	1
Methylene Chloride	ND		5.0	3.0	ug/L			05/02/24 12:16	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			05/02/24 12:16	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			05/02/24 12:16	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			05/02/24 12:16	1
Naphthalene	ND		5.0	3.0	ug/L			05/02/24 12:16	1
n-Butylbenzene	ND		1.0	0.76	ug/L			05/02/24 12:16	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/02/24 12:16	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			05/02/24 12:16	1
o-Xylene	ND		5.0	0.60	ug/L			05/02/24 12:16	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			05/02/24 12:16	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			05/02/24 12:16	1

# Client Sample Results

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

Job ID: 400-254745-1

**Client Sample ID: MW4-ROX-041924-EB**

**Lab Sample ID: 400-254745-3**

Date Collected: 04/19/24 08:30

Matrix: Water

Date Received: 04/22/24 09:30

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			05/02/24 12:16	1
Styrene	ND		1.0	1.0	ug/L			05/02/24 12:16	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			05/02/24 12:16	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			05/02/24 12:16	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			05/02/24 12:16	1
Tetrachloroethene	ND		1.0	0.90	ug/L			05/02/24 12:16	1
Toluene	ND		1.0	0.90	ug/L			05/02/24 12:16	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			05/02/24 12:16	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			05/02/24 12:16	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			05/02/24 12:16	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			05/02/24 12:16	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			05/02/24 12:16	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			05/02/24 12:16	1
Trichloroethene	ND		1.0	0.15	ug/L			05/02/24 12:16	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			05/02/24 12:16	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			05/02/24 12:16	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			05/02/24 12:16	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			05/02/24 12:16	1
Vinyl acetate	ND		25	0.93	ug/L			05/02/24 12:16	1
Vinyl chloride	ND		1.0	0.50	ug/L			05/02/24 12:16	1
Xylenes, Total	ND		10	1.6	ug/L			05/02/24 12:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		72 - 130		05/02/24 12:16	1
Dibromofluoromethane	87		75 - 126		05/02/24 12:16	1
Toluene-d8 (Surr)	100		64 - 132		05/02/24 12:16	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.096	ug/L		04/26/24 17:40	05/02/24 21:00	1
Acenaphthylene	ND		0.19	0.043	ug/L		04/26/24 17:40	05/02/24 21:00	1
Anthracene	ND		0.19	0.045	ug/L		04/26/24 17:40	05/02/24 21:00	1
Benzo[a]anthracene	ND		0.19	0.033	ug/L		04/26/24 17:40	05/02/24 21:00	1
Benzo[a]pyrene	ND		0.19	0.062	ug/L		04/26/24 17:40	05/02/24 21:00	1
Benzo[b]fluoranthene	ND		0.19	0.036	ug/L		04/26/24 17:40	05/02/24 21:00	1
Benzo[g,h,i]perylene	ND		0.19	0.026	ug/L		04/26/24 17:40	05/02/24 21:00	1
Benzo[k]fluoranthene	ND		0.19	0.060	ug/L		04/26/24 17:40	05/02/24 21:00	1
Chrysene	ND		0.19	0.032	ug/L		04/26/24 17:40	05/02/24 21:00	1
Dibenz(a,h)anthracene	ND		0.19	0.046	ug/L		04/26/24 17:40	05/02/24 21:00	1
Fluoranthene	ND		0.19	0.033	ug/L		04/26/24 17:40	05/02/24 21:00	1
Fluorene	ND		0.19	0.086	ug/L		04/26/24 17:40	05/02/24 21:00	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.033	ug/L		04/26/24 17:40	05/02/24 21:00	1
Phenanthrene	ND		0.19	0.087	ug/L		04/26/24 17:40	05/02/24 21:00	1
Pyrene	ND		0.19	0.038	ug/L		04/26/24 17:40	05/02/24 21:00	1
1-Methylnaphthalene	ND		0.19	0.077	ug/L		04/26/24 17:40	05/02/24 21:00	1
<b>2-Methylnaphthalene</b>	<b>0.11</b>	<b>J</b>	0.19	0.064	ug/L		04/26/24 17:40	05/02/24 21:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	93		18 - 147	04/26/24 17:40	05/02/24 21:00	1
2-Fluorobiphenyl	81		15 - 128	04/26/24 17:40	05/02/24 21:00	1

Eurofins Pensacola

# Client Sample Results

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

Job ID: 400-254745-1

**Client Sample ID: MW4-ROX-041924-EB**

**Lab Sample ID: 400-254745-3**

Date Collected: 04/19/24 08:30

Matrix: Water

Date Received: 04/22/24 09:30

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	64		10 - 144	04/26/24 17:40	05/02/24 21:00	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*1	9.7	8.4	ug/L		04/26/24 17:40	05/01/24 21:27	1
Benzenethiol	ND		9.7	9.6	ug/L		04/26/24 17:40	05/01/24 21:27	1
Benzoic acid	ND		29	23	ug/L		04/26/24 17:40	05/01/24 21:27	1
Benzyl alcohol	ND		9.7	7.1	ug/L		04/26/24 17:40	05/01/24 21:27	1
Bis(2-chloroethoxy)methane	ND		9.7	4.4	ug/L		04/26/24 17:40	05/01/24 21:27	1
Bis(2-chloroethyl)ether	ND		9.7	3.8	ug/L		04/26/24 17:40	05/01/24 21:27	1
bis (2-chloroisopropyl) ether	ND		9.7	1.7	ug/L		04/26/24 17:40	05/01/24 21:27	1
Bis(2-ethylhexyl) phthalate	ND		9.7	8.6	ug/L		04/26/24 17:40	05/01/24 21:27	1
4-Bromophenyl phenyl ether	ND		9.7	8.3	ug/L		04/26/24 17:40	05/01/24 21:27	1
Butyl benzyl phthalate	ND		9.7	5.6	ug/L		04/26/24 17:40	05/01/24 21:27	1
4-Chloroaniline	ND		9.7	4.5	ug/L		04/26/24 17:40	05/01/24 21:27	1
4-Chloro-3-methylphenol	ND		9.7	5.1	ug/L		04/26/24 17:40	05/01/24 21:27	1
2-Chloronaphthalene	ND		9.7	3.7	ug/L		04/26/24 17:40	05/01/24 21:27	1
2-Chlorophenol	ND		9.7	4.0	ug/L		04/26/24 17:40	05/01/24 21:27	1
4-Chlorophenyl phenyl ether	ND		9.7	3.6	ug/L		04/26/24 17:40	05/01/24 21:27	1
Dibenz[a,h]acridine	ND		9.7	2.7	ug/L		04/26/24 17:40	05/01/24 21:27	1
Dibenzofuran	ND		9.7	3.9	ug/L		04/26/24 17:40	05/01/24 21:27	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/26/24 17:40	05/01/24 21:27	1
2,4-Dichlorophenol	ND		9.7	4.2	ug/L		04/26/24 17:40	05/01/24 21:27	1
Diethyl phthalate	ND		9.7	4.3	ug/L		04/26/24 17:40	05/01/24 21:27	1
2,4-Dimethylphenol	ND		9.7	5.0	ug/L		04/26/24 17:40	05/01/24 21:27	1
Dimethyl phthalate	ND		9.7	4.1	ug/L		04/26/24 17:40	05/01/24 21:27	1
Di-n-butyl phthalate	ND		9.7	4.4	ug/L		04/26/24 17:40	05/01/24 21:27	1
4,6-Dinitro-ortho-cresol	ND		9.7	9.7	ug/L		04/26/24 17:40	05/01/24 21:27	1
2,4-Dinitrophenol	ND		29	4.4	ug/L		04/26/24 17:40	05/01/24 21:27	1
2,4-Dinitrotoluene	ND		9.7	4.9	ug/L		04/26/24 17:40	05/01/24 21:27	1
2,6-Dinitrotoluene	ND		9.7	3.8	ug/L		04/26/24 17:40	05/01/24 21:27	1
Di-n-octyl phthalate	ND		9.7	5.8	ug/L		04/26/24 17:40	05/01/24 21:27	1
1,4-Dioxane	ND		9.7	4.2	ug/L		04/26/24 17:40	05/01/24 21:27	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	3.2	ug/L		04/26/24 17:40	05/01/24 21:27	1
Hexachlorobenzene	ND		9.7	9.4	ug/L		04/26/24 17:40	05/01/24 21:27	1
Hexachlorocyclopentadiene	ND		19	4.4	ug/L		04/26/24 17:40	05/01/24 21:27	1
Hexachloroethane	ND		9.7	5.0	ug/L		04/26/24 17:40	05/01/24 21:27	1
Indene	ND		9.7	3.5	ug/L		04/26/24 17:40	05/01/24 21:27	1
Isophorone	ND		9.7	5.0	ug/L		04/26/24 17:40	05/01/24 21:27	1
2-Methylphenol	ND		9.7	3.1	ug/L		04/26/24 17:40	05/01/24 21:27	1
3 & 4 Methylphenol	ND		19	4.4	ug/L		04/26/24 17:40	05/01/24 21:27	1
2-Nitroaniline	ND		9.7	4.8	ug/L		04/26/24 17:40	05/01/24 21:27	1
3-Nitroaniline	ND		9.7	4.5	ug/L		04/26/24 17:40	05/01/24 21:27	1
4-Nitroaniline	ND		9.7	4.0	ug/L		04/26/24 17:40	05/01/24 21:27	1
Nitrobenzene	ND		9.7	4.5	ug/L		04/26/24 17:40	05/01/24 21:27	1
2-Nitrophenol	ND		9.7	4.4	ug/L		04/26/24 17:40	05/01/24 21:27	1
4-Nitrophenol	ND		9.7	3.2	ug/L		04/26/24 17:40	05/01/24 21:27	1
N-Nitrosodimethylamine	ND		9.7	2.1	ug/L		04/26/24 17:40	05/01/24 21:27	1

# Client Sample Results

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

Job ID: 400-254745-1

**Client Sample ID: MW4-ROX-041924-EB**

**Lab Sample ID: 400-254745-3**

**Date Collected: 04/19/24 08:30**

**Matrix: Water**

**Date Received: 04/22/24 09:30**

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.7	2.4	ug/L		04/26/24 17:40	05/01/24 21:27	1
N-Nitrosodiphenylamine	ND		9.7	3.6	ug/L		04/26/24 17:40	05/01/24 21:27	1
Pentachlorophenol	ND		19	12	ug/L		04/26/24 17:40	05/01/24 21:27	1
Phenol	ND		9.7	4.1	ug/L		04/26/24 17:40	05/01/24 21:27	1
Pyridine	ND	*_ *1	9.7	9.7	ug/L		04/26/24 17:40	05/01/24 21:27	1
Quinoline	ND	*1	9.7	2.3	ug/L		04/26/24 17:40	05/01/24 21:27	1
2,4,5-Trichlorophenol	ND		9.7	3.9	ug/L		04/26/24 17:40	05/01/24 21:27	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		04/26/24 17:40	05/01/24 21:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	88		21 - 114	04/26/24 17:40	05/01/24 21:27	1
2-Fluorophenol	69		10 - 105	04/26/24 17:40	05/01/24 21:27	1
Nitrobenzene-d5	84		16 - 127	04/26/24 17:40	05/01/24 21:27	1
Phenol-d5	55		10 - 129	04/26/24 17:40	05/01/24 21:27	1
Terphenyl-d14	103		13 - 150	04/26/24 17:40	05/01/24 21:27	1
2,4,6-Tribromophenol	93		10 - 150	04/26/24 17:40	05/01/24 21:27	1

**Method: EPA 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	0.018	ug/L		04/26/24 12:15	04/26/24 22:36	1
1,2-Dibromoethane	ND		0.021	0.016	ug/L		04/26/24 12:15	04/26/24 22:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		51 - 149	04/26/24 12:15	04/26/24 22:36	1

# Client Sample Results

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

Job ID: 400-254745-1

**Client Sample ID: MW4-ROX-041924**

**Lab Sample ID: 400-254745-4**

Date Collected: 04/19/24 10:15

Matrix: Water

Date Received: 04/22/24 09:30

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			05/02/24 12:42	1
Acrolein	ND		20	3.3	ug/L			05/02/24 12:42	1
Acrylonitrile	ND		10	2.8	ug/L			05/02/24 12:42	1
Benzene	ND		1.0	0.50	ug/L			05/02/24 12:42	1
Bromobenzene	ND		1.0	0.54	ug/L			05/02/24 12:42	1
Bromochloromethane	ND		1.0	0.21	ug/L			05/02/24 12:42	1
Bromodichloromethane	ND		1.0	0.50	ug/L			05/02/24 12:42	1
Bromoform	ND		5.0	0.25	ug/L			05/02/24 12:42	1
Bromomethane	ND	*+	1.0	0.98	ug/L			05/02/24 12:42	1
2-Butanone (MEK)	ND		25	2.6	ug/L			05/02/24 12:42	1
Carbon disulfide	ND		1.0	0.50	ug/L			05/02/24 12:42	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			05/02/24 12:42	1
Chlorobenzene	ND		1.0	0.90	ug/L			05/02/24 12:42	1
Chloroethane	ND	UJ	1.0	0.76	ug/L			05/02/24 12:42	1
2-Chloroethyl vinyl ether	ND	F1 UJ	5.0	2.0	ug/L			05/02/24 12:42	1
Chloroform	ND		1.0	0.90	ug/L			05/02/24 12:42	1
1-Chlorohexane	ND		1.0	0.32	ug/L			05/02/24 12:42	1
Chloromethane	ND	F1 UJ	1.0	0.90	ug/L			05/02/24 12:42	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			05/02/24 12:42	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			05/02/24 12:42	1
Dibromochloromethane	ND		1.0	0.24	ug/L			05/02/24 12:42	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			05/02/24 12:42	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			05/02/24 12:42	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			05/02/24 12:42	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			05/02/24 12:42	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			05/02/24 12:42	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			05/02/24 12:42	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			05/02/24 12:42	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			05/02/24 12:42	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			05/02/24 12:42	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			05/02/24 12:42	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			05/02/24 12:42	1
Ethylbenzene	ND		1.0	0.50	ug/L			05/02/24 12:42	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			05/02/24 12:42	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			05/02/24 12:42	1
2-Hexanone	ND		25	1.4	ug/L			05/02/24 12:42	1
Isopropylbenzene	ND		1.0	0.53	ug/L			05/02/24 12:42	1
Methylene bromide	ND		5.0	0.22	ug/L			05/02/24 12:42	1
Methylene Chloride	ND		5.0	3.0	ug/L			05/02/24 12:42	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			05/02/24 12:42	1
<b>Methyl tert-butyl ether</b>	<b>1.1</b>		1.0	0.22	ug/L			05/02/24 12:42	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			05/02/24 12:42	1
Naphthalene	ND		5.0	3.0	ug/L			05/02/24 12:42	1
n-Butylbenzene	ND		1.0	0.76	ug/L			05/02/24 12:42	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/02/24 12:42	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			05/02/24 12:42	1
o-Xylene	ND		5.0	0.60	ug/L			05/02/24 12:42	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			05/02/24 12:42	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			05/02/24 12:42	1



# Client Sample Results

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

Job ID: 400-254745-1

**Client Sample ID: MW4-ROX-041924**

**Lab Sample ID: 400-254745-4**

Date Collected: 04/19/24 10:15

Matrix: Water

Date Received: 04/22/24 09:30

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			05/02/24 12:42	1
Styrene	ND		1.0	1.0	ug/L			05/02/24 12:42	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			05/02/24 12:42	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			05/02/24 12:42	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			05/02/24 12:42	1
Tetrachloroethene	ND		1.0	0.90	ug/L			05/02/24 12:42	1
Toluene	ND		1.0	0.90	ug/L			05/02/24 12:42	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			05/02/24 12:42	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			05/02/24 12:42	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			05/02/24 12:42	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			05/02/24 12:42	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			05/02/24 12:42	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			05/02/24 12:42	1
Trichloroethene	ND		1.0	0.15	ug/L			05/02/24 12:42	1
Trichlorofluoromethane	ND	F1 UJ	1.0	0.52	ug/L			05/02/24 12:42	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			05/02/24 12:42	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			05/02/24 12:42	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			05/02/24 12:42	1
Vinyl acetate	ND		25	0.93	ug/L			05/02/24 12:42	1
Vinyl chloride	ND		1.0	0.50	ug/L			05/02/24 12:42	1
Xylenes, Total	ND		10	1.6	ug/L			05/02/24 12:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		72 - 130		05/02/24 12:42	1
Dibromofluoromethane	91		75 - 126		05/02/24 12:42	1
Toluene-d8 (Surr)	101		64 - 132		05/02/24 12:42	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.097	ug/L		04/26/24 17:40	05/02/24 21:21	1
Acenaphthylene	ND		0.20	0.043	ug/L		04/26/24 17:40	05/02/24 21:21	1
Anthracene	ND		0.20	0.046	ug/L		04/26/24 17:40	05/02/24 21:21	1
Benzo[a]anthracene	ND		0.20	0.033	ug/L		04/26/24 17:40	05/02/24 21:21	1
Benzo[a]pyrene	ND		0.20	0.063	ug/L		04/26/24 17:40	05/02/24 21:21	1
Benzo[b]fluoranthene	ND		0.20	0.036	ug/L		04/26/24 17:40	05/02/24 21:21	1
Benzo[g,h,i]perylene	ND		0.20	0.026	ug/L		04/26/24 17:40	05/02/24 21:21	1
Benzo[k]fluoranthene	ND		0.20	0.061	ug/L		04/26/24 17:40	05/02/24 21:21	1
Chrysene	ND	UJ	0.20	0.032	ug/L		04/26/24 17:40	05/02/24 21:21	1
Dibenz(a,h)anthracene	ND		0.20	0.047	ug/L		04/26/24 17:40	05/02/24 21:21	1
Fluoranthene	ND		0.20	0.033	ug/L		04/26/24 17:40	05/02/24 21:21	1
Fluorene	ND		0.20	0.087	ug/L		04/26/24 17:40	05/02/24 21:21	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.033	ug/L		04/26/24 17:40	05/02/24 21:21	1
Phenanthrene	ND		0.20	0.088	ug/L		04/26/24 17:40	05/02/24 21:21	1
Pyrene	ND	UJ	0.20	0.038	ug/L		04/26/24 17:40	05/02/24 21:21	1
1-Methylnaphthalene	0.33		0.20	0.078	ug/L		04/26/24 17:40	05/02/24 21:21	1
2-Methylnaphthalene	0.48	U	0.20	0.065	ug/L		04/26/24 17:40	05/02/24 21:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	100		18 - 147	04/26/24 17:40	05/02/24 21:21	1
2-Fluorobiphenyl	92		15 - 128	04/26/24 17:40	05/02/24 21:21	1

Eurofins Pensacola

# Client Sample Results

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

Job ID: 400-254745-1

**Client Sample ID: MW4-ROX-041924**

**Lab Sample ID: 400-254745-4**

Date Collected: 04/19/24 10:15

Matrix: Water

Date Received: 04/22/24 09:30

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	73		10 - 144	04/26/24 17:40	05/02/24 21:21	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*1	9.8	8.5	ug/L		04/26/24 17:40	05/01/24 21:51	1
Benzenethiol	ND		9.8	9.7	ug/L		04/26/24 17:40	05/01/24 21:51	1
Benzoic acid	ND		29	24	ug/L		04/26/24 17:40	05/01/24 21:51	1
Benzyl alcohol	ND		9.8	7.2	ug/L		04/26/24 17:40	05/01/24 21:51	1
Bis(2-chloroethoxy)methane	ND		9.8	4.5	ug/L		04/26/24 17:40	05/01/24 21:51	1
Bis(2-chloroethyl)ether	ND		9.8	3.8	ug/L		04/26/24 17:40	05/01/24 21:51	1
bis (2-chloroisopropyl) ether	ND		9.8	1.8	ug/L		04/26/24 17:40	05/01/24 21:51	1
Bis(2-ethylhexyl) phthalate	ND		9.8	8.7	ug/L		04/26/24 17:40	05/01/24 21:51	1
4-Bromophenyl phenyl ether	ND		9.8	8.4	ug/L		04/26/24 17:40	05/01/24 21:51	1
Butyl benzyl phthalate	ND		9.8	5.7	ug/L		04/26/24 17:40	05/01/24 21:51	1
4-Chloroaniline	ND		9.8	4.6	ug/L		04/26/24 17:40	05/01/24 21:51	1
4-Chloro-3-methylphenol	ND		9.8	5.2	ug/L		04/26/24 17:40	05/01/24 21:51	1
2-Chloronaphthalene	ND		9.8	3.7	ug/L		04/26/24 17:40	05/01/24 21:51	1
2-Chlorophenol	ND		9.8	4.0	ug/L		04/26/24 17:40	05/01/24 21:51	1
4-Chlorophenyl phenyl ether	ND		9.8	3.6	ug/L		04/26/24 17:40	05/01/24 21:51	1
Dibenz[a,h]acridine	ND		9.8	2.7	ug/L		04/26/24 17:40	05/01/24 21:51	1
Dibenzofuran	ND		9.8	3.9	ug/L		04/26/24 17:40	05/01/24 21:51	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/26/24 17:40	05/01/24 21:51	1
2,4-Dichlorophenol	ND		9.8	4.2	ug/L		04/26/24 17:40	05/01/24 21:51	1
Diethyl phthalate	ND		9.8	4.3	ug/L		04/26/24 17:40	05/01/24 21:51	1
2,4-Dimethylphenol	ND		9.8	5.1	ug/L		04/26/24 17:40	05/01/24 21:51	1
Dimethyl phthalate	ND		9.8	4.1	ug/L		04/26/24 17:40	05/01/24 21:51	1
Di-n-butyl phthalate	ND		9.8	4.5	ug/L		04/26/24 17:40	05/01/24 21:51	1
4,6-Dinitro-ortho-cresol	ND		9.8	9.8	ug/L		04/26/24 17:40	05/01/24 21:51	1
2,4-Dinitrophenol	ND		29	4.5	ug/L		04/26/24 17:40	05/01/24 21:51	1
2,4-Dinitrotoluene	ND		9.8	5.0	ug/L		04/26/24 17:40	05/01/24 21:51	1
2,6-Dinitrotoluene	ND		9.8	3.8	ug/L		04/26/24 17:40	05/01/24 21:51	1
Di-n-octyl phthalate	ND		9.8	5.9	ug/L		04/26/24 17:40	05/01/24 21:51	1
1,4-Dioxane	ND		9.8	4.2	ug/L		04/26/24 17:40	05/01/24 21:51	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	3.2	ug/L		04/26/24 17:40	05/01/24 21:51	1
Hexachlorobenzene	ND		9.8	9.5	ug/L		04/26/24 17:40	05/01/24 21:51	1
Hexachlorocyclopentadiene	ND	UJ	20	4.4	ug/L		04/26/24 17:40	05/01/24 21:51	1
Hexachloroethane	ND		9.8	5.1	ug/L		04/26/24 17:40	05/01/24 21:51	1
Indene	ND		9.8	3.5	ug/L		04/26/24 17:40	05/01/24 21:51	1
Isophorone	ND		9.8	5.1	ug/L		04/26/24 17:40	05/01/24 21:51	1
2-Methylphenol	ND		9.8	3.1	ug/L		04/26/24 17:40	05/01/24 21:51	1
3 & 4 Methylphenol	ND		20	4.5	ug/L		04/26/24 17:40	05/01/24 21:51	1
2-Nitroaniline	ND		9.8	4.9	ug/L		04/26/24 17:40	05/01/24 21:51	1
3-Nitroaniline	ND		9.8	4.6	ug/L		04/26/24 17:40	05/01/24 21:51	1
4-Nitroaniline	ND		9.8	4.0	ug/L		04/26/24 17:40	05/01/24 21:51	1
Nitrobenzene	ND		9.8	4.6	ug/L		04/26/24 17:40	05/01/24 21:51	1
2-Nitrophenol	ND		9.8	4.5	ug/L		04/26/24 17:40	05/01/24 21:51	1
4-Nitrophenol	ND		9.8	3.2	ug/L		04/26/24 17:40	05/01/24 21:51	1
N-Nitrosodimethylamine	ND		9.8	2.2	ug/L		04/26/24 17:40	05/01/24 21:51	1

# Client Sample Results

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

Job ID: 400-254745-1

**Client Sample ID: MW4-ROX-041924**

**Lab Sample ID: 400-254745-4**

**Date Collected: 04/19/24 10:15**

**Matrix: Water**

**Date Received: 04/22/24 09:30**

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.8	2.5	ug/L		04/26/24 17:40	05/01/24 21:51	1
N-Nitrosodiphenylamine	ND		9.8	3.6	ug/L		04/26/24 17:40	05/01/24 21:51	1
Pentachlorophenol	ND		20	12	ug/L		04/26/24 17:40	05/01/24 21:51	1
Phenol	ND		9.8	4.1	ug/L		04/26/24 17:40	05/01/24 21:51	1
Pyridine	ND	*- *1 UJ	9.8	9.8	ug/L		04/26/24 17:40	05/01/24 21:51	1
Quinoline	ND	*1	9.8	2.4	ug/L		04/26/24 17:40	05/01/24 21:51	1
2,4,5-Trichlorophenol	ND		9.8	3.9	ug/L		04/26/24 17:40	05/01/24 21:51	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		04/26/24 17:40	05/01/24 21:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	108		21 - 114	04/26/24 17:40	05/01/24 21:51	1
2-Fluorophenol	84		10 - 105	04/26/24 17:40	05/01/24 21:51	1
Nitrobenzene-d5	105		16 - 127	04/26/24 17:40	05/01/24 21:51	1
Phenol-d5	66		10 - 129	04/26/24 17:40	05/01/24 21:51	1
Terphenyl-d14	125		13 - 150	04/26/24 17:40	05/01/24 21:51	1
2,4,6-Tribromophenol	138		10 - 150	04/26/24 17:40	05/01/24 21:51	1

**Method: EPA 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	0.017	ug/L		04/26/24 12:15	04/26/24 22:57	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		04/26/24 12:15	04/26/24 22:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	115		51 - 149	04/26/24 12:15	04/26/24 22:57	1

# Client Sample Results

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

Job ID: 400-254745-1

**Client Sample ID: MW25-ROX-041924**

**Lab Sample ID: 400-254745-5**

Date Collected: 04/19/24 11:30

Matrix: Water

Date Received: 04/22/24 09:30

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acetone</b>	<b>14</b>	<b>J</b>	25	10	ug/L			05/02/24 14:22	1
Acrolein	ND		20	3.3	ug/L			05/02/24 14:22	1
Acrylonitrile	ND		10	2.8	ug/L			05/02/24 14:22	1
<b>Benzene</b>	<b>44</b>		1.0	0.50	ug/L			05/02/24 14:22	1
Bromobenzene	ND		1.0	0.54	ug/L			05/02/24 14:22	1
Bromochloromethane	ND		1.0	0.21	ug/L			05/02/24 14:22	1
Bromodichloromethane	ND		1.0	0.50	ug/L			05/02/24 14:22	1
Bromoform	ND		5.0	0.25	ug/L			05/02/24 14:22	1
Bromomethane	ND	*+	1.0	0.98	ug/L			05/02/24 14:22	1
2-Butanone (MEK)	ND		25	2.6	ug/L			05/02/24 14:22	1
Carbon disulfide	ND		1.0	0.50	ug/L			05/02/24 14:22	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			05/02/24 14:22	1
Chlorobenzene	ND		1.0	0.90	ug/L			05/02/24 14:22	1
Chloroethane	ND	UJ	1.0	0.76	ug/L			05/02/24 14:22	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			05/02/24 14:22	1
Chloroform	ND		1.0	0.90	ug/L			05/02/24 14:22	1
1-Chlorohexane	ND		1.0	0.32	ug/L			05/02/24 14:22	1
Chloromethane	ND	UJ	1.0	0.90	ug/L			05/02/24 14:22	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			05/02/24 14:22	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			05/02/24 14:22	1
Dibromochloromethane	ND		1.0	0.24	ug/L			05/02/24 14:22	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			05/02/24 14:22	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			05/02/24 14:22	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			05/02/24 14:22	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			05/02/24 14:22	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			05/02/24 14:22	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			05/02/24 14:22	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			05/02/24 14:22	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			05/02/24 14:22	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			05/02/24 14:22	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			05/02/24 14:22	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			05/02/24 14:22	1
Ethylbenzene	ND		1.0	0.50	ug/L			05/02/24 14:22	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			05/02/24 14:22	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			05/02/24 14:22	1
2-Hexanone	ND		25	1.4	ug/L			05/02/24 14:22	1
Isopropylbenzene	ND		1.0	0.53	ug/L			05/02/24 14:22	1
Methylene bromide	ND		5.0	0.22	ug/L			05/02/24 14:22	1
Methylene Chloride	ND		5.0	3.0	ug/L			05/02/24 14:22	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			05/02/24 14:22	1
<b>Methyl tert-butyl ether</b>	<b>0.89</b>	<b>J</b>	1.0	0.22	ug/L			05/02/24 14:22	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			05/02/24 14:22	1
Naphthalene	ND		5.0	3.0	ug/L			05/02/24 14:22	1
n-Butylbenzene	ND		1.0	0.76	ug/L			05/02/24 14:22	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/02/24 14:22	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			05/02/24 14:22	1
o-Xylene	ND		5.0	0.60	ug/L			05/02/24 14:22	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			05/02/24 14:22	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			05/02/24 14:22	1

# Client Sample Results

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

Job ID: 400-254745-1

**Client Sample ID: MW25-ROX-041924**

**Lab Sample ID: 400-254745-5**

Date Collected: 04/19/24 11:30

Matrix: Water

Date Received: 04/22/24 09:30

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			05/02/24 14:22	1
Styrene	ND		1.0	1.0	ug/L			05/02/24 14:22	1
<b>tert-Butylbenzene</b>	<b>0.93</b>	<b>J</b>	1.0	0.63	ug/L			05/02/24 14:22	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			05/02/24 14:22	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			05/02/24 14:22	1
Tetrachloroethene	ND		1.0	0.90	ug/L			05/02/24 14:22	1
Toluene	ND		1.0	0.90	ug/L			05/02/24 14:22	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			05/02/24 14:22	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			05/02/24 14:22	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			05/02/24 14:22	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			05/02/24 14:22	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			05/02/24 14:22	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			05/02/24 14:22	1
Trichloroethene	ND		1.0	0.15	ug/L			05/02/24 14:22	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			05/02/24 14:22	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			05/02/24 14:22	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			05/02/24 14:22	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			05/02/24 14:22	1
Vinyl acetate	ND		25	0.93	ug/L			05/02/24 14:22	1
Vinyl chloride	ND		1.0	0.50	ug/L			05/02/24 14:22	1
Xylenes, Total	ND		10	1.6	ug/L			05/02/24 14:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		72 - 130		05/02/24 14:22	1
Dibromofluoromethane	92		75 - 126		05/02/24 14:22	1
Toluene-d8 (Surr)	101		64 - 132		05/02/24 14:22	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.098	ug/L		04/26/24 17:40	05/02/24 21:41	1
Acenaphthylene	ND		0.20	0.044	ug/L		04/26/24 17:40	05/02/24 21:41	1
Anthracene	ND		0.20	0.047	ug/L		04/26/24 17:40	05/02/24 21:41	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		04/26/24 17:40	05/02/24 21:41	1
Benzo[a]pyrene	ND		0.20	0.063	ug/L		04/26/24 17:40	05/02/24 21:41	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		04/26/24 17:40	05/02/24 21:41	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		04/26/24 17:40	05/02/24 21:41	1
Benzo[k]fluoranthene	ND		0.20	0.061	ug/L		04/26/24 17:40	05/02/24 21:41	1
Chrysene	ND	UJ	0.20	0.033	ug/L		04/26/24 17:40	05/02/24 21:41	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		04/26/24 17:40	05/02/24 21:41	1
Fluoranthene	ND		0.20	0.034	ug/L		04/26/24 17:40	05/02/24 21:41	1
Fluorene	ND		0.20	0.088	ug/L		04/26/24 17:40	05/02/24 21:41	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		04/26/24 17:40	05/02/24 21:41	1
Phenanthrene	ND		0.20	0.089	ug/L		04/26/24 17:40	05/02/24 21:41	1
Pyrene	ND	UJ	0.20	0.039	ug/L		04/26/24 17:40	05/02/24 21:41	1
1-Methylnaphthalene	ND		0.20	0.079	ug/L		04/26/24 17:40	05/02/24 21:41	1
2-Methylnaphthalene	ND		0.20	0.065	ug/L		04/26/24 17:40	05/02/24 21:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	72		18 - 147	04/26/24 17:40	05/02/24 21:41	1
2-Fluorobiphenyl	66		15 - 128	04/26/24 17:40	05/02/24 21:41	1

Eurofins Pensacola

# Client Sample Results

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

Job ID: 400-254745-1

**Client Sample ID: MW25-ROX-041924**

**Lab Sample ID: 400-254745-5**

Date Collected: 04/19/24 11:30

Matrix: Water

Date Received: 04/22/24 09:30

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	51		10 - 144	04/26/24 17:40	05/02/24 21:41	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*1	9.9	8.6	ug/L		04/26/24 17:40	05/01/24 22:14	1
Benzenethiol	ND		9.9	9.8	ug/L		04/26/24 17:40	05/01/24 22:14	1
Benzoic acid	ND		30	24	ug/L		04/26/24 17:40	05/01/24 22:14	1
Benzyl alcohol	ND		9.9	7.2	ug/L		04/26/24 17:40	05/01/24 22:14	1
Bis(2-chloroethoxy)methane	ND		9.9	4.6	ug/L		04/26/24 17:40	05/01/24 22:14	1
Bis(2-chloroethyl)ether	ND		9.9	3.9	ug/L		04/26/24 17:40	05/01/24 22:14	1
bis (2-chloroisopropyl) ether	ND		9.9	1.8	ug/L		04/26/24 17:40	05/01/24 22:14	1
Bis(2-ethylhexyl) phthalate	ND		9.9	8.8	ug/L		04/26/24 17:40	05/01/24 22:14	1
4-Bromophenyl phenyl ether	ND		9.9	8.5	ug/L		04/26/24 17:40	05/01/24 22:14	1
Butyl benzyl phthalate	ND		9.9	5.7	ug/L		04/26/24 17:40	05/01/24 22:14	1
4-Chloroaniline	ND		9.9	4.7	ug/L		04/26/24 17:40	05/01/24 22:14	1
4-Chloro-3-methylphenol	ND		9.9	5.2	ug/L		04/26/24 17:40	05/01/24 22:14	1
2-Chloronaphthalene	ND		9.9	3.8	ug/L		04/26/24 17:40	05/01/24 22:14	1
2-Chlorophenol	ND		9.9	4.1	ug/L		04/26/24 17:40	05/01/24 22:14	1
4-Chlorophenyl phenyl ether	ND		9.9	3.7	ug/L		04/26/24 17:40	05/01/24 22:14	1
Dibenz[a,h]acridine	ND		9.9	2.8	ug/L		04/26/24 17:40	05/01/24 22:14	1
Dibenzofuran	ND		9.9	4.0	ug/L		04/26/24 17:40	05/01/24 22:14	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/26/24 17:40	05/01/24 22:14	1
2,4-Dichlorophenol	ND		9.9	4.3	ug/L		04/26/24 17:40	05/01/24 22:14	1
Diethyl phthalate	ND		9.9	4.4	ug/L		04/26/24 17:40	05/01/24 22:14	1
2,4-Dimethylphenol	ND		9.9	5.2	ug/L		04/26/24 17:40	05/01/24 22:14	1
Dimethyl phthalate	ND		9.9	4.2	ug/L		04/26/24 17:40	05/01/24 22:14	1
Di-n-butyl phthalate	ND		9.9	4.6	ug/L		04/26/24 17:40	05/01/24 22:14	1
4,6-Dinitro-ortho-cresol	ND		9.9	9.9	ug/L		04/26/24 17:40	05/01/24 22:14	1
2,4-Dinitrophenol	ND		30	4.6	ug/L		04/26/24 17:40	05/01/24 22:14	1
2,4-Dinitrotoluene	ND		9.9	5.1	ug/L		04/26/24 17:40	05/01/24 22:14	1
2,6-Dinitrotoluene	ND		9.9	3.9	ug/L		04/26/24 17:40	05/01/24 22:14	1
Di-n-octyl phthalate	ND		9.9	5.9	ug/L		04/26/24 17:40	05/01/24 22:14	1
1,4-Dioxane	ND		9.9	4.3	ug/L		04/26/24 17:40	05/01/24 22:14	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	3.3	ug/L		04/26/24 17:40	05/01/24 22:14	1
Hexachlorobenzene	ND		9.9	9.6	ug/L		04/26/24 17:40	05/01/24 22:14	1
Hexachlorocyclopentadiene	ND	UJ	20	4.5	ug/L		04/26/24 17:40	05/01/24 22:14	1
Hexachloroethane	ND		9.9	5.2	ug/L		04/26/24 17:40	05/01/24 22:14	1
Indene	ND		9.9	3.6	ug/L		04/26/24 17:40	05/01/24 22:14	1
Isophorone	ND		9.9	5.2	ug/L		04/26/24 17:40	05/01/24 22:14	1
2-Methylphenol	ND		9.9	3.2	ug/L		04/26/24 17:40	05/01/24 22:14	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		04/26/24 17:40	05/01/24 22:14	1
2-Nitroaniline	ND		9.9	5.0	ug/L		04/26/24 17:40	05/01/24 22:14	1
3-Nitroaniline	ND		9.9	4.7	ug/L		04/26/24 17:40	05/01/24 22:14	1
4-Nitroaniline	ND		9.9	4.1	ug/L		04/26/24 17:40	05/01/24 22:14	1
Nitrobenzene	ND		9.9	4.7	ug/L		04/26/24 17:40	05/01/24 22:14	1
2-Nitrophenol	ND		9.9	4.6	ug/L		04/26/24 17:40	05/01/24 22:14	1
4-Nitrophenol	ND		9.9	3.3	ug/L		04/26/24 17:40	05/01/24 22:14	1
N-Nitrosodimethylamine	ND		9.9	2.2	ug/L		04/26/24 17:40	05/01/24 22:14	1



# Client Sample Results

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

Job ID: 400-254745-1

**Client Sample ID: MW25-ROX-041924**

**Lab Sample ID: 400-254745-5**

Date Collected: 04/19/24 11:30

Matrix: Water

Date Received: 04/22/24 09:30

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.9	2.5	ug/L		04/26/24 17:40	05/01/24 22:14	1
N-Nitrosodiphenylamine	ND		9.9	3.7	ug/L		04/26/24 17:40	05/01/24 22:14	1
Pentachlorophenol	ND		20	12	ug/L		04/26/24 17:40	05/01/24 22:14	1
Phenol	ND		9.9	4.2	ug/L		04/26/24 17:40	05/01/24 22:14	1
Pyridine	ND	*- *1 UJ	9.9	9.9	ug/L		04/26/24 17:40	05/01/24 22:14	1
Quinoline	ND	*1	9.9	2.4	ug/L		04/26/24 17:40	05/01/24 22:14	1
2,4,5-Trichlorophenol	ND		9.9	4.0	ug/L		04/26/24 17:40	05/01/24 22:14	1
2,4,6-Trichlorophenol	ND		9.9	3.5	ug/L		04/26/24 17:40	05/01/24 22:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	70		21 - 114	04/26/24 17:40	05/01/24 22:14	1
2-Fluorophenol	57		10 - 105	04/26/24 17:40	05/01/24 22:14	1
Nitrobenzene-d5	70		16 - 127	04/26/24 17:40	05/01/24 22:14	1
Phenol-d5	43		10 - 129	04/26/24 17:40	05/01/24 22:14	1
Terphenyl-d14	80		13 - 150	04/26/24 17:40	05/01/24 22:14	1
2,4,6-Tribromophenol	84		10 - 150	04/26/24 17:40	05/01/24 22:14	1

**Method: EPA 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	0.018	ug/L		04/26/24 12:15	04/26/24 23:18	1
1,2-Dibromoethane	ND		0.021	0.015	ug/L		04/26/24 12:15	04/26/24 23:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	106		51 - 149	04/26/24 12:15	04/26/24 23:18	1

# Client Sample Results

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

Job ID: 400-254745-1

**Client Sample ID: MW7-ROX-041924**

**Lab Sample ID: 400-254745-6**

Date Collected: 04/19/24 12:55

Matrix: Water

Date Received: 04/22/24 09:30

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25000	10000	ug/L			05/02/24 20:38	1000
Acrolein	ND		20000	3300	ug/L			05/02/24 20:38	1000
Acrylonitrile	ND		10000	2800	ug/L			05/02/24 20:38	1000
<b>Benzene</b>	<b>190000</b>		1000	500	ug/L			05/02/24 20:38	1000
Bromobenzene	ND		1000	540	ug/L			05/02/24 20:38	1000
Bromochloromethane	ND		1000	210	ug/L			05/02/24 20:38	1000
Bromodichloromethane	ND		1000	500	ug/L			05/02/24 20:38	1000
Bromoform	ND		5000	250	ug/L			05/02/24 20:38	1000
Bromomethane	ND	*+	1000	980	ug/L			05/02/24 20:38	1000
2-Butanone (MEK)	ND		25000	2600	ug/L			05/02/24 20:38	1000
Carbon disulfide	ND		1000	500	ug/L			05/02/24 20:38	1000
Carbon tetrachloride	ND		1000	190	ug/L			05/02/24 20:38	1000
Chlorobenzene	ND		1000	900	ug/L			05/02/24 20:38	1000
Chloroethane	ND	UJ	1000	760	ug/L			05/02/24 20:38	1000
2-Chloroethyl vinyl ether	ND		5000	2000	ug/L			05/02/24 20:38	1000
Chloroform	ND		1000	900	ug/L			05/02/24 20:38	1000
1-Chlorohexane	ND		1000	320	ug/L			05/02/24 20:38	1000
Chloromethane	ND	UJ	1000	900	ug/L			05/02/24 20:38	1000
cis-1,2-Dichloroethene	ND		1000	200	ug/L			05/02/24 20:38	1000
cis-1,3-Dichloropropene	ND		5000	500	ug/L			05/02/24 20:38	1000
Dibromochloromethane	ND		1000	240	ug/L			05/02/24 20:38	1000
1,2-Dichlorobenzene	ND		1000	500	ug/L			05/02/24 20:38	1000
1,3-Dichlorobenzene	ND		1000	540	ug/L			05/02/24 20:38	1000
1,4-Dichlorobenzene	ND		1000	640	ug/L			05/02/24 20:38	1000
Dichlorodifluoromethane	ND		1000	850	ug/L			05/02/24 20:38	1000
1,1-Dichloroethane	ND		1000	500	ug/L			05/02/24 20:38	1000
1,2-Dichloroethane	ND		1000	190	ug/L			05/02/24 20:38	1000
1,1-Dichloroethene	ND		1000	500	ug/L			05/02/24 20:38	1000
1,2-Dichloropropane	ND		1000	500	ug/L			05/02/24 20:38	1000
1,3-Dichloropropane	ND		1000	500	ug/L			05/02/24 20:38	1000
2,2-Dichloropropane	ND		1000	500	ug/L			05/02/24 20:38	1000
1,1-Dichloropropene	ND		1000	500	ug/L			05/02/24 20:38	1000
Ethylbenzene	ND		1000	500	ug/L			05/02/24 20:38	1000
Ethyl methacrylate	ND		1000	600	ug/L			05/02/24 20:38	1000
Hexachlorobutadiene	ND		5000	900	ug/L			05/02/24 20:38	1000
2-Hexanone	ND		25000	1400	ug/L			05/02/24 20:38	1000
Isopropylbenzene	ND		1000	530	ug/L			05/02/24 20:38	1000
Methylene bromide	ND		5000	220	ug/L			05/02/24 20:38	1000
Methylene Chloride	ND		5000	3000	ug/L			05/02/24 20:38	1000
4-Methyl-2-pentanone (MIBK)	ND		25000	1800	ug/L			05/02/24 20:38	1000
Methyl tert-butyl ether	ND		1000	220	ug/L			05/02/24 20:38	1000
m-Xylene & p-Xylene	ND		5000	630	ug/L			05/02/24 20:38	1000
Naphthalene	ND		5000	3000	ug/L			05/02/24 20:38	1000
n-Butylbenzene	ND		1000	760	ug/L			05/02/24 20:38	1000
N-Propylbenzene	ND		1000	690	ug/L			05/02/24 20:38	1000
o-Chlorotoluene	ND		1000	570	ug/L			05/02/24 20:38	1000
o-Xylene	ND		5000	600	ug/L			05/02/24 20:38	1000
p-Chlorotoluene	ND		1000	560	ug/L			05/02/24 20:38	1000
p-Isopropyltoluene	ND		1000	710	ug/L			05/02/24 20:38	1000

# Client Sample Results

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

Job ID: 400-254745-1

**Client Sample ID: MW7-ROX-041924**

**Lab Sample ID: 400-254745-6**

Date Collected: 04/19/24 12:55

Matrix: Water

Date Received: 04/22/24 09:30

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1000	700	ug/L			05/02/24 20:38	1000
Styrene	ND		1000	1000	ug/L			05/02/24 20:38	1000
tert-Butylbenzene	ND		1000	630	ug/L			05/02/24 20:38	1000
1,1,1,2-Tetrachloroethane	ND		1000	160	ug/L			05/02/24 20:38	1000
1,1,2,2-Tetrachloroethane	ND		1000	500	ug/L			05/02/24 20:38	1000
Tetrachloroethene	ND		1000	900	ug/L			05/02/24 20:38	1000
Toluene	ND		1000	900	ug/L			05/02/24 20:38	1000
trans-1,2-Dichloroethene	ND		1000	500	ug/L			05/02/24 20:38	1000
trans-1,3-Dichloropropene	ND		5000	200	ug/L			05/02/24 20:38	1000
1,2,3-Trichlorobenzene	ND		1000	900	ug/L			05/02/24 20:38	1000
1,2,4-Trichlorobenzene	ND		1000	820	ug/L			05/02/24 20:38	1000
1,1,1-Trichloroethane	ND		1000	180	ug/L			05/02/24 20:38	1000
1,1,2-Trichloroethane	ND		5000	210	ug/L			05/02/24 20:38	1000
Trichloroethene	ND		1000	150	ug/L			05/02/24 20:38	1000
Trichlorofluoromethane	ND		1000	520	ug/L			05/02/24 20:38	1000
1,2,3-Trichloropropane	ND		5000	840	ug/L			05/02/24 20:38	1000
1,2,4-Trimethylbenzene	ND		1000	820	ug/L			05/02/24 20:38	1000
1,3,5-Trimethylbenzene	ND		1000	560	ug/L			05/02/24 20:38	1000
Vinyl acetate	ND		25000	930	ug/L			05/02/24 20:38	1000
Vinyl chloride	ND		1000	500	ug/L			05/02/24 20:38	1000
Xylenes, Total	ND		10000	1600	ug/L			05/02/24 20:38	1000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	100		72 - 130		05/02/24 20:38	1000
Dibromofluoromethane	96		75 - 126		05/02/24 20:38	1000
Toluene-d8 (Surr)	102		64 - 132		05/02/24 20:38	1000

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acenaphthene</b>	<b>0.25</b>		0.20	0.098	ug/L		04/26/24 17:40	05/02/24 22:02	1
Acenaphthylene	ND		0.20	0.043	ug/L		04/26/24 17:40	05/02/24 22:02	1
Anthracene	ND		0.20	0.046	ug/L		04/26/24 17:40	05/02/24 22:02	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		04/26/24 17:40	05/02/24 22:02	1
Benzo[a]pyrene	ND		0.20	0.063	ug/L		04/26/24 17:40	05/02/24 22:02	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		04/26/24 17:40	05/02/24 22:02	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		04/26/24 17:40	05/02/24 22:02	1
Benzo[k]fluoranthene	ND		0.20	0.061	ug/L		04/26/24 17:40	05/02/24 22:02	1
Chrysene	ND		0.20	0.033	ug/L		04/26/24 17:40	05/03/24 14:29	1
Dibenz(a,h)anthracene	ND		0.20	0.047	ug/L		04/26/24 17:40	05/02/24 22:02	1
Fluoranthene	ND		0.20	0.034	ug/L		04/26/24 17:40	05/02/24 22:02	1
<b>Fluorene</b>	<b>0.24</b>		0.20	0.088	ug/L		04/26/24 17:40	05/02/24 22:02	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		04/26/24 17:40	05/02/24 22:02	1
<b>Phenanthrene</b>	<b>0.51</b>		0.20	0.089	ug/L		04/26/24 17:40	05/02/24 22:02	1
Pyrene	ND	UJ	0.20	0.038	ug/L		04/26/24 17:40	05/02/24 22:02	1
<b>1-Methylnaphthalene</b>	<b>2.1</b>		0.20	0.079	ug/L		04/26/24 17:40	05/02/24 22:02	1
<b>2-Methylnaphthalene</b>	<b>1.9</b>		0.20	0.065	ug/L		04/26/24 17:40	05/02/24 22:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	82		18 - 147	04/26/24 17:40	05/02/24 22:02	1
2-Fluorobiphenyl	72		15 - 128	04/26/24 17:40	05/02/24 22:02	1

Eurofins Pensacola

# Client Sample Results

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

Job ID: 400-254745-1

**Client Sample ID: MW7-ROX-041924**

**Lab Sample ID: 400-254745-6**

Date Collected: 04/19/24 12:55

Matrix: Water

Date Received: 04/22/24 09:30

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	53		10 - 144	04/26/24 17:40	05/02/24 22:02	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*1	9.9	8.6	ug/L		04/26/24 17:40	05/01/24 22:38	1
Benzenethiol	ND		9.9	9.8	ug/L		04/26/24 17:40	05/01/24 22:38	1
Benzoic acid	ND		30	24	ug/L		04/26/24 17:40	05/01/24 22:38	1
Benzyl alcohol	ND		9.9	7.2	ug/L		04/26/24 17:40	05/01/24 22:38	1
Bis(2-chloroethoxy)methane	ND		9.9	4.5	ug/L		04/26/24 17:40	05/01/24 22:38	1
Bis(2-chloroethyl)ether	ND		9.9	3.8	ug/L		04/26/24 17:40	05/01/24 22:38	1
bis (2-chloroisopropyl) ether	ND		9.9	1.8	ug/L		04/26/24 17:40	05/01/24 22:38	1
Bis(2-ethylhexyl) phthalate	ND		9.9	8.8	ug/L		04/26/24 17:40	05/01/24 22:38	1
4-Bromophenyl phenyl ether	ND		9.9	8.5	ug/L		04/26/24 17:40	05/01/24 22:38	1
Butyl benzyl phthalate	ND		9.9	5.7	ug/L		04/26/24 17:40	05/01/24 22:38	1
4-Chloroaniline	ND		9.9	4.6	ug/L		04/26/24 17:40	05/01/24 22:38	1
4-Chloro-3-methylphenol	ND		9.9	5.2	ug/L		04/26/24 17:40	05/01/24 22:38	1
2-Chloronaphthalene	ND		9.9	3.7	ug/L		04/26/24 17:40	05/01/24 22:38	1
2-Chlorophenol	ND		9.9	4.0	ug/L		04/26/24 17:40	05/01/24 22:38	1
4-Chlorophenyl phenyl ether	ND		9.9	3.7	ug/L		04/26/24 17:40	05/01/24 22:38	1
Dibenz[a,h]acridine	ND		9.9	2.8	ug/L		04/26/24 17:40	05/01/24 22:38	1
Dibenzofuran	ND		9.9	3.9	ug/L		04/26/24 17:40	05/01/24 22:38	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/26/24 17:40	05/01/24 22:38	1
2,4-Dichlorophenol	ND		9.9	4.2	ug/L		04/26/24 17:40	05/01/24 22:38	1
Diethyl phthalate	ND		9.9	4.3	ug/L		04/26/24 17:40	05/01/24 22:38	1
2,4-Dimethylphenol	ND		9.9	5.1	ug/L		04/26/24 17:40	05/01/24 22:38	1
Dimethyl phthalate	ND		9.9	4.1	ug/L		04/26/24 17:40	05/01/24 22:38	1
Di-n-butyl phthalate	ND		9.9	4.5	ug/L		04/26/24 17:40	05/01/24 22:38	1
4,6-Dinitro-ortho-cresol	ND		9.9	9.9	ug/L		04/26/24 17:40	05/01/24 22:38	1
2,4-Dinitrophenol	ND		30	4.5	ug/L		04/26/24 17:40	05/01/24 22:38	1
2,4-Dinitrotoluene	ND		9.9	5.0	ug/L		04/26/24 17:40	05/01/24 22:38	1
2,6-Dinitrotoluene	ND		9.9	3.8	ug/L		04/26/24 17:40	05/01/24 22:38	1
Di-n-octyl phthalate	ND		9.9	5.9	ug/L		04/26/24 17:40	05/01/24 22:38	1
1,4-Dioxane	ND		9.9	4.2	ug/L		04/26/24 17:40	05/01/24 22:38	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	3.3	ug/L		04/26/24 17:40	05/01/24 22:38	1
Hexachlorobenzene	ND		9.9	9.6	ug/L		04/26/24 17:40	05/01/24 22:38	1
Hexachlorocyclopentadiene	ND	UJ	20	4.4	ug/L		04/26/24 17:40	05/01/24 22:38	1
Hexachloroethane	ND		9.9	5.1	ug/L		04/26/24 17:40	05/01/24 22:38	1
Indene	ND		9.9	3.6	ug/L		04/26/24 17:40	05/01/24 22:38	1
Isophorone	ND		9.9	5.1	ug/L		04/26/24 17:40	05/01/24 22:38	1
2-Methylphenol	ND		9.9	3.2	ug/L		04/26/24 17:40	05/01/24 22:38	1
3 & 4 Methylphenol	ND		20	4.5	ug/L		04/26/24 17:40	05/01/24 22:38	1
2-Nitroaniline	ND		9.9	4.9	ug/L		04/26/24 17:40	05/01/24 22:38	1
3-Nitroaniline	ND		9.9	4.6	ug/L		04/26/24 17:40	05/01/24 22:38	1
4-Nitroaniline	ND		9.9	4.0	ug/L		04/26/24 17:40	05/01/24 22:38	1
Nitrobenzene	ND		9.9	4.6	ug/L		04/26/24 17:40	05/01/24 22:38	1
2-Nitrophenol	ND		9.9	4.5	ug/L		04/26/24 17:40	05/01/24 22:38	1
4-Nitrophenol	ND		9.9	3.3	ug/L		04/26/24 17:40	05/01/24 22:38	1
N-Nitrosodimethylamine	ND		9.9	2.2	ug/L		04/26/24 17:40	05/01/24 22:38	1

# Client Sample Results

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

Job ID: 400-254745-1

**Client Sample ID: MW7-ROX-041924**

**Lab Sample ID: 400-254745-6**

Date Collected: 04/19/24 12:55

Matrix: Water

Date Received: 04/22/24 09:30

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.9	2.5	ug/L		04/26/24 17:40	05/01/24 22:38	1
N-Nitrosodiphenylamine	ND		9.9	3.7	ug/L		04/26/24 17:40	05/01/24 22:38	1
Pentachlorophenol	ND		20	12	ug/L		04/26/24 17:40	05/01/24 22:38	1
<b>Phenol</b>	<b>45</b>		9.9	4.1	ug/L		04/26/24 17:40	05/01/24 22:38	1
Pyridine	ND	*- *1 UJ	9.9	9.9	ug/L		04/26/24 17:40	05/01/24 22:38	1
Quinoline	ND	*1	9.9	2.4	ug/L		04/26/24 17:40	05/01/24 22:38	1
2,4,5-Trichlorophenol	ND		9.9	3.9	ug/L		04/26/24 17:40	05/01/24 22:38	1
2,4,6-Trichlorophenol	ND		9.9	3.5	ug/L		04/26/24 17:40	05/01/24 22:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	78		21 - 114	04/26/24 17:40	05/01/24 22:38	1
2-Fluorophenol	58		10 - 105	04/26/24 17:40	05/01/24 22:38	1
Nitrobenzene-d5	72		16 - 127	04/26/24 17:40	05/01/24 22:38	1
Phenol-d5	46		10 - 129	04/26/24 17:40	05/01/24 22:38	1
Terphenyl-d14	90		13 - 150	04/26/24 17:40	05/01/24 22:38	1
2,4,6-Tribromophenol	96		10 - 150	04/26/24 17:40	05/01/24 22:38	1

**Method: EPA 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	0.017	ug/L		04/26/24 12:15	04/26/24 23:39	1
1,2-Dibromoethane	ND		0.021	0.015	ug/L		04/26/24 12:15	04/26/24 23:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	113		51 - 149	04/26/24 12:15	04/26/24 23:39	1

# Client Sample Results

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

Job ID: 400-254745-1

**Client Sample ID: MW7-ROX-041924-DUP**

**Lab Sample ID: 400-254745-7**

Date Collected: 04/19/24 12:55

Matrix: Water

Date Received: 04/22/24 09:30

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25000	10000	ug/L			05/02/24 21:03	1000
Acrolein	ND		20000	3300	ug/L			05/02/24 21:03	1000
Acrylonitrile	ND		10000	2800	ug/L			05/02/24 21:03	1000
<b>Benzene</b>	<b>220000</b>		1000	500	ug/L			05/02/24 21:03	1000
Bromobenzene	ND		1000	540	ug/L			05/02/24 21:03	1000
Bromochloromethane	ND		1000	210	ug/L			05/02/24 21:03	1000
Bromodichloromethane	ND		1000	500	ug/L			05/02/24 21:03	1000
Bromoform	ND		5000	250	ug/L			05/02/24 21:03	1000
Bromomethane	ND	*+	1000	980	ug/L			05/02/24 21:03	1000
2-Butanone (MEK)	ND		25000	2600	ug/L			05/02/24 21:03	1000
Carbon disulfide	ND		1000	500	ug/L			05/02/24 21:03	1000
Carbon tetrachloride	ND		1000	190	ug/L			05/02/24 21:03	1000
Chlorobenzene	ND		1000	900	ug/L			05/02/24 21:03	1000
Chloroethane	ND	UJ	1000	760	ug/L			05/02/24 21:03	1000
2-Chloroethyl vinyl ether	ND		5000	2000	ug/L			05/02/24 21:03	1000
Chloroform	ND		1000	900	ug/L			05/02/24 21:03	1000
1-Chlorohexane	ND		1000	320	ug/L			05/02/24 21:03	1000
Chloromethane	ND	UJ	1000	900	ug/L			05/02/24 21:03	1000
cis-1,2-Dichloroethene	ND		1000	200	ug/L			05/02/24 21:03	1000
cis-1,3-Dichloropropene	ND		5000	500	ug/L			05/02/24 21:03	1000
Dibromochloromethane	ND		1000	240	ug/L			05/02/24 21:03	1000
1,2-Dichlorobenzene	ND		1000	500	ug/L			05/02/24 21:03	1000
1,3-Dichlorobenzene	ND		1000	540	ug/L			05/02/24 21:03	1000
1,4-Dichlorobenzene	ND		1000	640	ug/L			05/02/24 21:03	1000
Dichlorodifluoromethane	ND		1000	850	ug/L			05/02/24 21:03	1000
1,1-Dichloroethane	ND		1000	500	ug/L			05/02/24 21:03	1000
1,2-Dichloroethane	ND		1000	190	ug/L			05/02/24 21:03	1000
1,1-Dichloroethene	ND		1000	500	ug/L			05/02/24 21:03	1000
1,2-Dichloropropane	ND		1000	500	ug/L			05/02/24 21:03	1000
1,3-Dichloropropane	ND		1000	500	ug/L			05/02/24 21:03	1000
2,2-Dichloropropane	ND		1000	500	ug/L			05/02/24 21:03	1000
1,1-Dichloropropene	ND		1000	500	ug/L			05/02/24 21:03	1000
Ethylbenzene	ND		1000	500	ug/L			05/02/24 21:03	1000
Ethyl methacrylate	ND		1000	600	ug/L			05/02/24 21:03	1000
Hexachlorobutadiene	ND		5000	900	ug/L			05/02/24 21:03	1000
2-Hexanone	ND		25000	1400	ug/L			05/02/24 21:03	1000
Isopropylbenzene	ND		1000	530	ug/L			05/02/24 21:03	1000
Methylene bromide	ND		5000	220	ug/L			05/02/24 21:03	1000
Methylene Chloride	ND		5000	3000	ug/L			05/02/24 21:03	1000
4-Methyl-2-pentanone (MIBK)	ND		25000	1800	ug/L			05/02/24 21:03	1000
Methyl tert-butyl ether	ND		1000	220	ug/L			05/02/24 21:03	1000
m-Xylene & p-Xylene	ND		5000	630	ug/L			05/02/24 21:03	1000
Naphthalene	ND		5000	3000	ug/L			05/02/24 21:03	1000
n-Butylbenzene	ND		1000	760	ug/L			05/02/24 21:03	1000
N-Propylbenzene	ND		1000	690	ug/L			05/02/24 21:03	1000
o-Chlorotoluene	ND		1000	570	ug/L			05/02/24 21:03	1000
o-Xylene	ND		5000	600	ug/L			05/02/24 21:03	1000
p-Chlorotoluene	ND		1000	560	ug/L			05/02/24 21:03	1000
p-Isopropyltoluene	ND		1000	710	ug/L			05/02/24 21:03	1000



# Client Sample Results

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

Job ID: 400-254745-1

**Client Sample ID: MW7-ROX-041924-DUP**

**Lab Sample ID: 400-254745-7**

Date Collected: 04/19/24 12:55

Matrix: Water

Date Received: 04/22/24 09:30

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1000	700	ug/L			05/02/24 21:03	1000
Styrene	ND		1000	1000	ug/L			05/02/24 21:03	1000
tert-Butylbenzene	ND		1000	630	ug/L			05/02/24 21:03	1000
1,1,1,2-Tetrachloroethane	ND		1000	160	ug/L			05/02/24 21:03	1000
1,1,2,2-Tetrachloroethane	ND		1000	500	ug/L			05/02/24 21:03	1000
Tetrachloroethene	ND		1000	900	ug/L			05/02/24 21:03	1000
Toluene	ND		1000	900	ug/L			05/02/24 21:03	1000
trans-1,2-Dichloroethene	ND		1000	500	ug/L			05/02/24 21:03	1000
trans-1,3-Dichloropropene	ND		5000	200	ug/L			05/02/24 21:03	1000
1,2,3-Trichlorobenzene	ND		1000	900	ug/L			05/02/24 21:03	1000
1,2,4-Trichlorobenzene	ND		1000	820	ug/L			05/02/24 21:03	1000
1,1,1-Trichloroethane	ND		1000	180	ug/L			05/02/24 21:03	1000
1,1,2-Trichloroethane	ND		5000	210	ug/L			05/02/24 21:03	1000
Trichloroethene	ND		1000	150	ug/L			05/02/24 21:03	1000
Trichlorofluoromethane	ND		1000	520	ug/L			05/02/24 21:03	1000
1,2,3-Trichloropropane	ND		5000	840	ug/L			05/02/24 21:03	1000
1,2,4-Trimethylbenzene	ND		1000	820	ug/L			05/02/24 21:03	1000
1,3,5-Trimethylbenzene	ND		1000	560	ug/L			05/02/24 21:03	1000
Vinyl acetate	ND		25000	930	ug/L			05/02/24 21:03	1000
Vinyl chloride	ND		1000	500	ug/L			05/02/24 21:03	1000
Xylenes, Total	ND		10000	1600	ug/L			05/02/24 21:03	1000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	100		72 - 130		05/02/24 21:03	1000
Dibromofluoromethane	97		75 - 126		05/02/24 21:03	1000
Toluene-d8 (Surr)	100		64 - 132		05/02/24 21:03	1000

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acenaphthene</b>	<b>0.34</b>		0.19	0.096	ug/L		04/26/24 17:40	05/02/24 22:22	1
Acenaphthylene	ND		0.19	0.043	ug/L		04/26/24 17:40	05/02/24 22:22	1
<b>Anthracene</b>	<b>0.047</b>	<b>J</b>	0.19	0.046	ug/L		04/26/24 17:40	05/02/24 22:22	1
Benzo[a]anthracene	ND		0.19	0.033	ug/L		04/26/24 17:40	05/02/24 22:22	1
Benzo[a]pyrene	ND		0.19	0.062	ug/L		04/26/24 17:40	05/02/24 22:22	1
Benzo[b]fluoranthene	ND		0.19	0.036	ug/L		04/26/24 17:40	05/02/24 22:22	1
Benzo[g,h,i]perylene	ND		0.19	0.026	ug/L		04/26/24 17:40	05/02/24 22:22	1
Benzo[k]fluoranthene	ND		0.19	0.060	ug/L		04/26/24 17:40	05/02/24 22:22	1
Chrysene	ND	<b>UJ</b>	0.19	0.032	ug/L		04/26/24 17:40	05/02/24 22:22	1
Dibenz(a,h)anthracene	ND		0.19	0.047	ug/L		04/26/24 17:40	05/02/24 22:22	1
<b>Fluoranthene</b>	<b>0.033</b>	<b>J</b>	0.19	0.033	ug/L		04/26/24 17:40	05/02/24 22:22	1
<b>Fluorene</b>	<b>0.26</b>		0.19	0.087	ug/L		04/26/24 17:40	05/02/24 22:22	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.033	ug/L		04/26/24 17:40	05/02/24 22:22	1
<b>Phenanthrene</b>	<b>0.58</b>		0.19	0.088	ug/L		04/26/24 17:40	05/02/24 22:22	1
<b>Pyrene</b>	<b>0.094</b>	<b>J</b>	0.19	0.038	ug/L		04/26/24 17:40	05/03/24 14:49	1
<b>1-Methylnaphthalene</b>	<b>2.0</b>		0.19	0.078	ug/L		04/26/24 17:40	05/02/24 22:22	1
<b>2-Methylnaphthalene</b>	<b>2.0</b>		0.19	0.064	ug/L		04/26/24 17:40	05/02/24 22:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	85		18 - 147	04/26/24 17:40	05/02/24 22:22	1
2-Fluorobiphenyl	72		15 - 128	04/26/24 17:40	05/02/24 22:22	1

Eurofins Pensacola

# Client Sample Results

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

Job ID: 400-254745-1

**Client Sample ID: MW7-ROX-041924-DUP**

**Lab Sample ID: 400-254745-7**

Date Collected: 04/19/24 12:55

Matrix: Water

Date Received: 04/22/24 09:30

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	48		10 - 144	04/26/24 17:40	05/02/24 22:22	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*1	9.7	8.5	ug/L		04/26/24 17:40	05/01/24 23:02	1
Benzenethiol	ND		9.7	9.6	ug/L		04/26/24 17:40	05/01/24 23:02	1
Benzoic acid	ND		29	23	ug/L		04/26/24 17:40	05/01/24 23:02	1
Benzyl alcohol	ND		9.7	7.1	ug/L		04/26/24 17:40	05/01/24 23:02	1
Bis(2-chloroethoxy)methane	ND		9.7	4.5	ug/L		04/26/24 17:40	05/01/24 23:02	1
Bis(2-chloroethyl)ether	ND		9.7	3.8	ug/L		04/26/24 17:40	05/01/24 23:02	1
bis (2-chloroisopropyl) ether	ND		9.7	1.8	ug/L		04/26/24 17:40	05/01/24 23:02	1
Bis(2-ethylhexyl) phthalate	ND		9.7	8.7	ug/L		04/26/24 17:40	05/01/24 23:02	1
4-Bromophenyl phenyl ether	ND		9.7	8.4	ug/L		04/26/24 17:40	05/01/24 23:02	1
Butyl benzyl phthalate	ND		9.7	5.6	ug/L		04/26/24 17:40	05/01/24 23:02	1
4-Chloroaniline	ND		9.7	4.6	ug/L		04/26/24 17:40	05/01/24 23:02	1
4-Chloro-3-methylphenol	ND		9.7	5.2	ug/L		04/26/24 17:40	05/01/24 23:02	1
2-Chloronaphthalene	ND		9.7	3.7	ug/L		04/26/24 17:40	05/01/24 23:02	1
2-Chlorophenol	ND		9.7	4.0	ug/L		04/26/24 17:40	05/01/24 23:02	1
4-Chlorophenyl phenyl ether	ND		9.7	3.6	ug/L		04/26/24 17:40	05/01/24 23:02	1
Dibenz[a,h]acridine	ND		9.7	2.7	ug/L		04/26/24 17:40	05/01/24 23:02	1
Dibenzofuran	ND		9.7	3.9	ug/L		04/26/24 17:40	05/01/24 23:02	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/26/24 17:40	05/01/24 23:02	1
2,4-Dichlorophenol	ND		9.7	4.2	ug/L		04/26/24 17:40	05/01/24 23:02	1
Diethyl phthalate	ND		9.7	4.3	ug/L		04/26/24 17:40	05/01/24 23:02	1
2,4-Dimethylphenol	ND		9.7	5.1	ug/L		04/26/24 17:40	05/01/24 23:02	1
Dimethyl phthalate	ND		9.7	4.1	ug/L		04/26/24 17:40	05/01/24 23:02	1
Di-n-butyl phthalate	ND		9.7	4.5	ug/L		04/26/24 17:40	05/01/24 23:02	1
4,6-Dinitro-ortho-cresol	ND		9.7	9.7	ug/L		04/26/24 17:40	05/01/24 23:02	1
2,4-Dinitrophenol	ND		29	4.5	ug/L		04/26/24 17:40	05/01/24 23:02	1
2,4-Dinitrotoluene	ND		9.7	5.0	ug/L		04/26/24 17:40	05/01/24 23:02	1
2,6-Dinitrotoluene	ND		9.7	3.8	ug/L		04/26/24 17:40	05/01/24 23:02	1
Di-n-octyl phthalate	ND		9.7	5.8	ug/L		04/26/24 17:40	05/01/24 23:02	1
1,4-Dioxane	ND		9.7	4.2	ug/L		04/26/24 17:40	05/01/24 23:02	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	3.2	ug/L		04/26/24 17:40	05/01/24 23:02	1
Hexachlorobenzene	ND		9.7	9.4	ug/L		04/26/24 17:40	05/01/24 23:02	1
Hexachlorocyclopentadiene	ND	UJ	19	4.4	ug/L		04/26/24 17:40	05/01/24 23:02	1
Hexachloroethane	ND		9.7	5.1	ug/L		04/26/24 17:40	05/01/24 23:02	1
Indene	ND		9.7	3.5	ug/L		04/26/24 17:40	05/01/24 23:02	1
Isophorone	ND		9.7	5.1	ug/L		04/26/24 17:40	05/01/24 23:02	1
2-Methylphenol	ND		9.7	3.1	ug/L		04/26/24 17:40	05/01/24 23:02	1
3 & 4 Methylphenol	ND		19	4.5	ug/L		04/26/24 17:40	05/01/24 23:02	1
2-Nitroaniline	ND		9.7	4.9	ug/L		04/26/24 17:40	05/01/24 23:02	1
3-Nitroaniline	ND		9.7	4.6	ug/L		04/26/24 17:40	05/01/24 23:02	1
4-Nitroaniline	ND		9.7	4.0	ug/L		04/26/24 17:40	05/01/24 23:02	1
Nitrobenzene	ND		9.7	4.6	ug/L		04/26/24 17:40	05/01/24 23:02	1
2-Nitrophenol	ND		9.7	4.5	ug/L		04/26/24 17:40	05/01/24 23:02	1
4-Nitrophenol	ND		9.7	3.2	ug/L		04/26/24 17:40	05/01/24 23:02	1
N-Nitrosodimethylamine	ND		9.7	2.1	ug/L		04/26/24 17:40	05/01/24 23:02	1

# Client Sample Results

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

Job ID: 400-254745-1

**Client Sample ID: MW7-ROX-041924-DUP**

**Lab Sample ID: 400-254745-7**

Date Collected: 04/19/24 12:55

Matrix: Water

Date Received: 04/22/24 09:30

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.7	2.4	ug/L		04/26/24 17:40	05/01/24 23:02	1
N-Nitrosodiphenylamine	ND		9.7	3.6	ug/L		04/26/24 17:40	05/01/24 23:02	1
Pentachlorophenol	ND		19	12	ug/L		04/26/24 17:40	05/01/24 23:02	1
<b>Phenol</b>	<b>51</b>		9.7	4.1	ug/L		04/26/24 17:40	05/01/24 23:02	1
Pyridine	ND	*- *1 UJ	9.7	9.7	ug/L		04/26/24 17:40	05/01/24 23:02	1
Quinoline	ND	*1	9.7	2.3	ug/L		04/26/24 17:40	05/01/24 23:02	1
2,4,5-Trichlorophenol	ND		9.7	3.9	ug/L		04/26/24 17:40	05/01/24 23:02	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		04/26/24 17:40	05/01/24 23:02	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorobiphenyl	80		21 - 114				04/26/24 17:40	05/01/24 23:02	1
2-Fluorophenol	61		10 - 105				04/26/24 17:40	05/01/24 23:02	1
Nitrobenzene-d5	78		16 - 127				04/26/24 17:40	05/01/24 23:02	1
Phenol-d5	47		10 - 129				04/26/24 17:40	05/01/24 23:02	1
Terphenyl-d14	96		13 - 150				04/26/24 17:40	05/01/24 23:02	1
2,4,6-Tribromophenol	98		10 - 150				04/26/24 17:40	05/01/24 23:02	1

**Method: EPA 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	0.018	ug/L		04/26/24 12:15	04/27/24 00:00	1
1,2-Dibromoethane	ND		0.021	0.016	ug/L		04/26/24 12:15	04/27/24 00:00	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene	118		51 - 149				04/26/24 12:15	04/27/24 00:00	1

# Definitions/Glossary

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

Job ID: 400-254745-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
F1	MS and/or MSD recovery exceeds control 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
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*1	LCS/LCSD RPD exceeds control 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.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

# Surrogate Summary

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

Job ID: 400-254745-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (72-130)	DBFM (75-126)	TOL (64-132)
400-254745-1	TB-ROX-041924-8260	99	89	100
400-254745-3	MW4-ROX-041924-EB	99	87	100
400-254745-4	MW4-ROX-041924	99	91	101
400-254745-4 MS	MW4-ROX-041924	98	105	99
400-254745-4 MSD	MW4-ROX-041924	99	105	101
400-254745-5	MW25-ROX-041924	98	92	101
400-254745-6	MW7-ROX-041924	100	96	102
400-254745-7	MW7-ROX-041924-DUP	100	97	100
LCS 400-670166/1002	Lab Control Sample	97	109	98
MB 400-670166/6	Method Blank	99	95	101

### Surrogate Legend

BFB = 4-Bromofluorobenzene  
DBFM = Dibromofluoromethane  
TOL = Toluene-d8 (Surr)

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (21-114)	2FP (10-105)	NBZ (16-127)	PHL (10-129)	TPHL (13-150)	TBP (10-150)
400-254745-3	MW4-ROX-041924-EB	88	69	84	55	103	93
400-254745-4	MW4-ROX-041924	108	84	105	66	125	138
400-254745-5	MW25-ROX-041924	70	57	70	43	80	84
400-254745-6	MW7-ROX-041924	78	58	72	46	90	96
400-254745-7	MW7-ROX-041924-DUP	80	61	78	47	96	98
LCS 400-669567/2-A	Lab Control Sample	66	55	66	50	76	77
LCS 400-669567/8-A	Lab Control Sample	59	47	59	36	71	51
LCSD 400-669567/3-A	Lab Control Sample Dup	69	58	69	53	84	81
LCSD 400-669567/9-A	Lab Control Sample Dup	64	51	61	40	76	56
MB 400-669567/1-A	Method Blank	54	44	53	33	66	44

### Surrogate Legend

FBP = 2-Fluorobiphenyl  
2FP = 2-Fluorophenol  
NBZ = Nitrobenzene-d5  
PHL = Phenol-d5  
TPHL = Terphenyl-d14  
TBP = 2,4,6-Tribromophenol

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TPHL (18-147)	FBP (15-128)	NBZ (10-144)
400-254745-3	MW4-ROX-041924-EB	93	81	64
400-254745-4	MW4-ROX-041924	100	92	73
400-254745-5	MW25-ROX-041924	72	66	51
400-254745-6	MW7-ROX-041924	82	72	53

# Surrogate Summary

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

Job ID: 400-254745-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TPHL (18-147)	FBP (15-128)	NBZ (10-144)
400-254745-7	MW7-ROX-041924-DUP	85	72	48
LCS 400-669567/2-A	Lab Control Sample	59	51	37
LCSD 400-669567/3-A	Lab Control Sample Dup	68	56	39
MB 400-669567/1-A	Method Blank	67	52	39

#### 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

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB2 (51-149)
400-254745-2	TB-ROX-041924-8011	95
400-254745-3	MW4-ROX-041924-EB	102
400-254745-4	MW4-ROX-041924	115
400-254745-5	MW25-ROX-041924	106
400-254745-6	MW7-ROX-041924	113
400-254745-7	MW7-ROX-041924-DUP	118
LCS 400-669513/2-A	Lab Control Sample	74
LCSD 400-669513/3-A	Lab Control Sample Dup	100
MB 400-669513/1-A	Method Blank	88

#### Surrogate Legend

BFB = 4-Bromofluorobenzene



# Method Summary

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

Job ID: 400-254745-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET PEN
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET PEN
8270E SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	EET PEN
8011	EDB and DBCP in Water by Microextraction	EPA	EET PEN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET PEN
5030C	Purge and Trap	SW846	EET PEN
8011	Microextraction	SW846	EET 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:**

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

# Lab Chronicle

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

Job ID: 400-254745-1

**Client Sample ID: TB-ROX-041924-8260**

**Lab Sample ID: 400-254745-1**

Date Collected: 04/19/24 00:00

Matrix: Water

Date Received: 04/22/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	670166	05/02/24 11:50	CAR	EET PEN

**Client Sample ID: TB-ROX-041924-8011**

**Lab Sample ID: 400-254745-2**

Date Collected: 04/19/24 00:00

Matrix: Water

Date Received: 04/22/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			32.8 mL	35 mL	669513	04/26/24 12:15	KR	EET PEN
Total/NA	Analysis	8011		1			669503	04/26/24 22:15	PG	EET PEN

**Client Sample ID: MW4-ROX-041924-EB**

**Lab Sample ID: 400-254745-3**

Date Collected: 04/19/24 08:30

Matrix: Water

Date Received: 04/22/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	670166	05/02/24 12:16	CAR	EET PEN
Total/NA	Prep	3510C			258.6 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670069	05/01/24 21:27	S1B	EET PEN
Total/NA	Prep	3510C			258.6 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	670176	05/02/24 21:00	JAW	EET PEN
Total/NA	Prep	8011			33.5 mL	35 mL	669513	04/26/24 12:15	KR	EET PEN
Total/NA	Analysis	8011		1			669503	04/26/24 22:36	PG	EET PEN

**Client Sample ID: MW4-ROX-041924**

**Lab Sample ID: 400-254745-4**

Date Collected: 04/19/24 10:15

Matrix: Water

Date Received: 04/22/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	670166	05/02/24 12:42	CAR	EET PEN
Total/NA	Prep	3510C			254.8 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670069	05/01/24 21:51	S1B	EET PEN
Total/NA	Prep	3510C			254.8 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	670176	05/02/24 21:21	JAW	EET PEN
Total/NA	Prep	8011			34.2 mL	35 mL	669513	04/26/24 12:15	KR	EET PEN
Total/NA	Analysis	8011		1			669503	04/26/24 22:57	PG	EET PEN

**Client Sample ID: MW25-ROX-041924**

**Lab Sample ID: 400-254745-5**

Date Collected: 04/19/24 11:30

Matrix: Water

Date Received: 04/22/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	670166	05/02/24 14:22	CAR	EET PEN
Total/NA	Prep	3510C			252.4 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670069	05/01/24 22:14	S1B	EET PEN

# Lab Chronicle

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

Job ID: 400-254745-1

**Client Sample ID: MW25-ROX-041924**

**Lab Sample ID: 400-254745-5**

**Date Collected: 04/19/24 11:30**

**Matrix: Water**

**Date Received: 04/22/24 09:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			252.4 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	670176	05/02/24 21:41	JAW	EET PEN
Total/NA	Prep	8011			34 mL	35 mL	669513	04/26/24 12:15	KR	EET PEN
Total/NA	Analysis	8011		1			669503	04/26/24 23:18	PG	EET PEN

**Client Sample ID: MW7-ROX-041924**

**Lab Sample ID: 400-254745-6**

**Date Collected: 04/19/24 12:55**

**Matrix: Water**

**Date Received: 04/22/24 09:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1000	5 mL	5 mL	670166	05/02/24 20:38	CAR	EET PEN
Total/NA	Prep	3510C			253.4 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670069	05/01/24 22:38	S1B	EET PEN
Total/NA	Prep	3510C			253.4 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	670176	05/02/24 22:02	JAW	EET PEN
Total/NA	Prep	3510C			253.4 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	670367	05/03/24 14:29	JAW	EET PEN
Total/NA	Prep	8011			34.1 mL	35 mL	669513	04/26/24 12:15	KR	EET PEN
Total/NA	Analysis	8011		1			669503	04/26/24 23:39	PG	EET PEN

**Client Sample ID: MW7-ROX-041924-DUP**

**Lab Sample ID: 400-254745-7**

**Date Collected: 04/19/24 12:55**

**Matrix: Water**

**Date Received: 04/22/24 09:30**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1000	5 mL	5 mL	670166	05/02/24 21:03	CAR	EET PEN
Total/NA	Prep	3510C			257 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670069	05/01/24 23:02	S1B	EET PEN
Total/NA	Prep	3510C			257 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	670176	05/02/24 22:22	JAW	EET PEN
Total/NA	Prep	3510C			257 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	670367	05/03/24 14:49	JAW	EET PEN
Total/NA	Prep	8011			33.7 mL	35 mL	669513	04/26/24 12:15	KR	EET PEN
Total/NA	Analysis	8011		1			669503	04/27/24 00:00	PG	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-669513/1-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	669513	04/26/24 12:15	KR	EET PEN
Total/NA	Analysis	8011		1			669503	04/26/24 17:20	PG	EET PEN

# Lab Chronicle

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

Job ID: 400-254745-1

## Client Sample ID: Method Blank

Lab Sample ID: MB 400-669567/1-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	3510C			250 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670069	05/01/24 17:06	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	670176	05/02/24 18:36	JAW	EET PEN

## Client Sample ID: Method Blank

Lab Sample ID: MB 400-670166/6

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	8260D		1	5 mL	5 mL	670166	05/02/24 11:14	CAR	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-669513/2-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	669513	04/26/24 12:15	KR	EET PEN
Total/NA	Analysis	8011		1			669503	04/26/24 17:41	PG	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-669567/2-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	3510C			250 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670069	05/01/24 17:30	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E SIM		100	0.4 mL	0.4 mL	670176	05/02/24 18:57	JAW	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-669567/8-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	3510C			250 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670069	05/01/24 19:05	S1B	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-670166/1002

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	8260D		1	5 mL	5 mL	670166	05/02/24 09:31	CAR	EET PEN

# Lab Chronicle

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

Job ID: 400-254745-1

**Client Sample ID: Lab Control Sample Dup**

**Lab Sample ID: LCSD 400-669513/3-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	669513	04/26/24 12:15	KR	EET PEN
Total/NA	Analysis	8011		1			669503	04/26/24 18:02	PG	EET PEN

**Client Sample ID: Lab Control Sample Dup**

**Lab Sample ID: LCSD 400-669567/3-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	3510C			250 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670069	05/01/24 17:54	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E SIM		100	0.4 mL	0.4 mL	670176	05/02/24 19:17	JAW	EET PEN

**Client Sample ID: Lab Control Sample Dup**

**Lab Sample ID: LCSD 400-669567/9-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	3510C			250 mL	1 mL	669567	04/26/24 17:40	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	670069	05/01/24 19:29	S1B	EET PEN

**Client Sample ID: MW4-ROX-041924**

**Lab Sample ID: 400-254745-4 MS**

Date Collected: 04/19/24 10:15

Matrix: Water

Date Received: 04/22/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	670166	05/02/24 13:07	CAR	EET PEN

**Client Sample ID: MW4-ROX-041924**

**Lab Sample ID: 400-254745-4 MSD**

Date Collected: 04/19/24 10:15

Matrix: Water

Date Received: 04/22/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	670166	05/02/24 13:32	CAR	EET PEN

**Laboratory References:**

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

# QC Association Summary

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

Job ID: 400-254745-1

## GC/MS VOA

### Analysis Batch: 670166

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254745-1	TB-ROX-041924-8260	Total/NA	Water	8260D	
400-254745-3	MW4-ROX-041924-EB	Total/NA	Water	8260D	
400-254745-4	MW4-ROX-041924	Total/NA	Water	8260D	
400-254745-5	MW25-ROX-041924	Total/NA	Water	8260D	
400-254745-6	MW7-ROX-041924	Total/NA	Water	8260D	
400-254745-7	MW7-ROX-041924-DUP	Total/NA	Water	8260D	
MB 400-670166/6	Method Blank	Total/NA	Water	8260D	
LCS 400-670166/1002	Lab Control Sample	Total/NA	Water	8260D	
400-254745-4 MS	MW4-ROX-041924	Total/NA	Water	8260D	
400-254745-4 MSD	MW4-ROX-041924	Total/NA	Water	8260D	

## GC/MS Semi VOA

### Prep Batch: 669567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254745-3	MW4-ROX-041924-EB	Total/NA	Water	3510C	
400-254745-4	MW4-ROX-041924	Total/NA	Water	3510C	
400-254745-5	MW25-ROX-041924	Total/NA	Water	3510C	
400-254745-6	MW7-ROX-041924	Total/NA	Water	3510C	
400-254745-7	MW7-ROX-041924-DUP	Total/NA	Water	3510C	
MB 400-669567/1-A	Method Blank	Total/NA	Water	3510C	
LCS 400-669567/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 400-669567/8-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 400-669567/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
LCSD 400-669567/9-A	Lab Control Sample Dup	Total/NA	Water	3510C	

### Analysis Batch: 670069

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254745-3	MW4-ROX-041924-EB	Total/NA	Water	8270E	669567
400-254745-4	MW4-ROX-041924	Total/NA	Water	8270E	669567
400-254745-5	MW25-ROX-041924	Total/NA	Water	8270E	669567
400-254745-6	MW7-ROX-041924	Total/NA	Water	8270E	669567
400-254745-7	MW7-ROX-041924-DUP	Total/NA	Water	8270E	669567
MB 400-669567/1-A	Method Blank	Total/NA	Water	8270E	669567
LCS 400-669567/2-A	Lab Control Sample	Total/NA	Water	8270E	669567
LCS 400-669567/8-A	Lab Control Sample	Total/NA	Water	8270E	669567
LCSD 400-669567/3-A	Lab Control Sample Dup	Total/NA	Water	8270E	669567
LCSD 400-669567/9-A	Lab Control Sample Dup	Total/NA	Water	8270E	669567

### Analysis Batch: 670176

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254745-3	MW4-ROX-041924-EB	Total/NA	Water	8270E SIM	669567
400-254745-4	MW4-ROX-041924	Total/NA	Water	8270E SIM	669567
400-254745-5	MW25-ROX-041924	Total/NA	Water	8270E SIM	669567
400-254745-6	MW7-ROX-041924	Total/NA	Water	8270E SIM	669567
400-254745-7	MW7-ROX-041924-DUP	Total/NA	Water	8270E SIM	669567
MB 400-669567/1-A	Method Blank	Total/NA	Water	8270E SIM	669567
LCS 400-669567/2-A	Lab Control Sample	Total/NA	Water	8270E SIM	669567
LCSD 400-669567/3-A	Lab Control Sample Dup	Total/NA	Water	8270E SIM	669567



# QC Association Summary

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

Job ID: 400-254745-1

## GC/MS Semi VOA

### Analysis Batch: 670367

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254745-6	MW7-ROX-041924	Total/NA	Water	8270E SIM	669567
400-254745-7	MW7-ROX-041924-DUP	Total/NA	Water	8270E SIM	669567

## GC Semi VOA

### Analysis Batch: 669503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254745-2	TB-ROX-041924-8011	Total/NA	Water	8011	669513
400-254745-3	MW4-ROX-041924-EB	Total/NA	Water	8011	669513
400-254745-4	MW4-ROX-041924	Total/NA	Water	8011	669513
400-254745-5	MW25-ROX-041924	Total/NA	Water	8011	669513
400-254745-6	MW7-ROX-041924	Total/NA	Water	8011	669513
400-254745-7	MW7-ROX-041924-DUP	Total/NA	Water	8011	669513
MB 400-669513/1-A	Method Blank	Total/NA	Water	8011	669513
LCS 400-669513/2-A	Lab Control Sample	Total/NA	Water	8011	669513
LCSD 400-669513/3-A	Lab Control Sample Dup	Total/NA	Water	8011	669513

### Prep Batch: 669513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254745-2	TB-ROX-041924-8011	Total/NA	Water	8011	
400-254745-3	MW4-ROX-041924-EB	Total/NA	Water	8011	
400-254745-4	MW4-ROX-041924	Total/NA	Water	8011	
400-254745-5	MW25-ROX-041924	Total/NA	Water	8011	
400-254745-6	MW7-ROX-041924	Total/NA	Water	8011	
400-254745-7	MW7-ROX-041924-DUP	Total/NA	Water	8011	
MB 400-669513/1-A	Method Blank	Total/NA	Water	8011	
LCS 400-669513/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 400-669513/3-A	Lab Control Sample Dup	Total/NA	Water	8011	

# QC Sample Results

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

Job ID: 400-254745-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 400-670166/6**  
**Matrix: Water**  
**Analysis Batch: 670166**

**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			05/02/24 11:14	1
Acrolein	ND		20	3.3	ug/L			05/02/24 11:14	1
Acrylonitrile	ND		10	2.8	ug/L			05/02/24 11:14	1
Benzene	ND		1.0	0.50	ug/L			05/02/24 11:14	1
Bromobenzene	ND		1.0	0.54	ug/L			05/02/24 11:14	1
Bromochloromethane	ND		1.0	0.21	ug/L			05/02/24 11:14	1
Bromodichloromethane	ND		1.0	0.50	ug/L			05/02/24 11:14	1
Bromoform	ND		5.0	0.25	ug/L			05/02/24 11:14	1
Bromomethane	ND		1.0	0.98	ug/L			05/02/24 11:14	1
2-Butanone (MEK)	ND		25	2.6	ug/L			05/02/24 11:14	1
Carbon disulfide	ND		1.0	0.50	ug/L			05/02/24 11:14	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			05/02/24 11:14	1
Chlorobenzene	ND		1.0	0.90	ug/L			05/02/24 11:14	1
Chloroethane	ND		1.0	0.76	ug/L			05/02/24 11:14	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			05/02/24 11:14	1
Chloroform	ND		1.0	0.90	ug/L			05/02/24 11:14	1
1-Chlorohexane	ND		1.0	0.32	ug/L			05/02/24 11:14	1
Chloromethane	ND		1.0	0.90	ug/L			05/02/24 11:14	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			05/02/24 11:14	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			05/02/24 11:14	1
Dibromochloromethane	ND		1.0	0.24	ug/L			05/02/24 11:14	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			05/02/24 11:14	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			05/02/24 11:14	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			05/02/24 11:14	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			05/02/24 11:14	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			05/02/24 11:14	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			05/02/24 11:14	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			05/02/24 11:14	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			05/02/24 11:14	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			05/02/24 11:14	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			05/02/24 11:14	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			05/02/24 11:14	1
Ethylbenzene	ND		1.0	0.50	ug/L			05/02/24 11:14	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			05/02/24 11:14	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			05/02/24 11:14	1
2-Hexanone	ND		25	1.4	ug/L			05/02/24 11:14	1
Isopropylbenzene	ND		1.0	0.53	ug/L			05/02/24 11:14	1
Methylene bromide	ND		5.0	0.22	ug/L			05/02/24 11:14	1
Methylene Chloride	ND		5.0	3.0	ug/L			05/02/24 11:14	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			05/02/24 11:14	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			05/02/24 11:14	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			05/02/24 11:14	1
Naphthalene	ND		5.0	3.0	ug/L			05/02/24 11:14	1
n-Butylbenzene	ND		1.0	0.76	ug/L			05/02/24 11:14	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/02/24 11:14	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			05/02/24 11:14	1
o-Xylene	ND		5.0	0.60	ug/L			05/02/24 11:14	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			05/02/24 11:14	1

# QC Sample Results

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

Job ID: 400-254745-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-670166/6**  
**Matrix: Water**  
**Analysis Batch: 670166**

**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			05/02/24 11:14	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			05/02/24 11:14	1
Styrene	ND		1.0	1.0	ug/L			05/02/24 11:14	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			05/02/24 11:14	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			05/02/24 11:14	1
1,1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			05/02/24 11:14	1
Tetrachloroethene	ND		1.0	0.90	ug/L			05/02/24 11:14	1
Toluene	ND		1.0	0.90	ug/L			05/02/24 11:14	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			05/02/24 11:14	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			05/02/24 11:14	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			05/02/24 11:14	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			05/02/24 11:14	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			05/02/24 11:14	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			05/02/24 11:14	1
Trichloroethene	ND		1.0	0.15	ug/L			05/02/24 11:14	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			05/02/24 11:14	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			05/02/24 11:14	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			05/02/24 11:14	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			05/02/24 11:14	1
Vinyl acetate	ND		25	0.93	ug/L			05/02/24 11:14	1
Vinyl chloride	ND		1.0	0.50	ug/L			05/02/24 11:14	1
Xylenes, Total	ND		10	1.6	ug/L			05/02/24 11:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		72 - 130		05/02/24 11:14	1
Dibromofluoromethane	95		75 - 126		05/02/24 11:14	1
Toluene-d8 (Surr)	101		64 - 132		05/02/24 11:14	1

**Lab Sample ID: LCS 400-670166/1002**  
**Matrix: Water**  
**Analysis Batch: 670166**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	200	225		ug/L		112	43 - 160
Acrolein	250	260		ug/L		104	38 - 160
Acrylonitrile	500	541		ug/L		108	64 - 142
Benzene	50.0	50.4		ug/L		101	70 - 130
Bromobenzene	50.0	47.9		ug/L		96	70 - 132
Bromochloromethane	50.0	48.8		ug/L		98	70 - 130
Bromodichloromethane	50.0	50.8		ug/L		102	67 - 133
Bromoform	50.0	43.7		ug/L		87	57 - 140
Bromomethane	25.0	44.2	*+	ug/L		177	10 - 160
2-Butanone (MEK)	200	207		ug/L		103	61 - 145
Carbon disulfide	50.0	49.1		ug/L		98	61 - 137
Carbon tetrachloride	50.0	48.3		ug/L		97	61 - 137
Chlorobenzene	50.0	50.5		ug/L		101	70 - 130
Chloroethane	25.0	21.9		ug/L		88	55 - 141
2-Chloroethyl vinyl ether	25.0	24.0		ug/L		96	10 - 160

# QC Sample Results

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

Job ID: 400-254745-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-670166/1002**  
**Matrix: Water**  
**Analysis Batch: 670166**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroform	50.0	49.6		ug/L		99	69 - 130
1-Chlorohexane	50.0	59.6		ug/L		119	69 - 130
Chloromethane	25.0	20.4		ug/L		82	58 - 137
cis-1,2-Dichloroethene	50.0	51.0		ug/L		102	68 - 130
cis-1,3-Dichloropropene	50.0	50.8		ug/L		102	69 - 132
Dibromochloromethane	50.0	50.3		ug/L		101	67 - 135
1,2-Dichlorobenzene	50.0	48.8		ug/L		98	67 - 130
1,3-Dichlorobenzene	50.0	49.5		ug/L		99	70 - 130
1,4-Dichlorobenzene	50.0	48.8		ug/L		98	70 - 130
Dichlorodifluoromethane	25.0	22.5		ug/L		90	41 - 146
1,1-Dichloroethane	50.0	50.7		ug/L		101	70 - 130
1,2-Dichloroethane	50.0	50.6		ug/L		101	69 - 130
1,1-Dichloroethene	50.0	50.3		ug/L		101	63 - 134
1,2-Dichloropropane	50.0	57.1		ug/L		114	70 - 130
1,3-Dichloropropane	50.0	51.9		ug/L		104	70 - 130
2,2-Dichloropropane	50.0	50.1		ug/L		100	52 - 135
1,1-Dichloropropene	50.0	49.8		ug/L		100	70 - 130
Ethylbenzene	50.0	51.8		ug/L		104	70 - 130
Ethyl methacrylate	50.0	51.7		ug/L		103	68 - 130
Hexachlorobutadiene	50.0	48.6		ug/L		97	53 - 140
2-Hexanone	200	220		ug/L		110	65 - 137
Isopropylbenzene	50.0	52.9		ug/L		106	70 - 130
Methylene bromide	50.0	52.5		ug/L		105	70 - 130
Methylene Chloride	50.0	46.8		ug/L		94	66 - 135
4-Methyl-2-pentanone (MIBK)	200	217		ug/L		108	69 - 138
Methyl tert-butyl ether	50.0	49.6		ug/L		99	66 - 130
m-Xylene & p-Xylene	50.0	51.6		ug/L		103	70 - 130
Naphthalene	50.0	47.4		ug/L		95	47 - 149
n-Butylbenzene	50.0	54.1		ug/L		108	67 - 130
N-Propylbenzene	50.0	51.0		ug/L		102	70 - 130
o-Chlorotoluene	50.0	49.7		ug/L		99	70 - 130
o-Xylene	50.0	52.1		ug/L		104	70 - 130
p-Chlorotoluene	50.0	49.9		ug/L		100	70 - 130
p-Isopropyltoluene	50.0	53.0		ug/L		106	65 - 130
sec-Butylbenzene	50.0	52.4		ug/L		105	66 - 130
Styrene	50.0	51.8		ug/L		104	70 - 130
tert-Butylbenzene	50.0	50.3		ug/L		101	64 - 139
1,1,1,2-Tetrachloroethane	50.0	47.6		ug/L		95	67 - 131
1,1,2,2-Tetrachloroethane	50.0	49.1		ug/L		98	70 - 131
Tetrachloroethene	50.0	48.9		ug/L		98	65 - 130
Toluene	50.0	49.2		ug/L		98	70 - 130
trans-1,2-Dichloroethene	50.0	48.9		ug/L		98	70 - 130
trans-1,3-Dichloropropene	50.0	52.0		ug/L		104	63 - 130
1,2,3-Trichlorobenzene	50.0	47.7		ug/L		95	60 - 138
1,2,4-Trichlorobenzene	50.0	48.8		ug/L		98	60 - 140
1,1,1-Trichloroethane	50.0	49.2		ug/L		98	68 - 130
1,1,2-Trichloroethane	50.0	51.9		ug/L		104	70 - 130
Trichloroethene	50.0	49.0		ug/L		98	70 - 130
Trichlorofluoromethane	25.0	23.3		ug/L		93	65 - 138

# QC Sample Results

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

Job ID: 400-254745-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-670166/1002**  
**Matrix: Water**  
**Analysis Batch: 670166**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	50.0	51.1		ug/L		102	70 - 130
1,2,4-Trimethylbenzene	50.0	51.4		ug/L		103	70 - 130
1,3,5-Trimethylbenzene	50.0	51.2		ug/L		102	69 - 130
Vinyl acetate	50.0	50.4		ug/L		101	26 - 160
Vinyl chloride	25.0	24.3		ug/L		97	59 - 136
Xylenes, Total	100	104		ug/L		104	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	97		72 - 130
Dibromofluoromethane	109		75 - 126
Toluene-d8 (Surr)	98		64 - 132

**Lab Sample ID: 400-254745-4 MS**  
**Matrix: Water**  
**Analysis Batch: 670166**

**Client Sample ID: MW4-ROX-041924**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	ND		200	184		ug/L		92	43 - 150
Acrolein	ND		500	267		ug/L		53	38 - 150
Acrylonitrile	ND		500	553		ug/L		111	62 - 149
Benzene	ND		50.0	55.7		ug/L		111	56 - 142
Bromobenzene	ND		50.0	52.9		ug/L		106	59 - 136
Bromochloromethane	ND		50.0	53.1		ug/L		106	64 - 140
Bromodichloromethane	ND		50.0	54.7		ug/L		109	59 - 143
Bromoform	ND		50.0	43.7		ug/L		87	50 - 140
Bromomethane	ND	*+	50.0	43.5		ug/L		87	10 - 150
2-Butanone (MEK)	ND		200	192		ug/L		96	55 - 150
Carbon disulfide	ND		50.0	54.3		ug/L		109	48 - 150
Carbon tetrachloride	ND		50.0	51.5		ug/L		103	55 - 145
Chlorobenzene	ND		50.0	53.7		ug/L		107	64 - 130
Chloroethane	ND		50.0	25.9		ug/L		52	50 - 150
2-Chloroethyl vinyl ether	ND	F1	50.0	ND	F1	ug/L		0	10 - 150
Chloroform	ND		50.0	55.1		ug/L		110	60 - 141
1-Chlorohexane	ND		50.0	61.0		ug/L		122	56 - 136
Chloromethane	ND	F1	50.0	20.9	F1	ug/L		42	49 - 148
cis-1,2-Dichloroethene	ND		50.0	56.0		ug/L		112	59 - 143
cis-1,3-Dichloropropene	ND		50.0	50.8		ug/L		102	57 - 140
Dibromochloromethane	ND		50.0	50.9		ug/L		102	56 - 143
1,2-Dichlorobenzene	ND		50.0	54.0		ug/L		108	52 - 137
1,3-Dichlorobenzene	ND		50.0	54.5		ug/L		109	54 - 135
1,4-Dichlorobenzene	ND		50.0	54.0		ug/L		108	53 - 135
Dichlorodifluoromethane	ND		50.0	24.4		ug/L		49	16 - 150
1,1-Dichloroethane	ND		50.0	55.9		ug/L		112	61 - 144
1,2-Dichloroethane	ND		50.0	55.3		ug/L		111	60 - 141
1,1-Dichloroethene	ND		50.0	55.1		ug/L		110	54 - 147
1,2-Dichloropropane	ND		50.0	56.5		ug/L		113	66 - 137
1,3-Dichloropropane	ND		50.0	51.4		ug/L		103	66 - 133
2,2-Dichloropropane	ND		50.0	53.3		ug/L		107	42 - 144

# QC Sample Results

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

Job ID: 400-254745-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: 400-254745-4 MS**

**Matrix: Water**

**Analysis Batch: 670166**

**Client Sample ID: MW4-ROX-041924**

**Prep Type: Total/NA**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
1,1-Dichloropropene	ND		50.0	54.1		ug/L		108	65 - 136
Ethylbenzene	ND		50.0	54.8		ug/L		110	58 - 131
Ethyl methacrylate	ND		50.0	51.6		ug/L		103	64 - 130
Hexachlorobutadiene	ND		50.0	54.7		ug/L		109	31 - 149
2-Hexanone	ND		200	197		ug/L		99	65 - 140
Isopropylbenzene	ND		50.0	56.2		ug/L		112	56 - 133
Methylene bromide	ND		50.0	53.5		ug/L		107	63 - 138
Methylene Chloride	ND		50.0	52.3		ug/L		105	60 - 146
4-Methyl-2-pentanone (MIBK)	ND		200	214		ug/L		107	63 - 146
Methyl tert-butyl ether	1.1		50.0	53.8		ug/L		105	59 - 137
m-Xylene & p-Xylene	ND		50.0	54.4		ug/L		109	57 - 130
Naphthalene	ND		50.0	49.7		ug/L		99	25 - 150
n-Butylbenzene	ND		50.0	58.7		ug/L		117	41 - 142
N-Propylbenzene	ND		50.0	56.3		ug/L		113	51 - 138
o-Chlorotoluene	ND		50.0	54.7		ug/L		109	53 - 134
o-Xylene	ND		50.0	55.7		ug/L		111	61 - 130
p-Chlorotoluene	ND		50.0	55.1		ug/L		110	54 - 133
p-Isopropyltoluene	ND		50.0	58.4		ug/L		117	48 - 139
sec-Butylbenzene	ND		50.0	57.7		ug/L		115	50 - 138
Styrene	ND		50.0	55.3		ug/L		111	58 - 131
tert-Butylbenzene	ND		50.0	56.2		ug/L		112	54 - 146
1,1,1,2-Tetrachloroethane	ND		50.0	49.9		ug/L		100	59 - 137
1,1,2,2-Tetrachloroethane	ND		50.0	52.9		ug/L		106	66 - 135
Tetrachloroethene	ND		50.0	48.3		ug/L		97	52 - 133
Toluene	ND		50.0	52.4		ug/L		105	65 - 130
trans-1,2-Dichloroethene	ND		50.0	53.8		ug/L		108	61 - 143
trans-1,3-Dichloropropene	ND		50.0	47.5		ug/L		95	53 - 133
1,2,3-Trichlorobenzene	ND		50.0	52.2		ug/L		104	43 - 145
1,2,4-Trichlorobenzene	ND		50.0	53.7		ug/L		107	39 - 148
1,1,1-Trichloroethane	ND		50.0	53.8		ug/L		108	57 - 142
1,1,2-Trichloroethane	ND		50.0	53.7		ug/L		107	66 - 131
Trichloroethene	ND		50.0	53.3		ug/L		107	64 - 136
Trichlorofluoromethane	ND	F1	50.0	26.4	F1	ug/L		53	54 - 150
1,2,3-Trichloropropane	ND		50.0	51.8		ug/L		104	65 - 133
1,2,4-Trimethylbenzene	ND		50.0	57.8		ug/L		116	50 - 139
1,3,5-Trimethylbenzene	ND		50.0	56.4		ug/L		113	52 - 135
Vinyl acetate	ND		100	49.1		ug/L		49	26 - 150
Vinyl chloride	ND		50.0	27.3		ug/L		55	46 - 150
Xylenes, Total	ND		100	110		ug/L		110	59 - 130

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	98		72 - 130
Dibromofluoromethane	105		75 - 126
Toluene-d8 (Surr)	99		64 - 132



# QC Sample Results

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

Job ID: 400-254745-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-254745-4 MSD

Matrix: Water

Analysis Batch: 670166

Client Sample ID: MW4-ROX-041924

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	173		ug/L		86	43 - 150	6	30
Acrolein	ND		500	269		ug/L		54	38 - 150	1	31
Acrylonitrile	ND		500	513		ug/L		103	62 - 149	7	30
Benzene	ND		50.0	51.8		ug/L		104	56 - 142	7	30
Bromobenzene	ND		50.0	47.9		ug/L		96	59 - 136	10	30
Bromochloromethane	ND		50.0	49.6		ug/L		99	64 - 140	7	30
Bromodichloromethane	ND		50.0	50.0		ug/L		100	59 - 143	9	30
Bromoform	ND		50.0	39.9		ug/L		80	50 - 140	9	30
Bromomethane	ND	*+	50.0	41.4		ug/L		83	10 - 150	5	50
2-Butanone (MEK)	ND		200	180		ug/L		90	55 - 150	6	30
Carbon disulfide	ND		50.0	51.3		ug/L		103	48 - 150	6	30
Carbon tetrachloride	ND		50.0	48.2		ug/L		96	55 - 145	7	30
Chlorobenzene	ND		50.0	48.7		ug/L		97	64 - 130	10	30
Chloroethane	ND		50.0	25.8		ug/L		52	50 - 150	0	30
2-Chloroethyl vinyl ether	ND	F1	50.0	ND	F1	ug/L		0	10 - 150	NC	50
Chloroform	ND		50.0	51.3		ug/L		103	60 - 141	7	30
1-Chlorohexane	ND		50.0	53.5		ug/L		107	56 - 136	13	30
Chloromethane	ND	F1	50.0	20.9	F1	ug/L		42	49 - 148	0	31
cis-1,2-Dichloroethene	ND		50.0	52.0		ug/L		104	59 - 143	7	30
cis-1,3-Dichloropropene	ND		50.0	44.3		ug/L		89	57 - 140	14	30
Dibromochloromethane	ND		50.0	45.8		ug/L		92	56 - 143	10	30
1,2-Dichlorobenzene	ND		50.0	47.7		ug/L		95	52 - 137	12	30
1,3-Dichlorobenzene	ND		50.0	48.0		ug/L		96	54 - 135	13	30
1,4-Dichlorobenzene	ND		50.0	46.9		ug/L		94	53 - 135	14	30
Dichlorodifluoromethane	ND		50.0	25.4		ug/L		51	16 - 150	4	31
1,1-Dichloroethane	ND		50.0	52.2		ug/L		104	61 - 144	7	30
1,2-Dichloroethane	ND		50.0	50.5		ug/L		101	60 - 141	9	30
1,1-Dichloroethene	ND		50.0	52.1		ug/L		104	54 - 147	6	30
1,2-Dichloropropane	ND		50.0	52.7		ug/L		105	66 - 137	7	30
1,3-Dichloropropane	ND		50.0	46.7		ug/L		93	66 - 133	10	30
2,2-Dichloropropane	ND		50.0	49.9		ug/L		100	42 - 144	7	31
1,1-Dichloropropene	ND		50.0	50.7		ug/L		101	65 - 136	7	30
Ethylbenzene	ND		50.0	49.4		ug/L		99	58 - 131	10	30
Ethyl methacrylate	ND		50.0	48.5		ug/L		97	64 - 130	6	30
Hexachlorobutadiene	ND		50.0	42.8		ug/L		86	31 - 149	24	36
2-Hexanone	ND		200	185		ug/L		93	65 - 140	6	30
Isopropylbenzene	ND		50.0	49.7		ug/L		99	56 - 133	12	30
Methylene bromide	ND		50.0	49.4		ug/L		99	63 - 138	8	30
Methylene Chloride	ND		50.0	49.0		ug/L		98	60 - 146	6	32
4-Methyl-2-pentanone (MIBK)	ND		200	203		ug/L		101	63 - 146	5	30
Methyl tert-butyl ether	1.1		50.0	50.5		ug/L		99	59 - 137	6	30
m-Xylene & p-Xylene	ND		50.0	49.3		ug/L		99	57 - 130	10	30
Naphthalene	ND		50.0	48.5		ug/L		97	25 - 150	2	30
n-Butylbenzene	ND		50.0	48.8		ug/L		98	41 - 142	18	31
N-Propylbenzene	ND		50.0	48.9		ug/L		98	51 - 138	14	30
o-Chlorotoluene	ND		50.0	48.9		ug/L		98	53 - 134	11	30
o-Xylene	ND		50.0	49.5		ug/L		99	61 - 130	12	30
p-Chlorotoluene	ND		50.0	48.2		ug/L		96	54 - 133	13	30

# QC Sample Results

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

Job ID: 400-254745-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: 400-254745-4 MSD**  
**Matrix: Water**  
**Analysis Batch: 670166**

**Client Sample ID: MW4-ROX-041924**  
**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	48.9		ug/L		98	48 - 139	18	30
sec-Butylbenzene	ND		50.0	49.4		ug/L		99	50 - 138	15	30
Styrene	ND		50.0	49.1		ug/L		98	58 - 131	12	30
tert-Butylbenzene	ND		50.0	48.3		ug/L		97	54 - 146	15	30
1,1,1,2-Tetrachloroethane	ND		50.0	45.4		ug/L		91	59 - 137	9	30
1,1,1,2-Tetrachloroethane	ND		50.0	50.8		ug/L		102	66 - 135	4	30
Tetrachloroethene	ND		50.0	43.1		ug/L		86	52 - 133	12	30
Toluene	ND		50.0	48.8		ug/L		98	65 - 130	7	30
trans-1,2-Dichloroethene	ND		50.0	50.3		ug/L		101	61 - 143	7	30
trans-1,3-Dichloropropene	ND		50.0	41.5		ug/L		83	53 - 133	13	30
1,2,3-Trichlorobenzene	ND		50.0	48.4		ug/L		97	43 - 145	7	30
1,2,4-Trichlorobenzene	ND		50.0	47.4		ug/L		95	39 - 148	13	30
1,1,1-Trichloroethane	ND		50.0	50.4		ug/L		101	57 - 142	7	30
1,1,2-Trichloroethane	ND		50.0	50.4		ug/L		101	66 - 131	6	30
Trichloroethene	ND		50.0	49.6		ug/L		99	64 - 136	7	30
Trichlorofluoromethane	ND	F1	50.0	26.7	F1	ug/L		53	54 - 150	1	30
1,2,3-Trichloropropane	ND		50.0	48.9		ug/L		98	65 - 133	6	30
1,2,4-Trimethylbenzene	ND		50.0	50.0		ug/L		100	50 - 139	14	30
1,3,5-Trimethylbenzene	ND		50.0	49.0		ug/L		98	52 - 135	14	30
Vinyl acetate	ND		100	50.4		ug/L		50	26 - 150	3	33
Vinyl chloride	ND		50.0	27.6		ug/L		55	46 - 150	1	30
Xylenes, Total	ND		100	98.8		ug/L		99	59 - 130	11	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene	99		72 - 130
Dibromofluoromethane	105		75 - 126
Toluene-d8 (Surr)	101		64 - 132

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

**Lab Sample ID: MB 400-669567/1-A**  
**Matrix: Water**  
**Analysis Batch: 670069**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 669567**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	8.7	ug/L		04/26/24 17:40	05/01/24 17:06	1
Benzenethiol	ND		10	9.9	ug/L		04/26/24 17:40	05/01/24 17:06	1
Benzoic acid	ND		30	24	ug/L		04/26/24 17:40	05/01/24 17:06	1
Benzyl alcohol	ND		10	7.3	ug/L		04/26/24 17:40	05/01/24 17:06	1
Bis(2-chloroethoxy)methane	ND		10	4.6	ug/L		04/26/24 17:40	05/01/24 17:06	1
Bis(2-chloroethyl)ether	ND		10	3.9	ug/L		04/26/24 17:40	05/01/24 17:06	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		04/26/24 17:40	05/01/24 17:06	1
Bis(2-ethylhexyl) phthalate	ND		10	8.9	ug/L		04/26/24 17:40	05/01/24 17:06	1
4-Bromophenyl phenyl ether	ND		10	8.6	ug/L		04/26/24 17:40	05/01/24 17:06	1
Butyl benzyl phthalate	ND		10	5.8	ug/L		04/26/24 17:40	05/01/24 17:06	1
4-Chloroaniline	ND		10	4.7	ug/L		04/26/24 17:40	05/01/24 17:06	1
4-Chloro-3-methylphenol	ND		10	5.3	ug/L		04/26/24 17:40	05/01/24 17:06	1
2-Chloronaphthalene	ND		10	3.8	ug/L		04/26/24 17:40	05/01/24 17:06	1
2-Chlorophenol	ND		10	4.1	ug/L		04/26/24 17:40	05/01/24 17:06	1

Eurofins Pensacola

# QC Sample Results

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

Job ID: 400-254745-1

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

**Lab Sample ID: MB 400-669567/1-A**  
**Matrix: Water**  
**Analysis Batch: 670069**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 669567**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorophenyl phenyl ether	ND		10	3.7	ug/L		04/26/24 17:40	05/01/24 17:06	1
Dibenz[a,h]acridine	ND		10	2.8	ug/L		04/26/24 17:40	05/01/24 17:06	1
Dibenzofuran	ND		10	4.0	ug/L		04/26/24 17:40	05/01/24 17:06	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/26/24 17:40	05/01/24 17:06	1
2,4-Dichlorophenol	ND		10	4.3	ug/L		04/26/24 17:40	05/01/24 17:06	1
Diethyl phthalate	ND		10	4.4	ug/L		04/26/24 17:40	05/01/24 17:06	1
2,4-Dimethylphenol	ND		10	5.2	ug/L		04/26/24 17:40	05/01/24 17:06	1
Dimethyl phthalate	ND		10	4.2	ug/L		04/26/24 17:40	05/01/24 17:06	1
Di-n-butyl phthalate	ND		10	4.6	ug/L		04/26/24 17:40	05/01/24 17:06	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		04/26/24 17:40	05/01/24 17:06	1
2,4-Dinitrophenol	ND		30	4.6	ug/L		04/26/24 17:40	05/01/24 17:06	1
2,4-Dinitrotoluene	ND		10	5.1	ug/L		04/26/24 17:40	05/01/24 17:06	1
2,6-Dinitrotoluene	ND		10	3.9	ug/L		04/26/24 17:40	05/01/24 17:06	1
Di-n-octyl phthalate	ND		10	6.0	ug/L		04/26/24 17:40	05/01/24 17:06	1
1,4-Dioxane	ND		10	4.3	ug/L		04/26/24 17:40	05/01/24 17:06	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.3	ug/L		04/26/24 17:40	05/01/24 17:06	1
Hexachlorobenzene	ND		10	9.7	ug/L		04/26/24 17:40	05/01/24 17:06	1
Hexachlorocyclopentadiene	ND		20	4.5	ug/L		04/26/24 17:40	05/01/24 17:06	1
Hexachloroethane	ND		10	5.2	ug/L		04/26/24 17:40	05/01/24 17:06	1
Indene	ND		10	3.6	ug/L		04/26/24 17:40	05/01/24 17:06	1
Isophorone	ND		10	5.2	ug/L		04/26/24 17:40	05/01/24 17:06	1
2-Methylphenol	ND		10	3.2	ug/L		04/26/24 17:40	05/01/24 17:06	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		04/26/24 17:40	05/01/24 17:06	1
2-Nitroaniline	ND		10	5.0	ug/L		04/26/24 17:40	05/01/24 17:06	1
3-Nitroaniline	ND		10	4.7	ug/L		04/26/24 17:40	05/01/24 17:06	1
4-Nitroaniline	ND		10	4.1	ug/L		04/26/24 17:40	05/01/24 17:06	1
Nitrobenzene	ND		10	4.7	ug/L		04/26/24 17:40	05/01/24 17:06	1
2-Nitrophenol	ND		10	4.6	ug/L		04/26/24 17:40	05/01/24 17:06	1
4-Nitrophenol	ND		10	3.3	ug/L		04/26/24 17:40	05/01/24 17:06	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		04/26/24 17:40	05/01/24 17:06	1
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		04/26/24 17:40	05/01/24 17:06	1
N-Nitrosodiphenylamine	ND		10	3.7	ug/L		04/26/24 17:40	05/01/24 17:06	1
Pentachlorophenol	ND		20	12	ug/L		04/26/24 17:40	05/01/24 17:06	1
Phenol	ND		10	4.2	ug/L		04/26/24 17:40	05/01/24 17:06	1
Pyridine	ND		10	10	ug/L		04/26/24 17:40	05/01/24 17:06	1
Quinoline	ND		10	2.4	ug/L		04/26/24 17:40	05/01/24 17:06	1
2,4,5-Trichlorophenol	ND		10	4.0	ug/L		04/26/24 17:40	05/01/24 17:06	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/26/24 17:40	05/01/24 17:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	54		21 - 114	04/26/24 17:40	05/01/24 17:06	1
2-Fluorophenol	44		10 - 105	04/26/24 17:40	05/01/24 17:06	1
Nitrobenzene-d5	53		16 - 127	04/26/24 17:40	05/01/24 17:06	1
Phenol-d5	33		10 - 129	04/26/24 17:40	05/01/24 17:06	1
Terphenyl-d14	66		13 - 150	04/26/24 17:40	05/01/24 17:06	1
2,4,6-Tribromophenol	44		10 - 150	04/26/24 17:40	05/01/24 17:06	1

# QC Sample Results

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

Job ID: 400-254745-1

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

**Lab Sample ID: LCS 400-669567/2-A**  
**Matrix: Water**  
**Analysis Batch: 670069**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669567**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aniline	120	15.7		ug/L		13	10 - 127
Benzoic acid	492	166		ug/L		34	19 - 126
Benzyl alcohol	120	80.2		ug/L		67	17 - 109
Bis(2-chloroethoxy)methane	120	74.5		ug/L		62	24 - 125
Bis(2-chloroethyl)ether	120	70.3		ug/L		59	10 - 121
bis (2-chloroisopropyl) ether	120	67.8		ug/L		56	14 - 123
Bis(2-ethylhexyl) phthalate	120	95.3		ug/L		79	16 - 150
4-Bromophenyl phenyl ether	120	101		ug/L		84	17 - 150
Butyl benzyl phthalate	120	89.2		ug/L		74	21 - 150
4-Chloroaniline	120	47.9		ug/L		40	10 - 124
4-Chloro-3-methylphenol	120	88.1		ug/L		73	37 - 131
2-Chloronaphthalene	120	75.2		ug/L		63	24 - 132
2-Chlorophenol	120	76.3		ug/L		64	27 - 124
4-Chlorophenyl phenyl ether	120	86.6		ug/L		72	27 - 147
Dibenz[a,h]acridine	59.9	50.4		ug/L		84	40 - 140
Dibenzofuran	120	83.1		ug/L		69	30 - 135
3,3'-Dichlorobenzidine	240	116		ug/L		48	10 - 150
2,4-Dichlorophenol	120	73.4		ug/L		61	33 - 132
Diethyl phthalate	120	88.1		ug/L		73	37 - 145
2,4-Dimethylphenol	120	89.8		ug/L		75	38 - 132
Dimethyl phthalate	120	102		ug/L		85	32 - 137
Di-n-butyl phthalate	120	94.7		ug/L		79	27 - 150
4,6-Dinitro-ortho-cresol	240	183		ug/L		76	14 - 150
2,4-Dinitrophenol	240	157		ug/L		66	15 - 150
2,4-Dinitrotoluene	120	94.9		ug/L		79	35 - 136
2,6-Dinitrotoluene	120	93.8		ug/L		78	29 - 140
Di-n-octyl phthalate	120	104		ug/L		87	26 - 150
1,4-Dioxane	120	39.8		ug/L		33	10 - 87
1,2-Diphenylhydrazine (as Azobenzene)	120	89.3		ug/L		74	23 - 138
Hexachlorobenzene	120	99.2		ug/L		83	10 - 150
Hexachlorocyclopentadiene	120	63.5		ug/L		53	10 - 124
Hexachloroethane	120	62.0		ug/L		52	10 - 127
Indene	120	70.0		ug/L		58	18 - 150
Isophorone	120	72.9		ug/L		61	28 - 127
2-Methylphenol	120	76.7		ug/L		64	34 - 124
3 & 4 Methylphenol	120	75.8		ug/L		63	32 - 122
2-Nitroaniline	120	86.5		ug/L		72	24 - 139
3-Nitroaniline	120	75.4		ug/L		63	10 - 128
4-Nitroaniline	120	97.5		ug/L		81	28 - 118
Nitrobenzene	120	70.5		ug/L		59	29 - 120
2-Nitrophenol	120	73.1		ug/L		61	25 - 148
4-Nitrophenol	240	175		ug/L		73	12 - 129
N-Nitrosodimethylamine	120	50.7		ug/L		42	10 - 115
N-Nitrosodi-n-propylamine	120	73.5		ug/L		61	24 - 142
N-Nitrosodiphenylamine	119	86.7		ug/L		73	29 - 138
Pentachlorophenol	240	170		ug/L		71	19 - 150
Phenol	120	54.8		ug/L		46	11 - 95
Pyridine	240	12.9	*-	ug/L		5	10 - 82

# QC Sample Results

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

Job ID: 400-254745-1

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

**Lab Sample ID: LCS 400-669567/2-A**  
**Matrix: Water**  
**Analysis Batch: 670069**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669567**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Quinoline	59.9	17.9		ug/L		30	10 - 141
2,4,5-Trichlorophenol	120	85.8		ug/L		72	30 - 144
2,4,6-Trichlorophenol	120	83.3		ug/L		69	27 - 147

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	66		21 - 114
2-Fluorophenol	55		10 - 105
Nitrobenzene-d5	66		16 - 127
Phenol-d5	50		10 - 129
Terphenyl-d14	76		13 - 150
2,4,6-Tribromophenol	77		10 - 150

**Lab Sample ID: LCS 400-669567/8-A**  
**Matrix: Water**  
**Analysis Batch: 670069**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669567**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzenethiol	120	70.9		ug/L		59	10 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	59		21 - 114
2-Fluorophenol	47		10 - 105
Nitrobenzene-d5	59		16 - 127
Phenol-d5	36		10 - 129
Terphenyl-d14	71		13 - 150
2,4,6-Tribromophenol	51		10 - 150

**Lab Sample ID: LCSD 400-669567/3-A**  
**Matrix: Water**  
**Analysis Batch: 670069**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669567**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Aniline	120	35.9	*1	ug/L		30	10 - 127	78	40
Benzoic acid	492	203		ug/L		41	19 - 126	20	40
Benzyl alcohol	120	86.0		ug/L		72	17 - 109	7	40
Bis(2-chloroethoxy)methane	120	81.0		ug/L		67	24 - 125	8	40
Bis(2-chloroethyl)ether	120	79.1		ug/L		66	10 - 121	12	40
bis (2-chloroisopropyl) ether	120	74.7		ug/L		62	14 - 123	10	40
Bis(2-ethylhexyl) phthalate	120	109		ug/L		91	16 - 150	14	40
4-Bromophenyl phenyl ether	120	111		ug/L		93	17 - 150	10	40
Butyl benzyl phthalate	120	102		ug/L		85	21 - 150	13	40
4-Chloroaniline	120	63.6		ug/L		53	10 - 124	28	40
4-Chloro-3-methylphenol	120	96.7		ug/L		81	37 - 131	9	40
2-Chloronaphthalene	120	82.3		ug/L		69	24 - 132	9	40
2-Chlorophenol	120	86.2		ug/L		72	27 - 124	12	40
4-Chlorophenyl phenyl ether	120	95.5		ug/L		80	27 - 147	10	40
Dibenz[a,h]acridine	59.9	57.9		ug/L		97	40 - 140	14	40
Dibenzofuran	120	90.5		ug/L		75	30 - 135	9	40

Eurofins Pensacola

# QC Sample Results

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

Job ID: 400-254745-1

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

**Lab Sample ID: LCSD 400-669567/3-A**  
**Matrix: Water**  
**Analysis Batch: 670069**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669567**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
3,3'-Dichlorobenzidine	240	137		ug/L		57	10 - 150	17	40
2,4-Dichlorophenol	120	80.9		ug/L		67	33 - 132	10	40
Diethyl phthalate	120	98.8		ug/L		82	37 - 145	11	40
2,4-Dimethylphenol	120	98.3		ug/L		82	38 - 132	9	40
Dimethyl phthalate	120	112		ug/L		94	32 - 137	9	40
Di-n-butyl phthalate	120	108		ug/L		90	27 - 150	13	40
4,6-Dinitro-ortho-cresol	240	214		ug/L		89	14 - 150	15	40
2,4-Dinitrophenol	240	191		ug/L		80	15 - 150	19	40
2,4-Dinitrotoluene	120	104		ug/L		87	35 - 136	9	40
2,6-Dinitrotoluene	120	103		ug/L		86	29 - 140	10	40
Di-n-octyl phthalate	120	119		ug/L		99	26 - 150	13	40
1,4-Dioxane	120	42.4		ug/L		35	10 - 87	6	40
1,2-Diphenylhydrazine (as Azobenzene)	120	101		ug/L		84	23 - 138	12	40
Hexachlorobenzene	120	109		ug/L		90	10 - 150	9	40
Hexachlorocyclopentadiene	120	69.4		ug/L		58	10 - 124	9	40
Hexachloroethane	120	68.3		ug/L		57	10 - 127	10	40
Indene	120	80.6		ug/L		67	18 - 150	14	40
Isophorone	120	78.8		ug/L		66	28 - 127	8	40
2-Methylphenol	120	84.1		ug/L		70	34 - 124	9	40
3 & 4 Methylphenol	120	83.1		ug/L		69	32 - 122	9	40
2-Nitroaniline	120	96.5		ug/L		80	24 - 139	11	40
3-Nitroaniline	120	86.2		ug/L		72	10 - 128	13	40
4-Nitroaniline	120	106		ug/L		88	28 - 118	8	40
Nitrobenzene	120	76.7		ug/L		64	29 - 120	8	40
2-Nitrophenol	120	82.1		ug/L		68	25 - 148	12	40
4-Nitrophenol	240	202		ug/L		84	12 - 129	14	40
N-Nitrosodimethylamine	120	54.2		ug/L		45	10 - 115	7	40
N-Nitrosodi-n-propylamine	120	80.4		ug/L		67	24 - 142	9	40
N-Nitrosodiphenylamine	119	97.6		ug/L		82	29 - 138	12	40
Pentachlorophenol	240	201		ug/L		84	19 - 150	17	40
Phenol	120	59.7		ug/L		50	11 - 95	9	40
Pyridine	240	35.8	*1	ug/L		15	10 - 82	94	40
Quinoline	59.9	34.6	*1	ug/L		58	10 - 141	64	40
2,4,5-Trichlorophenol	120	97.3		ug/L		81	30 - 144	13	40
2,4,6-Trichlorophenol	120	92.3		ug/L		77	27 - 147	10	40

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	69		21 - 114
2-Fluorophenol	58		10 - 105
Nitrobenzene-d5	69		16 - 127
Phenol-d5	53		10 - 129
Terphenyl-d14	84		13 - 150
2,4,6-Tribromophenol	81		10 - 150



# QC Sample Results

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

Job ID: 400-254745-1

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

**Lab Sample ID: LCSD 400-669567/9-A**  
**Matrix: Water**  
**Analysis Batch: 670069**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669567**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzenethiol	120	67.5		ug/L		56	10 - 140	5	40
<b>Surrogate</b>									
	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>						
2-Fluorobiphenyl	64		21 - 114						
2-Fluorophenol	51		10 - 105						
Nitrobenzene-d5	61		16 - 127						
Phenol-d5	40		10 - 129						
Terphenyl-d14	76		13 - 150						
2,4,6-Tribromophenol	56		10 - 150						

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

**Lab Sample ID: MB 400-669567/1-A**  
**Matrix: Water**  
**Analysis Batch: 670176**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 669567**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.099	ug/L		04/26/24 17:40	05/02/24 18:36	1
Acenaphthylene	ND		0.20	0.044	ug/L		04/26/24 17:40	05/02/24 18:36	1
Anthracene	ND		0.20	0.047	ug/L		04/26/24 17:40	05/02/24 18:36	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		04/26/24 17:40	05/02/24 18:36	1
Benzo[a]pyrene	ND		0.20	0.064	ug/L		04/26/24 17:40	05/02/24 18:36	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		04/26/24 17:40	05/02/24 18:36	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		04/26/24 17:40	05/02/24 18:36	1
Benzo[k]fluoranthene	ND		0.20	0.062	ug/L		04/26/24 17:40	05/02/24 18:36	1
Chrysene	ND		0.20	0.033	ug/L		04/26/24 17:40	05/02/24 18:36	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		04/26/24 17:40	05/02/24 18:36	1
Fluoranthene	ND		0.20	0.034	ug/L		04/26/24 17:40	05/02/24 18:36	1
Fluorene	ND		0.20	0.089	ug/L		04/26/24 17:40	05/02/24 18:36	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		04/26/24 17:40	05/02/24 18:36	1
Phenanthrene	ND		0.20	0.090	ug/L		04/26/24 17:40	05/02/24 18:36	1
Pyrene	ND		0.20	0.039	ug/L		04/26/24 17:40	05/02/24 18:36	1
1-Methylnaphthalene	ND		0.20	0.080	ug/L		04/26/24 17:40	05/02/24 18:36	1
2-Methylnaphthalene	ND		0.20	0.066	ug/L		04/26/24 17:40	05/02/24 18:36	1
<b>Surrogate</b>									
	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Terphenyl-d14	67		18 - 147				04/26/24 17:40	05/02/24 18:36	1
2-Fluorobiphenyl	52		15 - 128				04/26/24 17:40	05/02/24 18:36	1
Nitrobenzene-d5	39		10 - 144				04/26/24 17:40	05/02/24 18:36	1

**Lab Sample ID: LCS 400-669567/2-A**  
**Matrix: Water**  
**Analysis Batch: 670176**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669567**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	120	66.2		ug/L		55	10 - 140
Acenaphthylene	120	64.0		ug/L		53	10 - 140
Anthracene	120	67.9		ug/L		57	19 - 140

Eurofins Pensacola

# QC Sample Results

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

Job ID: 400-254745-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: LCS 400-669567/2-A**  
**Matrix: Water**  
**Analysis Batch: 670176**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669567**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzo[a]anthracene	120	73.1		ug/L		61	25 - 140
Benzo[a]pyrene	120	65.6		ug/L		55	24 - 140
Benzo[b]fluoranthene	120	63.5		ug/L		53	34 - 140
Benzo[g,h,i]perylene	120	66.4		ug/L		55	13 - 140
Benzo[k]fluoranthene	120	63.8		ug/L		53	21 - 140
Chrysene	120	70.3		ug/L		59	28 - 140
Dibenz(a,h)anthracene	120	67.5		ug/L		56	10 - 140
Fluoranthene	120	80.2		ug/L		67	18 - 140
Fluorene	120	77.6		ug/L		65	16 - 140
Indeno[1,2,3-cd]pyrene	120	68.1		ug/L		57	10 - 140
Phenanthrene	120	68.6		ug/L		57	22 - 140
Pyrene	120	64.2		ug/L		53	38 - 140
1-Methylnaphthalene	120	62.6		ug/L		52	10 - 140
2-Methylnaphthalene	120	61.5		ug/L		51	10 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	59		18 - 147
2-Fluorobiphenyl	51		15 - 128
Nitrobenzene-d5	37		10 - 144

**Lab Sample ID: LCSD 400-669567/3-A**  
**Matrix: Water**  
**Analysis Batch: 670176**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669567**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Acenaphthene	120	73.7		ug/L		61	10 - 140	11	40
Acenaphthylene	120	70.6		ug/L		59	10 - 140	10	40
Anthracene	120	75.2		ug/L		63	19 - 140	10	40
Benzo[a]anthracene	120	80.0		ug/L		67	25 - 140	9	40
Benzo[a]pyrene	120	73.6		ug/L		61	24 - 140	12	40
Benzo[b]fluoranthene	120	73.2		ug/L		61	34 - 140	14	40
Benzo[g,h,i]perylene	120	78.2		ug/L		65	13 - 140	16	40
Benzo[k]fluoranthene	120	72.3		ug/L		60	21 - 140	13	40
Chrysene	120	82.0		ug/L		68	28 - 140	15	40
Dibenz(a,h)anthracene	120	78.0		ug/L		65	10 - 140	15	40
Fluoranthene	120	89.0		ug/L		74	18 - 140	10	40
Fluorene	120	86.5		ug/L		72	16 - 140	11	40
Indeno[1,2,3-cd]pyrene	120	78.2		ug/L		65	10 - 140	14	40
Phenanthrene	120	78.2		ug/L		65	22 - 140	13	40
Pyrene	120	73.9		ug/L		62	38 - 140	14	40
1-Methylnaphthalene	120	68.7		ug/L		57	10 - 140	9	40
2-Methylnaphthalene	120	67.8		ug/L		56	10 - 140	10	40

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Terphenyl-d14	68		18 - 147
2-Fluorobiphenyl	56		15 - 128
Nitrobenzene-d5	39		10 - 144

# QC Sample Results

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

Job ID: 400-254745-1

## Method: 8011 - EDB and DBCP in Water by Microextraction

**Lab Sample ID: MB 400-669513/1-A**  
**Matrix: Water**  
**Analysis Batch: 669503**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 669513**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2-Dibromo-3-Chloropropane	ND		0.030	0.017	ug/L		04/26/24 12:15	04/26/24 17:20	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		04/26/24 12:15	04/26/24 17:20	1
Surrogate		MB MB	Limits			D	Prepared	Analyzed	Dil Fac
%Recovery	Qualifier								
4-Bromofluorobenzene	88		51 - 149				04/26/24 12:15	04/26/24 17:20	1

**Lab Sample ID: LCS 400-669513/2-A**  
**Matrix: Water**  
**Analysis Batch: 669503**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669513**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
								1,2-Dibromo-3-Chloropropane
1,2-Dibromoethane	0.100	0.0883		ug/L		88	60 - 140	
Surrogate		LCS LCS	Limits			D	%Rec	%Rec Limits
%Recovery	Qualifier							
4-Bromofluorobenzene	74		51 - 149					

**Lab Sample ID: LCSD 400-669513/3-A**  
**Matrix: Water**  
**Analysis Batch: 669503**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669513**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	
								RPD	Limit
1,2-Dibromo-3-Chloropropane	0.101	0.124		ug/L		123	60 - 140	11	30
1,2-Dibromoethane	0.100	0.103		ug/L		103	60 - 140	15	30
Surrogate		LCSD LCSD	Limits			D	%Rec	%Rec Limits	RPD
%Recovery	Qualifier								
4-Bromofluorobenzene	100		51 - 149						

ACCOUNT ( )  
 CALSCIENCE ( )  
 TESTAMERICA (TestAmerica Pensacola; 3355 McLemore Dr. Pensacola, FL 32514 (850-474-1001))  
 Other ( )

SOW FDG  
 CHEMICALS  
 TRANSPORTATION

PIPELINE  
 CONSULTANT  
 OTHER\_ENV. SERVICES

RETAIL  
 LUBES

Print Bill To Contact Name: Melissa Remiger  
 PO # 60721927 - 3.2.2  
 USP/C/00114/R/02

DATE: 4/19/2024  
 PAGE: 1 of 1

AECOM Project / Task Number: Roxana Quarterly GW 60721927 - 3.2.2  
 E-MAIL: melissa.remiger@aecom.com

SITE ADDRESS: Street and City  
 900 South Central Ave; ROXANA  
 PHONEN NO.: 314-802-1207  
 EDI DELIVERABLE TO Name, Company, Office Location: Melissa Remiger - please see special instructions

STATE: IL  
 AECOM Other ID: melissa.remiger@aecom.com

SAMPLER NAME(S) (Print): M. Massa, T. Jenkins

BILL TO CONTACT E-MAIL: melissa.remiger@aecom.com

TURNAROUND TIME (CALENDAR DAYS):  
 STANDARD (14 DAY)  5 DAYS  3 DAYS  2 DAYS  24 HOURS  WEEKEND

LA - RWQOB REPORT FORMAT

DELIVERABLES:  LEVEL 1  LEVEL 2  LEVEL 3  LEVEL 4

OTHER (SPECIFY) EDD:  OTHER #3

TEMPERATURE ON RECEIPT C°:  SHELL CONTRACT RATE APPLIES  
 STATE REIMBURSEMENT RATE APPLIES  
 EDD NOT NEEDED  
 RECEIPT VERIFICATION REQUESTED  
 PROVIDE LEDD DISK

SPECIAL INSTRUCTIONS OR NOTES:  
 Email reports to: melissa.remiger@aecom.com; m.t.mass@aecom.com; Brett.Howell@aecom.com  
 Please include "J" values on Reports.  
 Please provide sample receipt upon login.  
 Please send EQUIS EDDs to EDDSubmissions@aecomshell.com; Vlad.Virjan@aecom.com

LAB USE ONLY	Field Sample Identification		PRESERVATIVE			NO. OF CONT.		
	DATE	TIME	MATRIX	HCL	HNO3		H2SO4	NONE
	TB-ROX-041924-8260	0000	Water	2				2
	TB-ROX-041924-8011	0000	Water	2				2
	MW4-ROX-041924-EB	0830	Water	6	2			8
	MW4-ROX-041924	1015	Water	6	2			8
	MW25-ROX-041924	1130	Water	6	2			8
	MW7-ROX-041924	1255	Water	6	2			8
	MW7-ROX-041924-DUP	1255	Water	6	2			8

VOC 8260 X  
 8011 EDB + DBCP X  
 SVOC 8270 X  
 PAH 8270 SIMS X

REQUESTED ANALYSIS 60721927 - 3.2.2

TEMPERATURE ON RECEIPT C°

Container PID Readings or Laboratory Notes:

400-254745 COC

LAB USE ONLY

FIELD NOTES:

RECEIVED BY: (Signature) *[Signature]*

DATE: 4/19/2024

TIME: 1600

RELINQUISHED BY: (Signature) *[Signature]*  
 MARY MASSA  
 RELINQUISHED BY: (Signature)

RECEIVED BY: (Signature) *[Signature]*  
 FEDEX: 7252 0540 4463, 7252 0540 4474  
 RECEIVED BY: (Signature)

RECEIVED BY: (Signature) *[Signature]*  
 DATE: 4-22-24  
 TIME: 9:30

CUSTODY SEALS: 1599892, 1599893, 1599894, 1599895

3.6°C, 3.1°C IR 10

Version: 27Sept23

# Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-254745-1

**Login Number: 254745**

**List Source: Eurofins Pensacola**

**List Number: 1**

**Creator: Perez, Trina M**

Question	Answer	Comment
Radioactivity wasn't checked or is </= 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	3.6°C, 3.1°C IR-10
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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (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

Job ID: 400-254745-1

## Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-24
Kansas	NELAP	E-10253	10-31-24
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-24
North Carolina (WW/SW)	State	314	12-31-24
Oklahoma	NELAP	9810	08-31-24
Pennsylvania	NELAP	68-00467	01-31-25
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-24
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	P330-21-00056	05-17-24
USDA	US Federal Programs	FLGNV23001	01-08-26
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-25



# Roxana Groundwater Quarterly – 2<sup>nd</sup> Quarter 2024 Data Review

Laboratory SDG: 400-254906-1

Data Reviewer: Andrei Niculau

Peer Reviewer: Cheyana Cokley

Date Reviewed: 05/17/2024

Guidance: USEPA National Functional Guidelines for Organic Superfund Methods  
Data Review 2020

Sample Identification	Sample Identification
TB-ROX-042224-8260-SS	TB-ROX-042224-8011-SS
P93D-ROX-042224	--

## 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, and/or LCS/LCSD RPDs, were outside evaluation criteria. The PAH internal standard area recoveries for perylene-d<sub>12</sub> and chrysene-d<sub>12</sub> were outside criteria in sample P93D-ROX-042224. The continuing calibration verifications (CCV) for several analytes were outside evaluation criteria, biased low. These issues are addressed further in the appropriate sections of this data review.

Three of 70 (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 400-669664/2-A/3-A	SVOCs	Aniline	23/15	<b>43</b>	10-127/40
LCS/LCSD 400-669664/2-A/3-A	SVOCs	2,4-Dinitrophenol	144/ <b>170</b>	16	15-150/40
LCS/LCSD 400-669664/2-A/3-A	SVOCs	Pyridine	12/ <b>5</b>	<b>82</b>	10-82/40

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 pyridine below evaluation criteria; pyridine 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 LCS/LCSD RPD alone outside evaluation criteria did not require qualification.

Sample ID	Parameter	Analyte	Qualification
P93D-ROX-042224	SVOCs	Pyridine	<b>UJ</b>

#### 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	12/24 Hour Standard	IS Criteria
P93D-ROX-042224	PAHs	Chrysene-d <sub>12</sub>	<b>9663</b>	20338	40676 - 10169
P93D-ROX-042224	PAHs	Perylene-d <sub>12</sub>	<b>9437</b>	19264	38528 - 9632

Qualifications due to internal standard recoveries are included in the table below.

Sample ID	Parameter	Analyte	Qualification
P93D-ROX-042224	PAHs	Benzo[a]anthracene	<b>UJ</b>
P93D-ROX-042224	PAHs	Benzo[a]pyrene	<b>UJ</b>
P93D-ROX-042224	PAHs	Benzo[b]fluoranthene	<b>UJ</b>
P93D-ROX-042224	PAHs	Benzo[g,h,i]perylene	<b>UJ</b>

Sample ID	Parameter	Analyte	Qualification
P93D-ROX-042224	PAHs	Benzo[k]fluoranthene	UJ
P93D-ROX-042224	PAHs	Chrysene	UJ
P93D-ROX-042224	PAHs	Dibenz(a,h)anthracene	UJ
P93D-ROX-042224	PAHs	Indeno[1,2,3-cd]pyrene	UJ
P93D-ROX-042224	PAHs	Pyrene	UJ

### 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 verification (CCV) for several analytes were outside evaluation criteria, biased low. Pyridine in sample P93D-ROX-042224 was previously qualified in Section 5.0 of this data review, due to a laboratory control sample recovery outside evaluation criteria; no further qualification is required. Pyrene, chrysene, benzo [b]fluoranthene, and benzo [k]fluoranthene were previously qualified in Section 8.0 of this data review, due to internal standard area recoveries outside of evaluation criteria; no further qualification is required. Analytes are qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
P93D-ROX-042224	VOCs	Chloroethane	UJ
P93D-ROX-042224	SVOCs	1,4-Dioxane	UJ
P93D-ROX-042224	SVOCs	2,4,5-Trichlorophenol	UJ
P93D-ROX-042224	SVOCs	2,4,6-Trichlorophenol	UJ
P93D-ROX-042224	SVOCs	2,6-Dinitrotoluene	UJ
P93D-ROX-042224	SVOCs	Bis(2-chloroethoxy)methane	UJ
P93D-ROX-042224	SVOCs	Bis(2-chloroethyl)ether	UJ
P93D-ROX-042224	SVOCs	Hexachlorocyclopentadiene	UJ
P93D-ROX-042224	VOCs by 8011	1,2-Dibromoethane	UJ



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Melissa Remiger  
AECOM Technical Services Inc.  
100 N. Broadway  
20th Floor  
St. Louis, Missouri 63102

Generated 5/7/2024 4:36:53 PM

## JOB DESCRIPTION

ROXANA QUARTERLY GW

## JOB NUMBER

400-254906-1

Reviewed 05/17/2024  
AN

# Eurofins Pensacola

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

## Authorization



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# Case Narrative

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

Job ID: 400-254906-1

**Job ID: 400-254906-1**

**Eurofins Pensacola**

## Job Narrative 400-254906-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 4/23/2024 9:32 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.3°C.

### GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-670448 recovered outside acceptance criteria, low biased, for Chloroethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-670448 recovered above the upper control limit for Acrolein. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following sample was received preserved with hydrochloric acid: TB-ROX-042224-8260-SS (400-254906-1). 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 8270E: The laboratory control sample duplicate (LCSD) for preparation batch 400-669664 and analytical batch 400-669886 recovered outside control limits for the following analyte(s): Pyridine. Pyridine has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method 8270E: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 400-669664 and analytical batch 400-669886 recovered outside control limits for the following analytes: Aniline and Pyridine.

Method 8270E: The continuing calibration verification (CCV) associated with batch 400-669886 recovered outside acceptance criteria, low biased, for 1,4-Dioxane, 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2,6-Dinitrotoluene, Bis(2-chloroethoxy)methane, Bis(2-chloroethyl)ether, Hexachlorocyclopentadiene and Pyridine. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8270E: The laboratory control sample duplicate (LCSD) for preparation batch 400-669664 and analytical batch 400-669886 recovered outside control limits for the following analytes: 2,4-Dinitrophenol. These analytes were biased high in the LCSD and were not detected in the associated samples; therefore, the data have been reported.

Method 8270E: The initial calibration curve analyzed in batch 400-669886 was outside method criteria for the following analyte(s): 2,4-Dinitrophenol. As indicated in the reference method, sample analysis may proceed; however, any detection or non-detection for the affected analyte(s) is considered an estimated concentration.

Method 8270E\_SIM: Detections for the following sample corresponded with historical data, therefore, re-extraction was not performed. P93D-ROX-042224 (400-254906-3)

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# Case Narrative

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

Job ID: 400-254906-1

## Job ID: 400-254906-1 (Continued)

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Method 8270E\_SIM: Two of five internal standard recoveries were outside of the control limit for the following sample. However, associated compounds were non-detect and would be biased high if present. Therefore, the data has been reported and qualified accordingly. P93D-ROX-042224 (400-254906-3)

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

### GC Semi VOA

Method 8011: The continuing calibration verification (CCV) associated with batch 400-670017 recovered outside acceptance criteria, low biased, for 1,2-Dibromoethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

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

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# Sample Summary

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

Job ID: 400-254906-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-254906-1	TB-ROX-042224-8260-SS	Water	04/22/24 00:00	04/23/24 09:32
400-254906-2	TB-ROX-042224-8011-SS	Water	04/22/24 00:00	04/23/24 09:32
400-254906-3	P93D-ROX-042224	Water	04/22/24 10:45	04/23/24 09:32

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# Detection Summary

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

Job ID: 400-254906-1

**Client Sample ID: TB-ROX-042224-8260-SS**

**Lab Sample ID: 400-254906-1**

No Detections.

**Client Sample ID: TB-ROX-042224-8011-SS**

**Lab Sample ID: 400-254906-2**

No Detections.

**Client Sample ID: P93D-ROX-042224**

**Lab Sample ID: 400-254906-3**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	1.2		1.0	0.22	ug/L	1		8260D	Total/NA
1-Methylnaphthalene	0.086	J	0.20	0.080	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	0.094	J	0.20	0.066	ug/L	1		8270E SIM	Total/NA

This Detection Summary does not include radiochemical test results.

# Client Sample Results

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

Job ID: 400-254906-1

**Client Sample ID: TB-ROX-042224-8260-SS**

**Lab Sample ID: 400-254906-1**

**Date Collected: 04/22/24 00:00**

**Matrix: Water**

**Date Received: 04/23/24 09:32**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			05/04/24 13:47	1
Acrolein	ND		20	3.3	ug/L			05/04/24 13:47	1
Acrylonitrile	ND		10	2.8	ug/L			05/04/24 13:47	1
Benzene	ND		1.0	0.50	ug/L			05/04/24 13:47	1
Bromobenzene	ND		1.0	0.54	ug/L			05/04/24 13:47	1
Bromochloromethane	ND		1.0	0.21	ug/L			05/04/24 13:47	1
Bromodichloromethane	ND		1.0	0.50	ug/L			05/04/24 13:47	1
Bromoform	ND		5.0	0.25	ug/L			05/04/24 13:47	1
Bromomethane	ND		1.0	0.98	ug/L			05/04/24 13:47	1
2-Butanone (MEK)	ND		25	2.6	ug/L			05/04/24 13:47	1
Carbon disulfide	ND		1.0	0.50	ug/L			05/04/24 13:47	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			05/04/24 13:47	1
Chlorobenzene	ND		1.0	0.90	ug/L			05/04/24 13:47	1
Chloroethane	ND		1.0	0.76	ug/L			05/04/24 13:47	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			05/04/24 13:47	1
Chloroform	ND		1.0	0.90	ug/L			05/04/24 13:47	1
1-Chlorohexane	ND		1.0	0.32	ug/L			05/04/24 13:47	1
Chloromethane	ND		1.0	0.90	ug/L			05/04/24 13:47	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			05/04/24 13:47	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			05/04/24 13:47	1
Dibromochloromethane	ND		1.0	0.24	ug/L			05/04/24 13:47	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			05/04/24 13:47	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			05/04/24 13:47	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			05/04/24 13:47	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			05/04/24 13:47	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			05/04/24 13:47	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			05/04/24 13:47	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			05/04/24 13:47	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			05/04/24 13:47	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			05/04/24 13:47	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			05/04/24 13:47	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			05/04/24 13:47	1
Ethylbenzene	ND		1.0	0.50	ug/L			05/04/24 13:47	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			05/04/24 13:47	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			05/04/24 13:47	1
2-Hexanone	ND		25	1.4	ug/L			05/04/24 13:47	1
Isopropylbenzene	ND		1.0	0.53	ug/L			05/04/24 13:47	1
Methylene bromide	ND		5.0	0.22	ug/L			05/04/24 13:47	1
Methylene Chloride	ND		5.0	3.0	ug/L			05/04/24 13:47	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			05/04/24 13:47	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			05/04/24 13:47	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			05/04/24 13:47	1
Naphthalene	ND		5.0	3.0	ug/L			05/04/24 13:47	1
n-Butylbenzene	ND		1.0	0.76	ug/L			05/04/24 13:47	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/04/24 13:47	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			05/04/24 13:47	1
o-Xylene	ND		5.0	0.60	ug/L			05/04/24 13:47	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			05/04/24 13:47	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			05/04/24 13:47	1

# Client Sample Results

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

Job ID: 400-254906-1

**Client Sample ID: TB-ROX-042224-8260-SS**

**Lab Sample ID: 400-254906-1**

**Date Collected: 04/22/24 00:00**

**Matrix: Water**

**Date Received: 04/23/24 09:32**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			05/04/24 13:47	1
Styrene	ND		1.0	1.0	ug/L			05/04/24 13:47	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			05/04/24 13:47	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			05/04/24 13:47	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			05/04/24 13:47	1
Tetrachloroethene	ND		1.0	0.90	ug/L			05/04/24 13:47	1
Toluene	ND		1.0	0.90	ug/L			05/04/24 13:47	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			05/04/24 13:47	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			05/04/24 13:47	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			05/04/24 13:47	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			05/04/24 13:47	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			05/04/24 13:47	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			05/04/24 13:47	1
Trichloroethene	ND		1.0	0.15	ug/L			05/04/24 13:47	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			05/04/24 13:47	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			05/04/24 13:47	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			05/04/24 13:47	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			05/04/24 13:47	1
Vinyl acetate	ND		25	0.93	ug/L			05/04/24 13:47	1
Vinyl chloride	ND		1.0	0.50	ug/L			05/04/24 13:47	1
Xylenes, Total	ND		10	1.6	ug/L			05/04/24 13:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	113		72 - 130		05/04/24 13:47	1
Dibromofluoromethane	99		75 - 126		05/04/24 13:47	1
Toluene-d8 (Surr)	99		64 - 132		05/04/24 13:47	1



# Client Sample Results

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

Job ID: 400-254906-1

**Client Sample ID: TB-ROX-042224-8011-SS**

**Lab Sample ID: 400-254906-2**

Date Collected: 04/22/24 00:00

Matrix: Water

Date Received: 04/23/24 09:32

**Method: EPA 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	0.018	ug/L		05/01/24 08:31	05/02/24 01:07	1
1,2-Dibromoethane	ND		0.022	0.016	ug/L		05/01/24 08:31	05/02/24 01:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	73		51 - 149				05/01/24 08:31	05/02/24 01:07	1

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# Client Sample Results

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

Job ID: 400-254906-1

**Client Sample ID: P93D-ROX-042224**

**Lab Sample ID: 400-254906-3**

Date Collected: 04/22/24 10:45

Matrix: Water

Date Received: 04/23/24 09:32

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			05/04/24 10:56	1
Acrolein	ND		20	3.3	ug/L			05/04/24 10:56	1
Acrylonitrile	ND		10	2.8	ug/L			05/04/24 10:56	1
Benzene	ND		1.0	0.50	ug/L			05/04/24 10:56	1
Bromobenzene	ND		1.0	0.54	ug/L			05/04/24 10:56	1
Bromochloromethane	ND		1.0	0.21	ug/L			05/04/24 10:56	1
Bromodichloromethane	ND		1.0	0.50	ug/L			05/04/24 10:56	1
Bromoform	ND		5.0	0.25	ug/L			05/04/24 10:56	1
Bromomethane	ND		1.0	0.98	ug/L			05/04/24 10:56	1
2-Butanone (MEK)	ND		25	2.6	ug/L			05/04/24 10:56	1
Carbon disulfide	ND		1.0	0.50	ug/L			05/04/24 10:56	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			05/04/24 10:56	1
Chlorobenzene	ND		1.0	0.90	ug/L			05/04/24 10:56	1
Chloroethane	ND	UJ	1.0	0.76	ug/L			05/04/24 10:56	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			05/04/24 10:56	1
Chloroform	ND		1.0	0.90	ug/L			05/04/24 10:56	1
1-Chlorohexane	ND		1.0	0.32	ug/L			05/04/24 10:56	1
Chloromethane	ND		1.0	0.90	ug/L			05/04/24 10:56	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			05/04/24 10:56	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			05/04/24 10:56	1
Dibromochloromethane	ND		1.0	0.24	ug/L			05/04/24 10:56	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			05/04/24 10:56	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			05/04/24 10:56	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			05/04/24 10:56	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			05/04/24 10:56	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			05/04/24 10:56	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			05/04/24 10:56	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			05/04/24 10:56	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			05/04/24 10:56	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			05/04/24 10:56	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			05/04/24 10:56	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			05/04/24 10:56	1
Ethylbenzene	ND		1.0	0.50	ug/L			05/04/24 10:56	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			05/04/24 10:56	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			05/04/24 10:56	1
2-Hexanone	ND		25	1.4	ug/L			05/04/24 10:56	1
Isopropylbenzene	ND		1.0	0.53	ug/L			05/04/24 10:56	1
Methylene bromide	ND		5.0	0.22	ug/L			05/04/24 10:56	1
Methylene Chloride	ND		5.0	3.0	ug/L			05/04/24 10:56	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			05/04/24 10:56	1
Methyl tert-butyl ether	1.2		1.0	0.22	ug/L			05/04/24 10:56	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			05/04/24 10:56	1
Naphthalene	ND		5.0	3.0	ug/L			05/04/24 10:56	1
n-Butylbenzene	ND		1.0	0.76	ug/L			05/04/24 10:56	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/04/24 10:56	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			05/04/24 10:56	1
o-Xylene	ND		5.0	0.60	ug/L			05/04/24 10:56	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			05/04/24 10:56	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			05/04/24 10:56	1

# Client Sample Results

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

Job ID: 400-254906-1

**Client Sample ID: P93D-ROX-042224**

**Lab Sample ID: 400-254906-3**

Date Collected: 04/22/24 10:45

Matrix: Water

Date Received: 04/23/24 09:32

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			05/04/24 10:56	1
Styrene	ND		1.0	1.0	ug/L			05/04/24 10:56	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			05/04/24 10:56	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			05/04/24 10:56	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			05/04/24 10:56	1
Tetrachloroethene	ND		1.0	0.90	ug/L			05/04/24 10:56	1
Toluene	ND		1.0	0.90	ug/L			05/04/24 10:56	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			05/04/24 10:56	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			05/04/24 10:56	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			05/04/24 10:56	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			05/04/24 10:56	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			05/04/24 10:56	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			05/04/24 10:56	1
Trichloroethene	ND		1.0	0.15	ug/L			05/04/24 10:56	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			05/04/24 10:56	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			05/04/24 10:56	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			05/04/24 10:56	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			05/04/24 10:56	1
Vinyl acetate	ND		25	0.93	ug/L			05/04/24 10:56	1
Vinyl chloride	ND		1.0	0.50	ug/L			05/04/24 10:56	1
Xylenes, Total	ND		10	1.6	ug/L			05/04/24 10:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	112		72 - 130		05/04/24 10:56	1
Dibromofluoromethane	102		75 - 126		05/04/24 10:56	1
Toluene-d8 (Surr)	99		64 - 132		05/04/24 10:56	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.099	ug/L		04/29/24 08:45	04/30/24 19:49	1
Acenaphthylene	ND		0.20	0.044	ug/L		04/29/24 08:45	04/30/24 19:49	1
Anthracene	ND		0.20	0.047	ug/L		04/29/24 08:45	04/30/24 19:49	1
Benzo[a]anthracene	ND	*3 UJ	0.20	0.034	ug/L		04/29/24 08:45	04/30/24 19:49	1
Benzo[a]pyrene	ND	*3 UJ	0.20	0.064	ug/L		04/29/24 08:45	04/30/24 19:49	1
Benzo[b]fluoranthene	ND	*3 UJ	0.20	0.037	ug/L		04/29/24 08:45	04/30/24 19:49	1
Benzo[g,h,i]perylene	ND	*3 UJ	0.20	0.027	ug/L		04/29/24 08:45	04/30/24 19:49	1
Benzo[k]fluoranthene	ND	*3 UJ	0.20	0.062	ug/L		04/29/24 08:45	04/30/24 19:49	1
Chrysene	ND	*3 UJ	0.20	0.033	ug/L		04/29/24 08:45	04/30/24 19:49	1
Dibenz(a,h)anthracene	ND	*3 UJ	0.20	0.048	ug/L		04/29/24 08:45	04/30/24 19:49	1
Fluoranthene	ND		0.20	0.034	ug/L		04/29/24 08:45	04/30/24 19:49	1
Fluorene	ND		0.20	0.089	ug/L		04/29/24 08:45	04/30/24 19:49	1
Indeno[1,2,3-cd]pyrene	ND	*3 UJ	0.20	0.034	ug/L		04/29/24 08:45	04/30/24 19:49	1
Phenanthrene	ND		0.20	0.090	ug/L		04/29/24 08:45	04/30/24 19:49	1
Pyrene	ND	*3 UJ	0.20	0.039	ug/L		04/29/24 08:45	04/30/24 19:49	1
1-Methylnaphthalene	0.086	J	0.20	0.080	ug/L		04/29/24 08:45	04/30/24 19:49	1
2-Methylnaphthalene	0.094	J	0.20	0.066	ug/L		04/29/24 08:45	04/30/24 19:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	75	*3	18 - 147	04/29/24 08:45	04/30/24 19:49	1
2-Fluorobiphenyl	51		15 - 128	04/29/24 08:45	04/30/24 19:49	1

Eurofins Pensacola

# Client Sample Results

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

Job ID: 400-254906-1

**Client Sample ID: P93D-ROX-042224**

**Lab Sample ID: 400-254906-3**

Date Collected: 04/22/24 10:45

Matrix: Water

Date Received: 04/23/24 09:32

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	39		10 - 144	04/29/24 08:45	04/30/24 19:49	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*1	10	8.7	ug/L		04/29/24 08:45	04/30/24 19:05	1
Benzenethiol	ND		10	9.9	ug/L		04/29/24 08:45	04/30/24 19:05	1
Benzoic acid	ND		30	24	ug/L		04/29/24 08:45	04/30/24 19:05	1
Benzyl alcohol	ND		10	7.3	ug/L		04/29/24 08:45	04/30/24 19:05	1
Bis(2-chloroethoxy)methane	ND	UJ	10	4.6	ug/L		04/29/24 08:45	04/30/24 19:05	1
Bis(2-chloroethyl)ether	ND	UJ	10	3.9	ug/L		04/29/24 08:45	04/30/24 19:05	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		04/29/24 08:45	04/30/24 19:05	1
Bis(2-ethylhexyl) phthalate	ND		10	8.9	ug/L		04/29/24 08:45	04/30/24 19:05	1
4-Bromophenyl phenyl ether	ND		10	8.6	ug/L		04/29/24 08:45	04/30/24 19:05	1
Butyl benzyl phthalate	ND		10	5.8	ug/L		04/29/24 08:45	04/30/24 19:05	1
4-Chloroaniline	ND		10	4.7	ug/L		04/29/24 08:45	04/30/24 19:05	1
4-Chloro-3-methylphenol	ND		10	5.3	ug/L		04/29/24 08:45	04/30/24 19:05	1
2-Chloronaphthalene	ND		10	3.8	ug/L		04/29/24 08:45	04/30/24 19:05	1
2-Chlorophenol	ND		10	4.1	ug/L		04/29/24 08:45	04/30/24 19:05	1
4-Chlorophenyl phenyl ether	ND		10	3.7	ug/L		04/29/24 08:45	04/30/24 19:05	1
Dibenz[a,h]acridine	ND		10	2.8	ug/L		04/29/24 08:45	04/30/24 19:05	1
Dibenzofuran	ND		10	4.0	ug/L		04/29/24 08:45	04/30/24 19:05	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/29/24 08:45	04/30/24 19:05	1
2,4-Dichlorophenol	ND		10	4.3	ug/L		04/29/24 08:45	04/30/24 19:05	1
Diethyl phthalate	ND		10	4.4	ug/L		04/29/24 08:45	04/30/24 19:05	1
2,4-Dimethylphenol	ND		10	5.2	ug/L		04/29/24 08:45	04/30/24 19:05	1
Dimethyl phthalate	ND		10	4.2	ug/L		04/29/24 08:45	04/30/24 19:05	1
Di-n-butyl phthalate	ND		10	4.6	ug/L		04/29/24 08:45	04/30/24 19:05	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		04/29/24 08:45	04/30/24 19:05	1
2,4-Dinitrophenol	ND	*+	30	4.6	ug/L		04/29/24 08:45	04/30/24 19:05	1
2,4-Dinitrotoluene	ND		10	5.1	ug/L		04/29/24 08:45	04/30/24 19:05	1
2,6-Dinitrotoluene	ND	UJ	10	3.9	ug/L		04/29/24 08:45	04/30/24 19:05	1
Di-n-octyl phthalate	ND		10	6.0	ug/L		04/29/24 08:45	04/30/24 19:05	1
1,4-Dioxane	ND	UJ	10	4.3	ug/L		04/29/24 08:45	04/30/24 19:05	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.3	ug/L		04/29/24 08:45	04/30/24 19:05	1
Hexachlorobenzene	ND		10	9.7	ug/L		04/29/24 08:45	04/30/24 19:05	1
Hexachlorocyclopentadiene	ND	UJ	20	4.5	ug/L		04/29/24 08:45	04/30/24 19:05	1
Hexachloroethane	ND		10	5.2	ug/L		04/29/24 08:45	04/30/24 19:05	1
Indene	ND		10	3.6	ug/L		04/29/24 08:45	04/30/24 19:05	1
Isophorone	ND		10	5.2	ug/L		04/29/24 08:45	04/30/24 19:05	1
2-Methylphenol	ND		10	3.2	ug/L		04/29/24 08:45	04/30/24 19:05	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		04/29/24 08:45	04/30/24 19:05	1
2-Nitroaniline	ND		10	5.0	ug/L		04/29/24 08:45	04/30/24 19:05	1
3-Nitroaniline	ND		10	4.7	ug/L		04/29/24 08:45	04/30/24 19:05	1
4-Nitroaniline	ND		10	4.1	ug/L		04/29/24 08:45	04/30/24 19:05	1
Nitrobenzene	ND		10	4.7	ug/L		04/29/24 08:45	04/30/24 19:05	1
2-Nitrophenol	ND		10	4.6	ug/L		04/29/24 08:45	04/30/24 19:05	1
4-Nitrophenol	ND		10	3.3	ug/L		04/29/24 08:45	04/30/24 19:05	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		04/29/24 08:45	04/30/24 19:05	1

# Client Sample Results

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

Job ID: 400-254906-1

**Client Sample ID: P93D-ROX-042224**

**Lab Sample ID: 400-254906-3**

Date Collected: 04/22/24 10:45

Matrix: Water

Date Received: 04/23/24 09:32

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		04/29/24 08:45	04/30/24 19:05	1
N-Nitrosodiphenylamine	ND		10	3.7	ug/L		04/29/24 08:45	04/30/24 19:05	1
Pentachlorophenol	ND		20	12	ug/L		04/29/24 08:45	04/30/24 19:05	1
Phenol	ND		10	4.2	ug/L		04/29/24 08:45	04/30/24 19:05	1
Pyridine	ND	*- *1 UJ	10	10	ug/L		04/29/24 08:45	04/30/24 19:05	1
Quinoline	ND		10	2.4	ug/L		04/29/24 08:45	04/30/24 19:05	1
2,4,5-Trichlorophenol	ND	UJ	10	4.0	ug/L		04/29/24 08:45	04/30/24 19:05	1
2,4,6-Trichlorophenol	ND	UJ	10	3.5	ug/L		04/29/24 08:45	04/30/24 19:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	46		21 - 114	04/29/24 08:45	04/30/24 19:05	1
2-Fluorophenol	34		10 - 105	04/29/24 08:45	04/30/24 19:05	1
Nitrobenzene-d5	46		16 - 127	04/29/24 08:45	04/30/24 19:05	1
Phenol-d5	26		10 - 129	04/29/24 08:45	04/30/24 19:05	1
Terphenyl-d14	75		13 - 150	04/29/24 08:45	04/30/24 19:05	1
2,4,6-Tribromophenol	63		10 - 150	04/29/24 08:45	04/30/24 19:05	1

**Method: EPA 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	0.017	ug/L		05/01/24 08:31	05/02/24 01:28	1
1,2-Dibromoethane	ND	UJ	0.020	0.015	ug/L		05/01/24 08:31	05/02/24 01:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	69		51 - 149	05/01/24 08:31	05/02/24 01:28	1

# Definitions/Glossary

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

Job ID: 400-254906-1

## Qualifiers

### GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD is outside acceptance limits, high biased.
*1	LCS/LCSD RPD exceeds control limits.
*3	ISTD response or retention time outside acceptable 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.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count



# Surrogate Summary

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

Job ID: 400-254906-1

## Method: 8260D - Volatile Organic Compounds by 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 (72-130)	DBFM (75-126)	TOL (64-132)
400-254906-1	TB-ROX-042224-8260-SS	113	99	99
400-254906-3	P93D-ROX-042224	112	102	99
LCS 400-670448/1002	Lab Control Sample	111	98	103
MB 400-670448/5	Method Blank	108	101	106

#### Surrogate Legend

BFB = 4-Bromofluorobenzene  
DBFM = Dibromofluoromethane  
TOL = Toluene-d8 (Surr)

## Method: 8270E - 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 (21-114)	2FP (10-105)	NBZ (16-127)	PHL (10-129)	TPHL (13-150)	TBP (10-150)
400-254906-3	P93D-ROX-042224	46	34	46	26	75	63
LCS 400-669664/11-A	Lab Control Sample	61	61	59	62	76	75
LCS 400-669664/13-A	Lab Control Sample	53	54	54	54	61	55
LCS 400-669664/2-A	Lab Control Sample	65	52	77	49	80	88
LCSD 400-669664/12-A	Lab Control Sample Dup	59	58	56	60	73	75
LCSD 400-669664/14-A	Lab Control Sample Dup	55	55	55	56	66	54
LCSD 400-669664/3-A	Lab Control Sample Dup	70	55	83	54	91	93
MB 400-669664/1-A	Method Blank	52	41	48	34	78	58

#### Surrogate Legend

FBP = 2-Fluorobiphenyl  
2FP = 2-Fluorophenol  
NBZ = Nitrobenzene-d5  
PHL = Phenol-d5  
TPHL = Terphenyl-d14  
TBP = 2,4,6-Tribromophenol

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TPHL (18-147)	FBP (15-128)	NBZ (10-144)
400-254906-3	P93D-ROX-042224	75 *3	51	39
LCS 400-669664/2-A	Lab Control Sample	88	64	42
LCSD 400-669664/3-A	Lab Control Sample Dup	91	74	51
MB 400-669664/1-A	Method Blank	68	48	36

#### Surrogate Legend

TPHL = Terphenyl-d14  
FBP = 2-Fluorobiphenyl  
NBZ = Nitrobenzene-d5

# Surrogate Summary

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

Job ID: 400-254906-1

**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)
400-254906-2	TB-ROX-042224-8011-SS	73
400-254906-3	P93D-ROX-042224	69
LCS 400-670025/2-A	Lab Control Sample	59
LCSD 400-670025/3-A	Lab Control Sample Dup	69
MB 400-670025/1-A	Method Blank	68

### Surrogate Legend

BFB = 4-Bromofluorobenzene

# Method Summary

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

Job ID: 400-254906-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET PEN
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET PEN
8270E SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	EET PEN
8011	EDB and DBCP in Water by Microextraction	EPA	EET PEN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET PEN
5030C	Purge and Trap	SW846	EET PEN
8011	Microextraction	SW846	EET 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:**

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001



# Lab Chronicle

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

Job ID: 400-254906-1

**Client Sample ID: TB-ROX-042224-8260-SS**

**Lab Sample ID: 400-254906-1**

Date Collected: 04/22/24 00:00

Matrix: Water

Date Received: 04/23/24 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	8260D		1	5 mL	5 mL	670448	05/04/24 13:47	WPD	EET PEN

**Client Sample ID: TB-ROX-042224-8011-SS**

**Lab Sample ID: 400-254906-2**

Date Collected: 04/22/24 00:00

Matrix: Water

Date Received: 04/23/24 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			32.5 mL	35 mL	670025	05/01/24 08:31	KR	EET PEN
Total/NA	Analysis	8011		1			670017	05/02/24 01:07	PG	EET PEN

**Client Sample ID: P93D-ROX-042224**

**Lab Sample ID: 400-254906-3**

Date Collected: 04/22/24 10:45

Matrix: Water

Date Received: 04/23/24 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	8260D		1	5 mL	5 mL	670448	05/04/24 10:56	WPD	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	669664	04/29/24 08:45	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	669886	04/30/24 19:05	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	669664	04/29/24 08:45	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	669846	04/30/24 19:49	S1B	EET PEN
Total/NA	Prep	8011			34.2 mL	35 mL	670025	05/01/24 08:31	KR	EET PEN
Total/NA	Analysis	8011		1			670017	05/02/24 01:28	PG	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-669664/1-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	3510C			250 mL	1 mL	669664	04/28/24 09:55	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	669886	04/30/24 16:06	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	669664	04/28/24 09:55	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	669846	04/30/24 16:44	S1B	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-670025/1-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	670025	05/01/24 08:31	KR	EET PEN
Total/NA	Analysis	8011		1			670017	05/02/24 00:04	PG	EET PEN

# Lab Chronicle

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

Job ID: 400-254906-1

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-670448/5**

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	8260D		1	5 mL	5 mL	670448	05/04/24 08:30	WPD	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-669664/11-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	3510C			250 mL	1 mL	669664	04/29/24 08:45	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	669886	04/30/24 17:13	S1B	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-669664/13-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	3510C			250 mL	1 mL	669664	04/29/24 08:45	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	669886	04/30/24 17:58	S1B	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-669664/2-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	3510C			250 mL	1 mL	669664	04/28/24 09:55	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	669886	04/30/24 16:29	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	669664	04/28/24 09:55	STC	EET PEN
Total/NA	Analysis	8270E SIM		100	0.4 mL	0.4 mL	669846	04/30/24 17:04	S1B	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-670025/2-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	670025	05/01/24 08:31	KR	EET PEN
Total/NA	Analysis	8011		1			670017	05/02/24 00:25	PG	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-670448/1002**

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	8260D		1	5 mL	5 mL	670448	05/04/24 07:17	WPD	EET PEN

# Lab Chronicle

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

Job ID: 400-254906-1

## Client Sample ID: Lab Control Sample Dup

## Lab Sample ID: LCSD 400-669664/12-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	3510C			250 mL	1 mL	669664	04/29/24 08:45	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	669886	04/30/24 17:36	S1B	EET PEN

## Client Sample ID: Lab Control Sample Dup

## Lab Sample ID: LCSD 400-669664/14-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	3510C			250 mL	1 mL	669664	04/29/24 08:45	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	669886	04/30/24 18:21	S1B	EET PEN

## Client Sample ID: Lab Control Sample Dup

## Lab Sample ID: LCSD 400-669664/3-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	3510C			250 mL	1 mL	669664	04/28/24 09:55	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	669886	04/30/24 16:51	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	669664	04/28/24 09:55	STC	EET PEN
Total/NA	Analysis	8270E SIM		100	0.4 mL	0.4 mL	669846	04/30/24 17:25	S1B	EET PEN

## Client Sample ID: Lab Control Sample Dup

## Lab Sample ID: LCSD 400-670025/3-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	670025	05/01/24 08:31	KR	EET PEN
Total/NA	Analysis	8011		1			670017	05/02/24 00:46	PG	EET PEN

**Laboratory References:**

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001



# QC Association Summary

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

Job ID: 400-254906-1

## GC/MS VOA

### Analysis Batch: 670448

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254906-1	TB-ROX-042224-8260-SS	Total/NA	Water	8260D	
400-254906-3	P93D-ROX-042224	Total/NA	Water	8260D	
MB 400-670448/5	Method Blank	Total/NA	Water	8260D	
LCS 400-670448/1002	Lab Control Sample	Total/NA	Water	8260D	

## GC/MS Semi VOA

### Prep Batch: 669664

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254906-3	P93D-ROX-042224	Total/NA	Water	3510C	
MB 400-669664/1-A	Method Blank	Total/NA	Water	3510C	
LCS 400-669664/11-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 400-669664/13-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 400-669664/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 400-669664/12-A	Lab Control Sample Dup	Total/NA	Water	3510C	
LCSD 400-669664/14-A	Lab Control Sample Dup	Total/NA	Water	3510C	
LCSD 400-669664/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

### Analysis Batch: 669846

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254906-3	P93D-ROX-042224	Total/NA	Water	8270E SIM	669664
MB 400-669664/1-A	Method Blank	Total/NA	Water	8270E SIM	669664
LCS 400-669664/2-A	Lab Control Sample	Total/NA	Water	8270E SIM	669664
LCSD 400-669664/3-A	Lab Control Sample Dup	Total/NA	Water	8270E SIM	669664

### Analysis Batch: 669886

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254906-3	P93D-ROX-042224	Total/NA	Water	8270E	669664
MB 400-669664/1-A	Method Blank	Total/NA	Water	8270E	669664
LCS 400-669664/11-A	Lab Control Sample	Total/NA	Water	8270E	669664
LCS 400-669664/13-A	Lab Control Sample	Total/NA	Water	8270E	669664
LCS 400-669664/2-A	Lab Control Sample	Total/NA	Water	8270E	669664
LCSD 400-669664/12-A	Lab Control Sample Dup	Total/NA	Water	8270E	669664
LCSD 400-669664/14-A	Lab Control Sample Dup	Total/NA	Water	8270E	669664
LCSD 400-669664/3-A	Lab Control Sample Dup	Total/NA	Water	8270E	669664

## GC Semi VOA

### Analysis Batch: 670017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254906-2	TB-ROX-042224-8011-SS	Total/NA	Water	8011	670025
400-254906-3	P93D-ROX-042224	Total/NA	Water	8011	670025
MB 400-670025/1-A	Method Blank	Total/NA	Water	8011	670025
LCS 400-670025/2-A	Lab Control Sample	Total/NA	Water	8011	670025
LCSD 400-670025/3-A	Lab Control Sample Dup	Total/NA	Water	8011	670025

### Prep Batch: 670025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-254906-2	TB-ROX-042224-8011-SS	Total/NA	Water	8011	
400-254906-3	P93D-ROX-042224	Total/NA	Water	8011	
MB 400-670025/1-A	Method Blank	Total/NA	Water	8011	
LCS 400-670025/2-A	Lab Control Sample	Total/NA	Water	8011	

Eurofins Pensacola

# QC Association Summary

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

Job ID: 400-254906-1

## GC Semi VOA (Continued)

### Prep Batch: 670025 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 400-670025/3-A	Lab Control Sample Dup	Total/NA	Water	8011	

- 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

Job ID: 400-254906-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 400-670448/5**  
**Matrix: Water**  
**Analysis Batch: 670448**

**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			05/04/24 08:30	1
Acrolein	ND		20	3.3	ug/L			05/04/24 08:30	1
Acrylonitrile	ND		10	2.8	ug/L			05/04/24 08:30	1
Benzene	ND		1.0	0.50	ug/L			05/04/24 08:30	1
Bromobenzene	ND		1.0	0.54	ug/L			05/04/24 08:30	1
Bromochloromethane	ND		1.0	0.21	ug/L			05/04/24 08:30	1
Bromodichloromethane	ND		1.0	0.50	ug/L			05/04/24 08:30	1
Bromoform	ND		5.0	0.25	ug/L			05/04/24 08:30	1
Bromomethane	ND		1.0	0.98	ug/L			05/04/24 08:30	1
2-Butanone (MEK)	ND		25	2.6	ug/L			05/04/24 08:30	1
Carbon disulfide	ND		1.0	0.50	ug/L			05/04/24 08:30	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			05/04/24 08:30	1
Chlorobenzene	ND		1.0	0.90	ug/L			05/04/24 08:30	1
Chloroethane	ND		1.0	0.76	ug/L			05/04/24 08:30	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			05/04/24 08:30	1
Chloroform	ND		1.0	0.90	ug/L			05/04/24 08:30	1
1-Chlorohexane	ND		1.0	0.32	ug/L			05/04/24 08:30	1
Chloromethane	ND		1.0	0.90	ug/L			05/04/24 08:30	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			05/04/24 08:30	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			05/04/24 08:30	1
Dibromochloromethane	ND		1.0	0.24	ug/L			05/04/24 08:30	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			05/04/24 08:30	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			05/04/24 08:30	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			05/04/24 08:30	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			05/04/24 08:30	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			05/04/24 08:30	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			05/04/24 08:30	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			05/04/24 08:30	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			05/04/24 08:30	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			05/04/24 08:30	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			05/04/24 08:30	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			05/04/24 08:30	1
Ethylbenzene	ND		1.0	0.50	ug/L			05/04/24 08:30	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			05/04/24 08:30	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			05/04/24 08:30	1
2-Hexanone	ND		25	1.4	ug/L			05/04/24 08:30	1
Isopropylbenzene	ND		1.0	0.53	ug/L			05/04/24 08:30	1
Methylene bromide	ND		5.0	0.22	ug/L			05/04/24 08:30	1
Methylene Chloride	ND		5.0	3.0	ug/L			05/04/24 08:30	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			05/04/24 08:30	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			05/04/24 08:30	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			05/04/24 08:30	1
Naphthalene	ND		5.0	3.0	ug/L			05/04/24 08:30	1
n-Butylbenzene	ND		1.0	0.76	ug/L			05/04/24 08:30	1
N-Propylbenzene	ND		1.0	0.69	ug/L			05/04/24 08:30	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			05/04/24 08:30	1
o-Xylene	ND		5.0	0.60	ug/L			05/04/24 08:30	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			05/04/24 08:30	1

# QC Sample Results

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

Job ID: 400-254906-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-670448/5**  
**Matrix: Water**  
**Analysis Batch: 670448**

**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			05/04/24 08:30	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			05/04/24 08:30	1
Styrene	ND		1.0	1.0	ug/L			05/04/24 08:30	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			05/04/24 08:30	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			05/04/24 08:30	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.50	ug/L			05/04/24 08:30	1
Tetrachloroethene	ND		1.0	0.90	ug/L			05/04/24 08:30	1
Toluene	ND		1.0	0.90	ug/L			05/04/24 08:30	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			05/04/24 08:30	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			05/04/24 08:30	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			05/04/24 08:30	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			05/04/24 08:30	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			05/04/24 08:30	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			05/04/24 08:30	1
Trichloroethene	ND		1.0	0.15	ug/L			05/04/24 08:30	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			05/04/24 08:30	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			05/04/24 08:30	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			05/04/24 08:30	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			05/04/24 08:30	1
Vinyl acetate	ND		25	0.93	ug/L			05/04/24 08:30	1
Vinyl chloride	ND		1.0	0.50	ug/L			05/04/24 08:30	1
Xylenes, Total	ND		10	1.6	ug/L			05/04/24 08:30	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	108		72 - 130		05/04/24 08:30	1
Dibromofluoromethane	101		75 - 126		05/04/24 08:30	1
Toluene-d8 (Surr)	106		64 - 132		05/04/24 08:30	1

**Lab Sample ID: LCS 400-670448/1002**  
**Matrix: Water**  
**Analysis Batch: 670448**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	200	263		ug/L		132	43 - 160
Acrolein	500	610		ug/L		122	38 - 160
Acrylonitrile	500	557		ug/L		111	64 - 142
Benzene	50.0	47.1		ug/L		94	70 - 130
Bromobenzene	50.0	49.4		ug/L		99	70 - 132
Bromochloromethane	50.0	43.6		ug/L		87	70 - 130
Bromodichloromethane	50.0	51.9		ug/L		104	67 - 133
Bromoform	50.0	50.4		ug/L		101	57 - 140
Bromomethane	50.0	47.9		ug/L		96	10 - 160
2-Butanone (MEK)	200	208		ug/L		104	61 - 145
Carbon disulfide	50.0	33.0		ug/L		66	61 - 137
Carbon tetrachloride	50.0	44.9		ug/L		90	61 - 137
Chlorobenzene	50.0	47.2		ug/L		94	70 - 130
Chloroethane	50.0	35.7		ug/L		71	55 - 141
2-Chloroethyl vinyl ether	50.0	54.0		ug/L		108	10 - 160

# QC Sample Results

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

Job ID: 400-254906-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-670448/1002**  
**Matrix: Water**  
**Analysis Batch: 670448**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroform	50.0	49.2		ug/L		98	69 - 130
1-Chlorohexane	50.0	53.5		ug/L		107	69 - 130
Chloromethane	50.0	52.7		ug/L		105	58 - 137
cis-1,2-Dichloroethene	50.0	47.3		ug/L		95	68 - 130
cis-1,3-Dichloropropene	50.0	51.8		ug/L		104	69 - 132
Dibromochloromethane	50.0	47.1		ug/L		94	67 - 135
1,2-Dichlorobenzene	50.0	52.1		ug/L		104	67 - 130
1,3-Dichlorobenzene	50.0	50.1		ug/L		100	70 - 130
1,4-Dichlorobenzene	50.0	50.0		ug/L		100	70 - 130
Dichlorodifluoromethane	50.0	39.2		ug/L		78	41 - 146
1,1-Dichloroethane	50.0	56.2		ug/L		112	70 - 130
1,2-Dichloroethane	50.0	49.3		ug/L		99	69 - 130
1,1-Dichloroethene	50.0	43.8		ug/L		88	63 - 134
1,2-Dichloropropane	50.0	51.9		ug/L		104	70 - 130
1,3-Dichloropropane	50.0	52.1		ug/L		104	70 - 130
2,2-Dichloropropane	50.0	49.4		ug/L		99	52 - 135
1,1-Dichloropropene	50.0	46.3		ug/L		93	70 - 130
Ethylbenzene	50.0	48.7		ug/L		97	70 - 130
Ethyl methacrylate	50.0	50.3		ug/L		101	68 - 130
Hexachlorobutadiene	50.0	51.1		ug/L		102	53 - 140
2-Hexanone	200	232		ug/L		116	65 - 137
Isopropylbenzene	50.0	49.1		ug/L		98	70 - 130
Methylene bromide	50.0	49.5		ug/L		99	70 - 130
Methylene Chloride	50.0	46.6		ug/L		93	66 - 135
4-Methyl-2-pentanone (MIBK)	200	219		ug/L		110	69 - 138
Methyl tert-butyl ether	50.0	53.8		ug/L		108	66 - 130
m-Xylene & p-Xylene	50.0	48.4		ug/L		97	70 - 130
Naphthalene	50.0	38.0		ug/L		76	47 - 149
n-Butylbenzene	50.0	54.3		ug/L		109	67 - 130
N-Propylbenzene	50.0	50.8		ug/L		102	70 - 130
o-Chlorotoluene	50.0	50.4		ug/L		101	70 - 130
o-Xylene	50.0	49.0		ug/L		98	70 - 130
p-Chlorotoluene	50.0	52.2		ug/L		104	70 - 130
p-Isopropyltoluene	50.0	50.5		ug/L		101	65 - 130
sec-Butylbenzene	50.0	52.7		ug/L		105	66 - 130
Styrene	50.0	47.8		ug/L		96	70 - 130
tert-Butylbenzene	50.0	51.5		ug/L		103	64 - 139
1,1,1,2-Tetrachloroethane	50.0	48.2		ug/L		96	67 - 131
1,1,1,2,2-Tetrachloroethane	50.0	57.8		ug/L		116	70 - 131
Tetrachloroethene	50.0	41.0		ug/L		82	65 - 130
Toluene	50.0	47.1		ug/L		94	70 - 130
trans-1,2-Dichloroethene	50.0	45.3		ug/L		91	70 - 130
trans-1,3-Dichloropropene	50.0	52.0		ug/L		104	63 - 130
1,2,3-Trichlorobenzene	50.0	48.2		ug/L		96	60 - 138
1,2,4-Trichlorobenzene	50.0	48.2		ug/L		96	60 - 140
1,1,1-Trichloroethane	50.0	47.8		ug/L		96	68 - 130
1,1,2-Trichloroethane	50.0	51.7		ug/L		103	70 - 130
Trichloroethene	50.0	45.4		ug/L		91	70 - 130
Trichlorofluoromethane	50.0	52.2		ug/L		104	65 - 138

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# QC Sample Results

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

Job ID: 400-254906-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-670448/1002**  
**Matrix: Water**  
**Analysis Batch: 670448**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	50.0	52.9		ug/L		106	70 - 130
1,2,4-Trimethylbenzene	50.0	52.1		ug/L		104	70 - 130
1,3,5-Trimethylbenzene	50.0	51.5		ug/L		103	69 - 130
Vinyl acetate	100	118		ug/L		118	26 - 160
Vinyl chloride	50.0	40.4		ug/L		81	59 - 136
Xylenes, Total	100	97.4		ug/L		97	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	111		72 - 130
Dibromofluoromethane	98		75 - 126
Toluene-d8 (Surr)	103		64 - 132

## Method: 8270E - Semivolatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 400-669664/1-A**  
**Matrix: Water**  
**Analysis Batch: 669886**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 669664**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	8.7	ug/L		04/28/24 09:55	04/30/24 16:06	1
Benzenethiol	ND		10	9.9	ug/L		04/28/24 09:55	04/30/24 16:06	1
Benzoic acid	ND		30	24	ug/L		04/28/24 09:55	04/30/24 16:06	1
Benzyl alcohol	ND		10	7.3	ug/L		04/28/24 09:55	04/30/24 16:06	1
Bis(2-chloroethoxy)methane	ND		10	4.6	ug/L		04/28/24 09:55	04/30/24 16:06	1
Bis(2-chloroethyl)ether	ND		10	3.9	ug/L		04/28/24 09:55	04/30/24 16:06	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		04/28/24 09:55	04/30/24 16:06	1
Bis(2-ethylhexyl) phthalate	ND		10	8.9	ug/L		04/28/24 09:55	04/30/24 16:06	1
4-Bromophenyl phenyl ether	ND		10	8.6	ug/L		04/28/24 09:55	04/30/24 16:06	1
Butyl benzyl phthalate	ND		10	5.8	ug/L		04/28/24 09:55	04/30/24 16:06	1
4-Chloroaniline	ND		10	4.7	ug/L		04/28/24 09:55	04/30/24 16:06	1
4-Chloro-3-methylphenol	ND		10	5.3	ug/L		04/28/24 09:55	04/30/24 16:06	1
2-Chloronaphthalene	ND		10	3.8	ug/L		04/28/24 09:55	04/30/24 16:06	1
2-Chlorophenol	ND		10	4.1	ug/L		04/28/24 09:55	04/30/24 16:06	1
4-Chlorophenyl phenyl ether	ND		10	3.7	ug/L		04/28/24 09:55	04/30/24 16:06	1
Dibenz[a,h]acridine	ND		10	2.8	ug/L		04/28/24 09:55	04/30/24 16:06	1
Dibenzofuran	ND		10	4.0	ug/L		04/28/24 09:55	04/30/24 16:06	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		04/28/24 09:55	04/30/24 16:06	1
2,4-Dichlorophenol	ND		10	4.3	ug/L		04/28/24 09:55	04/30/24 16:06	1
Diethyl phthalate	ND		10	4.4	ug/L		04/28/24 09:55	04/30/24 16:06	1
2,4-Dimethylphenol	ND		10	5.2	ug/L		04/28/24 09:55	04/30/24 16:06	1
Dimethyl phthalate	ND		10	4.2	ug/L		04/28/24 09:55	04/30/24 16:06	1
Di-n-butyl phthalate	ND		10	4.6	ug/L		04/28/24 09:55	04/30/24 16:06	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		04/28/24 09:55	04/30/24 16:06	1
2,4-Dinitrophenol	ND		30	4.6	ug/L		04/28/24 09:55	04/30/24 16:06	1
2,4-Dinitrotoluene	ND		10	5.1	ug/L		04/28/24 09:55	04/30/24 16:06	1
2,6-Dinitrotoluene	ND		10	3.9	ug/L		04/28/24 09:55	04/30/24 16:06	1
Di-n-octyl phthalate	ND		10	6.0	ug/L		04/28/24 09:55	04/30/24 16:06	1
1,4-Dioxane	ND		10	4.3	ug/L		04/28/24 09:55	04/30/24 16:06	1



# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA QUARTERLY GW

Job ID: 400-254906-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 400-669664/1-A**  
**Matrix: Water**  
**Analysis Batch: 669886**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 669664**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.3	ug/L		04/28/24 09:55	04/30/24 16:06	1
Hexachlorobenzene	ND		10	9.7	ug/L		04/28/24 09:55	04/30/24 16:06	1
Hexachlorocyclopentadiene	ND		20	4.5	ug/L		04/28/24 09:55	04/30/24 16:06	1
Hexachloroethane	ND		10	5.2	ug/L		04/28/24 09:55	04/30/24 16:06	1
Indene	ND		10	3.6	ug/L		04/28/24 09:55	04/30/24 16:06	1
Isophorone	ND		10	5.2	ug/L		04/28/24 09:55	04/30/24 16:06	1
2-Methylphenol	ND		10	3.2	ug/L		04/28/24 09:55	04/30/24 16:06	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		04/28/24 09:55	04/30/24 16:06	1
2-Nitroaniline	ND		10	5.0	ug/L		04/28/24 09:55	04/30/24 16:06	1
3-Nitroaniline	ND		10	4.7	ug/L		04/28/24 09:55	04/30/24 16:06	1
4-Nitroaniline	ND		10	4.1	ug/L		04/28/24 09:55	04/30/24 16:06	1
Nitrobenzene	ND		10	4.7	ug/L		04/28/24 09:55	04/30/24 16:06	1
2-Nitrophenol	ND		10	4.6	ug/L		04/28/24 09:55	04/30/24 16:06	1
4-Nitrophenol	ND		10	3.3	ug/L		04/28/24 09:55	04/30/24 16:06	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		04/28/24 09:55	04/30/24 16:06	1
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		04/28/24 09:55	04/30/24 16:06	1
N-Nitrosodiphenylamine	ND		10	3.7	ug/L		04/28/24 09:55	04/30/24 16:06	1
Pentachlorophenol	ND		20	12	ug/L		04/28/24 09:55	04/30/24 16:06	1
Phenol	ND		10	4.2	ug/L		04/28/24 09:55	04/30/24 16:06	1
Pyridine	ND		10	10	ug/L		04/28/24 09:55	04/30/24 16:06	1
Quinoline	ND		10	2.4	ug/L		04/28/24 09:55	04/30/24 16:06	1
2,4,5-Trichlorophenol	ND		10	4.0	ug/L		04/28/24 09:55	04/30/24 16:06	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		04/28/24 09:55	04/30/24 16:06	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	52		21 - 114	04/28/24 09:55	04/30/24 16:06	1
2-Fluorophenol	41		10 - 105	04/28/24 09:55	04/30/24 16:06	1
Nitrobenzene-d5	48		16 - 127	04/28/24 09:55	04/30/24 16:06	1
Phenol-d5	34		10 - 129	04/28/24 09:55	04/30/24 16:06	1
Terphenyl-d14	78		13 - 150	04/28/24 09:55	04/30/24 16:06	1
2,4,6-Tribromophenol	58		10 - 150	04/28/24 09:55	04/30/24 16:06	1

**Lab Sample ID: LCS 400-669664/11-A**  
**Matrix: Water**  
**Analysis Batch: 669886**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669664**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dibenz[a,h]acridine	120	74.4		ug/L		62	40 - 140
Quinoline	120	73.1		ug/L		61	10 - 141

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	61		21 - 114
2-Fluorophenol	61		10 - 105
Nitrobenzene-d5	59		16 - 127
Phenol-d5	62		10 - 129
Terphenyl-d14	76		13 - 150
2,4,6-Tribromophenol	75		10 - 150

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA QUARTERLY GW

Job ID: 400-254906-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 400-669664/13-A**  
**Matrix: Water**  
**Analysis Batch: 669886**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669664**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzenethiol	120	73.4		ug/L		61	10 - 140
<b>LCS LCS</b>							
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				
2-Fluorobiphenyl	53		21 - 114				
2-Fluorophenol	54		10 - 105				
Nitrobenzene-d5	54		16 - 127				
Phenol-d5	54		10 - 129				
Terphenyl-d14	61		13 - 150				
2,4,6-Tribromophenol	55		10 - 150				

**Lab Sample ID: LCS 400-669664/2-A**  
**Matrix: Water**  
**Analysis Batch: 669886**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669664**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aniline	120	27.9		ug/L		23	10 - 127
Benzoic acid	492	289		ug/L		59	19 - 126
Benzyl alcohol	120	87.3		ug/L		73	17 - 109
Bis(2-chloroethoxy)methane	120	75.6		ug/L		63	24 - 125
Bis(2-chloroethyl)ether	120	51.6		ug/L		43	10 - 121
bis (2-chloroisopropyl) ether	120	68.7		ug/L		57	14 - 123
Bis(2-ethylhexyl) phthalate	120	104		ug/L		87	16 - 150
4-Bromophenyl phenyl ether	120	96.3		ug/L		80	17 - 150
Butyl benzyl phthalate	120	102		ug/L		85	21 - 150
4-Chloroaniline	120	64.3		ug/L		54	10 - 124
4-Chloro-3-methylphenol	120	89.4		ug/L		75	37 - 131
2-Chloronaphthalene	120	79.0		ug/L		66	24 - 132
2-Chlorophenol	120	79.2		ug/L		66	27 - 124
4-Chlorophenyl phenyl ether	120	93.0		ug/L		77	27 - 147
Dibenzofuran	120	91.9		ug/L		77	30 - 135
3,3'-Dichlorobenzidine	240	183		ug/L		76	10 - 150
2,4-Dichlorophenol	120	79.5		ug/L		66	33 - 132
Diethyl phthalate	120	109		ug/L		91	37 - 145
2,4-Dimethylphenol	120	120		ug/L		100	38 - 132
Dimethyl phthalate	120	93.5		ug/L		78	32 - 137
Di-n-butyl phthalate	120	104		ug/L		87	27 - 150
4,6-Dinitro-ortho-cresol	240	226		ug/L		94	14 - 150
2,4-Dinitrophenol	240	346		ug/L		144	15 - 150
2,4-Dinitrotoluene	120	93.0		ug/L		78	35 - 136
2,6-Dinitrotoluene	120	84.0		ug/L		70	29 - 140
Di-n-octyl phthalate	120	94.0		ug/L		78	26 - 150
1,4-Dioxane	120	30.7		ug/L		26	10 - 87
1,2-Diphenylhydrazine (as Azobenzene)	120	97.8		ug/L		81	23 - 138
Hexachlorobenzene	120	105		ug/L		87	10 - 150
Hexachlorocyclopentadiene	120	90.2		ug/L		75	10 - 124
Hexachloroethane	120	74.4		ug/L		62	10 - 127
Indene	120	76.5		ug/L		64	18 - 150

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA QUARTERLY GW

Job ID: 400-254906-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 400-669664/2-A**  
**Matrix: Water**  
**Analysis Batch: 669886**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669664**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Isophorone	120	78.6		ug/L		65	28 - 127
2-Methylphenol	120	82.8		ug/L		69	34 - 124
3 & 4 Methylphenol	120	81.0		ug/L		67	32 - 122
2-Nitroaniline	120	91.3		ug/L		76	24 - 139
3-Nitroaniline	120	72.9		ug/L		61	10 - 128
4-Nitroaniline	120	74.2		ug/L		62	28 - 118
Nitrobenzene	120	78.5		ug/L		65	29 - 120
2-Nitrophenol	120	78.5		ug/L		65	25 - 148
4-Nitrophenol	240	234		ug/L		97	12 - 129
N-Nitrosodimethylamine	120	62.6		ug/L		52	10 - 115
N-Nitrosodi-n-propylamine	120	88.6		ug/L		74	24 - 142
N-Nitrosodiphenylamine	119	89.2		ug/L		75	29 - 138
Pentachlorophenol	240	180		ug/L		75	19 - 150
Phenol	120	55.6		ug/L		46	11 - 95
Pyridine	240	29.5		ug/L		12	10 - 82
2,4,5-Trichlorophenol	120	80.4		ug/L		67	30 - 144
2,4,6-Trichlorophenol	120	75.5		ug/L		63	27 - 147

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	65		21 - 114
2-Fluorophenol	52		10 - 105
Nitrobenzene-d5	77		16 - 127
Phenol-d5	49		10 - 129
Terphenyl-d14	80		13 - 150
2,4,6-Tribromophenol	88		10 - 150

**Lab Sample ID: LCSD 400-669664/12-A**  
**Matrix: Water**  
**Analysis Batch: 669886**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669664**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dibenz[a,h]acridine	120	75.0		ug/L		63	40 - 140	1	40
Quinoline	120	74.1		ug/L		62	10 - 141	1	40

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	59		21 - 114
2-Fluorophenol	58		10 - 105
Nitrobenzene-d5	56		16 - 127
Phenol-d5	60		10 - 129
Terphenyl-d14	73		13 - 150
2,4,6-Tribromophenol	75		10 - 150

**Lab Sample ID: LCSD 400-669664/14-A**  
**Matrix: Water**  
**Analysis Batch: 669886**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669664**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzenethiol	120	79.8		ug/L		67	10 - 140	8	40

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA QUARTERLY GW

Job ID: 400-254906-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 400-669664/14-A**  
**Matrix: Water**  
**Analysis Batch: 669886**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669664**

Surrogate	LCS D %Recovery	LCS D Qualifier	Limits
2-Fluorobiphenyl	55		21 - 114
2-Fluorophenol	55		10 - 105
Nitrobenzene-d5	55		16 - 127
Phenol-d5	56		10 - 129
Terphenyl-d14	66		13 - 150
2,4,6-Tribromophenol	54		10 - 150

**Lab Sample ID: LCSD 400-669664/3-A**  
**Matrix: Water**  
**Analysis Batch: 669886**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669664**

Analyte	Spike Added	LCS D Result	LCS D Qualifier	Unit	D	%Rec	%Rec		RPD	RPD Limit
							Limits	RPD		
Aniline	120	18.0	*1	ug/L		15	10 - 127	43	40	
Benzoic acid	492	331		ug/L		67	19 - 126	13	40	
Benzyl alcohol	120	94.6		ug/L		79	17 - 109	8	40	
Bis(2-chloroethoxy)methane	120	83.9		ug/L		70	24 - 125	10	40	
Bis(2-chloroethyl)ether	120	53.2		ug/L		44	10 - 121	3	40	
bis (2-chloroisopropyl) ether	120	73.7		ug/L		61	14 - 123	7	40	
Bis(2-ethylhexyl) phthalate	120	113		ug/L		94	16 - 150	8	40	
4-Bromophenyl phenyl ether	120	105		ug/L		88	17 - 150	9	40	
Butyl benzyl phthalate	120	116		ug/L		97	21 - 150	14	40	
4-Chloroaniline	120	57.3		ug/L		48	10 - 124	11	40	
4-Chloro-3-methylphenol	120	97.7		ug/L		81	37 - 131	9	40	
2-Chloronaphthalene	120	86.4		ug/L		72	24 - 132	9	40	
2-Chlorophenol	120	86.6		ug/L		72	27 - 124	9	40	
4-Chlorophenyl phenyl ether	120	99.5		ug/L		83	27 - 147	7	40	
Dibenzofuran	120	98.6		ug/L		82	30 - 135	7	40	
3,3'-Dichlorobenzidine	240	183		ug/L		76	10 - 150	0	40	
2,4-Dichlorophenol	120	88.9		ug/L		74	33 - 132	11	40	
Diethyl phthalate	120	117		ug/L		98	37 - 145	7	40	
2,4-Dimethylphenol	120	133		ug/L		111	38 - 132	11	40	
Dimethyl phthalate	120	100		ug/L		83	32 - 137	7	40	
Di-n-butyl phthalate	120	111		ug/L		92	27 - 150	6	40	
4,6-Dinitro-ortho-cresol	240	252		ug/L		105	14 - 150	11	40	
2,4-Dinitrophenol	240	407	*+	ug/L		170	15 - 150	16	40	
2,4-Dinitrotoluene	120	101		ug/L		84	35 - 136	8	40	
2,6-Dinitrotoluene	120	90.2		ug/L		75	29 - 140	7	40	
Di-n-octyl phthalate	120	100		ug/L		83	26 - 150	6	40	
1,4-Dioxane	120	41.7		ug/L		35	10 - 87	30	40	
1,2-Diphenylhydrazine (as Azobenzene)	120	104		ug/L		87	23 - 138	7	40	
Hexachlorobenzene	120	114		ug/L		95	10 - 150	8	40	
Hexachlorocyclopentadiene	120	108		ug/L		90	10 - 124	18	40	
Hexachloroethane	120	80.1		ug/L		67	10 - 127	7	40	
Indene	120	82.0		ug/L		68	18 - 150	7	40	
Isophorone	120	85.7		ug/L		71	28 - 127	9	40	
2-Methylphenol	120	89.3		ug/L		74	34 - 124	8	40	
3 & 4 Methylphenol	120	88.7		ug/L		74	32 - 122	9	40	
2-Nitroaniline	120	101		ug/L		84	24 - 139	10	40	

Eurofins Pensacola

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA QUARTERLY GW

Job ID: 400-254906-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-669664/3-A  
Matrix: Water  
Analysis Batch: 669886

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 669664

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
3-Nitroaniline	120	77.8		ug/L		65	10 - 128	6	40
4-Nitroaniline	120	85.5		ug/L		71	28 - 118	14	40
Nitrobenzene	120	87.4		ug/L		73	29 - 120	11	40
2-Nitrophenol	120	90.0		ug/L		75	25 - 148	14	40
4-Nitrophenol	240	258		ug/L		107	12 - 129	10	40
N-Nitrosodimethylamine	120	66.0		ug/L		55	10 - 115	5	40
N-Nitrosodi-n-propylamine	120	99.2		ug/L		83	24 - 142	11	40
N-Nitrosodiphenylamine	119	96.8		ug/L		81	29 - 138	8	40
Pentachlorophenol	240	206		ug/L		86	19 - 150	14	40
Phenol	120	63.3		ug/L		53	11 - 95	13	40
Pyridine	240	12.3	*- *1	ug/L		5	10 - 82	82	40
2,4,5-Trichlorophenol	120	88.7		ug/L		74	30 - 144	10	40
2,4,6-Trichlorophenol	120	84.4		ug/L		70	27 - 147	11	40

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
2-Fluorobiphenyl	70		21 - 114
2-Fluorophenol	55		10 - 105
Nitrobenzene-d5	83		16 - 127
Phenol-d5	54		10 - 129
Terphenyl-d14	91		13 - 150
2,4,6-Tribromophenol	93		10 - 150

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 400-669664/1-A  
Matrix: Water  
Analysis Batch: 669846

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 669664

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.099	ug/L		04/28/24 09:55	04/30/24 16:44	1
Acenaphthylene	ND		0.20	0.044	ug/L		04/28/24 09:55	04/30/24 16:44	1
Anthracene	ND		0.20	0.047	ug/L		04/28/24 09:55	04/30/24 16:44	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		04/28/24 09:55	04/30/24 16:44	1
Benzo[a]pyrene	ND		0.20	0.064	ug/L		04/28/24 09:55	04/30/24 16:44	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		04/28/24 09:55	04/30/24 16:44	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		04/28/24 09:55	04/30/24 16:44	1
Benzo[k]fluoranthene	ND		0.20	0.062	ug/L		04/28/24 09:55	04/30/24 16:44	1
Chrysene	ND		0.20	0.033	ug/L		04/28/24 09:55	04/30/24 16:44	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		04/28/24 09:55	04/30/24 16:44	1
Fluoranthene	ND		0.20	0.034	ug/L		04/28/24 09:55	04/30/24 16:44	1
Fluorene	ND		0.20	0.089	ug/L		04/28/24 09:55	04/30/24 16:44	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		04/28/24 09:55	04/30/24 16:44	1
Phenanthrene	ND		0.20	0.090	ug/L		04/28/24 09:55	04/30/24 16:44	1
Pyrene	ND		0.20	0.039	ug/L		04/28/24 09:55	04/30/24 16:44	1
1-Methylnaphthalene	ND		0.20	0.080	ug/L		04/28/24 09:55	04/30/24 16:44	1
2-Methylnaphthalene	ND		0.20	0.066	ug/L		04/28/24 09:55	04/30/24 16:44	1

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA QUARTERLY GW

Job ID: 400-254906-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: MB 400-669664/1-A**  
**Matrix: Water**  
**Analysis Batch: 669846**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 669664**

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Terphenyl-d14	68		18 - 147	04/28/24 09:55	04/30/24 16:44	1
2-Fluorobiphenyl	48		15 - 128	04/28/24 09:55	04/30/24 16:44	1
Nitrobenzene-d5	36		10 - 144	04/28/24 09:55	04/30/24 16:44	1

**Lab Sample ID: LCS 400-669664/2-A**  
**Matrix: Water**  
**Analysis Batch: 669846**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 669664**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Acenaphthene	120	78.8		ug/L		66	10 - 140
Acenaphthylene	120	75.0		ug/L		63	10 - 140
Anthracene	120	76.6		ug/L		64	19 - 140
Benzo[a]anthracene	120	74.1		ug/L		62	25 - 140
Benzo[a]pyrene	120	75.1		ug/L		63	24 - 140
Benzo[b]fluoranthene	120	79.3		ug/L		66	34 - 140
Benzo[g,h,i]perylene	120	90.9		ug/L		76	13 - 140
Benzo[k]fluoranthene	120	78.5		ug/L		65	21 - 140
Chrysene	120	83.2		ug/L		69	28 - 140
Dibenz(a,h)anthracene	120	78.1		ug/L		65	10 - 140
Fluoranthene	120	79.0		ug/L		66	18 - 140
Fluorene	120	86.2		ug/L		72	16 - 140
Indeno[1,2,3-cd]pyrene	120	72.0		ug/L		60	10 - 140
Phenanthrene	120	84.1		ug/L		70	22 - 140
Pyrene	120	81.5		ug/L		68	38 - 140
1-Methylnaphthalene	120	80.6		ug/L		67	10 - 140
2-Methylnaphthalene	120	76.9		ug/L		64	10 - 140

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Terphenyl-d14	88		18 - 147
2-Fluorobiphenyl	64		15 - 128
Nitrobenzene-d5	42		10 - 144

**Lab Sample ID: LCSD 400-669664/3-A**  
**Matrix: Water**  
**Analysis Batch: 669846**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669664**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	
								RPD	Limit
Acenaphthene	120	92.2		ug/L		77	10 - 140	16	40
Acenaphthylene	120	85.8		ug/L		71	10 - 140	13	40
Anthracene	120	84.6		ug/L		70	19 - 140	10	40
Benzo[a]anthracene	120	87.1		ug/L		73	25 - 140	16	40
Benzo[a]pyrene	120	74.9		ug/L		62	24 - 140	0	40
Benzo[b]fluoranthene	120	80.8		ug/L		67	34 - 140	2	40
Benzo[g,h,i]perylene	120	99.9		ug/L		83	13 - 140	9	40
Benzo[k]fluoranthene	120	80.5		ug/L		67	21 - 140	2	40
Chrysene	120	99.5		ug/L		83	28 - 140	18	40
Dibenz(a,h)anthracene	120	84.3		ug/L		70	10 - 140	8	40
Fluoranthene	120	90.1		ug/L		75	18 - 140	13	40

Eurofins Pensacola



# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA QUARTERLY GW

Job ID: 400-254906-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: LCSD 400-669664/3-A**  
**Matrix: Water**  
**Analysis Batch: 669846**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 669664**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Fluorene	120	98.7		ug/L		82	16 - 140	13	40
Indeno[1,2,3-cd]pyrene	120	79.9		ug/L		67	10 - 140	10	40
Phenanthrene	120	95.9		ug/L		80	22 - 140	13	40
Pyrene	120	93.9		ug/L		78	38 - 140	14	40
1-Methylnaphthalene	120	96.2		ug/L		80	10 - 140	18	40
2-Methylnaphthalene	120	91.8		ug/L		76	10 - 140	18	40

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
Terphenyl-d14	91		18 - 147
2-Fluorobiphenyl	74		15 - 128
Nitrobenzene-d5	51		10 - 144

## Method: 8011 - EDB and DBCP in Water by Microextraction

**Lab Sample ID: MB 400-670025/1-A**  
**Matrix: Water**  
**Analysis Batch: 670017**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 670025**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.030	0.017	ug/L		05/01/24 08:31	05/02/24 00:04	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		05/01/24 08:31	05/02/24 00:04	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	68		51 - 149	05/01/24 08:31	05/02/24 00:04	1

**Lab Sample ID: LCS 400-670025/2-A**  
**Matrix: Water**  
**Analysis Batch: 670017**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 670025**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dibromo-3-Chloropropane	0.101	0.0855		ug/L		85	60 - 140
1,2-Dibromoethane	0.100	0.0820		ug/L		82	60 - 140

Surrogate	LCS %Recovery	LCS Qualifier	LCS Limits
4-Bromofluorobenzene	59		51 - 149

**Lab Sample ID: LCSD 400-670025/3-A**  
**Matrix: Water**  
**Analysis Batch: 670017**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 670025**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dibromo-3-Chloropropane	0.101	0.0895		ug/L		89	60 - 140	5	30
1,2-Dibromoethane	0.100	0.0872		ug/L		87	60 - 140	6	30

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
4-Bromofluorobenzene	69		51 - 149

ACCOUNTS ( )  
 CALSCEINCE ( )  
 TESTAMERICA (TestAmerica Pensacola; 3355 McLeamore Dr. Pensacola, FL 32514 (850-474-1001))  
 Other ( )

SGW FDG  
 CHEMICALS  
 TRANSPORTATION

PIPELINE  
 CONSULTANT  
 OTHER\_ENV. SERVICES

RETAIL  
 LUBES

**Print Bill To Contact Name:** Melissa Remiger  
**PlanNet Site or Project ID:** 25278  
**PO #:** 60721927 - 3.2.2  
**GSAP Project ID:** USPC/00114/R/02

**DATE:** 4/22/2024  
**PAGE:** 1 of 1

CHECK IF NO INCIDENT # APPLIES

**SAMPLING COMPANY:** AECOM  
**ADDRESS:** 100 N. Broadway, 20th Floor, ST. LOUIS, MO 63102, USA  
**PROJECT CONTACT (hardcopy or PDF Report to):** Melissa Remiger, Mary Massa, Brett Howell  
**TELEPHONE:** 314-429-0100  
**FAX:** 314-429-0462  
**LOG CODE:**

**SITE ADDRESS, Street and City:** 900 South Central Ave, ROXANA, IL  
**PHONE NO.:** 314-802-1207  
**EDF DELIVERABLE TO (Name, Company, Office Location):** Melissa Remiger - please see special instructions  
**AECOM Project / Task Number:** 60721927 - 3.2.2  
**EMAIL:** melissa.remiger@aecom.com  
**AECOM Other ID:**

**SAMPLER NAME(S) (Print):** M. Massa, T. Jenkins

**TURNAROUND TIME (CALENDAR DAYS):**  2 DAYS  3 DAYS  5 DAYS  
 STANDARD (14 DAY)

LA - RWQOB REPORT FORMAT  
 LEVEL 1  LEVEL 2  LEVEL 3  LEVEL 4  
 OTHER (SPECIFY) EDD

**DELIVERABLES:**  COOLER #1  
**TEMPERATURE ON RECEIPT C°:**  COOLER #3

SHELL CONTRACT RATE APPLIES  
 STATE REIMBURSEMENT RATE APPLIES  
 EDD NOT NEEDED  
 RECEIPT VERIFICATION REQUESTED  
 PROVIDE LEED DISK

**RESULTS NEEDED ON:**  24 HOURS  WEEKEND

**SPLIT REPORT**  
 Email reports to: melissa.remiger@aecom.com; brcv.massa@aecom.com; brett.howell@aecom.com  
 \* Please include "J" values on Reports.  
 \* Please provide sample receipt upon login.  
 \* Please send EQUIS EDDs to EDDSubmissions@aecomshell.com; Vlad.Vrhjan@aecom.com

LAB USE ONLY	FIELD SAMPLE IDENTIFICATION		PRESERVATIVE			NO. OF CONT.	
	DATE	TIME	HCL	HNO3	H2SO4		NONE
	4/22/2024	0000	2				2
	4/22/2024	0000	2				2
	4/22/2024	1045	6			2	8

SAMPLING		MATRIX		PRESERVATIVE		NO. OF CONT.
DATE	TIME	HCL	HNO3	H2SO4	NONE	
4/22/2024	0000	Water	2			2
4/22/2024	0000	Water	2			2
4/22/2024	1045	Water	6		2	8

**RECEIVED BY:** (Signature) *Mary Massa*  
**DATE:** 4/23/24  
**TIME:** 9:32

**RECEIVED BY:** (Signature) *Brc*  
**DATE:** 4/23/24  
**TIME:** 1600

**RECEIVED BY:** (Signature)

**TEMPERATURE ON RECEIPT C°:**  
**Container PID Readings or Laboratory Notes:**  
**REQUESTED ANALYSIS:** 60721927 - 3.2.2  
**LAB USE ONLY:** 400-254906 COC  
**FIELD NOTES:**  
**TEMPERATURE ON RECEIPT C°:**  
**Container PID Readings or Laboratory Notes:**

# Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-254906-1

**Login Number: 254906**

**List Source: Eurofins Pensacola**

**List Number: 1**

**Creator: Perez, Trina M**

Question	Answer	Comment
Radioactivity wasn't checked or is <math>\leq</math> 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	0.3°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.	N/A	
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

Job ID: 400-254906-1

## Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-24
Kansas	NELAP	E-10253	10-31-24
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-24
North Carolina (WW/SW)	State	314	12-31-24
Oklahoma	NELAP	9810	08-31-24
Pennsylvania	NELAP	68-00467	01-31-25
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-24
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	P330-21-00056	05-17-24
USDA	US Federal Programs	FLGNV23001	01-08-26
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-25

# Appendix D

**Appendix D – 1      Charts – Benzene Concentrations Over Time**

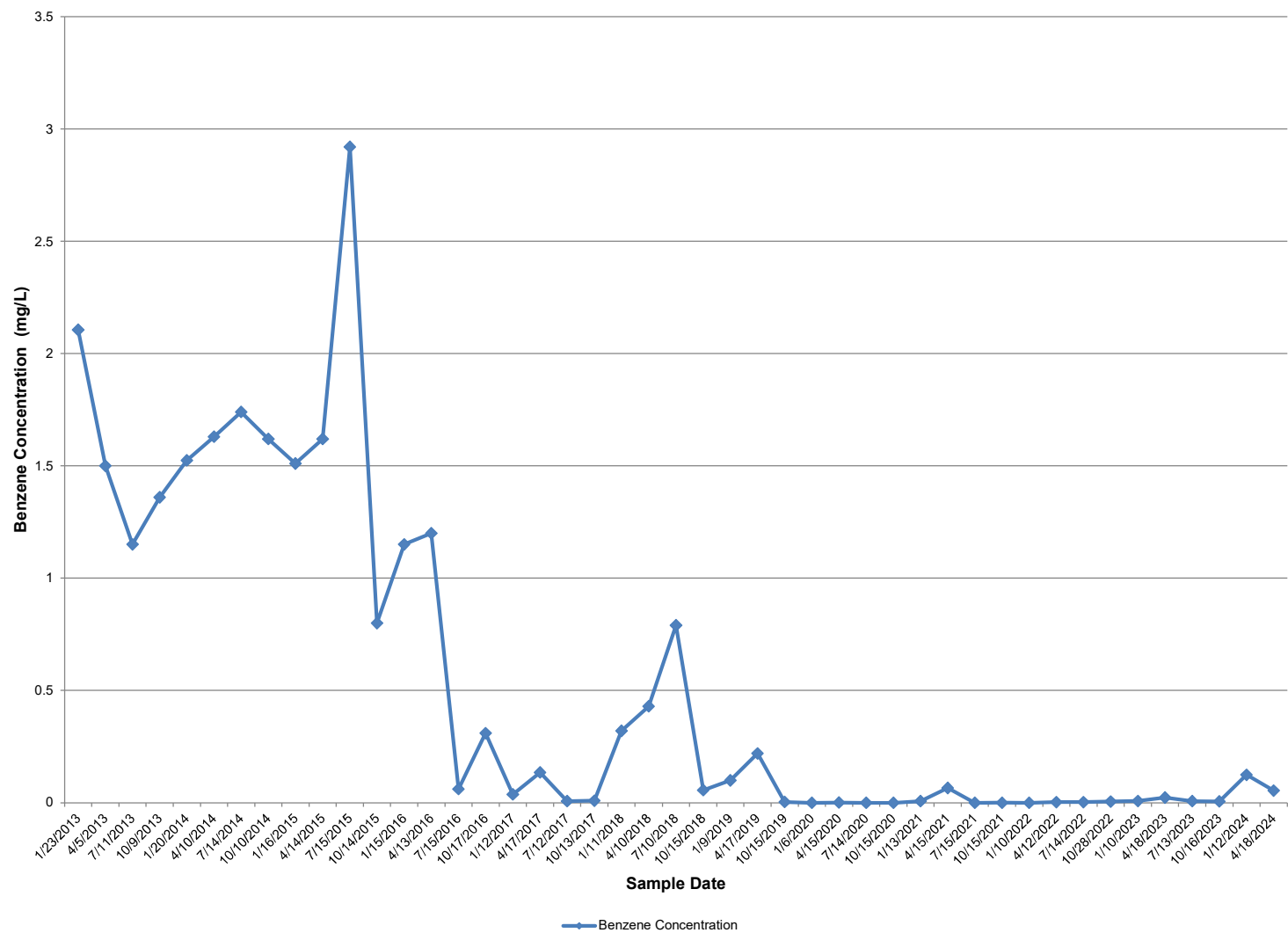
**Appendix D – 2      GWSDAT Charts**

- **4<sup>th</sup> 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**

4<sup>th</sup> Street Area



## Benzene Concentrations Over Time - MW-22



**Notes:**

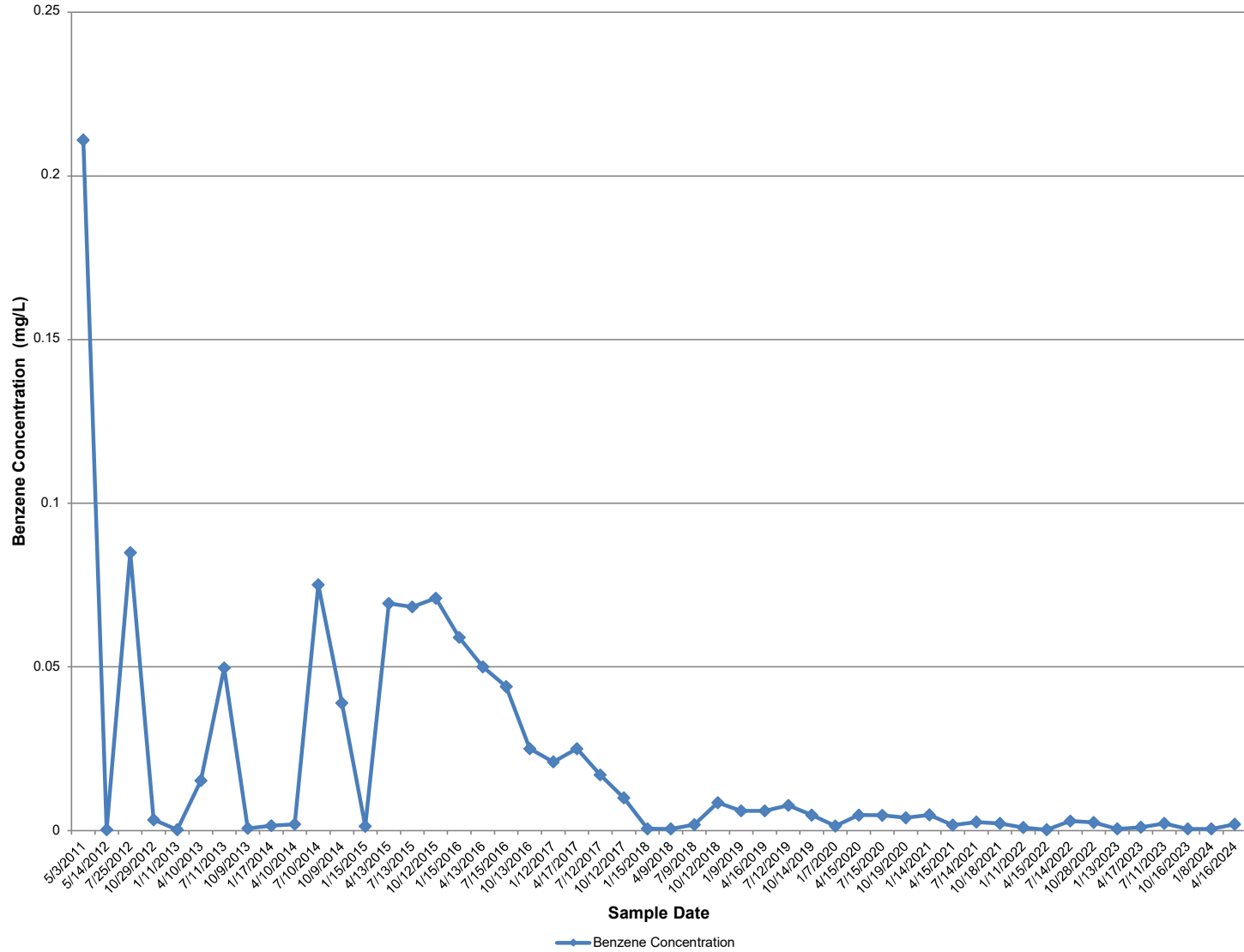
mg/L = milligrams per liter

Duplicate values were averaged.

Timeframe specific to available data.

Non-detect values are shown at half the reporting limit.

# Benzene Concentrations Over Time - ROST-4-PZ(C)



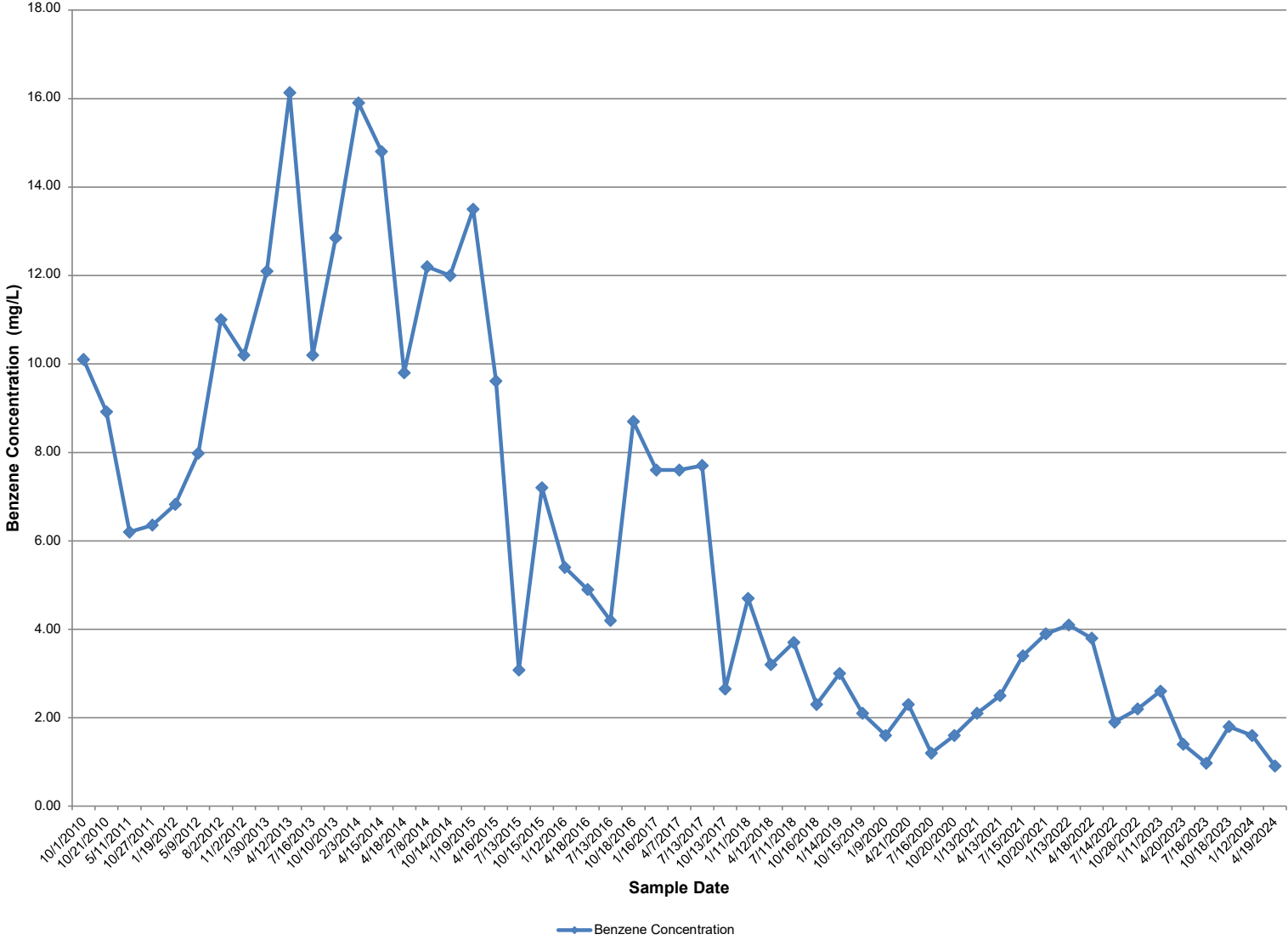
**Notes:**

mg/L = milligrams per liter

Timeframe specific to available data.

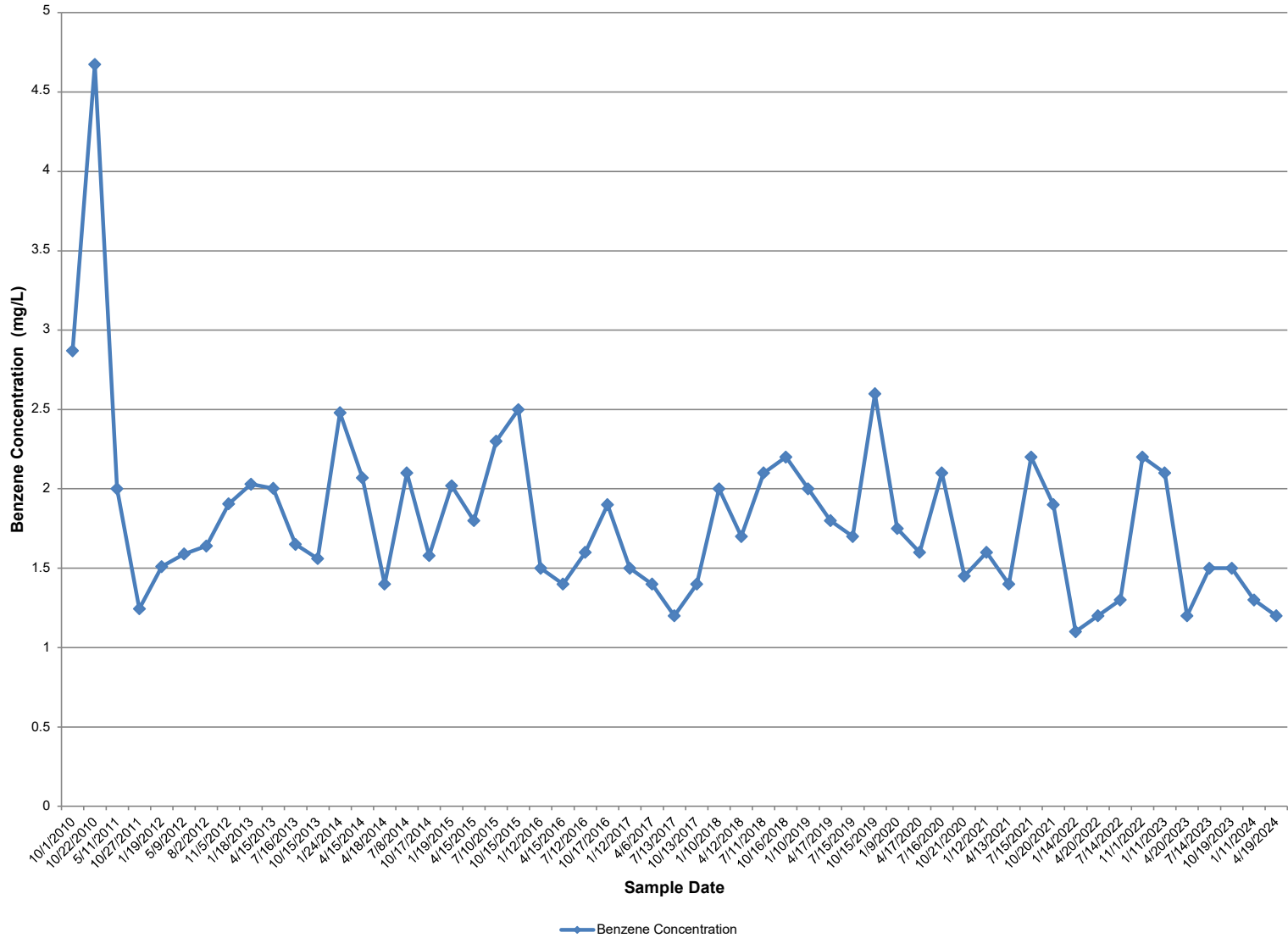
Non-detect values are shown at half the reporting limit.

### Benzene Concentrations Over Time - P-59



Notes:  
mg/L = milligrams per liter  
Duplicate values were averaged.  
Timeframe specific to available data.

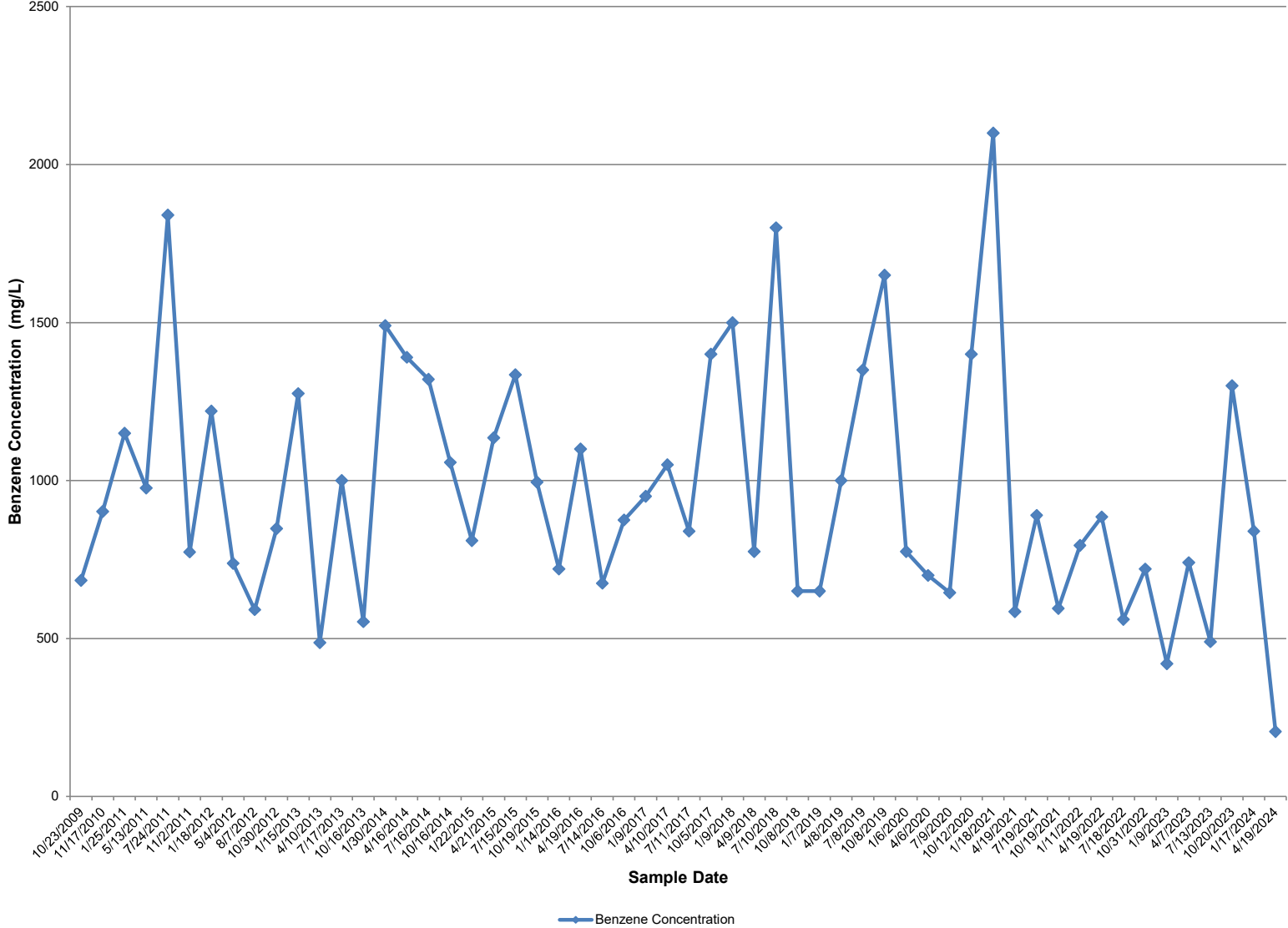
# Benzene Concentrations Over Time - T-12



Notes:  
mg/L = milligrams per liter  
Duplicate values were averaged.  
Timeframe specific to available data.

# Public Works Yard Area

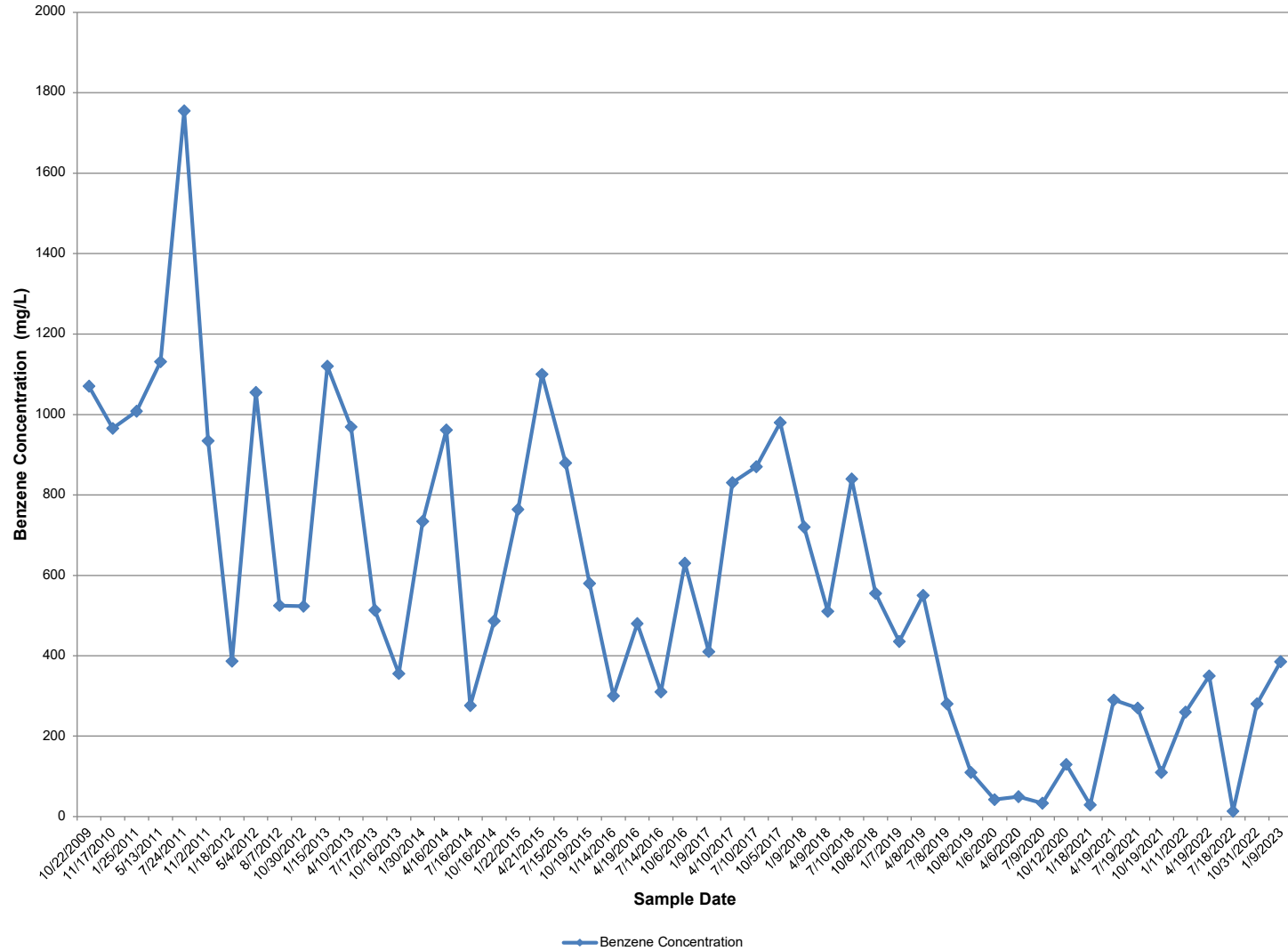
# Benzene Concentrations Over Time - MW-07



Notes:  
mg/L = milligrams per liter  
Duplicate values were averaged.  
Timeframe specific to available data.



## Benzene Concentrations Over Time - MW-08



**Notes:**

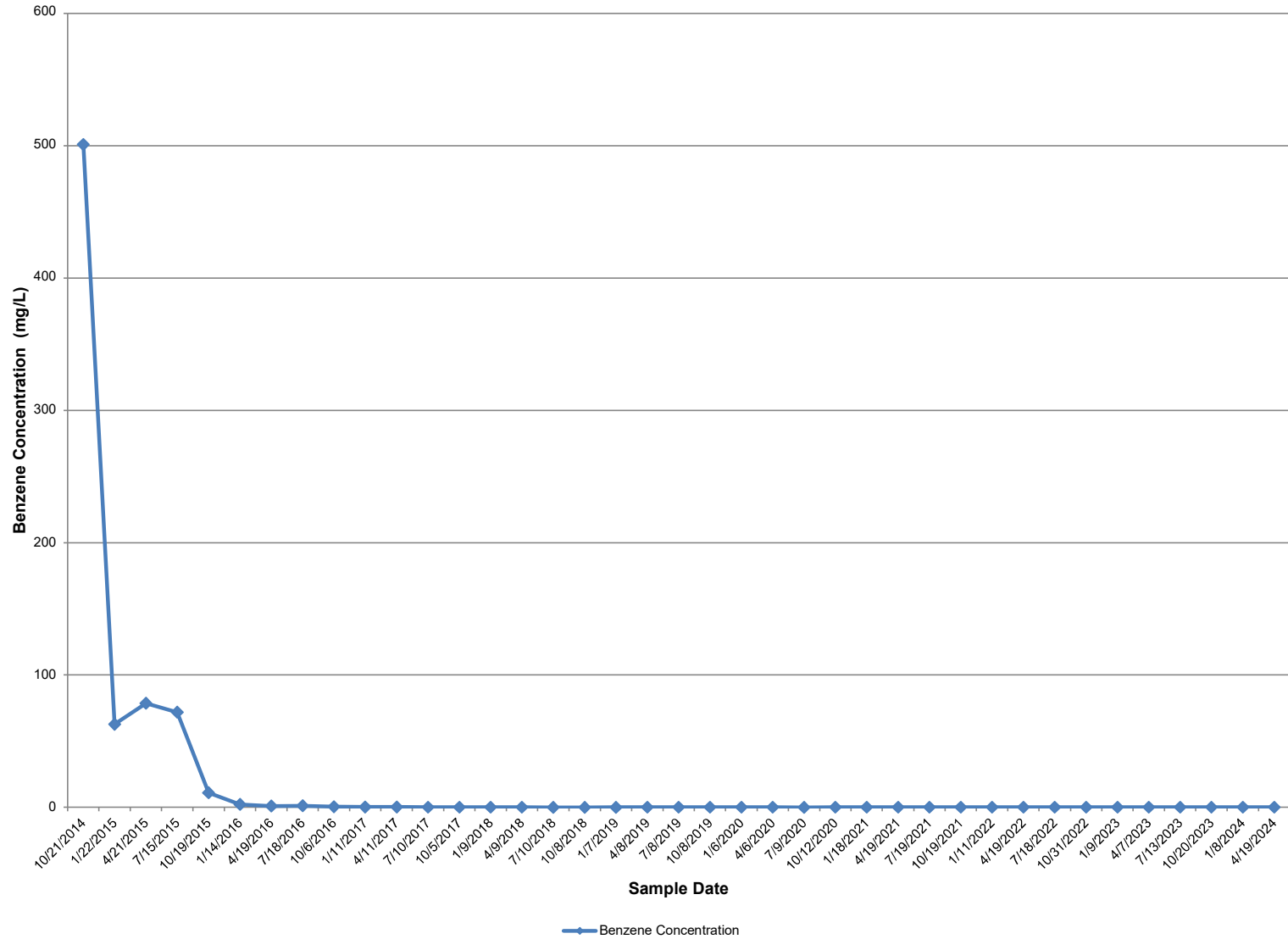
mg/L = milligrams per liter

Duplicate values were averaged.

Timeframe specific to available data.

Well MW-8 was abandoned on January 10, 2023 after 1Q23 quarterly sampling. Abandonment of MW-8 was approved with conditions in the August 22, 2022 IEPA letter (IEPA 2022) in response to the PWY SEE Work Plan (AECOM 2022a); installation of MW-8A and MW-8B is planned as part of the post-SEE system activities.

## Benzene Concentrations Over Time - MW-25



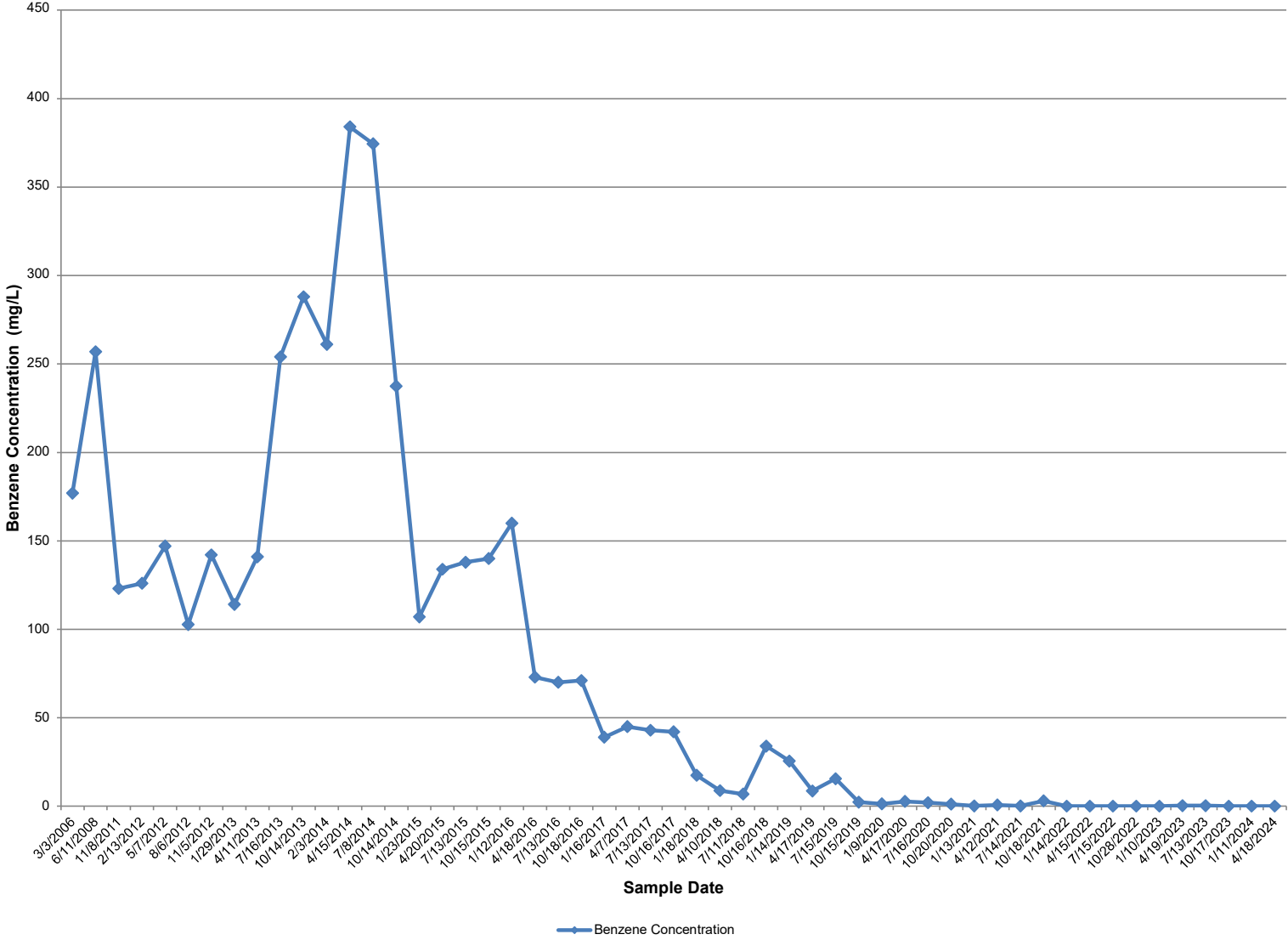
**Notes:**

mg/L = milligrams per liter

Duplicate values were averaged.

Timeframe specific to available data.

### Benzene Concentrations Over Time - P-57

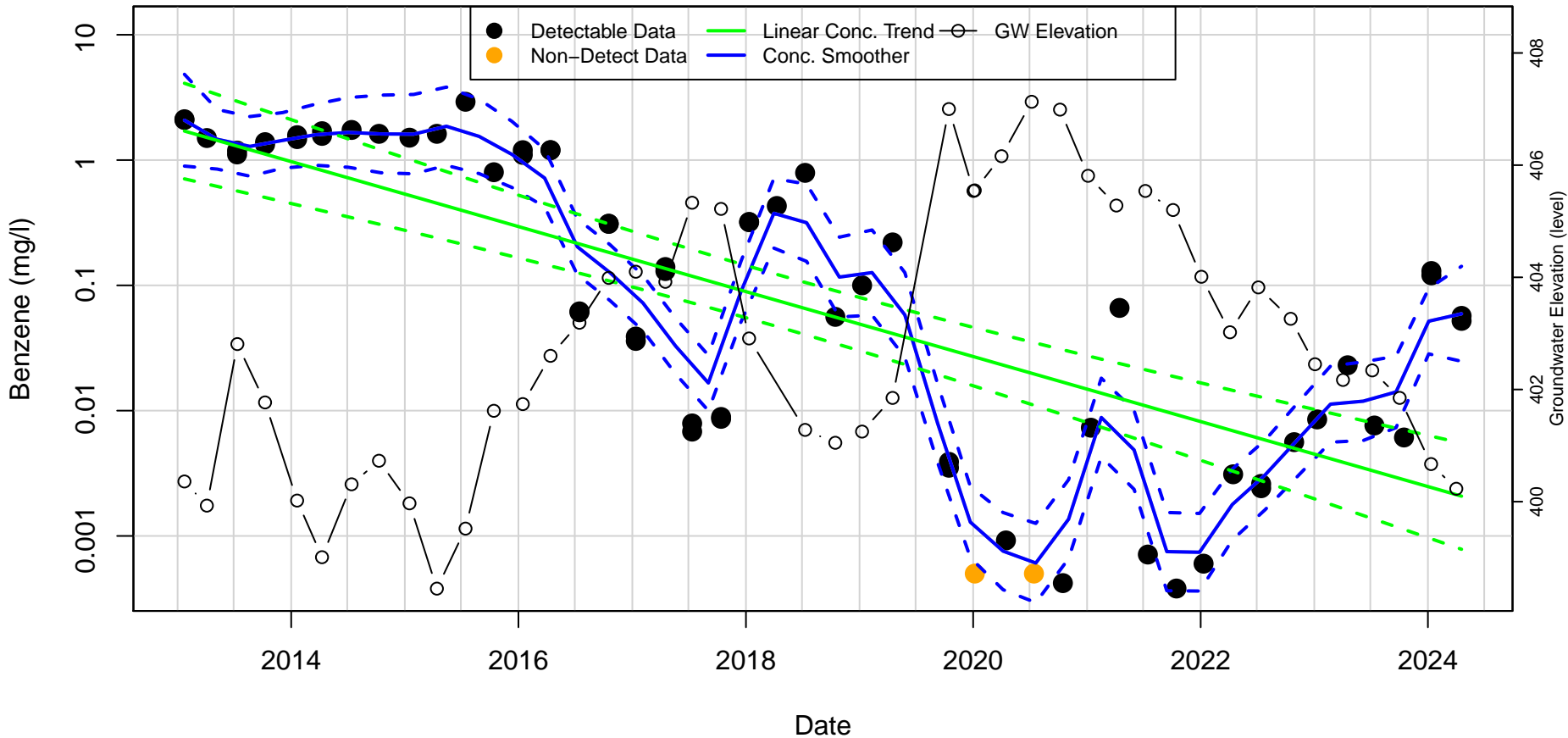


Notes:  
mg/L = milligrams per liter  
Duplicate values were averaged.  
Timeframe specific to available data.

4<sup>th</sup> Street Area

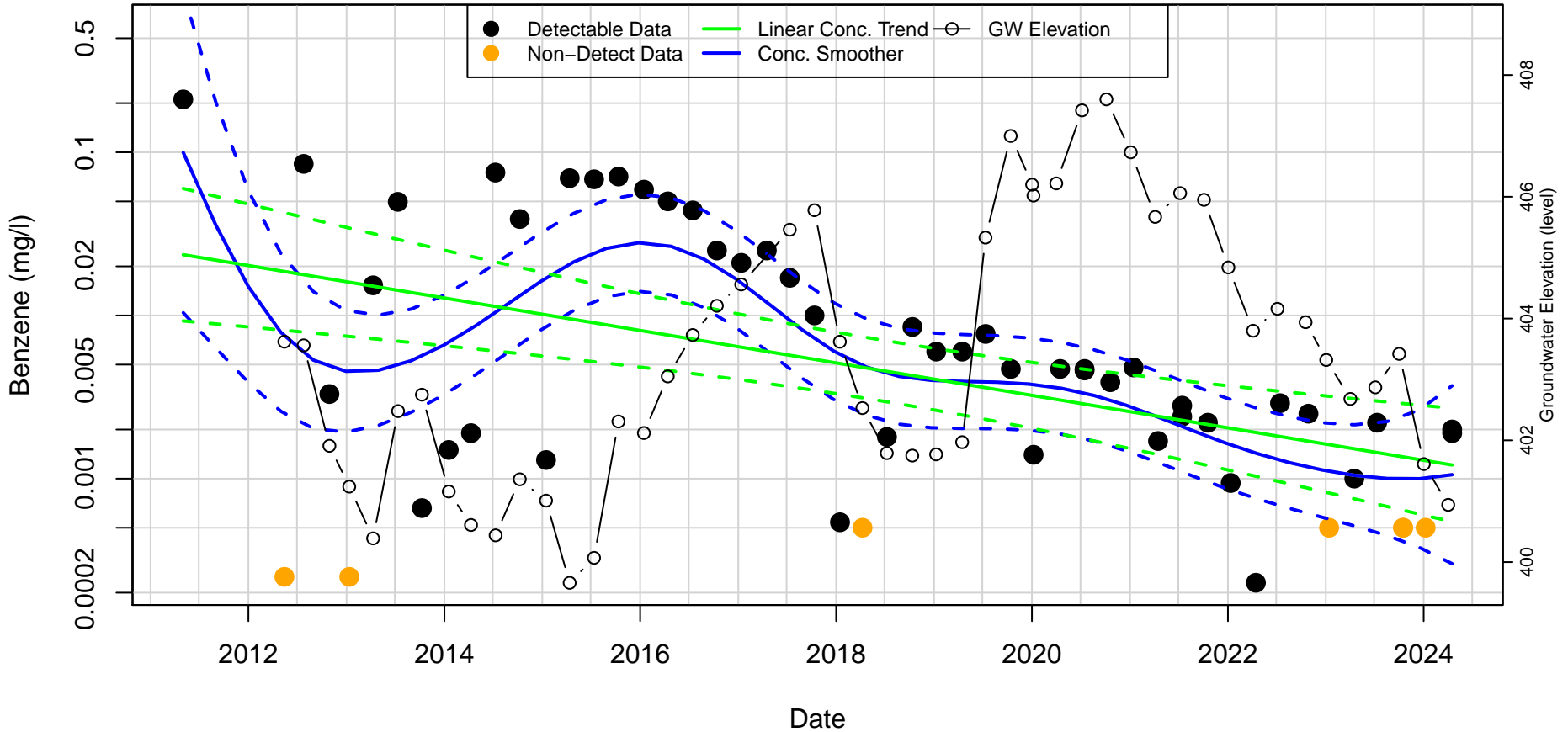
# Benzene in MW-22 : Aquifer–Main Sand

Mann–Kendall P.Value= <0.01; Half–Life= 424 days



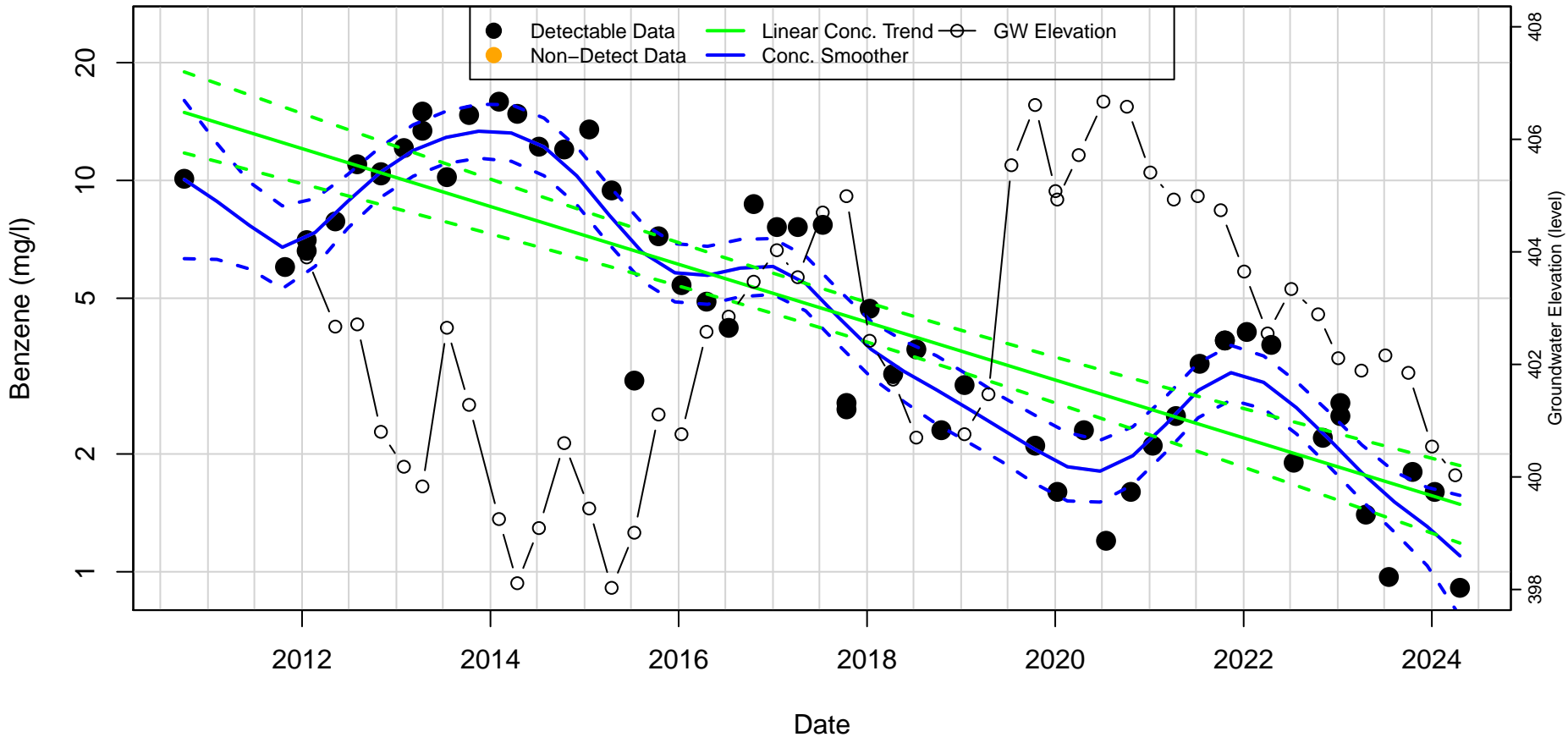
# Benzene in ROST-4-PZ(C) : Aquifer-Main Sand

Mann-Kendall P.Value= <0.01; Half-Life= 1105 days



# Benzene in P-59 : Aquifer-Main Sand

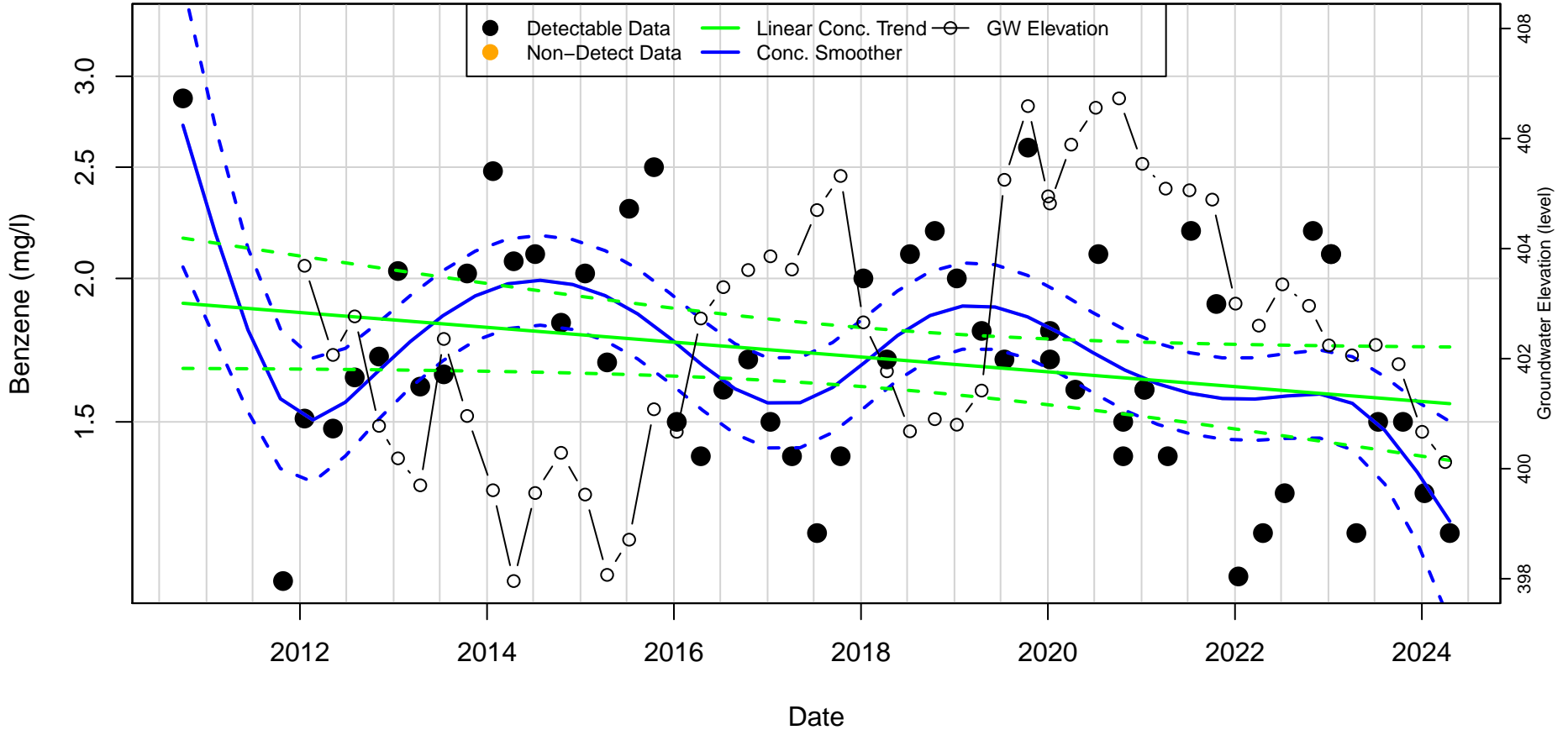
Mann-Kendall P.Value= <0.01; Half-Life= 1488 days





# Benzene in T-12 : Aquifer-Main Sand

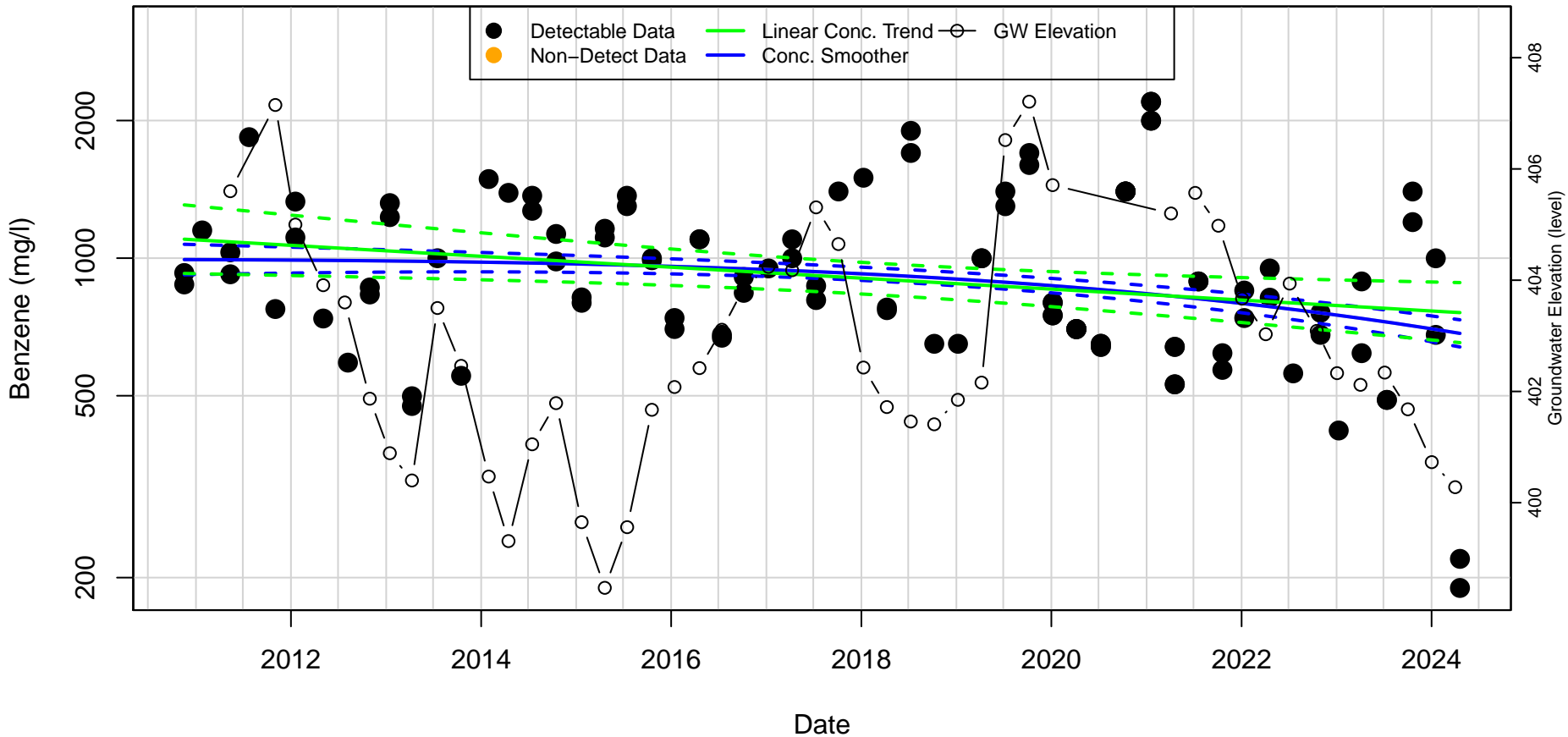
Mann-Kendall P.Value= 0.079; Half-Life> 5 Years



# Public Works Yard Area

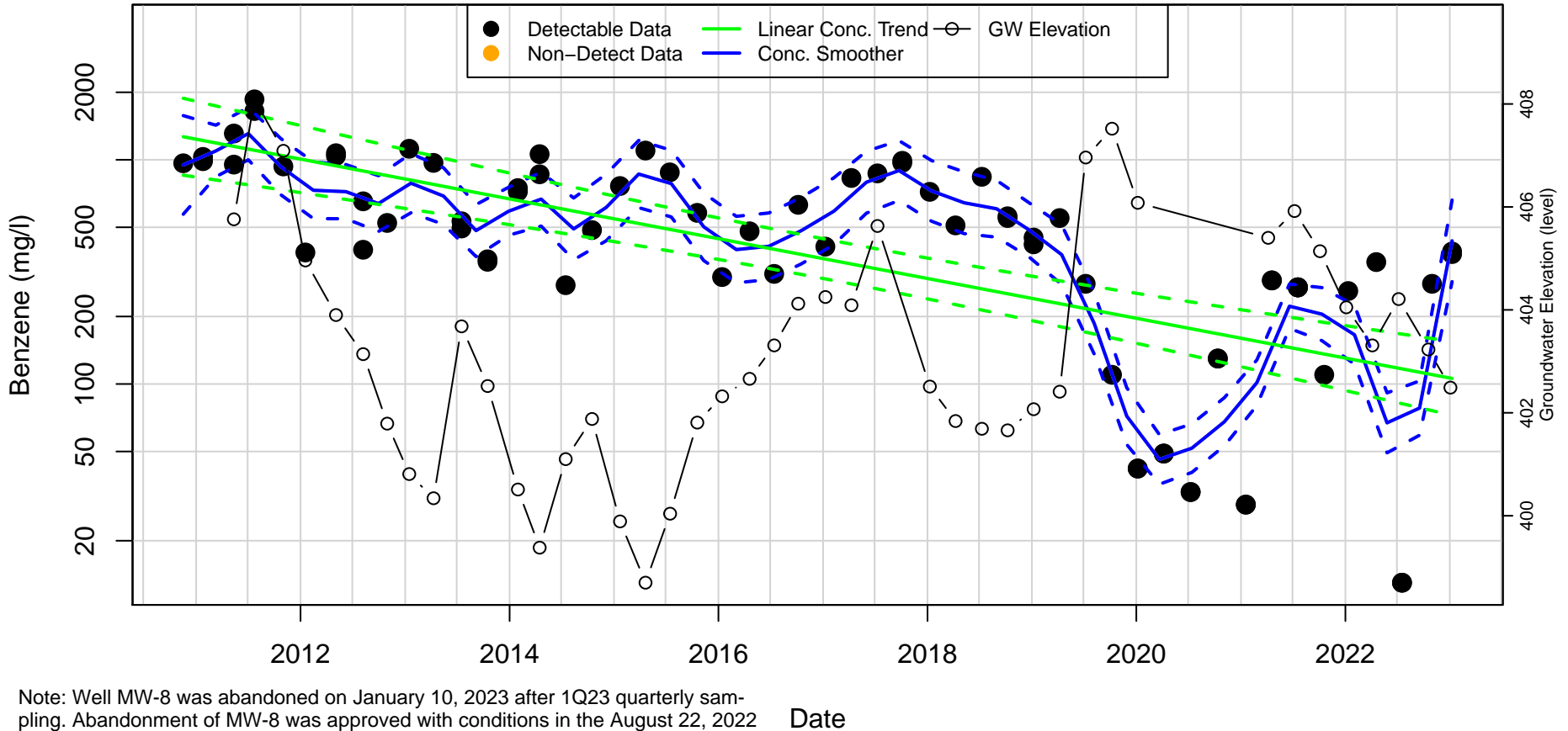
# Benzene in MW-07 : Aquifer-Main Sand

Mann-Kendall P.Value= <0.01; Half-Life> 5 Years



## Benzene in MW-08 : Aquifer-Main Sand

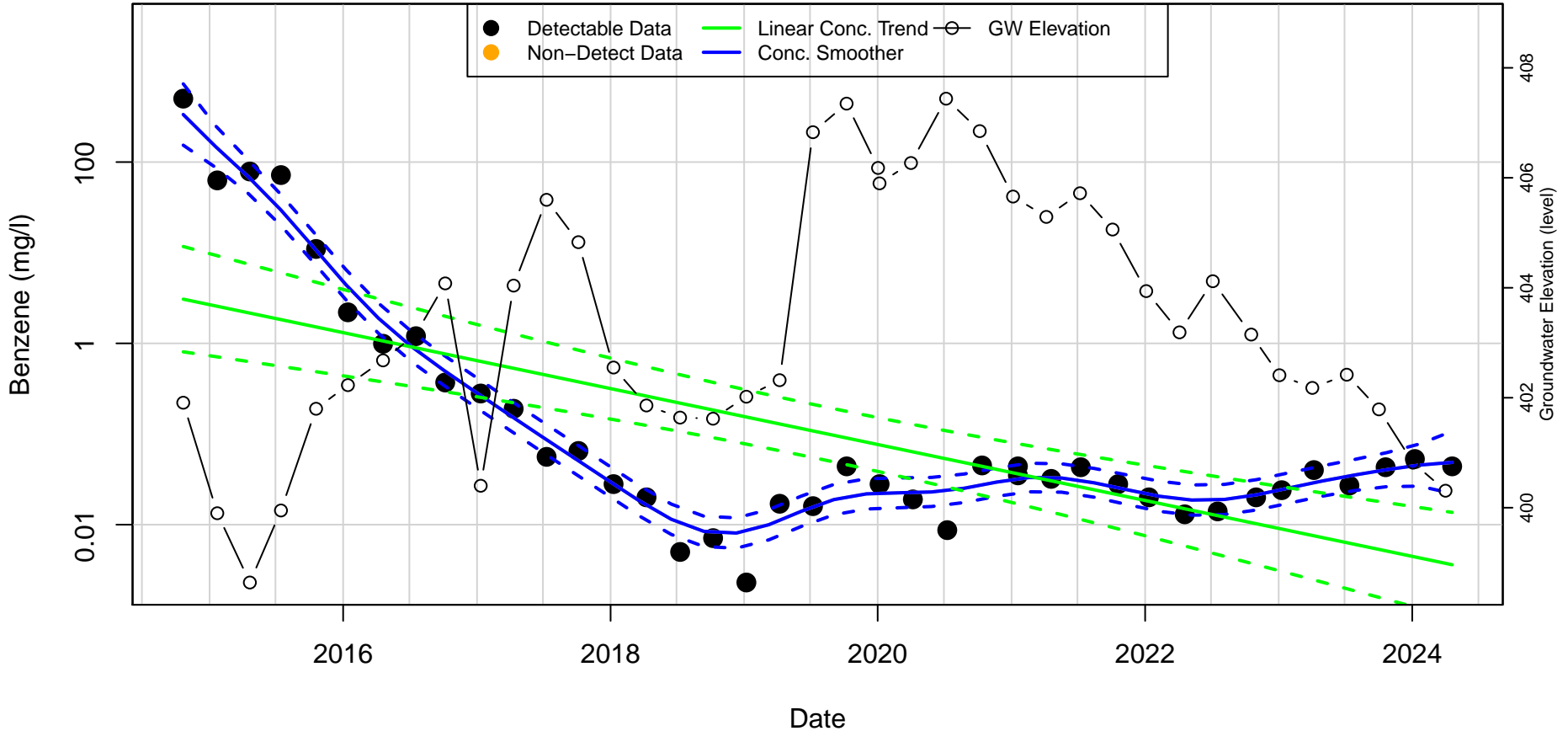
Mann-Kendall P.Value= <0.01; Half-Life= 1239 days



Note: Well MW-8 was abandoned on January 10, 2023 after 1Q23 quarterly sampling. Abandonment of MW-8 was approved with conditions in the August 22, 2022 IEPA letter (IEPA 2022) in response to the PWY SEE Work Plan (AECOM 2022a).

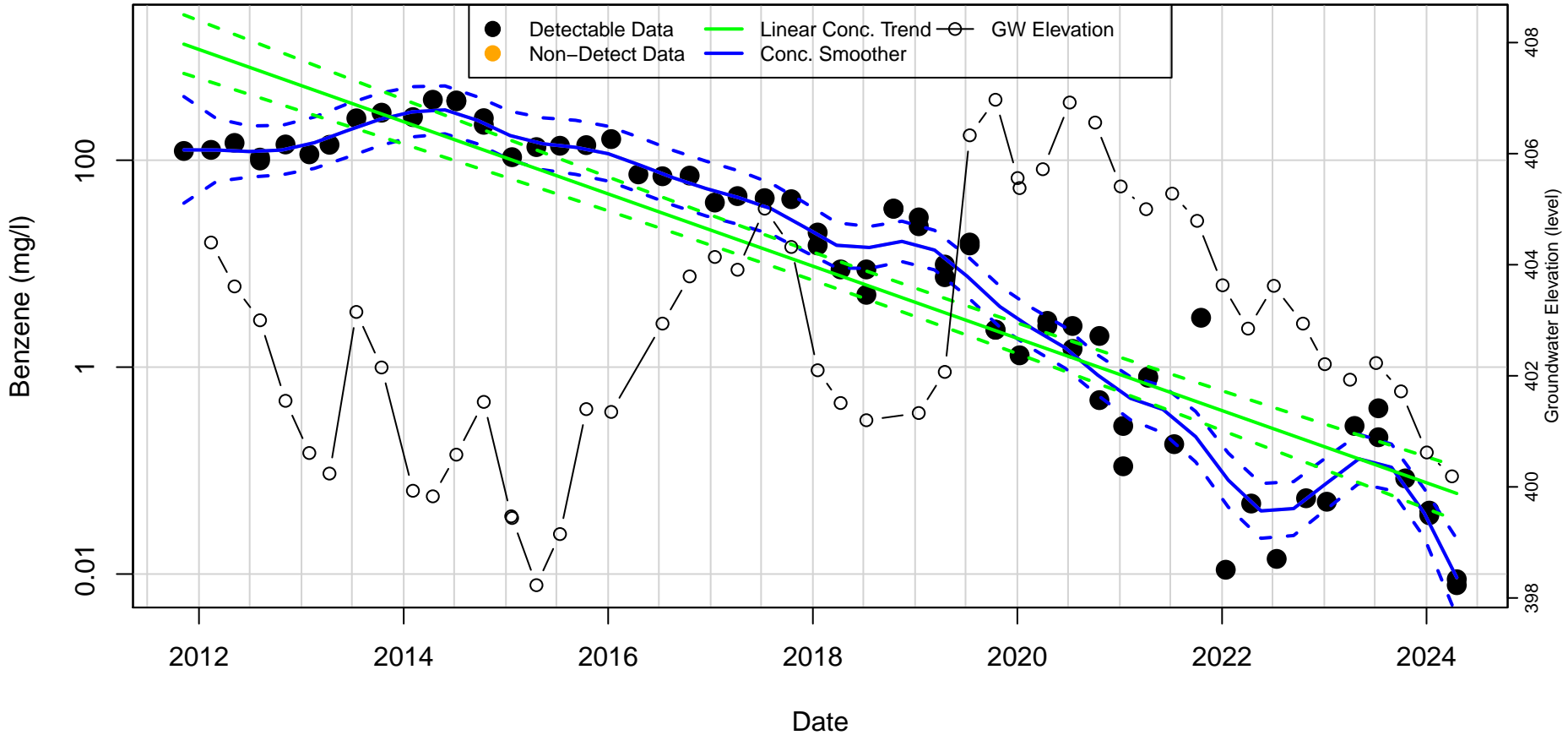
# Benzene in MW-25 : Aquifer-Main Sand

Mann-Kendall P.Value= <0.01; Half-Life= 356 days



# Benzene in P-57 : Aquifer-Main Sand

Mann-Kendall P.Value= <0.01; Half-Life= 315 days



# Appendix E

## Monthly Groundwater Report Attachments – Feb/Mar 24

- **Summary of Groundwater Monitoring Well Analytical Detections and Exceedances**
- **Data Review Forms and Laboratory Analytical Reports**
- **Figure 6 – Dissolved Phase Benzene Concentrations in GW**
- **Figure 7 – Cross-Section of Benzene GW Results – Chaffer**





SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL DETECTIONS AND EXCEEDANCES

			VOCs																					
Screening Values (mg/L)			Acetone	Benzene	2-Butanone	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Carbon disulfide	Cymene (p-Isopropyltoluene)	cis-1,2-Dichloroethene	Ethylbenzene	Isopropylbenzene (Cumene)	Methyl tert-Butyl Ether (MTBE)	Naphthalene	n-Propylbenzene	Toluene	Trichloroethene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	m,p-Xylenes	o-Xylenes	Xylenes (total)	
Location	Sample ID	Sample Date	Analytical Results (mg/L)																					
			6.3 <sup>1</sup>	0.005 <sup>1</sup>	4.2 <sup>1</sup>	0.35 <sup>3</sup>	0.7 <sup>3</sup>	0.7 <sup>3</sup>	0.7 <sup>1</sup>		0.07 <sup>1</sup>	0.7 <sup>1</sup>	0.7 <sup>1</sup>	0.7 <sup>1</sup>	0.07 <sup>1</sup>	0.14 <sup>1</sup>	0.7 <sup>3</sup>	0.005 <sup>1</sup>	0.07 <sup>3</sup>	0.07 <sup>3</sup>	10 <sup>1</sup>		10 <sup>1</sup>	
MW-28	MW28-ROX-030124	3/1/2024	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	0.0020	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01
P-114R	P114R-ROX-030624	3/6/2024	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	0.0016	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	
P-54	P54-ROX-030124	3/1/2024	< 0.025	0.00050 J	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	
P-56	P56-ROX-030624	3/6/2024	< 0.025	0.00071 J	< 0.025	< 0.0010	0.0014	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	0.0080	< 0.0050	0.0087	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	0.0016 J	< 0.0050	0.0016 J	
P-57	P57-ROX-030724	3/7/2024	< 0.025	0.038 J	< 0.025	0.0052	0.0090	0.0097	< 0.0010	0.00079 J	< 0.0010	0.0014	0.035	< 0.0010	0.0052	0.044	0.0041	< 0.0010	< 0.0010	< 0.0010	0.0010 J	< 0.0050	< 0.01	
	P57-ROX-030724-DUP		< 0.025	0.028 J	< 0.025	0.0045	0.0082	0.0088	< 0.0010	0.00075 J	< 0.0010	0.0011	0.031	< 0.0010	< 0.0050	0.039	0.0037	< 0.0010	< 0.0010	< 0.0010	0.00089 J	< 0.0050	< 0.01	
P-58	P58-ROX-030824	3/8/2024	< 13	460	< 13	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.36 J	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 2.5	< 5
	P58-ROX-030824-DUP		< 13	430	< 13	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	0.33 J	< 0.5	< 0.5	< 2.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 2.5	< 2.5	< 5
P-59	P59-ROX-030724	3/7/2024	< 0.13	1.1	0.02 J	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	0.05	0.024	< 0.0050	0.017 J	0.034	0.047	< 0.0050	0.0072	0.013	0.057	< 0.025	0.059	
P-93A	P93A-ROX-030624	3/6/2024	< 0.025	0.00050 J	< 0.025	< 0.0010	< 0.0010	0.0026	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	
P-93B	P93B-ROX-030824	3/8/2024	< 130 UJ	2500	< 130 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 25 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 25 UJ	< 25 UJ	< 50 UJ	
P-93C	P93C-ROX-030624	3/6/2024	< 130 UJ	2400	< 130 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 25 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 5 UJ	< 25 UJ	< 25 UJ	< 50 UJ	
P-93D	P93D-ROX-030724	3/7/2024	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	0.00059 J	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	
ROST-3-MW	ROST3MW-ROX-030124	3/1/2024	< 0.025	< 0.0010	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	
ROST-4-PZ(C)	ROST4PZ(C)-ROX-030424	3/4/2024	< 0.025	0.0017	< 0.025	< 0.0010	< 0.0010	< 0.0010	0.00062 J	< 0.0010	< 0.0010	< 0.0010	0.00064 J	< 0.0010	< 0.0050	0.0012	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	
ROST-4-PZ(E)	ROST4PZ(E)-ROX-030624	3/6/2024	< 0.025	0.0015	< 0.025	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	0.0026	0.00053 J J	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	0.0064	< 0.0010	0.0020 J	< 0.0050	0.0023 J	
ROST-4-PZ(G)	ROST4PZ(G)-ROX-030424	3/4/2024	< 0.025	0.0012	< 0.025	< 0.0010	< 0.0010	< 0.0010	0.00083 J	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0050	< 0.0050	< 0.01	
T-12	T12-ROX-030724	3/7/2024	< 0.13	0.93	< 0.13	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	0.0033 J	0.0071	< 0.0050	< 0.025	0.0074	0.015	< 0.0050	< 0.0050	< 0.0050	0.016 J	< 0.025	0.018 J	

SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL DETECTIONS AND EXCEEDANCES

			SVOCs																		
			Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene (1,2-Benzophenanthracene)	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Phenanthrene	Phenol	Pyrene	
Screening Values (mg/L)			0.42 <sup>1</sup>	0.42 <sup>3</sup>	2.1 <sup>1</sup>	0.00013 <sup>1</sup>	0.0002 <sup>1</sup>	0.00018 <sup>1</sup>	0.21 <sup>3</sup>	0.00017 <sup>1</sup>	0.012 <sup>1</sup>	0.0003 <sup>1</sup>	0.28 <sup>1</sup>	0.28 <sup>1</sup>	0.00043 <sup>1</sup>	0.49 <sup>3</sup>	0.028 <sup>1</sup>	0.21 <sup>3</sup>	0.1 <sup>1</sup>	0.21 <sup>1</sup>	
Location	Sample ID	Sample Date																			
MW-01	MW1-ROX-022924	2/29/2024	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.0094	< 0.00019
MW-02	MW2-ROX-030724	3/7/2024	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	0.0081	0.012	< 0.00019	< 0.0097	< 0.00019	
MW-03	MW3-ROX-030524	3/5/2024	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0098	< 0.00020
	MW3-ROX-030524-DUP		< 0.00020	< 0.00020	< 0.00020	0.000039 J	< 0.00020	0.000082 J	0.000069 J	0.000093 J	0.000055 J	0.000073 J	< 0.00020	< 0.00020	0.000092 J	0.000095 J	< 0.00020	< 0.00020	< 0.0098	< 0.00020	
MW-04	MW4-ROX-031124	3/11/2024	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.0095	< 0.00019
MW-05	MW5-ROX-030524	3/5/2024	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.0097	< 0.00019
MW-06A	MW6A-ROX-030524	3/5/2024	0.00013 J	0.00018 J	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	0.000035 J	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.01	< 0.00021
MW-06B	MW6B-ROX-030624	3/6/2024	0.00020 J	0.000091 J	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	0.000052 J	0.000093 J	< 0.00021	0.000095 J	0.00013 J	0.00013 J	< 0.01	< 0.00021	
MW-06C	MW6C-ROX-030524	3/5/2024	< 0.00020	< 0.00020	0.00012 J	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	0.000044 J	0.00011 J	< 0.00020	< 0.00020	0.00011 J	0.000098 J	< 0.01	0.000049 J	
MW-06D	MW6D-ROX-030524	3/5/2024	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	0.000080 J	< 0.00021	< 0.01	< 0.00021	
MW-07	MW7-ROX-030824	3/8/2024	0.00014 J	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	0.00014 J	< 0.00020	0.0014	0.0015	0.00030	0.050	< 0.00020	
	MW7-ROX-030824-DUP		0.00022	< 0.00019	0.000048 J	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	0.00024	< 0.00019	0.0017	0.0018	0.00047	0.052	0.000038 J	
MW-09	MW9-ROX-030124	3/1/2024	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.01	< 0.00021
MW-10	MW10-ROX-030124	3/1/2024	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.01	< 0.00020
MW-11	MW11-ROX-030124	3/1/2024	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0099	< 0.00020
MW-12	MW12-ROX-030624	3/6/2024	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.0097	< 0.00019
MW-13	MW13-ROX-030624	3/6/2024	< 0.00019	< 0.00019	< 0.00019	0.000078 J	< 0.00019	0.000074 J	0.000061 J	0.000067 J	0.000072 J	0.000052 J	0.000073 J	< 0.00019	0.000067 J	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.0097	0.000043 J
MW-14	MW14-ROX-030724	3/7/2024	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	0.00029	0.00025	< 0.00020	< 0.01	< 0.00020	
MW-16	MW16-ROX-030524	3/5/2024	< 0.00020	< 0.00020	0.000054 J	0.00012 J	0.000093 J	0.000065 J	0.00017 J	0.00017 J	0.00022	0.00014 J	0.000075 J	< 0.00020	0.000092 J	< 0.00020	< 0.00020	< 0.00020	< 0.01	0.000080 J	
MW-22	MW22-ROX-030724	3/7/2024	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	0.012	0.016	< 0.00020	< 0.01	< 0.00020	
	MW22-ROX-030724-DUP		< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	0.012	0.016	< 0.00020	< 0.01	< 0.00020	
MW-23	MW23-ROX-030524	3/5/2024	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	0.00010 J	< 0.00020	< 0.00020	< 0.0098	< 0.00020	
MW-24	MW24-ROX-030524	3/5/2024	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.0097	< 0.00019
MW-25	MW25-ROX-030824	3/8/2024	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.01	< 0.00020
MW-26	MW26-ROX-022924	2/29/2024	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0098 UJ	< 0.00020
MW-27	MW27-ROX-030124	3/1/2024	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.0099	< 0.00020

SUMMARY OF GROUNDWATER MONITORING WELL ANALYTICAL DETECTIONS AND EXCEEDANCES

			SVOCs																		
			Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene (1,2-Benzophenanthracene)	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Phenanthrene	Phenol	Pyrene	
Screening Values (mg/L)			0.42 <sup>1</sup>	0.42 <sup>3</sup>	2.1 <sup>1</sup>	0.00013 <sup>1</sup>	0.0002 <sup>1</sup>	0.00018 <sup>1</sup>	0.21 <sup>3</sup>	0.00017 <sup>1</sup>	0.012 <sup>1</sup>	0.0003 <sup>1</sup>	0.28 <sup>1</sup>	0.28 <sup>1</sup>	0.00043 <sup>1</sup>	0.49 <sup>3</sup>	0.028 <sup>1</sup>	0.21 <sup>3</sup>	0.1 <sup>1</sup>	0.21 <sup>1</sup>	
Location	Sample ID	Sample Date																			
MW-28	MW28-ROX-030124	3/1/2024	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.01 UJ	< 0.00020
P-114R	P114R-ROX-030624	3/6/2024	<b>0.00030</b>	<b>0.00015 J</b>	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	<b>0.000033 J</b>	< 0.00020	<b>0.000036 J</b>	< 0.00020	< 0.00020	<b>0.00011 J</b>	< 0.00020	< 0.00020	< 0.0099	< 0.00020	
P-54	P54-ROX-030124	3/1/2024	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.0095	< 0.00019	
P-56	P56-ROX-030624	3/6/2024	<b>0.00052</b>	<b>0.00013 J</b>	<b>0.000074 J</b>	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	<b>0.00028</b>	< 0.00021	<b>0.0032</b>	<b>0.0018</b>	<b>0.00034</b>	< 0.01	< 0.00021		
P-57	P57-ROX-030724	3/7/2024	<b>0.00029</b>	< 0.00021	<b>0.000096 J</b>	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	<b>0.00049</b>	< 0.00021	<b>0.025</b>	<b>0.021</b>	<b>0.00044</b>	< 0.011	< 0.00021		
	P57-ROX-030724-DUP		<b>0.00028</b>	< 0.00022	<b>0.000080 J</b>	< 0.00022	< 0.00022	< 0.00022	< 0.00022	< 0.00022	< 0.00022	< 0.00022	<b>0.00051</b>	< 0.00022	<b>0.024</b>	<b>0.018</b>	<b>0.00041</b>	< 0.011	< 0.00022		
P-58	P58-ROX-030824	3/8/2024	<b>0.00040</b>	< 0.00020	<b>0.000098 J</b>	<b>0.000047 J</b>	< 0.00020	< 0.00020	< 0.00020	< 0.00020	<b>0.000060 J</b>	< 0.00020	< 0.00020	<b>0.00083</b>	< 0.00020	<b>0.033</b>	<b>0.019</b>	<b>0.00059</b>	<b>0.26</b>	<b>0.000097 J</b>	
	P58-ROX-030824-DUP		<b>0.00041</b>	< 0.00020	<b>0.00011 J</b>	<b>0.000044 J</b>	< 0.00020	< 0.00020	< 0.00020	< 0.00020	<b>0.000058 J</b>	< 0.00020	<b>0.000036</b>	<b>0.00084</b>	< 0.00020	<b>0.030</b>	<b>0.017</b>	<b>0.00060</b>	<b>0.22</b>	<b>0.000097 J</b>	
P-59	P59-ROX-030724	3/7/2024	<b>0.00074</b>	< 0.00021	<b>0.00032</b>	<b>0.000090 J</b>	< 0.00021	< 0.00021	< 0.00021	< 0.00021	<b>0.00015 J</b>	< 0.00021	<b>0.00020 J</b>	<b>0.00040</b>	< 0.00021	<b>0.012</b>	<b>0.015</b>	<b>0.00097</b>	<b>0.012 J</b>	<b>0.00044</b>	
P-93A	P93A-ROX-030624	3/6/2024	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	<b>0.00011 J</b>	< 0.00021	< 0.00021	< 0.01	< 0.00021	
P-93B	P93B-ROX-030824	3/8/2024	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	<b>0.000093 J*3 J</b>	<b>0.000067 J*3 J</b>	< 0.00019	<b>0.12</b>	< 0.00019	
P-93C	P93C-ROX-030624	3/6/2024	< 0.00021	< 0.00021	< 0.00021	<b>0.000036 J</b>	< 0.00021	< 0.00021	< 0.00021	< 0.00021	<b>0.000041 J</b>	< 0.00021	<b>0.000043 J</b>	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	<b>0.042</b>	< 0.00021	
P-93D	P93D-ROX-030724	3/7/2024	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.01	< 0.00020	
ROST-3-MW	ROST3MW-ROX-030124	3/1/2024	<b>0.00011 J</b>	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	<b>0.00014 J</b>	< 0.00019	<b>0.00018 JB U</b>	< 0.00019	< 0.00019	< 0.0097 UJ	< 0.00019		
ROST-4-PZ(C)	ROST4PZ(C)-ROX-030424	3/4/2024	<b>0.00014 J</b>	< 0.00020	<b>0.00020</b>	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	<b>0.000042 J</b>	<b>0.00018 J</b>	< 0.00020	<b>0.00043 B U</b>	< 0.00020	< 0.00020	< 0.0098	<b>0.000049 J</b>	
ROST-4-PZ(E)	ROST4PZ(E)-ROX-030624	3/6/2024	<b>0.00035</b>	< 0.00019	<b>0.00047</b>	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	<b>0.000050 J</b>	<b>0.00030</b>	< 0.00019	<b>0.0034</b>	<b>0.0015</b>	<b>0.0018</b>	< 0.0097	<b>0.000096 J</b>	
ROST-4-PZ(G)	ROST4PZ(G)-ROX-030424	3/4/2024	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.00019	< 0.0097	< 0.00019	
T-12	T12-ROX-030724	3/7/2024	<b>0.00037</b>	< 0.00021	<b>0.00012 J</b>	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	< 0.00021	<b>0.00031</b>	< 0.00021	<b>0.016</b>	<b>0.023</b>	<b>0.00062</b>	<b>0.039</b>	< 0.00021		

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).

Groundwater monitoring wells designated for sampling in the Interim Groundwater Monitoring Program, P-55R, P-66, and P-68, contained LNAPL; therefore, these wells were not sampled.

Well P-74 was inaccessible during the February/March 2024 monthly sampling event due to construction activities in the WRR.

  Indicates a current exceedance of screening criteria.

LABORATORY QUALIFIERS

J = The analyte was detected below the reporting limit. Result is estimated.

B = Target analyte was identified in the method blank, indicating possible lab contamination.

<#.# indicates the analyte was not detected above the given reporting limit.

Analytes that were non-detect across all sampling locations during the 1Q24 sampling event are not presented on the Analytical table.

AECOM QUALIFIERS

J = The result is estimated.

UJ = Estimated non-detect.

U = Result is non-detect.

# Roxana Groundwater Monthly – February/March 2024 Data Review

Laboratory SDG: 400-251938-1-Rev.1

Data Reviewer: Andrei Niculau

Peer Reviewer: Cheyana Cokley

Date Reviewed: 03/29/2024

Guidance: USEPA National Functional Guidelines for Organic Superfund Methods Data Review 2020

Sample Identification	Sample Identification
TB-ROX-022924-8260	MW1-ROX-022924
TB-ROX-022924-8011	MW26-ROX-022924
MW1-ROX-022924-EB	--

## 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 VOC and SVOC MS/MSD recoveries, and/or MS/MSD RPDs, were outside evaluation criteria in sample MW26-ROX-022924. These issues are addressed further in the appropriate sections of this data review. The laboratory report was revised on March 25, 2024, to include missing ICVs for method 8270E.

Three of 70 (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?*

Yes

Blank ID	Parameter	Analyte	Concentration /Amount
MB 400-663434/1-A	PAHs	Acenaphthylene	0.0577 µg/L
MB 400-663434/1-A	PAHs	1-Methylnaphthalene	0.130 µg/L
MB 400-663434/1-A	PAHs	2-Methylnaphthalene	0.123 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.

## 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 400-663434/2-A/3-A	SVOCs	Aniline	33/55	55	10-127/40
LCS 400-663450/2-A/3-A	VOCs by 8011	1,2-Dibromoethane	142/115	21	60-140/30

Analytical data reported as non-detect and associated with LCS/LCSD recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. Analytical data associated with LCS/LCSD RPD alone outside evaluation criteria did not require qualification.

## 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 MW26-ROX-022924 was spiked and analyzed for VOCs, SVOCs, PAHs, and VOCs by 8011.

*Were MS/MSD recoveries within evaluation criteria?*

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
MW26-ROX-022924 MS/MSD	VOCs	2-Chloroethyl vinyl ether	0/0	NC	10-150/50
MW26-ROX-022924 MS/MSD	SVOCs	Aniline	51/48	8	50-150/40
MW26-ROX-022924 MS/MSD	SVOCs	1,4-Dioxane	39/40	0	50-150/40
MW26-ROX-022924 MS/MSD	SVOCs	N-Nitrosodimethylamine	45/46	1	50-150/40
MW26-ROX-022924 MS/MSD	SVOCs	Phenol	47/50	6	50-150/40
MW26-ROX-022924 MS/MSD	SVOCs	Pyridine	20/20	1	50-150/40
MW26-ROX-022924 MS/MSD	SVOCs	Quinoline	45/30	39	50-150/40

Analytical data that required qualification based on MS/MSD data are included in the table below. Professional judgement was used to qualify; however, not reject 2-chloroethyl vinyl

ether due to acceptable LCS recoveries and to the acid reactive nature of 2-chloroethyl vinyl ether.

Sample ID	Parameter	Analyte	Qualification
MW26-ROX-022924	VOCs	2-Chloroethyl vinyl ether	UJ
MW26-ROX-022924	SVOCs	Aniline	UJ
MW26-ROX-022924	SVOCs	1,4-Dioxane	UJ
MW26-ROX-022924	SVOCs	N-Nitrosodimethylamine	UJ
MW26-ROX-022924	SVOCs	Phenol	UJ
MW26-ROX-022924	SVOCs	Pyridine	UJ
MW26-ROX-022924	SVOCs	Quinoline	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?*

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?*

No





# ANALYTICAL REPORT

## PREPARED FOR

Attn: Melissa Remiger  
AECOM Technical Services Inc.  
100 N. Broadway  
20th Floor  
St. Louis, Missouri 63102

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## JOB DESCRIPTION

ROXANA MONTHLY GW

## JOB NUMBER

400-251938-1

Reviewed 3/29/2024  
AN

# Eurofins Pensacola

## Job Notes

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## Authorization



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# Case Narrative

Client: AECOM Technical Services Inc.  
Project: ROXANA MONTHLY GW

Job ID: 400-251938-1

**Job ID: 400-251938-1**

**Eurofins Pensacola**

## Job Narrative 400-251938-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 3/1/2024 9:55 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.8°C.

### GC/MS VOA

Method 8260D: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following sample was received preserved with hydrochloric acid: MW26-ROX-022924 (400-251938-5). 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 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-663386 were outside control limits for 2-Chloroethyl vinyl ether due to the acidic nature of the parent sample.

Method 8260D: The RPD for the matrix spike / matrix spike duplicate (MS/MSD) for 2-Chloroethyl vinyl ether was not calculable for analytical batch 400-663386 because the recoveries were below the reporting limit due to the acidic nature of the parent sample.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-663386 recovered above the upper control limit for Hexachlorobutadiene. The samples associated with this CCV were non-detects 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 8270E: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 400-663434 and analytical batch 400-663609 recovered outside control limits for the following analytes: Aniline.

Method 8270E: The continuing calibration verification (CCV) associated with batch 400-663609 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCV 400-663609/6).

Method 8270E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-663434 and analytical batch 400-663609 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8270E: The continuing calibration verification (CCV) associated with batch 400-663609 recovered above the upper control limit for 4-Chlorophenyl phenyl ether, 4-Bromophenyl phenyl ether, Hexachlorobenzene, Hexachlorocyclopentadiene and Dibenzofuran. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8270E\_SIM: The method blank for preparation batch 400-663434 and analytical batch 400-663594 contained 2-Methylnaphthalene, 1-Methylnaphthalene and Acenaphthylene above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; therefore, re-extraction and/or re-analysis of samples was not performed.

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# Case Narrative

Client: AECOM Technical Services Inc.  
Project: ROXANA MONTHLY GW

Job ID: 400-251938-1

## Job ID: 400-251938-1 (Continued)

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No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

### GC Semi VOA

Method 8011: The continuing calibration verification (CCV) associated with batch 400-663403 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.

Method 8011: The continuing calibration verification (CCV) associated with batch 400-663403 recovered above the upper control limit for 1,2-Dibromo-3-Chloropropane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8011: The laboratory control sample (LCS) for preparation batch 400-663450 and analytical batch 400-663403 recovered outside control limits for the following analytes: 1,2-Dibromoethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8011: The continuing calibration verification (CCV) associated with batch 400-663552 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 associated samples are impacted: (CCV 400-663450/27-A) and (CCV 400-663450/28-A).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

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# Sample Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-251938-1	TB-ROX-022924-8260	Water	02/29/24 00:00	03/01/24 09:55
400-251938-2	TB-ROX-022924-8011	Water	02/29/24 00:00	03/01/24 09:55
400-251938-3	MW1-ROX-022924-EB	Water	02/29/24 08:45	03/01/24 09:55
400-251938-4	MW1-ROX-022924	Water	02/29/24 11:35	03/01/24 09:55
400-251938-5	MW26-ROX-022924	Water	02/29/24 12:55	03/01/24 09:55

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# Detection Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

**Client Sample ID: TB-ROX-022924-8260**

**Lab Sample ID: 400-251938-1**

No Detections.

**Client Sample ID: TB-ROX-022924-8011**

**Lab Sample ID: 400-251938-2**

No Detections.

**Client Sample ID: MW1-ROX-022924-EB**

**Lab Sample ID: 400-251938-3**

No Detections.

**Client Sample ID: MW1-ROX-022924**

**Lab Sample ID: 400-251938-4**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.90	J	1.0	0.50	ug/L	1		8260D	Total/NA

**Client Sample ID: MW26-ROX-022924**

**Lab Sample ID: 400-251938-5**

No Detections.

This Detection Summary does not include radiochemical test results.

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

**Client Sample ID: TB-ROX-022924-8260**

**Lab Sample ID: 400-251938-1**

**Date Collected: 02/29/24 00:00**

**Matrix: Water**

**Date Received: 03/01/24 09:55**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/06/24 11:53	1
Acrolein	ND		20	3.3	ug/L			03/06/24 11:53	1
Acrylonitrile	ND		10	2.8	ug/L			03/06/24 11:53	1
Benzene	ND		1.0	0.50	ug/L			03/06/24 11:53	1
Bromobenzene	ND		1.0	0.54	ug/L			03/06/24 11:53	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/06/24 11:53	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/06/24 11:53	1
Bromoform	ND		5.0	0.25	ug/L			03/06/24 11:53	1
Bromomethane	ND		1.0	0.98	ug/L			03/06/24 11:53	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/06/24 11:53	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/06/24 11:53	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/06/24 11:53	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/06/24 11:53	1
Chloroethane	ND		1.0	0.76	ug/L			03/06/24 11:53	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/06/24 11:53	1
Chloroform	ND		1.0	0.90	ug/L			03/06/24 11:53	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/06/24 11:53	1
Chloromethane	ND		1.0	0.90	ug/L			03/06/24 11:53	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/06/24 11:53	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/06/24 11:53	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/06/24 11:53	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/06/24 11:53	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/06/24 11:53	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/06/24 11:53	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/06/24 11:53	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/06/24 11:53	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/06/24 11:53	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/06/24 11:53	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 11:53	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 11:53	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 11:53	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/06/24 11:53	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/06/24 11:53	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/06/24 11:53	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/06/24 11:53	1
2-Hexanone	ND		25	1.4	ug/L			03/06/24 11:53	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/06/24 11:53	1
Methylene bromide	ND		5.0	0.22	ug/L			03/06/24 11:53	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/06/24 11:53	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/06/24 11:53	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/06/24 11:53	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/06/24 11:53	1
Naphthalene	ND		5.0	3.0	ug/L			03/06/24 11:53	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/06/24 11:53	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/06/24 11:53	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/06/24 11:53	1
o-Xylene	ND		5.0	0.60	ug/L			03/06/24 11:53	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/06/24 11:53	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/06/24 11:53	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

**Client Sample ID: TB-ROX-022924-8260**

**Lab Sample ID: 400-251938-1**

**Date Collected: 02/29/24 00:00**

**Matrix: Water**

**Date Received: 03/01/24 09:55**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/06/24 11:53	1
Styrene	ND		1.0	1.0	ug/L			03/06/24 11:53	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/06/24 11:53	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/06/24 11:53	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/06/24 11:53	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/06/24 11:53	1
Toluene	ND		1.0	0.90	ug/L			03/06/24 11:53	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/06/24 11:53	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/06/24 11:53	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/06/24 11:53	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/06/24 11:53	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/06/24 11:53	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/06/24 11:53	1
Trichloroethene	ND		1.0	0.15	ug/L			03/06/24 11:53	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/06/24 11:53	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/06/24 11:53	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/06/24 11:53	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/06/24 11:53	1
Vinyl acetate	ND		25	0.93	ug/L			03/06/24 11:53	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/06/24 11:53	1
Xylenes, Total	ND		10	1.6	ug/L			03/06/24 11:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	100		72 - 130		03/06/24 11:53	1
Dibromofluoromethane	102		75 - 126		03/06/24 11:53	1
Toluene-d8 (Surr)	101		64 - 132		03/06/24 11:53	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
 Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

**Client Sample ID: TB-ROX-022924-8011**

**Lab Sample ID: 400-251938-2**

**Date Collected: 02/29/24 00:00**

**Matrix: Water**

**Date Received: 03/01/24 09:55**

**Method: EPA 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	0.017	ug/L		03/06/24 10:49	03/06/24 18:58	1
1,2-Dibromoethane	ND	*+	0.020	0.015	ug/L		03/06/24 10:49	03/06/24 18:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	76		51 - 149				03/06/24 10:49	03/06/24 18:58	1

- 1
- 2
- 3
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- 15

# Client Sample Results

Client: AECOM Technical Services Inc.  
 Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

**Client Sample ID: MW1-ROX-022924-EB**

**Lab Sample ID: 400-251938-3**

**Date Collected: 02/29/24 08:45**

**Matrix: Water**

**Date Received: 03/01/24 09:55**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/06/24 12:18	1
Acrolein	ND		20	3.3	ug/L			03/06/24 12:18	1
Acrylonitrile	ND		10	2.8	ug/L			03/06/24 12:18	1
Benzene	ND		1.0	0.50	ug/L			03/06/24 12:18	1
Bromobenzene	ND		1.0	0.54	ug/L			03/06/24 12:18	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/06/24 12:18	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/06/24 12:18	1
Bromoform	ND		5.0	0.25	ug/L			03/06/24 12:18	1
Bromomethane	ND		1.0	0.98	ug/L			03/06/24 12:18	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/06/24 12:18	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/06/24 12:18	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/06/24 12:18	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/06/24 12:18	1
Chloroethane	ND		1.0	0.76	ug/L			03/06/24 12:18	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/06/24 12:18	1
Chloroform	ND		1.0	0.90	ug/L			03/06/24 12:18	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/06/24 12:18	1
Chloromethane	ND		1.0	0.90	ug/L			03/06/24 12:18	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/06/24 12:18	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/06/24 12:18	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/06/24 12:18	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/06/24 12:18	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/06/24 12:18	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/06/24 12:18	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/06/24 12:18	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/06/24 12:18	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/06/24 12:18	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/06/24 12:18	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 12:18	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 12:18	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 12:18	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/06/24 12:18	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/06/24 12:18	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/06/24 12:18	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/06/24 12:18	1
2-Hexanone	ND		25	1.4	ug/L			03/06/24 12:18	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/06/24 12:18	1
Methylene bromide	ND		5.0	0.22	ug/L			03/06/24 12:18	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/06/24 12:18	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/06/24 12:18	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/06/24 12:18	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/06/24 12:18	1
Naphthalene	ND		5.0	3.0	ug/L			03/06/24 12:18	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/06/24 12:18	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/06/24 12:18	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/06/24 12:18	1
o-Xylene	ND		5.0	0.60	ug/L			03/06/24 12:18	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/06/24 12:18	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/06/24 12:18	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

**Client Sample ID: MW1-ROX-022924-EB**

**Lab Sample ID: 400-251938-3**

Date Collected: 02/29/24 08:45

Matrix: Water

Date Received: 03/01/24 09:55

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/06/24 12:18	1
Styrene	ND		1.0	1.0	ug/L			03/06/24 12:18	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/06/24 12:18	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/06/24 12:18	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/06/24 12:18	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/06/24 12:18	1
Toluene	ND		1.0	0.90	ug/L			03/06/24 12:18	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/06/24 12:18	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/06/24 12:18	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/06/24 12:18	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/06/24 12:18	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/06/24 12:18	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/06/24 12:18	1
Trichloroethene	ND		1.0	0.15	ug/L			03/06/24 12:18	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/06/24 12:18	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/06/24 12:18	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/06/24 12:18	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/06/24 12:18	1
Vinyl acetate	ND		25	0.93	ug/L			03/06/24 12:18	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/06/24 12:18	1
Xylenes, Total	ND		10	1.6	ug/L			03/06/24 12:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		72 - 130		03/06/24 12:18	1
Dibromofluoromethane	100		75 - 126		03/06/24 12:18	1
Toluene-d8 (Surr)	102		64 - 132		03/06/24 12:18	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.094	ug/L		03/06/24 10:09	03/07/24 17:11	1
Acenaphthylene	ND		0.19	0.042	ug/L		03/06/24 10:09	03/07/24 17:11	1
Anthracene	ND		0.19	0.045	ug/L		03/06/24 10:09	03/07/24 17:11	1
Benzo[a]anthracene	ND		0.19	0.032	ug/L		03/06/24 10:09	03/07/24 17:11	1
Benzo[a]pyrene	ND		0.19	0.061	ug/L		03/06/24 10:09	03/07/24 17:11	1
Benzo[b]fluoranthene	ND		0.19	0.035	ug/L		03/06/24 10:09	03/07/24 17:11	1
Benzo[g,h,i]perylene	ND		0.19	0.026	ug/L		03/06/24 10:09	03/07/24 17:11	1
Benzo[k]fluoranthene	ND		0.19	0.059	ug/L		03/06/24 10:09	03/07/24 17:11	1
Chrysene	ND		0.19	0.031	ug/L		03/06/24 10:09	03/07/24 17:11	1
Dibenz(a,h)anthracene	ND		0.19	0.046	ug/L		03/06/24 10:09	03/07/24 17:11	1
Fluoranthene	ND		0.19	0.032	ug/L		03/06/24 10:09	03/07/24 17:11	1
Fluorene	ND		0.19	0.084	ug/L		03/06/24 10:09	03/07/24 17:11	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.032	ug/L		03/06/24 10:09	03/07/24 17:11	1
Phenanthrene	ND		0.19	0.085	ug/L		03/06/24 10:09	03/07/24 17:11	1
Pyrene	ND		0.19	0.037	ug/L		03/06/24 10:09	03/07/24 17:11	1
1-Methylnaphthalene	ND		0.19	0.076	ug/L		03/06/24 10:09	03/07/24 17:11	1
2-Methylnaphthalene	ND		0.19	0.063	ug/L		03/06/24 10:09	03/07/24 17:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	91		18 - 147	03/06/24 10:09	03/07/24 17:11	1
2-Fluorobiphenyl	70		15 - 128	03/06/24 10:09	03/07/24 17:11	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

**Client Sample ID: MW1-ROX-022924-EB**

**Lab Sample ID: 400-251938-3**

Date Collected: 02/29/24 08:45

Matrix: Water

Date Received: 03/01/24 09:55

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	75		10 - 144	03/06/24 10:09	03/07/24 17:11	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*1	9.5	8.3	ug/L		03/06/24 10:09	03/07/24 21:03	1
Benzenethiol	ND		9.5	9.4	ug/L		03/06/24 10:09	03/07/24 21:03	1
Benzoic acid	ND		28	23	ug/L		03/06/24 10:09	03/07/24 21:03	1
Benzyl alcohol	ND		9.5	6.9	ug/L		03/06/24 10:09	03/07/24 21:03	1
Bis(2-chloroethoxy)methane	ND		9.5	4.4	ug/L		03/06/24 10:09	03/07/24 21:03	1
Bis(2-chloroethyl)ether	ND		9.5	3.7	ug/L		03/06/24 10:09	03/07/24 21:03	1
bis (2-chloroisopropyl) ether	ND		9.5	1.7	ug/L		03/06/24 10:09	03/07/24 21:03	1
Bis(2-ethylhexyl) phthalate	ND		9.5	8.4	ug/L		03/06/24 10:09	03/07/24 21:03	1
4-Bromophenyl phenyl ether	ND		9.5	8.2	ug/L		03/06/24 10:09	03/07/24 21:03	1
Butyl benzyl phthalate	ND		9.5	5.5	ug/L		03/06/24 10:09	03/07/24 21:03	1
4-Chloroaniline	ND		9.5	4.5	ug/L		03/06/24 10:09	03/07/24 21:03	1
4-Chloro-3-methylphenol	ND		9.5	5.0	ug/L		03/06/24 10:09	03/07/24 21:03	1
2-Chloronaphthalene	ND		9.5	3.6	ug/L		03/06/24 10:09	03/07/24 21:03	1
2-Chlorophenol	ND		9.5	3.9	ug/L		03/06/24 10:09	03/07/24 21:03	1
4-Chlorophenyl phenyl ether	ND		9.5	3.5	ug/L		03/06/24 10:09	03/07/24 21:03	1
Dibenz[a,h]acridine	ND		9.5	2.7	ug/L		03/06/24 10:09	03/07/24 21:03	1
Dibenzofuran	ND		9.5	3.8	ug/L		03/06/24 10:09	03/07/24 21:03	1
3,3'-Dichlorobenzidine	ND		10	10	ug/L		03/06/24 10:09	03/07/24 21:03	1
2,4-Dichlorophenol	ND		9.5	4.1	ug/L		03/06/24 10:09	03/07/24 21:03	1
Diethyl phthalate	ND		9.5	4.2	ug/L		03/06/24 10:09	03/07/24 21:03	1
2,4-Dimethylphenol	ND		9.5	4.9	ug/L		03/06/24 10:09	03/07/24 21:03	1
Dimethyl phthalate	ND		9.5	4.0	ug/L		03/06/24 10:09	03/07/24 21:03	1
Di-n-butyl phthalate	ND		9.5	4.4	ug/L		03/06/24 10:09	03/07/24 21:03	1
4,6-Dinitro-ortho-cresol	ND		9.5	9.5	ug/L		03/06/24 10:09	03/07/24 21:03	1
2,4-Dinitrophenol	ND		28	4.4	ug/L		03/06/24 10:09	03/07/24 21:03	1
2,4-Dinitrotoluene	ND		9.5	4.8	ug/L		03/06/24 10:09	03/07/24 21:03	1
2,6-Dinitrotoluene	ND		9.5	3.7	ug/L		03/06/24 10:09	03/07/24 21:03	1
Di-n-octyl phthalate	ND		9.5	5.7	ug/L		03/06/24 10:09	03/07/24 21:03	1
1,4-Dioxane	ND		9.5	4.1	ug/L		03/06/24 10:09	03/07/24 21:03	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.5	3.1	ug/L		03/06/24 10:09	03/07/24 21:03	1
Hexachlorobenzene	ND		9.5	9.2	ug/L		03/06/24 10:09	03/07/24 21:03	1
Hexachlorocyclopentadiene	ND		19	4.3	ug/L		03/06/24 10:09	03/07/24 21:03	1
Hexachloroethane	ND		9.5	4.9	ug/L		03/06/24 10:09	03/07/24 21:03	1
Indene	ND		9.5	3.4	ug/L		03/06/24 10:09	03/07/24 21:03	1
Isophorone	ND		9.5	4.9	ug/L		03/06/24 10:09	03/07/24 21:03	1
2-Methylphenol	ND		9.5	3.0	ug/L		03/06/24 10:09	03/07/24 21:03	1
3 & 4 Methylphenol	ND		19	4.4	ug/L		03/06/24 10:09	03/07/24 21:03	1
2-Nitroaniline	ND		9.5	4.7	ug/L		03/06/24 10:09	03/07/24 21:03	1
3-Nitroaniline	ND		9.5	4.5	ug/L		03/06/24 10:09	03/07/24 21:03	1
4-Nitroaniline	ND		9.5	3.9	ug/L		03/06/24 10:09	03/07/24 21:03	1
Nitrobenzene	ND		9.5	4.5	ug/L		03/06/24 10:09	03/07/24 21:03	1
2-Nitrophenol	ND		9.5	4.4	ug/L		03/06/24 10:09	03/07/24 21:03	1
4-Nitrophenol	ND		9.5	3.1	ug/L		03/06/24 10:09	03/07/24 21:03	1
N-Nitrosodimethylamine	ND		9.5	2.1	ug/L		03/06/24 10:09	03/07/24 21:03	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

**Client Sample ID: MW1-ROX-022924-EB**

**Lab Sample ID: 400-251938-3**

**Date Collected: 02/29/24 08:45**

**Matrix: Water**

**Date Received: 03/01/24 09:55**

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.5	2.4	ug/L		03/06/24 10:09	03/07/24 21:03	1
N-Nitrosodiphenylamine	ND		9.5	3.5	ug/L		03/06/24 10:09	03/07/24 21:03	1
Pentachlorophenol	ND		19	11	ug/L		03/06/24 10:09	03/07/24 21:03	1
Phenol	ND		9.5	4.0	ug/L		03/06/24 10:09	03/07/24 21:03	1
Pyridine	ND		9.5	9.5	ug/L		03/06/24 10:09	03/07/24 21:03	1
Quinoline	ND		9.5	2.3	ug/L		03/06/24 10:09	03/07/24 21:03	1
2,4,5-Trichlorophenol	ND		9.5	3.8	ug/L		03/06/24 10:09	03/07/24 21:03	1
2,4,6-Trichlorophenol	ND		9.5	3.3	ug/L		03/06/24 10:09	03/07/24 21:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	88		21 - 114	03/06/24 10:09	03/07/24 21:03	1
2-Fluorophenol	46		10 - 105	03/06/24 10:09	03/07/24 21:03	1
Nitrobenzene-d5	67		16 - 127	03/06/24 10:09	03/07/24 21:03	1
Phenol-d5	33		10 - 129	03/06/24 10:09	03/07/24 21:03	1
Terphenyl-d14	107		13 - 150	03/06/24 10:09	03/07/24 21:03	1
2,4,6-Tribromophenol	101		10 - 150	03/06/24 10:09	03/07/24 21:03	1

**Method: EPA 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	0.017	ug/L		03/06/24 10:49	03/06/24 19:19	1
1,2-Dibromoethane	ND	*+	0.020	0.015	ug/L		03/06/24 10:49	03/06/24 19:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	63		51 - 149	03/06/24 10:49	03/06/24 19:19	1



# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

**Client Sample ID: MW1-ROX-022924**

**Lab Sample ID: 400-251938-4**

**Date Collected: 02/29/24 11:35**

**Matrix: Water**

**Date Received: 03/01/24 09:55**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/06/24 12:42	1
Acrolein	ND		20	3.3	ug/L			03/06/24 12:42	1
Acrylonitrile	ND		10	2.8	ug/L			03/06/24 12:42	1
<b>Benzene</b>	<b>0.90</b>	<b>J</b>	1.0	0.50	ug/L			03/06/24 12:42	1
Bromobenzene	ND		1.0	0.54	ug/L			03/06/24 12:42	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/06/24 12:42	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/06/24 12:42	1
Bromoform	ND		5.0	0.25	ug/L			03/06/24 12:42	1
Bromomethane	ND		1.0	0.98	ug/L			03/06/24 12:42	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/06/24 12:42	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/06/24 12:42	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/06/24 12:42	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/06/24 12:42	1
Chloroethane	ND		1.0	0.76	ug/L			03/06/24 12:42	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/06/24 12:42	1
Chloroform	ND		1.0	0.90	ug/L			03/06/24 12:42	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/06/24 12:42	1
Chloromethane	ND		1.0	0.90	ug/L			03/06/24 12:42	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/06/24 12:42	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/06/24 12:42	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/06/24 12:42	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/06/24 12:42	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/06/24 12:42	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/06/24 12:42	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/06/24 12:42	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/06/24 12:42	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/06/24 12:42	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/06/24 12:42	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 12:42	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 12:42	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 12:42	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/06/24 12:42	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/06/24 12:42	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/06/24 12:42	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/06/24 12:42	1
2-Hexanone	ND		25	1.4	ug/L			03/06/24 12:42	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/06/24 12:42	1
Methylene bromide	ND		5.0	0.22	ug/L			03/06/24 12:42	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/06/24 12:42	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/06/24 12:42	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/06/24 12:42	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/06/24 12:42	1
Naphthalene	ND		5.0	3.0	ug/L			03/06/24 12:42	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/06/24 12:42	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/06/24 12:42	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/06/24 12:42	1
o-Xylene	ND		5.0	0.60	ug/L			03/06/24 12:42	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/06/24 12:42	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/06/24 12:42	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

**Client Sample ID: MW1-ROX-022924**

**Lab Sample ID: 400-251938-4**

**Date Collected: 02/29/24 11:35**

**Matrix: Water**

**Date Received: 03/01/24 09:55**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/06/24 12:42	1
Styrene	ND		1.0	1.0	ug/L			03/06/24 12:42	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/06/24 12:42	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/06/24 12:42	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/06/24 12:42	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/06/24 12:42	1
Toluene	ND		1.0	0.90	ug/L			03/06/24 12:42	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/06/24 12:42	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/06/24 12:42	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/06/24 12:42	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/06/24 12:42	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/06/24 12:42	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/06/24 12:42	1
Trichloroethene	ND		1.0	0.15	ug/L			03/06/24 12:42	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/06/24 12:42	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/06/24 12:42	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/06/24 12:42	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/06/24 12:42	1
Vinyl acetate	ND		25	0.93	ug/L			03/06/24 12:42	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/06/24 12:42	1
Xylenes, Total	ND		10	1.6	ug/L			03/06/24 12:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		72 - 130		03/06/24 12:42	1
Dibromofluoromethane	102		75 - 126		03/06/24 12:42	1
Toluene-d8 (Surr)	102		64 - 132		03/06/24 12:42	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.093	ug/L		03/06/24 10:09	03/07/24 17:31	1
Acenaphthylene	ND		0.19	0.041	ug/L		03/06/24 10:09	03/07/24 17:31	1
Anthracene	ND		0.19	0.044	ug/L		03/06/24 10:09	03/07/24 17:31	1
Benzo[a]anthracene	ND		0.19	0.032	ug/L		03/06/24 10:09	03/07/24 17:31	1
Benzo[a]pyrene	ND		0.19	0.060	ug/L		03/06/24 10:09	03/07/24 17:31	1
Benzo[b]fluoranthene	ND		0.19	0.035	ug/L		03/06/24 10:09	03/07/24 17:31	1
Benzo[g,h,i]perylene	ND		0.19	0.025	ug/L		03/06/24 10:09	03/07/24 17:31	1
Benzo[k]fluoranthene	ND		0.19	0.058	ug/L		03/06/24 10:09	03/07/24 17:31	1
Chrysene	ND		0.19	0.031	ug/L		03/06/24 10:09	03/07/24 17:31	1
Dibenz(a,h)anthracene	ND		0.19	0.045	ug/L		03/06/24 10:09	03/07/24 17:31	1
Fluoranthene	ND		0.19	0.032	ug/L		03/06/24 10:09	03/07/24 17:31	1
Fluorene	ND		0.19	0.084	ug/L		03/06/24 10:09	03/07/24 17:31	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.032	ug/L		03/06/24 10:09	03/07/24 17:31	1
Phenanthrene	ND		0.19	0.085	ug/L		03/06/24 10:09	03/07/24 17:31	1
Pyrene	ND		0.19	0.037	ug/L		03/06/24 10:09	03/07/24 17:31	1
1-Methylnaphthalene	ND		0.19	0.075	ug/L		03/06/24 10:09	03/07/24 17:31	1
2-Methylnaphthalene	ND		0.19	0.062	ug/L		03/06/24 10:09	03/07/24 17:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	88		18 - 147	03/06/24 10:09	03/07/24 17:31	1
2-Fluorobiphenyl	63		15 - 128	03/06/24 10:09	03/07/24 17:31	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

**Client Sample ID: MW1-ROX-022924**

**Lab Sample ID: 400-251938-4**

Date Collected: 02/29/24 11:35

Matrix: Water

Date Received: 03/01/24 09:55

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	77		10 - 144	03/06/24 10:09	03/07/24 17:31	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*1	9.4	8.2	ug/L		03/06/24 10:09	03/07/24 21:29	1
Benzenethiol	ND		9.4	9.3	ug/L		03/06/24 10:09	03/07/24 21:29	1
Benzoic acid	ND		28	23	ug/L		03/06/24 10:09	03/07/24 21:29	1
Benzyl alcohol	ND		9.4	6.9	ug/L		03/06/24 10:09	03/07/24 21:29	1
Bis(2-chloroethoxy)methane	ND		9.4	4.3	ug/L		03/06/24 10:09	03/07/24 21:29	1
Bis(2-chloroethyl)ether	ND		9.4	3.7	ug/L		03/06/24 10:09	03/07/24 21:29	1
bis (2-chloroisopropyl) ether	ND		9.4	1.7	ug/L		03/06/24 10:09	03/07/24 21:29	1
Bis(2-ethylhexyl) phthalate	ND		9.4	8.4	ug/L		03/06/24 10:09	03/07/24 21:29	1
4-Bromophenyl phenyl ether	ND		9.4	8.1	ug/L		03/06/24 10:09	03/07/24 21:29	1
Butyl benzyl phthalate	ND		9.4	5.4	ug/L		03/06/24 10:09	03/07/24 21:29	1
4-Chloroaniline	ND		9.4	4.4	ug/L		03/06/24 10:09	03/07/24 21:29	1
4-Chloro-3-methylphenol	ND		9.4	5.0	ug/L		03/06/24 10:09	03/07/24 21:29	1
2-Chloronaphthalene	ND		9.4	3.6	ug/L		03/06/24 10:09	03/07/24 21:29	1
2-Chlorophenol	ND		9.4	3.9	ug/L		03/06/24 10:09	03/07/24 21:29	1
4-Chlorophenyl phenyl ether	ND		9.4	3.5	ug/L		03/06/24 10:09	03/07/24 21:29	1
Dibenz[a,h]acridine	ND		9.4	2.6	ug/L		03/06/24 10:09	03/07/24 21:29	1
Dibenzofuran	ND		9.4	3.8	ug/L		03/06/24 10:09	03/07/24 21:29	1
3,3'-Dichlorobenzidine	ND		10	10	ug/L		03/06/24 10:09	03/07/24 21:29	1
2,4-Dichlorophenol	ND		9.4	4.0	ug/L		03/06/24 10:09	03/07/24 21:29	1
Diethyl phthalate	ND		9.4	4.1	ug/L		03/06/24 10:09	03/07/24 21:29	1
2,4-Dimethylphenol	ND		9.4	4.9	ug/L		03/06/24 10:09	03/07/24 21:29	1
Dimethyl phthalate	ND		9.4	3.9	ug/L		03/06/24 10:09	03/07/24 21:29	1
Di-n-butyl phthalate	ND		9.4	4.3	ug/L		03/06/24 10:09	03/07/24 21:29	1
4,6-Dinitro-ortho-cresol	ND		9.4	9.4	ug/L		03/06/24 10:09	03/07/24 21:29	1
2,4-Dinitrophenol	ND		28	4.3	ug/L		03/06/24 10:09	03/07/24 21:29	1
2,4-Dinitrotoluene	ND		9.4	4.8	ug/L		03/06/24 10:09	03/07/24 21:29	1
2,6-Dinitrotoluene	ND		9.4	3.7	ug/L		03/06/24 10:09	03/07/24 21:29	1
Di-n-octyl phthalate	ND		9.4	5.6	ug/L		03/06/24 10:09	03/07/24 21:29	1
1,4-Dioxane	ND		9.4	4.0	ug/L		03/06/24 10:09	03/07/24 21:29	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.4	3.1	ug/L		03/06/24 10:09	03/07/24 21:29	1
Hexachlorobenzene	ND		9.4	9.1	ug/L		03/06/24 10:09	03/07/24 21:29	1
Hexachlorocyclopentadiene	ND		19	4.2	ug/L		03/06/24 10:09	03/07/24 21:29	1
Hexachloroethane	ND		9.4	4.9	ug/L		03/06/24 10:09	03/07/24 21:29	1
Indene	ND		9.4	3.4	ug/L		03/06/24 10:09	03/07/24 21:29	1
Isophorone	ND		9.4	4.9	ug/L		03/06/24 10:09	03/07/24 21:29	1
2-Methylphenol	ND		9.4	3.0	ug/L		03/06/24 10:09	03/07/24 21:29	1
3 & 4 Methylphenol	ND		19	4.3	ug/L		03/06/24 10:09	03/07/24 21:29	1
2-Nitroaniline	ND		9.4	4.7	ug/L		03/06/24 10:09	03/07/24 21:29	1
3-Nitroaniline	ND		9.4	4.4	ug/L		03/06/24 10:09	03/07/24 21:29	1
4-Nitroaniline	ND		9.4	3.9	ug/L		03/06/24 10:09	03/07/24 21:29	1
Nitrobenzene	ND		9.4	4.4	ug/L		03/06/24 10:09	03/07/24 21:29	1
2-Nitrophenol	ND		9.4	4.3	ug/L		03/06/24 10:09	03/07/24 21:29	1
4-Nitrophenol	ND		9.4	3.1	ug/L		03/06/24 10:09	03/07/24 21:29	1
N-Nitrosodimethylamine	ND	UJ	9.4	2.1	ug/L		03/06/24 10:09	03/07/24 21:29	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

**Client Sample ID: MW1-ROX-022924**

**Lab Sample ID: 400-251938-4**

**Date Collected: 02/29/24 11:35**

**Matrix: Water**

**Date Received: 03/01/24 09:55**

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.4	2.3	ug/L		03/06/24 10:09	03/07/24 21:29	1
N-Nitrosodiphenylamine	ND		9.4	3.5	ug/L		03/06/24 10:09	03/07/24 21:29	1
Pentachlorophenol	ND		19	11	ug/L		03/06/24 10:09	03/07/24 21:29	1
Phenol	ND		9.4	3.9	ug/L		03/06/24 10:09	03/07/24 21:29	1
Pyridine	ND		9.4	9.4	ug/L		03/06/24 10:09	03/07/24 21:29	1
Quinoline	ND		9.4	2.3	ug/L		03/06/24 10:09	03/07/24 21:29	1
2,4,5-Trichlorophenol	ND		9.4	3.8	ug/L		03/06/24 10:09	03/07/24 21:29	1
2,4,6-Trichlorophenol	ND		9.4	3.3	ug/L		03/06/24 10:09	03/07/24 21:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	89		21 - 114	03/06/24 10:09	03/07/24 21:29	1
2-Fluorophenol	46		10 - 105	03/06/24 10:09	03/07/24 21:29	1
Nitrobenzene-d5	67		16 - 127	03/06/24 10:09	03/07/24 21:29	1
Phenol-d5	33		10 - 129	03/06/24 10:09	03/07/24 21:29	1
Terphenyl-d14	110		13 - 150	03/06/24 10:09	03/07/24 21:29	1
2,4,6-Tribromophenol	105		10 - 150	03/06/24 10:09	03/07/24 21:29	1

**Method: EPA 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	0.017	ug/L		03/06/24 10:49	03/06/24 19:40	1
1,2-Dibromoethane	ND	*+	0.020	0.015	ug/L		03/06/24 10:49	03/06/24 19:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	67		51 - 149	03/06/24 10:49	03/06/24 19:40	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

**Client Sample ID: MW26-ROX-022924**

**Lab Sample ID: 400-251938-5**

**Date Collected: 02/29/24 12:55**

**Matrix: Water**

**Date Received: 03/01/24 09:55**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/06/24 10:15	1
Acrolein	ND		20	3.3	ug/L			03/06/24 10:15	1
Acrylonitrile	ND		10	2.8	ug/L			03/06/24 10:15	1
Benzene	ND		1.0	0.50	ug/L			03/06/24 10:15	1
Bromobenzene	ND		1.0	0.54	ug/L			03/06/24 10:15	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/06/24 10:15	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/06/24 10:15	1
Bromoform	ND		5.0	0.25	ug/L			03/06/24 10:15	1
Bromomethane	ND		1.0	0.98	ug/L			03/06/24 10:15	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/06/24 10:15	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/06/24 10:15	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/06/24 10:15	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/06/24 10:15	1
Chloroethane	ND		1.0	0.76	ug/L			03/06/24 10:15	1
2-Chloroethyl vinyl ether	ND	F1 UJ	5.0	2.0	ug/L			03/06/24 10:15	1
Chloroform	ND		1.0	0.90	ug/L			03/06/24 10:15	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/06/24 10:15	1
Chloromethane	ND		1.0	0.90	ug/L			03/06/24 10:15	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/06/24 10:15	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/06/24 10:15	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/06/24 10:15	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/06/24 10:15	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/06/24 10:15	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/06/24 10:15	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/06/24 10:15	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/06/24 10:15	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/06/24 10:15	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/06/24 10:15	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 10:15	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 10:15	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 10:15	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/06/24 10:15	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/06/24 10:15	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/06/24 10:15	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/06/24 10:15	1
2-Hexanone	ND		25	1.4	ug/L			03/06/24 10:15	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/06/24 10:15	1
Methylene bromide	ND		5.0	0.22	ug/L			03/06/24 10:15	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/06/24 10:15	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/06/24 10:15	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/06/24 10:15	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/06/24 10:15	1
Naphthalene	ND		5.0	3.0	ug/L			03/06/24 10:15	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/06/24 10:15	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/06/24 10:15	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/06/24 10:15	1
o-Xylene	ND		5.0	0.60	ug/L			03/06/24 10:15	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/06/24 10:15	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/06/24 10:15	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

**Client Sample ID: MW26-ROX-022924**

**Lab Sample ID: 400-251938-5**

Date Collected: 02/29/24 12:55

Matrix: Water

Date Received: 03/01/24 09:55

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/06/24 10:15	1
Styrene	ND		1.0	1.0	ug/L			03/06/24 10:15	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/06/24 10:15	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/06/24 10:15	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/06/24 10:15	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/06/24 10:15	1
Toluene	ND		1.0	0.90	ug/L			03/06/24 10:15	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/06/24 10:15	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/06/24 10:15	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/06/24 10:15	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/06/24 10:15	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/06/24 10:15	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/06/24 10:15	1
Trichloroethene	ND		1.0	0.15	ug/L			03/06/24 10:15	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/06/24 10:15	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/06/24 10:15	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/06/24 10:15	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/06/24 10:15	1
Vinyl acetate	ND		25	0.93	ug/L			03/06/24 10:15	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/06/24 10:15	1
Xylenes, Total	ND		10	1.6	ug/L			03/06/24 10:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		72 - 130		03/06/24 10:15	1
Dibromofluoromethane	103		75 - 126		03/06/24 10:15	1
Toluene-d8 (Surr)	101		64 - 132		03/06/24 10:15	1

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.097	ug/L		03/06/24 10:09	03/07/24 14:47	1
Acenaphthylene	ND		0.20	0.043	ug/L		03/06/24 10:09	03/07/24 14:47	1
Anthracene	ND		0.20	0.046	ug/L		03/06/24 10:09	03/07/24 14:47	1
Benzo[a]anthracene	ND		0.20	0.033	ug/L		03/06/24 10:09	03/07/24 14:47	1
Benzo[a]pyrene	ND		0.20	0.063	ug/L		03/06/24 10:09	03/07/24 14:47	1
Benzo[b]fluoranthene	ND		0.20	0.036	ug/L		03/06/24 10:09	03/07/24 14:47	1
Benzo[g,h,i]perylene	ND		0.20	0.026	ug/L		03/06/24 10:09	03/07/24 14:47	1
Benzo[k]fluoranthene	ND		0.20	0.061	ug/L		03/06/24 10:09	03/07/24 14:47	1
Chrysene	ND		0.20	0.032	ug/L		03/06/24 10:09	03/07/24 14:47	1
Dibenz(a,h)anthracene	ND		0.20	0.047	ug/L		03/06/24 10:09	03/07/24 14:47	1
Fluoranthene	ND		0.20	0.033	ug/L		03/06/24 10:09	03/07/24 14:47	1
Fluorene	ND		0.20	0.087	ug/L		03/06/24 10:09	03/07/24 14:47	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.033	ug/L		03/06/24 10:09	03/07/24 14:47	1
Phenanthrene	ND		0.20	0.088	ug/L		03/06/24 10:09	03/07/24 14:47	1
Pyrene	ND		0.20	0.038	ug/L		03/06/24 10:09	03/07/24 14:47	1
1-Methylnaphthalene	ND		0.20	0.078	ug/L		03/06/24 10:09	03/07/24 14:47	1
2-Methylnaphthalene	ND		0.20	0.065	ug/L		03/06/24 10:09	03/07/24 14:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	90		18 - 147	03/06/24 10:09	03/07/24 14:47	1
2-Fluorobiphenyl	72		15 - 128	03/06/24 10:09	03/07/24 14:47	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

**Client Sample ID: MW26-ROX-022924**

**Lab Sample ID: 400-251938-5**

Date Collected: 02/29/24 12:55

Matrix: Water

Date Received: 03/01/24 09:55

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	83		10 - 144	03/06/24 10:09	03/07/24 14:47	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*1 F1 UJ	9.8	8.5	ug/L		03/06/24 10:09	03/07/24 17:59	1
Benzenethiol	ND		9.8	9.7	ug/L		03/06/24 10:09	03/07/24 17:59	1
Benzoic acid	ND		29	23	ug/L		03/06/24 10:09	03/07/24 17:59	1
Benzyl alcohol	ND		9.8	7.1	ug/L		03/06/24 10:09	03/07/24 17:59	1
Bis(2-chloroethoxy)methane	ND		9.8	4.5	ug/L		03/06/24 10:09	03/07/24 17:59	1
Bis(2-chloroethyl)ether	ND		9.8	3.8	ug/L		03/06/24 10:09	03/07/24 17:59	1
bis (2-chloroisopropyl) ether	ND		9.8	1.8	ug/L		03/06/24 10:09	03/07/24 17:59	1
Bis(2-ethylhexyl) phthalate	ND		9.8	8.7	ug/L		03/06/24 10:09	03/07/24 17:59	1
4-Bromophenyl phenyl ether	ND		9.8	8.4	ug/L		03/06/24 10:09	03/07/24 17:59	1
Butyl benzyl phthalate	ND		9.8	5.7	ug/L		03/06/24 10:09	03/07/24 17:59	1
4-Chloroaniline	ND		9.8	4.6	ug/L		03/06/24 10:09	03/07/24 17:59	1
4-Chloro-3-methylphenol	ND		9.8	5.2	ug/L		03/06/24 10:09	03/07/24 17:59	1
2-Chloronaphthalene	ND		9.8	3.7	ug/L		03/06/24 10:09	03/07/24 17:59	1
2-Chlorophenol	ND		9.8	4.0	ug/L		03/06/24 10:09	03/07/24 17:59	1
4-Chlorophenyl phenyl ether	ND		9.8	3.6	ug/L		03/06/24 10:09	03/07/24 17:59	1
Dibenz[a,h]acridine	ND		9.8	2.7	ug/L		03/06/24 10:09	03/07/24 17:59	1
Dibenzofuran	ND		9.8	3.9	ug/L		03/06/24 10:09	03/07/24 17:59	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/06/24 10:09	03/07/24 17:59	1
2,4-Dichlorophenol	ND		9.8	4.2	ug/L		03/06/24 10:09	03/07/24 17:59	1
Diethyl phthalate	ND		9.8	4.3	ug/L		03/06/24 10:09	03/07/24 17:59	1
2,4-Dimethylphenol	ND		9.8	5.1	ug/L		03/06/24 10:09	03/07/24 17:59	1
Dimethyl phthalate	ND		9.8	4.1	ug/L		03/06/24 10:09	03/07/24 17:59	1
Di-n-butyl phthalate	ND		9.8	4.5	ug/L		03/06/24 10:09	03/07/24 17:59	1
4,6-Dinitro-ortho-cresol	ND		9.8	9.8	ug/L		03/06/24 10:09	03/07/24 17:59	1
2,4-Dinitrophenol	ND		29	4.5	ug/L		03/06/24 10:09	03/07/24 17:59	1
2,4-Dinitrotoluene	ND		9.8	5.0	ug/L		03/06/24 10:09	03/07/24 17:59	1
2,6-Dinitrotoluene	ND		9.8	3.8	ug/L		03/06/24 10:09	03/07/24 17:59	1
Di-n-octyl phthalate	ND		9.8	5.9	ug/L		03/06/24 10:09	03/07/24 17:59	1
1,4-Dioxane	ND	F1 UJ	9.8	4.2	ug/L		03/06/24 10:09	03/07/24 17:59	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	3.2	ug/L		03/06/24 10:09	03/07/24 17:59	1
Hexachlorobenzene	ND		9.8	9.5	ug/L		03/06/24 10:09	03/07/24 17:59	1
Hexachlorocyclopentadiene	ND		20	4.4	ug/L		03/06/24 10:09	03/07/24 17:59	1
Hexachloroethane	ND		9.8	5.1	ug/L		03/06/24 10:09	03/07/24 17:59	1
Indene	ND		9.8	3.5	ug/L		03/06/24 10:09	03/07/24 17:59	1
Isophorone	ND		9.8	5.1	ug/L		03/06/24 10:09	03/07/24 17:59	1
2-Methylphenol	ND		9.8	3.1	ug/L		03/06/24 10:09	03/07/24 17:59	1
3 & 4 Methylphenol	ND		20	4.5	ug/L		03/06/24 10:09	03/07/24 17:59	1
2-Nitroaniline	ND		9.8	4.9	ug/L		03/06/24 10:09	03/07/24 17:59	1
3-Nitroaniline	ND		9.8	4.6	ug/L		03/06/24 10:09	03/07/24 17:59	1
4-Nitroaniline	ND		9.8	4.0	ug/L		03/06/24 10:09	03/07/24 17:59	1
Nitrobenzene	ND		9.8	4.6	ug/L		03/06/24 10:09	03/07/24 17:59	1
2-Nitrophenol	ND		9.8	4.5	ug/L		03/06/24 10:09	03/07/24 17:59	1
4-Nitrophenol	ND		9.8	3.2	ug/L		03/06/24 10:09	03/07/24 17:59	1
N-Nitrosodimethylamine	ND	F1 UJ	9.8	2.2	ug/L		03/06/24 10:09	03/07/24 17:59	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

**Client Sample ID: MW26-ROX-022924**

**Lab Sample ID: 400-251938-5**

**Date Collected: 02/29/24 12:55**

**Matrix: Water**

**Date Received: 03/01/24 09:55**

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.8	2.4	ug/L		03/06/24 10:09	03/07/24 17:59	1
N-Nitrosodiphenylamine	ND		9.8	3.6	ug/L		03/06/24 10:09	03/07/24 17:59	1
Pentachlorophenol	ND		20	12	ug/L		03/06/24 10:09	03/07/24 17:59	1
Phenol	ND	F1 UJ	9.8	4.1	ug/L		03/06/24 10:09	03/07/24 17:59	1
Pyridine	ND	F1 UJ	9.8	9.8	ug/L		03/06/24 10:09	03/07/24 17:59	1
Quinoline	ND	F1 UJ	9.8	2.3	ug/L		03/06/24 10:09	03/07/24 17:59	1
2,4,5-Trichlorophenol	ND		9.8	3.9	ug/L		03/06/24 10:09	03/07/24 17:59	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		03/06/24 10:09	03/07/24 17:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	90		21 - 114	03/06/24 10:09	03/07/24 17:59	1
2-Fluorophenol	44		10 - 105	03/06/24 10:09	03/07/24 17:59	1
Nitrobenzene-d5	68		16 - 127	03/06/24 10:09	03/07/24 17:59	1
Phenol-d5	32		10 - 129	03/06/24 10:09	03/07/24 17:59	1
Terphenyl-d14	105		13 - 150	03/06/24 10:09	03/07/24 17:59	1
2,4,6-Tribromophenol	107		10 - 150	03/06/24 10:09	03/07/24 17:59	1

**Method: EPA 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	0.017	ug/L		03/06/24 10:49	03/06/24 20:01	1
1,2-Dibromoethane	ND	*+	0.020	0.015	ug/L		03/06/24 10:49	03/06/24 20:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	71		51 - 149	03/06/24 10:49	03/06/24 20:01	1

# Definitions/Glossary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control 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
*1	LCS/LCSD RPD exceeds control limits.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### GC Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

# Surrogate Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (72-130)	DBFM (75-126)	TOL (64-132)
400-251938-1	TB-ROX-022924-8260	100	102	101
400-251938-3	MW1-ROX-022924-EB	101	100	102
400-251938-4	MW1-ROX-022924	101	102	102
400-251938-5	MW26-ROX-022924	102	103	101
400-251938-5 MS	MW26-ROX-022924	97	100	101
400-251938-5 MSD	MW26-ROX-022924	100	100	100
LCS 400-663386/1002	Lab Control Sample	99	100	100
MB 400-663386/4	Method Blank	102	104	100

**Surrogate Legend**  
 BFB = 4-Bromofluorobenzene  
 DBFM = Dibromofluoromethane  
 TOL = Toluene-d8 (Surr)

## Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (21-114)	2FP (10-105)	NBZ (16-127)	PHL (10-129)	TPHL (13-150)	TBP (10-150)
400-251938-3	MW1-ROX-022924-EB	88	46	67	33	107	101
400-251938-4	MW1-ROX-022924	89	46	67	33	110	105
400-251938-5	MW26-ROX-022924	90	44	68	32	105	107
400-251938-5 MS	MW26-ROX-022924	87	54	71	46	93	106
400-251938-5 MSD	MW26-ROX-022924	93	59	74	49	103	117
LCS 400-663434/23-A	Lab Control Sample	76	48	63	37	108	105
LCS 400-663434/2-A	Lab Control Sample	93	52	70	41	97	111
LCSD 400-663434/24-A	Lab Control Sample Dup	89	54	71	42	118	109
LCSD 400-663434/3-A	Lab Control Sample Dup	88	53	69	43	94	115
MB 400-663434/1-A	Method Blank	94	49	72	35	107	107

**Surrogate Legend**  
 FBP = 2-Fluorobiphenyl  
 2FP = 2-Fluorophenol  
 NBZ = Nitrobenzene-d5  
 PHL = Phenol-d5  
 TPHL = Terphenyl-d14  
 TBP = 2,4,6-Tribromophenol

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TPHL (18-147)	FBP (15-128)	NBZ (10-144)
400-251938-3	MW1-ROX-022924-EB	91	70	75
400-251938-4	MW1-ROX-022924	88	63	77
400-251938-5	MW26-ROX-022924	90	72	83
400-251938-5 MS	MW26-ROX-022924	82	77	58
400-251938-5 MSD	MW26-ROX-022924	84	82	61
LCS 400-663434/2-A	Lab Control Sample	88	86	58

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# Surrogate Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TPHL (18-147)	FBP (15-128)	NBZ (10-144)
LCSD 400-663434/3-A	Lab Control Sample Dup	82	78	54
MB 400-663434/1-A	Method Blank	97	71	87

#### 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

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB2 (51-149)
400-251938-2	TB-ROX-022924-8011	76
400-251938-3	MW1-ROX-022924-EB	63
400-251938-4	MW1-ROX-022924	67
400-251938-5	MW26-ROX-022924	71
400-251938-5 MS	MW26-ROX-022924	131
400-251938-5 MSD	MW26-ROX-022924	102
LCS 400-663450/2-A	Lab Control Sample	70
LCSD 400-663450/3-A	Lab Control Sample Dup	63
MB 400-663450/1-A	Method Blank	55

#### Surrogate Legend

BFB = 4-Bromofluorobenzene

# Method Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET PEN
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET PEN
8270E SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	EET PEN
8011	EDB and DBCP in Water by Microextraction	EPA	EET PEN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET PEN
5030C	Purge and Trap	SW846	EET PEN
8011	Microextraction	SW846	EET 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:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

**Client Sample ID: TB-ROX-022924-8260**

**Lab Sample ID: 400-251938-1**

Date Collected: 02/29/24 00:00

Matrix: Water

Date Received: 03/01/24 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663386	03/06/24 11:53	KR	EET PEN

**Client Sample ID: TB-ROX-022924-8011**

**Lab Sample ID: 400-251938-2**

Date Collected: 02/29/24 00:00

Matrix: Water

Date Received: 03/01/24 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35.2 mL	35 mL	663450	03/06/24 10:49	PG	EET PEN
Total/NA	Analysis	8011		1			663403	03/06/24 18:58	PG	EET PEN

**Client Sample ID: MW1-ROX-022924-EB**

**Lab Sample ID: 400-251938-3**

Date Collected: 02/29/24 08:45

Matrix: Water

Date Received: 03/01/24 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663386	03/06/24 12:18	KR	EET PEN
Total/NA	Prep	3510C			263.4 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	663609	03/07/24 21:03	VC1	EET PEN
Total/NA	Prep	3510C			263.4 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	663594	03/07/24 17:11	KJA	EET PEN
Total/NA	Prep	8011			34.6 mL	35 mL	663450	03/06/24 10:49	PG	EET PEN
Total/NA	Analysis	8011		1			663403	03/06/24 19:19	PG	EET PEN

**Client Sample ID: MW1-ROX-022924**

**Lab Sample ID: 400-251938-4**

Date Collected: 02/29/24 11:35

Matrix: Water

Date Received: 03/01/24 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663386	03/06/24 12:42	KR	EET PEN
Total/NA	Prep	3510C			266.2 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	663609	03/07/24 21:29	VC1	EET PEN
Total/NA	Prep	3510C			266.2 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	663594	03/07/24 17:31	KJA	EET PEN
Total/NA	Prep	8011			35.2 mL	35 mL	663450	03/06/24 10:49	PG	EET PEN
Total/NA	Analysis	8011		1			663403	03/06/24 19:40	PG	EET PEN

**Client Sample ID: MW26-ROX-022924**

**Lab Sample ID: 400-251938-5**

Date Collected: 02/29/24 12:55

Matrix: Water

Date Received: 03/01/24 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663386	03/06/24 10:15	KR	EET PEN
Total/NA	Prep	3510C			255.8 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	663609	03/07/24 17:59	VC1	EET PEN

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# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

**Client Sample ID: MW26-ROX-022924**

**Lab Sample ID: 400-251938-5**

Date Collected: 02/29/24 12:55

Matrix: Water

Date Received: 03/01/24 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			255.8 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	663594	03/07/24 14:47	KJA	EET PEN
Total/NA	Prep	8011			35.3 mL	35 mL	663450	03/06/24 10:49	PG	EET PEN
Total/NA	Analysis	8011		1			663403	03/06/24 20:01	PG	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-663386/4**

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	8260D		1	5 mL	5 mL	663386	03/06/24 09:51	KR	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-663434/1-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	3510C			250 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	663609	03/07/24 14:56	VC1	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	663594	03/07/24 13:04	KJA	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-663450/1-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	663450	03/06/24 10:49	PG	EET PEN
Total/NA	Analysis	8011		1			663403	03/06/24 17:55	PG	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-663386/1002**

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	8260D		1	5 mL	5 mL	663386	03/06/24 08:24	KR	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-663434/23-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	3510C			250 mL	1 mL	663434	03/06/24 10:13	BKL	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	663609	03/07/24 16:15	VC1	EET PEN



# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-663434/2-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	3510C			250 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	663609	03/07/24 15:22	VC1	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E SIM		20	0.4 mL	0.4 mL	663594	03/07/24 13:25	KJA	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-663450/2-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	663450	03/06/24 10:49	PG	EET PEN
Total/NA	Analysis	8011		1			663403	03/06/24 18:16	PG	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-663434/24-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	3510C			250 mL	1 mL	663434	03/06/24 10:13	BKL	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	663609	03/07/24 16:41	VC1	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-663434/3-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	3510C			250 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	663609	03/07/24 15:48	VC1	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E SIM		20	0.4 mL	0.4 mL	663594	03/07/24 13:45	KJA	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-663450/3-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	663450	03/06/24 10:49	PG	EET PEN
Total/NA	Analysis	8011		1			663403	03/06/24 18:37	PG	EET PEN

## Client Sample ID: MW26-ROX-022924

Lab Sample ID: 400-251938-5 MS

Date Collected: 02/29/24 12:55

Matrix: Water

Date Received: 03/01/24 09:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663386	03/06/24 10:40	KR	EET PEN

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# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

**Client Sample ID: MW26-ROX-022924**

**Lab Sample ID: 400-251938-5 MS**

**Date Collected: 02/29/24 12:55**

**Matrix: Water**

**Date Received: 03/01/24 09:55**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			257 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	663609	03/07/24 17:07	VC1	EET PEN
Total/NA	Prep	3510C			257 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E SIM		20	0.4 mL	0.4 mL	663594	03/07/24 14:06	KJA	EET PEN
Total/NA	Prep	8011			33.1 mL	35 mL	663450	03/06/24 10:49	PG	EET PEN
Total/NA	Analysis	8011		1			663552	03/07/24 10:26	PG	EET PEN

**Client Sample ID: MW26-ROX-022924**

**Lab Sample ID: 400-251938-5 MSD**

**Date Collected: 02/29/24 12:55**

**Matrix: Water**

**Date Received: 03/01/24 09:55**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663386	03/06/24 11:04	KR	EET PEN
Total/NA	Prep	3510C			259.2 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	663609	03/07/24 17:33	VC1	EET PEN
Total/NA	Prep	3510C			259.2 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E SIM		20	0.4 mL	0.4 mL	663594	03/07/24 14:26	KJA	EET PEN
Total/NA	Prep	8011			34.5 mL	35 mL	663450	03/06/24 10:49	PG	EET PEN
Total/NA	Analysis	8011		1			663552	03/07/24 10:47	PG	EET PEN

**Laboratory References:**

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

# QC Association Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

## GC/MS VOA

### Analysis Batch: 663386

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-251938-1	TB-ROX-022924-8260	Total/NA	Water	8260D	
400-251938-3	MW1-ROX-022924-EB	Total/NA	Water	8260D	
400-251938-4	MW1-ROX-022924	Total/NA	Water	8260D	
400-251938-5	MW26-ROX-022924	Total/NA	Water	8260D	
MB 400-663386/4	Method Blank	Total/NA	Water	8260D	
LCS 400-663386/1002	Lab Control Sample	Total/NA	Water	8260D	
400-251938-5 MS	MW26-ROX-022924	Total/NA	Water	8260D	
400-251938-5 MSD	MW26-ROX-022924	Total/NA	Water	8260D	

## GC/MS Semi VOA

### Prep Batch: 663434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-251938-3	MW1-ROX-022924-EB	Total/NA	Water	3510C	
400-251938-4	MW1-ROX-022924	Total/NA	Water	3510C	
400-251938-5	MW26-ROX-022924	Total/NA	Water	3510C	
MB 400-663434/1-A	Method Blank	Total/NA	Water	3510C	
LCS 400-663434/23-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 400-663434/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 400-663434/24-A	Lab Control Sample Dup	Total/NA	Water	3510C	
LCSD 400-663434/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
400-251938-5 MS	MW26-ROX-022924	Total/NA	Water	3510C	
400-251938-5 MSD	MW26-ROX-022924	Total/NA	Water	3510C	

### Analysis Batch: 663594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-251938-3	MW1-ROX-022924-EB	Total/NA	Water	8270E SIM	663434
400-251938-4	MW1-ROX-022924	Total/NA	Water	8270E SIM	663434
400-251938-5	MW26-ROX-022924	Total/NA	Water	8270E SIM	663434
MB 400-663434/1-A	Method Blank	Total/NA	Water	8270E SIM	663434
LCS 400-663434/2-A	Lab Control Sample	Total/NA	Water	8270E SIM	663434
LCSD 400-663434/3-A	Lab Control Sample Dup	Total/NA	Water	8270E SIM	663434
400-251938-5 MS	MW26-ROX-022924	Total/NA	Water	8270E SIM	663434
400-251938-5 MSD	MW26-ROX-022924	Total/NA	Water	8270E SIM	663434

### Analysis Batch: 663609

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-251938-3	MW1-ROX-022924-EB	Total/NA	Water	8270E	663434
400-251938-4	MW1-ROX-022924	Total/NA	Water	8270E	663434
400-251938-5	MW26-ROX-022924	Total/NA	Water	8270E	663434
MB 400-663434/1-A	Method Blank	Total/NA	Water	8270E	663434
LCS 400-663434/23-A	Lab Control Sample	Total/NA	Water	8270E	663434
LCS 400-663434/2-A	Lab Control Sample	Total/NA	Water	8270E	663434
LCSD 400-663434/24-A	Lab Control Sample Dup	Total/NA	Water	8270E	663434
LCSD 400-663434/3-A	Lab Control Sample Dup	Total/NA	Water	8270E	663434
400-251938-5 MS	MW26-ROX-022924	Total/NA	Water	8270E	663434
400-251938-5 MSD	MW26-ROX-022924	Total/NA	Water	8270E	663434

# QC Association Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

## GC Semi VOA

### Analysis Batch: 663403

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-251938-2	TB-ROX-022924-8011	Total/NA	Water	8011	663450
400-251938-3	MW1-ROX-022924-EB	Total/NA	Water	8011	663450
400-251938-4	MW1-ROX-022924	Total/NA	Water	8011	663450
400-251938-5	MW26-ROX-022924	Total/NA	Water	8011	663450
MB 400-663450/1-A	Method Blank	Total/NA	Water	8011	663450
LCS 400-663450/2-A	Lab Control Sample	Total/NA	Water	8011	663450
LCSD 400-663450/3-A	Lab Control Sample Dup	Total/NA	Water	8011	663450

### Prep Batch: 663450

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-251938-2	TB-ROX-022924-8011	Total/NA	Water	8011	663450
400-251938-3	MW1-ROX-022924-EB	Total/NA	Water	8011	663450
400-251938-4	MW1-ROX-022924	Total/NA	Water	8011	663450
400-251938-5	MW26-ROX-022924	Total/NA	Water	8011	663450
MB 400-663450/1-A	Method Blank	Total/NA	Water	8011	663450
LCS 400-663450/2-A	Lab Control Sample	Total/NA	Water	8011	663450
LCSD 400-663450/3-A	Lab Control Sample Dup	Total/NA	Water	8011	663450
400-251938-5 MS	MW26-ROX-022924	Total/NA	Water	8011	663450
400-251938-5 MSD	MW26-ROX-022924	Total/NA	Water	8011	663450

### Analysis Batch: 663552

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-251938-5 MS	MW26-ROX-022924	Total/NA	Water	8011	663450
400-251938-5 MSD	MW26-ROX-022924	Total/NA	Water	8011	663450

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 400-663386/4**  
**Matrix: Water**  
**Analysis Batch: 663386**

**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			03/06/24 09:51	1
Acrolein	ND		20	3.3	ug/L			03/06/24 09:51	1
Acrylonitrile	ND		10	2.8	ug/L			03/06/24 09:51	1
Benzene	ND		1.0	0.50	ug/L			03/06/24 09:51	1
Bromobenzene	ND		1.0	0.54	ug/L			03/06/24 09:51	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/06/24 09:51	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/06/24 09:51	1
Bromoform	ND		5.0	0.25	ug/L			03/06/24 09:51	1
Bromomethane	ND		1.0	0.98	ug/L			03/06/24 09:51	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/06/24 09:51	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/06/24 09:51	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/06/24 09:51	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/06/24 09:51	1
Chloroethane	ND		1.0	0.76	ug/L			03/06/24 09:51	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/06/24 09:51	1
Chloroform	ND		1.0	0.90	ug/L			03/06/24 09:51	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/06/24 09:51	1
Chloromethane	ND		1.0	0.90	ug/L			03/06/24 09:51	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/06/24 09:51	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/06/24 09:51	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/06/24 09:51	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/06/24 09:51	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/06/24 09:51	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/06/24 09:51	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/06/24 09:51	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/06/24 09:51	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/06/24 09:51	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/06/24 09:51	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 09:51	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 09:51	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 09:51	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/06/24 09:51	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/06/24 09:51	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/06/24 09:51	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/06/24 09:51	1
2-Hexanone	ND		25	1.4	ug/L			03/06/24 09:51	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/06/24 09:51	1
Methylene bromide	ND		5.0	0.22	ug/L			03/06/24 09:51	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/06/24 09:51	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/06/24 09:51	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/06/24 09:51	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/06/24 09:51	1
Naphthalene	ND		5.0	3.0	ug/L			03/06/24 09:51	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/06/24 09:51	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/06/24 09:51	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/06/24 09:51	1
o-Xylene	ND		5.0	0.60	ug/L			03/06/24 09:51	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/06/24 09:51	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-663386/4**  
**Matrix: Water**  
**Analysis Batch: 663386**

**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			03/06/24 09:51	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/06/24 09:51	1
Styrene	ND		1.0	1.0	ug/L			03/06/24 09:51	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/06/24 09:51	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/06/24 09:51	1
1,1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/06/24 09:51	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/06/24 09:51	1
Toluene	ND		1.0	0.90	ug/L			03/06/24 09:51	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/06/24 09:51	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/06/24 09:51	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/06/24 09:51	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/06/24 09:51	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/06/24 09:51	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/06/24 09:51	1
Trichloroethene	ND		1.0	0.15	ug/L			03/06/24 09:51	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/06/24 09:51	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/06/24 09:51	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/06/24 09:51	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/06/24 09:51	1
Vinyl acetate	ND		25	0.93	ug/L			03/06/24 09:51	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/06/24 09:51	1
Xylenes, Total	ND		10	1.6	ug/L			03/06/24 09:51	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		72 - 130		03/06/24 09:51	1
Dibromofluoromethane	104		75 - 126		03/06/24 09:51	1
Toluene-d8 (Surr)	100		64 - 132		03/06/24 09:51	1

**Lab Sample ID: LCS 400-663386/1002**  
**Matrix: Water**  
**Analysis Batch: 663386**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	200	183		ug/L		92	43 - 160
Acrolein	500	557		ug/L		111	38 - 160
Acrylonitrile	500	478		ug/L		96	64 - 142
Benzene	50.0	46.9		ug/L		94	70 - 130
Bromobenzene	50.0	53.4		ug/L		107	70 - 132
Bromochloromethane	50.0	49.9		ug/L		100	70 - 130
Bromodichloromethane	50.0	50.4		ug/L		101	67 - 133
Bromoform	50.0	52.2		ug/L		104	57 - 140
Bromomethane	50.0	52.7		ug/L		105	10 - 160
2-Butanone (MEK)	200	186		ug/L		93	61 - 145
Carbon disulfide	50.0	31.7		ug/L		63	61 - 137
Carbon tetrachloride	50.0	48.5		ug/L		97	61 - 137
Chlorobenzene	50.0	51.6		ug/L		103	70 - 130
Chloroethane	50.0	52.1		ug/L		104	55 - 141
2-Chloroethyl vinyl ether	50.0	51.5		ug/L		103	10 - 160

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-663386/1002**  
**Matrix: Water**  
**Analysis Batch: 663386**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroform	50.0	48.5		ug/L		97	69 - 130
1-Chlorohexane	50.0	51.5		ug/L		103	69 - 130
Chloromethane	50.0	51.6		ug/L		103	58 - 137
cis-1,2-Dichloroethene	50.0	46.3		ug/L		93	68 - 130
cis-1,3-Dichloropropene	50.0	49.6		ug/L		99	69 - 132
Dibromochloromethane	50.0	51.2		ug/L		102	67 - 135
1,2-Dichlorobenzene	50.0	55.1		ug/L		110	67 - 130
1,3-Dichlorobenzene	50.0	55.5		ug/L		111	70 - 130
1,4-Dichlorobenzene	50.0	54.4		ug/L		109	70 - 130
Dichlorodifluoromethane	50.0	52.5		ug/L		105	41 - 146
1,1-Dichloroethane	50.0	49.6		ug/L		99	70 - 130
1,2-Dichloroethane	50.0	47.5		ug/L		95	69 - 130
1,1-Dichloroethene	50.0	43.6		ug/L		87	63 - 134
1,2-Dichloropropane	50.0	48.1		ug/L		96	70 - 130
1,3-Dichloropropane	50.0	49.1		ug/L		98	70 - 130
2,2-Dichloropropane	50.0	48.7		ug/L		97	52 - 135
1,1-Dichloropropene	50.0	46.6		ug/L		93	70 - 130
Ethylbenzene	50.0	51.1		ug/L		102	70 - 130
Ethyl methacrylate	50.0	48.6		ug/L		97	68 - 130
Hexachlorobutadiene	50.0	61.4		ug/L		123	53 - 140
2-Hexanone	200	189		ug/L		94	65 - 137
Isopropylbenzene	50.0	52.9		ug/L		106	70 - 130
Methylene bromide	50.0	47.9		ug/L		96	70 - 130
Methylene Chloride	50.0	44.5		ug/L		89	66 - 135
4-Methyl-2-pentanone (MIBK)	200	186		ug/L		93	69 - 138
Methyl tert-butyl ether	50.0	48.0		ug/L		96	66 - 130
m-Xylene & p-Xylene	50.0	51.6		ug/L		103	70 - 130
Naphthalene	50.0	46.9		ug/L		94	47 - 149
n-Butylbenzene	50.0	57.8		ug/L		116	67 - 130
N-Propylbenzene	50.0	55.9		ug/L		112	70 - 130
o-Chlorotoluene	50.0	52.9		ug/L		106	70 - 130
o-Xylene	50.0	50.8		ug/L		102	70 - 130
p-Chlorotoluene	50.0	54.1		ug/L		108	70 - 130
p-Isopropyltoluene	50.0	56.9		ug/L		114	65 - 130
sec-Butylbenzene	50.0	57.7		ug/L		115	66 - 130
Styrene	50.0	51.3		ug/L		103	70 - 130
tert-Butylbenzene	50.0	54.7		ug/L		109	64 - 139
1,1,1,2-Tetrachloroethane	50.0	52.6		ug/L		105	67 - 131
1,1,1,2,2-Tetrachloroethane	50.0	52.3		ug/L		105	70 - 131
Tetrachloroethene	50.0	50.2		ug/L		100	65 - 130
Toluene	50.0	49.3		ug/L		99	70 - 130
trans-1,2-Dichloroethene	50.0	44.6		ug/L		89	70 - 130
trans-1,3-Dichloropropene	50.0	49.2		ug/L		98	63 - 130
1,2,3-Trichlorobenzene	50.0	55.9		ug/L		112	60 - 138
1,2,4-Trichlorobenzene	50.0	55.7		ug/L		111	60 - 140
1,1,1-Trichloroethane	50.0	48.4		ug/L		97	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	50.0	57.8		ug/L		116	65 - 138

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-663386/1002**  
**Matrix: Water**  
**Analysis Batch: 663386**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	50.0	52.9		ug/L		106	70 - 130
1,2,4-Trimethylbenzene	50.0	55.0		ug/L		110	70 - 130
1,3,5-Trimethylbenzene	50.0	55.5		ug/L		111	69 - 130
Vinyl acetate	100	105		ug/L		105	26 - 160
Vinyl chloride	50.0	51.6		ug/L		103	59 - 136
Xylenes, Total	100	102		ug/L		102	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	99		72 - 130
Dibromofluoromethane	100		75 - 126
Toluene-d8 (Surr)	100		64 - 132

**Lab Sample ID: 400-251938-5 MS**  
**Matrix: Water**  
**Analysis Batch: 663386**

**Client Sample ID: MW26-ROX-022924**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	ND		200	178		ug/L		89	43 - 150
Acrolein	ND		500	580		ug/L		116	38 - 150
Acrylonitrile	ND		500	492		ug/L		98	62 - 149
Benzene	ND		50.0	45.8		ug/L		92	56 - 142
Bromobenzene	ND		50.0	51.0		ug/L		102	59 - 136
Bromochloromethane	ND		50.0	48.3		ug/L		97	64 - 140
Bromodichloromethane	ND		50.0	48.9		ug/L		98	59 - 143
Bromoform	ND		50.0	49.5		ug/L		99	50 - 140
Bromomethane	ND		50.0	48.7		ug/L		97	10 - 150
2-Butanone (MEK)	ND		200	194		ug/L		97	55 - 150
Carbon disulfide	ND		50.0	29.8		ug/L		60	48 - 150
Carbon tetrachloride	ND		50.0	45.4		ug/L		91	55 - 145
Chlorobenzene	ND		50.0	50.4		ug/L		101	64 - 130
Chloroethane	ND		50.0	46.4		ug/L		93	50 - 150
2-Chloroethyl vinyl ether	ND	F1	50.0	ND	F1	ug/L		0	10 - 150
Chloroform	ND		50.0	47.6		ug/L		95	60 - 141
1-Chlorohexane	ND		50.0	48.3		ug/L		97	56 - 136
Chloromethane	ND		50.0	47.9		ug/L		96	49 - 148
cis-1,2-Dichloroethene	ND		50.0	44.0		ug/L		88	59 - 143
cis-1,3-Dichloropropene	ND		50.0	48.1		ug/L		96	57 - 140
Dibromochloromethane	ND		50.0	50.7		ug/L		101	56 - 143
1,2-Dichlorobenzene	ND		50.0	52.3		ug/L		105	52 - 137
1,3-Dichlorobenzene	ND		50.0	51.5		ug/L		103	54 - 135
1,4-Dichlorobenzene	ND		50.0	51.0		ug/L		102	53 - 135
Dichlorodifluoromethane	ND		50.0	47.2		ug/L		94	16 - 150
1,1-Dichloroethane	ND		50.0	48.6		ug/L		97	61 - 144
1,2-Dichloroethane	ND		50.0	48.2		ug/L		96	60 - 141
1,1-Dichloroethene	ND		50.0	41.8		ug/L		84	54 - 147
1,2-Dichloropropane	ND		50.0	47.9		ug/L		96	66 - 137
1,3-Dichloropropane	ND		50.0	49.6		ug/L		99	66 - 133
2,2-Dichloropropane	ND		50.0	46.2		ug/L		92	42 - 144

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: 400-251938-5 MS**

**Client Sample ID: MW26-ROX-022924**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 663386**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
1,1-Dichloropropene	ND		50.0	44.0		ug/L		88	65 - 136
Ethylbenzene	ND		50.0	49.6		ug/L		99	58 - 131
Ethyl methacrylate	ND		50.0	48.6		ug/L		97	64 - 130
Hexachlorobutadiene	ND		50.0	53.1		ug/L		106	31 - 149
2-Hexanone	ND		200	195		ug/L		98	65 - 140
Isopropylbenzene	ND		50.0	50.6		ug/L		101	56 - 133
Methylene bromide	ND		50.0	47.8		ug/L		96	63 - 138
Methylene Chloride	ND		50.0	42.9		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	48.0		ug/L		96	59 - 137
m-Xylene & p-Xylene	ND		50.0	49.0		ug/L		98	57 - 130
Naphthalene	ND		50.0	47.4		ug/L		95	25 - 150
n-Butylbenzene	ND		50.0	51.6		ug/L		103	41 - 142
N-Propylbenzene	ND		50.0	51.3		ug/L		103	51 - 138
o-Chlorotoluene	ND		50.0	49.6		ug/L		99	53 - 134
o-Xylene	ND		50.0	49.7		ug/L		99	61 - 130
p-Chlorotoluene	ND		50.0	49.4		ug/L		99	54 - 133
p-Isopropyltoluene	ND		50.0	52.0		ug/L		104	48 - 139
sec-Butylbenzene	ND		50.0	51.1		ug/L		102	50 - 138
Styrene	ND		50.0	50.5		ug/L		101	58 - 131
tert-Butylbenzene	ND		50.0	48.9		ug/L		98	54 - 146
1,1,1,2-Tetrachloroethane	ND		50.0	51.6		ug/L		103	59 - 137
1,1,2,2-Tetrachloroethane	ND		50.0	51.8		ug/L		104	66 - 135
Tetrachloroethene	ND		50.0	46.4		ug/L		93	52 - 133
Toluene	ND		50.0	46.9		ug/L		94	65 - 130
trans-1,2-Dichloroethene	ND		50.0	43.7		ug/L		87	61 - 143
trans-1,3-Dichloropropene	ND		50.0	48.9		ug/L		98	53 - 133
1,2,3-Trichlorobenzene	ND		50.0	53.1		ug/L		106	43 - 145
1,2,4-Trichlorobenzene	ND		50.0	52.5		ug/L		105	39 - 148
1,1,1-Trichloroethane	ND		50.0	46.8		ug/L		94	57 - 142
1,1,2-Trichloroethane	ND		50.0	49.4		ug/L		99	66 - 131
Trichloroethene	ND		50.0	47.2		ug/L		94	64 - 136
Trichlorofluoromethane	ND		50.0	55.0		ug/L		110	54 - 150
1,2,3-Trichloropropane	ND		50.0	52.2		ug/L		104	65 - 133
1,2,4-Trimethylbenzene	ND		50.0	50.2		ug/L		100	50 - 139
1,3,5-Trimethylbenzene	ND		50.0	50.2		ug/L		100	52 - 135
Vinyl acetate	ND		100	102		ug/L		102	26 - 150
Vinyl chloride	ND		50.0	48.3		ug/L		97	46 - 150
Xylenes, Total	ND		100	98.7		ug/L		99	59 - 130

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	97		72 - 130
Dibromofluoromethane	100		75 - 126
Toluene-d8 (Surr)	101		64 - 132

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-251938-5 MSD

Matrix: Water

Analysis Batch: 663386

Client Sample ID: MW26-ROX-022924

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	157		ug/L		78	43 - 150	13	30
Acrolein	ND		500	547		ug/L		109	38 - 150	6	31
Acrylonitrile	ND		500	449		ug/L		90	62 - 149	9	30
Benzene	ND		50.0	43.8		ug/L		88	56 - 142	4	30
Bromobenzene	ND		50.0	49.7		ug/L		99	59 - 136	3	30
Bromochloromethane	ND		50.0	45.0		ug/L		90	64 - 140	7	30
Bromodichloromethane	ND		50.0	46.9		ug/L		94	59 - 143	4	30
Bromoform	ND		50.0	48.5		ug/L		97	50 - 140	2	30
Bromomethane	ND		50.0	49.5		ug/L		99	10 - 150	2	50
2-Butanone (MEK)	ND		200	183		ug/L		91	55 - 150	6	30
Carbon disulfide	ND		50.0	28.7		ug/L		57	48 - 150	4	30
Carbon tetrachloride	ND		50.0	44.6		ug/L		89	55 - 145	2	30
Chlorobenzene	ND		50.0	47.7		ug/L		95	64 - 130	5	30
Chloroethane	ND		50.0	46.7		ug/L		93	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	45.7		ug/L		91	60 - 141	4	30
1-Chlorohexane	ND		50.0	45.4		ug/L		91	56 - 136	6	30
Chloromethane	ND		50.0	44.5		ug/L		89	49 - 148	7	31
cis-1,2-Dichloroethene	ND		50.0	41.9		ug/L		84	59 - 143	5	30
cis-1,3-Dichloropropene	ND		50.0	46.3		ug/L		93	57 - 140	4	30
Dibromochloromethane	ND		50.0	48.1		ug/L		96	56 - 143	5	30
1,2-Dichlorobenzene	ND		50.0	50.4		ug/L		101	52 - 137	4	30
1,3-Dichlorobenzene	ND		50.0	49.6		ug/L		99	54 - 135	4	30
1,4-Dichlorobenzene	ND		50.0	49.2		ug/L		98	53 - 135	4	30
Dichlorodifluoromethane	ND		50.0	47.5		ug/L		95	16 - 150	1	31
1,1-Dichloroethane	ND		50.0	45.7		ug/L		91	61 - 144	6	30
1,2-Dichloroethane	ND		50.0	45.2		ug/L		90	60 - 141	6	30
1,1-Dichloroethene	ND		50.0	34.6		ug/L		69	54 - 147	19	30
1,2-Dichloropropane	ND		50.0	45.8		ug/L		92	66 - 137	5	30
1,3-Dichloropropane	ND		50.0	46.9		ug/L		94	66 - 133	6	30
2,2-Dichloropropane	ND		50.0	44.4		ug/L		89	42 - 144	4	31
1,1-Dichloropropene	ND		50.0	42.8		ug/L		86	65 - 136	3	30
Ethylbenzene	ND		50.0	46.6		ug/L		93	58 - 131	6	30
Ethyl methacrylate	ND		50.0	46.5		ug/L		93	64 - 130	4	30
Hexachlorobutadiene	ND		50.0	53.1		ug/L		106	31 - 149	0	36
2-Hexanone	ND		200	180		ug/L		90	65 - 140	8	30
Isopropylbenzene	ND		50.0	47.5		ug/L		95	56 - 133	6	30
Methylene bromide	ND		50.0	45.7		ug/L		91	63 - 138	5	30
Methylene Chloride	ND		50.0	42.2		ug/L		84	60 - 146	1	32
4-Methyl-2-pentanone (MIBK)	ND		200	178		ug/L		89	63 - 146	7	30
Methyl tert-butyl ether	ND		50.0	45.6		ug/L		91	59 - 137	5	30
m-Xylene & p-Xylene	ND		50.0	46.0		ug/L		92	57 - 130	6	30
Naphthalene	ND		50.0	46.8		ug/L		94	25 - 150	1	30
n-Butylbenzene	ND		50.0	49.9		ug/L		100	41 - 142	3	31
N-Propylbenzene	ND		50.0	50.1		ug/L		100	51 - 138	2	30
o-Chlorotoluene	ND		50.0	48.3		ug/L		97	53 - 134	3	30
o-Xylene	ND		50.0	45.9		ug/L		92	61 - 130	8	30
p-Chlorotoluene	ND		50.0	48.3		ug/L		97	54 - 133	2	30

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: 400-251938-5 MSD**

**Client Sample ID: MW26-ROX-022924**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 663386**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
p-Isopropyltoluene	ND		50.0	50.8		ug/L		102	48 - 139	2	30
sec-Butylbenzene	ND		50.0	50.8		ug/L		102	50 - 138	1	30
Styrene	ND		50.0	47.2		ug/L		94	58 - 131	7	30
tert-Butylbenzene	ND		50.0	47.9		ug/L		96	54 - 146	2	30
1,1,1,2-Tetrachloroethane	ND		50.0	48.4		ug/L		97	59 - 137	6	30
1,1,1,2-Tetrachloroethane	ND		50.0	50.0		ug/L		100	66 - 135	4	30
Tetrachloroethene	ND		50.0	44.7		ug/L		89	52 - 133	4	30
Toluene	ND		50.0	44.8		ug/L		90	65 - 130	5	30
trans-1,2-Dichloroethene	ND		50.0	41.6		ug/L		83	61 - 143	5	30
trans-1,3-Dichloropropene	ND		50.0	46.9		ug/L		94	53 - 133	4	30
1,2,3-Trichlorobenzene	ND		50.0	50.6		ug/L		101	43 - 145	5	30
1,2,4-Trichlorobenzene	ND		50.0	48.8		ug/L		98	39 - 148	7	30
1,1,1-Trichloroethane	ND		50.0	44.6		ug/L		89	57 - 142	5	30
1,1,2-Trichloroethane	ND		50.0	47.3		ug/L		95	66 - 131	4	30
Trichloroethene	ND		50.0	45.1		ug/L		90	64 - 136	5	30
Trichlorofluoromethane	ND		50.0	51.1		ug/L		102	54 - 150	7	30
1,2,3-Trichloropropane	ND		50.0	50.6		ug/L		101	65 - 133	3	30
1,2,4-Trimethylbenzene	ND		50.0	48.5		ug/L		97	50 - 139	4	30
1,3,5-Trimethylbenzene	ND		50.0	49.3		ug/L		99	52 - 135	2	30
Vinyl acetate	ND		100	96.5		ug/L		96	26 - 150	6	33
Vinyl chloride	ND		50.0	45.7		ug/L		91	46 - 150	5	30
Xylenes, Total	ND		100	91.9		ug/L		92	59 - 130	7	30

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	100		72 - 130
Dibromofluoromethane	100		75 - 126
Toluene-d8 (Surr)	100		64 - 132

## Method: 8270E - Semivolatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 400-663434/1-A**

**Client Sample ID: Method Blank**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 663609**

**Prep Batch: 663434**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aniline	ND		10	8.7	ug/L		03/06/24 10:09	03/07/24 14:56	1
Benzenethiol	ND		10	9.9	ug/L		03/06/24 10:09	03/07/24 14:56	1
Benzoic acid	ND		30	24	ug/L		03/06/24 10:09	03/07/24 14:56	1
Benzyl alcohol	ND		10	7.3	ug/L		03/06/24 10:09	03/07/24 14:56	1
Bis(2-chloroethoxy)methane	ND		10	4.6	ug/L		03/06/24 10:09	03/07/24 14:56	1
Bis(2-chloroethyl)ether	ND		10	3.9	ug/L		03/06/24 10:09	03/07/24 14:56	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		03/06/24 10:09	03/07/24 14:56	1
Bis(2-ethylhexyl) phthalate	ND		10	8.9	ug/L		03/06/24 10:09	03/07/24 14:56	1
4-Bromophenyl phenyl ether	ND		10	8.6	ug/L		03/06/24 10:09	03/07/24 14:56	1
Butyl benzyl phthalate	ND		10	5.8	ug/L		03/06/24 10:09	03/07/24 14:56	1
4-Chloroaniline	ND		10	4.7	ug/L		03/06/24 10:09	03/07/24 14:56	1
4-Chloro-3-methylphenol	ND		10	5.3	ug/L		03/06/24 10:09	03/07/24 14:56	1
2-Chloronaphthalene	ND		10	3.8	ug/L		03/06/24 10:09	03/07/24 14:56	1
2-Chlorophenol	ND		10	4.1	ug/L		03/06/24 10:09	03/07/24 14:56	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 400-663434/1-A**  
**Matrix: Water**  
**Analysis Batch: 663609**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
4-Chlorophenyl phenyl ether	ND		10	3.7	ug/L		03/06/24 10:09	03/07/24 14:56	1
Dibenz[a,h]acridine	ND		10	2.8	ug/L		03/06/24 10:09	03/07/24 14:56	1
Dibenzofuran	ND		10	4.0	ug/L		03/06/24 10:09	03/07/24 14:56	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/06/24 10:09	03/07/24 14:56	1
2,4-Dichlorophenol	ND		10	4.3	ug/L		03/06/24 10:09	03/07/24 14:56	1
Diethyl phthalate	ND		10	4.4	ug/L		03/06/24 10:09	03/07/24 14:56	1
2,4-Dimethylphenol	ND		10	5.2	ug/L		03/06/24 10:09	03/07/24 14:56	1
Dimethyl phthalate	ND		10	4.2	ug/L		03/06/24 10:09	03/07/24 14:56	1
Di-n-butyl phthalate	ND		10	4.6	ug/L		03/06/24 10:09	03/07/24 14:56	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		03/06/24 10:09	03/07/24 14:56	1
2,4-Dinitrophenol	ND		30	4.6	ug/L		03/06/24 10:09	03/07/24 14:56	1
2,4-Dinitrotoluene	ND		10	5.1	ug/L		03/06/24 10:09	03/07/24 14:56	1
2,6-Dinitrotoluene	ND		10	3.9	ug/L		03/06/24 10:09	03/07/24 14:56	1
Di-n-octyl phthalate	ND		10	6.0	ug/L		03/06/24 10:09	03/07/24 14:56	1
1,4-Dioxane	ND		10	4.3	ug/L		03/06/24 10:09	03/07/24 14:56	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.3	ug/L		03/06/24 10:09	03/07/24 14:56	1
Hexachlorobenzene	ND		10	9.7	ug/L		03/06/24 10:09	03/07/24 14:56	1
Hexachlorocyclopentadiene	ND		20	4.5	ug/L		03/06/24 10:09	03/07/24 14:56	1
Hexachloroethane	ND		10	5.2	ug/L		03/06/24 10:09	03/07/24 14:56	1
Indene	ND		10	3.6	ug/L		03/06/24 10:09	03/07/24 14:56	1
Isophorone	ND		10	5.2	ug/L		03/06/24 10:09	03/07/24 14:56	1
2-Methylphenol	ND		10	3.2	ug/L		03/06/24 10:09	03/07/24 14:56	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		03/06/24 10:09	03/07/24 14:56	1
2-Nitroaniline	ND		10	5.0	ug/L		03/06/24 10:09	03/07/24 14:56	1
3-Nitroaniline	ND		10	4.7	ug/L		03/06/24 10:09	03/07/24 14:56	1
4-Nitroaniline	ND		10	4.1	ug/L		03/06/24 10:09	03/07/24 14:56	1
Nitrobenzene	ND		10	4.7	ug/L		03/06/24 10:09	03/07/24 14:56	1
2-Nitrophenol	ND		10	4.6	ug/L		03/06/24 10:09	03/07/24 14:56	1
4-Nitrophenol	ND		10	3.3	ug/L		03/06/24 10:09	03/07/24 14:56	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		03/06/24 10:09	03/07/24 14:56	1
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		03/06/24 10:09	03/07/24 14:56	1
N-Nitrosodiphenylamine	ND		10	3.7	ug/L		03/06/24 10:09	03/07/24 14:56	1
Pentachlorophenol	ND		20	12	ug/L		03/06/24 10:09	03/07/24 14:56	1
Phenol	ND		10	4.2	ug/L		03/06/24 10:09	03/07/24 14:56	1
Pyridine	ND		10	10	ug/L		03/06/24 10:09	03/07/24 14:56	1
Quinoline	ND		10	2.4	ug/L		03/06/24 10:09	03/07/24 14:56	1
2,4,5-Trichlorophenol	ND		10	4.0	ug/L		03/06/24 10:09	03/07/24 14:56	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		03/06/24 10:09	03/07/24 14:56	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2-Fluorobiphenyl	94		21 - 114	03/06/24 10:09	03/07/24 14:56	1
2-Fluorophenol	49		10 - 105	03/06/24 10:09	03/07/24 14:56	1
Nitrobenzene-d5	72		16 - 127	03/06/24 10:09	03/07/24 14:56	1
Phenol-d5	35		10 - 129	03/06/24 10:09	03/07/24 14:56	1
Terphenyl-d14	107		13 - 150	03/06/24 10:09	03/07/24 14:56	1
2,4,6-Tribromophenol	107		10 - 150	03/06/24 10:09	03/07/24 14:56	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 400-663434/23-A**  
**Matrix: Water**  
**Analysis Batch: 663609**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzenethiol	120	75.8		ug/L		63	40 - 140
<b>LCS LCS</b>							
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				
2-Fluorobiphenyl	76		21 - 114				
2-Fluorophenol	48		10 - 105				
Nitrobenzene-d5	63		16 - 127				
Phenol-d5	37		10 - 129				
Terphenyl-d14	108		13 - 150				
2,4,6-Tribromophenol	105		10 - 150				

**Lab Sample ID: LCS 400-663434/2-A**  
**Matrix: Water**  
**Analysis Batch: 663609**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aniline	120	39.8		ug/L		33	10 - 127
Benzoic acid	492	175		ug/L		36	19 - 126
Benzyl alcohol	120	70.2		ug/L		59	17 - 109
Bis(2-chloroethoxy)methane	120	84.9		ug/L		71	24 - 125
Bis(2-chloroethyl)ether	120	74.7		ug/L		62	10 - 121
bis (2-chloroisopropyl) ether	120	67.9		ug/L		57	14 - 123
Bis(2-ethylhexyl) phthalate	120	98.2		ug/L		82	16 - 150
4-Bromophenyl phenyl ether	120	116		ug/L		96	17 - 150
Butyl benzyl phthalate	120	98.1		ug/L		82	21 - 150
4-Chloroaniline	120	73.8		ug/L		61	10 - 124
4-Chloro-3-methylphenol	120	92.8		ug/L		77	37 - 131
2-Chloronaphthalene	120	99.0		ug/L		83	24 - 132
2-Chlorophenol	120	83.6		ug/L		70	27 - 124
4-Chlorophenyl phenyl ether	120	109		ug/L		91	27 - 147
Dibenz[a,h]acridine	120	131		ug/L		110	40 - 140
Dibenzofuran	120	103		ug/L		86	30 - 135
3,3'-Dichlorobenzidine	160	152		ug/L		95	10 - 150
2,4-Dichlorophenol	120	91.3		ug/L		76	33 - 132
Diethyl phthalate	120	101		ug/L		84	37 - 145
2,4-Dimethylphenol	120	96.7		ug/L		81	38 - 132
Dimethyl phthalate	120	101		ug/L		84	32 - 137
Di-n-butyl phthalate	120	104		ug/L		87	27 - 150
4,6-Dinitro-ortho-cresol	240	248		ug/L		103	14 - 150
2,4-Dinitrophenol	240	233		ug/L		97	15 - 150
2,4-Dinitrotoluene	120	115		ug/L		96	35 - 136
2,6-Dinitrotoluene	120	111		ug/L		93	29 - 140
Di-n-octyl phthalate	120	106		ug/L		89	26 - 150
1,4-Dioxane	120	39.6		ug/L		33	10 - 87
1,2-Diphenylhydrazine (as Azobenzene)	120	91.9		ug/L		77	23 - 138
Hexachlorobenzene	120	120		ug/L		100	10 - 150
Hexachlorocyclopentadiene	120	90.5		ug/L		75	10 - 124
Hexachloroethane	120	68.0		ug/L		57	10 - 127

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 400-663434/2-A**  
**Matrix: Water**  
**Analysis Batch: 663609**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Indene	120	86.6		ug/L		72	18 - 150
Isophorone	120	80.1		ug/L		67	28 - 127
2-Methylphenol	120	83.0		ug/L		69	34 - 124
3 & 4 Methylphenol	120	76.7		ug/L		64	32 - 122
2-Nitroaniline	120	90.2		ug/L		75	24 - 139
3-Nitroaniline	120	76.3		ug/L		64	10 - 128
4-Nitroaniline	120	94.8		ug/L		79	28 - 118
Nitrobenzene	120	78.4		ug/L		65	29 - 120
2-Nitrophenol	120	92.9		ug/L		77	25 - 148
4-Nitrophenol	240	157		ug/L		65	12 - 129
N-Nitrosodimethylamine	120	46.3		ug/L		39	10 - 115
N-Nitrosodi-n-propylamine	120	83.9		ug/L		70	24 - 142
N-Nitrosodiphenylamine	119	110		ug/L		92	29 - 138
Pentachlorophenol	240	258		ug/L		108	19 - 150
Phenol	120	49.1		ug/L		41	11 - 95
Pyridine	240	36.5		ug/L		15	10 - 82
Quinoline	120	85.8		ug/L		72	40 - 140
2,4,5-Trichlorophenol	120	115		ug/L		96	30 - 144
2,4,6-Trichlorophenol	120	112		ug/L		93	27 - 147

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	93		21 - 114
2-Fluorophenol	52		10 - 105
Nitrobenzene-d5	70		16 - 127
Phenol-d5	41		10 - 129
Terphenyl-d14	97		13 - 150
2,4,6-Tribromophenol	111		10 - 150

**Lab Sample ID: LCSD 400-663434/24-A**  
**Matrix: Water**  
**Analysis Batch: 663609**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Benzenethiol	120	87.1		ug/L		73	40 - 140	14	40

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	89		21 - 114
2-Fluorophenol	54		10 - 105
Nitrobenzene-d5	71		16 - 127
Phenol-d5	42		10 - 129
Terphenyl-d14	118		13 - 150
2,4,6-Tribromophenol	109		10 - 150



# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 400-663434/3-A**  
**Matrix: Water**  
**Analysis Batch: 663609**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD
									Limit
Aniline	120	66.4	*1	ug/L		55	10 - 127	50	40
Benzoic acid	492	210		ug/L		43	19 - 126	18	40
Benzyl alcohol	120	74.0		ug/L		62	17 - 109	5	40
Bis(2-chloroethoxy)methane	120	80.5		ug/L		67	24 - 125	5	40
Bis(2-chloroethyl)ether	120	71.1		ug/L		59	10 - 121	5	40
bis (2-chloroisopropyl) ether	120	64.6		ug/L		54	14 - 123	5	40
Bis(2-ethylhexyl) phthalate	120	100		ug/L		83	16 - 150	2	40
4-Bromophenyl phenyl ether	120	110		ug/L		91	17 - 150	5	40
Butyl benzyl phthalate	120	100		ug/L		83	21 - 150	2	40
4-Chloroaniline	120	81.4		ug/L		68	10 - 124	10	40
4-Chloro-3-methylphenol	120	94.1		ug/L		78	37 - 131	1	40
2-Chloronaphthalene	120	95.0		ug/L		79	24 - 132	4	40
2-Chlorophenol	120	82.8		ug/L		69	27 - 124	1	40
4-Chlorophenyl phenyl ether	120	110		ug/L		92	27 - 147	1	40
Dibenz[a,h]acridine	120	130		ug/L		108	40 - 140	1	40
Dibenzofuran	120	105		ug/L		87	30 - 135	2	40
3,3'-Dichlorobenzidine	160	155		ug/L		97	10 - 150	2	40
2,4-Dichlorophenol	120	92.9		ug/L		77	33 - 132	2	40
Diethyl phthalate	120	104		ug/L		86	37 - 145	3	40
2,4-Dimethylphenol	120	97.6		ug/L		81	38 - 132	1	40
Dimethyl phthalate	120	104		ug/L		87	32 - 137	2	40
Di-n-butyl phthalate	120	105		ug/L		88	27 - 150	1	40
4,6-Dinitro-ortho-cresol	240	245		ug/L		102	14 - 150	1	40
2,4-Dinitrophenol	240	255		ug/L		106	15 - 150	9	40
2,4-Dinitrotoluene	120	118		ug/L		99	35 - 136	3	40
2,6-Dinitrotoluene	120	113		ug/L		94	29 - 140	1	40
Di-n-octyl phthalate	120	101		ug/L		84	26 - 150	5	40
1,4-Dioxane	120	39.7		ug/L		33	10 - 87	0	40
1,2-Diphenylhydrazine (as Azobenzene)	120	89.7		ug/L		75	23 - 138	2	40
Hexachlorobenzene	120	115		ug/L		96	10 - 150	5	40
Hexachlorocyclopentadiene	120	86.2		ug/L		72	10 - 124	5	40
Hexachloroethane	120	67.0		ug/L		56	10 - 127	1	40
Indene	120	84.7		ug/L		71	18 - 150	2	40
Isophorone	120	82.2		ug/L		69	28 - 127	3	40
2-Methylphenol	120	83.3		ug/L		69	34 - 124	0	40
3 & 4 Methylphenol	120	77.6		ug/L		65	32 - 122	1	40
2-Nitroaniline	120	92.9		ug/L		77	24 - 139	3	40
3-Nitroaniline	120	87.4		ug/L		73	10 - 128	14	40
4-Nitroaniline	120	105		ug/L		87	28 - 118	10	40
Nitrobenzene	120	76.7		ug/L		64	29 - 120	2	40
2-Nitrophenol	120	90.5		ug/L		75	25 - 148	3	40
4-Nitrophenol	240	171		ug/L		71	12 - 129	8	40
N-Nitrosodimethylamine	120	50.1		ug/L		42	10 - 115	8	40
N-Nitrosodi-n-propylamine	120	82.6		ug/L		69	24 - 142	1	40
N-Nitrosodiphenylamine	119	105		ug/L		89	29 - 138	4	40
Pentachlorophenol	240	258		ug/L		107	19 - 150	0	40
Phenol	120	52.4		ug/L		44	11 - 95	7	40
Pyridine	240	52.9		ug/L		22	10 - 82	37	40

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 400-663434/3-A**  
**Matrix: Water**  
**Analysis Batch: 663609**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Quinoline	120	111		ug/L		93	40 - 140	26	40
2,4,5-Trichlorophenol	120	114		ug/L		95	30 - 144	1	40
2,4,6-Trichlorophenol	120	110		ug/L		92	27 - 147	2	40

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
2-Fluorobiphenyl	88		21 - 114
2-Fluorophenol	53		10 - 105
Nitrobenzene-d5	69		16 - 127
Phenol-d5	43		10 - 129
Terphenyl-d14	94		13 - 150
2,4,6-Tribromophenol	115		10 - 150

**Lab Sample ID: 400-251938-5 MS**  
**Matrix: Water**  
**Analysis Batch: 663609**

**Client Sample ID: MW26-ROX-022924**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Aniline	ND	*1 F1	117	59.4		ug/L		51	50 - 150
Benzoic acid	ND		479	237		ug/L		50	50 - 150
Benzyl alcohol	ND		117	75.3		ug/L		64	50 - 150
Bis(2-chloroethoxy)methane	ND		117	79.5		ug/L		68	50 - 150
Bis(2-chloroethyl)ether	ND		117	69.7		ug/L		60	50 - 150
bis (2-chloroisopropyl) ether	ND		117	65.1		ug/L		56	50 - 150
Bis(2-ethylhexyl) phthalate	ND		117	93.8		ug/L		80	50 - 150
4-Bromophenyl phenyl ether	ND		117	108		ug/L		93	50 - 150
Butyl benzyl phthalate	ND		117	92.9		ug/L		80	50 - 150
4-Chloroaniline	ND		117	74.5		ug/L		64	50 - 150
4-Chloro-3-methylphenol	ND		117	85.5		ug/L		73	50 - 150
2-Chloronaphthalene	ND		117	95.4		ug/L		82	50 - 150
2-Chlorophenol	ND		117	80.4		ug/L		69	50 - 150
4-Chlorophenyl phenyl ether	ND		117	103		ug/L		88	50 - 150
Dibenz[a,h]acridine	ND		116	109		ug/L		94	50 - 150
Dibenzofuran	ND		117	96.5		ug/L		83	50 - 150
3,3'-Dichlorobenzidine	ND		156	130		ug/L		84	50 - 150
2,4-Dichlorophenol	ND		117	85.6		ug/L		73	50 - 150
Diethyl phthalate	ND		117	95.1		ug/L		81	50 - 150
2,4-Dimethylphenol	ND		117	92.5		ug/L		79	50 - 150
Dimethyl phthalate	ND		117	96.4		ug/L		83	50 - 150
Di-n-butyl phthalate	ND		117	95.5		ug/L		82	50 - 150
4,6-Dinitro-ortho-cresol	ND		233	225		ug/L		96	50 - 150
2,4-Dinitrophenol	ND		233	224		ug/L		96	50 - 150
2,4-Dinitrotoluene	ND		117	108		ug/L		93	50 - 150
2,6-Dinitrotoluene	ND		117	101		ug/L		87	50 - 150
Di-n-octyl phthalate	ND		117	97.3		ug/L		83	50 - 150
1,4-Dioxane	ND	F1	117	45.8	F1	ug/L		39	50 - 150
1,2-Diphenylhydrazine (as Azobenzene)	ND		117	85.6		ug/L		73	50 - 150
Hexachlorobenzene	ND		117	112		ug/L		96	50 - 150
Hexachlorocyclopentadiene	ND		117	87.7		ug/L		75	50 - 150

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 400-251938-5 MS**

**Matrix: Water**

**Analysis Batch: 663609**

**Client Sample ID: MW26-ROX-022924**

**Prep Type: Total/NA**

**Prep Batch: 663434**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier		Result	Qualifier					
Hexachloroethane	ND		117	70.7		ug/L		61		50 - 150
Indene	ND		117	84.5		ug/L		72		50 - 150
Isophorone	ND		117	76.9		ug/L		66		50 - 150
2-Methylphenol	ND		117	80.6		ug/L		69		50 - 150
3 & 4 Methylphenol	ND		117	76.4		ug/L		65		50 - 150
2-Nitroaniline	ND		117	85.6		ug/L		73		50 - 150
3-Nitroaniline	ND		117	78.3		ug/L		67		50 - 150
4-Nitroaniline	ND		117	98.2		ug/L		84		50 - 150
Nitrobenzene	ND		117	71.8		ug/L		62		50 - 150
2-Nitrophenol	ND		117	87.3		ug/L		75		50 - 150
4-Nitrophenol	ND		233	157		ug/L		67		50 - 150
N-Nitrosodimethylamine	ND	F1	117	52.9	F1	ug/L		45		50 - 150
N-Nitrosodi-n-propylamine	ND		117	78.8		ug/L		68		50 - 150
N-Nitrosodiphenylamine	ND		116	99.6		ug/L		86		50 - 150
Pentachlorophenol	ND		233	235		ug/L		101		50 - 150
Phenol	ND	F1	117	54.4	F1	ug/L		47		50 - 150
Pyridine	ND	F1	233	45.9	F1	ug/L		20		50 - 150
Quinoline	ND	F1	116	52.4	F1	ug/L		45		50 - 150
2,4,5-Trichlorophenol	ND		117	107		ug/L		92		50 - 150
2,4,6-Trichlorophenol	ND		117	104		ug/L		89		50 - 150

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	87		21 - 114
2-Fluorophenol	54		10 - 105
Nitrobenzene-d5	71		16 - 127
Phenol-d5	46		10 - 129
Terphenyl-d14	93		13 - 150
2,4,6-Tribromophenol	106		10 - 150

**Lab Sample ID: 400-251938-5 MSD**

**Matrix: Water**

**Analysis Batch: 663609**

**Client Sample ID: MW26-ROX-022924**

**Prep Type: Total/NA**

**Prep Batch: 663434**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier		Result	Qualifier						
Aniline	ND	*1 F1	116	55.1	F1	ug/L		48		8	40
Benzoic acid	ND		475	244		ug/L		51		3	40
Benzyl alcohol	ND		116	77.0		ug/L		67		2	40
Bis(2-chloroethoxy)methane	ND		116	82.8		ug/L		72		4	40
Bis(2-chloroethyl)ether	ND		116	71.4		ug/L		62		2	40
bis (2-chloroisopropyl) ether	ND		116	68.8		ug/L		59		6	40
Bis(2-ethylhexyl) phthalate	ND		116	101		ug/L		87		7	40
4-Bromophenyl phenyl ether	ND		116	116		ug/L		100		7	40
Butyl benzyl phthalate	ND		116	101		ug/L		88		9	40
4-Chloroaniline	ND		116	73.0		ug/L		63		2	40
4-Chloro-3-methylphenol	ND		116	90.2		ug/L		78		5	40
2-Chloronaphthalene	ND		116	99.8		ug/L		86		5	40
2-Chlorophenol	ND		116	85.1		ug/L		74		6	40
4-Chlorophenyl phenyl ether	ND		116	107		ug/L		92		4	40

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-251938-5 MSD

Matrix: Water

Analysis Batch: 663609

Client Sample ID: MW26-ROX-022924

Prep Type: Total/NA

Prep Batch: 663434

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		
Dibenz[a,h]acridine	ND		115	117		ug/L		101	50 - 150	7	40
Dibenzofuran	ND		116	102		ug/L		88	50 - 150	5	40
3,3'-Dichlorobenzidine	ND		154	130		ug/L		84	50 - 150	0	40
2,4-Dichlorophenol	ND		116	91.6		ug/L		79	50 - 150	7	40
Diethyl phthalate	ND		116	100		ug/L		87	50 - 150	5	40
2,4-Dimethylphenol	ND		116	98.7		ug/L		85	50 - 150	6	40
Dimethyl phthalate	ND		116	102		ug/L		88	50 - 150	5	40
Di-n-butyl phthalate	ND		116	105		ug/L		91	50 - 150	10	40
4,6-Dinitro-ortho-cresol	ND		231	249		ug/L		108	50 - 150	10	40
2,4-Dinitrophenol	ND		231	246		ug/L		106	50 - 150	9	40
2,4-Dinitrotoluene	ND		116	115		ug/L		99	50 - 150	6	40
2,6-Dinitrotoluene	ND		116	108		ug/L		93	50 - 150	6	40
Di-n-octyl phthalate	ND		116	103		ug/L		89	50 - 150	6	40
1,4-Dioxane	ND	F1	116	45.8	F1	ug/L		40	50 - 150	0	40
1,2-Diphenylhydrazine (as Azobenzene)	ND		116	92.2		ug/L		80	50 - 150	7	40
Hexachlorobenzene	ND		116	118		ug/L		102	50 - 150	5	40
Hexachlorocyclopentadiene	ND		116	91.9		ug/L		79	50 - 150	5	40
Hexachloroethane	ND		116	73.8		ug/L		64	50 - 150	4	40
Indene	ND		116	88.5		ug/L		76	50 - 150	5	40
Isophorone	ND		116	82.9		ug/L		72	50 - 150	7	40
2-Methylphenol	ND		116	87.4		ug/L		75	50 - 150	8	40
3 & 4 Methylphenol	ND		116	79.5		ug/L		69	50 - 150	4	40
2-Nitroaniline	ND		116	91.0		ug/L		79	50 - 150	6	40
3-Nitroaniline	ND		116	75.6		ug/L		65	50 - 150	3	40
4-Nitroaniline	ND		116	98.8		ug/L		85	50 - 150	1	40
Nitrobenzene	ND		116	79.8		ug/L		69	50 - 150	10	40
2-Nitrophenol	ND		116	91.7		ug/L		79	50 - 150	5	40
4-Nitrophenol	ND		231	165		ug/L		71	50 - 150	5	40
N-Nitrosodimethylamine	ND	F1	116	53.6	F1	ug/L		46	50 - 150	1	40
N-Nitrosodi-n-propylamine	ND		116	81.8		ug/L		71	50 - 150	4	40
N-Nitrosodiphenylamine	ND		115	109		ug/L		95	50 - 150	9	40
Pentachlorophenol	ND		231	260		ug/L		112	50 - 150	10	40
Phenol	ND	F1	116	57.5		ug/L		50	50 - 150	6	40
Pyridine	ND	F1	231	45.5	F1	ug/L		20	50 - 150	1	40
Quinoline	ND	F1	115	35.1	F1	ug/L		30	50 - 150	39	40
2,4,5-Trichlorophenol	ND		116	112		ug/L		97	50 - 150	5	40
2,4,6-Trichlorophenol	ND		116	107		ug/L		93	50 - 150	4	40

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2-Fluorobiphenyl	93		21 - 114
2-Fluorophenol	59		10 - 105
Nitrobenzene-d5	74		16 - 127
Phenol-d5	49		10 - 129
Terphenyl-d14	103		13 - 150
2,4,6-Tribromophenol	117		10 - 150

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

**Lab Sample ID: MB 400-663434/1-A**  
**Matrix: Water**  
**Analysis Batch: 663594**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acenaphthene	ND		0.20	0.099	ug/L		03/06/24 10:09	03/07/24 13:04	1
Acenaphthylene	0.0577	J	0.20	0.044	ug/L		03/06/24 10:09	03/07/24 13:04	1
Anthracene	ND		0.20	0.047	ug/L		03/06/24 10:09	03/07/24 13:04	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		03/06/24 10:09	03/07/24 13:04	1
Benzo[a]pyrene	ND		0.20	0.064	ug/L		03/06/24 10:09	03/07/24 13:04	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		03/06/24 10:09	03/07/24 13:04	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		03/06/24 10:09	03/07/24 13:04	1
Benzo[k]fluoranthene	ND		0.20	0.062	ug/L		03/06/24 10:09	03/07/24 13:04	1
Chrysene	ND		0.20	0.033	ug/L		03/06/24 10:09	03/07/24 13:04	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		03/06/24 10:09	03/07/24 13:04	1
Fluoranthene	ND		0.20	0.034	ug/L		03/06/24 10:09	03/07/24 13:04	1
Fluorene	ND		0.20	0.089	ug/L		03/06/24 10:09	03/07/24 13:04	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		03/06/24 10:09	03/07/24 13:04	1
Phenanthrene	ND		0.20	0.090	ug/L		03/06/24 10:09	03/07/24 13:04	1
Pyrene	ND		0.20	0.039	ug/L		03/06/24 10:09	03/07/24 13:04	1
1-Methylnaphthalene	0.130	J	0.20	0.080	ug/L		03/06/24 10:09	03/07/24 13:04	1
2-Methylnaphthalene	0.123	J	0.20	0.066	ug/L		03/06/24 10:09	03/07/24 13:04	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Terphenyl-d14	97		18 - 147	03/06/24 10:09	03/07/24 13:04	1
2-Fluorobiphenyl	71		15 - 128	03/06/24 10:09	03/07/24 13:04	1
Nitrobenzene-d5	87		10 - 144	03/06/24 10:09	03/07/24 13:04	1

**Lab Sample ID: LCS 400-663434/2-A**  
**Matrix: Water**  
**Analysis Batch: 663594**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	Limits
		Result	Qualifier				
Acenaphthene	120	114		ug/L		95	10 - 140
Acenaphthylene	120	117		ug/L		98	10 - 140
Anthracene	120	122		ug/L		102	19 - 140
Benzo[a]anthracene	120	122		ug/L		101	25 - 140
Benzo[a]pyrene	120	117		ug/L		97	24 - 140
Benzo[b]fluoranthene	120	110		ug/L		92	34 - 140
Benzo[g,h,i]perylene	120	119		ug/L		99	13 - 140
Benzo[k]fluoranthene	120	125		ug/L		104	21 - 140
Chrysene	120	124		ug/L		103	28 - 140
Dibenz(a,h)anthracene	120	122		ug/L		102	10 - 140
Fluoranthene	120	126		ug/L		105	18 - 140
Fluorene	120	121		ug/L		101	16 - 140
Indeno[1,2,3-cd]pyrene	120	125		ug/L		104	10 - 140
Phenanthrene	120	119		ug/L		99	22 - 140
Pyrene	120	118		ug/L		98	38 - 140
1-Methylnaphthalene	120	67.6		ug/L		56	10 - 140
2-Methylnaphthalene	120	68.0		ug/L		57	10 - 140

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
Terphenyl-d14	88		18 - 147

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: LCS 400-663434/2-A**  
**Matrix: Water**  
**Analysis Batch: 663594**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	86		15 - 128
Nitrobenzene-d5	58		10 - 144

**Lab Sample ID: LCSD 400-663434/3-A**  
**Matrix: Water**  
**Analysis Batch: 663594**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Acenaphthene	120	106		ug/L		88	10 - 140	8	40
Acenaphthylene	120	110		ug/L		92	10 - 140	6	40
Anthracene	120	112		ug/L		94	19 - 140	8	40
Benzo[a]anthracene	120	115		ug/L		95	25 - 140	6	40
Benzo[a]pyrene	120	108		ug/L		90	24 - 140	7	40
Benzo[b]fluoranthene	120	106		ug/L		89	34 - 140	4	40
Benzo[g,h,i]perylene	120	112		ug/L		93	13 - 140	6	40
Benzo[k]fluoranthene	120	111		ug/L		92	21 - 140	12	40
Chrysene	120	114		ug/L		95	28 - 140	9	40
Dibenz(a,h)anthracene	120	119		ug/L		99	10 - 140	3	40
Fluoranthene	120	115		ug/L		96	18 - 140	9	40
Fluorene	120	114		ug/L		95	16 - 140	6	40
Indeno[1,2,3-cd]pyrene	120	118		ug/L		98	10 - 140	6	40
Phenanthrene	120	109		ug/L		91	22 - 140	8	40
Pyrene	120	111		ug/L		93	38 - 140	6	40
1-Methylnaphthalene	120	62.9		ug/L		52	10 - 140	7	40
2-Methylnaphthalene	120	63.0		ug/L		52	10 - 140	8	40

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Terphenyl-d14	82		18 - 147
2-Fluorobiphenyl	78		15 - 128
Nitrobenzene-d5	54		10 - 144

**Lab Sample ID: 400-251938-5 MS**  
**Matrix: Water**  
**Analysis Batch: 663594**

**Client Sample ID: MW26-ROX-022924**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	ND		117	98.3		ug/L		84	50 - 150
Acenaphthylene	ND		117	101		ug/L		87	50 - 150
Anthracene	ND		117	104		ug/L		89	50 - 150
Benzo[a]anthracene	ND		117	102		ug/L		87	50 - 150
Benzo[a]pyrene	ND		117	101		ug/L		87	50 - 150
Benzo[b]fluoranthene	ND		117	101		ug/L		87	50 - 150
Benzo[g,h,i]perylene	ND		117	101		ug/L		86	50 - 150
Benzo[k]fluoranthene	ND		117	106		ug/L		90	50 - 150
Chrysene	ND		117	102		ug/L		88	50 - 150
Dibenz(a,h)anthracene	ND		117	104		ug/L		89	50 - 150
Fluoranthene	ND		117	102		ug/L		87	50 - 150
Fluorene	ND		117	102		ug/L		87	50 - 150

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: 400-251938-5 MS**

**Matrix: Water**

**Analysis Batch: 663594**

**Client Sample ID: MW26-ROX-022924**

**Prep Type: Total/NA**

**Prep Batch: 663434**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier		Result	Qualifier					
Indeno[1,2,3-cd]pyrene	ND		117	103		ug/L		88		50 - 150
Phenanthrene	ND		117	101		ug/L		86		50 - 150
Pyrene	ND		117	107		ug/L		91		50 - 150
1-Methylnaphthalene	ND		117	61.3		ug/L		53		50 - 150
2-Methylnaphthalene	ND		117	61.5		ug/L		53		50 - 150

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
Terphenyl-d14	82		18 - 147
2-Fluorobiphenyl	77		15 - 128
Nitrobenzene-d5	58		10 - 144

**Lab Sample ID: 400-251938-5 MSD**

**Matrix: Water**

**Analysis Batch: 663594**

**Client Sample ID: MW26-ROX-022924**

**Prep Type: Total/NA**

**Prep Batch: 663434**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	Limits	RPD	Limit
	Result	Qualifier		Result	Qualifier							
Acenaphthene	ND		116	102		ug/L		88		50 - 150	4	40
Acenaphthylene	ND		116	106		ug/L		91		50 - 150	4	40
Anthracene	ND		116	110		ug/L		95		50 - 150	5	40
Benzo[a]anthracene	ND		116	108		ug/L		93		50 - 150	6	40
Benzo[a]pyrene	ND		116	105		ug/L		91		50 - 150	4	40
Benzo[b]fluoranthene	ND		116	106		ug/L		91		50 - 150	4	40
Benzo[g,h,i]perylene	ND		116	105		ug/L		91		50 - 150	4	40
Benzo[k]fluoranthene	ND		116	111		ug/L		96		50 - 150	5	40
Chrysene	ND		116	113		ug/L		97		50 - 150	10	40
Dibenz(a,h)anthracene	ND		116	108		ug/L		94		50 - 150	4	40
Fluoranthene	ND		116	107		ug/L		93		50 - 150	5	40
Fluorene	ND		116	105		ug/L		91		50 - 150	3	40
Indeno[1,2,3-cd]pyrene	ND		116	108		ug/L		93		50 - 150	4	40
Phenanthrene	ND		116	106		ug/L		91		50 - 150	4	40
Pyrene	ND		116	113		ug/L		97		50 - 150	6	40
1-Methylnaphthalene	ND		116	63.0		ug/L		54		50 - 150	3	40
2-Methylnaphthalene	ND		116	62.8		ug/L		54		50 - 150	2	40

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
Terphenyl-d14	84		18 - 147
2-Fluorobiphenyl	82		15 - 128
Nitrobenzene-d5	61		10 - 144

## Method: 8011 - EDB and DBCP in Water by Microextraction

**Lab Sample ID: MB 400-663450/1-A**

**Matrix: Water**

**Analysis Batch: 663403**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 663450**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2-Dibromo-3-Chloropropane	ND		0.030	0.017	ug/L		03/06/24 10:49	03/06/24 17:55	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/06/24 10:49	03/06/24 17:55	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251938-1

## Method: 8011 - EDB and DBCP in Water by Microextraction (Continued)

**Lab Sample ID: MB 400-663450/1-A**  
**Matrix: Water**  
**Analysis Batch: 663403**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 663450**

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene	55		51 - 149	03/06/24 10:49	03/06/24 17:55	1

**Lab Sample ID: LCS 400-663450/2-A**  
**Matrix: Water**  
**Analysis Batch: 663403**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663450**

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	Limits	%Rec
		Result	Qualifier					
1,2-Dibromo-3-Chloropropane	0.101	0.123		ug/L		123	60 - 140	
1,2-Dibromoethane	0.100	0.143	*+	ug/L		142	60 - 140	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	70		51 - 149

**Lab Sample ID: LCSD 400-663450/3-A**  
**Matrix: Water**  
**Analysis Batch: 663403**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 663450**

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	Limits	RPD	Limit
		Result	Qualifier						
1,2-Dibromo-3-Chloropropane	0.101	0.118		ug/L		117	60 - 140	5	30
1,2-Dibromoethane	0.100	0.116		ug/L		115	60 - 140	21	30

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	63		51 - 149

**Lab Sample ID: 400-251938-5 MS**  
**Matrix: Water**  
**Analysis Batch: 663552**

**Client Sample ID: MW26-ROX-022924**  
**Prep Type: Total/NA**  
**Prep Batch: 663450**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	Limits
				Result	Qualifier				
1,2-Dibromo-3-Chloropropane	ND		0.106	0.149		ug/L		140	10 - 150
1,2-Dibromoethane	ND	*+	0.106	0.139		ug/L		131	39 - 150

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	131		51 - 149

**Lab Sample ID: 400-251938-5 MSD**  
**Matrix: Water**  
**Analysis Batch: 663552**

**Client Sample ID: MW26-ROX-022924**  
**Prep Type: Total/NA**  
**Prep Batch: 663450**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD MSD		Unit	D	%Rec	Limits	RPD	Limit
				Result	Qualifier						
1,2-Dibromo-3-Chloropropane	ND		0.102	0.141		ug/L		138	10 - 150	5	20
1,2-Dibromoethane	ND	*+	0.102	0.138		ug/L		136	39 - 150	1	20

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	102		51 - 149



# Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-251938-1

**Login Number: 251938**

**List Source: Eurofins Pensacola**

**List Number: 1**

**Creator: Pardonner, Brett**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
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	0.8°C IR8
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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (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 MONTHLY GW

Job ID: 400-251938-1

## Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-24
Kansas	NELAP	E-10253	10-31-24
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-24
North Carolina (WW/SW)	State	314	12-31-24
Oklahoma	NELAP	9810	08-31-24
Pennsylvania	NELAP	68-00467	01-31-25
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-24
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	P330-21-00056	05-17-24
USDA	US Federal Programs	FLGNV23001	01-08-26
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-24

# Roxana Groundwater Monthly – February/March 2024 Data Review

Laboratory SDG: 400-251985-1

Data Reviewer: Adelina Gita

Peer Reviewer: Cheyana Cokley

Date Reviewed: 03/29/2024

Guidance: USEPA National Functional Guidelines for Organic Superfund Methods Data Review 2020

Sample Identification	Sample Identification
TB-ROX-030124-8260-A	TB-ROX-030124-8011-A
MW11-ROX-030124	MW27-ROX-030124
ROST3MW-ROX-030124	P54-ROX-030124
TB-ROX-030124-8260-B	TB-ROX-030124-8011-B
MW9-ROX-030124-EB	MW9-ROX-030124
MW10-ROX-030124	MW28-ROX-030124

## 1.0 Data Package Completeness

*Were all items delivered as specified in the QAPP and COC as appropriate?*

Yes, the laboratory case narrative indicated that one sample container was received broken. No impact on the data is anticipated; therefore, no qualification is required.

## 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 multiple PAHs were detected in the method blank. SVOC and VOCs LCS/LCSD recoveries, and/or LCS/LCSD RPDs, were outside evaluation criteria. Several VOC and SVOC MS/MSD recoveries, and/or MS/MSD RPDs, were outside evaluation criteria in samples ROST3MW-ROX-030124 and MW28-ROX-030124. The continuing calibration verifications (CCV) for several analytes were outside evaluation criteria, biased low. The initial calibration verification (ICV) for bromomethane was outside evaluation criteria, biased low. These issues are addressed further in the appropriate sections of this data review.

Three of 70 (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 indicate 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?*

Yes

Blank ID	Parameter	Analyte	Concentration /Amount
MB 400-663434/1-A	PAHs	Acenaphthylene	0.0577 µg/L
MB 400-663434/1-A	PAHs	1-Methylnaphthalene	0.130 µg/L
MB 400-663434/1-A	PAHs	2-Methylnaphthalene	0.123 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
ROST3MW-ROX-030124	PAHs	1-Methylnaphthalene	-	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 400-663434/2-A/3-A	SVOCs	Aniline	33/55	50	10-127/40
LCS/LCSD LCS 400-663450/2-A/3-A	VOCs by 8011	1,2-Dibromoethane	142/115	21	60-140/30

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 LCS/LCSD 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 (%)
ROST3MW-ROX-030124 (MS)	VOCs	Dibromofluoromethane	70	75-126
ROST3MW-ROX-030124 (MSD)	VOCs	Dibromofluoromethane	73	75-126
MW28-ROX-030124 (MSD)	VOCs	Dibromofluoromethane	71	75-126

Matrix spikes and matrix spike duplicates 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, samples ROST3MW-ROX-030124 and MW28-ROX-030124 were spiked and analyzed for VOCs, SVOCs, PAHs, and VOCs by 8011.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
ROST3MW-ROX-030124 MS/MSD	VOCs	Acrolein	<b>185/161</b>	14	38-150/31
ROST3MW-ROX-030124 MS/MSD	VOCs	Acrylonitrile	<b>159/ 135</b>	16	62-149/30
ROST3MW-ROX-030124 MS/MSD	VOCs	2-Butanone (MEK)	<b>162/ 138</b>	16	55-150/30
ROST3MW-ROX-030124 MS/MSD	VOCs	Carbon tetrachloride	<b>51/ 51</b>	2	55-145/30
ROST3MW-ROX-030124 MS/MSD	VOCs	2-Chloroethyl vinyl ether	<b>22/5</b>	<b>121</b>	10-150/50
ROST3MW-ROX-030124 MS/MSD	VOCs	Chloroform	<b>52/52</b>	1	60-141/30
ROST3MW-ROX-030124 MS/MSD	VOCs	Chloromethane	<b>174/157</b>	11	49-148/31
ROST3MW-ROX-030124 MS/MSD	VOCs	Dichlorodifluoromethane	<b>151/134</b>	12	16-150/31
ROST3MW-ROX-030124 MS/MSD	VOCs	1,1-Dichloroethane	<b>62/59</b>	5	61-144/30
ROST3MW-ROX-030124 MS/MSD	VOCs	1,1-Dichloroethene	<b>56/53</b>	5	54-147/30
ROST3MW-ROX-030124 MS/MSD	VOCs	1,1-Dichloropropene	<b>64/58</b>	10	65-136/30
ROST3MW-ROX-030124 MS/MSD	VOCs	Methylene Chloride	<b>154/133</b>	15	60-146/32
ROST3MW-ROX-030124 MS/MSD	VOCs	1,1,1,2-Tetrachloroethane	<b>64/58</b>	9	59-137/30
ROST3MW-ROX-030124 MS/MSD	VOCs	1,1,2,2-Tetrachloroethane	<b>75/63</b>	17	66-135/30
ROST3MW-ROX-030124 MS/MSD	VOCs	trans-1,2-Dichloroethene	<b>45/45</b>	0	61-143/30



MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
ROST3MW-ROX-030124 MS/MSD	VOCs	1,1,1-Trichloroethane	58/56	2	57 - 142/30
ROST3MW-ROX-030124 MS/MSD	VOCs	Vinyl chloride	169/148	13	46 - 150/30
MW28-ROX-030124 MS/MSD	VOCs	Acrolein	172/ 184	7	38 – 150/31
MW28-ROX-030124 MS/MSD	VOCs	Acrylonitrile	168/ 164	2	62 – 149/30
MW28-ROX-030124 MS/MSD	VOCs	2-Butanone (MEK)	178/ 173	3	55 – 150/30
MW28-ROX-030124 MS/MSD	VOCs	Chloroethane	98/ 150	42	50 – 150/30
MW28-ROX-030124 MS/MSD	VOCs	2-Chloroethyl vinyl ether	0/0	NC	10 – 150/50
MW28-ROX-030124 MS/MSD	VOCs	Chloroform	58/53	9	60 – 141/30
MW28-ROX-030124 MS/MSD	VOCs	Chloromethane	140/186	28	49 – 148/31
MW28-ROX-030124 MS/MSD	VOCs	Dibromochloromethane	61/53	13	56 – 143/30
MW28-ROX-030124 MS/MSD	VOCs	Dichlorodifluoromethane	121/155	25	16 – 150/31
MW28-ROX-030124 MS/MSD	VOCs	1,3-Dichloropropane	70/62	12	66 – 133/30
MW28-ROX-030124 MS/MSD	VOCs	1,1-Dichloropropene	65/62	3	65 – 136/30
MW28-ROX-030124 MS/MSD	VOCs	Methylene Chloride	148/159	7	60 – 146/32
MW28-ROX-030124 MS/MSD	VOCs	4-Methyl-2-pentanone (MIBK)	152/136	11	63 – 146/30
MW28-ROX-030124 MS/MSD	VOCs	1,1,1,2-Tetrachloroethane	49/44	11	59 – 137/30
MW28-ROX-030124 MS/MSD	VOCs	1,1,2,2-Tetrachloroethane	66/59	11	66 – 135/30
MW28-ROX-030124 MS/MSD	VOCs	trans-1,2-Dichloroethene	50/48	6	61 – 143/30
MW28-ROX-030124 MS/MSD	VOCs	trans-1,3-Dichloropropene	61/52	16	53 – 133/30
MW28-ROX-030124 MS/MSD	VOCs	1,1,2-Trichloroethane	71/61	14	66 – 131/30
MW28-ROX-030124 MS/MSD	VOCs	Vinyl chloride	136/177	26	46 – 150/30
ROST3MW-ROX-030124 MS/MSD	SVOCs	Benzoic acid	49/55	11	50 – 150/40

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
ROST3MW-ROX-030124 MS/MSD	SVOCs	1,4-Dioxane	37/37	0	50 – 150/40
ROST3MW-ROX-030124 MS/MSD	SVOCs	N-Nitrosodimethylamine	45/46	0	50 – 150/40
ROST3MW-ROX-030124 MS/MSD	SVOCs	Phenol	48/49	1	50 – 150/40
ROST3MW-ROX-030124 MS/MSD	SVOCs	Pyridine	30/17	55	50 – 150/40
ROST3MW-ROX-030124 MS/MSD	SVOCs	Quinoline	44/42	4	50 – 150/40
MW28-ROX-030124 MS/MSD	SVOCs	1,4-Dioxane	37/40	7	50 – 150/40
MW28-ROX-030124 MS/MSD	SVOCs	N-Nitrosodimethylamine	47/49	5	50 – 150/40
MW28-ROX-030124 MS/MSD	SVOCs	Phenol	47/48	2	50 – 150/40
MW28-ROX-030124 MS/MSD	SVOCs	Pyridine	20/36	58	50 – 150/40
MW28-ROX-030124 MS/MSD	SVOCs	Quinoline	32/55	52	50 – 150/40

Analytical data that required qualification based on MS/MSD data are included in the table below. Professional judgement was used to qualify; however, not reject 2-chloroethyl vinyl ether due to acceptable LCS recoveries and to the acid reactive nature of 2-chloroethyl vinyl ether. Analytical data reported as non-detect and associated with MS/MSD recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. Analytical data associated with MS/MSD RPD alone outside evaluation criteria did not require qualification.

Sample ID	Parameter	Analyte	Qualification
ROST3MW-ROX-030124	VOCs	Carbon tetrachloride	UJ
ROST3MW-ROX-030124	VOCs	2-Chloroethyl vinyl ether	UJ
ROST3MW-ROX-030124	VOCs	Chloroform	UJ
ROST3MW-ROX-030124	VOCs	1,1-Dichloroethane	UJ
ROST3MW-ROX-030124	VOCs	1,1-Dichloroethene	UJ
ROST3MW-ROX-030124	VOCs	1,1-Dichloropropene	UJ
ROST3MW-ROX-030124	VOCs	1,1,1,2-Tetrachloroethane	UJ
ROST3MW-ROX-030124	VOCs	1,1,2,2-Tetrachloroethane	UJ
ROST3MW-ROX-030124	VOCs	trans-1,2-Dichloroethene	UJ
ROST3MW-ROX-030124	VOCs	1,1,1-Trichloroethane	UJ
MW28-ROX-030124	VOCs	2-Chloroethyl vinyl ether	UJ
MW28-ROX-030124	VOCs	Chloroform	UJ

Sample ID	Parameter	Analyte	Qualification
MW28-ROX-030124	VOCs	Dibromochloromethane	UJ
MW28-ROX-030124	VOCs	1,3-Dichloropropane	UJ
MW28-ROX-030124	VOCs	1,1-Dichloropropene	UJ
MW28-ROX-030124	VOCs	1,1,1,2-Tetrachloroethane	UJ
MW28-ROX-030124	VOCs	1,1,2,2-Tetrachloroethane	UJ
MW28-ROX-030124	VOCs	trans-1,2-Dichloroethene	UJ
MW28-ROX-030124	VOCs	trans-1,3-Dichloropropene	UJ
MW28-ROX-030124	VOCs	1,1,2-Trichloroethane	UJ
ROST3MW-ROX-030124	SVOCs	Benzoic acid	UJ
ROST3MW-ROX-030124	SVOCs	1,4-Dioxane	UJ
ROST3MW-ROX-030124	SVOCs	N-Nitrosodimethylamine	UJ
ROST3MW-ROX-030124	SVOCs	Phenol	UJ
ROST3MW-ROX-030124	SVOCs	Pyridine	UJ
ROST3MW-ROX-030124	SVOCs	Quinoline	UJ
MW28-ROX-030124	SVOCs	1,4-Dioxane	UJ
MW28-ROX-030124	SVOCs	N-Nitrosodimethylamine	UJ
MW28-ROX-030124	SVOCs	Phenol	UJ
MW28-ROX-030124	SVOCs	Pyridine	UJ
MW28-ROX-030124	SVOCs	Quinoline	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?*

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 (CCV) for acrylonitrile and chloroethane were outside evaluation criteria, biased low. The initial calibration verification (ICV) for bromomethane was outside evaluation criteria, biased low. Analytes are qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
MW11-ROX-030124	VOCs	Acrylonitrile	UJ

<b>Sample ID</b>	<b>Parameter</b>	<b>Analyte</b>	<b>Qualification</b>
MW27-ROX-030124	VOCs	Acrylonitrile	UJ
ROST3MW-ROX-030124	VOCs	Acrylonitrile	UJ
P54-ROX-030124	VOCs	Acrylonitrile	UJ
MW9-ROX-030124	VOCs	Acrylonitrile	UJ
MW10-ROX-030124	VOCs	Acrylonitrile	UJ
MW28-ROX-030124	VOCs	Acrylonitrile	UJ
MW11-ROX-030124	VOCs	Chloroethane	UJ
MW27-ROX-030124	VOCs	Chloroethane	UJ
ROST3MW-ROX-030124	VOCs	Chloroethane	UJ
P54-ROX-030124	VOCs	Chloroethane	UJ
MW9-ROX-030124	VOCs	Chloroethane	UJ
MW10-ROX-030124	VOCs	Chloroethane	UJ
MW28-ROX-030124	VOCs	Chloroethane	UJ
MW11-ROX-030124	VOCs	Bromomethane	UJ
MW27-ROX-030124	VOCs	Bromomethane	UJ
ROST3MW-ROX-030124	VOCs	Bromomethane	UJ
P54-ROX-030124	VOCs	Bromomethane	UJ
MW9-ROX-030124	VOCs	Bromomethane	UJ
MW10-ROX-030124	VOCs	Bromomethane	UJ
MW28-ROX-030124	VOCs	Bromomethane	UJ



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Melissa Remiger  
AECOM Technical Services Inc.  
100 N. Broadway  
20th Floor  
St. Louis, Missouri 63102

Generated 3/8/2024 12:36:37 PM

## JOB DESCRIPTION

ROXANA MONTHLY GW

## JOB NUMBER

400-251985-1

Reviewed 3/29/2024  
AG

# Eurofins Pensacola

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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## Authorization



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# Case Narrative

Client: AECOM Technical Services Inc.  
Project: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Job ID: 400-251985-1**

**Eurofins Pensacola**

## Job Narrative 400-251985-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 3/2/2024 8:01 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.0°C and 0.0°C.

### Receipt Exceptions

One container for the following sample was received broken

### GC/MS VOA

Method 8260D: One of three surrogate recovery for the following samples were outside control limits: ROST3MW-ROX-030124 (400-251985-5[MS]), ROST3MW-ROX-030124 (400-251985-5[MSD]) and MW28-ROX-030124 (400-251985-12[MSD]). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-663383 recovered above the upper control limit for 1,2,4-Trichlorobenzene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-663383 recovered outside acceptance criteria, low biased, for Acrylonitrile and Chloroethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-663383 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) precision for analytical batch 400-663383 was outside control limits. Sample matrix interference is suspected.

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-663383 were outside control limits for 2-Chloroethyl vinyl ether due to the acidic nature of the parent sample.

Method 8260D: The RPD for the MS/MSD for 2-chloroethyl vinyl ether was not calculable for analytical batch 400-663383 because the recoveries were below the reporting limit due to the acidic nature of the parent sample.

Method 8260D: The preservative used in the sample containers provided is not compatible with one of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-ROX-030124-8260-A (400-251985-1), MW11-ROX-030124 (400-251985-3), MW27-ROX-030124 (400-251985-4), ROST3MW-ROX-030124 (400-251985-5), P54-ROX-030124 (400-251985-6), TB-ROX-030124-8260-B (400-251985-7), MW9-ROX-030124-EB (400-251985-9), MW9-ROX-030124 (400-251985-10), MW10-ROX-030124 (400-251985-11) and MW28-ROX-030124 (400-251985-12). The requested target analyte list includes 2-Chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrades in an acidic medium.

Method 8260D: The initial calibration verification (ICV) analyzed in batch 400-659104 was outside method criteria for the following analyte(s): Bromomethane. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

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## Case Narrative

Client: AECOM Technical Services Inc.  
Project: ROXANA MONTHLY GW

Job ID: 400-251985-1

### Job ID: 400-251985-1 (Continued)

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No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

#### GC/MS Semi VOA

Method 8270E: The continuing calibration verification (CCV) associated with batch 400-663611 recovered above the upper control limit for 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2,4-Dichlorophenol, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 2-Nitrophenol, 4,6-Dinitro-2-methylphenol, 4-Bromophenyl phenyl ether, 4-Chloro-3-methylphenol, 4-Chlorophenyl phenyl ether, Hexachlorobenzene, Hexachlorocyclopentadiene and N-Nitrosodiphenylamine. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8270E: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 400-663434 and analytical batch 400-663609 recovered outside control limits for the following analytes: Aniline.

Method 8270E: The continuing calibration verification (CCV) associated with batch 400-663609 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCV 400-663609/6).

Method 8270E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 400-663434 and analytical batch 400-663609 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8270E: The continuing calibration verification (CCV) associated with batch 400-663609 recovered above the upper control limit for 4-Chlorophenyl phenyl ether, 4-Bromophenyl phenyl ether, Hexachlorobenzene, Hexachlorocyclopentadiene and Dibenzofuran. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8270E: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 400-663434 and analytical batch 400-663609 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.

Method 8270E\_SIM: The method blank for preparation batch 400-663434 and analytical batch 400-663594 contained 2-Methylnaphthalene, 1-Methylnaphthalene and Acenaphthylene above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; 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 8011: The laboratory control sample (LCS) for preparation batch 400-663450 and analytical batch 400-663403 recovered outside control limits for the following analytes: EDB. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8011: The continuing calibration verification (CCV) associated with batch 400-663403 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.

Method 8011: The continuing calibration verification (CCV) associated with batch 400-663403 recovered above the upper control limit for 1,2-Dibromo-3-Chloropropane. 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.

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# Sample Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-251985-1	TB-ROX-030124-8260-A	Water	03/01/24 12:00	03/02/24 08:01
400-251985-2	TB-ROX-030124-8011-A	Water	03/01/24 12:00	03/02/24 08:01
400-251985-3	MW11-ROX-030124	Water	03/01/24 09:25	03/02/24 08:01
400-251985-4	MW27-ROX-030124	Water	03/01/24 10:30	03/02/24 08:01
400-251985-5	ROST3MW-ROX-030124	Water	03/01/24 12:25	03/02/24 08:01
400-251985-6	P54-ROX-030124	Water	03/01/24 13:15	03/02/24 08:01
400-251985-7	TB-ROX-030124-8260-B	Water	03/01/24 12:00	03/02/24 08:01
400-251985-8	TB-ROX-030124-8011-B	Water	03/01/24 12:00	03/02/24 08:01
400-251985-9	MW9-ROX-030124-EB	Water	03/01/24 08:30	03/02/24 08:01
400-251985-10	MW9-ROX-030124	Water	03/01/24 09:55	03/02/24 08:01
400-251985-11	MW10-ROX-030124	Water	03/01/24 10:50	03/02/24 08:01
400-251985-12	MW28-ROX-030124	Water	03/01/24 12:30	03/02/24 08:01



# Detection Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: TB-ROX-030124-8260-A**

**Lab Sample ID: 400-251985-1**

No Detections.

**Client Sample ID: TB-ROX-030124-8011-A**

**Lab Sample ID: 400-251985-2**

No Detections.

**Client Sample ID: MW11-ROX-030124**

**Lab Sample ID: 400-251985-3**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.62	J	1.0	0.50	ug/L	1		8260D	Total/NA

**Client Sample ID: MW27-ROX-030124**

**Lab Sample ID: 400-251985-4**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.66	J	1.0	0.50	ug/L	1		8260D	Total/NA

**Client Sample ID: ROST3MW-ROX-030124**

**Lab Sample ID: 400-251985-5**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acenaphthene	0.11	J	0.19	0.096	ug/L	1		8270E SIM	Total/NA
Fluorene	0.14	J	0.19	0.086	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	0.18	J B U	0.19	0.077	ug/L	1		8270E SIM	Total/NA

**Client Sample ID: P54-ROX-030124**

**Lab Sample ID: 400-251985-6**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.50	J	1.0	0.50	ug/L	1		8260D	Total/NA

**Client Sample ID: TB-ROX-030124-8260-B**

**Lab Sample ID: 400-251985-7**

No Detections.

**Client Sample ID: TB-ROX-030124-8011-B**

**Lab Sample ID: 400-251985-8**

No Detections.

**Client Sample ID: MW9-ROX-030124-EB**

**Lab Sample ID: 400-251985-9**

No Detections.

**Client Sample ID: MW9-ROX-030124**

**Lab Sample ID: 400-251985-10**

No Detections.

**Client Sample ID: MW10-ROX-030124**

**Lab Sample ID: 400-251985-11**

No Detections.

**Client Sample ID: MW28-ROX-030124**

**Lab Sample ID: 400-251985-12**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	2.0		1.0	0.22	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: TB-ROX-030124-8260-A**

**Lab Sample ID: 400-251985-1**

**Date Collected: 03/01/24 12:00**

**Matrix: Water**

**Date Received: 03/02/24 08:01**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/06/24 11:27	1
Acrolein	ND		20	3.3	ug/L			03/06/24 11:27	1
Acrylonitrile	ND		10	2.8	ug/L			03/06/24 11:27	1
Benzene	ND		1.0	0.50	ug/L			03/06/24 11:27	1
Bromobenzene	ND		1.0	0.54	ug/L			03/06/24 11:27	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/06/24 11:27	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/06/24 11:27	1
Bromoform	ND		5.0	0.25	ug/L			03/06/24 11:27	1
Bromomethane	ND		1.0	0.98	ug/L			03/06/24 11:27	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/06/24 11:27	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/06/24 11:27	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/06/24 11:27	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/06/24 11:27	1
Chloroethane	ND		1.0	0.76	ug/L			03/06/24 11:27	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/06/24 11:27	1
Chloroform	ND		1.0	0.90	ug/L			03/06/24 11:27	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/06/24 11:27	1
Chloromethane	ND		1.0	0.90	ug/L			03/06/24 11:27	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/06/24 11:27	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/06/24 11:27	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/06/24 11:27	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/06/24 11:27	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/06/24 11:27	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/06/24 11:27	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/06/24 11:27	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/06/24 11:27	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/06/24 11:27	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/06/24 11:27	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 11:27	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 11:27	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 11:27	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/06/24 11:27	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/06/24 11:27	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/06/24 11:27	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/06/24 11:27	1
2-Hexanone	ND		25	1.4	ug/L			03/06/24 11:27	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/06/24 11:27	1
Methylene bromide	ND		5.0	0.22	ug/L			03/06/24 11:27	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/06/24 11:27	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/06/24 11:27	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/06/24 11:27	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/06/24 11:27	1
Naphthalene	ND		5.0	3.0	ug/L			03/06/24 11:27	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/06/24 11:27	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/06/24 11:27	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/06/24 11:27	1
o-Xylene	ND		5.0	0.60	ug/L			03/06/24 11:27	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/06/24 11:27	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/06/24 11:27	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: TB-ROX-030124-8260-A**

**Lab Sample ID: 400-251985-1**

**Date Collected: 03/01/24 12:00**

**Matrix: Water**

**Date Received: 03/02/24 08:01**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/06/24 11:27	1
Styrene	ND		1.0	1.0	ug/L			03/06/24 11:27	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/06/24 11:27	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/06/24 11:27	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/06/24 11:27	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/06/24 11:27	1
Toluene	ND		1.0	0.90	ug/L			03/06/24 11:27	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/06/24 11:27	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/06/24 11:27	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/06/24 11:27	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/06/24 11:27	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/06/24 11:27	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/06/24 11:27	1
Trichloroethene	ND		1.0	0.15	ug/L			03/06/24 11:27	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/06/24 11:27	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/06/24 11:27	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/06/24 11:27	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/06/24 11:27	1
Vinyl acetate	ND		25	0.93	ug/L			03/06/24 11:27	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/06/24 11:27	1
Xylenes, Total	ND		10	1.6	ug/L			03/06/24 11:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	83		72 - 130		03/06/24 11:27	1
Dibromofluoromethane	89		75 - 126		03/06/24 11:27	1
Toluene-d8 (Surr)	93		64 - 132		03/06/24 11:27	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
 Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: TB-ROX-030124-8011-A**

**Lab Sample ID: 400-251985-2**

**Date Collected: 03/01/24 12:00**

**Matrix: Water**

**Date Received: 03/02/24 08:01**

**Method: EPA 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	0.018	ug/L		03/06/24 10:49	03/06/24 20:44	1
1,2-Dibromoethane	ND	*+	0.021	0.015	ug/L		03/06/24 10:49	03/06/24 20:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	74		51 - 149				03/06/24 10:49	03/06/24 20:44	1

- 1
- 2
- 3
- 4
- 5
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- 10
- 11
- 12
- 13
- 14
- 15



# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: MW11-ROX-030124**

**Lab Sample ID: 400-251985-3**

Date Collected: 03/01/24 09:25

Matrix: Water

Date Received: 03/02/24 08:01

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/06/24 15:50	1
Acrolein	ND		20	3.3	ug/L			03/06/24 15:50	1
Acrylonitrile	ND	UJ	10	2.8	ug/L			03/06/24 15:50	1
<b>Benzene</b>	<b>0.62</b>	<b>J</b>	1.0	0.50	ug/L			03/06/24 15:50	1
Bromobenzene	ND		1.0	0.54	ug/L			03/06/24 15:50	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/06/24 15:50	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/06/24 15:50	1
Bromoform	ND		5.0	0.25	ug/L			03/06/24 15:50	1
Bromomethane	ND	UJ	1.0	0.98	ug/L			03/06/24 15:50	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/06/24 15:50	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/06/24 15:50	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/06/24 15:50	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/06/24 15:50	1
Chloroethane	ND	UJ	1.0	0.76	ug/L			03/06/24 15:50	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/06/24 15:50	1
Chloroform	ND		1.0	0.90	ug/L			03/06/24 15:50	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/06/24 15:50	1
Chloromethane	ND		1.0	0.90	ug/L			03/06/24 15:50	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/06/24 15:50	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/06/24 15:50	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/06/24 15:50	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/06/24 15:50	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/06/24 15:50	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/06/24 15:50	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/06/24 15:50	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/06/24 15:50	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/06/24 15:50	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/06/24 15:50	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 15:50	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 15:50	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 15:50	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/06/24 15:50	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/06/24 15:50	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/06/24 15:50	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/06/24 15:50	1
2-Hexanone	ND		25	1.4	ug/L			03/06/24 15:50	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/06/24 15:50	1
Methylene bromide	ND		5.0	0.22	ug/L			03/06/24 15:50	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/06/24 15:50	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/06/24 15:50	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/06/24 15:50	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/06/24 15:50	1
Naphthalene	ND		5.0	3.0	ug/L			03/06/24 15:50	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/06/24 15:50	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/06/24 15:50	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/06/24 15:50	1
o-Xylene	ND		5.0	0.60	ug/L			03/06/24 15:50	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/06/24 15:50	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/06/24 15:50	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: MW11-ROX-030124**

**Lab Sample ID: 400-251985-3**

Date Collected: 03/01/24 09:25

Matrix: Water

Date Received: 03/02/24 08:01

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/06/24 15:50	1
Styrene	ND		1.0	1.0	ug/L			03/06/24 15:50	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/06/24 15:50	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/06/24 15:50	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/06/24 15:50	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/06/24 15:50	1
Toluene	ND		1.0	0.90	ug/L			03/06/24 15:50	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/06/24 15:50	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/06/24 15:50	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/06/24 15:50	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/06/24 15:50	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/06/24 15:50	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/06/24 15:50	1
Trichloroethene	ND		1.0	0.15	ug/L			03/06/24 15:50	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/06/24 15:50	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/06/24 15:50	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/06/24 15:50	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/06/24 15:50	1
Vinyl acetate	ND		25	0.93	ug/L			03/06/24 15:50	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/06/24 15:50	1
Xylenes, Total	ND		10	1.6	ug/L			03/06/24 15:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	83		72 - 130		03/06/24 15:50	1
Dibromofluoromethane	86		75 - 126		03/06/24 15:50	1
Toluene-d8 (Surr)	92		64 - 132		03/06/24 15:50	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.098	ug/L		03/06/24 10:09	03/07/24 17:52	1
Acenaphthylene	ND		0.20	0.043	ug/L		03/06/24 10:09	03/07/24 17:52	1
Anthracene	ND		0.20	0.046	ug/L		03/06/24 10:09	03/07/24 17:52	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		03/06/24 10:09	03/07/24 17:52	1
Benzo[a]pyrene	ND		0.20	0.063	ug/L		03/06/24 10:09	03/07/24 17:52	1
Benzo[b]fluoranthene	ND		0.20	0.036	ug/L		03/06/24 10:09	03/07/24 17:52	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		03/06/24 10:09	03/07/24 17:52	1
Benzo[k]fluoranthene	ND		0.20	0.061	ug/L		03/06/24 10:09	03/07/24 17:52	1
Chrysene	ND		0.20	0.033	ug/L		03/06/24 10:09	03/07/24 17:52	1
Dibenz(a,h)anthracene	ND		0.20	0.047	ug/L		03/06/24 10:09	03/07/24 17:52	1
Fluoranthene	ND		0.20	0.034	ug/L		03/06/24 10:09	03/07/24 17:52	1
Fluorene	ND		0.20	0.088	ug/L		03/06/24 10:09	03/07/24 17:52	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		03/06/24 10:09	03/07/24 17:52	1
Phenanthrene	ND		0.20	0.089	ug/L		03/06/24 10:09	03/07/24 17:52	1
Pyrene	ND		0.20	0.038	ug/L		03/06/24 10:09	03/07/24 17:52	1
1-Methylnaphthalene	ND		0.20	0.079	ug/L		03/06/24 10:09	03/07/24 17:52	1
2-Methylnaphthalene	ND		0.20	0.065	ug/L		03/06/24 10:09	03/07/24 17:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	95		18 - 147	03/06/24 10:09	03/07/24 17:52	1
2-Fluorobiphenyl	67		15 - 128	03/06/24 10:09	03/07/24 17:52	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: MW11-ROX-030124**

**Lab Sample ID: 400-251985-3**

Date Collected: 03/01/24 09:25

Matrix: Water

Date Received: 03/02/24 08:01

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	72		10 - 144	03/06/24 10:09	03/07/24 17:52	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*1	9.9	8.6	ug/L		03/06/24 10:09	03/07/24 21:55	1
Benzenethiol	ND		9.9	9.8	ug/L		03/06/24 10:09	03/07/24 21:55	1
Benzoic acid	ND		30	24	ug/L		03/06/24 10:09	03/07/24 21:55	1
Benzyl alcohol	ND		9.9	7.2	ug/L		03/06/24 10:09	03/07/24 21:55	1
Bis(2-chloroethoxy)methane	ND		9.9	4.5	ug/L		03/06/24 10:09	03/07/24 21:55	1
Bis(2-chloroethyl)ether	ND		9.9	3.8	ug/L		03/06/24 10:09	03/07/24 21:55	1
bis (2-chloroisopropyl) ether	ND		9.9	1.8	ug/L		03/06/24 10:09	03/07/24 21:55	1
Bis(2-ethylhexyl) phthalate	ND		9.9	8.8	ug/L		03/06/24 10:09	03/07/24 21:55	1
4-Bromophenyl phenyl ether	ND		9.9	8.5	ug/L		03/06/24 10:09	03/07/24 21:55	1
Butyl benzyl phthalate	ND		9.9	5.7	ug/L		03/06/24 10:09	03/07/24 21:55	1
4-Chloroaniline	ND		9.9	4.6	ug/L		03/06/24 10:09	03/07/24 21:55	1
4-Chloro-3-methylphenol	ND		9.9	5.2	ug/L		03/06/24 10:09	03/07/24 21:55	1
2-Chloronaphthalene	ND		9.9	3.7	ug/L		03/06/24 10:09	03/07/24 21:55	1
2-Chlorophenol	ND		9.9	4.0	ug/L		03/06/24 10:09	03/07/24 21:55	1
4-Chlorophenyl phenyl ether	ND		9.9	3.6	ug/L		03/06/24 10:09	03/07/24 21:55	1
Dibenz[a,h]acridine	ND		9.9	2.8	ug/L		03/06/24 10:09	03/07/24 21:55	1
Dibenzofuran	ND		9.9	3.9	ug/L		03/06/24 10:09	03/07/24 21:55	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/06/24 10:09	03/07/24 21:55	1
2,4-Dichlorophenol	ND		9.9	4.2	ug/L		03/06/24 10:09	03/07/24 21:55	1
Diethyl phthalate	ND		9.9	4.3	ug/L		03/06/24 10:09	03/07/24 21:55	1
2,4-Dimethylphenol	ND		9.9	5.1	ug/L		03/06/24 10:09	03/07/24 21:55	1
Dimethyl phthalate	ND		9.9	4.1	ug/L		03/06/24 10:09	03/07/24 21:55	1
Di-n-butyl phthalate	ND		9.9	4.5	ug/L		03/06/24 10:09	03/07/24 21:55	1
4,6-Dinitro-ortho-cresol	ND		9.9	9.9	ug/L		03/06/24 10:09	03/07/24 21:55	1
2,4-Dinitrophenol	ND		30	4.5	ug/L		03/06/24 10:09	03/07/24 21:55	1
2,4-Dinitrotoluene	ND		9.9	5.0	ug/L		03/06/24 10:09	03/07/24 21:55	1
2,6-Dinitrotoluene	ND		9.9	3.8	ug/L		03/06/24 10:09	03/07/24 21:55	1
Di-n-octyl phthalate	ND		9.9	5.9	ug/L		03/06/24 10:09	03/07/24 21:55	1
1,4-Dioxane	ND		9.9	4.2	ug/L		03/06/24 10:09	03/07/24 21:55	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	3.3	ug/L		03/06/24 10:09	03/07/24 21:55	1
Hexachlorobenzene	ND		9.9	9.6	ug/L		03/06/24 10:09	03/07/24 21:55	1
Hexachlorocyclopentadiene	ND		20	4.4	ug/L		03/06/24 10:09	03/07/24 21:55	1
Hexachloroethane	ND		9.9	5.1	ug/L		03/06/24 10:09	03/07/24 21:55	1
Indene	ND		9.9	3.5	ug/L		03/06/24 10:09	03/07/24 21:55	1
Isophorone	ND		9.9	5.1	ug/L		03/06/24 10:09	03/07/24 21:55	1
2-Methylphenol	ND		9.9	3.2	ug/L		03/06/24 10:09	03/07/24 21:55	1
3 & 4 Methylphenol	ND		20	4.5	ug/L		03/06/24 10:09	03/07/24 21:55	1
2-Nitroaniline	ND		9.9	4.9	ug/L		03/06/24 10:09	03/07/24 21:55	1
3-Nitroaniline	ND		9.9	4.6	ug/L		03/06/24 10:09	03/07/24 21:55	1
4-Nitroaniline	ND		9.9	4.0	ug/L		03/06/24 10:09	03/07/24 21:55	1
Nitrobenzene	ND		9.9	4.6	ug/L		03/06/24 10:09	03/07/24 21:55	1
2-Nitrophenol	ND		9.9	4.5	ug/L		03/06/24 10:09	03/07/24 21:55	1
4-Nitrophenol	ND		9.9	3.3	ug/L		03/06/24 10:09	03/07/24 21:55	1
N-Nitrosodimethylamine	ND		9.9	2.2	ug/L		03/06/24 10:09	03/07/24 21:55	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: MW11-ROX-030124**

**Lab Sample ID: 400-251985-3**

Date Collected: 03/01/24 09:25

Matrix: Water

Date Received: 03/02/24 08:01

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.9	2.5	ug/L		03/06/24 10:09	03/07/24 21:55	1
N-Nitrosodiphenylamine	ND		9.9	3.6	ug/L		03/06/24 10:09	03/07/24 21:55	1
Pentachlorophenol	ND		20	12	ug/L		03/06/24 10:09	03/07/24 21:55	1
Phenol	ND		9.9	4.1	ug/L		03/06/24 10:09	03/07/24 21:55	1
Pyridine	ND		9.9	9.9	ug/L		03/06/24 10:09	03/07/24 21:55	1
Quinoline	ND		9.9	2.4	ug/L		03/06/24 10:09	03/07/24 21:55	1
2,4,5-Trichlorophenol	ND		9.9	3.9	ug/L		03/06/24 10:09	03/07/24 21:55	1
2,4,6-Trichlorophenol	ND		9.9	3.5	ug/L		03/06/24 10:09	03/07/24 21:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	90		21 - 114	03/06/24 10:09	03/07/24 21:55	1
2-Fluorophenol	47		10 - 105	03/06/24 10:09	03/07/24 21:55	1
Nitrobenzene-d5	66		16 - 127	03/06/24 10:09	03/07/24 21:55	1
Phenol-d5	33		10 - 129	03/06/24 10:09	03/07/24 21:55	1
Terphenyl-d14	111		13 - 150	03/06/24 10:09	03/07/24 21:55	1
2,4,6-Tribromophenol	96		10 - 150	03/06/24 10:09	03/07/24 21:55	1

**Method: EPA 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	0.017	ug/L		03/06/24 10:49	03/06/24 21:05	1
1,2-Dibromoethane	ND	*+	0.020	0.015	ug/L		03/06/24 10:49	03/06/24 21:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	85		51 - 149	03/06/24 10:49	03/06/24 21:05	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: MW27-ROX-030124**

**Lab Sample ID: 400-251985-4**

Date Collected: 03/01/24 10:30

Matrix: Water

Date Received: 03/02/24 08:01

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/06/24 16:12	1
Acrolein	ND		20	3.3	ug/L			03/06/24 16:12	1
Acrylonitrile	ND	UJ	10	2.8	ug/L			03/06/24 16:12	1
<b>Benzene</b>	<b>0.66</b>	<b>J</b>	1.0	0.50	ug/L			03/06/24 16:12	1
Bromobenzene	ND		1.0	0.54	ug/L			03/06/24 16:12	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/06/24 16:12	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/06/24 16:12	1
Bromoform	ND		5.0	0.25	ug/L			03/06/24 16:12	1
Bromomethane	ND	UJ	1.0	0.98	ug/L			03/06/24 16:12	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/06/24 16:12	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/06/24 16:12	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/06/24 16:12	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/06/24 16:12	1
Chloroethane	ND	UJ	1.0	0.76	ug/L			03/06/24 16:12	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/06/24 16:12	1
Chloroform	ND		1.0	0.90	ug/L			03/06/24 16:12	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/06/24 16:12	1
Chloromethane	ND		1.0	0.90	ug/L			03/06/24 16:12	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/06/24 16:12	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/06/24 16:12	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/06/24 16:12	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/06/24 16:12	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/06/24 16:12	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/06/24 16:12	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/06/24 16:12	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/06/24 16:12	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/06/24 16:12	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/06/24 16:12	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 16:12	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 16:12	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 16:12	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/06/24 16:12	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/06/24 16:12	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/06/24 16:12	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/06/24 16:12	1
2-Hexanone	ND		25	1.4	ug/L			03/06/24 16:12	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/06/24 16:12	1
Methylene bromide	ND		5.0	0.22	ug/L			03/06/24 16:12	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/06/24 16:12	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/06/24 16:12	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/06/24 16:12	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/06/24 16:12	1
Naphthalene	ND		5.0	3.0	ug/L			03/06/24 16:12	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/06/24 16:12	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/06/24 16:12	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/06/24 16:12	1
o-Xylene	ND		5.0	0.60	ug/L			03/06/24 16:12	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/06/24 16:12	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/06/24 16:12	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: MW27-ROX-030124**

**Lab Sample ID: 400-251985-4**

Date Collected: 03/01/24 10:30

Matrix: Water

Date Received: 03/02/24 08:01

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/06/24 16:12	1
Styrene	ND		1.0	1.0	ug/L			03/06/24 16:12	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/06/24 16:12	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/06/24 16:12	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/06/24 16:12	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/06/24 16:12	1
Toluene	ND		1.0	0.90	ug/L			03/06/24 16:12	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/06/24 16:12	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/06/24 16:12	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/06/24 16:12	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/06/24 16:12	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/06/24 16:12	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/06/24 16:12	1
Trichloroethene	ND		1.0	0.15	ug/L			03/06/24 16:12	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/06/24 16:12	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/06/24 16:12	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/06/24 16:12	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/06/24 16:12	1
Vinyl acetate	ND		25	0.93	ug/L			03/06/24 16:12	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/06/24 16:12	1
Xylenes, Total	ND		10	1.6	ug/L			03/06/24 16:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	86		72 - 130		03/06/24 16:12	1
Dibromofluoromethane	87		75 - 126		03/06/24 16:12	1
Toluene-d8 (Surr)	93		64 - 132		03/06/24 16:12	1

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.098	ug/L		03/06/24 10:09	03/07/24 18:12	1
Acenaphthylene	ND		0.20	0.044	ug/L		03/06/24 10:09	03/07/24 18:12	1
Anthracene	ND		0.20	0.047	ug/L		03/06/24 10:09	03/07/24 18:12	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		03/06/24 10:09	03/07/24 18:12	1
Benzo[a]pyrene	ND		0.20	0.063	ug/L		03/06/24 10:09	03/07/24 18:12	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		03/06/24 10:09	03/07/24 18:12	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		03/06/24 10:09	03/07/24 18:12	1
Benzo[k]fluoranthene	ND		0.20	0.061	ug/L		03/06/24 10:09	03/07/24 18:12	1
Chrysene	ND		0.20	0.033	ug/L		03/06/24 10:09	03/07/24 18:12	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		03/06/24 10:09	03/07/24 18:12	1
Fluoranthene	ND		0.20	0.034	ug/L		03/06/24 10:09	03/07/24 18:12	1
Fluorene	ND		0.20	0.088	ug/L		03/06/24 10:09	03/07/24 18:12	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		03/06/24 10:09	03/07/24 18:12	1
Phenanthrene	ND		0.20	0.089	ug/L		03/06/24 10:09	03/07/24 18:12	1
Pyrene	ND		0.20	0.039	ug/L		03/06/24 10:09	03/07/24 18:12	1
1-Methylnaphthalene	ND		0.20	0.079	ug/L		03/06/24 10:09	03/07/24 18:12	1
2-Methylnaphthalene	ND		0.20	0.065	ug/L		03/06/24 10:09	03/07/24 18:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	95		18 - 147	03/06/24 10:09	03/07/24 18:12	1
2-Fluorobiphenyl	59		15 - 128	03/06/24 10:09	03/07/24 18:12	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: MW27-ROX-030124**

**Lab Sample ID: 400-251985-4**

Date Collected: 03/01/24 10:30

Matrix: Water

Date Received: 03/02/24 08:01

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	69		10 - 144	03/06/24 10:09	03/07/24 18:12	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*1	9.9	8.6	ug/L		03/06/24 10:09	03/07/24 22:22	1
Benzenethiol	ND		9.9	9.8	ug/L		03/06/24 10:09	03/07/24 22:22	1
Benzoic acid	ND		30	24	ug/L		03/06/24 10:09	03/07/24 22:22	1
Benzyl alcohol	ND		9.9	7.2	ug/L		03/06/24 10:09	03/07/24 22:22	1
Bis(2-chloroethoxy)methane	ND		9.9	4.6	ug/L		03/06/24 10:09	03/07/24 22:22	1
Bis(2-chloroethyl)ether	ND		9.9	3.9	ug/L		03/06/24 10:09	03/07/24 22:22	1
bis (2-chloroisopropyl) ether	ND		9.9	1.8	ug/L		03/06/24 10:09	03/07/24 22:22	1
Bis(2-ethylhexyl) phthalate	ND		9.9	8.8	ug/L		03/06/24 10:09	03/07/24 22:22	1
4-Bromophenyl phenyl ether	ND		9.9	8.5	ug/L		03/06/24 10:09	03/07/24 22:22	1
Butyl benzyl phthalate	ND		9.9	5.7	ug/L		03/06/24 10:09	03/07/24 22:22	1
4-Chloroaniline	ND		9.9	4.7	ug/L		03/06/24 10:09	03/07/24 22:22	1
4-Chloro-3-methylphenol	ND		9.9	5.2	ug/L		03/06/24 10:09	03/07/24 22:22	1
2-Chloronaphthalene	ND		9.9	3.8	ug/L		03/06/24 10:09	03/07/24 22:22	1
2-Chlorophenol	ND		9.9	4.1	ug/L		03/06/24 10:09	03/07/24 22:22	1
4-Chlorophenyl phenyl ether	ND		9.9	3.7	ug/L		03/06/24 10:09	03/07/24 22:22	1
Dibenz[a,h]acridine	ND		9.9	2.8	ug/L		03/06/24 10:09	03/07/24 22:22	1
Dibenzofuran	ND		9.9	4.0	ug/L		03/06/24 10:09	03/07/24 22:22	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/06/24 10:09	03/07/24 22:22	1
2,4-Dichlorophenol	ND		9.9	4.3	ug/L		03/06/24 10:09	03/07/24 22:22	1
Diethyl phthalate	ND		9.9	4.4	ug/L		03/06/24 10:09	03/07/24 22:22	1
2,4-Dimethylphenol	ND		9.9	5.1	ug/L		03/06/24 10:09	03/07/24 22:22	1
Dimethyl phthalate	ND		9.9	4.2	ug/L		03/06/24 10:09	03/07/24 22:22	1
Di-n-butyl phthalate	ND		9.9	4.6	ug/L		03/06/24 10:09	03/07/24 22:22	1
4,6-Dinitro-ortho-cresol	ND		9.9	9.9	ug/L		03/06/24 10:09	03/07/24 22:22	1
2,4-Dinitrophenol	ND		30	4.6	ug/L		03/06/24 10:09	03/07/24 22:22	1
2,4-Dinitrotoluene	ND		9.9	5.0	ug/L		03/06/24 10:09	03/07/24 22:22	1
2,6-Dinitrotoluene	ND		9.9	3.9	ug/L		03/06/24 10:09	03/07/24 22:22	1
Di-n-octyl phthalate	ND		9.9	5.9	ug/L		03/06/24 10:09	03/07/24 22:22	1
1,4-Dioxane	ND		9.9	4.3	ug/L		03/06/24 10:09	03/07/24 22:22	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	3.3	ug/L		03/06/24 10:09	03/07/24 22:22	1
Hexachlorobenzene	ND		9.9	9.6	ug/L		03/06/24 10:09	03/07/24 22:22	1
Hexachlorocyclopentadiene	ND		20	4.5	ug/L		03/06/24 10:09	03/07/24 22:22	1
Hexachloroethane	ND		9.9	5.1	ug/L		03/06/24 10:09	03/07/24 22:22	1
Indene	ND		9.9	3.6	ug/L		03/06/24 10:09	03/07/24 22:22	1
Isophorone	ND		9.9	5.1	ug/L		03/06/24 10:09	03/07/24 22:22	1
2-Methylphenol	ND		9.9	3.2	ug/L		03/06/24 10:09	03/07/24 22:22	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		03/06/24 10:09	03/07/24 22:22	1
2-Nitroaniline	ND		9.9	4.9	ug/L		03/06/24 10:09	03/07/24 22:22	1
3-Nitroaniline	ND		9.9	4.7	ug/L		03/06/24 10:09	03/07/24 22:22	1
4-Nitroaniline	ND		9.9	4.1	ug/L		03/06/24 10:09	03/07/24 22:22	1
Nitrobenzene	ND		9.9	4.7	ug/L		03/06/24 10:09	03/07/24 22:22	1
2-Nitrophenol	ND		9.9	4.6	ug/L		03/06/24 10:09	03/07/24 22:22	1
4-Nitrophenol	ND		9.9	3.3	ug/L		03/06/24 10:09	03/07/24 22:22	1
N-Nitrosodimethylamine	ND		9.9	2.2	ug/L		03/06/24 10:09	03/07/24 22:22	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: MW27-ROX-030124**

**Lab Sample ID: 400-251985-4**

**Date Collected: 03/01/24 10:30**

**Matrix: Water**

**Date Received: 03/02/24 08:01**

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.9	2.5	ug/L		03/06/24 10:09	03/07/24 22:22	1
N-Nitrosodiphenylamine	ND		9.9	3.7	ug/L		03/06/24 10:09	03/07/24 22:22	1
Pentachlorophenol	ND		20	12	ug/L		03/06/24 10:09	03/07/24 22:22	1
Phenol	ND		9.9	4.2	ug/L		03/06/24 10:09	03/07/24 22:22	1
Pyridine	ND		9.9	9.9	ug/L		03/06/24 10:09	03/07/24 22:22	1
Quinoline	ND		9.9	2.4	ug/L		03/06/24 10:09	03/07/24 22:22	1
2,4,5-Trichlorophenol	ND		9.9	4.0	ug/L		03/06/24 10:09	03/07/24 22:22	1
2,4,6-Trichlorophenol	ND		9.9	3.5	ug/L		03/06/24 10:09	03/07/24 22:22	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorobiphenyl	81		21 - 114				03/06/24 10:09	03/07/24 22:22	1
2-Fluorophenol	40		10 - 105				03/06/24 10:09	03/07/24 22:22	1
Nitrobenzene-d5	58		16 - 127				03/06/24 10:09	03/07/24 22:22	1
Phenol-d5	30		10 - 129				03/06/24 10:09	03/07/24 22:22	1
Terphenyl-d14	101		13 - 150				03/06/24 10:09	03/07/24 22:22	1
2,4,6-Tribromophenol	85		10 - 150				03/06/24 10:09	03/07/24 22:22	1

**Method: EPA 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	0.017	ug/L		03/06/24 10:49	03/06/24 21:47	1
1,2-Dibromoethane	ND	+	0.020	0.015	ug/L		03/06/24 10:49	03/06/24 21:47	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene	55	p	51 - 149				03/06/24 10:49	03/06/24 21:47	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: ROST3MW-ROX-030124**

**Lab Sample ID: 400-251985-5**

Date Collected: 03/01/24 12:25

Matrix: Water

Date Received: 03/02/24 08:01

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/06/24 10:43	1
Acrolein	ND	F1	20	3.3	ug/L			03/06/24 10:43	1
Acrylonitrile	ND	F1 UJ	10	2.8	ug/L			03/06/24 10:43	1
Benzene	ND		1.0	0.50	ug/L			03/06/24 10:43	1
Bromobenzene	ND		1.0	0.54	ug/L			03/06/24 10:43	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/06/24 10:43	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/06/24 10:43	1
Bromoform	ND		5.0	0.25	ug/L			03/06/24 10:43	1
Bromomethane	ND	UJ	1.0	0.98	ug/L			03/06/24 10:43	1
2-Butanone (MEK)	ND	F1	25	2.6	ug/L			03/06/24 10:43	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/06/24 10:43	1
Carbon tetrachloride	ND	F1 UJ	1.0	0.19	ug/L			03/06/24 10:43	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/06/24 10:43	1
Chloroethane	ND	UJ	1.0	0.76	ug/L			03/06/24 10:43	1
2-Chloroethyl vinyl ether	ND	F2 F1 UJ	5.0	2.0	ug/L			03/06/24 10:43	1
Chloroform	ND	F1 UJ	1.0	0.90	ug/L			03/06/24 10:43	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/06/24 10:43	1
Chloromethane	ND	F1	1.0	0.90	ug/L			03/06/24 10:43	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/06/24 10:43	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/06/24 10:43	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/06/24 10:43	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/06/24 10:43	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/06/24 10:43	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/06/24 10:43	1
Dichlorodifluoromethane	ND	F1	1.0	0.85	ug/L			03/06/24 10:43	1
1,1-Dichloroethane	ND	F1 UJ	1.0	0.50	ug/L			03/06/24 10:43	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/06/24 10:43	1
1,1-Dichloroethene	ND	F1 UJ	1.0	0.50	ug/L			03/06/24 10:43	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 10:43	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 10:43	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 10:43	1
1,1-Dichloropropene	ND	F1 UJ	1.0	0.50	ug/L			03/06/24 10:43	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/06/24 10:43	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/06/24 10:43	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/06/24 10:43	1
2-Hexanone	ND		25	1.4	ug/L			03/06/24 10:43	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/06/24 10:43	1
Methylene bromide	ND		5.0	0.22	ug/L			03/06/24 10:43	1
Methylene Chloride	ND	F1	5.0	3.0	ug/L			03/06/24 10:43	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/06/24 10:43	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/06/24 10:43	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/06/24 10:43	1
Naphthalene	ND		5.0	3.0	ug/L			03/06/24 10:43	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/06/24 10:43	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/06/24 10:43	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/06/24 10:43	1
o-Xylene	ND		5.0	0.60	ug/L			03/06/24 10:43	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/06/24 10:43	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/06/24 10:43	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: ROST3MW-ROX-030124**

**Lab Sample ID: 400-251985-5**

Date Collected: 03/01/24 12:25

Matrix: Water

Date Received: 03/02/24 08:01

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/06/24 10:43	1
Styrene	ND		1.0	1.0	ug/L			03/06/24 10:43	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/06/24 10:43	1
1,1,1,2-Tetrachloroethane	ND	F1 UJ	1.0	0.16	ug/L			03/06/24 10:43	1
1,1,2,2-Tetrachloroethane	ND	F1 UJ	1.0	0.50	ug/L			03/06/24 10:43	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/06/24 10:43	1
Toluene	ND		1.0	0.90	ug/L			03/06/24 10:43	1
trans-1,2-Dichloroethene	ND	F1 UJ	1.0	0.50	ug/L			03/06/24 10:43	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/06/24 10:43	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/06/24 10:43	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/06/24 10:43	1
1,1,1-Trichloroethane	ND	F1 UJ	1.0	0.18	ug/L			03/06/24 10:43	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/06/24 10:43	1
Trichloroethene	ND		1.0	0.15	ug/L			03/06/24 10:43	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/06/24 10:43	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/06/24 10:43	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/06/24 10:43	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/06/24 10:43	1
Vinyl acetate	ND		25	0.93	ug/L			03/06/24 10:43	1
Vinyl chloride	ND	F1	1.0	0.50	ug/L			03/06/24 10:43	1
Xylenes, Total	ND		10	1.6	ug/L			03/06/24 10:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	83		72 - 130		03/06/24 10:43	1
Dibromofluoromethane	78		75 - 126		03/06/24 10:43	1
Toluene-d8 (Surr)	95		64 - 132		03/06/24 10:43	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.11	J	0.19	0.096	ug/L		03/06/24 10:09	03/07/24 15:49	1
Acenaphthylene	ND		0.19	0.043	ug/L		03/06/24 10:09	03/07/24 15:49	1
Anthracene	ND		0.19	0.046	ug/L		03/06/24 10:09	03/07/24 15:49	1
Benzo[a]anthracene	ND		0.19	0.033	ug/L		03/06/24 10:09	03/07/24 15:49	1
Benzo[a]pyrene	ND		0.19	0.062	ug/L		03/06/24 10:09	03/07/24 15:49	1
Benzo[b]fluoranthene	ND		0.19	0.036	ug/L		03/06/24 10:09	03/07/24 15:49	1
Benzo[g,h,i]perylene	ND		0.19	0.026	ug/L		03/06/24 10:09	03/07/24 15:49	1
Benzo[k]fluoranthene	ND		0.19	0.060	ug/L		03/06/24 10:09	03/07/24 15:49	1
Chrysene	ND		0.19	0.032	ug/L		03/06/24 10:09	03/07/24 15:49	1
Dibenz(a,h)anthracene	ND		0.19	0.046	ug/L		03/06/24 10:09	03/07/24 15:49	1
Fluoranthene	ND		0.19	0.033	ug/L		03/06/24 10:09	03/07/24 15:49	1
Fluorene	0.14	J	0.19	0.086	ug/L		03/06/24 10:09	03/07/24 15:49	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.033	ug/L		03/06/24 10:09	03/07/24 15:49	1
Phenanthrene	ND		0.19	0.087	ug/L		03/06/24 10:09	03/07/24 15:49	1
Pyrene	ND		0.19	0.038	ug/L		03/06/24 10:09	03/07/24 15:49	1
1-Methylnaphthalene	0.18	J B U	0.19	0.077	ug/L		03/06/24 10:09	03/07/24 15:49	1
2-Methylnaphthalene	ND		0.19	0.064	ug/L		03/06/24 10:09	03/07/24 15:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	89		18 - 147	03/06/24 10:09	03/07/24 15:49	1
2-Fluorobiphenyl	64		15 - 128	03/06/24 10:09	03/07/24 15:49	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: ROST3MW-ROX-030124**

**Lab Sample ID: 400-251985-5**

Date Collected: 03/01/24 12:25

Matrix: Water

Date Received: 03/02/24 08:01

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	76		10 - 144	03/06/24 10:09	03/07/24 15:49	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*1	9.7	8.4	ug/L		03/06/24 10:09	03/07/24 19:18	1
Benzenethiol	ND		9.7	9.6	ug/L		03/06/24 10:09	03/07/24 19:18	1
Benzoic acid	ND	F1 UJ	29	23	ug/L		03/06/24 10:09	03/07/24 19:18	1
Benzyl alcohol	ND		9.7	7.1	ug/L		03/06/24 10:09	03/07/24 19:18	1
Bis(2-chloroethoxy)methane	ND		9.7	4.5	ug/L		03/06/24 10:09	03/07/24 19:18	1
Bis(2-chloroethyl)ether	ND		9.7	3.8	ug/L		03/06/24 10:09	03/07/24 19:18	1
bis (2-chloroisopropyl) ether	ND		9.7	1.7	ug/L		03/06/24 10:09	03/07/24 19:18	1
Bis(2-ethylhexyl) phthalate	ND		9.7	8.6	ug/L		03/06/24 10:09	03/07/24 19:18	1
4-Bromophenyl phenyl ether	ND		9.7	8.3	ug/L		03/06/24 10:09	03/07/24 19:18	1
Butyl benzyl phthalate	ND		9.7	5.6	ug/L		03/06/24 10:09	03/07/24 19:18	1
4-Chloroaniline	ND		9.7	4.6	ug/L		03/06/24 10:09	03/07/24 19:18	1
4-Chloro-3-methylphenol	ND		9.7	5.1	ug/L		03/06/24 10:09	03/07/24 19:18	1
2-Chloronaphthalene	ND		9.7	3.7	ug/L		03/06/24 10:09	03/07/24 19:18	1
2-Chlorophenol	ND		9.7	4.0	ug/L		03/06/24 10:09	03/07/24 19:18	1
4-Chlorophenyl phenyl ether	ND		9.7	3.6	ug/L		03/06/24 10:09	03/07/24 19:18	1
Dibenz[a,h]acridine	ND		9.7	2.7	ug/L		03/06/24 10:09	03/07/24 19:18	1
Dibenzofuran	ND		9.7	3.9	ug/L		03/06/24 10:09	03/07/24 19:18	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/06/24 10:09	03/07/24 19:18	1
2,4-Dichlorophenol	ND		9.7	4.2	ug/L		03/06/24 10:09	03/07/24 19:18	1
Diethyl phthalate	ND		9.7	4.3	ug/L		03/06/24 10:09	03/07/24 19:18	1
2,4-Dimethylphenol	ND		9.7	5.0	ug/L		03/06/24 10:09	03/07/24 19:18	1
Dimethyl phthalate	ND		9.7	4.1	ug/L		03/06/24 10:09	03/07/24 19:18	1
Di-n-butyl phthalate	ND		9.7	4.5	ug/L		03/06/24 10:09	03/07/24 19:18	1
4,6-Dinitro-ortho-cresol	ND		9.7	9.7	ug/L		03/06/24 10:09	03/07/24 19:18	1
2,4-Dinitrophenol	ND		29	4.5	ug/L		03/06/24 10:09	03/07/24 19:18	1
2,4-Dinitrotoluene	ND		9.7	4.9	ug/L		03/06/24 10:09	03/07/24 19:18	1
2,6-Dinitrotoluene	ND		9.7	3.8	ug/L		03/06/24 10:09	03/07/24 19:18	1
Di-n-octyl phthalate	ND		9.7	5.8	ug/L		03/06/24 10:09	03/07/24 19:18	1
1,4-Dioxane	ND	F1 UJ	9.7	4.2	ug/L		03/06/24 10:09	03/07/24 19:18	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	3.2	ug/L		03/06/24 10:09	03/07/24 19:18	1
Hexachlorobenzene	ND		9.7	9.4	ug/L		03/06/24 10:09	03/07/24 19:18	1
Hexachlorocyclopentadiene	ND		19	4.4	ug/L		03/06/24 10:09	03/07/24 19:18	1
Hexachloroethane	ND		9.7	5.0	ug/L		03/06/24 10:09	03/07/24 19:18	1
Indene	ND		9.7	3.5	ug/L		03/06/24 10:09	03/07/24 19:18	1
Isophorone	ND		9.7	5.0	ug/L		03/06/24 10:09	03/07/24 19:18	1
2-Methylphenol	ND		9.7	3.1	ug/L		03/06/24 10:09	03/07/24 19:18	1
3 & 4 Methylphenol	ND		19	4.5	ug/L		03/06/24 10:09	03/07/24 19:18	1
2-Nitroaniline	ND		9.7	4.8	ug/L		03/06/24 10:09	03/07/24 19:18	1
3-Nitroaniline	ND		9.7	4.6	ug/L		03/06/24 10:09	03/07/24 19:18	1
4-Nitroaniline	ND		9.7	4.0	ug/L		03/06/24 10:09	03/07/24 19:18	1
Nitrobenzene	ND		9.7	4.6	ug/L		03/06/24 10:09	03/07/24 19:18	1
2-Nitrophenol	ND		9.7	4.5	ug/L		03/06/24 10:09	03/07/24 19:18	1
4-Nitrophenol	ND		9.7	3.2	ug/L		03/06/24 10:09	03/07/24 19:18	1
N-Nitrosodimethylamine	ND	F1 UJ	9.7	2.1	ug/L		03/06/24 10:09	03/07/24 19:18	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: ROST3MW-ROX-030124**

**Lab Sample ID: 400-251985-5**

Date Collected: 03/01/24 12:25

Matrix: Water

Date Received: 03/02/24 08:01

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.7	2.4	ug/L		03/06/24 10:09	03/07/24 19:18	1
N-Nitrosodiphenylamine	ND		9.7	3.6	ug/L		03/06/24 10:09	03/07/24 19:18	1
Pentachlorophenol	ND		19	12	ug/L		03/06/24 10:09	03/07/24 19:18	1
Phenol	ND	F1 UJ	9.7	4.1	ug/L		03/06/24 10:09	03/07/24 19:18	1
Pyridine	ND	F1 F2 UJ	9.7	9.7	ug/L		03/06/24 10:09	03/07/24 19:18	1
Quinoline	ND	F1 UJ	9.7	2.3	ug/L		03/06/24 10:09	03/07/24 19:18	1
2,4,5-Trichlorophenol	ND		9.7	3.9	ug/L		03/06/24 10:09	03/07/24 19:18	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		03/06/24 10:09	03/07/24 19:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	92		21 - 114	03/06/24 10:09	03/07/24 19:18	1
2-Fluorophenol	47		10 - 105	03/06/24 10:09	03/07/24 19:18	1
Nitrobenzene-d5	68		16 - 127	03/06/24 10:09	03/07/24 19:18	1
Phenol-d5	35		10 - 129	03/06/24 10:09	03/07/24 19:18	1
Terphenyl-d14	114		13 - 150	03/06/24 10:09	03/07/24 19:18	1
2,4,6-Tribromophenol	108		10 - 150	03/06/24 10:09	03/07/24 19:18	1

**Method: EPA 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	0.017	ug/L		03/06/24 10:49	03/06/24 22:08	1
1,2-Dibromoethane	ND	*+	0.019	0.015	ug/L		03/06/24 10:49	03/06/24 22:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		51 - 149	03/06/24 10:49	03/06/24 22:08	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: P54-ROX-030124**

**Lab Sample ID: 400-251985-6**

Date Collected: 03/01/24 13:15

Matrix: Water

Date Received: 03/02/24 08:01

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/06/24 16:34	1
Acrolein	ND		20	3.3	ug/L			03/06/24 16:34	1
Acrylonitrile	ND	UJ	10	2.8	ug/L			03/06/24 16:34	1
<b>Benzene</b>	<b>0.50</b>	<b>J</b>	1.0	0.50	ug/L			03/06/24 16:34	1
Bromobenzene	ND		1.0	0.54	ug/L			03/06/24 16:34	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/06/24 16:34	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/06/24 16:34	1
Bromoform	ND		5.0	0.25	ug/L			03/06/24 16:34	1
Bromomethane	ND	UJ	1.0	0.98	ug/L			03/06/24 16:34	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/06/24 16:34	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/06/24 16:34	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/06/24 16:34	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/06/24 16:34	1
Chloroethane	ND	UJ	1.0	0.76	ug/L			03/06/24 16:34	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/06/24 16:34	1
Chloroform	ND		1.0	0.90	ug/L			03/06/24 16:34	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/06/24 16:34	1
Chloromethane	ND		1.0	0.90	ug/L			03/06/24 16:34	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/06/24 16:34	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/06/24 16:34	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/06/24 16:34	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/06/24 16:34	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/06/24 16:34	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/06/24 16:34	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/06/24 16:34	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/06/24 16:34	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/06/24 16:34	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/06/24 16:34	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 16:34	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 16:34	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 16:34	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/06/24 16:34	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/06/24 16:34	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/06/24 16:34	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/06/24 16:34	1
2-Hexanone	ND		25	1.4	ug/L			03/06/24 16:34	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/06/24 16:34	1
Methylene bromide	ND		5.0	0.22	ug/L			03/06/24 16:34	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/06/24 16:34	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/06/24 16:34	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/06/24 16:34	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/06/24 16:34	1
Naphthalene	ND		5.0	3.0	ug/L			03/06/24 16:34	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/06/24 16:34	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/06/24 16:34	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/06/24 16:34	1
o-Xylene	ND		5.0	0.60	ug/L			03/06/24 16:34	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/06/24 16:34	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/06/24 16:34	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: P54-ROX-030124**

**Lab Sample ID: 400-251985-6**

Date Collected: 03/01/24 13:15

Matrix: Water

Date Received: 03/02/24 08:01

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/06/24 16:34	1
Styrene	ND		1.0	1.0	ug/L			03/06/24 16:34	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/06/24 16:34	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/06/24 16:34	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/06/24 16:34	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/06/24 16:34	1
Toluene	ND		1.0	0.90	ug/L			03/06/24 16:34	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/06/24 16:34	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/06/24 16:34	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/06/24 16:34	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/06/24 16:34	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/06/24 16:34	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/06/24 16:34	1
Trichloroethene	ND		1.0	0.15	ug/L			03/06/24 16:34	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/06/24 16:34	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/06/24 16:34	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/06/24 16:34	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/06/24 16:34	1
Vinyl acetate	ND		25	0.93	ug/L			03/06/24 16:34	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/06/24 16:34	1
Xylenes, Total	ND		10	1.6	ug/L			03/06/24 16:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	83		72 - 130		03/06/24 16:34	1
Dibromofluoromethane	88		75 - 126		03/06/24 16:34	1
Toluene-d8 (Surr)	91		64 - 132		03/06/24 16:34	1

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.094	ug/L		03/06/24 10:09	03/07/24 19:14	1
Acenaphthylene	ND		0.19	0.042	ug/L		03/06/24 10:09	03/07/24 19:14	1
Anthracene	ND		0.19	0.045	ug/L		03/06/24 10:09	03/07/24 19:14	1
Benzo[a]anthracene	ND		0.19	0.032	ug/L		03/06/24 10:09	03/07/24 19:14	1
Benzo[a]pyrene	ND		0.19	0.061	ug/L		03/06/24 10:09	03/07/24 19:14	1
Benzo[b]fluoranthene	ND		0.19	0.035	ug/L		03/06/24 10:09	03/07/24 19:14	1
Benzo[g,h,i]perylene	ND		0.19	0.026	ug/L		03/06/24 10:09	03/07/24 19:14	1
Benzo[k]fluoranthene	ND		0.19	0.059	ug/L		03/06/24 10:09	03/07/24 19:14	1
Chrysene	ND		0.19	0.031	ug/L		03/06/24 10:09	03/07/24 19:14	1
Dibenz(a,h)anthracene	ND		0.19	0.046	ug/L		03/06/24 10:09	03/07/24 19:14	1
Fluoranthene	ND		0.19	0.032	ug/L		03/06/24 10:09	03/07/24 19:14	1
Fluorene	ND		0.19	0.085	ug/L		03/06/24 10:09	03/07/24 19:14	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.032	ug/L		03/06/24 10:09	03/07/24 19:14	1
Phenanthrene	ND		0.19	0.086	ug/L		03/06/24 10:09	03/07/24 19:14	1
Pyrene	ND		0.19	0.037	ug/L		03/06/24 10:09	03/07/24 19:14	1
1-Methylnaphthalene	ND		0.19	0.076	ug/L		03/06/24 10:09	03/07/24 19:14	1
2-Methylnaphthalene	ND		0.19	0.063	ug/L		03/06/24 10:09	03/07/24 19:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	95		18 - 147	03/06/24 10:09	03/07/24 19:14	1
2-Fluorobiphenyl	65		15 - 128	03/06/24 10:09	03/07/24 19:14	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: P54-ROX-030124**

**Lab Sample ID: 400-251985-6**

Date Collected: 03/01/24 13:15

Matrix: Water

Date Received: 03/02/24 08:01

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	79		10 - 144	03/06/24 10:09	03/07/24 19:14	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*1	9.5	8.3	ug/L		03/06/24 10:09	03/07/24 23:40	1
Benzenethiol	ND		9.5	9.4	ug/L		03/06/24 10:09	03/07/24 23:40	1
Benzoic acid	ND		29	23	ug/L		03/06/24 10:09	03/07/24 23:40	1
Benzyl alcohol	ND		9.5	7.0	ug/L		03/06/24 10:09	03/07/24 23:40	1
Bis(2-chloroethoxy)methane	ND		9.5	4.4	ug/L		03/06/24 10:09	03/07/24 23:40	1
Bis(2-chloroethyl)ether	ND		9.5	3.7	ug/L		03/06/24 10:09	03/07/24 23:40	1
bis (2-chloroisopropyl) ether	ND		9.5	1.7	ug/L		03/06/24 10:09	03/07/24 23:40	1
Bis(2-ethylhexyl) phthalate	ND		9.5	8.5	ug/L		03/06/24 10:09	03/07/24 23:40	1
4-Bromophenyl phenyl ether	ND		9.5	8.2	ug/L		03/06/24 10:09	03/07/24 23:40	1
Butyl benzyl phthalate	ND		9.5	5.5	ug/L		03/06/24 10:09	03/07/24 23:40	1
4-Chloroaniline	ND		9.5	4.5	ug/L		03/06/24 10:09	03/07/24 23:40	1
4-Chloro-3-methylphenol	ND		9.5	5.1	ug/L		03/06/24 10:09	03/07/24 23:40	1
2-Chloronaphthalene	ND		9.5	3.6	ug/L		03/06/24 10:09	03/07/24 23:40	1
2-Chlorophenol	ND		9.5	3.9	ug/L		03/06/24 10:09	03/07/24 23:40	1
4-Chlorophenyl phenyl ether	ND		9.5	3.5	ug/L		03/06/24 10:09	03/07/24 23:40	1
Dibenz[a,h]acridine	ND		9.5	2.7	ug/L		03/06/24 10:09	03/07/24 23:40	1
Dibenzofuran	ND		9.5	3.8	ug/L		03/06/24 10:09	03/07/24 23:40	1
3,3'-Dichlorobenzidine	ND		10	10	ug/L		03/06/24 10:09	03/07/24 23:40	1
2,4-Dichlorophenol	ND		9.5	4.1	ug/L		03/06/24 10:09	03/07/24 23:40	1
Diethyl phthalate	ND		9.5	4.2	ug/L		03/06/24 10:09	03/07/24 23:40	1
2,4-Dimethylphenol	ND		9.5	5.0	ug/L		03/06/24 10:09	03/07/24 23:40	1
Dimethyl phthalate	ND		9.5	4.0	ug/L		03/06/24 10:09	03/07/24 23:40	1
Di-n-butyl phthalate	ND		9.5	4.4	ug/L		03/06/24 10:09	03/07/24 23:40	1
4,6-Dinitro-ortho-cresol	ND		9.5	9.5	ug/L		03/06/24 10:09	03/07/24 23:40	1
2,4-Dinitrophenol	ND		29	4.4	ug/L		03/06/24 10:09	03/07/24 23:40	1
2,4-Dinitrotoluene	ND		9.5	4.9	ug/L		03/06/24 10:09	03/07/24 23:40	1
2,6-Dinitrotoluene	ND		9.5	3.7	ug/L		03/06/24 10:09	03/07/24 23:40	1
Di-n-octyl phthalate	ND		9.5	5.7	ug/L		03/06/24 10:09	03/07/24 23:40	1
1,4-Dioxane	ND		9.5	4.1	ug/L		03/06/24 10:09	03/07/24 23:40	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.5	3.1	ug/L		03/06/24 10:09	03/07/24 23:40	1
Hexachlorobenzene	ND		9.5	9.2	ug/L		03/06/24 10:09	03/07/24 23:40	1
Hexachlorocyclopentadiene	ND		19	4.3	ug/L		03/06/24 10:09	03/07/24 23:40	1
Hexachloroethane	ND		9.5	5.0	ug/L		03/06/24 10:09	03/07/24 23:40	1
Indene	ND		9.5	3.4	ug/L		03/06/24 10:09	03/07/24 23:40	1
Isophorone	ND		9.5	5.0	ug/L		03/06/24 10:09	03/07/24 23:40	1
2-Methylphenol	ND		9.5	3.1	ug/L		03/06/24 10:09	03/07/24 23:40	1
3 & 4 Methylphenol	ND		19	4.4	ug/L		03/06/24 10:09	03/07/24 23:40	1
2-Nitroaniline	ND		9.5	4.8	ug/L		03/06/24 10:09	03/07/24 23:40	1
3-Nitroaniline	ND		9.5	4.5	ug/L		03/06/24 10:09	03/07/24 23:40	1
4-Nitroaniline	ND		9.5	3.9	ug/L		03/06/24 10:09	03/07/24 23:40	1
Nitrobenzene	ND		9.5	4.5	ug/L		03/06/24 10:09	03/07/24 23:40	1
2-Nitrophenol	ND		9.5	4.4	ug/L		03/06/24 10:09	03/07/24 23:40	1
4-Nitrophenol	ND		9.5	3.1	ug/L		03/06/24 10:09	03/07/24 23:40	1
N-Nitrosodimethylamine	ND		9.5	2.1	ug/L		03/06/24 10:09	03/07/24 23:40	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: P54-ROX-030124**

**Lab Sample ID: 400-251985-6**

Date Collected: 03/01/24 13:15

Matrix: Water

Date Received: 03/02/24 08:01

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.5	2.4	ug/L		03/06/24 10:09	03/07/24 23:40	1
N-Nitrosodiphenylamine	ND		9.5	3.5	ug/L		03/06/24 10:09	03/07/24 23:40	1
Pentachlorophenol	ND		19	11	ug/L		03/06/24 10:09	03/07/24 23:40	1
Phenol	ND		9.5	4.0	ug/L		03/06/24 10:09	03/07/24 23:40	1
Pyridine	ND		9.5	9.5	ug/L		03/06/24 10:09	03/07/24 23:40	1
Quinoline	ND		9.5	2.3	ug/L		03/06/24 10:09	03/07/24 23:40	1
2,4,5-Trichlorophenol	ND		9.5	3.8	ug/L		03/06/24 10:09	03/07/24 23:40	1
2,4,6-Trichlorophenol	ND		9.5	3.3	ug/L		03/06/24 10:09	03/07/24 23:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	88		21 - 114	03/06/24 10:09	03/07/24 23:40	1
2-Fluorophenol	38		10 - 105	03/06/24 10:09	03/07/24 23:40	1
Nitrobenzene-d5	65		16 - 127	03/06/24 10:09	03/07/24 23:40	1
Phenol-d5	26		10 - 129	03/06/24 10:09	03/07/24 23:40	1
Terphenyl-d14	107		13 - 150	03/06/24 10:09	03/07/24 23:40	1
2,4,6-Tribromophenol	83		10 - 150	03/06/24 10:09	03/07/24 23:40	1

**Method: EPA 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	0.017	ug/L		03/06/24 10:49	03/06/24 23:11	1
1,2-Dibromoethane	ND	*+	0.020	0.015	ug/L		03/06/24 10:49	03/06/24 23:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	62		51 - 149	03/06/24 10:49	03/06/24 23:11	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: TB-ROX-030124-8260-B**

**Lab Sample ID: 400-251985-7**

**Date Collected: 03/01/24 12:00**

**Matrix: Water**

**Date Received: 03/02/24 08:01**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/06/24 11:49	1
Acrolein	ND		20	3.3	ug/L			03/06/24 11:49	1
Acrylonitrile	ND		10	2.8	ug/L			03/06/24 11:49	1
Benzene	ND		1.0	0.50	ug/L			03/06/24 11:49	1
Bromobenzene	ND		1.0	0.54	ug/L			03/06/24 11:49	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/06/24 11:49	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/06/24 11:49	1
Bromoform	ND		5.0	0.25	ug/L			03/06/24 11:49	1
Bromomethane	ND		1.0	0.98	ug/L			03/06/24 11:49	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/06/24 11:49	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/06/24 11:49	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/06/24 11:49	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/06/24 11:49	1
Chloroethane	ND		1.0	0.76	ug/L			03/06/24 11:49	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/06/24 11:49	1
Chloroform	ND		1.0	0.90	ug/L			03/06/24 11:49	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/06/24 11:49	1
Chloromethane	ND		1.0	0.90	ug/L			03/06/24 11:49	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/06/24 11:49	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/06/24 11:49	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/06/24 11:49	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/06/24 11:49	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/06/24 11:49	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/06/24 11:49	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/06/24 11:49	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/06/24 11:49	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/06/24 11:49	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/06/24 11:49	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 11:49	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 11:49	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 11:49	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/06/24 11:49	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/06/24 11:49	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/06/24 11:49	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/06/24 11:49	1
2-Hexanone	ND		25	1.4	ug/L			03/06/24 11:49	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/06/24 11:49	1
Methylene bromide	ND		5.0	0.22	ug/L			03/06/24 11:49	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/06/24 11:49	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/06/24 11:49	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/06/24 11:49	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/06/24 11:49	1
Naphthalene	ND		5.0	3.0	ug/L			03/06/24 11:49	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/06/24 11:49	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/06/24 11:49	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/06/24 11:49	1
o-Xylene	ND		5.0	0.60	ug/L			03/06/24 11:49	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/06/24 11:49	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/06/24 11:49	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: TB-ROX-030124-8260-B**

**Lab Sample ID: 400-251985-7**

**Date Collected: 03/01/24 12:00**

**Matrix: Water**

**Date Received: 03/02/24 08:01**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/06/24 11:49	1
Styrene	ND		1.0	1.0	ug/L			03/06/24 11:49	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/06/24 11:49	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/06/24 11:49	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/06/24 11:49	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/06/24 11:49	1
Toluene	ND		1.0	0.90	ug/L			03/06/24 11:49	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/06/24 11:49	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/06/24 11:49	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/06/24 11:49	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/06/24 11:49	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/06/24 11:49	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/06/24 11:49	1
Trichloroethene	ND		1.0	0.15	ug/L			03/06/24 11:49	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/06/24 11:49	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/06/24 11:49	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/06/24 11:49	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/06/24 11:49	1
Vinyl acetate	ND		25	0.93	ug/L			03/06/24 11:49	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/06/24 11:49	1
Xylenes, Total	ND		10	1.6	ug/L			03/06/24 11:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	82		72 - 130		03/06/24 11:49	1
Dibromofluoromethane	85		75 - 126		03/06/24 11:49	1
Toluene-d8 (Surr)	93		64 - 132		03/06/24 11:49	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
 Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: TB-ROX-030124-8011-B**

**Lab Sample ID: 400-251985-8**

**Date Collected: 03/01/24 12:00**

**Matrix: Water**

**Date Received: 03/02/24 08:01**

**Method: EPA 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	0.017	ug/L		03/06/24 10:49	03/06/24 23:32	1
1,2-Dibromoethane	ND	*+	0.020	0.015	ug/L		03/06/24 10:49	03/06/24 23:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	54		51 - 149				03/06/24 10:49	03/06/24 23:32	1

- 1
- 2
- 3
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- 13
- 14
- 15

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: MW9-ROX-030124-EB**

**Lab Sample ID: 400-251985-9**

**Date Collected: 03/01/24 08:30**

**Matrix: Water**

**Date Received: 03/02/24 08:01**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/06/24 10:21	1
Acrolein	ND		20	3.3	ug/L			03/06/24 10:21	1
Acrylonitrile	ND		10	2.8	ug/L			03/06/24 10:21	1
Benzene	ND		1.0	0.50	ug/L			03/06/24 10:21	1
Bromobenzene	ND		1.0	0.54	ug/L			03/06/24 10:21	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/06/24 10:21	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/06/24 10:21	1
Bromoform	ND		5.0	0.25	ug/L			03/06/24 10:21	1
Bromomethane	ND		1.0	0.98	ug/L			03/06/24 10:21	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/06/24 10:21	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/06/24 10:21	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/06/24 10:21	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/06/24 10:21	1
Chloroethane	ND		1.0	0.76	ug/L			03/06/24 10:21	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/06/24 10:21	1
Chloroform	ND		1.0	0.90	ug/L			03/06/24 10:21	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/06/24 10:21	1
Chloromethane	ND		1.0	0.90	ug/L			03/06/24 10:21	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/06/24 10:21	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/06/24 10:21	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/06/24 10:21	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/06/24 10:21	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/06/24 10:21	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/06/24 10:21	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/06/24 10:21	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/06/24 10:21	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/06/24 10:21	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/06/24 10:21	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 10:21	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 10:21	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 10:21	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/06/24 10:21	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/06/24 10:21	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/06/24 10:21	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/06/24 10:21	1
2-Hexanone	ND		25	1.4	ug/L			03/06/24 10:21	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/06/24 10:21	1
Methylene bromide	ND		5.0	0.22	ug/L			03/06/24 10:21	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/06/24 10:21	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/06/24 10:21	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/06/24 10:21	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/06/24 10:21	1
Naphthalene	ND		5.0	3.0	ug/L			03/06/24 10:21	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/06/24 10:21	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/06/24 10:21	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/06/24 10:21	1
o-Xylene	ND		5.0	0.60	ug/L			03/06/24 10:21	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/06/24 10:21	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/06/24 10:21	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: MW9-ROX-030124-EB**

**Lab Sample ID: 400-251985-9**

Date Collected: 03/01/24 08:30

Matrix: Water

Date Received: 03/02/24 08:01

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/06/24 10:21	1
Styrene	ND		1.0	1.0	ug/L			03/06/24 10:21	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/06/24 10:21	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/06/24 10:21	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/06/24 10:21	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/06/24 10:21	1
Toluene	ND		1.0	0.90	ug/L			03/06/24 10:21	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/06/24 10:21	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/06/24 10:21	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/06/24 10:21	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/06/24 10:21	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/06/24 10:21	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/06/24 10:21	1
Trichloroethene	ND		1.0	0.15	ug/L			03/06/24 10:21	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/06/24 10:21	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/06/24 10:21	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/06/24 10:21	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/06/24 10:21	1
Vinyl acetate	ND		25	0.93	ug/L			03/06/24 10:21	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/06/24 10:21	1
Xylenes, Total	ND		10	1.6	ug/L			03/06/24 10:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	83		72 - 130		03/06/24 10:21	1
Dibromofluoromethane	89		75 - 126		03/06/24 10:21	1
Toluene-d8 (Surr)	92		64 - 132		03/06/24 10:21	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.10	ug/L		03/06/24 10:09	03/07/24 19:34	1
Acenaphthylene	ND		0.20	0.044	ug/L		03/06/24 10:09	03/07/24 19:34	1
Anthracene	ND		0.20	0.047	ug/L		03/06/24 10:09	03/07/24 19:34	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		03/06/24 10:09	03/07/24 19:34	1
Benzo[a]pyrene	ND		0.20	0.065	ug/L		03/06/24 10:09	03/07/24 19:34	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		03/06/24 10:09	03/07/24 19:34	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		03/06/24 10:09	03/07/24 19:34	1
Benzo[k]fluoranthene	ND		0.20	0.063	ug/L		03/06/24 10:09	03/07/24 19:34	1
Chrysene	ND		0.20	0.033	ug/L		03/06/24 10:09	03/07/24 19:34	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		03/06/24 10:09	03/07/24 19:34	1
Fluoranthene	ND		0.20	0.034	ug/L		03/06/24 10:09	03/07/24 19:34	1
Fluorene	ND		0.20	0.090	ug/L		03/06/24 10:09	03/07/24 19:34	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		03/06/24 10:09	03/07/24 19:34	1
Phenanthrene	ND		0.20	0.091	ug/L		03/06/24 10:09	03/07/24 19:34	1
Pyrene	ND		0.20	0.039	ug/L		03/06/24 10:09	03/07/24 19:34	1
1-Methylnaphthalene	ND		0.20	0.081	ug/L		03/06/24 10:09	03/07/24 19:34	1
2-Methylnaphthalene	ND		0.20	0.067	ug/L		03/06/24 10:09	03/07/24 19:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	89		18 - 147	03/06/24 10:09	03/07/24 19:34	1
2-Fluorobiphenyl	66		15 - 128	03/06/24 10:09	03/07/24 19:34	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: MW9-ROX-030124-EB**

**Lab Sample ID: 400-251985-9**

Date Collected: 03/01/24 08:30

Matrix: Water

Date Received: 03/02/24 08:01

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	71		10 - 144	03/06/24 10:09	03/07/24 19:34	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	8.8	ug/L		03/06/24 10:09	03/07/24 14:45	1
Benzenethiol	ND		10	10	ug/L		03/06/24 10:09	03/07/24 14:45	1
Benzoic acid	ND		30	24	ug/L		03/06/24 10:09	03/07/24 14:45	1
Benzyl alcohol	ND		10	7.4	ug/L		03/06/24 10:09	03/07/24 14:45	1
Bis(2-chloroethoxy)methane	ND		10	4.6	ug/L		03/06/24 10:09	03/07/24 14:45	1
Bis(2-chloroethyl)ether	ND		10	3.9	ug/L		03/06/24 10:09	03/07/24 14:45	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		03/06/24 10:09	03/07/24 14:45	1
Bis(2-ethylhexyl) phthalate	ND		10	9.0	ug/L		03/06/24 10:09	03/07/24 14:45	1
4-Bromophenyl phenyl ether	ND		10	8.7	ug/L		03/06/24 10:09	03/07/24 14:45	1
Butyl benzyl phthalate	ND		10	5.8	ug/L		03/06/24 10:09	03/07/24 14:45	1
4-Chloroaniline	ND		10	4.7	ug/L		03/06/24 10:09	03/07/24 14:45	1
4-Chloro-3-methylphenol	ND		10	5.3	ug/L		03/06/24 10:09	03/07/24 14:45	1
2-Chloronaphthalene	ND		10	3.8	ug/L		03/06/24 10:09	03/07/24 14:45	1
2-Chlorophenol	ND		10	4.1	ug/L		03/06/24 10:09	03/07/24 14:45	1
4-Chlorophenyl phenyl ether	ND		10	3.7	ug/L		03/06/24 10:09	03/07/24 14:45	1
Dibenz[a,h]acridine	ND		10	2.8	ug/L		03/06/24 10:09	03/07/24 14:45	1
Dibenzofuran	ND		10	4.0	ug/L		03/06/24 10:09	03/07/24 14:45	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/06/24 10:09	03/07/24 14:45	1
2,4-Dichlorophenol	ND		10	4.3	ug/L		03/06/24 10:09	03/07/24 14:45	1
Diethyl phthalate	ND		10	4.4	ug/L		03/06/24 10:09	03/07/24 14:45	1
2,4-Dimethylphenol	ND		10	5.2	ug/L		03/06/24 10:09	03/07/24 14:45	1
Dimethyl phthalate	ND		10	4.2	ug/L		03/06/24 10:09	03/07/24 14:45	1
Di-n-butyl phthalate	ND		10	4.6	ug/L		03/06/24 10:09	03/07/24 14:45	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		03/06/24 10:09	03/07/24 14:45	1
2,4-Dinitrophenol	ND		30	4.6	ug/L		03/06/24 10:09	03/07/24 14:45	1
2,4-Dinitrotoluene	ND		10	5.1	ug/L		03/06/24 10:09	03/07/24 14:45	1
2,6-Dinitrotoluene	ND		10	3.9	ug/L		03/06/24 10:09	03/07/24 14:45	1
Di-n-octyl phthalate	ND		10	6.0	ug/L		03/06/24 10:09	03/07/24 14:45	1
1,4-Dioxane	ND		10	4.3	ug/L		03/06/24 10:09	03/07/24 14:45	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.3	ug/L		03/06/24 10:09	03/07/24 14:45	1
Hexachlorobenzene	ND		10	9.8	ug/L		03/06/24 10:09	03/07/24 14:45	1
Hexachlorocyclopentadiene	ND		20	4.5	ug/L		03/06/24 10:09	03/07/24 14:45	1
Hexachloroethane	ND		10	5.2	ug/L		03/06/24 10:09	03/07/24 14:45	1
Indene	ND		10	3.6	ug/L		03/06/24 10:09	03/07/24 14:45	1
Isophorone	ND		10	5.2	ug/L		03/06/24 10:09	03/07/24 14:45	1
2-Methylphenol	ND		10	3.2	ug/L		03/06/24 10:09	03/07/24 14:45	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		03/06/24 10:09	03/07/24 14:45	1
2-Nitroaniline	ND		10	5.0	ug/L		03/06/24 10:09	03/07/24 14:45	1
3-Nitroaniline	ND		10	4.7	ug/L		03/06/24 10:09	03/07/24 14:45	1
4-Nitroaniline	ND		10	4.1	ug/L		03/06/24 10:09	03/07/24 14:45	1
Nitrobenzene	ND		10	4.7	ug/L		03/06/24 10:09	03/07/24 14:45	1
2-Nitrophenol	ND		10	4.6	ug/L		03/06/24 10:09	03/07/24 14:45	1
4-Nitrophenol	ND		10	3.3	ug/L		03/06/24 10:09	03/07/24 14:45	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		03/06/24 10:09	03/07/24 14:45	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: MW9-ROX-030124-EB**

**Lab Sample ID: 400-251985-9**

**Date Collected: 03/01/24 08:30**

**Matrix: Water**

**Date Received: 03/02/24 08:01**

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		03/06/24 10:09	03/07/24 14:45	1
N-Nitrosodiphenylamine	ND		10	3.7	ug/L		03/06/24 10:09	03/07/24 14:45	1
Pentachlorophenol	ND		20	12	ug/L		03/06/24 10:09	03/07/24 14:45	1
Phenol	ND		10	4.2	ug/L		03/06/24 10:09	03/07/24 14:45	1
Pyridine	ND		10	10	ug/L		03/06/24 10:09	03/07/24 14:45	1
Quinoline	ND		10	2.4	ug/L		03/06/24 10:09	03/07/24 14:45	1
2,4,5-Trichlorophenol	ND		10	4.0	ug/L		03/06/24 10:09	03/07/24 14:45	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		03/06/24 10:09	03/07/24 14:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	95		21 - 114	03/06/24 10:09	03/07/24 14:45	1
2-Fluorophenol	57		10 - 105	03/06/24 10:09	03/07/24 14:45	1
Nitrobenzene-d5	86		16 - 127	03/06/24 10:09	03/07/24 14:45	1
Phenol-d5	45		10 - 129	03/06/24 10:09	03/07/24 14:45	1
Terphenyl-d14	104		13 - 150	03/06/24 10:09	03/07/24 14:45	1
2,4,6-Tribromophenol	91		10 - 150	03/06/24 10:09	03/07/24 14:45	1

**Method: EPA 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	0.017	ug/L		03/06/24 10:49	03/06/24 23:53	1
1,2-Dibromoethane	ND	*+	0.020	0.015	ug/L		03/06/24 10:49	03/06/24 23:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	74		51 - 149	03/06/24 10:49	03/06/24 23:53	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: MW9-ROX-030124**

**Lab Sample ID: 400-251985-10**

**Date Collected: 03/01/24 09:55**

**Matrix: Water**

**Date Received: 03/02/24 08:01**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/06/24 16:56	1
Acrolein	ND		20	3.3	ug/L			03/06/24 16:56	1
Acrylonitrile	ND	UJ	10	2.8	ug/L			03/06/24 16:56	1
Benzene	ND		1.0	0.50	ug/L			03/06/24 16:56	1
Bromobenzene	ND		1.0	0.54	ug/L			03/06/24 16:56	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/06/24 16:56	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/06/24 16:56	1
Bromoform	ND		5.0	0.25	ug/L			03/06/24 16:56	1
Bromomethane	ND	UJ	1.0	0.98	ug/L			03/06/24 16:56	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/06/24 16:56	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/06/24 16:56	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/06/24 16:56	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/06/24 16:56	1
Chloroethane	ND	UJ	1.0	0.76	ug/L			03/06/24 16:56	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/06/24 16:56	1
Chloroform	ND		1.0	0.90	ug/L			03/06/24 16:56	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/06/24 16:56	1
Chloromethane	ND		1.0	0.90	ug/L			03/06/24 16:56	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/06/24 16:56	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/06/24 16:56	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/06/24 16:56	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/06/24 16:56	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/06/24 16:56	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/06/24 16:56	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/06/24 16:56	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/06/24 16:56	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/06/24 16:56	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/06/24 16:56	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 16:56	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 16:56	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 16:56	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/06/24 16:56	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/06/24 16:56	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/06/24 16:56	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/06/24 16:56	1
2-Hexanone	ND		25	1.4	ug/L			03/06/24 16:56	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/06/24 16:56	1
Methylene bromide	ND		5.0	0.22	ug/L			03/06/24 16:56	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/06/24 16:56	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/06/24 16:56	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/06/24 16:56	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/06/24 16:56	1
Naphthalene	ND		5.0	3.0	ug/L			03/06/24 16:56	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/06/24 16:56	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/06/24 16:56	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/06/24 16:56	1
o-Xylene	ND		5.0	0.60	ug/L			03/06/24 16:56	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/06/24 16:56	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/06/24 16:56	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: MW9-ROX-030124**

**Lab Sample ID: 400-251985-10**

Date Collected: 03/01/24 09:55

Matrix: Water

Date Received: 03/02/24 08:01

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/06/24 16:56	1
Styrene	ND		1.0	1.0	ug/L			03/06/24 16:56	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/06/24 16:56	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/06/24 16:56	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/06/24 16:56	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/06/24 16:56	1
Toluene	ND		1.0	0.90	ug/L			03/06/24 16:56	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/06/24 16:56	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/06/24 16:56	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/06/24 16:56	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/06/24 16:56	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/06/24 16:56	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/06/24 16:56	1
Trichloroethene	ND		1.0	0.15	ug/L			03/06/24 16:56	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/06/24 16:56	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/06/24 16:56	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/06/24 16:56	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/06/24 16:56	1
Vinyl acetate	ND		25	0.93	ug/L			03/06/24 16:56	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/06/24 16:56	1
Xylenes, Total	ND		10	1.6	ug/L			03/06/24 16:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	85		72 - 130		03/06/24 16:56	1
Dibromofluoromethane	82		75 - 126		03/06/24 16:56	1
Toluene-d8 (Surr)	91		64 - 132		03/06/24 16:56	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.21	0.10	ug/L		03/06/24 10:09	03/07/24 19:55	1
Acenaphthylene	ND		0.21	0.045	ug/L		03/06/24 10:09	03/07/24 19:55	1
Anthracene	ND		0.21	0.048	ug/L		03/06/24 10:09	03/07/24 19:55	1
Benzo[a]anthracene	ND		0.21	0.035	ug/L		03/06/24 10:09	03/07/24 19:55	1
Benzo[a]pyrene	ND		0.21	0.066	ug/L		03/06/24 10:09	03/07/24 19:55	1
Benzo[b]fluoranthene	ND		0.21	0.038	ug/L		03/06/24 10:09	03/07/24 19:55	1
Benzo[g,h,i]perylene	ND		0.21	0.028	ug/L		03/06/24 10:09	03/07/24 19:55	1
Benzo[k]fluoranthene	ND		0.21	0.064	ug/L		03/06/24 10:09	03/07/24 19:55	1
Chrysene	ND		0.21	0.034	ug/L		03/06/24 10:09	03/07/24 19:55	1
Dibenz(a,h)anthracene	ND		0.21	0.050	ug/L		03/06/24 10:09	03/07/24 19:55	1
Fluoranthene	ND		0.21	0.035	ug/L		03/06/24 10:09	03/07/24 19:55	1
Fluorene	ND		0.21	0.092	ug/L		03/06/24 10:09	03/07/24 19:55	1
Indeno[1,2,3-cd]pyrene	ND		0.21	0.035	ug/L		03/06/24 10:09	03/07/24 19:55	1
Phenanthrene	ND		0.21	0.093	ug/L		03/06/24 10:09	03/07/24 19:55	1
Pyrene	ND		0.21	0.040	ug/L		03/06/24 10:09	03/07/24 19:55	1
1-Methylnaphthalene	ND		0.21	0.083	ug/L		03/06/24 10:09	03/07/24 19:55	1
2-Methylnaphthalene	ND		0.21	0.068	ug/L		03/06/24 10:09	03/07/24 19:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	85		18 - 147	03/06/24 10:09	03/07/24 19:55	1
2-Fluorobiphenyl	53		15 - 128	03/06/24 10:09	03/07/24 19:55	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: MW9-ROX-030124**

**Lab Sample ID: 400-251985-10**

Date Collected: 03/01/24 09:55

Matrix: Water

Date Received: 03/02/24 08:01

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	69		10 - 144	03/06/24 10:09	03/07/24 19:55	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	9.0	ug/L		03/06/24 10:09	03/07/24 15:09	1
Benzenethiol	ND		10	10	ug/L		03/06/24 10:09	03/07/24 15:09	1
Benzoic acid	ND		31	25	ug/L		03/06/24 10:09	03/07/24 15:09	1
Benzyl alcohol	ND		10	7.5	ug/L		03/06/24 10:09	03/07/24 15:09	1
Bis(2-chloroethoxy)methane	ND		10	4.7	ug/L		03/06/24 10:09	03/07/24 15:09	1
Bis(2-chloroethyl)ether	ND		10	4.0	ug/L		03/06/24 10:09	03/07/24 15:09	1
bis (2-chloroisopropyl) ether	ND		10	1.9	ug/L		03/06/24 10:09	03/07/24 15:09	1
Bis(2-ethylhexyl) phthalate	ND		10	9.2	ug/L		03/06/24 10:09	03/07/24 15:09	1
4-Bromophenyl phenyl ether	ND		10	8.9	ug/L		03/06/24 10:09	03/07/24 15:09	1
Butyl benzyl phthalate	ND		10	6.0	ug/L		03/06/24 10:09	03/07/24 15:09	1
4-Chloroaniline	ND		10	4.8	ug/L		03/06/24 10:09	03/07/24 15:09	1
4-Chloro-3-methylphenol	ND		10	5.5	ug/L		03/06/24 10:09	03/07/24 15:09	1
2-Chloronaphthalene	ND		10	3.9	ug/L		03/06/24 10:09	03/07/24 15:09	1
2-Chlorophenol	ND		10	4.2	ug/L		03/06/24 10:09	03/07/24 15:09	1
4-Chlorophenyl phenyl ether	ND		10	3.8	ug/L		03/06/24 10:09	03/07/24 15:09	1
Dibenz[a,h]acridine	ND		10	2.9	ug/L		03/06/24 10:09	03/07/24 15:09	1
Dibenzofuran	ND		10	4.1	ug/L		03/06/24 10:09	03/07/24 15:09	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/06/24 10:09	03/07/24 15:09	1
2,4-Dichlorophenol	ND		10	4.4	ug/L		03/06/24 10:09	03/07/24 15:09	1
Diethyl phthalate	ND		10	4.5	ug/L		03/06/24 10:09	03/07/24 15:09	1
2,4-Dimethylphenol	ND		10	5.4	ug/L		03/06/24 10:09	03/07/24 15:09	1
Dimethyl phthalate	ND		10	4.3	ug/L		03/06/24 10:09	03/07/24 15:09	1
Di-n-butyl phthalate	ND		10	4.7	ug/L		03/06/24 10:09	03/07/24 15:09	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		03/06/24 10:09	03/07/24 15:09	1
2,4-Dinitrophenol	ND		31	4.7	ug/L		03/06/24 10:09	03/07/24 15:09	1
2,4-Dinitrotoluene	ND		10	5.3	ug/L		03/06/24 10:09	03/07/24 15:09	1
2,6-Dinitrotoluene	ND		10	4.0	ug/L		03/06/24 10:09	03/07/24 15:09	1
Di-n-octyl phthalate	ND		10	6.2	ug/L		03/06/24 10:09	03/07/24 15:09	1
1,4-Dioxane	ND		10	4.4	ug/L		03/06/24 10:09	03/07/24 15:09	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.4	ug/L		03/06/24 10:09	03/07/24 15:09	1
Hexachlorobenzene	ND		10	10	ug/L		03/06/24 10:09	03/07/24 15:09	1
Hexachlorocyclopentadiene	ND		21	4.6	ug/L		03/06/24 10:09	03/07/24 15:09	1
Hexachloroethane	ND		10	5.4	ug/L		03/06/24 10:09	03/07/24 15:09	1
Indene	ND		10	3.7	ug/L		03/06/24 10:09	03/07/24 15:09	1
Isophorone	ND		10	5.4	ug/L		03/06/24 10:09	03/07/24 15:09	1
2-Methylphenol	ND		10	3.3	ug/L		03/06/24 10:09	03/07/24 15:09	1
3 & 4 Methylphenol	ND		21	4.7	ug/L		03/06/24 10:09	03/07/24 15:09	1
2-Nitroaniline	ND		10	5.2	ug/L		03/06/24 10:09	03/07/24 15:09	1
3-Nitroaniline	ND		10	4.8	ug/L		03/06/24 10:09	03/07/24 15:09	1
4-Nitroaniline	ND		10	4.2	ug/L		03/06/24 10:09	03/07/24 15:09	1
Nitrobenzene	ND		10	4.8	ug/L		03/06/24 10:09	03/07/24 15:09	1
2-Nitrophenol	ND		10	4.7	ug/L		03/06/24 10:09	03/07/24 15:09	1
4-Nitrophenol	ND		10	3.4	ug/L		03/06/24 10:09	03/07/24 15:09	1
N-Nitrosodimethylamine	ND		10	2.3	ug/L		03/06/24 10:09	03/07/24 15:09	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: MW9-ROX-030124**

**Lab Sample ID: 400-251985-10**

Date Collected: 03/01/24 09:55

Matrix: Water

Date Received: 03/02/24 08:01

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	2.6	ug/L		03/06/24 10:09	03/07/24 15:09	1
N-Nitrosodiphenylamine	ND		10	3.8	ug/L		03/06/24 10:09	03/07/24 15:09	1
Pentachlorophenol	ND		21	12	ug/L		03/06/24 10:09	03/07/24 15:09	1
Phenol	ND		10	4.3	ug/L		03/06/24 10:09	03/07/24 15:09	1
Pyridine	ND		10	10	ug/L		03/06/24 10:09	03/07/24 15:09	1
Quinoline	ND		10	2.5	ug/L		03/06/24 10:09	03/07/24 15:09	1
2,4,5-Trichlorophenol	ND		10	4.1	ug/L		03/06/24 10:09	03/07/24 15:09	1
2,4,6-Trichlorophenol	ND		10	3.6	ug/L		03/06/24 10:09	03/07/24 15:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	87		21 - 114	03/06/24 10:09	03/07/24 15:09	1
2-Fluorophenol	53		10 - 105	03/06/24 10:09	03/07/24 15:09	1
Nitrobenzene-d5	79		16 - 127	03/06/24 10:09	03/07/24 15:09	1
Phenol-d5	43		10 - 129	03/06/24 10:09	03/07/24 15:09	1
Terphenyl-d14	103		13 - 150	03/06/24 10:09	03/07/24 15:09	1
2,4,6-Tribromophenol	87		10 - 150	03/06/24 10:09	03/07/24 15:09	1

**Method: EPA 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	0.017	ug/L		03/06/24 10:49	03/07/24 00:14	1
1,2-Dibromoethane	ND	*+	0.020	0.015	ug/L		03/06/24 10:49	03/07/24 00:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	134		51 - 149	03/06/24 10:49	03/07/24 00:14	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: MW10-ROX-030124**

**Lab Sample ID: 400-251985-11**

**Date Collected: 03/01/24 10:50**

**Matrix: Water**

**Date Received: 03/02/24 08:01**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/06/24 17:18	1
Acrolein	ND		20	3.3	ug/L			03/06/24 17:18	1
Acrylonitrile	ND	UJ	10	2.8	ug/L			03/06/24 17:18	1
Benzene	ND		1.0	0.50	ug/L			03/06/24 17:18	1
Bromobenzene	ND		1.0	0.54	ug/L			03/06/24 17:18	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/06/24 17:18	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/06/24 17:18	1
Bromoform	ND		5.0	0.25	ug/L			03/06/24 17:18	1
Bromomethane	ND	UJ	1.0	0.98	ug/L			03/06/24 17:18	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/06/24 17:18	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/06/24 17:18	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/06/24 17:18	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/06/24 17:18	1
Chloroethane	ND	UJ	1.0	0.76	ug/L			03/06/24 17:18	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/06/24 17:18	1
Chloroform	ND		1.0	0.90	ug/L			03/06/24 17:18	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/06/24 17:18	1
Chloromethane	ND		1.0	0.90	ug/L			03/06/24 17:18	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/06/24 17:18	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/06/24 17:18	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/06/24 17:18	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/06/24 17:18	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/06/24 17:18	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/06/24 17:18	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/06/24 17:18	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/06/24 17:18	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/06/24 17:18	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/06/24 17:18	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 17:18	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 17:18	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 17:18	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/06/24 17:18	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/06/24 17:18	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/06/24 17:18	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/06/24 17:18	1
2-Hexanone	ND		25	1.4	ug/L			03/06/24 17:18	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/06/24 17:18	1
Methylene bromide	ND		5.0	0.22	ug/L			03/06/24 17:18	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/06/24 17:18	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/06/24 17:18	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/06/24 17:18	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/06/24 17:18	1
Naphthalene	ND		5.0	3.0	ug/L			03/06/24 17:18	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/06/24 17:18	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/06/24 17:18	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/06/24 17:18	1
o-Xylene	ND		5.0	0.60	ug/L			03/06/24 17:18	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/06/24 17:18	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/06/24 17:18	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: MW10-ROX-030124**

**Lab Sample ID: 400-251985-11**

Date Collected: 03/01/24 10:50

Matrix: Water

Date Received: 03/02/24 08:01

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/06/24 17:18	1
Styrene	ND		1.0	1.0	ug/L			03/06/24 17:18	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/06/24 17:18	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/06/24 17:18	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/06/24 17:18	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/06/24 17:18	1
Toluene	ND		1.0	0.90	ug/L			03/06/24 17:18	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/06/24 17:18	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/06/24 17:18	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/06/24 17:18	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/06/24 17:18	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/06/24 17:18	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/06/24 17:18	1
Trichloroethene	ND		1.0	0.15	ug/L			03/06/24 17:18	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/06/24 17:18	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/06/24 17:18	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/06/24 17:18	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/06/24 17:18	1
Vinyl acetate	ND		25	0.93	ug/L			03/06/24 17:18	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/06/24 17:18	1
Xylenes, Total	ND		10	1.6	ug/L			03/06/24 17:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	85		72 - 130		03/06/24 17:18	1
Dibromofluoromethane	88		75 - 126		03/06/24 17:18	1
Toluene-d8 (Surr)	93		64 - 132		03/06/24 17:18	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.10	ug/L		03/06/24 10:09	03/07/24 20:15	1
Acenaphthylene	ND		0.20	0.045	ug/L		03/06/24 10:09	03/07/24 20:15	1
Anthracene	ND		0.20	0.048	ug/L		03/06/24 10:09	03/07/24 20:15	1
Benzo[a]anthracene	ND		0.20	0.035	ug/L		03/06/24 10:09	03/07/24 20:15	1
Benzo[a]pyrene	ND		0.20	0.065	ug/L		03/06/24 10:09	03/07/24 20:15	1
Benzo[b]fluoranthene	ND		0.20	0.038	ug/L		03/06/24 10:09	03/07/24 20:15	1
Benzo[g,h,i]perylene	ND		0.20	0.028	ug/L		03/06/24 10:09	03/07/24 20:15	1
Benzo[k]fluoranthene	ND		0.20	0.063	ug/L		03/06/24 10:09	03/07/24 20:15	1
Chrysene	ND		0.20	0.034	ug/L		03/06/24 10:09	03/07/24 20:15	1
Dibenz(a,h)anthracene	ND		0.20	0.049	ug/L		03/06/24 10:09	03/07/24 20:15	1
Fluoranthene	ND		0.20	0.035	ug/L		03/06/24 10:09	03/07/24 20:15	1
Fluorene	ND		0.20	0.091	ug/L		03/06/24 10:09	03/07/24 20:15	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.035	ug/L		03/06/24 10:09	03/07/24 20:15	1
Phenanthrene	ND		0.20	0.092	ug/L		03/06/24 10:09	03/07/24 20:15	1
Pyrene	ND		0.20	0.040	ug/L		03/06/24 10:09	03/07/24 20:15	1
1-Methylnaphthalene	ND		0.20	0.081	ug/L		03/06/24 10:09	03/07/24 20:15	1
2-Methylnaphthalene	ND		0.20	0.067	ug/L		03/06/24 10:09	03/07/24 20:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	87		18 - 147	03/06/24 10:09	03/07/24 20:15	1
2-Fluorobiphenyl	55		15 - 128	03/06/24 10:09	03/07/24 20:15	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: MW10-ROX-030124**

**Lab Sample ID: 400-251985-11**

Date Collected: 03/01/24 10:50

Matrix: Water

Date Received: 03/02/24 08:01

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	66		10 - 144	03/06/24 10:09	03/07/24 20:15	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	8.9	ug/L		03/06/24 10:09	03/07/24 15:32	1
Benzenethiol	ND		10	10	ug/L		03/06/24 10:09	03/07/24 15:32	1
Benzoic acid	ND		31	24	ug/L		03/06/24 10:09	03/07/24 15:32	1
Benzyl alcohol	ND		10	7.4	ug/L		03/06/24 10:09	03/07/24 15:32	1
Bis(2-chloroethoxy)methane	ND		10	4.7	ug/L		03/06/24 10:09	03/07/24 15:32	1
Bis(2-chloroethyl)ether	ND		10	4.0	ug/L		03/06/24 10:09	03/07/24 15:32	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		03/06/24 10:09	03/07/24 15:32	1
Bis(2-ethylhexyl) phthalate	ND		10	9.1	ug/L		03/06/24 10:09	03/07/24 15:32	1
4-Bromophenyl phenyl ether	ND		10	8.8	ug/L		03/06/24 10:09	03/07/24 15:32	1
Butyl benzyl phthalate	ND		10	5.9	ug/L		03/06/24 10:09	03/07/24 15:32	1
4-Chloroaniline	ND		10	4.8	ug/L		03/06/24 10:09	03/07/24 15:32	1
4-Chloro-3-methylphenol	ND		10	5.4	ug/L		03/06/24 10:09	03/07/24 15:32	1
2-Chloronaphthalene	ND		10	3.9	ug/L		03/06/24 10:09	03/07/24 15:32	1
2-Chlorophenol	ND		10	4.2	ug/L		03/06/24 10:09	03/07/24 15:32	1
4-Chlorophenyl phenyl ether	ND		10	3.8	ug/L		03/06/24 10:09	03/07/24 15:32	1
Dibenz[a,h]acridine	ND		10	2.9	ug/L		03/06/24 10:09	03/07/24 15:32	1
Dibenzofuran	ND		10	4.1	ug/L		03/06/24 10:09	03/07/24 15:32	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/06/24 10:09	03/07/24 15:32	1
2,4-Dichlorophenol	ND		10	4.4	ug/L		03/06/24 10:09	03/07/24 15:32	1
Diethyl phthalate	ND		10	4.5	ug/L		03/06/24 10:09	03/07/24 15:32	1
2,4-Dimethylphenol	ND		10	5.3	ug/L		03/06/24 10:09	03/07/24 15:32	1
Dimethyl phthalate	ND		10	4.3	ug/L		03/06/24 10:09	03/07/24 15:32	1
Di-n-butyl phthalate	ND		10	4.7	ug/L		03/06/24 10:09	03/07/24 15:32	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		03/06/24 10:09	03/07/24 15:32	1
2,4-Dinitrophenol	ND		31	4.7	ug/L		03/06/24 10:09	03/07/24 15:32	1
2,4-Dinitrotoluene	ND		10	5.2	ug/L		03/06/24 10:09	03/07/24 15:32	1
2,6-Dinitrotoluene	ND		10	4.0	ug/L		03/06/24 10:09	03/07/24 15:32	1
Di-n-octyl phthalate	ND		10	6.1	ug/L		03/06/24 10:09	03/07/24 15:32	1
1,4-Dioxane	ND		10	4.4	ug/L		03/06/24 10:09	03/07/24 15:32	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.4	ug/L		03/06/24 10:09	03/07/24 15:32	1
Hexachlorobenzene	ND		10	9.9	ug/L		03/06/24 10:09	03/07/24 15:32	1
Hexachlorocyclopentadiene	ND		20	4.6	ug/L		03/06/24 10:09	03/07/24 15:32	1
Hexachloroethane	ND		10	5.3	ug/L		03/06/24 10:09	03/07/24 15:32	1
Indene	ND		10	3.7	ug/L		03/06/24 10:09	03/07/24 15:32	1
Isophorone	ND		10	5.3	ug/L		03/06/24 10:09	03/07/24 15:32	1
2-Methylphenol	ND		10	3.3	ug/L		03/06/24 10:09	03/07/24 15:32	1
3 & 4 Methylphenol	ND		20	4.7	ug/L		03/06/24 10:09	03/07/24 15:32	1
2-Nitroaniline	ND		10	5.1	ug/L		03/06/24 10:09	03/07/24 15:32	1
3-Nitroaniline	ND		10	4.8	ug/L		03/06/24 10:09	03/07/24 15:32	1
4-Nitroaniline	ND		10	4.2	ug/L		03/06/24 10:09	03/07/24 15:32	1
Nitrobenzene	ND		10	4.8	ug/L		03/06/24 10:09	03/07/24 15:32	1
2-Nitrophenol	ND		10	4.7	ug/L		03/06/24 10:09	03/07/24 15:32	1
4-Nitrophenol	ND		10	3.4	ug/L		03/06/24 10:09	03/07/24 15:32	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		03/06/24 10:09	03/07/24 15:32	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
 Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: MW10-ROX-030124**

**Lab Sample ID: 400-251985-11**

**Date Collected: 03/01/24 10:50**

**Matrix: Water**

**Date Received: 03/02/24 08:01**

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		03/06/24 10:09	03/07/24 15:32	1
N-Nitrosodiphenylamine	ND		10	3.8	ug/L		03/06/24 10:09	03/07/24 15:32	1
Pentachlorophenol	ND		20	12	ug/L		03/06/24 10:09	03/07/24 15:32	1
Phenol	ND		10	4.3	ug/L		03/06/24 10:09	03/07/24 15:32	1
Pyridine	ND		10	10	ug/L		03/06/24 10:09	03/07/24 15:32	1
Quinoline	ND		10	2.4	ug/L		03/06/24 10:09	03/07/24 15:32	1
2,4,5-Trichlorophenol	ND		10	4.1	ug/L		03/06/24 10:09	03/07/24 15:32	1
2,4,6-Trichlorophenol	ND		10	3.6	ug/L		03/06/24 10:09	03/07/24 15:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	86		21 - 114	03/06/24 10:09	03/07/24 15:32	1
2-Fluorophenol	53		10 - 105	03/06/24 10:09	03/07/24 15:32	1
Nitrobenzene-d5	77		16 - 127	03/06/24 10:09	03/07/24 15:32	1
Phenol-d5	42		10 - 129	03/06/24 10:09	03/07/24 15:32	1
Terphenyl-d14	106		13 - 150	03/06/24 10:09	03/07/24 15:32	1
2,4,6-Tribromophenol	84		10 - 150	03/06/24 10:09	03/07/24 15:32	1

**Method: EPA 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	0.017	ug/L		03/06/24 10:49	03/07/24 00:35	1
1,2-Dibromoethane	ND	*+	0.020	0.015	ug/L		03/06/24 10:49	03/07/24 00:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	96		51 - 149	03/06/24 10:49	03/07/24 00:35	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: MW28-ROX-030124**

**Lab Sample ID: 400-251985-12**

Date Collected: 03/01/24 12:30

Matrix: Water

Date Received: 03/02/24 08:01

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/06/24 11:05	1
Acrolein	ND	F1	20	3.3	ug/L			03/06/24 11:05	1
Acrylonitrile	ND	F1 UJ	10	2.8	ug/L			03/06/24 11:05	1
Benzene	ND		1.0	0.50	ug/L			03/06/24 11:05	1
Bromobenzene	ND		1.0	0.54	ug/L			03/06/24 11:05	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/06/24 11:05	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/06/24 11:05	1
Bromoform	ND		5.0	0.25	ug/L			03/06/24 11:05	1
Bromomethane	ND	UJ	1.0	0.98	ug/L			03/06/24 11:05	1
2-Butanone (MEK)	ND	F1	25	2.6	ug/L			03/06/24 11:05	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/06/24 11:05	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/06/24 11:05	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/06/24 11:05	1
Chloroethane	ND	F2 UJ	1.0	0.76	ug/L			03/06/24 11:05	1
2-Chloroethyl vinyl ether	ND	F1 UJ	5.0	2.0	ug/L			03/06/24 11:05	1
Chloroform	ND	F1 UJ	1.0	0.90	ug/L			03/06/24 11:05	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/06/24 11:05	1
Chloromethane	ND	F1	1.0	0.90	ug/L			03/06/24 11:05	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/06/24 11:05	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/06/24 11:05	1
Dibromochloromethane	ND	F1 UJ	1.0	0.24	ug/L			03/06/24 11:05	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/06/24 11:05	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/06/24 11:05	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/06/24 11:05	1
Dichlorodifluoromethane	ND	F1	1.0	0.85	ug/L			03/06/24 11:05	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/06/24 11:05	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/06/24 11:05	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/06/24 11:05	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 11:05	1
1,3-Dichloropropane	ND	F1 UJ	1.0	0.50	ug/L			03/06/24 11:05	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 11:05	1
1,1-Dichloropropene	ND	F1 UJ	1.0	0.50	ug/L			03/06/24 11:05	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/06/24 11:05	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/06/24 11:05	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/06/24 11:05	1
2-Hexanone	ND		25	1.4	ug/L			03/06/24 11:05	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/06/24 11:05	1
Methylene bromide	ND		5.0	0.22	ug/L			03/06/24 11:05	1
Methylene Chloride	ND	F1	5.0	3.0	ug/L			03/06/24 11:05	1
4-Methyl-2-pentanone (MIBK)	ND	F1	25	1.8	ug/L			03/06/24 11:05	1
<b>Methyl tert-butyl ether</b>	<b>2.0</b>		1.0	0.22	ug/L			03/06/24 11:05	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/06/24 11:05	1
Naphthalene	ND		5.0	3.0	ug/L			03/06/24 11:05	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/06/24 11:05	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/06/24 11:05	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/06/24 11:05	1
o-Xylene	ND		5.0	0.60	ug/L			03/06/24 11:05	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/06/24 11:05	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/06/24 11:05	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: MW28-ROX-030124**

**Lab Sample ID: 400-251985-12**

Date Collected: 03/01/24 12:30

Matrix: Water

Date Received: 03/02/24 08:01

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/06/24 11:05	1
Styrene	ND		1.0	1.0	ug/L			03/06/24 11:05	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/06/24 11:05	1
1,1,1,2-Tetrachloroethane	ND	F1 UJ	1.0	0.16	ug/L			03/06/24 11:05	1
1,1,2,2-Tetrachloroethane	ND	F1 UJ	1.0	0.50	ug/L			03/06/24 11:05	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/06/24 11:05	1
Toluene	ND		1.0	0.90	ug/L			03/06/24 11:05	1
trans-1,2-Dichloroethene	ND	F1 UJ	1.0	0.50	ug/L			03/06/24 11:05	1
trans-1,3-Dichloropropene	ND	F1 UJ	5.0	0.20	ug/L			03/06/24 11:05	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/06/24 11:05	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/06/24 11:05	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/06/24 11:05	1
1,1,2-Trichloroethane	ND	F1 UJ	5.0	0.21	ug/L			03/06/24 11:05	1
Trichloroethene	ND		1.0	0.15	ug/L			03/06/24 11:05	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/06/24 11:05	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/06/24 11:05	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/06/24 11:05	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/06/24 11:05	1
Vinyl acetate	ND		25	0.93	ug/L			03/06/24 11:05	1
Vinyl chloride	ND	F1	1.0	0.50	ug/L			03/06/24 11:05	1
Xylenes, Total	ND		10	1.6	ug/L			03/06/24 11:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	85		72 - 130		03/06/24 11:05	1
Dibromofluoromethane	86		75 - 126		03/06/24 11:05	1
Toluene-d8 (Surr)	94		64 - 132		03/06/24 11:05	1

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.10	ug/L		03/06/24 10:09	03/07/24 16:50	1
Acenaphthylene	ND		0.20	0.045	ug/L		03/06/24 10:09	03/07/24 16:50	1
Anthracene	ND		0.20	0.048	ug/L		03/06/24 10:09	03/07/24 16:50	1
Benzo[a]anthracene	ND		0.20	0.035	ug/L		03/06/24 10:09	03/07/24 16:50	1
Benzo[a]pyrene	ND		0.20	0.066	ug/L		03/06/24 10:09	03/07/24 16:50	1
Benzo[b]fluoranthene	ND		0.20	0.038	ug/L		03/06/24 10:09	03/07/24 16:50	1
Benzo[g,h,i]perylene	ND		0.20	0.028	ug/L		03/06/24 10:09	03/07/24 16:50	1
Benzo[k]fluoranthene	ND		0.20	0.064	ug/L		03/06/24 10:09	03/07/24 16:50	1
Chrysene	ND		0.20	0.034	ug/L		03/06/24 10:09	03/07/24 16:50	1
Dibenz(a,h)anthracene	ND		0.20	0.049	ug/L		03/06/24 10:09	03/07/24 16:50	1
Fluoranthene	ND		0.20	0.035	ug/L		03/06/24 10:09	03/07/24 16:50	1
Fluorene	ND		0.20	0.091	ug/L		03/06/24 10:09	03/07/24 16:50	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.035	ug/L		03/06/24 10:09	03/07/24 16:50	1
Phenanthrene	ND		0.20	0.092	ug/L		03/06/24 10:09	03/07/24 16:50	1
Pyrene	ND		0.20	0.040	ug/L		03/06/24 10:09	03/07/24 16:50	1
1-Methylnaphthalene	ND		0.20	0.082	ug/L		03/06/24 10:09	03/07/24 16:50	1
2-Methylnaphthalene	ND		0.20	0.068	ug/L		03/06/24 10:09	03/07/24 16:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	82		18 - 147	03/06/24 10:09	03/07/24 16:50	1
2-Fluorobiphenyl	56		15 - 128	03/06/24 10:09	03/07/24 16:50	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: MW28-ROX-030124**

**Lab Sample ID: 400-251985-12**

Date Collected: 03/01/24 12:30

Matrix: Water

Date Received: 03/02/24 08:01

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	68		10 - 144	03/06/24 10:09	03/07/24 16:50	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*1	10	8.9	ug/L		03/06/24 10:09	03/07/24 20:37	1
Benzenethiol	ND		10	10	ug/L		03/06/24 10:09	03/07/24 20:37	1
Benzoic acid	ND		31	25	ug/L		03/06/24 10:09	03/07/24 20:37	1
Benzyl alcohol	ND		10	7.5	ug/L		03/06/24 10:09	03/07/24 20:37	1
Bis(2-chloroethoxy)methane	ND		10	4.7	ug/L		03/06/24 10:09	03/07/24 20:37	1
Bis(2-chloroethyl)ether	ND		10	4.0	ug/L		03/06/24 10:09	03/07/24 20:37	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		03/06/24 10:09	03/07/24 20:37	1
Bis(2-ethylhexyl) phthalate	ND		10	9.1	ug/L		03/06/24 10:09	03/07/24 20:37	1
4-Bromophenyl phenyl ether	ND		10	8.8	ug/L		03/06/24 10:09	03/07/24 20:37	1
Butyl benzyl phthalate	ND		10	5.9	ug/L		03/06/24 10:09	03/07/24 20:37	1
4-Chloroaniline	ND		10	4.8	ug/L		03/06/24 10:09	03/07/24 20:37	1
4-Chloro-3-methylphenol	ND		10	5.4	ug/L		03/06/24 10:09	03/07/24 20:37	1
2-Chloronaphthalene	ND		10	3.9	ug/L		03/06/24 10:09	03/07/24 20:37	1
2-Chlorophenol	ND		10	4.2	ug/L		03/06/24 10:09	03/07/24 20:37	1
4-Chlorophenyl phenyl ether	ND		10	3.8	ug/L		03/06/24 10:09	03/07/24 20:37	1
Dibenz[a,h]acridine	ND		10	2.9	ug/L		03/06/24 10:09	03/07/24 20:37	1
Dibenzofuran	ND		10	4.1	ug/L		03/06/24 10:09	03/07/24 20:37	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/06/24 10:09	03/07/24 20:37	1
2,4-Dichlorophenol	ND		10	4.4	ug/L		03/06/24 10:09	03/07/24 20:37	1
Diethyl phthalate	ND		10	4.5	ug/L		03/06/24 10:09	03/07/24 20:37	1
2,4-Dimethylphenol	ND		10	5.3	ug/L		03/06/24 10:09	03/07/24 20:37	1
Dimethyl phthalate	ND		10	4.3	ug/L		03/06/24 10:09	03/07/24 20:37	1
Di-n-butyl phthalate	ND		10	4.7	ug/L		03/06/24 10:09	03/07/24 20:37	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		03/06/24 10:09	03/07/24 20:37	1
2,4-Dinitrophenol	ND		31	4.7	ug/L		03/06/24 10:09	03/07/24 20:37	1
2,4-Dinitrotoluene	ND		10	5.2	ug/L		03/06/24 10:09	03/07/24 20:37	1
2,6-Dinitrotoluene	ND		10	4.0	ug/L		03/06/24 10:09	03/07/24 20:37	1
Di-n-octyl phthalate	ND		10	6.1	ug/L		03/06/24 10:09	03/07/24 20:37	1
1,4-Dioxane	ND	F1 UJ	10	4.4	ug/L		03/06/24 10:09	03/07/24 20:37	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.4	ug/L		03/06/24 10:09	03/07/24 20:37	1
Hexachlorobenzene	ND		10	9.9	ug/L		03/06/24 10:09	03/07/24 20:37	1
Hexachlorocyclopentadiene	ND		20	4.6	ug/L		03/06/24 10:09	03/07/24 20:37	1
Hexachloroethane	ND		10	5.3	ug/L		03/06/24 10:09	03/07/24 20:37	1
Indene	ND		10	3.7	ug/L		03/06/24 10:09	03/07/24 20:37	1
Isophorone	ND		10	5.3	ug/L		03/06/24 10:09	03/07/24 20:37	1
2-Methylphenol	ND		10	3.3	ug/L		03/06/24 10:09	03/07/24 20:37	1
3 & 4 Methylphenol	ND		20	4.7	ug/L		03/06/24 10:09	03/07/24 20:37	1
2-Nitroaniline	ND		10	5.1	ug/L		03/06/24 10:09	03/07/24 20:37	1
3-Nitroaniline	ND		10	4.8	ug/L		03/06/24 10:09	03/07/24 20:37	1
4-Nitroaniline	ND		10	4.2	ug/L		03/06/24 10:09	03/07/24 20:37	1
Nitrobenzene	ND		10	4.8	ug/L		03/06/24 10:09	03/07/24 20:37	1
2-Nitrophenol	ND		10	4.7	ug/L		03/06/24 10:09	03/07/24 20:37	1
4-Nitrophenol	ND		10	3.4	ug/L		03/06/24 10:09	03/07/24 20:37	1
N-Nitrosodimethylamine	ND	F1 UJ	10	2.3	ug/L		03/06/24 10:09	03/07/24 20:37	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: MW28-ROX-030124**

**Lab Sample ID: 400-251985-12**

Date Collected: 03/01/24 12:30

Matrix: Water

Date Received: 03/02/24 08:01

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	2.6	ug/L		03/06/24 10:09	03/07/24 20:37	1
N-Nitrosodiphenylamine	ND		10	3.8	ug/L		03/06/24 10:09	03/07/24 20:37	1
Pentachlorophenol	ND		20	12	ug/L		03/06/24 10:09	03/07/24 20:37	1
Phenol	ND	F1 UJ	10	4.3	ug/L		03/06/24 10:09	03/07/24 20:37	1
Pyridine	ND	F1 F2 UJ	10	10	ug/L		03/06/24 10:09	03/07/24 20:37	1
Quinoline	ND	F1 F2 UJ	10	2.5	ug/L		03/06/24 10:09	03/07/24 20:37	1
2,4,5-Trichlorophenol	ND		10	4.1	ug/L		03/06/24 10:09	03/07/24 20:37	1
2,4,6-Trichlorophenol	ND		10	3.6	ug/L		03/06/24 10:09	03/07/24 20:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	80		21 - 114	03/06/24 10:09	03/07/24 20:37	1
2-Fluorophenol	48		10 - 105	03/06/24 10:09	03/07/24 20:37	1
Nitrobenzene-d5	65		16 - 127	03/06/24 10:09	03/07/24 20:37	1
Phenol-d5	35		10 - 129	03/06/24 10:09	03/07/24 20:37	1
Terphenyl-d14	108		13 - 150	03/06/24 10:09	03/07/24 20:37	1
2,4,6-Tribromophenol	99		10 - 150	03/06/24 10:09	03/07/24 20:37	1

**Method: EPA 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	0.017	ug/L		03/06/24 10:49	03/07/24 00:56	1
1,2-Dibromoethane	ND	F2 *+	0.020	0.015	ug/L		03/06/24 10:49	03/07/24 00:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		51 - 149	03/06/24 10:49	03/07/24 00:56	1



# Definitions/Glossary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
S1-	Surrogate recovery exceeds control limits, low biased.

### GC/MS Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
B	Compound was found in the blank and sample.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### GC Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
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.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)

# Definitions/Glossary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TNTC	Too Numerous To Count

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# Surrogate Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (72-130)	DBFM (75-126)	TOL (64-132)
400-251985-1	TB-ROX-030124-8260-A	83	89	93
400-251985-3	MW11-ROX-030124	83	86	92
400-251985-4	MW27-ROX-030124	86	87	93
400-251985-5	ROST3MW-ROX-030124	83	78	95
400-251985-5 MS	ROST3MW-ROX-030124	90	70 S1-	93
400-251985-5 MSD	ROST3MW-ROX-030124	88	73 S1-	93
400-251985-6	P54-ROX-030124	83	88	91
400-251985-7	TB-ROX-030124-8260-B	82	85	93
400-251985-9	MW9-ROX-030124-EB	83	89	92
400-251985-10	MW9-ROX-030124	85	82	91
400-251985-11	MW10-ROX-030124	85	88	93
400-251985-12	MW28-ROX-030124	85	86	94
400-251985-12 MS	MW28-ROX-030124	89	80	92
400-251985-12 MSD	MW28-ROX-030124	89	71 S1-	93
LCS 400-663383/1002	Lab Control Sample	96	102	101
MB 400-663383/4	Method Blank	84	88	97

### Surrogate Legend

BFB = 4-Bromofluorobenzene  
DBFM = Dibromofluoromethane  
TOL = Toluene-d8 (Surr)

## Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (21-114)	2FP (10-105)	NBZ (16-127)	PHL (10-129)	TPHL (13-150)	TBP (10-150)
400-251985-3	MW11-ROX-030124	90	47	66	33	111	96
400-251985-4	MW27-ROX-030124	81	40	58	30	101	85
400-251985-5	ROST3MW-ROX-030124	92	47	68	35	114	108
400-251985-5 MS	ROST3MW-ROX-030124	91	57	74	48	100	116
400-251985-5 MSD	ROST3MW-ROX-030124	92	59	73	50	103	125
400-251985-6	P54-ROX-030124	88	38	65	26	107	83
400-251985-9	MW9-ROX-030124-EB	95	57	86	45	104	91
400-251985-10	MW9-ROX-030124	87	53	79	43	103	87
400-251985-11	MW10-ROX-030124	86	53	77	42	106	84
400-251985-12	MW28-ROX-030124	80	48	65	35	108	99
400-251985-12 MS	MW28-ROX-030124	87	55	69	48	96	113
400-251985-12 MSD	MW28-ROX-030124	83	56	69	48	97	108
LCS 400-663434/23-A	Lab Control Sample	76	48	63	37	108	105
LCS 400-663434/2-A	Lab Control Sample	93	52	70	41	97	111
LCSD 400-663434/24-A	Lab Control Sample Dup	89	54	71	42	118	109
LCSD 400-663434/3-A	Lab Control Sample Dup	88	53	69	43	94	115
MB 400-663434/1-A	Method Blank	94	49	72	35	107	107

### Surrogate Legend

FBP = 2-Fluorobiphenyl  
2FP = 2-Fluorophenol  
NBZ = Nitrobenzene-d5  
PHL = Phenol-d5

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# Surrogate Summary

Client: AECOM Technical Services Inc.  
 Project/Site: ROXANA MONTHLY GW  
 TPHL = Terphenyl-d14  
 TBP = 2,4,6-Tribromophenol

Job ID: 400-251985-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TPHL (18-147)	FBP (15-128)	NBZ (10-144)
400-251985-3	MW11-ROX-030124	95	67	72
400-251985-4	MW27-ROX-030124	95	59	69
400-251985-5	ROST3MW-ROX-030124	89	64	76
400-251985-5 MS	ROST3MW-ROX-030124	81	79	56
400-251985-5 MSD	ROST3MW-ROX-030124	80	80	60
400-251985-6	P54-ROX-030124	95	65	79
400-251985-9	MW9-ROX-030124-EB	89	66	71
400-251985-10	MW9-ROX-030124	85	53	69
400-251985-11	MW10-ROX-030124	87	55	66
400-251985-12	MW28-ROX-030124	82	56	68
400-251985-12 MS	MW28-ROX-030124	75	72	69
400-251985-12 MSD	MW28-ROX-030124	76	75	63
LCS 400-663434/2-A	Lab Control Sample	88	86	58
LCSD 400-663434/3-A	Lab Control Sample Dup	82	78	54
MB 400-663434/1-A	Method Blank	97	71	87

**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)
400-251985-2	TB-ROX-030124-8011-A	74
400-251985-3	MW11-ROX-030124	85
400-251985-4	MW27-ROX-030124	55 p
400-251985-5	ROST3MW-ROX-030124	99
400-251985-5 MS	ROST3MW-ROX-030124	105
400-251985-5 MSD	ROST3MW-ROX-030124	103
400-251985-6	P54-ROX-030124	62
400-251985-8	TB-ROX-030124-8011-B	54
400-251985-9	MW9-ROX-030124-EB	74
400-251985-10	MW9-ROX-030124	134
400-251985-11	MW10-ROX-030124	96
400-251985-12	MW28-ROX-030124	99
400-251985-12 MS	MW28-ROX-030124	109
400-251985-12 MSD	MW28-ROX-030124	97
LCS 400-663450/2-A	Lab Control Sample	70
LCSD 400-663450/3-A	Lab Control Sample Dup	63
MB 400-663450/1-A	Method Blank	55

**Surrogate Legend**

BFB = 4-Bromofluorobenzene

# Method Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET PEN
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET PEN
8270E SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	EET PEN
8011	EDB and DBCP in Water by Microextraction	EPA	EET PEN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET PEN
5030C	Purge and Trap	SW846	EET PEN
8011	Microextraction	SW846	EET 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:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: TB-ROX-030124-8260-A**

**Lab Sample ID: 400-251985-1**

Date Collected: 03/01/24 12:00

Matrix: Water

Date Received: 03/02/24 08:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663383	03/06/24 11:27	WPD	EET PEN

**Client Sample ID: TB-ROX-030124-8011-A**

**Lab Sample ID: 400-251985-2**

Date Collected: 03/01/24 12:00

Matrix: Water

Date Received: 03/02/24 08:01

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	663450	03/06/24 10:49	PG	EET PEN
Total/NA	Analysis	8011		1			663403	03/06/24 20:44	PG	EET PEN

**Client Sample ID: MW11-ROX-030124**

**Lab Sample ID: 400-251985-3**

Date Collected: 03/01/24 09:25

Matrix: Water

Date Received: 03/02/24 08:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663383	03/06/24 15:50	WPD	EET PEN
Total/NA	Prep	3510C			253.6 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	663609	03/07/24 21:55	VC1	EET PEN
Total/NA	Prep	3510C			253.6 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	663594	03/07/24 17:52	KJA	EET PEN
Total/NA	Prep	8011			35.6 mL	35 mL	663450	03/06/24 10:49	PG	EET PEN
Total/NA	Analysis	8011		1			663403	03/06/24 21:05	PG	EET PEN

**Client Sample ID: MW27-ROX-030124**

**Lab Sample ID: 400-251985-4**

Date Collected: 03/01/24 10:30

Matrix: Water

Date Received: 03/02/24 08:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663383	03/06/24 16:12	WPD	EET PEN
Total/NA	Prep	3510C			252.6 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	663609	03/07/24 22:22	VC1	EET PEN
Total/NA	Prep	3510C			252.6 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	663594	03/07/24 18:12	KJA	EET PEN
Total/NA	Prep	8011			35.1 mL	35 mL	663450	03/06/24 10:49	PG	EET PEN
Total/NA	Analysis	8011		1			663403	03/06/24 21:47	PG	EET PEN

**Client Sample ID: ROST3MW-ROX-030124**

**Lab Sample ID: 400-251985-5**

Date Collected: 03/01/24 12:25

Matrix: Water

Date Received: 03/02/24 08:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663383	03/06/24 10:43	WPD	EET PEN
Total/NA	Prep	3510C			258.2 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	663609	03/07/24 19:18	VC1	EET PEN

Eurofins Pensacola

# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: ROST3MW-ROX-030124**

**Lab Sample ID: 400-251985-5**

**Date Collected: 03/01/24 12:25**

**Matrix: Water**

**Date Received: 03/02/24 08:01**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			258.2 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	663594	03/07/24 15:49	KJA	EET PEN
Total/NA	Prep	8011			35.9 mL	35 mL	663450	03/06/24 10:49	PG	EET PEN
Total/NA	Analysis	8011		1			663403	03/06/24 22:08	PG	EET PEN

**Client Sample ID: P54-ROX-030124**

**Lab Sample ID: 400-251985-6**

**Date Collected: 03/01/24 13:15**

**Matrix: Water**

**Date Received: 03/02/24 08:01**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663383	03/06/24 16:34	WPD	EET PEN
Total/NA	Prep	3510C			262.2 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	663609	03/07/24 23:40	VC1	EET PEN
Total/NA	Prep	3510C			262.2 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	663594	03/07/24 19:14	KJA	EET PEN
Total/NA	Prep	8011			35.7 mL	35 mL	663450	03/06/24 10:49	PG	EET PEN
Total/NA	Analysis	8011		1			663403	03/06/24 23:11	PG	EET PEN

**Client Sample ID: TB-ROX-030124-8260-B**

**Lab Sample ID: 400-251985-7**

**Date Collected: 03/01/24 12:00**

**Matrix: Water**

**Date Received: 03/02/24 08:01**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663383	03/06/24 11:49	WPD	EET PEN

**Client Sample ID: TB-ROX-030124-8011-B**

**Lab Sample ID: 400-251985-8**

**Date Collected: 03/01/24 12:00**

**Matrix: Water**

**Date Received: 03/02/24 08:01**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35.4 mL	35 mL	663450	03/06/24 10:49	PG	EET PEN
Total/NA	Analysis	8011		1			663403	03/06/24 23:32	PG	EET PEN

**Client Sample ID: MW9-ROX-030124-EB**

**Lab Sample ID: 400-251985-9**

**Date Collected: 03/01/24 08:30**

**Matrix: Water**

**Date Received: 03/02/24 08:01**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663383	03/06/24 10:21	WPD	EET PEN
Total/NA	Prep	3510C			248 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	663611	03/07/24 14:45	S1B	EET PEN
Total/NA	Prep	3510C			248 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	663594	03/07/24 19:34	KJA	EET PEN
Total/NA	Prep	8011			34.7 mL	35 mL	663450	03/06/24 10:49	PG	EET PEN
Total/NA	Analysis	8011		1			663403	03/06/24 23:53	PG	EET PEN

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# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## Client Sample ID: MW9-ROX-030124

## Lab Sample ID: 400-251985-10

Date Collected: 03/01/24 09:55

Matrix: Water

Date Received: 03/02/24 08:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663383	03/06/24 16:56	WPD	EET PEN
Total/NA	Prep	3510C			242.4 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	663611	03/07/24 15:09	S1B	EET PEN
Total/NA	Prep	3510C			242.4 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	663594	03/07/24 19:55	KJA	EET PEN
Total/NA	Prep	8011			34.6 mL	35 mL	663450	03/06/24 10:49	PG	EET PEN
Total/NA	Analysis	8011		1			663403	03/07/24 00:14	PG	EET PEN

## Client Sample ID: MW10-ROX-030124

## Lab Sample ID: 400-251985-11

Date Collected: 03/01/24 10:50

Matrix: Water

Date Received: 03/02/24 08:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663383	03/06/24 17:18	WPD	EET PEN
Total/NA	Prep	3510C			245.4 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	663611	03/07/24 15:32	S1B	EET PEN
Total/NA	Prep	3510C			245.4 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	663594	03/07/24 20:15	KJA	EET PEN
Total/NA	Prep	8011			35.2 mL	35 mL	663450	03/06/24 10:49	PG	EET PEN
Total/NA	Analysis	8011		1			663403	03/07/24 00:35	PG	EET PEN

## Client Sample ID: MW28-ROX-030124

## Lab Sample ID: 400-251985-12

Date Collected: 03/01/24 12:30

Matrix: Water

Date Received: 03/02/24 08:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663383	03/06/24 11:05	WPD	EET PEN
Total/NA	Prep	3510C			244 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	663609	03/07/24 20:37	VC1	EET PEN
Total/NA	Prep	3510C			244 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	663594	03/07/24 16:50	KJA	EET PEN
Total/NA	Prep	8011			35.6 mL	35 mL	663450	03/06/24 10:49	PG	EET PEN
Total/NA	Analysis	8011		1			663403	03/07/24 00:56	PG	EET PEN

## Client Sample ID: Method Blank

## Lab Sample ID: MB 400-663383/4

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	8260D		1	5 mL	5 mL	663383	03/06/24 08:31	WPD	EET PEN

# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## Client Sample ID: Method Blank

## Lab Sample ID: MB 400-663434/1-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	3510C			250 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	663609	03/07/24 14:56	VC1	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	663594	03/07/24 13:04	KJA	EET PEN

## Client Sample ID: Method Blank

## Lab Sample ID: MB 400-663450/1-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	663450	03/06/24 10:49	PG	EET PEN
Total/NA	Analysis	8011		1			663403	03/06/24 17:55	PG	EET PEN

## Client Sample ID: Lab Control Sample

## Lab Sample ID: LCS 400-663383/1002

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	8260D		1	5 mL	5 mL	663383	03/06/24 07:33	WPD	EET PEN

## Client Sample ID: Lab Control Sample

## Lab Sample ID: LCS 400-663434/23-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	3510C			250 mL	1 mL	663434	03/06/24 10:13	BKL	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	663609	03/07/24 16:15	VC1	EET PEN

## Client Sample ID: Lab Control Sample

## Lab Sample ID: LCS 400-663434/2-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	3510C			250 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	663609	03/07/24 15:22	VC1	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E SIM		20	0.4 mL	0.4 mL	663594	03/07/24 13:25	KJA	EET PEN

## Client Sample ID: Lab Control Sample

## Lab Sample ID: LCS 400-663450/2-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	663450	03/06/24 10:49	PG	EET PEN
Total/NA	Analysis	8011		1			663403	03/06/24 18:16	PG	EET PEN

# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## Client Sample ID: Lab Control Sample Dup

## Lab Sample ID: LCSD 400-663434/24-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	3510C			250 mL	1 mL	663434	03/06/24 10:13	BKL	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	663609	03/07/24 16:41	VC1	EET PEN

## Client Sample ID: Lab Control Sample Dup

## Lab Sample ID: LCSD 400-663434/3-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	3510C			250 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	663609	03/07/24 15:48	VC1	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E SIM		20	0.4 mL	0.4 mL	663594	03/07/24 13:45	KJA	EET PEN

## Client Sample ID: Lab Control Sample Dup

## Lab Sample ID: LCSD 400-663450/3-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	663450	03/06/24 10:49	PG	EET PEN
Total/NA	Analysis	8011		1			663403	03/06/24 18:37	PG	EET PEN

## Client Sample ID: ROST3MW-ROX-030124

## Lab Sample ID: 400-251985-5 MS

Date Collected: 03/01/24 12:25

Matrix: Water

Date Received: 03/02/24 08:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663383	03/06/24 12:11	WPD	EET PEN
Total/NA	Prep	3510C			262 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	663609	03/07/24 18:26	VC1	EET PEN
Total/NA	Prep	3510C			262 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E SIM		20	0.4 mL	0.4 mL	663594	03/07/24 15:07	KJA	EET PEN
Total/NA	Prep	8011			35.3 mL	35 mL	663450	03/06/24 10:49	PG	EET PEN
Total/NA	Analysis	8011		1			663403	03/06/24 22:29	PG	EET PEN

## Client Sample ID: ROST3MW-ROX-030124

## Lab Sample ID: 400-251985-5 MSD

Date Collected: 03/01/24 12:25

Matrix: Water

Date Received: 03/02/24 08:01

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663383	03/06/24 12:33	WPD	EET PEN
Total/NA	Prep	3510C			264.2 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	663609	03/07/24 18:52	VC1	EET PEN
Total/NA	Prep	3510C			264.2 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E SIM		20	0.4 mL	0.4 mL	663594	03/07/24 15:28	KJA	EET PEN
Total/NA	Prep	8011			34.8 mL	35 mL	663450	03/06/24 10:49	PG	EET PEN
Total/NA	Analysis	8011		1			663403	03/06/24 22:50	PG	EET PEN

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# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

**Client Sample ID: MW28-ROX-030124**

**Lab Sample ID: 400-251985-12 MS**

**Date Collected: 03/01/24 12:30**

**Matrix: Water**

**Date Received: 03/02/24 08:01**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663383	03/06/24 12:55	WPD	EET PEN
Total/NA	Prep	3510C			243.4 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	663609	03/07/24 19:44	VC1	EET PEN
Total/NA	Prep	3510C			243.4 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E SIM		20	0.4 mL	0.4 mL	663594	03/07/24 16:09	KJA	EET PEN
Total/NA	Prep	8011			35.4 mL	35 mL	663450	03/06/24 10:49	PG	EET PEN
Total/NA	Analysis	8011		1			663403	03/07/24 01:38	PG	EET PEN

**Client Sample ID: MW28-ROX-030124**

**Lab Sample ID: 400-251985-12 MSD**

**Date Collected: 03/01/24 12:30**

**Matrix: Water**

**Date Received: 03/02/24 08:01**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663383	03/06/24 13:17	WPD	EET PEN
Total/NA	Prep	3510C			244.2 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	663609	03/07/24 20:10	VC1	EET PEN
Total/NA	Prep	3510C			244.2 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E SIM		20	0.4 mL	0.4 mL	663594	03/07/24 16:30	KJA	EET PEN
Total/NA	Prep	8011			35.2 mL	35 mL	663450	03/06/24 10:49	PG	EET PEN
Total/NA	Analysis	8011		1			663403	03/07/24 01:59	PG	EET PEN

**Laboratory References:**

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

# QC Association Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## GC/MS VOA

### Analysis Batch: 663383

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-251985-1	TB-ROX-030124-8260-A	Total/NA	Water	8260D	
400-251985-3	MW11-ROX-030124	Total/NA	Water	8260D	
400-251985-4	MW27-ROX-030124	Total/NA	Water	8260D	
400-251985-5	ROST3MW-ROX-030124	Total/NA	Water	8260D	
400-251985-6	P54-ROX-030124	Total/NA	Water	8260D	
400-251985-7	TB-ROX-030124-8260-B	Total/NA	Water	8260D	
400-251985-9	MW9-ROX-030124-EB	Total/NA	Water	8260D	
400-251985-10	MW9-ROX-030124	Total/NA	Water	8260D	
400-251985-11	MW10-ROX-030124	Total/NA	Water	8260D	
400-251985-12	MW28-ROX-030124	Total/NA	Water	8260D	
MB 400-663383/4	Method Blank	Total/NA	Water	8260D	
LCS 400-663383/1002	Lab Control Sample	Total/NA	Water	8260D	
400-251985-5 MS	ROST3MW-ROX-030124	Total/NA	Water	8260D	
400-251985-5 MSD	ROST3MW-ROX-030124	Total/NA	Water	8260D	
400-251985-12 MS	MW28-ROX-030124	Total/NA	Water	8260D	
400-251985-12 MSD	MW28-ROX-030124	Total/NA	Water	8260D	

## GC/MS Semi VOA

### Prep Batch: 663434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-251985-3	MW11-ROX-030124	Total/NA	Water	3510C	
400-251985-4	MW27-ROX-030124	Total/NA	Water	3510C	
400-251985-5	ROST3MW-ROX-030124	Total/NA	Water	3510C	
400-251985-6	P54-ROX-030124	Total/NA	Water	3510C	
400-251985-9	MW9-ROX-030124-EB	Total/NA	Water	3510C	
400-251985-10	MW9-ROX-030124	Total/NA	Water	3510C	
400-251985-11	MW10-ROX-030124	Total/NA	Water	3510C	
400-251985-12	MW28-ROX-030124	Total/NA	Water	3510C	
MB 400-663434/1-A	Method Blank	Total/NA	Water	3510C	
LCS 400-663434/23-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 400-663434/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 400-663434/24-A	Lab Control Sample Dup	Total/NA	Water	3510C	
LCSD 400-663434/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
400-251985-5 MS	ROST3MW-ROX-030124	Total/NA	Water	3510C	
400-251985-5 MSD	ROST3MW-ROX-030124	Total/NA	Water	3510C	
400-251985-12 MS	MW28-ROX-030124	Total/NA	Water	3510C	
400-251985-12 MSD	MW28-ROX-030124	Total/NA	Water	3510C	

### Analysis Batch: 663594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-251985-3	MW11-ROX-030124	Total/NA	Water	8270E SIM	663434
400-251985-4	MW27-ROX-030124	Total/NA	Water	8270E SIM	663434
400-251985-5	ROST3MW-ROX-030124	Total/NA	Water	8270E SIM	663434
400-251985-6	P54-ROX-030124	Total/NA	Water	8270E SIM	663434
400-251985-9	MW9-ROX-030124-EB	Total/NA	Water	8270E SIM	663434
400-251985-10	MW9-ROX-030124	Total/NA	Water	8270E SIM	663434
400-251985-11	MW10-ROX-030124	Total/NA	Water	8270E SIM	663434
400-251985-12	MW28-ROX-030124	Total/NA	Water	8270E SIM	663434
MB 400-663434/1-A	Method Blank	Total/NA	Water	8270E SIM	663434
LCS 400-663434/2-A	Lab Control Sample	Total/NA	Water	8270E SIM	663434

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# QC Association Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## GC/MS Semi VOA (Continued)

### Analysis Batch: 663594 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 400-663434/3-A	Lab Control Sample Dup	Total/NA	Water	8270E SIM	663434
400-251985-5 MS	ROST3MW-ROX-030124	Total/NA	Water	8270E SIM	663434
400-251985-5 MSD	ROST3MW-ROX-030124	Total/NA	Water	8270E SIM	663434
400-251985-12 MS	MW28-ROX-030124	Total/NA	Water	8270E SIM	663434
400-251985-12 MSD	MW28-ROX-030124	Total/NA	Water	8270E SIM	663434

### Analysis Batch: 663609

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-251985-3	MW11-ROX-030124	Total/NA	Water	8270E	663434
400-251985-4	MW27-ROX-030124	Total/NA	Water	8270E	663434
400-251985-5	ROST3MW-ROX-030124	Total/NA	Water	8270E	663434
400-251985-6	P54-ROX-030124	Total/NA	Water	8270E	663434
400-251985-12	MW28-ROX-030124	Total/NA	Water	8270E	663434
MB 400-663434/1-A	Method Blank	Total/NA	Water	8270E	663434
LCS 400-663434/23-A	Lab Control Sample	Total/NA	Water	8270E	663434
LCS 400-663434/2-A	Lab Control Sample	Total/NA	Water	8270E	663434
LCSD 400-663434/24-A	Lab Control Sample Dup	Total/NA	Water	8270E	663434
LCSD 400-663434/3-A	Lab Control Sample Dup	Total/NA	Water	8270E	663434
400-251985-5 MS	ROST3MW-ROX-030124	Total/NA	Water	8270E	663434
400-251985-5 MSD	ROST3MW-ROX-030124	Total/NA	Water	8270E	663434
400-251985-12 MS	MW28-ROX-030124	Total/NA	Water	8270E	663434
400-251985-12 MSD	MW28-ROX-030124	Total/NA	Water	8270E	663434

### Analysis Batch: 663611

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-251985-9	MW9-ROX-030124-EB	Total/NA	Water	8270E	663434
400-251985-10	MW9-ROX-030124	Total/NA	Water	8270E	663434
400-251985-11	MW10-ROX-030124	Total/NA	Water	8270E	663434

## GC Semi VOA

### Analysis Batch: 663403

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-251985-2	TB-ROX-030124-8011-A	Total/NA	Water	8011	663450
400-251985-3	MW11-ROX-030124	Total/NA	Water	8011	663450
400-251985-4	MW27-ROX-030124	Total/NA	Water	8011	663450
400-251985-5	ROST3MW-ROX-030124	Total/NA	Water	8011	663450
400-251985-6	P54-ROX-030124	Total/NA	Water	8011	663450
400-251985-8	TB-ROX-030124-8011-B	Total/NA	Water	8011	663450
400-251985-9	MW9-ROX-030124-EB	Total/NA	Water	8011	663450
400-251985-10	MW9-ROX-030124	Total/NA	Water	8011	663450
400-251985-11	MW10-ROX-030124	Total/NA	Water	8011	663450
400-251985-12	MW28-ROX-030124	Total/NA	Water	8011	663450
MB 400-663450/1-A	Method Blank	Total/NA	Water	8011	663450
LCS 400-663450/2-A	Lab Control Sample	Total/NA	Water	8011	663450
LCSD 400-663450/3-A	Lab Control Sample Dup	Total/NA	Water	8011	663450
400-251985-5 MS	ROST3MW-ROX-030124	Total/NA	Water	8011	663450
400-251985-5 MSD	ROST3MW-ROX-030124	Total/NA	Water	8011	663450
400-251985-12 MS	MW28-ROX-030124	Total/NA	Water	8011	663450
400-251985-12 MSD	MW28-ROX-030124	Total/NA	Water	8011	663450

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# QC Association Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## GC Semi VOA

### Prep Batch: 663450

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-251985-2	TB-ROX-030124-8011-A	Total/NA	Water	8011	
400-251985-3	MW11-ROX-030124	Total/NA	Water	8011	
400-251985-4	MW27-ROX-030124	Total/NA	Water	8011	
400-251985-5	ROST3MW-ROX-030124	Total/NA	Water	8011	
400-251985-6	P54-ROX-030124	Total/NA	Water	8011	
400-251985-8	TB-ROX-030124-8011-B	Total/NA	Water	8011	
400-251985-9	MW9-ROX-030124-EB	Total/NA	Water	8011	
400-251985-10	MW9-ROX-030124	Total/NA	Water	8011	
400-251985-11	MW10-ROX-030124	Total/NA	Water	8011	
400-251985-12	MW28-ROX-030124	Total/NA	Water	8011	
MB 400-663450/1-A	Method Blank	Total/NA	Water	8011	
LCS 400-663450/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 400-663450/3-A	Lab Control Sample Dup	Total/NA	Water	8011	
400-251985-5 MS	ROST3MW-ROX-030124	Total/NA	Water	8011	
400-251985-5 MSD	ROST3MW-ROX-030124	Total/NA	Water	8011	
400-251985-12 MS	MW28-ROX-030124	Total/NA	Water	8011	
400-251985-12 MSD	MW28-ROX-030124	Total/NA	Water	8011	



# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 400-663383/4**  
**Matrix: Water**  
**Analysis Batch: 663383**

**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			03/06/24 08:31	1
Acrolein	ND		20	3.3	ug/L			03/06/24 08:31	1
Acrylonitrile	ND		10	2.8	ug/L			03/06/24 08:31	1
Benzene	ND		1.0	0.50	ug/L			03/06/24 08:31	1
Bromobenzene	ND		1.0	0.54	ug/L			03/06/24 08:31	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/06/24 08:31	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/06/24 08:31	1
Bromoform	ND		5.0	0.25	ug/L			03/06/24 08:31	1
Bromomethane	ND		1.0	0.98	ug/L			03/06/24 08:31	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/06/24 08:31	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/06/24 08:31	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/06/24 08:31	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/06/24 08:31	1
Chloroethane	ND		1.0	0.76	ug/L			03/06/24 08:31	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/06/24 08:31	1
Chloroform	ND		1.0	0.90	ug/L			03/06/24 08:31	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/06/24 08:31	1
Chloromethane	ND		1.0	0.90	ug/L			03/06/24 08:31	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/06/24 08:31	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/06/24 08:31	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/06/24 08:31	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/06/24 08:31	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/06/24 08:31	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/06/24 08:31	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/06/24 08:31	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/06/24 08:31	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/06/24 08:31	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/06/24 08:31	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 08:31	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 08:31	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/06/24 08:31	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/06/24 08:31	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/06/24 08:31	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/06/24 08:31	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/06/24 08:31	1
2-Hexanone	ND		25	1.4	ug/L			03/06/24 08:31	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/06/24 08:31	1
Methylene bromide	ND		5.0	0.22	ug/L			03/06/24 08:31	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/06/24 08:31	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/06/24 08:31	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/06/24 08:31	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/06/24 08:31	1
Naphthalene	ND		5.0	3.0	ug/L			03/06/24 08:31	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/06/24 08:31	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/06/24 08:31	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/06/24 08:31	1
o-Xylene	ND		5.0	0.60	ug/L			03/06/24 08:31	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/06/24 08:31	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-663383/4**  
**Matrix: Water**  
**Analysis Batch: 663383**

**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			03/06/24 08:31	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/06/24 08:31	1
Styrene	ND		1.0	1.0	ug/L			03/06/24 08:31	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/06/24 08:31	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/06/24 08:31	1
1,1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/06/24 08:31	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/06/24 08:31	1
Toluene	ND		1.0	0.90	ug/L			03/06/24 08:31	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/06/24 08:31	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/06/24 08:31	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/06/24 08:31	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/06/24 08:31	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/06/24 08:31	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/06/24 08:31	1
Trichloroethene	ND		1.0	0.15	ug/L			03/06/24 08:31	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/06/24 08:31	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/06/24 08:31	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/06/24 08:31	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/06/24 08:31	1
Vinyl acetate	ND		25	0.93	ug/L			03/06/24 08:31	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/06/24 08:31	1
Xylenes, Total	ND		10	1.6	ug/L			03/06/24 08:31	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	84		72 - 130		03/06/24 08:31	1
Dibromofluoromethane	88		75 - 126		03/06/24 08:31	1
Toluene-d8 (Surr)	97		64 - 132		03/06/24 08:31	1

**Lab Sample ID: LCS 400-663383/1002**  
**Matrix: Water**  
**Analysis Batch: 663383**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	200	140		ug/L		70	43 - 160
Acrolein	500	440		ug/L		88	38 - 160
Acrylonitrile	500	374		ug/L		75	64 - 142
Benzene	50.0	45.2		ug/L		90	70 - 130
Bromobenzene	50.0	53.2		ug/L		106	70 - 132
Bromochloromethane	50.0	47.7		ug/L		95	70 - 130
Bromodichloromethane	50.0	47.5		ug/L		95	67 - 133
Bromoform	50.0	47.9		ug/L		96	57 - 140
Bromomethane	50.0	30.8		ug/L		62	10 - 160
2-Butanone (MEK)	200	160		ug/L		80	61 - 145
Carbon disulfide	50.0	37.4		ug/L		75	61 - 137
Carbon tetrachloride	50.0	45.6		ug/L		91	61 - 137
Chlorobenzene	50.0	49.0		ug/L		98	70 - 130
Chloroethane	50.0	38.3		ug/L		77	55 - 141
2-Chloroethyl vinyl ether	50.0	48.3		ug/L		97	10 - 160

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-663383/1002**  
**Matrix: Water**  
**Analysis Batch: 663383**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroform	50.0	46.1		ug/L		92	69 - 130
1-Chlorohexane	50.0	44.2		ug/L		88	69 - 130
Chloromethane	50.0	45.1		ug/L		90	58 - 137
cis-1,2-Dichloroethene	50.0	44.5		ug/L		89	68 - 130
cis-1,3-Dichloropropene	50.0	47.2		ug/L		94	69 - 132
Dibromochloromethane	50.0	51.5		ug/L		103	67 - 135
1,2-Dichlorobenzene	50.0	52.8		ug/L		106	67 - 130
1,3-Dichlorobenzene	50.0	54.5		ug/L		109	70 - 130
1,4-Dichlorobenzene	50.0	54.5		ug/L		109	70 - 130
Dichlorodifluoromethane	50.0	47.8		ug/L		96	41 - 146
1,1-Dichloroethane	50.0	45.0		ug/L		90	70 - 130
1,2-Dichloroethane	50.0	42.0		ug/L		84	69 - 130
1,1-Dichloroethene	50.0	41.2		ug/L		82	63 - 134
1,2-Dichloropropane	50.0	44.4		ug/L		89	70 - 130
1,3-Dichloropropane	50.0	44.6		ug/L		89	70 - 130
2,2-Dichloropropane	50.0	43.2		ug/L		86	52 - 135
1,1-Dichloropropene	50.0	45.0		ug/L		90	70 - 130
Ethylbenzene	50.0	47.2		ug/L		94	70 - 130
Ethyl methacrylate	50.0	43.0		ug/L		86	68 - 130
Hexachlorobutadiene	50.0	57.9		ug/L		116	53 - 140
2-Hexanone	200	151		ug/L		76	65 - 137
Isopropylbenzene	50.0	47.8		ug/L		96	70 - 130
Methylene bromide	50.0	44.3		ug/L		89	70 - 130
Methylene Chloride	50.0	43.9		ug/L		88	66 - 135
4-Methyl-2-pentanone (MIBK)	200	144		ug/L		72	69 - 138
Methyl tert-butyl ether	50.0	45.8		ug/L		92	66 - 130
m-Xylene & p-Xylene	50.0	46.2		ug/L		92	70 - 130
Naphthalene	50.0	53.5		ug/L		107	47 - 149
n-Butylbenzene	50.0	49.6		ug/L		99	67 - 130
N-Propylbenzene	50.0	52.4		ug/L		105	70 - 130
o-Chlorotoluene	50.0	50.1		ug/L		100	70 - 130
o-Xylene	50.0	47.0		ug/L		94	70 - 130
p-Chlorotoluene	50.0	50.3		ug/L		101	70 - 130
p-Isopropyltoluene	50.0	54.1		ug/L		108	65 - 130
sec-Butylbenzene	50.0	53.9		ug/L		108	66 - 130
Styrene	50.0	48.9		ug/L		98	70 - 130
tert-Butylbenzene	50.0	51.0		ug/L		102	64 - 139
1,1,1,2-Tetrachloroethane	50.0	48.5		ug/L		97	67 - 131
1,1,2,2-Tetrachloroethane	50.0	44.1		ug/L		88	70 - 131
Tetrachloroethene	50.0	50.5		ug/L		101	65 - 130
Toluene	50.0	46.9		ug/L		94	70 - 130
trans-1,2-Dichloroethene	50.0	47.2		ug/L		94	70 - 130
trans-1,3-Dichloropropene	50.0	46.8		ug/L		94	63 - 130
1,2,3-Trichlorobenzene	50.0	59.0		ug/L		118	60 - 138
1,2,4-Trichlorobenzene	50.0	61.5		ug/L		123	60 - 140
1,1,1-Trichloroethane	50.0	45.3		ug/L		91	68 - 130
1,1,2-Trichloroethane	50.0	46.2		ug/L		92	70 - 130
Trichloroethene	50.0	50.1		ug/L		100	70 - 130
Trichlorofluoromethane	50.0	43.9		ug/L		88	65 - 138

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-663383/1002**  
**Matrix: Water**  
**Analysis Batch: 663383**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	50.0	45.7		ug/L		91	70 - 130
1,2,4-Trimethylbenzene	50.0	52.5		ug/L		105	70 - 130
1,3,5-Trimethylbenzene	50.0	52.1		ug/L		104	69 - 130
Vinyl acetate	100	96.5		ug/L		97	26 - 160
Vinyl chloride	50.0	50.2		ug/L		100	59 - 136
Xylenes, Total	100	93.2		ug/L		93	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	96		72 - 130
Dibromofluoromethane	102		75 - 126
Toluene-d8 (Surr)	101		64 - 132

**Lab Sample ID: 400-251985-5 MS**  
**Matrix: Water**  
**Analysis Batch: 663383**

**Client Sample ID: ROST3MW-ROX-030124**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	ND		200	248		ug/L		124	43 - 150
Acrolein	ND	F1	500	925	F1	ug/L		185	38 - 150
Acrylonitrile	ND	F1	500	793	F1	ug/L		159	62 - 149
Benzene	ND		50.0	43.0		ug/L		86	56 - 142
Bromobenzene	ND		50.0	42.8		ug/L		86	59 - 136
Bromochloromethane	ND		50.0	65.3		ug/L		131	64 - 140
Bromodichloromethane	ND		50.0	37.4		ug/L		75	59 - 143
Bromoform	ND		50.0	40.8		ug/L		82	50 - 140
Bromomethane	ND		50.0	53.3		ug/L		107	10 - 150
2-Butanone (MEK)	ND	F1	200	323	F1	ug/L		162	55 - 150
Carbon disulfide	ND		50.0	59.5		ug/L		119	48 - 150
Carbon tetrachloride	ND	F1	50.0	25.7	F1	ug/L		51	55 - 145
Chlorobenzene	ND		50.0	45.8		ug/L		92	64 - 130
Chloroethane	ND		50.0	62.4		ug/L		125	50 - 150
2-Chloroethyl vinyl ether	ND	F2 F1	50.0	10.9		ug/L		22	10 - 150
Chloroform	ND	F1	50.0	25.8	F1	ug/L		52	60 - 141
1-Chlorohexane	ND		50.0	42.0		ug/L		84	56 - 136
Chloromethane	ND	F1	50.0	87.1	F1	ug/L		174	49 - 148
cis-1,2-Dichloroethene	ND		50.0	31.3		ug/L		63	59 - 143
cis-1,3-Dichloropropene	ND		50.0	40.3		ug/L		81	57 - 140
Dibromochloromethane	ND		50.0	32.9		ug/L		66	56 - 143
1,2-Dichlorobenzene	ND		50.0	44.9		ug/L		90	52 - 137
1,3-Dichlorobenzene	ND		50.0	46.0		ug/L		92	54 - 135
1,4-Dichlorobenzene	ND		50.0	45.4		ug/L		91	53 - 135
Dichlorodifluoromethane	ND	F1	50.0	75.5	F1	ug/L		151	16 - 150
1,1-Dichloroethane	ND	F1	50.0	30.8		ug/L		62	61 - 144
1,2-Dichloroethane	ND		50.0	36.9		ug/L		74	60 - 141
1,1-Dichloroethene	ND	F1	50.0	28.0		ug/L		56	54 - 147
1,2-Dichloropropane	ND		50.0	42.9		ug/L		86	66 - 137
1,3-Dichloropropane	ND		50.0	38.2		ug/L		76	66 - 133
2,2-Dichloropropane	ND		50.0	26.0		ug/L		52	42 - 144

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: 400-251985-5 MS**

**Client Sample ID: ROST3MW-ROX-030124**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 663383**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier		Result	Qualifier				
1,1-Dichloropropene	ND	F1	50.0	32.2	F1	ug/L		64	65 - 136
Ethylbenzene	ND		50.0	47.5		ug/L		95	58 - 131
Ethyl methacrylate	ND		50.0	44.2		ug/L		88	64 - 130
Hexachlorobutadiene	ND		50.0	44.6		ug/L		89	31 - 149
2-Hexanone	ND		200	191		ug/L		96	65 - 140
Isopropylbenzene	ND		50.0	49.6		ug/L		99	56 - 133
Methylene bromide	ND		50.0	43.4		ug/L		87	63 - 138
Methylene Chloride	ND	F1	50.0	77.0	F1	ug/L		154	60 - 146
4-Methyl-2-pentanone (MIBK)	ND		200	289		ug/L		144	63 - 146
Methyl tert-butyl ether	ND		50.0	42.9		ug/L		86	59 - 137
m-Xylene & p-Xylene	ND		50.0	49.2		ug/L		98	57 - 130
Naphthalene	ND		50.0	54.2		ug/L		108	25 - 150
n-Butylbenzene	ND		50.0	41.5		ug/L		83	41 - 142
N-Propylbenzene	ND		50.0	43.1		ug/L		86	51 - 138
o-Chlorotoluene	ND		50.0	42.5		ug/L		85	53 - 134
o-Xylene	ND		50.0	50.0		ug/L		100	61 - 130
p-Chlorotoluene	ND		50.0	42.9		ug/L		86	54 - 133
p-Isopropyltoluene	ND		50.0	46.1		ug/L		92	48 - 139
sec-Butylbenzene	ND		50.0	45.2		ug/L		90	50 - 138
Styrene	ND		50.0	51.2		ug/L		102	58 - 131
tert-Butylbenzene	ND		50.0	44.2		ug/L		88	54 - 146
1,1,1,2-Tetrachloroethane	ND	F1	50.0	31.8		ug/L		64	59 - 137
1,1,2,2-Tetrachloroethane	ND	F1	50.0	37.6		ug/L		75	66 - 135
Tetrachloroethene	ND		50.0	37.9		ug/L		76	52 - 133
Toluene	ND		50.0	42.2		ug/L		84	65 - 130
trans-1,2-Dichloroethene	ND	F1	50.0	22.7	F1	ug/L		45	61 - 143
trans-1,3-Dichloropropene	ND		50.0	32.4		ug/L		65	53 - 133
1,2,3-Trichlorobenzene	ND		50.0	54.0		ug/L		108	43 - 145
1,2,4-Trichlorobenzene	ND		50.0	53.3		ug/L		107	39 - 148
1,1,1-Trichloroethane	ND	F1	50.0	28.8		ug/L		58	57 - 142
1,1,2-Trichloroethane	ND		50.0	36.8		ug/L		74	66 - 131
Trichloroethene	ND		50.0	37.2		ug/L		74	64 - 136
Trichlorofluoromethane	ND		50.0	35.5		ug/L		71	54 - 150
1,2,3-Trichloropropane	ND		50.0	41.6		ug/L		83	65 - 133
1,2,4-Trimethylbenzene	ND		50.0	45.4		ug/L		91	50 - 139
1,3,5-Trimethylbenzene	ND		50.0	44.9		ug/L		90	52 - 135
Vinyl acetate	ND		100	136		ug/L		136	26 - 150
Vinyl chloride	ND	F1	50.0	84.4	F1	ug/L		169	46 - 150
Xylenes, Total	ND		100	99.3		ug/L		99	59 - 130

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	90		72 - 130
Dibromofluoromethane	70	S1-	75 - 126
Toluene-d8 (Surr)	93		64 - 132

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-251985-5 MSD

Matrix: Water

Analysis Batch: 663383

Client Sample ID: ROST3MW-ROX-030124

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	216		ug/L		108	43 - 150	14	30
Acrolein	ND	F1	500	807	F1	ug/L		161	38 - 150	14	31
Acrylonitrile	ND	F1	500	675		ug/L		135	62 - 149	16	30
Benzene	ND		50.0	39.6		ug/L		79	56 - 142	8	30
Bromobenzene	ND		50.0	35.2		ug/L		70	59 - 136	19	30
Bromochloromethane	ND		50.0	61.0		ug/L		122	64 - 140	7	30
Bromodichloromethane	ND		50.0	32.7		ug/L		65	59 - 143	14	30
Bromoform	ND		50.0	35.9		ug/L		72	50 - 140	13	30
Bromomethane	ND		50.0	52.9		ug/L		106	10 - 150	1	50
2-Butanone (MEK)	ND	F1	200	276		ug/L		138	55 - 150	16	30
Carbon disulfide	ND		50.0	52.1		ug/L		104	48 - 150	13	30
Carbon tetrachloride	ND	F1	50.0	25.3	F1	ug/L		51	55 - 145	2	30
Chlorobenzene	ND		50.0	39.8		ug/L		80	64 - 130	14	30
Chloroethane	ND		50.0	59.1		ug/L		118	50 - 150	5	30
2-Chloroethyl vinyl ether	ND	F2 F1	50.0	2.70	J F2 F1	ug/L		5	10 - 150	121	50
Chloroform	ND	F1	50.0	26.0	F1	ug/L		52	60 - 141	1	30
1-Chlorohexane	ND		50.0	35.2		ug/L		70	56 - 136	18	30
Chloromethane	ND	F1	50.0	78.4	F1	ug/L		157	49 - 148	11	31
cis-1,2-Dichloroethene	ND		50.0	30.3		ug/L		61	59 - 143	3	30
cis-1,3-Dichloropropene	ND		50.0	36.2		ug/L		72	57 - 140	11	30
Dibromochloromethane	ND		50.0	30.0		ug/L		60	56 - 143	9	30
1,2-Dichlorobenzene	ND		50.0	36.2		ug/L		72	52 - 137	21	30
1,3-Dichlorobenzene	ND		50.0	37.0		ug/L		74	54 - 135	22	30
1,4-Dichlorobenzene	ND		50.0	36.0		ug/L		72	53 - 135	23	30
Dichlorodifluoromethane	ND	F1	50.0	66.9		ug/L		134	16 - 150	12	31
1,1-Dichloroethane	ND	F1	50.0	29.3	F1	ug/L		59	61 - 144	5	30
1,2-Dichloroethane	ND		50.0	34.2		ug/L		68	60 - 141	8	30
1,1-Dichloroethene	ND	F1	50.0	26.6	F1	ug/L		53	54 - 147	5	30
1,2-Dichloropropane	ND		50.0	38.9		ug/L		78	66 - 137	10	30
1,3-Dichloropropane	ND		50.0	33.9		ug/L		68	66 - 133	12	30
2,2-Dichloropropane	ND		50.0	24.3		ug/L		49	42 - 144	7	31
1,1-Dichloropropene	ND	F1	50.0	29.1	F1	ug/L		58	65 - 136	10	30
Ethylbenzene	ND		50.0	41.3		ug/L		83	58 - 131	14	30
Ethyl methacrylate	ND		50.0	38.7		ug/L		77	64 - 130	13	30
Hexachlorobutadiene	ND		50.0	35.7		ug/L		71	31 - 149	22	36
2-Hexanone	ND		200	166		ug/L		83	65 - 140	14	30
Isopropylbenzene	ND		50.0	42.5		ug/L		85	56 - 133	15	30
Methylene bromide	ND		50.0	40.8		ug/L		82	63 - 138	6	30
Methylene Chloride	ND	F1	50.0	66.4		ug/L		133	60 - 146	15	32
4-Methyl-2-pentanone (MIBK)	ND		200	249		ug/L		125	63 - 146	15	30
Methyl tert-butyl ether	ND		50.0	39.6		ug/L		79	59 - 137	8	30
m-Xylene & p-Xylene	ND		50.0	42.2		ug/L		84	57 - 130	15	30
Naphthalene	ND		50.0	41.9		ug/L		84	25 - 150	26	30
n-Butylbenzene	ND		50.0	34.2		ug/L		68	41 - 142	19	31
N-Propylbenzene	ND		50.0	35.6		ug/L		71	51 - 138	19	30
o-Chlorotoluene	ND		50.0	35.6		ug/L		71	53 - 134	18	30
o-Xylene	ND		50.0	43.2		ug/L		86	61 - 130	15	30
p-Chlorotoluene	ND		50.0	35.0		ug/L		70	54 - 133	20	30

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: 400-251985-5 MSD**

**Client Sample ID: ROST3MW-ROX-030124**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 663383**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
p-Isopropyltoluene	ND		50.0	37.4		ug/L		75	48 - 139	21	30
sec-Butylbenzene	ND		50.0	37.5		ug/L		75	50 - 138	19	30
Styrene	ND		50.0	44.0		ug/L		88	58 - 131	15	30
tert-Butylbenzene	ND		50.0	36.2		ug/L		72	54 - 146	20	30
1,1,1,2-Tetrachloroethane	ND	F1	50.0	28.9	F1	ug/L		58	59 - 137	9	30
1,1,1,2-Tetrachloroethane	ND	F1	50.0	31.6	F1	ug/L		63	66 - 135	17	30
Tetrachloroethene	ND		50.0	34.5		ug/L		69	52 - 133	9	30
Toluene	ND		50.0	37.4		ug/L		75	65 - 130	12	30
trans-1,2-Dichloroethene	ND	F1	50.0	22.6	F1	ug/L		45	61 - 143	0	30
trans-1,3-Dichloropropene	ND		50.0	29.6		ug/L		59	53 - 133	9	30
1,2,3-Trichlorobenzene	ND		50.0	40.2		ug/L		80	43 - 145	29	30
1,2,4-Trichlorobenzene	ND		50.0	40.8		ug/L		82	39 - 148	27	30
1,1,1-Trichloroethane	ND	F1	50.0	28.2	F1	ug/L		56	57 - 142	2	30
1,1,2-Trichloroethane	ND		50.0	34.3		ug/L		69	66 - 131	7	30
Trichloroethene	ND		50.0	34.0		ug/L		68	64 - 136	9	30
Trichlorofluoromethane	ND		50.0	34.8		ug/L		70	54 - 150	2	30
1,2,3-Trichloropropane	ND		50.0	35.6		ug/L		71	65 - 133	15	30
1,2,4-Trimethylbenzene	ND		50.0	36.8		ug/L		74	50 - 139	21	30
1,3,5-Trimethylbenzene	ND		50.0	37.3		ug/L		75	52 - 135	19	30
Vinyl acetate	ND		100	127		ug/L		127	26 - 150	7	33
Vinyl chloride	ND	F1	50.0	73.8		ug/L		148	46 - 150	13	30
Xylenes, Total	ND		100	85.4		ug/L		85	59 - 130	15	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene	88		72 - 130
Dibromofluoromethane	73	S1-	75 - 126
Toluene-d8 (Surr)	93		64 - 132

**Lab Sample ID: 400-251985-12 MS**

**Client Sample ID: MW28-ROX-030124**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 663383**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	ND		200	246		ug/L		123	43 - 150
Acrolein	ND	F1	500	858	F1	ug/L		172	38 - 150
Acrylonitrile	ND	F1	500	838	F1	ug/L		168	62 - 149
Benzene	ND		50.0	41.0		ug/L		82	56 - 142
Bromobenzene	ND		50.0	32.1		ug/L		64	59 - 136
Bromochloromethane	ND		50.0	65.9		ug/L		132	64 - 140
Bromodichloromethane	ND		50.0	37.4		ug/L		75	59 - 143
Bromoform	ND		50.0	34.2		ug/L		68	50 - 140
Bromomethane	ND		50.0	61.0		ug/L		122	10 - 150
2-Butanone (MEK)	ND	F1	200	355	F1	ug/L		178	55 - 150
Carbon disulfide	ND		50.0	55.6		ug/L		111	48 - 150
Carbon tetrachloride	ND		50.0	28.5		ug/L		57	55 - 145
Chlorobenzene	ND		50.0	37.7		ug/L		75	64 - 130
Chloroethane	ND	F2	50.0	49.1		ug/L		98	50 - 150
2-Chloroethyl vinyl ether	ND	F1	50.0	ND	F1	ug/L		0	10 - 150

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: 400-251985-12 MS**

**Client Sample ID: MW28-ROX-030124**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 663383**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier		Result	Qualifier				
Chloroform	ND	F1	50.0	29.2	F1	ug/L		58	60 - 141
1-Chlorohexane	ND		50.0	32.1		ug/L		64	56 - 136
Chloromethane	ND	F1	50.0	69.9		ug/L		140	49 - 148
cis-1,2-Dichloroethene	ND		50.0	35.6		ug/L		71	59 - 143
cis-1,3-Dichloropropene	ND		50.0	40.9		ug/L		82	57 - 140
Dibromochloromethane	ND	F1	50.0	30.3		ug/L		61	56 - 143
1,2-Dichlorobenzene	ND		50.0	31.4		ug/L		63	52 - 137
1,3-Dichlorobenzene	ND		50.0	31.7		ug/L		63	54 - 135
1,4-Dichlorobenzene	ND		50.0	30.3		ug/L		61	53 - 135
Dichlorodifluoromethane	ND	F1	50.0	60.7		ug/L		121	16 - 150
1,1-Dichloroethane	ND		50.0	33.1		ug/L		66	61 - 144
1,2-Dichloroethane	ND		50.0	41.3		ug/L		83	60 - 141
1,1-Dichloroethene	ND		50.0	30.3		ug/L		61	54 - 147
1,2-Dichloropropane	ND		50.0	41.3		ug/L		83	66 - 137
1,3-Dichloropropane	ND	F1	50.0	34.8		ug/L		70	66 - 133
2,2-Dichloropropane	ND		50.0	29.8		ug/L		60	42 - 144
1,1-Dichloropropene	ND	F1	50.0	32.3		ug/L		65	65 - 136
Ethylbenzene	ND		50.0	39.0		ug/L		78	58 - 131
Ethyl methacrylate	ND		50.0	42.7		ug/L		85	64 - 130
Hexachlorobutadiene	ND		50.0	26.4		ug/L		53	31 - 149
2-Hexanone	ND		200	195		ug/L		98	65 - 140
Isopropylbenzene	ND		50.0	38.8		ug/L		78	56 - 133
Methylene bromide	ND		50.0	48.9		ug/L		98	63 - 138
Methylene Chloride	ND	F1	50.0	73.8	F1	ug/L		148	60 - 146
4-Methyl-2-pentanone (MIBK)	ND	F1	200	303	F1	ug/L		152	63 - 146
Methyl tert-butyl ether	2.0		50.0	50.7		ug/L		97	59 - 137
m-Xylene & p-Xylene	ND		50.0	39.2		ug/L		78	57 - 130
Naphthalene	ND		50.0	37.5		ug/L		75	25 - 150
n-Butylbenzene	ND		50.0	27.3		ug/L		55	41 - 142
N-Propylbenzene	ND		50.0	31.8		ug/L		64	51 - 138
o-Chlorotoluene	ND		50.0	32.0		ug/L		64	53 - 134
o-Xylene	ND		50.0	40.5		ug/L		81	61 - 130
p-Chlorotoluene	ND		50.0	31.1		ug/L		62	54 - 133
p-Isopropyltoluene	ND		50.0	31.7		ug/L		63	48 - 139
sec-Butylbenzene	ND		50.0	32.0		ug/L		64	50 - 138
Styrene	ND		50.0	41.4		ug/L		83	58 - 131
tert-Butylbenzene	ND		50.0	32.6		ug/L		65	54 - 146
1,1,1,2-Tetrachloroethane	ND	F1	50.0	24.7	F1	ug/L		49	59 - 137
1,1,2,2-Tetrachloroethane	ND	F1	50.0	33.0		ug/L		66	66 - 135
Tetrachloroethene	ND		50.0	30.2		ug/L		60	52 - 133
Toluene	ND		50.0	36.6		ug/L		73	65 - 130
trans-1,2-Dichloroethene	ND	F1	50.0	25.2	F1	ug/L		50	61 - 143
trans-1,3-Dichloropropene	ND	F1	50.0	30.4		ug/L		61	53 - 133
1,2,3-Trichlorobenzene	ND		50.0	33.3		ug/L		67	43 - 145
1,2,4-Trichlorobenzene	ND		50.0	32.1		ug/L		64	39 - 148
1,1,1-Trichloroethane	ND		50.0	31.3		ug/L		63	57 - 142
1,1,2-Trichloroethane	ND	F1	50.0	35.3		ug/L		71	66 - 131
Trichloroethene	ND		50.0	35.2		ug/L		70	64 - 136
Trichlorofluoromethane	ND		50.0	31.5		ug/L		63	54 - 150

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: 400-251985-12 MS**

**Client Sample ID: MW28-ROX-030124**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 663383**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	ND		50.0	38.3		ug/L		77	65 - 133
1,2,4-Trimethylbenzene	ND		50.0	31.9		ug/L		64	50 - 139
1,3,5-Trimethylbenzene	ND		50.0	33.0		ug/L		66	52 - 135
Vinyl acetate	ND		100	123		ug/L		123	26 - 150
Vinyl chloride	ND	F1	50.0	68.2		ug/L		136	46 - 150
Xylenes, Total	ND		100	79.7		ug/L		80	59 - 130

Surrogate	MS %Recovery	MS Qualifier	MS Limits
4-Bromofluorobenzene	89		72 - 130
Dibromofluoromethane	80		75 - 126
Toluene-d8 (Surr)	92		64 - 132

**Lab Sample ID: 400-251985-12 MSD**

**Client Sample ID: MW28-ROX-030124**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 663383**

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	6	30
Acrolein	ND	F1	500	918	F1	ug/L		184	38 - 150	7	31
Acrylonitrile	ND	F1	500	821	F1	ug/L		164	62 - 149	2	30
Benzene	ND		50.0	40.9		ug/L		82	56 - 142	0	30
Bromobenzene	ND		50.0	32.2		ug/L		64	59 - 136	0	30
Bromochloromethane	ND		50.0	64.8		ug/L		130	64 - 140	2	30
Bromodichloromethane	ND		50.0	34.9		ug/L		70	59 - 143	7	30
Bromoform	ND		50.0	30.5		ug/L		61	50 - 140	11	30
Bromomethane	ND		50.0	65.5		ug/L		131	10 - 150	7	50
2-Butanone (MEK)	ND	F1	200	345	F1	ug/L		173	55 - 150	3	30
Carbon disulfide	ND		50.0	59.9		ug/L		120	48 - 150	7	30
Carbon tetrachloride	ND		50.0	28.1		ug/L		56	55 - 145	1	30
Chlorobenzene	ND		50.0	37.6		ug/L		75	64 - 130	0	30
Chloroethane	ND	F2	50.0	74.9	F2	ug/L		150	50 - 150	42	30
2-Chloroethyl vinyl ether	ND	F1	50.0	ND	F1	ug/L		0	10 - 150	NC	50
Chloroform	ND	F1	50.0	26.7	F1	ug/L		53	60 - 141	9	30
1-Chlorohexane	ND		50.0	32.0		ug/L		64	56 - 136	0	30
Chloromethane	ND	F1	50.0	93.1	F1	ug/L		186	49 - 148	28	31
cis-1,2-Dichloroethene	ND		50.0	32.4		ug/L		65	59 - 143	9	30
cis-1,3-Dichloropropene	ND		50.0	37.5		ug/L		75	57 - 140	9	30
Dibromochloromethane	ND	F1	50.0	26.6	F1	ug/L		53	56 - 143	13	30
1,2-Dichlorobenzene	ND		50.0	32.1		ug/L		64	52 - 137	2	30
1,3-Dichlorobenzene	ND		50.0	31.1		ug/L		62	54 - 135	2	30
1,4-Dichlorobenzene	ND		50.0	30.0		ug/L		60	53 - 135	1	30
Dichlorodifluoromethane	ND	F1	50.0	77.7	F1	ug/L		155	16 - 150	25	31
1,1-Dichloroethane	ND		50.0	31.6		ug/L		63	61 - 144	5	30
1,2-Dichloroethane	ND		50.0	36.5		ug/L		73	60 - 141	12	30
1,1-Dichloroethene	ND		50.0	30.0		ug/L		60	54 - 147	1	30
1,2-Dichloropropane	ND		50.0	40.4		ug/L		81	66 - 137	2	30
1,3-Dichloropropane	ND	F1	50.0	30.8	F1	ug/L		62	66 - 133	12	30
2,2-Dichloropropane	ND		50.0	29.5		ug/L		59	42 - 144	1	31

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 400-251985-12 MSD

Client Sample ID: MW28-ROX-030124

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 663383

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1-Dichloropropene	ND	F1	50.0	31.2	F1	ug/L		62	65 - 136	3	30
Ethylbenzene	ND		50.0	38.5		ug/L		77	58 - 131	1	30
Ethyl methacrylate	ND		50.0	39.9		ug/L		80	64 - 130	7	30
Hexachlorobutadiene	ND		50.0	21.8		ug/L		44	31 - 149	19	36
2-Hexanone	ND		200	181		ug/L		91	65 - 140	7	30
Isopropylbenzene	ND		50.0	37.6		ug/L		75	56 - 133	3	30
Methylene bromide	ND		50.0	44.4		ug/L		89	63 - 138	10	30
Methylene Chloride	ND	F1	50.0	79.4	F1	ug/L		159	60 - 146	7	32
4-Methyl-2-pentanone (MIBK)	ND	F1	200	273		ug/L		136	63 - 146	11	30
Methyl tert-butyl ether	2.0		50.0	43.4		ug/L		83	59 - 137	16	30
m-Xylene & p-Xylene	ND		50.0	39.1		ug/L		78	57 - 130	0	30
Naphthalene	ND		50.0	42.6		ug/L		85	25 - 150	13	30
n-Butylbenzene	ND		50.0	23.8		ug/L		48	41 - 142	14	31
N-Propylbenzene	ND		50.0	29.7		ug/L		59	51 - 138	7	30
o-Chlorotoluene	ND		50.0	29.8		ug/L		60	53 - 134	7	30
o-Xylene	ND		50.0	40.6		ug/L		81	61 - 130	0	30
p-Chlorotoluene	ND		50.0	29.9		ug/L		60	54 - 133	4	30
p-Isopropyltoluene	ND		50.0	28.9		ug/L		58	48 - 139	10	30
sec-Butylbenzene	ND		50.0	29.7		ug/L		59	50 - 138	7	30
Styrene	ND		50.0	41.1		ug/L		82	58 - 131	1	30
tert-Butylbenzene	ND		50.0	31.1		ug/L		62	54 - 146	5	30
1,1,1,2-Tetrachloroethane	ND	F1	50.0	22.1	F1	ug/L		44	59 - 137	11	30
1,1,2,2-Tetrachloroethane	ND	F1	50.0	29.6	F1	ug/L		59	66 - 135	11	30
Tetrachloroethene	ND		50.0	30.1		ug/L		60	52 - 133	1	30
Toluene	ND		50.0	36.9		ug/L		74	65 - 130	1	30
trans-1,2-Dichloroethene	ND	F1	50.0	23.8	F1	ug/L		48	61 - 143	6	30
trans-1,3-Dichloropropene	ND	F1	50.0	25.8	F1	ug/L		52	53 - 133	16	30
1,2,3-Trichlorobenzene	ND		50.0	35.1		ug/L		70	43 - 145	5	30
1,2,4-Trichlorobenzene	ND		50.0	33.0		ug/L		66	39 - 148	3	30
1,1,1-Trichloroethane	ND		50.0	30.3		ug/L		61	57 - 142	3	30
1,1,2-Trichloroethane	ND	F1	50.0	30.6	F1	ug/L		61	66 - 131	14	30
Trichloroethene	ND		50.0	33.4		ug/L		67	64 - 136	5	30
Trichlorofluoromethane	ND		50.0	35.8		ug/L		72	54 - 150	13	30
1,2,3-Trichloropropane	ND		50.0	34.5		ug/L		69	65 - 133	10	30
1,2,4-Trimethylbenzene	ND		50.0	30.7		ug/L		61	50 - 139	4	30
1,3,5-Trimethylbenzene	ND		50.0	31.6		ug/L		63	52 - 135	4	30
Vinyl acetate	ND		100	125		ug/L		125	26 - 150	1	33
Vinyl chloride	ND	F1	50.0	88.5	F1	ug/L		177	46 - 150	26	30
Xylenes, Total	ND		100	79.8		ug/L		80	59 - 130	0	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene	89		72 - 130
Dibromofluoromethane	71	S1-	75 - 126
Toluene-d8 (Surr)	93		64 - 132

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 400-663434/1-A**  
**Matrix: Water**  
**Analysis Batch: 663609**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aniline	ND		10	8.7	ug/L		03/06/24 10:09	03/07/24 14:56	1
Benzenethiol	ND		10	9.9	ug/L		03/06/24 10:09	03/07/24 14:56	1
Benzoic acid	ND		30	24	ug/L		03/06/24 10:09	03/07/24 14:56	1
Benzyl alcohol	ND		10	7.3	ug/L		03/06/24 10:09	03/07/24 14:56	1
Bis(2-chloroethoxy)methane	ND		10	4.6	ug/L		03/06/24 10:09	03/07/24 14:56	1
Bis(2-chloroethyl)ether	ND		10	3.9	ug/L		03/06/24 10:09	03/07/24 14:56	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		03/06/24 10:09	03/07/24 14:56	1
Bis(2-ethylhexyl) phthalate	ND		10	8.9	ug/L		03/06/24 10:09	03/07/24 14:56	1
4-Bromophenyl phenyl ether	ND		10	8.6	ug/L		03/06/24 10:09	03/07/24 14:56	1
Butyl benzyl phthalate	ND		10	5.8	ug/L		03/06/24 10:09	03/07/24 14:56	1
4-Chloroaniline	ND		10	4.7	ug/L		03/06/24 10:09	03/07/24 14:56	1
4-Chloro-3-methylphenol	ND		10	5.3	ug/L		03/06/24 10:09	03/07/24 14:56	1
2-Chloronaphthalene	ND		10	3.8	ug/L		03/06/24 10:09	03/07/24 14:56	1
2-Chlorophenol	ND		10	4.1	ug/L		03/06/24 10:09	03/07/24 14:56	1
4-Chlorophenyl phenyl ether	ND		10	3.7	ug/L		03/06/24 10:09	03/07/24 14:56	1
Dibenz[a,h]acridine	ND		10	2.8	ug/L		03/06/24 10:09	03/07/24 14:56	1
Dibenzofuran	ND		10	4.0	ug/L		03/06/24 10:09	03/07/24 14:56	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/06/24 10:09	03/07/24 14:56	1
2,4-Dichlorophenol	ND		10	4.3	ug/L		03/06/24 10:09	03/07/24 14:56	1
Diethyl phthalate	ND		10	4.4	ug/L		03/06/24 10:09	03/07/24 14:56	1
2,4-Dimethylphenol	ND		10	5.2	ug/L		03/06/24 10:09	03/07/24 14:56	1
Dimethyl phthalate	ND		10	4.2	ug/L		03/06/24 10:09	03/07/24 14:56	1
Di-n-butyl phthalate	ND		10	4.6	ug/L		03/06/24 10:09	03/07/24 14:56	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		03/06/24 10:09	03/07/24 14:56	1
2,4-Dinitrophenol	ND		30	4.6	ug/L		03/06/24 10:09	03/07/24 14:56	1
2,4-Dinitrotoluene	ND		10	5.1	ug/L		03/06/24 10:09	03/07/24 14:56	1
2,6-Dinitrotoluene	ND		10	3.9	ug/L		03/06/24 10:09	03/07/24 14:56	1
Di-n-octyl phthalate	ND		10	6.0	ug/L		03/06/24 10:09	03/07/24 14:56	1
1,4-Dioxane	ND		10	4.3	ug/L		03/06/24 10:09	03/07/24 14:56	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.3	ug/L		03/06/24 10:09	03/07/24 14:56	1
Hexachlorobenzene	ND		10	9.7	ug/L		03/06/24 10:09	03/07/24 14:56	1
Hexachlorocyclopentadiene	ND		20	4.5	ug/L		03/06/24 10:09	03/07/24 14:56	1
Hexachloroethane	ND		10	5.2	ug/L		03/06/24 10:09	03/07/24 14:56	1
Indene	ND		10	3.6	ug/L		03/06/24 10:09	03/07/24 14:56	1
Isophorone	ND		10	5.2	ug/L		03/06/24 10:09	03/07/24 14:56	1
2-Methylphenol	ND		10	3.2	ug/L		03/06/24 10:09	03/07/24 14:56	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		03/06/24 10:09	03/07/24 14:56	1
2-Nitroaniline	ND		10	5.0	ug/L		03/06/24 10:09	03/07/24 14:56	1
3-Nitroaniline	ND		10	4.7	ug/L		03/06/24 10:09	03/07/24 14:56	1
4-Nitroaniline	ND		10	4.1	ug/L		03/06/24 10:09	03/07/24 14:56	1
Nitrobenzene	ND		10	4.7	ug/L		03/06/24 10:09	03/07/24 14:56	1
2-Nitrophenol	ND		10	4.6	ug/L		03/06/24 10:09	03/07/24 14:56	1
4-Nitrophenol	ND		10	3.3	ug/L		03/06/24 10:09	03/07/24 14:56	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		03/06/24 10:09	03/07/24 14:56	1
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		03/06/24 10:09	03/07/24 14:56	1
N-Nitrosodiphenylamine	ND		10	3.7	ug/L		03/06/24 10:09	03/07/24 14:56	1
Pentachlorophenol	ND		20	12	ug/L		03/06/24 10:09	03/07/24 14:56	1
Phenol	ND		10	4.2	ug/L		03/06/24 10:09	03/07/24 14:56	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 400-663434/1-A**  
**Matrix: Water**  
**Analysis Batch: 663609**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pyridine	ND		10	10	ug/L		03/06/24 10:09	03/07/24 14:56	1
Quinoline	ND		10	2.4	ug/L		03/06/24 10:09	03/07/24 14:56	1
2,4,5-Trichlorophenol	ND		10	4.0	ug/L		03/06/24 10:09	03/07/24 14:56	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		03/06/24 10:09	03/07/24 14:56	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	94		21 - 114	03/06/24 10:09	03/07/24 14:56	1
2-Fluorophenol	49		10 - 105	03/06/24 10:09	03/07/24 14:56	1
Nitrobenzene-d5	72		16 - 127	03/06/24 10:09	03/07/24 14:56	1
Phenol-d5	35		10 - 129	03/06/24 10:09	03/07/24 14:56	1
Terphenyl-d14	107		13 - 150	03/06/24 10:09	03/07/24 14:56	1
2,4,6-Tribromophenol	107		10 - 150	03/06/24 10:09	03/07/24 14:56	1

**Lab Sample ID: LCS 400-663434/23-A**  
**Matrix: Water**  
**Analysis Batch: 663609**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzenethiol	120	75.8		ug/L		63	40 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	76		21 - 114
2-Fluorophenol	48		10 - 105
Nitrobenzene-d5	63		16 - 127
Phenol-d5	37		10 - 129
Terphenyl-d14	108		13 - 150
2,4,6-Tribromophenol	105		10 - 150

**Lab Sample ID: LCS 400-663434/2-A**  
**Matrix: Water**  
**Analysis Batch: 663609**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aniline	120	39.8		ug/L		33	10 - 127
Benzoic acid	492	175		ug/L		36	19 - 126
Benzyl alcohol	120	70.2		ug/L		59	17 - 109
Bis(2-chloroethoxy)methane	120	84.9		ug/L		71	24 - 125
Bis(2-chloroethyl)ether	120	74.7		ug/L		62	10 - 121
bis (2-chloroisopropyl) ether	120	67.9		ug/L		57	14 - 123
Bis(2-ethylhexyl) phthalate	120	98.2		ug/L		82	16 - 150
4-Bromophenyl phenyl ether	120	116		ug/L		96	17 - 150
Butyl benzyl phthalate	120	98.1		ug/L		82	21 - 150
4-Chloroaniline	120	73.8		ug/L		61	10 - 124
4-Chloro-3-methylphenol	120	92.8		ug/L		77	37 - 131
2-Chloronaphthalene	120	99.0		ug/L		83	24 - 132
2-Chlorophenol	120	83.6		ug/L		70	27 - 124
4-Chlorophenyl phenyl ether	120	109		ug/L		91	27 - 147
Dibenz[a,h]acridine	120	131		ug/L		110	40 - 140

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 400-663434/2-A**  
**Matrix: Water**  
**Analysis Batch: 663609**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dibenzofuran	120	103		ug/L		86	30 - 135
3,3'-Dichlorobenzidine	160	152		ug/L		95	10 - 150
2,4-Dichlorophenol	120	91.3		ug/L		76	33 - 132
Diethyl phthalate	120	101		ug/L		84	37 - 145
2,4-Dimethylphenol	120	96.7		ug/L		81	38 - 132
Dimethyl phthalate	120	101		ug/L		84	32 - 137
Di-n-butyl phthalate	120	104		ug/L		87	27 - 150
4,6-Dinitro-ortho-cresol	240	248		ug/L		103	14 - 150
2,4-Dinitrophenol	240	233		ug/L		97	15 - 150
2,4-Dinitrotoluene	120	115		ug/L		96	35 - 136
2,6-Dinitrotoluene	120	111		ug/L		93	29 - 140
Di-n-octyl phthalate	120	106		ug/L		89	26 - 150
1,4-Dioxane	120	39.6		ug/L		33	10 - 87
1,2-Diphenylhydrazine (as Azobenzene)	120	91.9		ug/L		77	23 - 138
Hexachlorobenzene	120	120		ug/L		100	10 - 150
Hexachlorocyclopentadiene	120	90.5		ug/L		75	10 - 124
Hexachloroethane	120	68.0		ug/L		57	10 - 127
Indene	120	86.6		ug/L		72	18 - 150
Isophorone	120	80.1		ug/L		67	28 - 127
2-Methylphenol	120	83.0		ug/L		69	34 - 124
3 & 4 Methylphenol	120	76.7		ug/L		64	32 - 122
2-Nitroaniline	120	90.2		ug/L		75	24 - 139
3-Nitroaniline	120	76.3		ug/L		64	10 - 128
4-Nitroaniline	120	94.8		ug/L		79	28 - 118
Nitrobenzene	120	78.4		ug/L		65	29 - 120
2-Nitrophenol	120	92.9		ug/L		77	25 - 148
4-Nitrophenol	240	157		ug/L		65	12 - 129
N-Nitrosodimethylamine	120	46.3		ug/L		39	10 - 115
N-Nitrosodi-n-propylamine	120	83.9		ug/L		70	24 - 142
N-Nitrosodiphenylamine	119	110		ug/L		92	29 - 138
Pentachlorophenol	240	258		ug/L		108	19 - 150
Phenol	120	49.1		ug/L		41	11 - 95
Pyridine	240	36.5		ug/L		15	10 - 82
Quinoline	120	85.8		ug/L		72	40 - 140
2,4,5-Trichlorophenol	120	115		ug/L		96	30 - 144
2,4,6-Trichlorophenol	120	112		ug/L		93	27 - 147

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	93		21 - 114
2-Fluorophenol	52		10 - 105
Nitrobenzene-d5	70		16 - 127
Phenol-d5	41		10 - 129
Terphenyl-d14	97		13 - 150
2,4,6-Tribromophenol	111		10 - 150

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 400-663434/24-A**  
**Matrix: Water**  
**Analysis Batch: 663609**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit	
Benzenethiol	120	87.1		ug/L		73	40 - 140	14	40	
<b>Surrogate</b>										
	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>							
2-Fluorobiphenyl	89		21 - 114							
2-Fluorophenol	54		10 - 105							
Nitrobenzene-d5	71		16 - 127							
Phenol-d5	42		10 - 129							
Terphenyl-d14	118		13 - 150							
2,4,6-Tribromophenol	109		10 - 150							

**Lab Sample ID: LCSD 400-663434/3-A**  
**Matrix: Water**  
**Analysis Batch: 663609**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Aniline	120	66.4	*1	ug/L		55	10 - 127	50	40
Benzoic acid	492	210		ug/L		43	19 - 126	18	40
Benzyl alcohol	120	74.0		ug/L		62	17 - 109	5	40
Bis(2-chloroethoxy)methane	120	80.5		ug/L		67	24 - 125	5	40
Bis(2-chloroethyl)ether	120	71.1		ug/L		59	10 - 121	5	40
bis (2-chloroisopropyl) ether	120	64.6		ug/L		54	14 - 123	5	40
Bis(2-ethylhexyl) phthalate	120	100		ug/L		83	16 - 150	2	40
4-Bromophenyl phenyl ether	120	110		ug/L		91	17 - 150	5	40
Butyl benzyl phthalate	120	100		ug/L		83	21 - 150	2	40
4-Chloroaniline	120	81.4		ug/L		68	10 - 124	10	40
4-Chloro-3-methylphenol	120	94.1		ug/L		78	37 - 131	1	40
2-Chloronaphthalene	120	95.0		ug/L		79	24 - 132	4	40
2-Chlorophenol	120	82.8		ug/L		69	27 - 124	1	40
4-Chlorophenyl phenyl ether	120	110		ug/L		92	27 - 147	1	40
Dibenz[a,h]acridine	120	130		ug/L		108	40 - 140	1	40
Dibenzofuran	120	105		ug/L		87	30 - 135	2	40
3,3'-Dichlorobenzidine	160	155		ug/L		97	10 - 150	2	40
2,4-Dichlorophenol	120	92.9		ug/L		77	33 - 132	2	40
Diethyl phthalate	120	104		ug/L		86	37 - 145	3	40
2,4-Dimethylphenol	120	97.6		ug/L		81	38 - 132	1	40
Dimethyl phthalate	120	104		ug/L		87	32 - 137	2	40
Di-n-butyl phthalate	120	105		ug/L		88	27 - 150	1	40
4,6-Dinitro-ortho-cresol	240	245		ug/L		102	14 - 150	1	40
2,4-Dinitrophenol	240	255		ug/L		106	15 - 150	9	40
2,4-Dinitrotoluene	120	118		ug/L		99	35 - 136	3	40
2,6-Dinitrotoluene	120	113		ug/L		94	29 - 140	1	40
Di-n-octyl phthalate	120	101		ug/L		84	26 - 150	5	40
1,4-Dioxane	120	39.7		ug/L		33	10 - 87	0	40
1,2-Diphenylhydrazine (as Azobenzene)	120	89.7		ug/L		75	23 - 138	2	40
Hexachlorobenzene	120	115		ug/L		96	10 - 150	5	40
Hexachlorocyclopentadiene	120	86.2		ug/L		72	10 - 124	5	40
Hexachloroethane	120	67.0		ug/L		56	10 - 127	1	40

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 400-663434/3-A**  
**Matrix: Water**  
**Analysis Batch: 663609**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Indene	120	84.7		ug/L		71	18 - 150	2	40
Isophorone	120	82.2		ug/L		69	28 - 127	3	40
2-Methylphenol	120	83.3		ug/L		69	34 - 124	0	40
3 & 4 Methylphenol	120	77.6		ug/L		65	32 - 122	1	40
2-Nitroaniline	120	92.9		ug/L		77	24 - 139	3	40
3-Nitroaniline	120	87.4		ug/L		73	10 - 128	14	40
4-Nitroaniline	120	105		ug/L		87	28 - 118	10	40
Nitrobenzene	120	76.7		ug/L		64	29 - 120	2	40
2-Nitrophenol	120	90.5		ug/L		75	25 - 148	3	40
4-Nitrophenol	240	171		ug/L		71	12 - 129	8	40
N-Nitrosodimethylamine	120	50.1		ug/L		42	10 - 115	8	40
N-Nitrosodi-n-propylamine	120	82.6		ug/L		69	24 - 142	1	40
N-Nitrosodiphenylamine	119	105		ug/L		89	29 - 138	4	40
Pentachlorophenol	240	258		ug/L		107	19 - 150	0	40
Phenol	120	52.4		ug/L		44	11 - 95	7	40
Pyridine	240	52.9		ug/L		22	10 - 82	37	40
Quinoline	120	111		ug/L		93	40 - 140	26	40
2,4,5-Trichlorophenol	120	114		ug/L		95	30 - 144	1	40
2,4,6-Trichlorophenol	120	110		ug/L		92	27 - 147	2	40

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	88		21 - 114
2-Fluorophenol	53		10 - 105
Nitrobenzene-d5	69		16 - 127
Phenol-d5	43		10 - 129
Terphenyl-d14	94		13 - 150
2,4,6-Tribromophenol	115		10 - 150

**Lab Sample ID: 400-251985-5 MS**  
**Matrix: Water**  
**Analysis Batch: 663609**

**Client Sample ID: ROST3MW-ROX-030124**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Aniline	ND	*1	115	67.9		ug/L		59	50 - 150
Benzoic acid	ND	F1	470	229	F1	ug/L		49	50 - 150
Benzyl alcohol	ND		115	70.0		ug/L		61	50 - 150
Bis(2-chloroethoxy)methane	ND		115	83.8		ug/L		73	50 - 150
Bis(2-chloroethyl)ether	ND		115	72.7		ug/L		63	50 - 150
bis (2-chloroisopropyl) ether	ND		115	67.0		ug/L		58	50 - 150
Bis(2-ethylhexyl) phthalate	ND		115	98.0		ug/L		86	50 - 150
4-Bromophenyl phenyl ether	ND		115	118		ug/L		103	50 - 150
Butyl benzyl phthalate	ND		115	103		ug/L		90	50 - 150
4-Chloroaniline	ND		115	78.2		ug/L		68	50 - 150
4-Chloro-3-methylphenol	ND		115	95.9		ug/L		84	50 - 150
2-Chloronaphthalene	ND		115	96.3		ug/L		84	50 - 150
2-Chlorophenol	ND		115	84.3		ug/L		74	50 - 150
4-Chlorophenyl phenyl ether	ND		115	109		ug/L		95	50 - 150
Dibenz[a,h]acridine	ND		114	111		ug/L		97	50 - 150

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-251985-5 MS

Client Sample ID: ROST3MW-ROX-030124

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 663609

Prep Batch: 663434

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec Limits
	Result	Qualifier	Added	Result	Qualifier				
Dibenzofuran	ND		115	101		ug/L		88	50 - 150
3,3'-Dichlorobenzidine	ND		153	150		ug/L		98	50 - 150
2,4-Dichlorophenol	ND		115	91.8		ug/L		80	50 - 150
Diethyl phthalate	ND		115	102		ug/L		89	50 - 150
2,4-Dimethylphenol	ND		115	99.1		ug/L		87	50 - 150
Dimethyl phthalate	ND		115	103		ug/L		90	50 - 150
Di-n-butyl phthalate	ND		115	107		ug/L		93	50 - 150
4,6-Dinitro-ortho-cresol	ND		229	247		ug/L		108	50 - 150
2,4-Dinitrophenol	ND		229	239		ug/L		104	50 - 150
2,4-Dinitrotoluene	ND		115	114		ug/L		100	50 - 150
2,6-Dinitrotoluene	ND		115	106		ug/L		93	50 - 150
Di-n-octyl phthalate	ND		115	102		ug/L		89	50 - 150
1,4-Dioxane	ND	F1	115	42.5	F1	ug/L		37	50 - 150
1,2-Diphenylhydrazine (as Azobenzene)	ND		115	92.0		ug/L		80	50 - 150
Hexachlorobenzene	ND		115	118		ug/L		103	50 - 150
Hexachlorocyclopentadiene	ND		115	85.2		ug/L		74	50 - 150
Hexachloroethane	ND		115	71.9		ug/L		63	50 - 150
Indene	ND		115	86.1		ug/L		75	50 - 150
Isophorone	ND		115	80.5		ug/L		70	50 - 150
2-Methylphenol	ND		115	88.3		ug/L		77	50 - 150
3 & 4 Methylphenol	ND		115	81.8		ug/L		71	50 - 150
2-Nitroaniline	ND		115	89.7		ug/L		78	50 - 150
3-Nitroaniline	ND		115	82.9		ug/L		72	50 - 150
4-Nitroaniline	ND		115	102		ug/L		89	50 - 150
Nitrobenzene	ND		115	78.1		ug/L		68	50 - 150
2-Nitrophenol	ND		115	89.9		ug/L		79	50 - 150
4-Nitrophenol	ND		229	167		ug/L		73	50 - 150
N-Nitrosodimethylamine	ND	F1	115	52.1	F1	ug/L		45	50 - 150
N-Nitrosodi-n-propylamine	ND		115	84.6		ug/L		74	50 - 150
N-Nitrosodiphenylamine	ND		114	111		ug/L		98	50 - 150
Pentachlorophenol	ND		229	261		ug/L		114	50 - 150
Phenol	ND	F1	115	55.3	F1	ug/L		48	50 - 150
Pyridine	ND	F1 F2	229	68.1	F1	ug/L		30	50 - 150
Quinoline	ND	F1	114	49.8	F1	ug/L		44	50 - 150
2,4,5-Trichlorophenol	ND		115	111		ug/L		97	50 - 150
2,4,6-Trichlorophenol	ND		115	106		ug/L		93	50 - 150

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	91		21 - 114
2-Fluorophenol	57		10 - 105
Nitrobenzene-d5	74		16 - 127
Phenol-d5	48		10 - 129
Terphenyl-d14	100		13 - 150
2,4,6-Tribromophenol	116		10 - 150

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-251985-5 MSD

Matrix: Water

Analysis Batch: 663609

Client Sample ID: ROST3MW-ROX-030124

Prep Type: Total/NA

Prep Batch: 663434

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
Aniline	ND	*1	114	58.1		ug/L		51	50 - 150	16	40
Benzoic acid	ND	F1	466	255		ug/L		55	50 - 150	11	40
Benzyl alcohol	ND		114	74.4		ug/L		66	50 - 150	6	40
Bis(2-chloroethoxy)methane	ND		114	84.0		ug/L		74	50 - 150	0	40
Bis(2-chloroethyl)ether	ND		114	71.7		ug/L		63	50 - 150	1	40
bis (2-chloroisopropyl) ether	ND		114	68.0		ug/L		60	50 - 150	2	40
Bis(2-ethylhexyl) phthalate	ND		114	98.9		ug/L		87	50 - 150	1	40
4-Bromophenyl phenyl ether	ND		114	109		ug/L		96	50 - 150	8	40
Butyl benzyl phthalate	ND		114	100		ug/L		88	50 - 150	3	40
4-Chloroaniline	ND		114	79.1		ug/L		70	50 - 150	1	40
4-Chloro-3-methylphenol	ND		114	93.2		ug/L		82	50 - 150	3	40
2-Chloronaphthalene	ND		114	104		ug/L		91	50 - 150	7	40
2-Chlorophenol	ND		114	84.1		ug/L		74	50 - 150	0	40
4-Chlorophenyl phenyl ether	ND		114	108		ug/L		95	50 - 150	1	40
Dibenz[a,h]acridine	ND		113	117		ug/L		104	50 - 150	6	40
Dibenzofuran	ND		114	105		ug/L		93	50 - 150	4	40
3,3'-Dichlorobenzidine	ND		151	148		ug/L		98	50 - 150	1	40
2,4-Dichlorophenol	ND		114	89.6		ug/L		79	50 - 150	2	40
Diethyl phthalate	ND		114	106		ug/L		93	50 - 150	3	40
2,4-Dimethylphenol	ND		114	100		ug/L		88	50 - 150	1	40
Dimethyl phthalate	ND		114	102		ug/L		90	50 - 150	1	40
Di-n-butyl phthalate	ND		114	107		ug/L		94	50 - 150	0	40
4,6-Dinitro-ortho-cresol	ND		227	257		ug/L		113	50 - 150	4	40
2,4-Dinitrophenol	ND		227	274		ug/L		121	50 - 150	14	40
2,4-Dinitrotoluene	ND		114	118		ug/L		104	50 - 150	4	40
2,6-Dinitrotoluene	ND		114	110		ug/L		97	50 - 150	3	40
Di-n-octyl phthalate	ND		114	100		ug/L		88	50 - 150	2	40
1,4-Dioxane	ND	F1	114	42.4	F1	ug/L		37	50 - 150	0	40
1,2-Diphenylhydrazine (as Azobenzene)	ND		114	87.5		ug/L		77	50 - 150	5	40
Hexachlorobenzene	ND		114	116		ug/L		102	50 - 150	1	40
Hexachlorocyclopentadiene	ND		114	94.9		ug/L		84	50 - 150	11	40
Hexachloroethane	ND		114	74.0		ug/L		65	50 - 150	3	40
Indene	ND		114	88.2		ug/L		78	50 - 150	2	40
Isophorone	ND		114	79.6		ug/L		70	50 - 150	1	40
2-Methylphenol	ND		114	92.4		ug/L		81	50 - 150	5	40
3 & 4 Methylphenol	ND		114	84.9		ug/L		75	50 - 150	4	40
2-Nitroaniline	ND		114	88.9		ug/L		78	50 - 150	1	40
3-Nitroaniline	ND		114	81.6		ug/L		72	50 - 150	2	40
4-Nitroaniline	ND		114	107		ug/L		94	50 - 150	5	40
Nitrobenzene	ND		114	77.4		ug/L		68	50 - 150	1	40
2-Nitrophenol	ND		114	90.8		ug/L		80	50 - 150	1	40
4-Nitrophenol	ND		227	184		ug/L		81	50 - 150	9	40
N-Nitrosodimethylamine	ND	F1	114	51.8	F1	ug/L		46	50 - 150	0	40
N-Nitrosodi-n-propylamine	ND		114	85.2		ug/L		75	50 - 150	1	40
N-Nitrosodiphenylamine	ND		113	101		ug/L		90	50 - 150	9	40
Pentachlorophenol	ND		227	260		ug/L		115	50 - 150	0	40
Phenol	ND	F1	114	55.9	F1	ug/L		49	50 - 150	1	40
Pyridine	ND	F1 F2	227	38.7	F1 F2	ug/L		17	50 - 150	55	40

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 400-251985-5 MSD**

**Client Sample ID: ROST3MW-ROX-030124**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 663609**

**Prep Batch: 663434**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier		Result	Qualifier						
Quinoline	ND	F1	113	48.0	F1	ug/L		42	50 - 150	4	40
2,4,5-Trichlorophenol	ND		114	113		ug/L		99	50 - 150	1	40
2,4,6-Trichlorophenol	ND		114	106		ug/L		93	50 - 150	1	40
<b>MSD MSD</b>											
Surrogate	%Recovery	Qualifier	Limits								
2-Fluorobiphenyl	92		21 - 114								
2-Fluorophenol	59		10 - 105								
Nitrobenzene-d5	73		16 - 127								
Phenol-d5	50		10 - 129								
Terphenyl-d14	103		13 - 150								
2,4,6-Tribromophenol	125		10 - 150								

**Lab Sample ID: 400-251985-12 MS**

**Client Sample ID: MW28-ROX-030124**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 663609**

**Prep Batch: 663434**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier		Result	Qualifier						
Aniline	ND	*1	123	61.4		ug/L		50	50 - 150		
Benzoic acid	ND		506	261		ug/L		52	50 - 150		
Benzyl alcohol	ND		123	77.2		ug/L		63	50 - 150		
Bis(2-chloroethoxy)methane	ND		123	80.2		ug/L		65	50 - 150		
Bis(2-chloroethyl)ether	ND		123	72.9		ug/L		59	50 - 150		
bis (2-chloroisopropyl) ether	ND		123	67.9		ug/L		55	50 - 150		
Bis(2-ethylhexyl) phthalate	ND		123	101		ug/L		82	50 - 150		
4-Bromophenyl phenyl ether	ND		123	116		ug/L		94	50 - 150		
Butyl benzyl phthalate	ND		123	102		ug/L		83	50 - 150		
4-Chloroaniline	ND		123	76.1		ug/L		62	50 - 150		
4-Chloro-3-methylphenol	ND		123	91.9		ug/L		75	50 - 150		
2-Chloronaphthalene	ND		123	96.3		ug/L		78	50 - 150		
2-Chlorophenol	ND		123	85.2		ug/L		69	50 - 150		
4-Chlorophenyl phenyl ether	ND		123	108		ug/L		87	50 - 150		
Dibenz[a,h]acridine	ND		123	108		ug/L		88	50 - 150		
Dibenzofuran	ND		123	103		ug/L		83	50 - 150		
3,3'-Dichlorobenzidine	ND		164	135		ug/L		82	50 - 150		
2,4-Dichlorophenol	ND		123	89.0		ug/L		72	50 - 150		
Diethyl phthalate	ND		123	104		ug/L		84	50 - 150		
2,4-Dimethylphenol	ND		123	96.9		ug/L		79	50 - 150		
Dimethyl phthalate	ND		123	101		ug/L		82	50 - 150		
Di-n-butyl phthalate	ND		123	105		ug/L		85	50 - 150		
4,6-Dinitro-ortho-cresol	ND		247	248		ug/L		101	50 - 150		
2,4-Dinitrophenol	ND		247	238		ug/L		97	50 - 150		
2,4-Dinitrotoluene	ND		123	115		ug/L		93	50 - 150		
2,6-Dinitrotoluene	ND		123	108		ug/L		87	50 - 150		
Di-n-octyl phthalate	ND		123	104		ug/L		84	50 - 150		
1,4-Dioxane	ND	F1	123	45.8	F1	ug/L		37	50 - 150		
1,2-Diphenylhydrazine (as Azobenzene)	ND		123	92.9		ug/L		75	50 - 150		
Hexachlorobenzene	ND		123	119		ug/L		97	50 - 150		
Hexachlorocyclopentadiene	ND		123	82.5		ug/L		67	50 - 150		

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 400-251985-12 MS**

**Matrix: Water**

**Analysis Batch: 663609**

**Client Sample ID: MW28-ROX-030124**

**Prep Type: Total/NA**

**Prep Batch: 663434**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier		Result	Qualifier				
Hexachloroethane	ND		123	73.0		ug/L		59	50 - 150
Indene	ND		123	86.6		ug/L		70	50 - 150
Isophorone	ND		123	78.4		ug/L		64	50 - 150
2-Methylphenol	ND		123	87.7		ug/L		71	50 - 150
3 & 4 Methylphenol	ND		123	83.5		ug/L		68	50 - 150
2-Nitroaniline	ND		123	88.6		ug/L		72	50 - 150
3-Nitroaniline	ND		123	80.1		ug/L		65	50 - 150
4-Nitroaniline	ND		123	96.6		ug/L		78	50 - 150
Nitrobenzene	ND		123	76.7		ug/L		62	50 - 150
2-Nitrophenol	ND		123	88.9		ug/L		72	50 - 150
4-Nitrophenol	ND		247	164		ug/L		67	50 - 150
N-Nitrosodimethylamine	ND	F1	123	57.6	F1	ug/L		47	50 - 150
N-Nitrosodi-n-propylamine	ND		123	83.9		ug/L		68	50 - 150
N-Nitrosodiphenylamine	ND		122	110		ug/L		90	50 - 150
Pentachlorophenol	ND		247	261		ug/L		106	50 - 150
Phenol	ND	F1	123	57.8	F1	ug/L		47	50 - 150
Pyridine	ND	F1 F2	247	48.5	F1	ug/L		20	50 - 150
Quinoline	ND	F1 F2	123	39.8	F1	ug/L		32	50 - 150
2,4,5-Trichlorophenol	ND		123	111		ug/L		90	50 - 150
2,4,6-Trichlorophenol	ND		123	106		ug/L		86	50 - 150

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	87		21 - 114
2-Fluorophenol	55		10 - 105
Nitrobenzene-d5	69		16 - 127
Phenol-d5	48		10 - 129
Terphenyl-d14	96		13 - 150
2,4,6-Tribromophenol	113		10 - 150

**Lab Sample ID: 400-251985-12 MSD**

**Matrix: Water**

**Analysis Batch: 663609**

**Client Sample ID: MW28-ROX-030124**

**Prep Type: Total/NA**

**Prep Batch: 663434**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier		Result	Qualifier						
Aniline	ND	*1	123	87.3		ug/L		71	50 - 150	35	40
Benzoic acid	ND		504	258		ug/L		51	50 - 150	1	40
Benzyl alcohol	ND		123	78.2		ug/L		64	50 - 150	1	40
Bis(2-chloroethoxy)methane	ND		123	82.8		ug/L		67	50 - 150	3	40
Bis(2-chloroethyl)ether	ND		123	67.1		ug/L		55	50 - 150	8	40
bis (2-chloroisopropyl) ether	ND		123	69.2		ug/L		56	50 - 150	2	40
Bis(2-ethylhexyl) phthalate	ND		123	96.8		ug/L		79	50 - 150	4	40
4-Bromophenyl phenyl ether	ND		123	113		ug/L		92	50 - 150	3	40
Butyl benzyl phthalate	ND		123	99.4		ug/L		81	50 - 150	3	40
4-Chloroaniline	ND		123	80.1		ug/L		65	50 - 150	5	40
4-Chloro-3-methylphenol	ND		123	91.3		ug/L		74	50 - 150	1	40
2-Chloronaphthalene	ND		123	95.0		ug/L		77	50 - 150	1	40
2-Chlorophenol	ND		123	86.4		ug/L		70	50 - 150	1	40
4-Chlorophenyl phenyl ether	ND		123	106		ug/L		87	50 - 150	1	40

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 400-251985-12 MSD

Matrix: Water

Analysis Batch: 663609

Client Sample ID: MW28-ROX-030124

Prep Type: Total/NA

Prep Batch: 663434

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		
Dibenz[a,h]acridine	ND		123	113		ug/L		92	50 - 150	5	40
Dibenzofuran	ND		123	102		ug/L		83	50 - 150	1	40
3,3'-Dichlorobenzidine	ND		164	145		ug/L		89	50 - 150	7	40
2,4-Dichlorophenol	ND		123	89.9		ug/L		73	50 - 150	1	40
Diethyl phthalate	ND		123	102		ug/L		83	50 - 150	2	40
2,4-Dimethylphenol	ND		123	97.1		ug/L		79	50 - 150	0	40
Dimethyl phthalate	ND		123	99.2		ug/L		81	50 - 150	1	40
Di-n-butyl phthalate	ND		123	103		ug/L		84	50 - 150	2	40
4,6-Dinitro-ortho-cresol	ND		246	238		ug/L		97	50 - 150	4	40
2,4-Dinitrophenol	ND		246	229		ug/L		93	50 - 150	4	40
2,4-Dinitrotoluene	ND		123	115		ug/L		94	50 - 150	0	40
2,6-Dinitrotoluene	ND		123	106		ug/L		86	50 - 150	1	40
Di-n-octyl phthalate	ND		123	99.4		ug/L		81	50 - 150	5	40
1,4-Dioxane	ND	F1	123	49.3	F1	ug/L		40	50 - 150	7	40
1,2-Diphenylhydrazine (as Azobenzene)	ND		123	90.4		ug/L		74	50 - 150	3	40
Hexachlorobenzene	ND		123	116		ug/L		95	50 - 150	2	40
Hexachlorocyclopentadiene	ND		123	82.6		ug/L		67	50 - 150	0	40
Hexachloroethane	ND		123	75.9		ug/L		62	50 - 150	4	40
Indene	ND		123	90.9		ug/L		74	50 - 150	5	40
Isophorone	ND		123	77.4		ug/L		63	50 - 150	1	40
2-Methylphenol	ND		123	91.0		ug/L		74	50 - 150	4	40
3 & 4 Methylphenol	ND		123	84.7		ug/L		69	50 - 150	1	40
2-Nitroaniline	ND		123	87.0		ug/L		71	50 - 150	2	40
3-Nitroaniline	ND		123	82.9		ug/L		67	50 - 150	3	40
4-Nitroaniline	ND		123	104		ug/L		85	50 - 150	8	40
Nitrobenzene	ND		123	79.1		ug/L		64	50 - 150	3	40
2-Nitrophenol	ND		123	89.3		ug/L		73	50 - 150	0	40
4-Nitrophenol	ND		246	166		ug/L		68	50 - 150	1	40
N-Nitrosodimethylamine	ND	F1	123	60.3	F1	ug/L		49	50 - 150	5	40
N-Nitrosodi-n-propylamine	ND		123	86.2		ug/L		70	50 - 150	3	40
N-Nitrosodiphenylamine	ND		122	108		ug/L		89	50 - 150	1	40
Pentachlorophenol	ND		246	252		ug/L		103	50 - 150	3	40
Phenol	ND	F1	123	58.8	F1	ug/L		48	50 - 150	2	40
Pyridine	ND	F1 F2	246	88.3	F1 F2	ug/L		36	50 - 150	58	40
Quinoline	ND	F1 F2	123	67.9	F2	ug/L		55	50 - 150	52	40
2,4,5-Trichlorophenol	ND		123	110		ug/L		90	50 - 150	1	40
2,4,6-Trichlorophenol	ND		123	104		ug/L		84	50 - 150	2	40

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2-Fluorobiphenyl	83		21 - 114
2-Fluorophenol	56		10 - 105
Nitrobenzene-d5	69		16 - 127
Phenol-d5	48		10 - 129
Terphenyl-d14	97		13 - 150
2,4,6-Tribromophenol	108		10 - 150

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

**Lab Sample ID: MB 400-663434/1-A**  
**Matrix: Water**  
**Analysis Batch: 663594**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acenaphthene	ND		0.20	0.099	ug/L		03/06/24 10:09	03/07/24 13:04	1
Acenaphthylene	0.0577	J	0.20	0.044	ug/L		03/06/24 10:09	03/07/24 13:04	1
Anthracene	ND		0.20	0.047	ug/L		03/06/24 10:09	03/07/24 13:04	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		03/06/24 10:09	03/07/24 13:04	1
Benzo[a]pyrene	ND		0.20	0.064	ug/L		03/06/24 10:09	03/07/24 13:04	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		03/06/24 10:09	03/07/24 13:04	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		03/06/24 10:09	03/07/24 13:04	1
Benzo[k]fluoranthene	ND		0.20	0.062	ug/L		03/06/24 10:09	03/07/24 13:04	1
Chrysene	ND		0.20	0.033	ug/L		03/06/24 10:09	03/07/24 13:04	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		03/06/24 10:09	03/07/24 13:04	1
Fluoranthene	ND		0.20	0.034	ug/L		03/06/24 10:09	03/07/24 13:04	1
Fluorene	ND		0.20	0.089	ug/L		03/06/24 10:09	03/07/24 13:04	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		03/06/24 10:09	03/07/24 13:04	1
Phenanthrene	ND		0.20	0.090	ug/L		03/06/24 10:09	03/07/24 13:04	1
Pyrene	ND		0.20	0.039	ug/L		03/06/24 10:09	03/07/24 13:04	1
1-Methylnaphthalene	0.130	J	0.20	0.080	ug/L		03/06/24 10:09	03/07/24 13:04	1
2-Methylnaphthalene	0.123	J	0.20	0.066	ug/L		03/06/24 10:09	03/07/24 13:04	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Terphenyl-d14	97		18 - 147	03/06/24 10:09	03/07/24 13:04	1
2-Fluorobiphenyl	71		15 - 128	03/06/24 10:09	03/07/24 13:04	1
Nitrobenzene-d5	87		10 - 144	03/06/24 10:09	03/07/24 13:04	1

**Lab Sample ID: LCS 400-663434/2-A**  
**Matrix: Water**  
**Analysis Batch: 663594**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	Limits
		Result	Qualifier				
Acenaphthene	120	114		ug/L		95	10 - 140
Acenaphthylene	120	117		ug/L		98	10 - 140
Anthracene	120	122		ug/L		102	19 - 140
Benzo[a]anthracene	120	122		ug/L		101	25 - 140
Benzo[a]pyrene	120	117		ug/L		97	24 - 140
Benzo[b]fluoranthene	120	110		ug/L		92	34 - 140
Benzo[g,h,i]perylene	120	119		ug/L		99	13 - 140
Benzo[k]fluoranthene	120	125		ug/L		104	21 - 140
Chrysene	120	124		ug/L		103	28 - 140
Dibenz(a,h)anthracene	120	122		ug/L		102	10 - 140
Fluoranthene	120	126		ug/L		105	18 - 140
Fluorene	120	121		ug/L		101	16 - 140
Indeno[1,2,3-cd]pyrene	120	125		ug/L		104	10 - 140
Phenanthrene	120	119		ug/L		99	22 - 140
Pyrene	120	118		ug/L		98	38 - 140
1-Methylnaphthalene	120	67.6		ug/L		56	10 - 140
2-Methylnaphthalene	120	68.0		ug/L		57	10 - 140

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
Terphenyl-d14	88		18 - 147

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: LCS 400-663434/2-A**  
**Matrix: Water**  
**Analysis Batch: 663594**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

<i>Surrogate</i>	<i>LCS</i> <i>%Recovery</i>	<i>LCS</i> <i>Qualifier</i>	<i>Limits</i>
2-Fluorobiphenyl	86		15 - 128
Nitrobenzene-d5	58		10 - 144

**Lab Sample ID: LCSD 400-663434/3-A**  
**Matrix: Water**  
**Analysis Batch: 663594**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

<i>Analyte</i>	<i>Spike</i> <i>Added</i>	<i>LCSD</i> <i>Result</i>	<i>LCSD</i> <i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec</i> <i>Limits</i>	<i>RPD</i>	<i>RPD</i> <i>Limit</i>
Acenaphthene	120	106		ug/L		88	10 - 140	8	40
Acenaphthylene	120	110		ug/L		92	10 - 140	6	40
Anthracene	120	112		ug/L		94	19 - 140	8	40
Benzo[a]anthracene	120	115		ug/L		95	25 - 140	6	40
Benzo[a]pyrene	120	108		ug/L		90	24 - 140	7	40
Benzo[b]fluoranthene	120	106		ug/L		89	34 - 140	4	40
Benzo[g,h,i]perylene	120	112		ug/L		93	13 - 140	6	40
Benzo[k]fluoranthene	120	111		ug/L		92	21 - 140	12	40
Chrysene	120	114		ug/L		95	28 - 140	9	40
Dibenz(a,h)anthracene	120	119		ug/L		99	10 - 140	3	40
Fluoranthene	120	115		ug/L		96	18 - 140	9	40
Fluorene	120	114		ug/L		95	16 - 140	6	40
Indeno[1,2,3-cd]pyrene	120	118		ug/L		98	10 - 140	6	40
Phenanthrene	120	109		ug/L		91	22 - 140	8	40
Pyrene	120	111		ug/L		93	38 - 140	6	40
1-Methylnaphthalene	120	62.9		ug/L		52	10 - 140	7	40
2-Methylnaphthalene	120	63.0		ug/L		52	10 - 140	8	40

<i>Surrogate</i>	<i>LCSD</i> <i>%Recovery</i>	<i>LCSD</i> <i>Qualifier</i>	<i>Limits</i>
Terphenyl-d14	82		18 - 147
2-Fluorobiphenyl	78		15 - 128
Nitrobenzene-d5	54		10 - 144

**Lab Sample ID: 400-251985-5 MS**  
**Matrix: Water**  
**Analysis Batch: 663594**

**Client Sample ID: ROST3MW-ROX-030124**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

<i>Analyte</i>	<i>Sample</i> <i>Result</i>	<i>Sample</i> <i>Qualifier</i>	<i>Spike</i> <i>Added</i>	<i>MS</i> <i>Result</i>	<i>MS</i> <i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec</i> <i>Limits</i>
Acenaphthene	0.11	J	115	101		ug/L		88	50 - 150
Acenaphthylene	ND		115	104		ug/L		91	50 - 150
Anthracene	ND		115	107		ug/L		94	50 - 150
Benzo[a]anthracene	ND		115	112		ug/L		97	50 - 150
Benzo[a]pyrene	ND		115	104		ug/L		91	50 - 150
Benzo[b]fluoranthene	ND		115	105		ug/L		92	50 - 150
Benzo[g,h,i]perylene	ND		115	105		ug/L		92	50 - 150
Benzo[k]fluoranthene	ND		115	106		ug/L		92	50 - 150
Chrysene	ND		115	110		ug/L		96	50 - 150
Dibenz(a,h)anthracene	ND		115	111		ug/L		97	50 - 150
Fluoranthene	ND		115	111		ug/L		97	50 - 150
Fluorene	0.14	J	115	108		ug/L		94	50 - 150

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: 400-251985-5 MS**

**Client Sample ID: ROST3MW-ROX-030124**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 663594**

**Prep Batch: 663434**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier		Result	Qualifier				
Indeno[1,2,3-cd]pyrene	ND		115	110		ug/L		96	50 - 150
Phenanthrene	ND		115	104		ug/L		91	50 - 150
Pyrene	ND		115	107		ug/L		94	50 - 150
1-Methylnaphthalene	0.18	J B	115	62.3		ug/L		54	50 - 150
2-Methylnaphthalene	ND		115	62.3		ug/L		54	50 - 150

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
Terphenyl-d14	81		18 - 147
2-Fluorobiphenyl	79		15 - 128
Nitrobenzene-d5	56		10 - 144

**Lab Sample ID: 400-251985-5 MSD**

**Client Sample ID: ROST3MW-ROX-030124**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 663594**

**Prep Batch: 663434**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier		Result	Qualifier						
Acenaphthene	0.11	J	114	102		ug/L		90	50 - 150	1	40
Acenaphthylene	ND		114	105		ug/L		93	50 - 150	1	40
Anthracene	ND		114	111		ug/L		97	50 - 150	3	40
Benzo[a]anthracene	ND		114	111		ug/L		98	50 - 150	1	40
Benzo[a]pyrene	ND		114	106		ug/L		94	50 - 150	2	40
Benzo[b]fluoranthene	ND		114	95.4		ug/L		84	50 - 150	10	40
Benzo[g,h,i]perylene	ND		114	108		ug/L		95	50 - 150	3	40
Benzo[k]fluoranthene	ND		114	115		ug/L		101	50 - 150	8	40
Chrysene	ND		114	109		ug/L		96	50 - 150	2	40
Dibenz(a,h)anthracene	ND		114	111		ug/L		98	50 - 150	1	40
Fluoranthene	ND		114	111		ug/L		98	50 - 150	0	40
Fluorene	0.14	J	114	108		ug/L		95	50 - 150	0	40
Indeno[1,2,3-cd]pyrene	ND		114	113		ug/L		99	50 - 150	2	40
Phenanthrene	ND		114	106		ug/L		94	50 - 150	2	40
Pyrene	ND		114	106		ug/L		93	50 - 150	1	40
1-Methylnaphthalene	0.18	J B	114	66.1		ug/L		58	50 - 150	6	40
2-Methylnaphthalene	ND		114	65.8		ug/L		58	50 - 150	6	40

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
Terphenyl-d14	80		18 - 147
2-Fluorobiphenyl	80		15 - 128
Nitrobenzene-d5	60		10 - 144

**Lab Sample ID: 400-251985-12 MS**

**Client Sample ID: MW28-ROX-030124**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 663594**

**Prep Batch: 663434**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec
	Result	Qualifier		Result	Qualifier				
Acenaphthene	ND		123	100		ug/L		81	50 - 150
Acenaphthylene	ND		123	103		ug/L		84	50 - 150
Anthracene	ND		123	109		ug/L		88	50 - 150
Benzo[a]anthracene	ND		123	108		ug/L		87	50 - 150

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: 400-251985-12 MS**

**Matrix: Water**

**Analysis Batch: 663594**

**Client Sample ID: MW28-ROX-030124**

**Prep Type: Total/NA**

**Prep Batch: 663434**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier					
Benzo[a]pyrene	ND		123	103		ug/L		83		50 - 150
Benzo[b]fluoranthene	ND		123	95.2		ug/L		77		50 - 150
Benzo[g,h,i]perylene	ND		123	103		ug/L		84		50 - 150
Benzo[k]fluoranthene	ND		123	111		ug/L		90		50 - 150
Chrysene	ND		123	107		ug/L		87		50 - 150
Dibenz(a,h)anthracene	ND		123	108		ug/L		88		50 - 150
Fluoranthene	ND		123	109		ug/L		88		50 - 150
Fluorene	ND		123	105		ug/L		85		50 - 150
Indeno[1,2,3-cd]pyrene	ND		123	108		ug/L		88		50 - 150
Phenanthrene	ND		123	105		ug/L		85		50 - 150
Pyrene	ND		123	103		ug/L		84		50 - 150
1-Methylnaphthalene	ND		123	81.3		ug/L		66		50 - 150
2-Methylnaphthalene	ND		123	82.1		ug/L		67		50 - 150
		<b>MS</b>	<b>MS</b>							
<b>Surrogate</b>		<b>%Recovery</b>	<b>Qualifier</b>		<b>Limits</b>					
<i>Terphenyl-d14</i>		75			18 - 147					
<i>2-Fluorobiphenyl</i>		72			15 - 128					
<i>Nitrobenzene-d5</i>		69			10 - 144					

**Lab Sample ID: 400-251985-12 MSD**

**Matrix: Water**

**Analysis Batch: 663594**

**Client Sample ID: MW28-ROX-030124**

**Prep Type: Total/NA**

**Prep Batch: 663434**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier							
Acenaphthene	ND		123	106		ug/L		86		50 - 150	5	40
Acenaphthylene	ND		123	109		ug/L		89		50 - 150	5	40
Anthracene	ND		123	110		ug/L		89		50 - 150	1	40
Benzo[a]anthracene	ND		123	111		ug/L		91		50 - 150	3	40
Benzo[a]pyrene	ND		123	106		ug/L		86		50 - 150	3	40
Benzo[b]fluoranthene	ND		123	100		ug/L		81		50 - 150	5	40
Benzo[g,h,i]perylene	ND		123	103		ug/L		84		50 - 150	0	40
Benzo[k]fluoranthene	ND		123	111		ug/L		91		50 - 150	0	40
Chrysene	ND		123	109		ug/L		89		50 - 150	2	40
Dibenz(a,h)anthracene	ND		123	111		ug/L		90		50 - 150	2	40
Fluoranthene	ND		123	112		ug/L		91		50 - 150	2	40
Fluorene	ND		123	112		ug/L		91		50 - 150	7	40
Indeno[1,2,3-cd]pyrene	ND		123	110		ug/L		90		50 - 150	2	40
Phenanthrene	ND		123	105		ug/L		86		50 - 150	0	40
Pyrene	ND		123	106		ug/L		87		50 - 150	3	40
1-Methylnaphthalene	ND		123	74.1		ug/L		60		50 - 150	9	40
2-Methylnaphthalene	ND		123	74.1		ug/L		60		50 - 150	10	40
		<b>MSD</b>	<b>MSD</b>									
<b>Surrogate</b>		<b>%Recovery</b>	<b>Qualifier</b>		<b>Limits</b>							
<i>Terphenyl-d14</i>		76			18 - 147							
<i>2-Fluorobiphenyl</i>		75			15 - 128							
<i>Nitrobenzene-d5</i>		63			10 - 144							

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## Method: 8011 - EDB and DBCP in Water by Microextraction

**Lab Sample ID: MB 400-663450/1-A**  
**Matrix: Water**  
**Analysis Batch: 663403**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 663450**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2-Dibromo-3-Chloropropane	ND		0.030	0.017	ug/L		03/06/24 10:49	03/06/24 17:55	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/06/24 10:49	03/06/24 17:55	1
		MB MB	Limits			Prepared	Analyzed	Dil Fac	
Surrogate	%Recovery	Qualifier							
4-Bromofluorobenzene	55		51 - 149			03/06/24 10:49	03/06/24 17:55	1	

**Lab Sample ID: LCS 400-663450/2-A**  
**Matrix: Water**  
**Analysis Batch: 663403**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663450**

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	Limits	
		Result	Qualifier					
1,2-Dibromo-3-Chloropropane	0.101	0.123		ug/L		123	60 - 140	
1,2-Dibromoethane	0.100	0.143	*+	ug/L		142	60 - 140	
		LCS LCS	Limits			Prepared	Analyzed	Dil Fac
Surrogate	%Recovery	Qualifier						
4-Bromofluorobenzene	70		51 - 149			03/06/24 10:49	03/06/24 17:55	1

**Lab Sample ID: LCSD 400-663450/3-A**  
**Matrix: Water**  
**Analysis Batch: 663403**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 663450**

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	Limits	RPD	
		Result	Qualifier					RPD	Limit
1,2-Dibromo-3-Chloropropane	0.101	0.118		ug/L		117	60 - 140	5	30
1,2-Dibromoethane	0.100	0.116		ug/L		115	60 - 140	21	30
		LCSD LCSD	Limits			Prepared	Analyzed	Dil Fac	
Surrogate	%Recovery	Qualifier							
4-Bromofluorobenzene	63		51 - 149			03/06/24 10:49	03/06/24 17:55	1	

**Lab Sample ID: 400-251985-5 MS**  
**Matrix: Water**  
**Analysis Batch: 663403**

**Client Sample ID: ROST3MW-ROX-030124**  
**Prep Type: Total/NA**  
**Prep Batch: 663450**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	Limits
				Result	Qualifier				
1,2-Dibromo-3-Chloropropane	ND		0.0998	0.115		ug/L		116	10 - 150
1,2-Dibromoethane	ND	*+	0.0994	0.117		ug/L		117	39 - 150
		MS MS	Limits			Prepared	Analyzed	Dil Fac	
Surrogate	%Recovery	Qualifier							
4-Bromofluorobenzene	105		51 - 149			03/06/24 10:49	03/06/24 17:55	1	

**Lab Sample ID: 400-251985-5 MSD**  
**Matrix: Water**  
**Analysis Batch: 663403**

**Client Sample ID: ROST3MW-ROX-030124**  
**Prep Type: Total/NA**  
**Prep Batch: 663450**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD MSD		Unit	D	%Rec	Limits	RPD	
				Result	Qualifier					RPD	Limit
1,2-Dibromo-3-Chloropropane	ND		0.101	0.139		ug/L		137	10 - 150	19	20
1,2-Dibromoethane	ND	*+	0.101	0.118		ug/L		117	39 - 150	1	20

Eurofins Pensacola

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-251985-1

## Method: 8011 - EDB and DBCP in Water by Microextraction (Continued)

**Lab Sample ID: 400-251985-5 MSD**  
**Matrix: Water**  
**Analysis Batch: 663403**

**Client Sample ID: ROST3MW-ROX-030124**  
**Prep Type: Total/NA**  
**Prep Batch: 663450**

<i>Surrogate</i>	<i>MSD</i> <i>%Recovery</i>	<i>MSD</i> <i>Qualifier</i>	<i>Limits</i>
4-Bromofluorobenzene	103		51 - 149

**Lab Sample ID: 400-251985-12 MS**  
**Matrix: Water**  
**Analysis Batch: 663403**

**Client Sample ID: MW28-ROX-030124**  
**Prep Type: Total/NA**  
**Prep Batch: 663450**

<i>Analyte</i>	<i>Sample</i> <i>Result</i>	<i>Sample</i> <i>Qualifier</i>	<i>Spike</i> <i>Added</i>	<i>MS</i> <i>Result</i>	<i>MS</i> <i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec</i> <i>Limits</i>
1,2-Dibromo-3-Chloropropane	ND		0.0995	0.137		ug/L		138	10 - 150
1,2-Dibromoethane	ND	F2 *+	0.0991	0.123		ug/L		124	39 - 150

<i>Surrogate</i>	<i>MS</i> <i>%Recovery</i>	<i>MS</i> <i>Qualifier</i>	<i>Limits</i>
4-Bromofluorobenzene	109		51 - 149

**Lab Sample ID: 400-251985-12 MSD**  
**Matrix: Water**  
**Analysis Batch: 663403**

**Client Sample ID: MW28-ROX-030124**  
**Prep Type: Total/NA**  
**Prep Batch: 663450**

<i>Analyte</i>	<i>Sample</i> <i>Result</i>	<i>Sample</i> <i>Qualifier</i>	<i>Spike</i> <i>Added</i>	<i>MSD</i> <i>Result</i>	<i>MSD</i> <i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec</i> <i>Limits</i>	<i>RPD</i> <i>RPD</i>	<i>RPD</i> <i>Limit</i>
1,2-Dibromo-3-Chloropropane	ND		0.100	0.144		ug/L		144	10 - 150	5	20
1,2-Dibromoethane	ND	F2 *+	0.0997	0.128		ug/L		129	39 - 150	4	20

<i>Surrogate</i>	<i>MSD</i> <i>%Recovery</i>	<i>MSD</i> <i>Qualifier</i>	<i>Limits</i>
4-Bromofluorobenzene	97		51 - 149



ACCOUNT ( )  
 CALSCE ( )  
 TESTAMERICA (TestAmerica Pensacola; 3355 McLeMere Dr. Pensacola, FL 32514 (850-474-1001))  
 Other ( )

SGW FDG  
 CHEMICALS  
 TRANSPORTATION  
 PIPELINE  
 CONSULTANT  
 OTHER\_ENV\_SERVICES

RETAIL  
 LUBES

Print Bill To Contact Name: Melissa Remiger  
 PO # 60721927 - 3.1.2  
 State IL  
 900 South Central Ave; ROXANA  
 EDI DELIVERABLE TO (Name, Company, Office Location):  
 Melissa Remiger - please see special instructions 314-802-1207  
 PHONE NO.:  
 EMAIL: melissa.remiger@aecom.com  
 AECOM Project / Task Number:  
 Roxana Monthly GW  
 60721927 - 3.1.2  
 AECOM Other ID:  
 melissa.remiger@aecom.com

DATE: 3/1/2024  
 PAGE: 1 of 2

SAMPLING COMPANY: AECOM  
 ADDRESS: 100 N. Broadway, 20th Floor; ST. LOUIS, MO 63102, USA  
 PROJECT CONTACT (hardcopy or PDF Report to): Melissa Remiger, Mary Massa, Brett Howell  
 TELEPHONE: 314-429-0100 FAX: 314-429-0462  
 BILL TO CONTACT E-MAIL: melissa.remiger@aecom.com  
 TURNAROUND TIME (CALENDAR DAYS):  
 STANDARD (14 DAY)  5 DAYS  3 DAYS  2 DAYS  RESULTS NEEDED ON WEEKEND  
 LA - RWQB REPORT FORMAT  
 DELIVERABLES:  LEVEL 1  LEVEL 2  LEVEL 3  LEVEL 4  
 OTHER (SPECIFY) EDD  
 TEMPERATURE ON RECEIPT C° Cooler #1 Cooler #2 Cooler #3

**SPECIAL INSTRUCTIONS OR NOTES:**  
 Email reports to: melissa.remiger@aecom.com; mary.mass@aecom.com; brett.howell@aecom.com  
 \* Please include "J" values on Reports.  
 \* Please provide sample receipt upon login.  
 \* Please send EQuis EDDs to EDDSubmissions@aecomshell.com; Vlad.Vrijan@aecom.com

SHELL CONTRACT RATE APPLIES  
 STATE REIMBURSEMENT RATE APPLIES  
 EDD NOT NEEDED  
 RECEIPT VERIFICATION REQUESTED  
 PROVIDE LEDD DISK

LAB USE ONLY	Field Sample Identification		SAMPLING		PRESERVATIVE			NO. OF CONT.	
	DATE	TIME	DATE	TIME	HCL	HNO3	H2SO4		NONE
	TB-ROX-030124-8260-A		3/1/2024	0000	Water	2			2
	TB-ROX-030124-8011-A		3/1/2024	0000	Water	2			2
	MW11-ROX-030124		3/1/2024	0925	Water	6		2	8
	MW27-ROX-030124		3/1/2024	1030	Water	6		2	8
	ROST3MW-ROX-030124		3/1/2024	1225	Water	6		2	8
	ROST3MW-ROX-030124-MS		3/1/2024	1225	Water	6		2	8
	ROST3MW-ROX-030124-MSD		3/1/2024	1225	Water	6		2	8
	P54-ROX-030124		3/1/2024	1315	Water	6		2	8

Relinquished by: (Signature) \_\_\_\_\_  
**MARY MASSA**  
 Relinquished by: (Signature) \_\_\_\_\_  
 Received by: (Signature) \_\_\_\_\_  
 Received by: (Signature) \_\_\_\_\_  
 FEDEX: 6339 6600 0625, 6339 6600 0614  
 Date: 3/1/2024  
 Date: 3/2/24  
 Date: 3/1/24

**FIELD NOTES:**  
 REQUESTED ANALYSIS: 60721927 - 3.1.2  
 PAH 8270 SIMS  
 SVOC 8270  
 801 EDB + DBCP  
 VOC 8250  
 400-251985 COC

TEMPERATURE ON RECEIPT C°  
 Container PID Readings or Laboratory Notes:

Version: 2/9Sep/23  
 CUSTODY SEALS: 2460031, 2460030, 2460029, 2460028  
 0.0, 0.0% DEE

LAB (LOCATION)

ACCOUNT ( )  
 CALSCIENCE ( )  
 TESTAMERICA (TestAmerica Pensacola; 3355 McLemore Dr. Pensacola, FL 32514 (850-474-1001))  
 Other ( )

SOW FDG  
 CHEMICALS  
 TRANSPORTATION

PIPELINE  
 CONSULTANT  
 OTHER - ENV. SERVICES

RETAIL  
 LUBES

Print Bill To Contact Name: Melissa Remiger  
 PlanNet Site or Project ID: 25278  
 PO #: 60721927 - 3.1.2  
 GSAP Project ID: USP/00114/R/02

DATE: 3/1/2024  
 PAGE: 2 of 2

AECOM Project / Task Number:  
 Roxana Monthly GW  
 60721927 - 3.1.2  
 AECOM Other ID:

SITE ADDRESS: Street and City  
 900 South Central Ave, ROXANA  
 State: IL  
 EDI DELIVERABLE TO Name, Company, Office Location:  
 Melissa Remiger - please see special instructions 314-802-1207  
 PHONE NO.:  
 EMAIL: melissa.remiger@aecom.com

SAMPLER NAME(S) (Print):  
 E. CHALFANT ; J. MAYER

LOG CODE:  
 Bill To Contact E-MAIL: melissa.remiger@aecom.com

TURNAROUND TIME (CALENDAR DAYS):  
 STANDARD (1-4 DAY)  5 DAYS  3 DAYS  2 DAYS  RESULTS NEEDED ON WEEKEND

LA - RWQCB REPORT FORMAT  
 LEVEL 1  LEVEL 2  LEVEL 3  LEVEL 4  OTHER (SPECIFY) \_ EDD\_

DELIVERABLES: Cooler #1 Cooler #2 Cooler #3

TEMPERATURE ON RECEIPT C°

**SPECIAL INSTRUCTIONS OR NOTES :**  
 Email reports to: melissa.remiger@aecom.com; max.mass@aecom.com; Brett.Howell@aecom.com  
 Please include "J" values on Reports.  
 Please provide sample receipt upon login.  
 Please send EQUIS EDDs to EDDSubmissions@aecomshell.com; Vlad.Virjan@aecom.com

SHELL CONTRACT RATE APPLIES  
 STATE REIMBURSEMENT RATE APPLIES  
 EDD NOT NEEDED  
 RECEIPT VERIFICATION REQUESTED  
 PROVIDE LEDD DISK

LAB USE ONLY	Field Sample Identification		SAMPLING		PRESERVATIVE			NO. OF CONT.
	DATE	TIME	MATRIX	HCL	HN03	H2SO4	NONE	
	TB-ROX-030124-8260-B	0000	Water	2				2
	TB-ROX-030124-8011-B	0000	Water	2				2
	MW9-ROX-030124-EB	0830	Water	6	2			8
	MW9-ROX-030124	0955	Water	6	2			8
	MW10-ROX-030124	1050	Water	6	2			8
	MW28-ROX-030124	1230	Water	6	2			8
	MW28-ROX-030124-MS	1230	Water	6	2			8
	MW28-ROX-030124-MSD	1230	Water	6	2			8

3/1/24

Relinquished by: (Signature)  
**ELLIS CHALFANT**  
 Relinquished by: (Signature)

Relinquished by: (Signature)

Relinquished by: (Signature)

Date: 3/1/2024 Time: 1600  
 Date: 3/2/24 Time: 801  
 Date: Time:

REQUESTED ANALYSIS  
 60721927 - 3.1.2

TEMPERATURE ON RECEIPT C°

Container PID Readings or Laboratory Notes:

CUSTODY SEALS: See page 1  
 0.0°C

Version: 27 Sept 23





# Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-251985-1

**Login Number: 251985**

**List Source: Eurofins Pensacola**

**List Number: 1**

**Creator: Roberts, Alexis J**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
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, 0.0°C IR8
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.	False	F-4 arrived broken
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (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 MONTHLY GW

Job ID: 400-251985-1

## Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-24
Kansas	NELAP	E-10253	10-31-24
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-24
North Carolina (WW/SW)	State	314	12-31-24
Oklahoma	NELAP	9810	08-31-24
Pennsylvania	NELAP	68-00467	01-31-25
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-24
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	P330-21-00056	05-17-24
USDA	US Federal Programs	FLGNV23001	01-08-26
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-24

# Roxana Groundwater Monthly – February/March 2024 Data Review

Laboratory SDG: 400-252051-1-Rev.1

Data Reviewer: Andrei Niculau

Peer Reviewer: Cheyana Cokley

Date Reviewed: 03/29/2024

Guidance: USEPA National Functional Guidelines for Organic Superfund Methods Data Review 2020

Sample Identification	Sample Identification
TB-ROX-030424-8260	ROST4PZG-ROX-030424
TB-ROX-030424-8011	ROST4PZC-ROX-030424

## 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 PAHs were detected in method blank MB 400-663434/1-A. VOC and SVOCs LCS/LCSD recoveries, and/or LCS/LCSD RPDs, were outside evaluation criteria. These issues are addressed further in the appropriate sections of this data review. The laboratory report was revised on April 8, 2024, to include missing ICVs for method 8260D.

Three of 70 (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?*

Yes

Blank ID	Parameter	Analyte	Concentration /Amount
MB 400-663434/1-A	PAHs	Acenaphthylene	0.0577 µg/L
MB 400-663434/1-A	PAHs	1-Methylnaphthalene	0.130 µg/L
MB 400-663434/1-A	PAHs	2-Methylnaphthalene	0.123 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
ROST4PZC-ROX-030424	PAHs	1-Methylnaphthalene	-	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 400-663555/1002	VOCs	Hexachlorobutadiene	150	N/A	53-140
LCS/LCSD 400-663434/2-A/3-A	SVOCs	Aniline	33/55	50	10-127/40
LCS/LCSD 400-663450/2-A/3-A	VOCs by 8011	1,2-Dibromoethane	142/115	21	60-140/30

Analytical data reported as non-detect and associated with LCS/LCSD recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. Analytical data associated with LCS/LCSD RPD alone outside evaluation criteria did not require qualification.

## 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; samples analyzed did not require dilution.

**12.0 Additional Qualifications**

*Were additional qualifications applied?*

No



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Melissa Remiger  
AECOM Technical Services Inc.  
100 N. Broadway  
20th Floor  
St. Louis, Missouri 63102

Generated 3/12/2024 5:09:25 PM

## JOB DESCRIPTION

ROXANA MONTHLY GW

## JOB NUMBER

400-252051-1

Reviewed 3/29/2024  
AN

# Eurofins Pensacola

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

## Authorization



Generated  
3/12/2024 5:09:25 PM

Authorized for release by  
Leah Klingensmith, Senior Project Manager  
[Leah.Klingensmith@et.eurofinsus.com](mailto:Leah.Klingensmith@et.eurofinsus.com)  
(615)301-5038





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# Case Narrative

Client: AECOM Technical Services Inc.  
Project: ROXANA MONTHLY GW

Job ID: 400-252051-1

**Job ID: 400-252051-1**

**Eurofins Pensacola**

## Job Narrative 400-252051-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 3/5/2024 9:46 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.4°C.

### GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-663555 recovered above the upper control limit for 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, 4-Isopropyltoluene, Bromomethane and Hexachlorobutadiene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The laboratory control sample (LCS) for analytical batch 400-663555 recovered outside control limits for the following analyte: Hexachlorobutadiene. This analyte was biased high in the LCS and was not detected in the associated samples; 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 8270E: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 400-663434 and analytical batch 400-663609 recovered outside control limits for the following analytes: Aniline.

Method 8270E: The continuing calibration verification (CCV) associated with batch 400-663609 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8270E: The continuing calibration verification (CCV) associated with batch 400-663609 recovered above the upper control limit for 4-Chlorophenyl phenyl ether, 4-Bromophenyl phenyl ether, Hexachlorobenzene, Hexachlorocyclopentadiene and Dibenzofuran. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8270E: The initial calibration verification (ICV) analyzed in batch 400-661830 was outside method criteria for the following analyte(s): 2,4-Dimethylphenol, Hexachlorocyclopentadiene and N-Nitrosodimethylamine. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270E\_SIM: The method blank for preparation batch 400-663434 and analytical batch 400-663594 contained 2-Methylnaphthalene, 1-Methylnaphthalene and Acenaphthylene above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; 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 8011: The continuing calibration verification (CCV) associated with batch 400-663403 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.

Method 8011: The continuing calibration verification (CCV) associated with batch 400-663403 recovered above the upper control

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# Case Narrative

Client: AECOM Technical Services Inc.  
Project: ROXANA MONTHLY GW

Job ID: 400-252051-1

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## Job ID: 400-252051-1 (Continued)

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limit for 1,2-Dibromo-3-Chloropropane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8011: The laboratory control sample (LCS) for preparation batch 400-663450 and analytical batch 400-663403 recovered outside control limits for the following analytes: 1,2-Dibromoethane. These analytes were biased high in the LCS and were not detected in the associated samples; 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.

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# Sample Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252051-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-252051-1	TB-ROX-030424-8260	Water	03/04/24 00:00	03/05/24 09:46
400-252051-2	TB-ROX-030424-8011	Water	03/04/24 00:00	03/05/24 09:46
400-252051-3	ROST4PZG-ROX-030424	Water	03/04/24 11:30	03/05/24 09:46
400-252051-4	ROST4PZC-ROX-030424	Water	03/04/24 12:55	03/05/24 09:46

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# Detection Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252051-1

## Client Sample ID: TB-ROX-030424-8260

Lab Sample ID: 400-252051-1

No Detections.

## Client Sample ID: TB-ROX-030424-8011

Lab Sample ID: 400-252051-2

No Detections.

## Client Sample ID: ROST4PZG-ROX-030424

Lab Sample ID: 400-252051-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1.2		1.0	0.50	ug/L	1		8260D	Total/NA
Carbon disulfide	0.83	J	1.0	0.50	ug/L	1		8260D	Total/NA

## Client Sample ID: ROST4PZC-ROX-030424

Lab Sample ID: 400-252051-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1.7		1.0	0.50	ug/L	1		8260D	Total/NA
Carbon disulfide	0.62	J	1.0	0.50	ug/L	1		8260D	Total/NA
Isopropylbenzene	0.64	J	1.0	0.53	ug/L	1		8260D	Total/NA
N-Propylbenzene	1.2		1.0	0.69	ug/L	1		8260D	Total/NA
Acenaphthene	0.14	J	0.20	0.097	ug/L	1		8270E SIM	Total/NA
Anthracene	0.20		0.20	0.046	ug/L	1		8270E SIM	Total/NA
Fluoranthene	0.042	J	0.20	0.033	ug/L	1		8270E SIM	Total/NA
Fluorene	0.18	J	0.20	0.087	ug/L	1		8270E SIM	Total/NA
Pyrene	0.049	J	0.20	0.038	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	0.43	B U	0.20	0.078	ug/L	1		8270E SIM	Total/NA

This Detection Summary does not include radiochemical test results.

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252051-1

**Client Sample ID: TB-ROX-030424-8260**

**Lab Sample ID: 400-252051-1**

**Date Collected: 03/04/24 00:00**

**Matrix: Water**

**Date Received: 03/05/24 09:46**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/07/24 17:31	1
Acrolein	ND		20	3.3	ug/L			03/07/24 17:31	1
Acrylonitrile	ND		10	2.8	ug/L			03/07/24 17:31	1
Benzene	ND		1.0	0.50	ug/L			03/07/24 17:31	1
Bromobenzene	ND		1.0	0.54	ug/L			03/07/24 17:31	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/07/24 17:31	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/07/24 17:31	1
Bromoform	ND		5.0	0.25	ug/L			03/07/24 17:31	1
Bromomethane	ND		1.0	0.98	ug/L			03/07/24 17:31	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/07/24 17:31	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/07/24 17:31	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/07/24 17:31	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/07/24 17:31	1
Chloroethane	ND		1.0	0.76	ug/L			03/07/24 17:31	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/07/24 17:31	1
Chloroform	ND		1.0	0.90	ug/L			03/07/24 17:31	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/07/24 17:31	1
Chloromethane	ND		1.0	0.90	ug/L			03/07/24 17:31	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/07/24 17:31	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/07/24 17:31	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/07/24 17:31	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/07/24 17:31	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/07/24 17:31	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/07/24 17:31	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/07/24 17:31	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/07/24 17:31	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/07/24 17:31	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/07/24 17:31	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/07/24 17:31	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/07/24 17:31	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/07/24 17:31	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/07/24 17:31	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/07/24 17:31	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/07/24 17:31	1
Hexachlorobutadiene	ND	+	5.0	0.90	ug/L			03/07/24 17:31	1
2-Hexanone	ND		25	1.4	ug/L			03/07/24 17:31	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/07/24 17:31	1
Methylene bromide	ND		5.0	0.22	ug/L			03/07/24 17:31	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/07/24 17:31	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/07/24 17:31	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/07/24 17:31	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/07/24 17:31	1
Naphthalene	ND		5.0	3.0	ug/L			03/07/24 17:31	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/07/24 17:31	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/07/24 17:31	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/07/24 17:31	1
o-Xylene	ND		5.0	0.60	ug/L			03/07/24 17:31	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/07/24 17:31	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/07/24 17:31	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252051-1

**Client Sample ID: TB-ROX-030424-8260**

**Lab Sample ID: 400-252051-1**

**Date Collected: 03/04/24 00:00**

**Matrix: Water**

**Date Received: 03/05/24 09:46**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/07/24 17:31	1
Styrene	ND		1.0	1.0	ug/L			03/07/24 17:31	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/07/24 17:31	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/07/24 17:31	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/07/24 17:31	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/07/24 17:31	1
Toluene	ND		1.0	0.90	ug/L			03/07/24 17:31	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/07/24 17:31	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/07/24 17:31	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/07/24 17:31	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/07/24 17:31	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/07/24 17:31	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/07/24 17:31	1
Trichloroethene	ND		1.0	0.15	ug/L			03/07/24 17:31	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/07/24 17:31	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/07/24 17:31	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/07/24 17:31	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/07/24 17:31	1
Vinyl acetate	ND		25	0.93	ug/L			03/07/24 17:31	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/07/24 17:31	1
Xylenes, Total	ND		10	1.6	ug/L			03/07/24 17:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	100		72 - 130		03/07/24 17:31	1
Dibromofluoromethane	103		75 - 126		03/07/24 17:31	1
Toluene-d8 (Surr)	96		64 - 132		03/07/24 17:31	1



# Client Sample Results

Client: AECOM Technical Services Inc.  
 Project/Site: ROXANA MONTHLY GW

Job ID: 400-252051-1

**Client Sample ID: TB-ROX-030424-8011**

**Lab Sample ID: 400-252051-2**

**Date Collected: 03/04/24 00:00**

**Matrix: Water**

**Date Received: 03/05/24 09:46**

**Method: EPA 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	0.017	ug/L		03/06/24 10:49	03/07/24 02:20	1
1,2-Dibromoethane	ND	*+	0.020	0.015	ug/L		03/06/24 10:49	03/07/24 02:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	51		51 - 149				03/06/24 10:49	03/07/24 02:20	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252051-1

**Client Sample ID: ROST4PZG-ROX-030424**

**Lab Sample ID: 400-252051-3**

**Date Collected: 03/04/24 11:30**

**Matrix: Water**

**Date Received: 03/05/24 09:46**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/07/24 17:58	1
Acrolein	ND		20	3.3	ug/L			03/07/24 17:58	1
Acrylonitrile	ND		10	2.8	ug/L			03/07/24 17:58	1
<b>Benzene</b>	<b>1.2</b>		1.0	0.50	ug/L			03/07/24 17:58	1
Bromobenzene	ND		1.0	0.54	ug/L			03/07/24 17:58	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/07/24 17:58	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/07/24 17:58	1
Bromoform	ND		5.0	0.25	ug/L			03/07/24 17:58	1
Bromomethane	ND		1.0	0.98	ug/L			03/07/24 17:58	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/07/24 17:58	1
<b>Carbon disulfide</b>	<b>0.83</b>	<b>J</b>	1.0	0.50	ug/L			03/07/24 17:58	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/07/24 17:58	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/07/24 17:58	1
Chloroethane	ND		1.0	0.76	ug/L			03/07/24 17:58	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/07/24 17:58	1
Chloroform	ND		1.0	0.90	ug/L			03/07/24 17:58	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/07/24 17:58	1
Chloromethane	ND		1.0	0.90	ug/L			03/07/24 17:58	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/07/24 17:58	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/07/24 17:58	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/07/24 17:58	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/07/24 17:58	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/07/24 17:58	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/07/24 17:58	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/07/24 17:58	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/07/24 17:58	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/07/24 17:58	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/07/24 17:58	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/07/24 17:58	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/07/24 17:58	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/07/24 17:58	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/07/24 17:58	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/07/24 17:58	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/07/24 17:58	1
Hexachlorobutadiene	ND	*+	5.0	0.90	ug/L			03/07/24 17:58	1
2-Hexanone	ND		25	1.4	ug/L			03/07/24 17:58	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/07/24 17:58	1
Methylene bromide	ND		5.0	0.22	ug/L			03/07/24 17:58	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/07/24 17:58	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/07/24 17:58	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/07/24 17:58	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/07/24 17:58	1
Naphthalene	ND		5.0	3.0	ug/L			03/07/24 17:58	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/07/24 17:58	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/07/24 17:58	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/07/24 17:58	1
o-Xylene	ND		5.0	0.60	ug/L			03/07/24 17:58	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/07/24 17:58	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/07/24 17:58	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252051-1

**Client Sample ID: ROST4PZG-ROX-030424**

**Lab Sample ID: 400-252051-3**

Date Collected: 03/04/24 11:30

Matrix: Water

Date Received: 03/05/24 09:46

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/07/24 17:58	1
Styrene	ND		1.0	1.0	ug/L			03/07/24 17:58	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/07/24 17:58	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/07/24 17:58	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/07/24 17:58	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/07/24 17:58	1
Toluene	ND		1.0	0.90	ug/L			03/07/24 17:58	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/07/24 17:58	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/07/24 17:58	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/07/24 17:58	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/07/24 17:58	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/07/24 17:58	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/07/24 17:58	1
Trichloroethene	ND		1.0	0.15	ug/L			03/07/24 17:58	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/07/24 17:58	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/07/24 17:58	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/07/24 17:58	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/07/24 17:58	1
Vinyl acetate	ND		25	0.93	ug/L			03/07/24 17:58	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/07/24 17:58	1
Xylenes, Total	ND		10	1.6	ug/L			03/07/24 17:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		72 - 130		03/07/24 17:58	1
Dibromofluoromethane	101		75 - 126		03/07/24 17:58	1
Toluene-d8 (Surr)	99		64 - 132		03/07/24 17:58	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.096	ug/L		03/06/24 10:09	03/07/24 18:33	1
Acenaphthylene	ND		0.19	0.043	ug/L		03/06/24 10:09	03/07/24 18:33	1
Anthracene	ND		0.19	0.046	ug/L		03/06/24 10:09	03/07/24 18:33	1
Benzo[a]anthracene	ND		0.19	0.033	ug/L		03/06/24 10:09	03/07/24 18:33	1
Benzo[a]pyrene	ND		0.19	0.062	ug/L		03/06/24 10:09	03/07/24 18:33	1
Benzo[b]fluoranthene	ND		0.19	0.036	ug/L		03/06/24 10:09	03/07/24 18:33	1
Benzo[g,h,i]perylene	ND		0.19	0.026	ug/L		03/06/24 10:09	03/07/24 18:33	1
Benzo[k]fluoranthene	ND		0.19	0.060	ug/L		03/06/24 10:09	03/07/24 18:33	1
Chrysene	ND		0.19	0.032	ug/L		03/06/24 10:09	03/07/24 18:33	1
Dibenz(a,h)anthracene	ND		0.19	0.047	ug/L		03/06/24 10:09	03/07/24 18:33	1
Fluoranthene	ND		0.19	0.033	ug/L		03/06/24 10:09	03/07/24 18:33	1
Fluorene	ND		0.19	0.087	ug/L		03/06/24 10:09	03/07/24 18:33	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.033	ug/L		03/06/24 10:09	03/07/24 18:33	1
Phenanthrene	ND		0.19	0.088	ug/L		03/06/24 10:09	03/07/24 18:33	1
Pyrene	ND		0.19	0.038	ug/L		03/06/24 10:09	03/07/24 18:33	1
1-Methylnaphthalene	ND		0.19	0.078	ug/L		03/06/24 10:09	03/07/24 18:33	1
2-Methylnaphthalene	ND		0.19	0.064	ug/L		03/06/24 10:09	03/07/24 18:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	76		18 - 147	03/06/24 10:09	03/07/24 18:33	1
2-Fluorobiphenyl	59		15 - 128	03/06/24 10:09	03/07/24 18:33	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252051-1

**Client Sample ID: ROST4PZG-ROX-030424**

**Lab Sample ID: 400-252051-3**

Date Collected: 03/04/24 11:30

Matrix: Water

Date Received: 03/05/24 09:46

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	65		10 - 144	03/06/24 10:09	03/07/24 18:33	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*1	9.7	8.5	ug/L		03/06/24 10:09	03/07/24 22:48	1
Benzenethiol	ND		9.7	9.6	ug/L		03/06/24 10:09	03/07/24 22:48	1
Benzoic acid	ND		29	23	ug/L		03/06/24 10:09	03/07/24 22:48	1
Benzyl alcohol	ND		9.7	7.1	ug/L		03/06/24 10:09	03/07/24 22:48	1
Bis(2-chloroethoxy)methane	ND		9.7	4.5	ug/L		03/06/24 10:09	03/07/24 22:48	1
Bis(2-chloroethyl)ether	ND		9.7	3.8	ug/L		03/06/24 10:09	03/07/24 22:48	1
bis (2-chloroisopropyl) ether	ND		9.7	1.8	ug/L		03/06/24 10:09	03/07/24 22:48	1
Bis(2-ethylhexyl) phthalate	ND		9.7	8.7	ug/L		03/06/24 10:09	03/07/24 22:48	1
4-Bromophenyl phenyl ether	ND		9.7	8.4	ug/L		03/06/24 10:09	03/07/24 22:48	1
Butyl benzyl phthalate	ND		9.7	5.6	ug/L		03/06/24 10:09	03/07/24 22:48	1
4-Chloroaniline	ND		9.7	4.6	ug/L		03/06/24 10:09	03/07/24 22:48	1
4-Chloro-3-methylphenol	ND		9.7	5.2	ug/L		03/06/24 10:09	03/07/24 22:48	1
2-Chloronaphthalene	ND		9.7	3.7	ug/L		03/06/24 10:09	03/07/24 22:48	1
2-Chlorophenol	ND		9.7	4.0	ug/L		03/06/24 10:09	03/07/24 22:48	1
4-Chlorophenyl phenyl ether	ND		9.7	3.6	ug/L		03/06/24 10:09	03/07/24 22:48	1
Dibenz[a,h]acridine	ND		9.7	2.7	ug/L		03/06/24 10:09	03/07/24 22:48	1
Dibenzofuran	ND		9.7	3.9	ug/L		03/06/24 10:09	03/07/24 22:48	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/06/24 10:09	03/07/24 22:48	1
2,4-Dichlorophenol	ND		9.7	4.2	ug/L		03/06/24 10:09	03/07/24 22:48	1
Diethyl phthalate	ND		9.7	4.3	ug/L		03/06/24 10:09	03/07/24 22:48	1
2,4-Dimethylphenol	ND		9.7	5.1	ug/L		03/06/24 10:09	03/07/24 22:48	1
Dimethyl phthalate	ND		9.7	4.1	ug/L		03/06/24 10:09	03/07/24 22:48	1
Di-n-butyl phthalate	ND		9.7	4.5	ug/L		03/06/24 10:09	03/07/24 22:48	1
4,6-Dinitro-ortho-cresol	ND		9.7	9.7	ug/L		03/06/24 10:09	03/07/24 22:48	1
2,4-Dinitrophenol	ND		29	4.5	ug/L		03/06/24 10:09	03/07/24 22:48	1
2,4-Dinitrotoluene	ND		9.7	5.0	ug/L		03/06/24 10:09	03/07/24 22:48	1
2,6-Dinitrotoluene	ND		9.7	3.8	ug/L		03/06/24 10:09	03/07/24 22:48	1
Di-n-octyl phthalate	ND		9.7	5.8	ug/L		03/06/24 10:09	03/07/24 22:48	1
1,4-Dioxane	ND		9.7	4.2	ug/L		03/06/24 10:09	03/07/24 22:48	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	3.2	ug/L		03/06/24 10:09	03/07/24 22:48	1
Hexachlorobenzene	ND		9.7	9.4	ug/L		03/06/24 10:09	03/07/24 22:48	1
Hexachlorocyclopentadiene	ND		19	4.4	ug/L		03/06/24 10:09	03/07/24 22:48	1
Hexachloroethane	ND		9.7	5.1	ug/L		03/06/24 10:09	03/07/24 22:48	1
Indene	ND		9.7	3.5	ug/L		03/06/24 10:09	03/07/24 22:48	1
Isophorone	ND		9.7	5.1	ug/L		03/06/24 10:09	03/07/24 22:48	1
2-Methylphenol	ND		9.7	3.1	ug/L		03/06/24 10:09	03/07/24 22:48	1
3 & 4 Methylphenol	ND		19	4.5	ug/L		03/06/24 10:09	03/07/24 22:48	1
2-Nitroaniline	ND		9.7	4.9	ug/L		03/06/24 10:09	03/07/24 22:48	1
3-Nitroaniline	ND		9.7	4.6	ug/L		03/06/24 10:09	03/07/24 22:48	1
4-Nitroaniline	ND		9.7	4.0	ug/L		03/06/24 10:09	03/07/24 22:48	1
Nitrobenzene	ND		9.7	4.6	ug/L		03/06/24 10:09	03/07/24 22:48	1
2-Nitrophenol	ND		9.7	4.5	ug/L		03/06/24 10:09	03/07/24 22:48	1
4-Nitrophenol	ND		9.7	3.2	ug/L		03/06/24 10:09	03/07/24 22:48	1
N-Nitrosodimethylamine	ND		9.7	2.1	ug/L		03/06/24 10:09	03/07/24 22:48	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252051-1

**Client Sample ID: ROST4PZG-ROX-030424**

**Lab Sample ID: 400-252051-3**

**Date Collected: 03/04/24 11:30**

**Matrix: Water**

**Date Received: 03/05/24 09:46**

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.7	2.4	ug/L		03/06/24 10:09	03/07/24 22:48	1
N-Nitrosodiphenylamine	ND		9.7	3.6	ug/L		03/06/24 10:09	03/07/24 22:48	1
Pentachlorophenol	ND		19	12	ug/L		03/06/24 10:09	03/07/24 22:48	1
Phenol	ND		9.7	4.1	ug/L		03/06/24 10:09	03/07/24 22:48	1
Pyridine	ND		9.7	9.7	ug/L		03/06/24 10:09	03/07/24 22:48	1
Quinoline	ND		9.7	2.3	ug/L		03/06/24 10:09	03/07/24 22:48	1
2,4,5-Trichlorophenol	ND		9.7	3.9	ug/L		03/06/24 10:09	03/07/24 22:48	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		03/06/24 10:09	03/07/24 22:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	81		21 - 114	03/06/24 10:09	03/07/24 22:48	1
2-Fluorophenol	44		10 - 105	03/06/24 10:09	03/07/24 22:48	1
Nitrobenzene-d5	62		16 - 127	03/06/24 10:09	03/07/24 22:48	1
Phenol-d5	32		10 - 129	03/06/24 10:09	03/07/24 22:48	1
Terphenyl-d14	96		13 - 150	03/06/24 10:09	03/07/24 22:48	1
2,4,6-Tribromophenol	96		10 - 150	03/06/24 10:09	03/07/24 22:48	1

**Method: EPA 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	0.017	ug/L		03/06/24 10:49	03/07/24 02:41	1
1,2-Dibromoethane	ND	*+	0.020	0.015	ug/L		03/06/24 10:49	03/07/24 02:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	95		51 - 149	03/06/24 10:49	03/07/24 02:41	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252051-1

**Client Sample ID: ROST4PZC-ROX-030424**

**Lab Sample ID: 400-252051-4**

Date Collected: 03/04/24 12:55

Matrix: Water

Date Received: 03/05/24 09:46

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/07/24 18:25	1
Acrolein	ND		20	3.3	ug/L			03/07/24 18:25	1
Acrylonitrile	ND		10	2.8	ug/L			03/07/24 18:25	1
<b>Benzene</b>	<b>1.7</b>		1.0	0.50	ug/L			03/07/24 18:25	1
Bromobenzene	ND		1.0	0.54	ug/L			03/07/24 18:25	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/07/24 18:25	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/07/24 18:25	1
Bromoform	ND		5.0	0.25	ug/L			03/07/24 18:25	1
Bromomethane	ND		1.0	0.98	ug/L			03/07/24 18:25	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/07/24 18:25	1
<b>Carbon disulfide</b>	<b>0.62 J</b>		1.0	0.50	ug/L			03/07/24 18:25	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/07/24 18:25	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/07/24 18:25	1
Chloroethane	ND		1.0	0.76	ug/L			03/07/24 18:25	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/07/24 18:25	1
Chloroform	ND		1.0	0.90	ug/L			03/07/24 18:25	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/07/24 18:25	1
Chloromethane	ND		1.0	0.90	ug/L			03/07/24 18:25	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/07/24 18:25	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/07/24 18:25	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/07/24 18:25	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/07/24 18:25	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/07/24 18:25	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/07/24 18:25	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/07/24 18:25	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/07/24 18:25	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/07/24 18:25	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/07/24 18:25	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/07/24 18:25	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/07/24 18:25	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/07/24 18:25	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/07/24 18:25	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/07/24 18:25	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/07/24 18:25	1
Hexachlorobutadiene	ND	*+	5.0	0.90	ug/L			03/07/24 18:25	1
2-Hexanone	ND		25	1.4	ug/L			03/07/24 18:25	1
<b>Isopropylbenzene</b>	<b>0.64 J</b>		1.0	0.53	ug/L			03/07/24 18:25	1
Methylene bromide	ND		5.0	0.22	ug/L			03/07/24 18:25	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/07/24 18:25	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/07/24 18:25	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/07/24 18:25	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/07/24 18:25	1
Naphthalene	ND		5.0	3.0	ug/L			03/07/24 18:25	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/07/24 18:25	1
<b>N-Propylbenzene</b>	<b>1.2</b>		1.0	0.69	ug/L			03/07/24 18:25	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/07/24 18:25	1
o-Xylene	ND		5.0	0.60	ug/L			03/07/24 18:25	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/07/24 18:25	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/07/24 18:25	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252051-1

**Client Sample ID: ROST4PZC-ROX-030424**

**Lab Sample ID: 400-252051-4**

Date Collected: 03/04/24 12:55

Matrix: Water

Date Received: 03/05/24 09:46

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/07/24 18:25	1
Styrene	ND		1.0	1.0	ug/L			03/07/24 18:25	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/07/24 18:25	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/07/24 18:25	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/07/24 18:25	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/07/24 18:25	1
Toluene	ND		1.0	0.90	ug/L			03/07/24 18:25	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/07/24 18:25	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/07/24 18:25	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/07/24 18:25	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/07/24 18:25	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/07/24 18:25	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/07/24 18:25	1
Trichloroethene	ND		1.0	0.15	ug/L			03/07/24 18:25	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/07/24 18:25	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/07/24 18:25	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/07/24 18:25	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/07/24 18:25	1
Vinyl acetate	ND		25	0.93	ug/L			03/07/24 18:25	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/07/24 18:25	1
Xylenes, Total	ND		10	1.6	ug/L			03/07/24 18:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	103		72 - 130		03/07/24 18:25	1
Dibromofluoromethane	101		75 - 126		03/07/24 18:25	1
Toluene-d8 (Surr)	96		64 - 132		03/07/24 18:25	1

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acenaphthene</b>	<b>0.14</b>	<b>J</b>	0.20	0.097	ug/L		03/06/24 10:09	03/07/24 18:53	1
Acenaphthylene	ND		0.20	0.043	ug/L		03/06/24 10:09	03/07/24 18:53	1
<b>Anthracene</b>	<b>0.20</b>		0.20	0.046	ug/L		03/06/24 10:09	03/07/24 18:53	1
Benzo[a]anthracene	ND		0.20	0.033	ug/L		03/06/24 10:09	03/07/24 18:53	1
Benzo[a]pyrene	ND		0.20	0.063	ug/L		03/06/24 10:09	03/07/24 18:53	1
Benzo[b]fluoranthene	ND		0.20	0.036	ug/L		03/06/24 10:09	03/07/24 18:53	1
Benzo[g,h,i]perylene	ND		0.20	0.026	ug/L		03/06/24 10:09	03/07/24 18:53	1
Benzo[k]fluoranthene	ND		0.20	0.061	ug/L		03/06/24 10:09	03/07/24 18:53	1
Chrysene	ND		0.20	0.032	ug/L		03/06/24 10:09	03/07/24 18:53	1
Dibenz(a,h)anthracene	ND		0.20	0.047	ug/L		03/06/24 10:09	03/07/24 18:53	1
<b>Fluoranthene</b>	<b>0.042</b>	<b>J</b>	0.20	0.033	ug/L		03/06/24 10:09	03/07/24 18:53	1
<b>Fluorene</b>	<b>0.18</b>	<b>J</b>	0.20	0.087	ug/L		03/06/24 10:09	03/07/24 18:53	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.033	ug/L		03/06/24 10:09	03/07/24 18:53	1
Phenanthrene	ND		0.20	0.088	ug/L		03/06/24 10:09	03/07/24 18:53	1
<b>Pyrene</b>	<b>0.049</b>	<b>J</b>	0.20	0.038	ug/L		03/06/24 10:09	03/07/24 18:53	1
<b>1-Methylnaphthalene</b>	<b>0.43</b>	<b>B U</b>	0.20	0.078	ug/L		03/06/24 10:09	03/07/24 18:53	1
2-Methylnaphthalene	ND		0.20	0.065	ug/L		03/06/24 10:09	03/07/24 18:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	74		18 - 147	03/06/24 10:09	03/07/24 18:53	1
2-Fluorobiphenyl	41		15 - 128	03/06/24 10:09	03/07/24 18:53	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252051-1

**Client Sample ID: ROST4PZC-ROX-030424**

**Lab Sample ID: 400-252051-4**

Date Collected: 03/04/24 12:55

Matrix: Water

Date Received: 03/05/24 09:46

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	61		10 - 144	03/06/24 10:09	03/07/24 18:53	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*1	9.8	8.5	ug/L		03/06/24 10:09	03/07/24 23:14	1
Benzenethiol	ND		9.8	9.7	ug/L		03/06/24 10:09	03/07/24 23:14	1
Benzoic acid	ND		29	24	ug/L		03/06/24 10:09	03/07/24 23:14	1
Benzyl alcohol	ND		9.8	7.2	ug/L		03/06/24 10:09	03/07/24 23:14	1
Bis(2-chloroethoxy)methane	ND		9.8	4.5	ug/L		03/06/24 10:09	03/07/24 23:14	1
Bis(2-chloroethyl)ether	ND		9.8	3.8	ug/L		03/06/24 10:09	03/07/24 23:14	1
bis (2-chloroisopropyl) ether	ND		9.8	1.8	ug/L		03/06/24 10:09	03/07/24 23:14	1
Bis(2-ethylhexyl) phthalate	ND		9.8	8.7	ug/L		03/06/24 10:09	03/07/24 23:14	1
4-Bromophenyl phenyl ether	ND		9.8	8.4	ug/L		03/06/24 10:09	03/07/24 23:14	1
Butyl benzyl phthalate	ND		9.8	5.7	ug/L		03/06/24 10:09	03/07/24 23:14	1
4-Chloroaniline	ND		9.8	4.6	ug/L		03/06/24 10:09	03/07/24 23:14	1
4-Chloro-3-methylphenol	ND		9.8	5.2	ug/L		03/06/24 10:09	03/07/24 23:14	1
2-Chloronaphthalene	ND		9.8	3.7	ug/L		03/06/24 10:09	03/07/24 23:14	1
2-Chlorophenol	ND		9.8	4.0	ug/L		03/06/24 10:09	03/07/24 23:14	1
4-Chlorophenyl phenyl ether	ND		9.8	3.6	ug/L		03/06/24 10:09	03/07/24 23:14	1
Dibenz[a,h]acridine	ND		9.8	2.7	ug/L		03/06/24 10:09	03/07/24 23:14	1
Dibenzofuran	ND		9.8	3.9	ug/L		03/06/24 10:09	03/07/24 23:14	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/06/24 10:09	03/07/24 23:14	1
2,4-Dichlorophenol	ND		9.8	4.2	ug/L		03/06/24 10:09	03/07/24 23:14	1
Diethyl phthalate	ND		9.8	4.3	ug/L		03/06/24 10:09	03/07/24 23:14	1
2,4-Dimethylphenol	ND		9.8	5.1	ug/L		03/06/24 10:09	03/07/24 23:14	1
Dimethyl phthalate	ND		9.8	4.1	ug/L		03/06/24 10:09	03/07/24 23:14	1
Di-n-butyl phthalate	ND		9.8	4.5	ug/L		03/06/24 10:09	03/07/24 23:14	1
4,6-Dinitro-ortho-cresol	ND		9.8	9.8	ug/L		03/06/24 10:09	03/07/24 23:14	1
2,4-Dinitrophenol	ND		29	4.5	ug/L		03/06/24 10:09	03/07/24 23:14	1
2,4-Dinitrotoluene	ND		9.8	5.0	ug/L		03/06/24 10:09	03/07/24 23:14	1
2,6-Dinitrotoluene	ND		9.8	3.8	ug/L		03/06/24 10:09	03/07/24 23:14	1
Di-n-octyl phthalate	ND		9.8	5.9	ug/L		03/06/24 10:09	03/07/24 23:14	1
1,4-Dioxane	ND		9.8	4.2	ug/L		03/06/24 10:09	03/07/24 23:14	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	3.2	ug/L		03/06/24 10:09	03/07/24 23:14	1
Hexachlorobenzene	ND		9.8	9.5	ug/L		03/06/24 10:09	03/07/24 23:14	1
Hexachlorocyclopentadiene	ND		20	4.4	ug/L		03/06/24 10:09	03/07/24 23:14	1
Hexachloroethane	ND		9.8	5.1	ug/L		03/06/24 10:09	03/07/24 23:14	1
Indene	ND		9.8	3.5	ug/L		03/06/24 10:09	03/07/24 23:14	1
Isophorone	ND		9.8	5.1	ug/L		03/06/24 10:09	03/07/24 23:14	1
2-Methylphenol	ND		9.8	3.1	ug/L		03/06/24 10:09	03/07/24 23:14	1
3 & 4 Methylphenol	ND		20	4.5	ug/L		03/06/24 10:09	03/07/24 23:14	1
2-Nitroaniline	ND		9.8	4.9	ug/L		03/06/24 10:09	03/07/24 23:14	1
3-Nitroaniline	ND		9.8	4.6	ug/L		03/06/24 10:09	03/07/24 23:14	1
4-Nitroaniline	ND		9.8	4.0	ug/L		03/06/24 10:09	03/07/24 23:14	1
Nitrobenzene	ND		9.8	4.6	ug/L		03/06/24 10:09	03/07/24 23:14	1
2-Nitrophenol	ND		9.8	4.5	ug/L		03/06/24 10:09	03/07/24 23:14	1
4-Nitrophenol	ND		9.8	3.2	ug/L		03/06/24 10:09	03/07/24 23:14	1
N-Nitrosodimethylamine	ND		9.8	2.2	ug/L		03/06/24 10:09	03/07/24 23:14	1

Eurofins Pensacola

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252051-1

**Client Sample ID: ROST4PZC-ROX-030424**

**Lab Sample ID: 400-252051-4**

Date Collected: 03/04/24 12:55

Matrix: Water

Date Received: 03/05/24 09:46

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.8	2.5	ug/L		03/06/24 10:09	03/07/24 23:14	1
N-Nitrosodiphenylamine	ND		9.8	3.6	ug/L		03/06/24 10:09	03/07/24 23:14	1
Pentachlorophenol	ND		20	12	ug/L		03/06/24 10:09	03/07/24 23:14	1
Phenol	ND		9.8	4.1	ug/L		03/06/24 10:09	03/07/24 23:14	1
Pyridine	ND		9.8	9.8	ug/L		03/06/24 10:09	03/07/24 23:14	1
Quinoline	ND		9.8	2.4	ug/L		03/06/24 10:09	03/07/24 23:14	1
2,4,5-Trichlorophenol	ND		9.8	3.9	ug/L		03/06/24 10:09	03/07/24 23:14	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		03/06/24 10:09	03/07/24 23:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	86		21 - 114	03/06/24 10:09	03/07/24 23:14	1
2-Fluorophenol	44		10 - 105	03/06/24 10:09	03/07/24 23:14	1
Nitrobenzene-d5	63		16 - 127	03/06/24 10:09	03/07/24 23:14	1
Phenol-d5	35		10 - 129	03/06/24 10:09	03/07/24 23:14	1
Terphenyl-d14	109		13 - 150	03/06/24 10:09	03/07/24 23:14	1
2,4,6-Tribromophenol	115		10 - 150	03/06/24 10:09	03/07/24 23:14	1

**Method: EPA 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	0.018	ug/L		03/06/24 10:49	03/07/24 03:01	1
1,2-Dibromoethane	ND	*+	0.021	0.016	ug/L		03/06/24 10:49	03/07/24 03:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	82		51 - 149	03/06/24 10:49	03/07/24 03:01	1

# Definitions/Glossary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252051-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
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
*1	LCS/LCSD RPD exceeds control limits.
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.

### GC Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

# Surrogate Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252051-1

## Method: 8260D - Volatile Organic Compounds by 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 (72-130)	DBFM (75-126)	TOL (64-132)
400-252051-1	TB-ROX-030424-8260	100	103	96
400-252051-3	ROST4PZG-ROX-030424	102	101	99
400-252051-4	ROST4PZC-ROX-030424	103	101	96
LCS 400-663555/1002	Lab Control Sample	95	102	97
MB 400-663555/4	Method Blank	102	101	95

#### Surrogate Legend

BFB = 4-Bromofluorobenzene  
DBFM = Dibromofluoromethane  
TOL = Toluene-d8 (Surr)

## Method: 8270E - 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 (21-114)	2FP (10-105)	NBZ (16-127)	PHL (10-129)	TPHL (13-150)	TBP (10-150)
400-252051-3	ROST4PZG-ROX-030424	81	44	62	32	96	96
400-252051-4	ROST4PZC-ROX-030424	86	44	63	35	109	115
LCS 400-663434/23-A	Lab Control Sample	76	48	63	37	108	105
LCS 400-663434/2-A	Lab Control Sample	93	52	70	41	97	111
LCSD 400-663434/24-A	Lab Control Sample Dup	89	54	71	42	118	109
LCSD 400-663434/3-A	Lab Control Sample Dup	88	53	69	43	94	115
MB 400-663434/1-A	Method Blank	94	49	72	35	107	107

#### Surrogate Legend

FBP = 2-Fluorobiphenyl  
2FP = 2-Fluorophenol  
NBZ = Nitrobenzene-d5  
PHL = Phenol-d5  
TPHL = Terphenyl-d14  
TBP = 2,4,6-Tribromophenol

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TPHL (18-147)	FBP (15-128)	NBZ (10-144)
400-252051-3	ROST4PZG-ROX-030424	76	59	65
400-252051-4	ROST4PZC-ROX-030424	74	41	61
LCS 400-663434/2-A	Lab Control Sample	88	86	58
LCSD 400-663434/3-A	Lab Control Sample Dup	82	78	54
MB 400-663434/1-A	Method Blank	97	71	87

#### Surrogate Legend

TPHL = Terphenyl-d14  
FBP = 2-Fluorobiphenyl  
NBZ = Nitrobenzene-d5

# Surrogate Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252051-1

**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)
400-252051-2	TB-ROX-030424-8011	51
400-252051-3	ROST4PZG-ROX-030424	95
400-252051-4	ROST4PZC-ROX-030424	82
LCS 400-663450/2-A	Lab Control Sample	70
LCSD 400-663450/3-A	Lab Control Sample Dup	63
MB 400-663450/1-A	Method Blank	55

### Surrogate Legend

BFB = 4-Bromofluorobenzene

# Method Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252051-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET PEN
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET PEN
8270E SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	EET PEN
8011	EDB and DBCP in Water by Microextraction	EPA	EET PEN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET PEN
5030C	Purge and Trap	SW846	EET PEN
8011	Microextraction	SW846	EET 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:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252051-1

**Client Sample ID: TB-ROX-030424-8260**

**Lab Sample ID: 400-252051-1**

Date Collected: 03/04/24 00:00

Matrix: Water

Date Received: 03/05/24 09:46

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663555	03/07/24 17:31	KR	EET PEN

**Client Sample ID: TB-ROX-030424-8011**

**Lab Sample ID: 400-252051-2**

Date Collected: 03/04/24 00:00

Matrix: Water

Date Received: 03/05/24 09:46

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			34.4 mL	35 mL	663450	03/06/24 10:49	PG	EET PEN
Total/NA	Analysis	8011		1			663403	03/07/24 02:20	PG	EET PEN

**Client Sample ID: ROST4PZG-ROX-030424**

**Lab Sample ID: 400-252051-3**

Date Collected: 03/04/24 11:30

Matrix: Water

Date Received: 03/05/24 09:46

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663555	03/07/24 17:58	KR	EET PEN
Total/NA	Prep	3510C			256.8 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	663609	03/07/24 22:48	VC1	EET PEN
Total/NA	Prep	3510C			256.8 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	663594	03/07/24 18:33	KJA	EET PEN
Total/NA	Prep	8011			35.2 mL	35 mL	663450	03/06/24 10:49	PG	EET PEN
Total/NA	Analysis	8011		1			663403	03/07/24 02:41	PG	EET PEN

**Client Sample ID: ROST4PZC-ROX-030424**

**Lab Sample ID: 400-252051-4**

Date Collected: 03/04/24 12:55

Matrix: Water

Date Received: 03/05/24 09:46

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663555	03/07/24 18:25	KR	EET PEN
Total/NA	Prep	3510C			255 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	663609	03/07/24 23:14	VC1	EET PEN
Total/NA	Prep	3510C			255 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	663594	03/07/24 18:53	KJA	EET PEN
Total/NA	Prep	8011			33.2 mL	35 mL	663450	03/06/24 10:49	PG	EET PEN
Total/NA	Analysis	8011		1			663403	03/07/24 03:01	PG	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-663434/1-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	3510C			250 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	663609	03/07/24 14:56	VC1	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	663594	03/07/24 13:04	KJA	EET PEN

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# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252051-1

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-663450/1-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	663450	03/06/24 10:49	PG	EET PEN
Total/NA	Analysis	8011		1			663403	03/06/24 17:55	PG	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-663555/4**

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	8260D		1	5 mL	5 mL	663555	03/07/24 10:41	KR	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-663434/23-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	3510C			250 mL	1 mL	663434	03/06/24 10:13	BKL	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	663609	03/07/24 16:15	VC1	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-663434/2-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	3510C			250 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	663609	03/07/24 15:22	VC1	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E SIM		20	0.4 mL	0.4 mL	663594	03/07/24 13:25	KJA	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-663450/2-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	663450	03/06/24 10:49	PG	EET PEN
Total/NA	Analysis	8011		1			663403	03/06/24 18:16	PG	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-663555/1002**

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	8260D		1	5 mL	5 mL	663555	03/07/24 09:01	KR	EET PEN

# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252051-1

## Client Sample ID: Lab Control Sample Dup

## Lab Sample ID: LCSD 400-663434/24-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	3510C			250 mL	1 mL	663434	03/06/24 10:13	BKL	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	663609	03/07/24 16:41	VC1	EET PEN

## Client Sample ID: Lab Control Sample Dup

## Lab Sample ID: LCSD 400-663434/3-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	3510C			250 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	663609	03/07/24 15:48	VC1	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	663434	03/06/24 10:09	BKL	EET PEN
Total/NA	Analysis	8270E SIM		20	0.4 mL	0.4 mL	663594	03/07/24 13:45	KJA	EET PEN

## Client Sample ID: Lab Control Sample Dup

## Lab Sample ID: LCSD 400-663450/3-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	663450	03/06/24 10:49	PG	EET PEN
Total/NA	Analysis	8011		1			663403	03/06/24 18:37	PG	EET PEN

**Laboratory References:**

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

# QC Association Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252051-1

## GC/MS VOA

### Analysis Batch: 663555

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252051-1	TB-ROX-030424-8260	Total/NA	Water	8260D	
400-252051-3	ROST4PZG-ROX-030424	Total/NA	Water	8260D	
400-252051-4	ROST4PZC-ROX-030424	Total/NA	Water	8260D	
MB 400-663555/4	Method Blank	Total/NA	Water	8260D	
LCS 400-663555/1002	Lab Control Sample	Total/NA	Water	8260D	

## GC/MS Semi VOA

### Prep Batch: 663434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252051-3	ROST4PZG-ROX-030424	Total/NA	Water	3510C	
400-252051-4	ROST4PZC-ROX-030424	Total/NA	Water	3510C	
MB 400-663434/1-A	Method Blank	Total/NA	Water	3510C	
LCS 400-663434/23-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 400-663434/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 400-663434/24-A	Lab Control Sample Dup	Total/NA	Water	3510C	
LCSD 400-663434/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

### Analysis Batch: 663594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252051-3	ROST4PZG-ROX-030424	Total/NA	Water	8270E SIM	663434
400-252051-4	ROST4PZC-ROX-030424	Total/NA	Water	8270E SIM	663434
MB 400-663434/1-A	Method Blank	Total/NA	Water	8270E SIM	663434
LCS 400-663434/2-A	Lab Control Sample	Total/NA	Water	8270E SIM	663434
LCSD 400-663434/3-A	Lab Control Sample Dup	Total/NA	Water	8270E SIM	663434

### Analysis Batch: 663609

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252051-3	ROST4PZG-ROX-030424	Total/NA	Water	8270E	663434
400-252051-4	ROST4PZC-ROX-030424	Total/NA	Water	8270E	663434
MB 400-663434/1-A	Method Blank	Total/NA	Water	8270E	663434
LCS 400-663434/23-A	Lab Control Sample	Total/NA	Water	8270E	663434
LCS 400-663434/2-A	Lab Control Sample	Total/NA	Water	8270E	663434
LCSD 400-663434/24-A	Lab Control Sample Dup	Total/NA	Water	8270E	663434
LCSD 400-663434/3-A	Lab Control Sample Dup	Total/NA	Water	8270E	663434

## GC Semi VOA

### Analysis Batch: 663403

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252051-2	TB-ROX-030424-8011	Total/NA	Water	8011	663450
400-252051-3	ROST4PZG-ROX-030424	Total/NA	Water	8011	663450
400-252051-4	ROST4PZC-ROX-030424	Total/NA	Water	8011	663450
MB 400-663450/1-A	Method Blank	Total/NA	Water	8011	663450
LCS 400-663450/2-A	Lab Control Sample	Total/NA	Water	8011	663450
LCSD 400-663450/3-A	Lab Control Sample Dup	Total/NA	Water	8011	663450

### Prep Batch: 663450

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252051-2	TB-ROX-030424-8011	Total/NA	Water	8011	
400-252051-3	ROST4PZG-ROX-030424	Total/NA	Water	8011	
400-252051-4	ROST4PZC-ROX-030424	Total/NA	Water	8011	

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# QC Association Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252051-1

## GC Semi VOA (Continued)

### Prep Batch: 663450 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-663450/1-A	Method Blank	Total/NA	Water	8011	
LCS 400-663450/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 400-663450/3-A	Lab Control Sample Dup	Total/NA	Water	8011	

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252051-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 400-663555/4**  
**Matrix: Water**  
**Analysis Batch: 663555**

**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			03/07/24 10:41	1
Acrolein	ND		20	3.3	ug/L			03/07/24 10:41	1
Acrylonitrile	ND		10	2.8	ug/L			03/07/24 10:41	1
Benzene	ND		1.0	0.50	ug/L			03/07/24 10:41	1
Bromobenzene	ND		1.0	0.54	ug/L			03/07/24 10:41	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/07/24 10:41	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/07/24 10:41	1
Bromoform	ND		5.0	0.25	ug/L			03/07/24 10:41	1
Bromomethane	ND		1.0	0.98	ug/L			03/07/24 10:41	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/07/24 10:41	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/07/24 10:41	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/07/24 10:41	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/07/24 10:41	1
Chloroethane	ND		1.0	0.76	ug/L			03/07/24 10:41	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/07/24 10:41	1
Chloroform	ND		1.0	0.90	ug/L			03/07/24 10:41	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/07/24 10:41	1
Chloromethane	ND		1.0	0.90	ug/L			03/07/24 10:41	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/07/24 10:41	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/07/24 10:41	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/07/24 10:41	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/07/24 10:41	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/07/24 10:41	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/07/24 10:41	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/07/24 10:41	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/07/24 10:41	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/07/24 10:41	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/07/24 10:41	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/07/24 10:41	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/07/24 10:41	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/07/24 10:41	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/07/24 10:41	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/07/24 10:41	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/07/24 10:41	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/07/24 10:41	1
2-Hexanone	ND		25	1.4	ug/L			03/07/24 10:41	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/07/24 10:41	1
Methylene bromide	ND		5.0	0.22	ug/L			03/07/24 10:41	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/07/24 10:41	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/07/24 10:41	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/07/24 10:41	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/07/24 10:41	1
Naphthalene	ND		5.0	3.0	ug/L			03/07/24 10:41	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/07/24 10:41	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/07/24 10:41	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/07/24 10:41	1
o-Xylene	ND		5.0	0.60	ug/L			03/07/24 10:41	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/07/24 10:41	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252051-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-663555/4**  
**Matrix: Water**  
**Analysis Batch: 663555**

**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			03/07/24 10:41	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/07/24 10:41	1
Styrene	ND		1.0	1.0	ug/L			03/07/24 10:41	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/07/24 10:41	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/07/24 10:41	1
1,1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/07/24 10:41	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/07/24 10:41	1
Toluene	ND		1.0	0.90	ug/L			03/07/24 10:41	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/07/24 10:41	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/07/24 10:41	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/07/24 10:41	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/07/24 10:41	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/07/24 10:41	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/07/24 10:41	1
Trichloroethene	ND		1.0	0.15	ug/L			03/07/24 10:41	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/07/24 10:41	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/07/24 10:41	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/07/24 10:41	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/07/24 10:41	1
Vinyl acetate	ND		25	0.93	ug/L			03/07/24 10:41	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/07/24 10:41	1
Xylenes, Total	ND		10	1.6	ug/L			03/07/24 10:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		72 - 130		03/07/24 10:41	1
Dibromofluoromethane	101		75 - 126		03/07/24 10:41	1
Toluene-d8 (Surr)	95		64 - 132		03/07/24 10:41	1

**Lab Sample ID: LCS 400-663555/1002**  
**Matrix: Water**  
**Analysis Batch: 663555**

**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	500	501		ug/L		100	38 - 160
Acrylonitrile	500	526		ug/L		105	64 - 142
Benzene	50.0	54.2		ug/L		108	70 - 130
Bromobenzene	50.0	55.1		ug/L		110	70 - 132
Bromochloromethane	50.0	56.5		ug/L		113	70 - 130
Bromodichloromethane	50.0	57.9		ug/L		116	67 - 133
Bromoform	50.0	53.4		ug/L		107	57 - 140
Bromomethane	50.0	77.5		ug/L		155	10 - 160
2-Butanone (MEK)	200	214		ug/L		107	61 - 145
Carbon disulfide	50.0	42.6		ug/L		85	61 - 137
Carbon tetrachloride	50.0	57.3		ug/L		115	61 - 137
Chlorobenzene	50.0	55.9		ug/L		112	70 - 130
Chloroethane	50.0	55.4		ug/L		111	55 - 141
2-Chloroethyl vinyl ether	50.0	52.2		ug/L		104	10 - 160

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252051-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-663555/1002**  
**Matrix: Water**  
**Analysis Batch: 663555**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroform	50.0	56.9		ug/L		114	69 - 130
1-Chlorohexane	50.0	57.9		ug/L		116	69 - 130
Chloromethane	50.0	49.7		ug/L		99	58 - 137
cis-1,2-Dichloroethene	50.0	56.4		ug/L		113	68 - 130
cis-1,3-Dichloropropene	50.0	56.4		ug/L		113	69 - 132
Dibromochloromethane	50.0	56.0		ug/L		112	67 - 135
1,2-Dichlorobenzene	50.0	56.4		ug/L		113	67 - 130
1,3-Dichlorobenzene	50.0	58.3		ug/L		117	70 - 130
1,4-Dichlorobenzene	50.0	57.7		ug/L		115	70 - 130
Dichlorodifluoromethane	50.0	55.2		ug/L		110	41 - 146
1,1-Dichloroethane	50.0	55.6		ug/L		111	70 - 130
1,2-Dichloroethane	50.0	54.8		ug/L		110	69 - 130
1,1-Dichloroethene	50.0	48.7		ug/L		97	63 - 134
1,2-Dichloropropane	50.0	56.7		ug/L		113	70 - 130
1,3-Dichloropropane	50.0	52.3		ug/L		105	70 - 130
2,2-Dichloropropane	50.0	53.2		ug/L		106	52 - 135
1,1-Dichloropropene	50.0	54.7		ug/L		109	70 - 130
Ethylbenzene	50.0	55.8		ug/L		112	70 - 130
Ethyl methacrylate	50.0	51.4		ug/L		103	68 - 130
Hexachlorobutadiene	50.0	74.9	*+	ug/L		150	53 - 140
2-Hexanone	200	207		ug/L		103	65 - 137
Isopropylbenzene	50.0	59.3		ug/L		119	70 - 130
Methylene bromide	50.0	54.7		ug/L		109	70 - 130
Methylene Chloride	50.0	53.9		ug/L		108	66 - 135
4-Methyl-2-pentanone (MIBK)	200	210		ug/L		105	69 - 138
Methyl tert-butyl ether	50.0	51.5		ug/L		103	66 - 130
m-Xylene & p-Xylene	50.0	56.8		ug/L		114	70 - 130
Naphthalene	50.0	52.4		ug/L		105	47 - 149
n-Butylbenzene	50.0	61.4		ug/L		123	67 - 130
N-Propylbenzene	50.0	56.4		ug/L		113	70 - 130
o-Chlorotoluene	50.0	54.3		ug/L		109	70 - 130
o-Xylene	50.0	55.7		ug/L		111	70 - 130
p-Chlorotoluene	50.0	56.7		ug/L		113	70 - 130
p-Isopropyltoluene	50.0	60.4		ug/L		121	65 - 130
sec-Butylbenzene	50.0	58.8		ug/L		118	66 - 130
Styrene	50.0	56.8		ug/L		114	70 - 130
tert-Butylbenzene	50.0	57.5		ug/L		115	64 - 139
1,1,1,2-Tetrachloroethane	50.0	56.0		ug/L		112	67 - 131
1,1,2,2-Tetrachloroethane	50.0	48.9		ug/L		98	70 - 131
Tetrachloroethene	50.0	58.8		ug/L		118	65 - 130
Toluene	50.0	53.2		ug/L		106	70 - 130
trans-1,2-Dichloroethene	50.0	52.7		ug/L		105	70 - 130
trans-1,3-Dichloropropene	50.0	52.6		ug/L		105	63 - 130
1,2,3-Trichlorobenzene	50.0	62.0		ug/L		124	60 - 138
1,2,4-Trichlorobenzene	50.0	62.5		ug/L		125	60 - 140
1,1,1-Trichloroethane	50.0	56.6		ug/L		113	68 - 130
1,1,2-Trichloroethane	50.0	52.2		ug/L		104	70 - 130
Trichloroethene	50.0	58.0		ug/L		116	70 - 130
Trichlorofluoromethane	50.0	59.0		ug/L		118	65 - 138

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252051-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-663555/1002**  
**Matrix: Water**  
**Analysis Batch: 663555**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	50.0	50.0		ug/L		100	70 - 130
1,2,4-Trimethylbenzene	50.0	56.7		ug/L		113	70 - 130
1,3,5-Trimethylbenzene	50.0	56.1		ug/L		112	69 - 130
Vinyl acetate	100	105		ug/L		105	26 - 160
Vinyl chloride	50.0	55.9		ug/L		112	59 - 136
Xylenes, Total	100	113		ug/L		113	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	95		72 - 130
Dibromofluoromethane	102		75 - 126
Toluene-d8 (Surr)	97		64 - 132

## Method: 8270E - Semivolatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 400-663434/1-A**  
**Matrix: Water**  
**Analysis Batch: 663609**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	8.7	ug/L		03/06/24 10:09	03/07/24 14:56	1
Benzenethiol	ND		10	9.9	ug/L		03/06/24 10:09	03/07/24 14:56	1
Benzoic acid	ND		30	24	ug/L		03/06/24 10:09	03/07/24 14:56	1
Benzyl alcohol	ND		10	7.3	ug/L		03/06/24 10:09	03/07/24 14:56	1
Bis(2-chloroethoxy)methane	ND		10	4.6	ug/L		03/06/24 10:09	03/07/24 14:56	1
Bis(2-chloroethyl)ether	ND		10	3.9	ug/L		03/06/24 10:09	03/07/24 14:56	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		03/06/24 10:09	03/07/24 14:56	1
Bis(2-ethylhexyl) phthalate	ND		10	8.9	ug/L		03/06/24 10:09	03/07/24 14:56	1
4-Bromophenyl phenyl ether	ND		10	8.6	ug/L		03/06/24 10:09	03/07/24 14:56	1
Butyl benzyl phthalate	ND		10	5.8	ug/L		03/06/24 10:09	03/07/24 14:56	1
4-Chloroaniline	ND		10	4.7	ug/L		03/06/24 10:09	03/07/24 14:56	1
4-Chloro-3-methylphenol	ND		10	5.3	ug/L		03/06/24 10:09	03/07/24 14:56	1
2-Chloronaphthalene	ND		10	3.8	ug/L		03/06/24 10:09	03/07/24 14:56	1
2-Chlorophenol	ND		10	4.1	ug/L		03/06/24 10:09	03/07/24 14:56	1
4-Chlorophenyl phenyl ether	ND		10	3.7	ug/L		03/06/24 10:09	03/07/24 14:56	1
Dibenz[a,h]acridine	ND		10	2.8	ug/L		03/06/24 10:09	03/07/24 14:56	1
Dibenzofuran	ND		10	4.0	ug/L		03/06/24 10:09	03/07/24 14:56	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/06/24 10:09	03/07/24 14:56	1
2,4-Dichlorophenol	ND		10	4.3	ug/L		03/06/24 10:09	03/07/24 14:56	1
Diethyl phthalate	ND		10	4.4	ug/L		03/06/24 10:09	03/07/24 14:56	1
2,4-Dimethylphenol	ND		10	5.2	ug/L		03/06/24 10:09	03/07/24 14:56	1
Dimethyl phthalate	ND		10	4.2	ug/L		03/06/24 10:09	03/07/24 14:56	1
Di-n-butyl phthalate	ND		10	4.6	ug/L		03/06/24 10:09	03/07/24 14:56	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		03/06/24 10:09	03/07/24 14:56	1
2,4-Dinitrophenol	ND		30	4.6	ug/L		03/06/24 10:09	03/07/24 14:56	1
2,4-Dinitrotoluene	ND		10	5.1	ug/L		03/06/24 10:09	03/07/24 14:56	1
2,6-Dinitrotoluene	ND		10	3.9	ug/L		03/06/24 10:09	03/07/24 14:56	1
Di-n-octyl phthalate	ND		10	6.0	ug/L		03/06/24 10:09	03/07/24 14:56	1
1,4-Dioxane	ND		10	4.3	ug/L		03/06/24 10:09	03/07/24 14:56	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252051-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 400-663434/1-A**  
**Matrix: Water**  
**Analysis Batch: 663609**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.3	ug/L		03/06/24 10:09	03/07/24 14:56	1
Hexachlorobenzene	ND		10	9.7	ug/L		03/06/24 10:09	03/07/24 14:56	1
Hexachlorocyclopentadiene	ND		20	4.5	ug/L		03/06/24 10:09	03/07/24 14:56	1
Hexachloroethane	ND		10	5.2	ug/L		03/06/24 10:09	03/07/24 14:56	1
Indene	ND		10	3.6	ug/L		03/06/24 10:09	03/07/24 14:56	1
Isophorone	ND		10	5.2	ug/L		03/06/24 10:09	03/07/24 14:56	1
2-Methylphenol	ND		10	3.2	ug/L		03/06/24 10:09	03/07/24 14:56	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		03/06/24 10:09	03/07/24 14:56	1
2-Nitroaniline	ND		10	5.0	ug/L		03/06/24 10:09	03/07/24 14:56	1
3-Nitroaniline	ND		10	4.7	ug/L		03/06/24 10:09	03/07/24 14:56	1
4-Nitroaniline	ND		10	4.1	ug/L		03/06/24 10:09	03/07/24 14:56	1
Nitrobenzene	ND		10	4.7	ug/L		03/06/24 10:09	03/07/24 14:56	1
2-Nitrophenol	ND		10	4.6	ug/L		03/06/24 10:09	03/07/24 14:56	1
4-Nitrophenol	ND		10	3.3	ug/L		03/06/24 10:09	03/07/24 14:56	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		03/06/24 10:09	03/07/24 14:56	1
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		03/06/24 10:09	03/07/24 14:56	1
N-Nitrosodiphenylamine	ND		10	3.7	ug/L		03/06/24 10:09	03/07/24 14:56	1
Pentachlorophenol	ND		20	12	ug/L		03/06/24 10:09	03/07/24 14:56	1
Phenol	ND		10	4.2	ug/L		03/06/24 10:09	03/07/24 14:56	1
Pyridine	ND		10	10	ug/L		03/06/24 10:09	03/07/24 14:56	1
Quinoline	ND		10	2.4	ug/L		03/06/24 10:09	03/07/24 14:56	1
2,4,5-Trichlorophenol	ND		10	4.0	ug/L		03/06/24 10:09	03/07/24 14:56	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		03/06/24 10:09	03/07/24 14:56	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2-Fluorobiphenyl	94		21 - 114	03/06/24 10:09	03/07/24 14:56	1
2-Fluorophenol	49		10 - 105	03/06/24 10:09	03/07/24 14:56	1
Nitrobenzene-d5	72		16 - 127	03/06/24 10:09	03/07/24 14:56	1
Phenol-d5	35		10 - 129	03/06/24 10:09	03/07/24 14:56	1
Terphenyl-d14	107		13 - 150	03/06/24 10:09	03/07/24 14:56	1
2,4,6-Tribromophenol	107		10 - 150	03/06/24 10:09	03/07/24 14:56	1

**Lab Sample ID: LCS 400-663434/23-A**  
**Matrix: Water**  
**Analysis Batch: 663609**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	76		21 - 114
2-Fluorophenol	48		10 - 105
Nitrobenzene-d5	63		16 - 127
Phenol-d5	37		10 - 129
Terphenyl-d14	108		13 - 150
2,4,6-Tribromophenol	105		10 - 150

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252051-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 400-663434/2-A**  
**Matrix: Water**  
**Analysis Batch: 663609**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aniline	120	39.8		ug/L		33	10 - 127
Benzoic acid	492	175		ug/L		36	19 - 126
Benzyl alcohol	120	70.2		ug/L		59	17 - 109
Bis(2-chloroethoxy)methane	120	84.9		ug/L		71	24 - 125
Bis(2-chloroethyl)ether	120	74.7		ug/L		62	10 - 121
bis (2-chloroisopropyl) ether	120	67.9		ug/L		57	14 - 123
Bis(2-ethylhexyl) phthalate	120	98.2		ug/L		82	16 - 150
4-Bromophenyl phenyl ether	120	116		ug/L		96	17 - 150
Butyl benzyl phthalate	120	98.1		ug/L		82	21 - 150
4-Chloroaniline	120	73.8		ug/L		61	10 - 124
4-Chloro-3-methylphenol	120	92.8		ug/L		77	37 - 131
2-Chloronaphthalene	120	99.0		ug/L		83	24 - 132
2-Chlorophenol	120	83.6		ug/L		70	27 - 124
4-Chlorophenyl phenyl ether	120	109		ug/L		91	27 - 147
Dibenz[a,h]acridine	120	131		ug/L		110	40 - 140
Dibenzofuran	120	103		ug/L		86	30 - 135
3,3'-Dichlorobenzidine	160	152		ug/L		95	10 - 150
2,4-Dichlorophenol	120	91.3		ug/L		76	33 - 132
Diethyl phthalate	120	101		ug/L		84	37 - 145
2,4-Dimethylphenol	120	96.7		ug/L		81	38 - 132
Dimethyl phthalate	120	101		ug/L		84	32 - 137
Di-n-butyl phthalate	120	104		ug/L		87	27 - 150
4,6-Dinitro-ortho-cresol	240	248		ug/L		103	14 - 150
2,4-Dinitrophenol	240	233		ug/L		97	15 - 150
2,4-Dinitrotoluene	120	115		ug/L		96	35 - 136
2,6-Dinitrotoluene	120	111		ug/L		93	29 - 140
Di-n-octyl phthalate	120	106		ug/L		89	26 - 150
1,4-Dioxane	120	39.6		ug/L		33	10 - 87
1,2-Diphenylhydrazine (as Azobenzene)	120	91.9		ug/L		77	23 - 138
Hexachlorobenzene	120	120		ug/L		100	10 - 150
Hexachlorocyclopentadiene	120	90.5		ug/L		75	10 - 124
Hexachloroethane	120	68.0		ug/L		57	10 - 127
Indene	120	86.6		ug/L		72	18 - 150
Isophorone	120	80.1		ug/L		67	28 - 127
2-Methylphenol	120	83.0		ug/L		69	34 - 124
3 & 4 Methylphenol	120	76.7		ug/L		64	32 - 122
2-Nitroaniline	120	90.2		ug/L		75	24 - 139
3-Nitroaniline	120	76.3		ug/L		64	10 - 128
4-Nitroaniline	120	94.8		ug/L		79	28 - 118
Nitrobenzene	120	78.4		ug/L		65	29 - 120
2-Nitrophenol	120	92.9		ug/L		77	25 - 148
4-Nitrophenol	240	157		ug/L		65	12 - 129
N-Nitrosodimethylamine	120	46.3		ug/L		39	10 - 115
N-Nitrosodi-n-propylamine	120	83.9		ug/L		70	24 - 142
N-Nitrosodiphenylamine	119	110		ug/L		92	29 - 138
Pentachlorophenol	240	258		ug/L		108	19 - 150
Phenol	120	49.1		ug/L		41	11 - 95
Pyridine	240	36.5		ug/L		15	10 - 82

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252051-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 400-663434/2-A**  
**Matrix: Water**  
**Analysis Batch: 663609**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Quinoline	120	85.8		ug/L		72	40 - 140
2,4,5-Trichlorophenol	120	115		ug/L		96	30 - 144
2,4,6-Trichlorophenol	120	112		ug/L		93	27 - 147

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	93		21 - 114
2-Fluorophenol	52		10 - 105
Nitrobenzene-d5	70		16 - 127
Phenol-d5	41		10 - 129
Terphenyl-d14	97		13 - 150
2,4,6-Tribromophenol	111		10 - 150

**Lab Sample ID: LCSD 400-663434/24-A**  
**Matrix: Water**  
**Analysis Batch: 663609**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzenethiol	120	87.1		ug/L		73	40 - 140	14	40

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	89		21 - 114
2-Fluorophenol	54		10 - 105
Nitrobenzene-d5	71		16 - 127
Phenol-d5	42		10 - 129
Terphenyl-d14	118		13 - 150
2,4,6-Tribromophenol	109		10 - 150

**Lab Sample ID: LCSD 400-663434/3-A**  
**Matrix: Water**  
**Analysis Batch: 663609**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Aniline	120	66.4	*1	ug/L		55	10 - 127	50	40
Benzoic acid	492	210		ug/L		43	19 - 126	18	40
Benzyl alcohol	120	74.0		ug/L		62	17 - 109	5	40
Bis(2-chloroethoxy)methane	120	80.5		ug/L		67	24 - 125	5	40
Bis(2-chloroethyl)ether	120	71.1		ug/L		59	10 - 121	5	40
bis (2-chloroisopropyl) ether	120	64.6		ug/L		54	14 - 123	5	40
Bis(2-ethylhexyl) phthalate	120	100		ug/L		83	16 - 150	2	40
4-Bromophenyl phenyl ether	120	110		ug/L		91	17 - 150	5	40
Butyl benzyl phthalate	120	100		ug/L		83	21 - 150	2	40
4-Chloroaniline	120	81.4		ug/L		68	10 - 124	10	40
4-Chloro-3-methylphenol	120	94.1		ug/L		78	37 - 131	1	40
2-Chloronaphthalene	120	95.0		ug/L		79	24 - 132	4	40
2-Chlorophenol	120	82.8		ug/L		69	27 - 124	1	40
4-Chlorophenyl phenyl ether	120	110		ug/L		92	27 - 147	1	40
Dibenz[a,h]acridine	120	130		ug/L		108	40 - 140	1	40
Dibenzofuran	120	105		ug/L		87	30 - 135	2	40

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252051-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 400-663434/3-A**  
**Matrix: Water**  
**Analysis Batch: 663609**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
3,3'-Dichlorobenzidine	160	155		ug/L		97	10 - 150	2	40
2,4-Dichlorophenol	120	92.9		ug/L		77	33 - 132	2	40
Diethyl phthalate	120	104		ug/L		86	37 - 145	3	40
2,4-Dimethylphenol	120	97.6		ug/L		81	38 - 132	1	40
Dimethyl phthalate	120	104		ug/L		87	32 - 137	2	40
Di-n-butyl phthalate	120	105		ug/L		88	27 - 150	1	40
4,6-Dinitro-ortho-cresol	240	245		ug/L		102	14 - 150	1	40
2,4-Dinitrophenol	240	255		ug/L		106	15 - 150	9	40
2,4-Dinitrotoluene	120	118		ug/L		99	35 - 136	3	40
2,6-Dinitrotoluene	120	113		ug/L		94	29 - 140	1	40
Di-n-octyl phthalate	120	101		ug/L		84	26 - 150	5	40
1,4-Dioxane	120	39.7		ug/L		33	10 - 87	0	40
1,2-Diphenylhydrazine (as Azobenzene)	120	89.7		ug/L		75	23 - 138	2	40
Hexachlorobenzene	120	115		ug/L		96	10 - 150	5	40
Hexachlorocyclopentadiene	120	86.2		ug/L		72	10 - 124	5	40
Hexachloroethane	120	67.0		ug/L		56	10 - 127	1	40
Indene	120	84.7		ug/L		71	18 - 150	2	40
Isophorone	120	82.2		ug/L		69	28 - 127	3	40
2-Methylphenol	120	83.3		ug/L		69	34 - 124	0	40
3 & 4 Methylphenol	120	77.6		ug/L		65	32 - 122	1	40
2-Nitroaniline	120	92.9		ug/L		77	24 - 139	3	40
3-Nitroaniline	120	87.4		ug/L		73	10 - 128	14	40
4-Nitroaniline	120	105		ug/L		87	28 - 118	10	40
Nitrobenzene	120	76.7		ug/L		64	29 - 120	2	40
2-Nitrophenol	120	90.5		ug/L		75	25 - 148	3	40
4-Nitrophenol	240	171		ug/L		71	12 - 129	8	40
N-Nitrosodimethylamine	120	50.1		ug/L		42	10 - 115	8	40
N-Nitrosodi-n-propylamine	120	82.6		ug/L		69	24 - 142	1	40
N-Nitrosodiphenylamine	119	105		ug/L		89	29 - 138	4	40
Pentachlorophenol	240	258		ug/L		107	19 - 150	0	40
Phenol	120	52.4		ug/L		44	11 - 95	7	40
Pyridine	240	52.9		ug/L		22	10 - 82	37	40
Quinoline	120	111		ug/L		93	40 - 140	26	40
2,4,5-Trichlorophenol	120	114		ug/L		95	30 - 144	1	40
2,4,6-Trichlorophenol	120	110		ug/L		92	27 - 147	2	40

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	88		21 - 114
2-Fluorophenol	53		10 - 105
Nitrobenzene-d5	69		16 - 127
Phenol-d5	43		10 - 129
Terphenyl-d14	94		13 - 150
2,4,6-Tribromophenol	115		10 - 150

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252051-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

**Lab Sample ID: MB 400-663434/1-A**  
**Matrix: Water**  
**Analysis Batch: 663594**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acenaphthene	ND		0.20	0.099	ug/L		03/06/24 10:09	03/07/24 13:04	1
Acenaphthylene	0.0577	J	0.20	0.044	ug/L		03/06/24 10:09	03/07/24 13:04	1
Anthracene	ND		0.20	0.047	ug/L		03/06/24 10:09	03/07/24 13:04	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		03/06/24 10:09	03/07/24 13:04	1
Benzo[a]pyrene	ND		0.20	0.064	ug/L		03/06/24 10:09	03/07/24 13:04	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		03/06/24 10:09	03/07/24 13:04	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		03/06/24 10:09	03/07/24 13:04	1
Benzo[k]fluoranthene	ND		0.20	0.062	ug/L		03/06/24 10:09	03/07/24 13:04	1
Chrysene	ND		0.20	0.033	ug/L		03/06/24 10:09	03/07/24 13:04	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		03/06/24 10:09	03/07/24 13:04	1
Fluoranthene	ND		0.20	0.034	ug/L		03/06/24 10:09	03/07/24 13:04	1
Fluorene	ND		0.20	0.089	ug/L		03/06/24 10:09	03/07/24 13:04	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		03/06/24 10:09	03/07/24 13:04	1
Phenanthrene	ND		0.20	0.090	ug/L		03/06/24 10:09	03/07/24 13:04	1
Pyrene	ND		0.20	0.039	ug/L		03/06/24 10:09	03/07/24 13:04	1
1-Methylnaphthalene	0.130	J	0.20	0.080	ug/L		03/06/24 10:09	03/07/24 13:04	1
2-Methylnaphthalene	0.123	J	0.20	0.066	ug/L		03/06/24 10:09	03/07/24 13:04	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Terphenyl-d14	97		18 - 147	03/06/24 10:09	03/07/24 13:04	1
2-Fluorobiphenyl	71		15 - 128	03/06/24 10:09	03/07/24 13:04	1
Nitrobenzene-d5	87		10 - 144	03/06/24 10:09	03/07/24 13:04	1

**Lab Sample ID: LCS 400-663434/2-A**  
**Matrix: Water**  
**Analysis Batch: 663594**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	Limits
		Result	Qualifier				
Acenaphthene	120	114		ug/L		95	10 - 140
Acenaphthylene	120	117		ug/L		98	10 - 140
Anthracene	120	122		ug/L		102	19 - 140
Benzo[a]anthracene	120	122		ug/L		101	25 - 140
Benzo[a]pyrene	120	117		ug/L		97	24 - 140
Benzo[b]fluoranthene	120	110		ug/L		92	34 - 140
Benzo[g,h,i]perylene	120	119		ug/L		99	13 - 140
Benzo[k]fluoranthene	120	125		ug/L		104	21 - 140
Chrysene	120	124		ug/L		103	28 - 140
Dibenz(a,h)anthracene	120	122		ug/L		102	10 - 140
Fluoranthene	120	126		ug/L		105	18 - 140
Fluorene	120	121		ug/L		101	16 - 140
Indeno[1,2,3-cd]pyrene	120	125		ug/L		104	10 - 140
Phenanthrene	120	119		ug/L		99	22 - 140
Pyrene	120	118		ug/L		98	38 - 140
1-Methylnaphthalene	120	67.6		ug/L		56	10 - 140
2-Methylnaphthalene	120	68.0		ug/L		57	10 - 140

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
Terphenyl-d14	88		18 - 147

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252051-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: LCS 400-663434/2-A**  
**Matrix: Water**  
**Analysis Batch: 663594**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Surrogate	LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	86		15 - 128
Nitrobenzene-d5	58		10 - 144

**Lab Sample ID: LCSD 400-663434/3-A**  
**Matrix: Water**  
**Analysis Batch: 663594**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 663434**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Acenaphthene	120	106		ug/L		88	10 - 140	8	40	
Acenaphthylene	120	110		ug/L		92	10 - 140	6	40	
Anthracene	120	112		ug/L		94	19 - 140	8	40	
Benzo[a]anthracene	120	115		ug/L		95	25 - 140	6	40	
Benzo[a]pyrene	120	108		ug/L		90	24 - 140	7	40	
Benzo[b]fluoranthene	120	106		ug/L		89	34 - 140	4	40	
Benzo[g,h,i]perylene	120	112		ug/L		93	13 - 140	6	40	
Benzo[k]fluoranthene	120	111		ug/L		92	21 - 140	12	40	
Chrysene	120	114		ug/L		95	28 - 140	9	40	
Dibenz(a,h)anthracene	120	119		ug/L		99	10 - 140	3	40	
Fluoranthene	120	115		ug/L		96	18 - 140	9	40	
Fluorene	120	114		ug/L		95	16 - 140	6	40	
Indeno[1,2,3-cd]pyrene	120	118		ug/L		98	10 - 140	6	40	
Phenanthrene	120	109		ug/L		91	22 - 140	8	40	
Pyrene	120	111		ug/L		93	38 - 140	6	40	
1-Methylnaphthalene	120	62.9		ug/L		52	10 - 140	7	40	
2-Methylnaphthalene	120	63.0		ug/L		52	10 - 140	8	40	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
Terphenyl-d14	82		18 - 147
2-Fluorobiphenyl	78		15 - 128
Nitrobenzene-d5	54		10 - 144

## Method: 8011 - EDB and DBCP in Water by Microextraction

**Lab Sample ID: MB 400-663450/1-A**  
**Matrix: Water**  
**Analysis Batch: 663403**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 663450**

Analyte	MB		RL	MDL	Unit	D	Prepared		Analyzed		Dil Fac
	Result	Qualifier					Time	Time	Time	Time	
1,2-Dibromo-3-Chloropropane	ND		0.030	0.017	ug/L		03/06/24 10:49	03/06/24 17:55			1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/06/24 10:49	03/06/24 17:55			1

Surrogate	MB		Limits	Prepared		Analyzed		Dil Fac
	%Recovery	Qualifier		Time	Time	Time	Time	
4-Bromofluorobenzene	55		51 - 149	03/06/24 10:49	03/06/24 17:55			1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252051-1

## Method: 8011 - EDB and DBCP in Water by Microextraction (Continued)

**Lab Sample ID: LCS 400-663450/2-A**  
**Matrix: Water**  
**Analysis Batch: 663403**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663450**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dibromo-3-Chloropropane	0.101	0.123		ug/L		123	60 - 140
1,2-Dibromoethane	0.100	0.143	*+	ug/L		142	60 - 140
<b>LCS LCS</b>							
Surrogate	%Recovery	Qualifier	Limits				
4-Bromofluorobenzene	70		51 - 149				

**Lab Sample ID: LCSD 400-663450/3-A**  
**Matrix: Water**  
**Analysis Batch: 663403**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 663450**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dibromo-3-Chloropropane	0.101	0.118		ug/L		117	60 - 140	5	30
1,2-Dibromoethane	0.100	0.116		ug/L		115	60 - 140	21	30
<b>LCSD LCSD</b>									
Surrogate	%Recovery	Qualifier	Limits						
4-Bromofluorobenzene	63		51 - 149						



LAB (LOCATION) ACQUEST ( )

ACQUEST ( )  
 CALCSCIENCE ( )  
 TESTAMERICA (TestAmerica Pensacola; 3355 McLemore Dr. Pensacola, FL 32514 (850-474-1001))  
 Other ( )

SGW FDG  
 CHEMICALS  
 TRANSPORTATION

PIPELINE  
 CONSULTANT  
 OTHER\_EWV\_SERVICES

RETAIL  
 LUBES

PRINT BILL TO CONTACT NAME: Melissa Remiger  
 PO #: 60721927 - 3.1.2  
 STATE: IL  
 SITE ADDRESS: Street and City  
 900 South Central Ave; ROXANA  
 PHONE NO.: 314-802-1207  
 E-MAIL: melissa.remiger@aecom.com  
 AECOM Project / Task Number:  
 Roxana Monthly GW  
 60721927 - 3.1.2

AECOM Project / Task Number:  
 Roxana Monthly GW  
 60721927 - 3.1.2

REQUESTED ANALYSIS  
 60721927 - 3.1.2

FIELD NOTES:  
 TEMPERATURE ON RECEIPT C°  
 Container PID Readings or Laboratory Notes:

LAB USE ONLY	Field Sample Identification	SAMPLING		PRESERVATIVE				NO. OF CONT.
		DATE	TIME	MATRIX	HCL	HNO3	H2SO4	
	TB-ROX-030424-8260	3/4/2024	0000	Water	2			2
	TB-ROX-030424-8011	3/4/2024	0000	Water	2			2
	ROST4PZG-ROX-030424	3/4/2024	1130	Water	6	2		8
	ROST4PZC-ROX-030424	3/4/2024	1255	Water	6	2		8
	<del>PAH 8270 SIMS</del>							
	<del>SVOC 8270</del>							
	<del>8011 EDB + DBCP</del>							
	<del>VOC 8260</del>							

SPECIAL INSTRUCTIONS OR NOTES:  
 LA - RWQCB REPORT FORMAT  
 SHELL CONTRACT RATE APPLIES  
 STATE REIMBURSEMENT RATE APPLIES  
 EDD NOT NEEDED  
 RECEIPT VERIFICATION REQUESTED  
 PROVIDE LEDD DISK

TURNAROUND TIME (CALENDAR DAYS):  
 STANDARD (14 DAY)  
 3 DAYS  
 2 DAYS  
 RESULTS NEEDED ON WEEKEND

BILL TO CONTACT E-MAIL: melissa.remiger@aecom.com  
 314-429-0462

ADDRESS: 100 N. Broadway, 20th Floor, ST. LOUIS, MO 63102, USA  
 PROJECT CONTACT (Hardcopy or PDF Report to):  
 Melissa Remiger, Mary Massa, Brett Howell

RELINQUISHED BY (Signature):  
 E. CHALFANT  
 RECEIVED BY (Signature):  
 FEDEX: 6339 6600 0636  
 RECEIVED BY (Signature):

CUSTODY SEALS: 1599836 ; 1599837  
 0.4% FR 11  
 3/12/2024



# Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-252051-1

**Login Number: 252051**

**List Source: Eurofins Pensacola**

**List Number: 1**

**Creator: Earnest, Tamantha**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
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	0.4°C IR11
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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (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 MONTHLY GW

Job ID: 400-252051-1

## Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-24
Kansas	NELAP	E-10253	10-31-24
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-24
North Carolina (WW/SW)	State	314	12-31-24
Oklahoma	NELAP	9810	08-31-24
Pennsylvania	NELAP	68-00467	01-31-25
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-24
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	P330-21-00056	05-17-24
USDA	US Federal Programs	FLGNV23001	01-08-26
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-24

# Roxana Groundwater Monthly – February/March 2024 Data Review

Laboratory SDG: 400-252220-1-Rev.1

Data Reviewer: Adelina Gita

Peer Reviewer: Cheyana Cokley

Date Reviewed: 03/29/2024

Guidance: USEPA National Functional Guidelines for Organic Superfund Methods  
Data Review 2020

Sample Identification	Sample Identification
TB-ROX-030524-8260-BP	TB-ROX-030524-8011-BP
MW23-ROX-030524	--

## 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 continuing calibration verification (CCV) for several VOCs and SVOCs were outside evaluation criteria, biased high. No data qualification was required. The laboratory report was revised on March 25, 2024, to include missing ICVs for method 8270E.

Three of 70 (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?*

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; samples analyzed did not require dilution.

**12.0 Additional Qualifications**

*Were additional qualifications applied?*

No



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Melissa Remiger  
AECOM Technical Services Inc.  
100 N. Broadway  
20th Floor  
St. Louis, Missouri 63102

Generated 3/13/2024 6:04:21 PM

## JOB DESCRIPTION

ROXANA MONTHLY GW

## JOB NUMBER

400-252220-1

Reviewed 3/29/2024  
AG



# Eurofins Pensacola

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

## Authorization



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Authorized for release by  
Leah Klingensmith, Senior Project Manager  
[Leah.Klingensmith@et.eurofinsus.com](mailto:Leah.Klingensmith@et.eurofinsus.com)  
(615)301-5038



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# Case Narrative

Client: AECOM Technical Services Inc.  
Project: ROXANA MONTHLY GW

Job ID: 400-252220-1

**Job ID: 400-252220-1**

**Eurofins Pensacola**

## Job Narrative 400-252220-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 3/6/2024 9:34 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.3°C and 1.5°C.

### GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-663874 recovered above the upper control limit for Hexachlorobutadiene and Methylene Chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The preservative used in the sample containers provided is not compatible with one of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-ROX-030524-8260-BP (400-252220-1) and MW23-ROX-030524 (400-252220-3). The requested target analyte list includes 2-Chloroethyl vinyl ether, Acrolein and Acrylonitrile, which acid-labile compounds that degrades 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 8270E: The continuing calibration verification (CCV) associated with batch 400-664139 recovered above the upper control limit for 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 4-Chlorophenyl phenyl ether, 4-Bromophenyl phenyl ether and Hexachlorobenzene. 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.

### GC Semi VOA

Method 8011: Surrogate recovery in the final CCV for batch 664136 was outside of CCV limits but the target analytes were in control and non-detect in the samples. All surrogates were within the surrogate limits and the data has been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Eurofins Pensacola

# Sample Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252220-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-252220-1	TB-ROX-030524-8260-BP	Water	03/05/24 00:00	03/06/24 09:34
400-252220-2	TB-ROX-030524-8011-BP	Water	03/05/24 00:00	03/06/24 09:34
400-252220-3	MW23-ROX-030524	Water	03/05/24 09:30	03/06/24 09:34

1

2

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15

# Detection Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252220-1

**Client Sample ID: TB-ROX-030524-8260-BP**

**Lab Sample ID: 400-252220-1**

No Detections.

**Client Sample ID: TB-ROX-030524-8011-BP**

**Lab Sample ID: 400-252220-2**

No Detections.

**Client Sample ID: MW23-ROX-030524**

**Lab Sample ID: 400-252220-3**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.59	J	1.0	0.20	ug/L	1		8260D	Total/NA
Methyl tert-butyl ether	1.0		1.0	0.22	ug/L	1		8260D	Total/NA
Trichloroethene	0.20	J	1.0	0.15	ug/L	1		8260D	Total/NA
1-Methylnaphthalene	0.10	J	0.20	0.079	ug/L	1		8270E SIM	Total/NA

This Detection Summary does not include radiochemical test results.

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252220-1

**Client Sample ID: TB-ROX-030524-8260-BP**

**Lab Sample ID: 400-252220-1**

**Date Collected: 03/05/24 00:00**

**Matrix: Water**

**Date Received: 03/06/24 09:34**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/10/24 18:18	1
Acrolein	ND		20	3.3	ug/L			03/10/24 18:18	1
Acrylonitrile	ND		10	2.8	ug/L			03/10/24 18:18	1
Benzene	ND		1.0	0.50	ug/L			03/10/24 18:18	1
Bromobenzene	ND		1.0	0.54	ug/L			03/10/24 18:18	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/10/24 18:18	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/10/24 18:18	1
Bromoform	ND		5.0	0.25	ug/L			03/10/24 18:18	1
Bromomethane	ND		1.0	0.98	ug/L			03/10/24 18:18	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/10/24 18:18	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/10/24 18:18	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/10/24 18:18	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/10/24 18:18	1
Chloroethane	ND		1.0	0.76	ug/L			03/10/24 18:18	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/10/24 18:18	1
Chloroform	ND		1.0	0.90	ug/L			03/10/24 18:18	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/10/24 18:18	1
Chloromethane	ND		1.0	0.90	ug/L			03/10/24 18:18	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/10/24 18:18	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/10/24 18:18	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/10/24 18:18	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/10/24 18:18	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/10/24 18:18	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/10/24 18:18	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/10/24 18:18	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/10/24 18:18	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/10/24 18:18	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/10/24 18:18	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 18:18	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 18:18	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 18:18	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/10/24 18:18	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/10/24 18:18	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/10/24 18:18	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/10/24 18:18	1
2-Hexanone	ND		25	1.4	ug/L			03/10/24 18:18	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/10/24 18:18	1
Methylene bromide	ND		5.0	0.22	ug/L			03/10/24 18:18	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/10/24 18:18	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/10/24 18:18	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/10/24 18:18	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/10/24 18:18	1
Naphthalene	ND		5.0	3.0	ug/L			03/10/24 18:18	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/10/24 18:18	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/10/24 18:18	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/10/24 18:18	1
o-Xylene	ND		5.0	0.60	ug/L			03/10/24 18:18	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/10/24 18:18	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/10/24 18:18	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252220-1

**Client Sample ID: TB-ROX-030524-8260-BP**

**Lab Sample ID: 400-252220-1**

**Date Collected: 03/05/24 00:00**

**Matrix: Water**

**Date Received: 03/06/24 09:34**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/10/24 18:18	1
Styrene	ND		1.0	1.0	ug/L			03/10/24 18:18	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/10/24 18:18	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/10/24 18:18	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/10/24 18:18	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/10/24 18:18	1
Toluene	ND		1.0	0.90	ug/L			03/10/24 18:18	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/10/24 18:18	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/10/24 18:18	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/10/24 18:18	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/10/24 18:18	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/10/24 18:18	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/10/24 18:18	1
Trichloroethene	ND		1.0	0.15	ug/L			03/10/24 18:18	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/10/24 18:18	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/10/24 18:18	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/10/24 18:18	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/10/24 18:18	1
Vinyl acetate	ND		25	0.93	ug/L			03/10/24 18:18	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/10/24 18:18	1
Xylenes, Total	ND		10	1.6	ug/L			03/10/24 18:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		72 - 130		03/10/24 18:18	1
Dibromofluoromethane	106		75 - 126		03/10/24 18:18	1
Toluene-d8 (Surr)	96		64 - 132		03/10/24 18:18	1



# Client Sample Results

Client: AECOM Technical Services Inc.  
 Project/Site: ROXANA MONTHLY GW

Job ID: 400-252220-1

**Client Sample ID: TB-ROX-030524-8011-BP**

**Lab Sample ID: 400-252220-2**

**Date Collected: 03/05/24 00:00**

**Matrix: Water**

**Date Received: 03/06/24 09:34**

**Method: EPA 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	0.017	ug/L		03/11/24 11:28	03/13/24 14:28	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/11/24 11:28	03/13/24 14:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	147		51 - 149				03/11/24 11:28	03/13/24 14:28	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252220-1

**Client Sample ID: MW23-ROX-030524**

**Lab Sample ID: 400-252220-3**

Date Collected: 03/05/24 09:30

Matrix: Water

Date Received: 03/06/24 09:34

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/10/24 18:45	1
Acrolein	ND		20	3.3	ug/L			03/10/24 18:45	1
Acrylonitrile	ND		10	2.8	ug/L			03/10/24 18:45	1
Benzene	ND		1.0	0.50	ug/L			03/10/24 18:45	1
Bromobenzene	ND		1.0	0.54	ug/L			03/10/24 18:45	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/10/24 18:45	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/10/24 18:45	1
Bromoform	ND		5.0	0.25	ug/L			03/10/24 18:45	1
Bromomethane	ND		1.0	0.98	ug/L			03/10/24 18:45	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/10/24 18:45	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/10/24 18:45	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/10/24 18:45	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/10/24 18:45	1
Chloroethane	ND		1.0	0.76	ug/L			03/10/24 18:45	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/10/24 18:45	1
Chloroform	ND		1.0	0.90	ug/L			03/10/24 18:45	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/10/24 18:45	1
Chloromethane	ND		1.0	0.90	ug/L			03/10/24 18:45	1
<b>cis-1,2-Dichloroethene</b>	<b>0.59</b>	<b>J</b>	1.0	0.20	ug/L			03/10/24 18:45	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/10/24 18:45	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/10/24 18:45	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/10/24 18:45	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/10/24 18:45	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/10/24 18:45	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/10/24 18:45	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/10/24 18:45	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/10/24 18:45	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/10/24 18:45	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 18:45	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 18:45	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 18:45	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/10/24 18:45	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/10/24 18:45	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/10/24 18:45	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/10/24 18:45	1
2-Hexanone	ND		25	1.4	ug/L			03/10/24 18:45	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/10/24 18:45	1
Methylene bromide	ND		5.0	0.22	ug/L			03/10/24 18:45	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/10/24 18:45	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/10/24 18:45	1
<b>Methyl tert-butyl ether</b>	<b>1.0</b>		1.0	0.22	ug/L			03/10/24 18:45	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/10/24 18:45	1
Naphthalene	ND		5.0	3.0	ug/L			03/10/24 18:45	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/10/24 18:45	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/10/24 18:45	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/10/24 18:45	1
o-Xylene	ND		5.0	0.60	ug/L			03/10/24 18:45	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/10/24 18:45	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/10/24 18:45	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252220-1

**Client Sample ID: MW23-ROX-030524**

**Lab Sample ID: 400-252220-3**

Date Collected: 03/05/24 09:30

Matrix: Water

Date Received: 03/06/24 09:34

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/10/24 18:45	1
Styrene	ND		1.0	1.0	ug/L			03/10/24 18:45	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/10/24 18:45	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/10/24 18:45	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/10/24 18:45	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/10/24 18:45	1
Toluene	ND		1.0	0.90	ug/L			03/10/24 18:45	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/10/24 18:45	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/10/24 18:45	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/10/24 18:45	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/10/24 18:45	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/10/24 18:45	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/10/24 18:45	1
<b>Trichloroethene</b>	<b>0.20</b>	<b>J</b>	1.0	0.15	ug/L			03/10/24 18:45	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/10/24 18:45	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/10/24 18:45	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/10/24 18:45	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/10/24 18:45	1
Vinyl acetate	ND		25	0.93	ug/L			03/10/24 18:45	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/10/24 18:45	1
Xylenes, Total	ND		10	1.6	ug/L			03/10/24 18:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		72 - 130		03/10/24 18:45	1
Dibromofluoromethane	105		75 - 126		03/10/24 18:45	1
Toluene-d8 (Surr)	94		64 - 132		03/10/24 18:45	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.097	ug/L		03/11/24 11:27	03/12/24 18:00	1
Acenaphthylene	ND		0.20	0.043	ug/L		03/11/24 11:27	03/12/24 18:00	1
Anthracene	ND		0.20	0.046	ug/L		03/11/24 11:27	03/12/24 18:00	1
Benzo[a]anthracene	ND		0.20	0.033	ug/L		03/11/24 11:27	03/12/24 18:00	1
Benzo[a]pyrene	ND		0.20	0.063	ug/L		03/11/24 11:27	03/12/24 18:00	1
Benzo[b]fluoranthene	ND		0.20	0.036	ug/L		03/11/24 11:27	03/12/24 18:00	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		03/11/24 11:27	03/12/24 18:00	1
Benzo[k]fluoranthene	ND		0.20	0.061	ug/L		03/11/24 11:27	03/12/24 18:00	1
Chrysene	ND		0.20	0.032	ug/L		03/11/24 11:27	03/12/24 18:00	1
Dibenz(a,h)anthracene	ND		0.20	0.047	ug/L		03/11/24 11:27	03/12/24 18:00	1
Fluoranthene	ND		0.20	0.033	ug/L		03/11/24 11:27	03/12/24 18:00	1
Fluorene	ND		0.20	0.088	ug/L		03/11/24 11:27	03/12/24 18:00	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.033	ug/L		03/11/24 11:27	03/12/24 18:00	1
Phenanthrene	ND		0.20	0.089	ug/L		03/11/24 11:27	03/12/24 18:00	1
Pyrene	ND		0.20	0.038	ug/L		03/11/24 11:27	03/12/24 18:00	1
<b>1-Methylnaphthalene</b>	<b>0.10</b>	<b>J</b>	0.20	0.079	ug/L		03/11/24 11:27	03/12/24 18:00	1
2-Methylnaphthalene	ND		0.20	0.065	ug/L		03/11/24 11:27	03/12/24 18:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	69		18 - 147	03/11/24 11:27	03/12/24 18:00	1
2-Fluorobiphenyl	55		15 - 128	03/11/24 11:27	03/12/24 18:00	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252220-1

**Client Sample ID: MW23-ROX-030524**

**Lab Sample ID: 400-252220-3**

Date Collected: 03/05/24 09:30

Matrix: Water

Date Received: 03/06/24 09:34

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	57		10 - 144	03/11/24 11:27	03/12/24 18:00	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	8.6	ug/L		03/11/24 11:27	03/12/24 17:30	1
Benzenethiol	ND	*	9.8	9.7	ug/L		03/11/24 11:27	03/12/24 17:30	1
Benzoic acid	ND		30	24	ug/L		03/11/24 11:27	03/12/24 17:30	1
Benzyl alcohol	ND		9.8	7.2	ug/L		03/11/24 11:27	03/12/24 17:30	1
Bis(2-chloroethoxy)methane	ND		9.8	4.5	ug/L		03/11/24 11:27	03/12/24 17:30	1
Bis(2-chloroethyl)ether	ND		9.8	3.8	ug/L		03/11/24 11:27	03/12/24 17:30	1
bis (2-chloroisopropyl) ether	ND		9.8	1.8	ug/L		03/11/24 11:27	03/12/24 17:30	1
Bis(2-ethylhexyl) phthalate	ND		9.8	8.8	ug/L		03/11/24 11:27	03/12/24 17:30	1
4-Bromophenyl phenyl ether	ND		9.8	8.5	ug/L		03/11/24 11:27	03/12/24 17:30	1
Butyl benzyl phthalate	ND		9.8	5.7	ug/L		03/11/24 11:27	03/12/24 17:30	1
4-Chloroaniline	ND		9.8	4.6	ug/L		03/11/24 11:27	03/12/24 17:30	1
4-Chloro-3-methylphenol	ND		9.8	5.2	ug/L		03/11/24 11:27	03/12/24 17:30	1
2-Chloronaphthalene	ND		9.8	3.7	ug/L		03/11/24 11:27	03/12/24 17:30	1
2-Chlorophenol	ND		9.8	4.0	ug/L		03/11/24 11:27	03/12/24 17:30	1
4-Chlorophenyl phenyl ether	ND		9.8	3.6	ug/L		03/11/24 11:27	03/12/24 17:30	1
Dibenz[a,h]acridine	ND		9.8	2.8	ug/L		03/11/24 11:27	03/12/24 17:30	1
Dibenzofuran	ND		9.8	3.9	ug/L		03/11/24 11:27	03/12/24 17:30	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/11/24 11:27	03/12/24 17:30	1
2,4-Dichlorophenol	ND		9.8	4.2	ug/L		03/11/24 11:27	03/12/24 17:30	1
Diethyl phthalate	ND		9.8	4.3	ug/L		03/11/24 11:27	03/12/24 17:30	1
2,4-Dimethylphenol	ND		9.8	5.1	ug/L		03/11/24 11:27	03/12/24 17:30	1
Dimethyl phthalate	ND		9.8	4.1	ug/L		03/11/24 11:27	03/12/24 17:30	1
Di-n-butyl phthalate	ND		9.8	4.5	ug/L		03/11/24 11:27	03/12/24 17:30	1
4,6-Dinitro-ortho-cresol	ND		9.8	9.8	ug/L		03/11/24 11:27	03/12/24 17:30	1
2,4-Dinitrophenol	ND		30	4.5	ug/L		03/11/24 11:27	03/12/24 17:30	1
2,4-Dinitrotoluene	ND		9.8	5.0	ug/L		03/11/24 11:27	03/12/24 17:30	1
2,6-Dinitrotoluene	ND		9.8	3.8	ug/L		03/11/24 11:27	03/12/24 17:30	1
Di-n-octyl phthalate	ND		9.8	5.9	ug/L		03/11/24 11:27	03/12/24 17:30	1
1,4-Dioxane	ND		9.8	4.2	ug/L		03/11/24 11:27	03/12/24 17:30	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	3.2	ug/L		03/11/24 11:27	03/12/24 17:30	1
Hexachlorobenzene	ND		9.8	9.5	ug/L		03/11/24 11:27	03/12/24 17:30	1
Hexachlorocyclopentadiene	ND		20	4.4	ug/L		03/11/24 11:27	03/12/24 17:30	1
Hexachloroethane	ND		9.8	5.1	ug/L		03/11/24 11:27	03/12/24 17:30	1
Indene	ND		9.8	3.5	ug/L		03/11/24 11:27	03/12/24 17:30	1
Isophorone	ND		9.8	5.1	ug/L		03/11/24 11:27	03/12/24 17:30	1
2-Methylphenol	ND		9.8	3.1	ug/L		03/11/24 11:27	03/12/24 17:30	1
3 & 4 Methylphenol	ND		20	4.5	ug/L		03/11/24 11:27	03/12/24 17:30	1
2-Nitroaniline	ND		9.8	4.9	ug/L		03/11/24 11:27	03/12/24 17:30	1
3-Nitroaniline	ND		9.8	4.6	ug/L		03/11/24 11:27	03/12/24 17:30	1
4-Nitroaniline	ND		9.8	4.0	ug/L		03/11/24 11:27	03/12/24 17:30	1
Nitrobenzene	ND		9.8	4.6	ug/L		03/11/24 11:27	03/12/24 17:30	1
2-Nitrophenol	ND		9.8	4.5	ug/L		03/11/24 11:27	03/12/24 17:30	1
4-Nitrophenol	ND		9.8	3.2	ug/L		03/11/24 11:27	03/12/24 17:30	1
N-Nitrosodimethylamine	ND		9.8	2.2	ug/L		03/11/24 11:27	03/12/24 17:30	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252220-1

**Client Sample ID: MW23-ROX-030524**

**Lab Sample ID: 400-252220-3**

Date Collected: 03/05/24 09:30

Matrix: Water

Date Received: 03/06/24 09:34

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.8	2.5	ug/L		03/11/24 11:27	03/12/24 17:30	1
N-Nitrosodiphenylamine	ND		9.8	3.6	ug/L		03/11/24 11:27	03/12/24 17:30	1
Pentachlorophenol	ND		20	12	ug/L		03/11/24 11:27	03/12/24 17:30	1
Phenol	ND		9.8	4.1	ug/L		03/11/24 11:27	03/12/24 17:30	1
Pyridine	ND		9.8	9.8	ug/L		03/11/24 11:27	03/12/24 17:30	1
Quinoline	ND		9.8	2.4	ug/L		03/11/24 11:27	03/12/24 17:30	1
2,4,5-Trichlorophenol	ND		9.8	3.9	ug/L		03/11/24 11:27	03/12/24 17:30	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		03/11/24 11:27	03/12/24 17:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	88		21 - 114	03/11/24 11:27	03/12/24 17:30	1
2-Fluorophenol	47		10 - 105	03/11/24 11:27	03/12/24 17:30	1
Nitrobenzene-d5	64		16 - 127	03/11/24 11:27	03/12/24 17:30	1
Phenol-d5	36		10 - 129	03/11/24 11:27	03/12/24 17:30	1
Terphenyl-d14	101		13 - 150	03/11/24 11:27	03/12/24 17:30	1
2,4,6-Tribromophenol	118		10 - 150	03/11/24 11:27	03/12/24 17:30	1

**Method: EPA 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	0.017	ug/L		03/11/24 11:28	03/13/24 14:49	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/11/24 11:28	03/13/24 14:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	79		51 - 149	03/11/24 11:28	03/13/24 14:49	1

# Definitions/Glossary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252220-1

## 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.

### GC/MS Semi VOA

Qualifier	Qualifier Description
*.	LCS and/or LCSD is outside acceptance limits, low biased.
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.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

# Surrogate Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252220-1

## Method: 8260D - Volatile Organic Compounds by 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 (72-130)	DBFM (75-126)	TOL (64-132)
400-252220-1	TB-ROX-030524-8260-BP	99	106	96
400-252220-3	MW23-ROX-030524	99	105	94
LCS 400-663874/1002	Lab Control Sample	94	103	96
MB 400-663874/4	Method Blank	99	106	93

### Surrogate Legend

BFB = 4-Bromofluorobenzene  
DBFM = Dibromofluoromethane  
TOL = Toluene-d8 (Surr)

## Method: 8270E - 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 (21-114)	2FP (10-105)	NBZ (16-127)	PHL (10-129)	TPHL (13-150)	TBP (10-150)
400-252220-3	MW23-ROX-030524	88	47	64	36	101	118
LCS 400-663975/2-A	Lab Control Sample	97	76	84	66	108	119
LCS 400-663975/4-A	Lab Control Sample	80	51	68	44	93	106
LCSD 400-663975/3-A	Lab Control Sample Dup	90	71	80	62	100	111
LCSD 400-663975/5-A	Lab Control Sample Dup	80	46	65	38	101	116
MB 400-663975/1-A	Method Blank	81	53	71	41	99	82

### Surrogate Legend

FBP = 2-Fluorobiphenyl  
2FP = 2-Fluorophenol  
NBZ = Nitrobenzene-d5  
PHL = Phenol-d5  
TPHL = Terphenyl-d14  
TBP = 2,4,6-Tribromophenol

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TPHL (18-147)	FBP (15-128)	NBZ (10-144)
400-252220-3	MW23-ROX-030524	69	55	57
LCS 400-663975/2-A	Lab Control Sample	90	89	64
LCSD 400-663975/3-A	Lab Control Sample Dup	83	81	62
MB 400-663975/1-A	Method Blank	100	65	75

### Surrogate Legend

TPHL = Terphenyl-d14  
FBP = 2-Fluorobiphenyl  
NBZ = Nitrobenzene-d5



# Surrogate Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252220-1

**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	BFB1 (51-149)
400-252220-2	TB-ROX-030524-8011-BP	147
400-252220-3	MW23-ROX-030524	79
LCS 400-663976/2-A	Lab Control Sample	69
LCSD 400-663976/3-A	Lab Control Sample Dup	58
MB 400-663976/1-A	Method Blank	62

### 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 MONTHLY GW

Job ID: 400-252220-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET PEN
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET PEN
8270E SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	EET PEN
8011	EDB and DBCP in Water by Microextraction	EPA	EET PEN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET PEN
5030C	Purge and Trap	SW846	EET PEN
8011	Microextraction	SW846	EET 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:**

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001



# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252220-1

**Client Sample ID: TB-ROX-030524-8260-BP**

**Lab Sample ID: 400-252220-1**

Date Collected: 03/05/24 00:00

Matrix: Water

Date Received: 03/06/24 09:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663874	03/10/24 18:18	CH	EET PEN

**Client Sample ID: TB-ROX-030524-8011-BP**

**Lab Sample ID: 400-252220-2**

Date Collected: 03/05/24 00:00

Matrix: Water

Date Received: 03/06/24 09:34

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	663976	03/11/24 11:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 14:28	PG	EET PEN

**Client Sample ID: MW23-ROX-030524**

**Lab Sample ID: 400-252220-3**

Date Collected: 03/05/24 09:30

Matrix: Water

Date Received: 03/06/24 09:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663874	03/10/24 18:45	CH	EET PEN
Total/NA	Prep	3510C			254.2 mL	1 mL	663975	03/11/24 11:27	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664139	03/12/24 17:30	S1B	EET PEN
Total/NA	Prep	3510C			254.2 mL	1 mL	663975	03/11/24 11:27	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	664170	03/12/24 18:00	TH	EET PEN
Total/NA	Prep	8011			35.4 mL	35 mL	663976	03/11/24 11:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 14:49	PG	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-663874/4**

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	8260D		1	5 mL	5 mL	663874	03/10/24 10:14	CH	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-663975/1-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	3510C			250 mL	1 mL	663975	03/11/24 11:26	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664128	03/12/24 17:45	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	663975	03/11/24 11:26	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	664170	03/12/24 13:52	TH	EET PEN

# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252220-1

## Client Sample ID: Method Blank

Lab Sample ID: MB 400-663976/1-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	663976	03/11/24 11:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/12/24 16:18	PG	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-663874/1002

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	8260D		1	5 mL	5 mL	663874	03/10/24 09:11	CH	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-663975/2-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	3510C			250 mL	1 mL	663975	03/11/24 11:26	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664128	03/12/24 18:09	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	663975	03/11/24 11:26	BAW	EET PEN
Total/NA	Analysis	8270E SIM		20	0.4 mL	0.4 mL	664170	03/12/24 14:13	TH	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-663975/4-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	3510C			250 mL	1 mL	663975	03/11/24 11:26	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664139	03/12/24 12:36	S1B	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-663976/2-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	663976	03/11/24 11:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/12/24 16:39	PG	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-663975/3-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	3510C			250 mL	1 mL	663975	03/11/24 11:26	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664128	03/12/24 18:33	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	663975	03/11/24 11:26	BAW	EET PEN
Total/NA	Analysis	8270E SIM		20	0.4 mL	0.4 mL	664170	03/12/24 14:33	TH	EET PEN

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# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252220-1

**Client Sample ID: Lab Control Sample Dup**

**Lab Sample ID: LCSD 400-663975/5-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	3510C			250 mL	1 mL	663975	03/11/24 11:26	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664139	03/12/24 13:02	S1B	EET PEN

**Client Sample ID: Lab Control Sample Dup**

**Lab Sample ID: LCSD 400-663976/3-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	663976	03/11/24 11:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/12/24 17:01	PG	EET PEN

**Laboratory References:**

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

# QC Association Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252220-1

## GC/MS VOA

### Analysis Batch: 663874

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252220-1	TB-ROX-030524-8260-BP	Total/NA	Water	8260D	
400-252220-3	MW23-ROX-030524	Total/NA	Water	8260D	
MB 400-663874/4	Method Blank	Total/NA	Water	8260D	
LCS 400-663874/1002	Lab Control Sample	Total/NA	Water	8260D	

## GC/MS Semi VOA

### Prep Batch: 663975

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252220-3	MW23-ROX-030524	Total/NA	Water	3510C	
MB 400-663975/1-A	Method Blank	Total/NA	Water	3510C	
LCS 400-663975/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 400-663975/4-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 400-663975/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
LCSD 400-663975/5-A	Lab Control Sample Dup	Total/NA	Water	3510C	

### Analysis Batch: 664128

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-663975/1-A	Method Blank	Total/NA	Water	8270E	663975
LCS 400-663975/2-A	Lab Control Sample	Total/NA	Water	8270E	663975
LCSD 400-663975/3-A	Lab Control Sample Dup	Total/NA	Water	8270E	663975

### Analysis Batch: 664139

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252220-3	MW23-ROX-030524	Total/NA	Water	8270E	663975
LCS 400-663975/4-A	Lab Control Sample	Total/NA	Water	8270E	663975
LCSD 400-663975/5-A	Lab Control Sample Dup	Total/NA	Water	8270E	663975

### Analysis Batch: 664170

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252220-3	MW23-ROX-030524	Total/NA	Water	8270E SIM	663975
MB 400-663975/1-A	Method Blank	Total/NA	Water	8270E SIM	663975
LCS 400-663975/2-A	Lab Control Sample	Total/NA	Water	8270E SIM	663975
LCSD 400-663975/3-A	Lab Control Sample Dup	Total/NA	Water	8270E SIM	663975

## GC Semi VOA

### Prep Batch: 663976

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252220-2	TB-ROX-030524-8011-BP	Total/NA	Water	8011	
400-252220-3	MW23-ROX-030524	Total/NA	Water	8011	
MB 400-663976/1-A	Method Blank	Total/NA	Water	8011	
LCS 400-663976/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 400-663976/3-A	Lab Control Sample Dup	Total/NA	Water	8011	

### Analysis Batch: 664136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252220-2	TB-ROX-030524-8011-BP	Total/NA	Water	8011	663976
400-252220-3	MW23-ROX-030524	Total/NA	Water	8011	663976
MB 400-663976/1-A	Method Blank	Total/NA	Water	8011	663976
LCS 400-663976/2-A	Lab Control Sample	Total/NA	Water	8011	663976
LCSD 400-663976/3-A	Lab Control Sample Dup	Total/NA	Water	8011	663976

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252220-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 400-663874/4**  
**Matrix: Water**  
**Analysis Batch: 663874**

**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			03/10/24 10:14	1
Acrolein	ND		20	3.3	ug/L			03/10/24 10:14	1
Acrylonitrile	ND		10	2.8	ug/L			03/10/24 10:14	1
Benzene	ND		1.0	0.50	ug/L			03/10/24 10:14	1
Bromobenzene	ND		1.0	0.54	ug/L			03/10/24 10:14	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/10/24 10:14	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/10/24 10:14	1
Bromoform	ND		5.0	0.25	ug/L			03/10/24 10:14	1
Bromomethane	ND		1.0	0.98	ug/L			03/10/24 10:14	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/10/24 10:14	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/10/24 10:14	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/10/24 10:14	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/10/24 10:14	1
Chloroethane	ND		1.0	0.76	ug/L			03/10/24 10:14	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/10/24 10:14	1
Chloroform	ND		1.0	0.90	ug/L			03/10/24 10:14	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/10/24 10:14	1
Chloromethane	ND		1.0	0.90	ug/L			03/10/24 10:14	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/10/24 10:14	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/10/24 10:14	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/10/24 10:14	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/10/24 10:14	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/10/24 10:14	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/10/24 10:14	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/10/24 10:14	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/10/24 10:14	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/10/24 10:14	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/10/24 10:14	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 10:14	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 10:14	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 10:14	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/10/24 10:14	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/10/24 10:14	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/10/24 10:14	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/10/24 10:14	1
2-Hexanone	ND		25	1.4	ug/L			03/10/24 10:14	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/10/24 10:14	1
Methylene bromide	ND		5.0	0.22	ug/L			03/10/24 10:14	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/10/24 10:14	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/10/24 10:14	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/10/24 10:14	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/10/24 10:14	1
Naphthalene	ND		5.0	3.0	ug/L			03/10/24 10:14	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/10/24 10:14	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/10/24 10:14	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/10/24 10:14	1
o-Xylene	ND		5.0	0.60	ug/L			03/10/24 10:14	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/10/24 10:14	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252220-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-663874/4**  
**Matrix: Water**  
**Analysis Batch: 663874**

**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			03/10/24 10:14	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/10/24 10:14	1
Styrene	ND		1.0	1.0	ug/L			03/10/24 10:14	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/10/24 10:14	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/10/24 10:14	1
1,1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/10/24 10:14	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/10/24 10:14	1
Toluene	ND		1.0	0.90	ug/L			03/10/24 10:14	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/10/24 10:14	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/10/24 10:14	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/10/24 10:14	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/10/24 10:14	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/10/24 10:14	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/10/24 10:14	1
Trichloroethene	ND		1.0	0.15	ug/L			03/10/24 10:14	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/10/24 10:14	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/10/24 10:14	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/10/24 10:14	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/10/24 10:14	1
Vinyl acetate	ND		25	0.93	ug/L			03/10/24 10:14	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/10/24 10:14	1
Xylenes, Total	ND		10	1.6	ug/L			03/10/24 10:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		72 - 130		03/10/24 10:14	1
Dibromofluoromethane	106		75 - 126		03/10/24 10:14	1
Toluene-d8 (Surr)	93		64 - 132		03/10/24 10:14	1

**Lab Sample ID: LCS 400-663874/1002**  
**Matrix: Water**  
**Analysis Batch: 663874**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	200	161		ug/L		80	43 - 160
Acrolein	500	480		ug/L		96	38 - 160
Acrylonitrile	500	505		ug/L		101	64 - 142
Benzene	50.0	52.2		ug/L		104	70 - 130
Bromobenzene	50.0	52.2		ug/L		104	70 - 132
Bromochloromethane	50.0	54.8		ug/L		110	70 - 130
Bromodichloromethane	50.0	54.9		ug/L		110	67 - 133
Bromoform	50.0	49.4		ug/L		99	57 - 140
Bromomethane	50.0	67.7		ug/L		135	10 - 160
2-Butanone (MEK)	200	181		ug/L		91	61 - 145
Carbon disulfide	50.0	39.9		ug/L		80	61 - 137
Carbon tetrachloride	50.0	55.8		ug/L		112	61 - 137
Chlorobenzene	50.0	53.3		ug/L		107	70 - 130
Chloroethane	50.0	58.2		ug/L		116	55 - 141
2-Chloroethyl vinyl ether	50.0	48.1		ug/L		96	10 - 160

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252220-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-663874/1002**  
**Matrix: Water**  
**Analysis Batch: 663874**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroform	50.0	55.0		ug/L		110	69 - 130
1-Chlorohexane	50.0	54.4		ug/L		109	69 - 130
Chloromethane	50.0	51.1		ug/L		102	58 - 137
cis-1,2-Dichloroethene	50.0	54.2		ug/L		108	68 - 130
cis-1,3-Dichloropropene	50.0	52.2		ug/L		104	69 - 132
Dibromochloromethane	50.0	53.1		ug/L		106	67 - 135
1,2-Dichlorobenzene	50.0	52.3		ug/L		105	67 - 130
1,3-Dichlorobenzene	50.0	54.4		ug/L		109	70 - 130
1,4-Dichlorobenzene	50.0	53.8		ug/L		108	70 - 130
Dichlorodifluoromethane	50.0	50.3		ug/L		101	41 - 146
1,1-Dichloroethane	50.0	52.3		ug/L		105	70 - 130
1,2-Dichloroethane	50.0	52.8		ug/L		106	69 - 130
1,1-Dichloroethene	50.0	48.0		ug/L		96	63 - 134
1,2-Dichloropropane	50.0	55.2		ug/L		110	70 - 130
1,3-Dichloropropane	50.0	48.9		ug/L		98	70 - 130
2,2-Dichloropropane	50.0	49.2		ug/L		98	52 - 135
1,1-Dichloropropene	50.0	51.2		ug/L		102	70 - 130
Ethylbenzene	50.0	52.4		ug/L		105	70 - 130
Ethyl methacrylate	50.0	46.2		ug/L		92	68 - 130
Hexachlorobutadiene	50.0	67.2		ug/L		134	53 - 140
2-Hexanone	200	178		ug/L		89	65 - 137
Isopropylbenzene	50.0	55.9		ug/L		112	70 - 130
Methylene bromide	50.0	51.4		ug/L		103	70 - 130
Methylene Chloride	50.0	61.1		ug/L		122	66 - 135
4-Methyl-2-pentanone (MIBK)	200	186		ug/L		93	69 - 138
Methyl tert-butyl ether	50.0	47.1		ug/L		94	66 - 130
m-Xylene & p-Xylene	50.0	53.5		ug/L		107	70 - 130
Naphthalene	50.0	46.2		ug/L		92	47 - 149
n-Butylbenzene	50.0	56.6		ug/L		113	67 - 130
N-Propylbenzene	50.0	53.0		ug/L		106	70 - 130
o-Chlorotoluene	50.0	52.8		ug/L		106	70 - 130
o-Xylene	50.0	52.9		ug/L		106	70 - 130
p-Chlorotoluene	50.0	52.7		ug/L		105	70 - 130
p-Isopropyltoluene	50.0	55.9		ug/L		112	65 - 130
sec-Butylbenzene	50.0	55.0		ug/L		110	66 - 130
Styrene	50.0	54.1		ug/L		108	70 - 130
tert-Butylbenzene	50.0	53.9		ug/L		108	64 - 139
1,1,1,2-Tetrachloroethane	50.0	54.1		ug/L		108	67 - 131
1,1,2,2-Tetrachloroethane	50.0	44.1		ug/L		88	70 - 131
Tetrachloroethene	50.0	53.9		ug/L		108	65 - 130
Toluene	50.0	49.3		ug/L		99	70 - 130
trans-1,2-Dichloroethene	50.0	50.1		ug/L		100	70 - 130
trans-1,3-Dichloropropene	50.0	48.1		ug/L		96	63 - 130
1,2,3-Trichlorobenzene	50.0	55.0		ug/L		110	60 - 138
1,2,4-Trichlorobenzene	50.0	57.4		ug/L		115	60 - 140
1,1,1-Trichloroethane	50.0	53.3		ug/L		107	68 - 130
1,1,2-Trichloroethane	50.0	49.4		ug/L		99	70 - 130
Trichloroethene	50.0	55.6		ug/L		111	70 - 130
Trichlorofluoromethane	50.0	57.8		ug/L		116	65 - 138

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252220-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-663874/1002**  
**Matrix: Water**  
**Analysis Batch: 663874**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	50.0	45.9		ug/L		92	70 - 130
1,2,4-Trimethylbenzene	50.0	53.0		ug/L		106	70 - 130
1,3,5-Trimethylbenzene	50.0	53.0		ug/L		106	69 - 130
Vinyl acetate	100	98.7		ug/L		99	26 - 160
Vinyl chloride	50.0	54.6		ug/L		109	59 - 136
Xylenes, Total	100	106		ug/L		106	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	94		72 - 130
Dibromofluoromethane	103		75 - 126
Toluene-d8 (Surr)	96		64 - 132

## Method: 8270E - Semivolatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 400-663975/1-A**  
**Matrix: Water**  
**Analysis Batch: 664128**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 663975**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	8.7	ug/L		03/11/24 11:26	03/12/24 17:45	1
Benzenethiol	ND		10	9.9	ug/L		03/11/24 11:26	03/12/24 17:45	1
Benzoic acid	ND		30	24	ug/L		03/11/24 11:26	03/12/24 17:45	1
Benzyl alcohol	ND		10	7.3	ug/L		03/11/24 11:26	03/12/24 17:45	1
Bis(2-chloroethoxy)methane	ND		10	4.6	ug/L		03/11/24 11:26	03/12/24 17:45	1
Bis(2-chloroethyl)ether	ND		10	3.9	ug/L		03/11/24 11:26	03/12/24 17:45	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		03/11/24 11:26	03/12/24 17:45	1
Bis(2-ethylhexyl) phthalate	ND		10	8.9	ug/L		03/11/24 11:26	03/12/24 17:45	1
4-Bromophenyl phenyl ether	ND		10	8.6	ug/L		03/11/24 11:26	03/12/24 17:45	1
Butyl benzyl phthalate	ND		10	5.8	ug/L		03/11/24 11:26	03/12/24 17:45	1
4-Chloroaniline	ND		10	4.7	ug/L		03/11/24 11:26	03/12/24 17:45	1
4-Chloro-3-methylphenol	ND		10	5.3	ug/L		03/11/24 11:26	03/12/24 17:45	1
2-Chloronaphthalene	ND		10	3.8	ug/L		03/11/24 11:26	03/12/24 17:45	1
2-Chlorophenol	ND		10	4.1	ug/L		03/11/24 11:26	03/12/24 17:45	1
4-Chlorophenyl phenyl ether	ND		10	3.7	ug/L		03/11/24 11:26	03/12/24 17:45	1
Dibenz[a,h]acridine	ND		10	2.8	ug/L		03/11/24 11:26	03/12/24 17:45	1
Dibenzofuran	ND		10	4.0	ug/L		03/11/24 11:26	03/12/24 17:45	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/11/24 11:26	03/12/24 17:45	1
2,4-Dichlorophenol	ND		10	4.3	ug/L		03/11/24 11:26	03/12/24 17:45	1
Diethyl phthalate	ND		10	4.4	ug/L		03/11/24 11:26	03/12/24 17:45	1
2,4-Dimethylphenol	ND		10	5.2	ug/L		03/11/24 11:26	03/12/24 17:45	1
Dimethyl phthalate	ND		10	4.2	ug/L		03/11/24 11:26	03/12/24 17:45	1
Di-n-butyl phthalate	ND		10	4.6	ug/L		03/11/24 11:26	03/12/24 17:45	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		03/11/24 11:26	03/12/24 17:45	1
2,4-Dinitrophenol	ND		30	4.6	ug/L		03/11/24 11:26	03/12/24 17:45	1
2,4-Dinitrotoluene	ND		10	5.1	ug/L		03/11/24 11:26	03/12/24 17:45	1
2,6-Dinitrotoluene	ND		10	3.9	ug/L		03/11/24 11:26	03/12/24 17:45	1
Di-n-octyl phthalate	ND		10	6.0	ug/L		03/11/24 11:26	03/12/24 17:45	1
1,4-Dioxane	ND		10	4.3	ug/L		03/11/24 11:26	03/12/24 17:45	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252220-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 400-663975/1-A**  
**Matrix: Water**  
**Analysis Batch: 664128**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 663975**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.3	ug/L		03/11/24 11:26	03/12/24 17:45	1
Hexachlorobenzene	ND		10	9.7	ug/L		03/11/24 11:26	03/12/24 17:45	1
Hexachlorocyclopentadiene	ND		20	4.5	ug/L		03/11/24 11:26	03/12/24 17:45	1
Hexachloroethane	ND		10	5.2	ug/L		03/11/24 11:26	03/12/24 17:45	1
Indene	ND		10	3.6	ug/L		03/11/24 11:26	03/12/24 17:45	1
Isophorone	ND		10	5.2	ug/L		03/11/24 11:26	03/12/24 17:45	1
2-Methylphenol	ND		10	3.2	ug/L		03/11/24 11:26	03/12/24 17:45	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		03/11/24 11:26	03/12/24 17:45	1
2-Nitroaniline	ND		10	5.0	ug/L		03/11/24 11:26	03/12/24 17:45	1
3-Nitroaniline	ND		10	4.7	ug/L		03/11/24 11:26	03/12/24 17:45	1
4-Nitroaniline	ND		10	4.1	ug/L		03/11/24 11:26	03/12/24 17:45	1
Nitrobenzene	ND		10	4.7	ug/L		03/11/24 11:26	03/12/24 17:45	1
2-Nitrophenol	ND		10	4.6	ug/L		03/11/24 11:26	03/12/24 17:45	1
4-Nitrophenol	ND		10	3.3	ug/L		03/11/24 11:26	03/12/24 17:45	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		03/11/24 11:26	03/12/24 17:45	1
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		03/11/24 11:26	03/12/24 17:45	1
N-Nitrosodiphenylamine	ND		10	3.7	ug/L		03/11/24 11:26	03/12/24 17:45	1
Pentachlorophenol	ND		20	12	ug/L		03/11/24 11:26	03/12/24 17:45	1
Phenol	ND		10	4.2	ug/L		03/11/24 11:26	03/12/24 17:45	1
Pyridine	ND		10	10	ug/L		03/11/24 11:26	03/12/24 17:45	1
Quinoline	ND		10	2.4	ug/L		03/11/24 11:26	03/12/24 17:45	1
2,4,5-Trichlorophenol	ND		10	4.0	ug/L		03/11/24 11:26	03/12/24 17:45	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		03/11/24 11:26	03/12/24 17:45	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	81		21 - 114	03/11/24 11:26	03/12/24 17:45	1
2-Fluorophenol	53		10 - 105	03/11/24 11:26	03/12/24 17:45	1
Nitrobenzene-d5	71		16 - 127	03/11/24 11:26	03/12/24 17:45	1
Phenol-d5	41		10 - 129	03/11/24 11:26	03/12/24 17:45	1
Terphenyl-d14	99		13 - 150	03/11/24 11:26	03/12/24 17:45	1
2,4,6-Tribromophenol	82		10 - 150	03/11/24 11:26	03/12/24 17:45	1

**Lab Sample ID: LCS 400-663975/2-A**  
**Matrix: Water**  
**Analysis Batch: 664128**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663975**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aniline	120	66.8		ug/L		56	10 - 127
Benzoic acid	492	271		ug/L		55	19 - 126
Benzyl alcohol	120	90.9		ug/L		76	17 - 109
Bis(2-chloroethoxy)methane	120	89.8		ug/L		75	24 - 125
Bis(2-chloroethyl)ether	120	90.1		ug/L		75	10 - 121
bis (2-chloroisopropyl) ether	120	71.5		ug/L		60	14 - 123
Bis(2-ethylhexyl) phthalate	120	103		ug/L		86	16 - 150
4-Bromophenyl phenyl ether	120	121		ug/L		101	17 - 150
Butyl benzyl phthalate	120	105		ug/L		88	21 - 150
4-Chloroaniline	120	72.3		ug/L		60	10 - 124
4-Chloro-3-methylphenol	120	109		ug/L		91	37 - 131

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252220-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 400-663975/2-A**  
**Matrix: Water**  
**Analysis Batch: 664128**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663975**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2-Chloronaphthalene	120	100		ug/L		83	24 - 132
2-Chlorophenol	120	103		ug/L		86	27 - 124
4-Chlorophenyl phenyl ether	120	116		ug/L		97	27 - 147
Dibenz[a,h]acridine	120	117		ug/L		97	40 - 140
Dibenzofuran	120	108		ug/L		90	30 - 135
3,3'-Dichlorobenzidine	160	149		ug/L		93	10 - 150
2,4-Dichlorophenol	120	105		ug/L		87	33 - 132
Diethyl phthalate	120	104		ug/L		87	37 - 145
2,4-Dimethylphenol	120	106		ug/L		88	38 - 132
Dimethyl phthalate	120	111		ug/L		92	32 - 137
Di-n-butyl phthalate	120	114		ug/L		95	27 - 150
4,6-Dinitro-ortho-cresol	240	181		ug/L		75	14 - 150
2,4-Dinitrophenol	240	194		ug/L		81	15 - 150
2,4-Dinitrotoluene	120	123		ug/L		103	35 - 136
2,6-Dinitrotoluene	120	114		ug/L		95	29 - 140
Di-n-octyl phthalate	120	107		ug/L		89	26 - 150
1,4-Dioxane	120	54.3		ug/L		45	10 - 87
1,2-Diphenylhydrazine (as Azobenzene)	120	90.3		ug/L		75	23 - 138
Hexachlorobenzene	120	130		ug/L		108	10 - 150
Hexachlorocyclopentadiene	120	59.0		ug/L		49	10 - 124
Hexachloroethane	120	60.9		ug/L		51	10 - 127
Indene	120	96.9		ug/L		81	18 - 150
Isophorone	120	86.1		ug/L		72	28 - 127
2-Methylphenol	120	89.8		ug/L		75	34 - 124
3 & 4 Methylphenol	120	84.2		ug/L		70	32 - 122
2-Nitroaniline	120	99.8		ug/L		83	24 - 139
3-Nitroaniline	120	84.6		ug/L		71	10 - 128
4-Nitroaniline	120	80.4		ug/L		67	28 - 118
Nitrobenzene	120	86.3		ug/L		72	29 - 120
2-Nitrophenol	120	99.6		ug/L		83	25 - 148
4-Nitrophenol	240	186		ug/L		77	12 - 129
N-Nitrosodimethylamine	120	59.8		ug/L		50	10 - 115
N-Nitrosodi-n-propylamine	120	76.0		ug/L		63	24 - 142
N-Nitrosodiphenylamine	119	107		ug/L		90	29 - 138
Pentachlorophenol	240	238		ug/L		99	19 - 150
Phenol	120	81.2		ug/L		68	11 - 95
Pyridine	240	72.7		ug/L		30	10 - 82
Quinoline	120	119		ug/L		99	40 - 140
2,4,5-Trichlorophenol	120	127		ug/L		106	30 - 144
2,4,6-Trichlorophenol	120	124		ug/L		103	27 - 147

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	97		21 - 114
2-Fluorophenol	76		10 - 105
Nitrobenzene-d5	84		16 - 127
Phenol-d5	66		10 - 129
Terphenyl-d14	108		13 - 150

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252220-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 400-663975/2-A**  
**Matrix: Water**  
**Analysis Batch: 664128**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663975**

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol	119		10 - 150

**Lab Sample ID: LCS 400-663975/4-A**  
**Matrix: Water**  
**Analysis Batch: 664139**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663975**

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	Limits	%Rec
		Result	Qualifier					
Benzenethiol	120	31.3		ug/L		26	10 - 140	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	80		21 - 114
2-Fluorophenol	51		10 - 105
Nitrobenzene-d5	68		16 - 127
Phenol-d5	44		10 - 129
Terphenyl-d14	93		13 - 150
2,4,6-Tribromophenol	106		10 - 150

**Lab Sample ID: LCSD 400-663975/3-A**  
**Matrix: Water**  
**Analysis Batch: 664128**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 663975**

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	Limits	RPD	Limit
		Result	Qualifier						
Aniline	120	67.7		ug/L		56	10 - 127	1	40
Benzoic acid	492	276		ug/L		56	19 - 126	2	40
Benzyl alcohol	120	87.0		ug/L		73	17 - 109	4	40
Bis(2-chloroethoxy)methane	120	88.8		ug/L		74	24 - 125	1	40
Bis(2-chloroethyl)ether	120	89.0		ug/L		74	10 - 121	1	40
bis (2-chloroisopropyl) ether	120	68.1		ug/L		57	14 - 123	5	40
Bis(2-ethylhexyl) phthalate	120	99.5		ug/L		83	16 - 150	4	40
4-Bromophenyl phenyl ether	120	114		ug/L		95	17 - 150	6	40
Butyl benzyl phthalate	120	101		ug/L		84	21 - 150	4	40
4-Chloroaniline	120	77.3		ug/L		64	10 - 124	7	40
4-Chloro-3-methylphenol	120	109		ug/L		91	37 - 131	0	40
2-Chloronaphthalene	120	96.8		ug/L		81	24 - 132	3	40
2-Chlorophenol	120	97.2		ug/L		81	27 - 124	5	40
4-Chlorophenyl phenyl ether	120	113		ug/L		94	27 - 147	3	40
Dibenz[a,h]acridine	120	117		ug/L		97	40 - 140	0	40
Dibenzofuran	120	105		ug/L		87	30 - 135	3	40
3,3'-Dichlorobenzidine	160	152		ug/L		95	10 - 150	2	40
2,4-Dichlorophenol	120	106		ug/L		89	33 - 132	1	40
Diethyl phthalate	120	99.4		ug/L		83	37 - 145	4	40
2,4-Dimethylphenol	120	106		ug/L		89	38 - 132	1	40
Dimethyl phthalate	120	107		ug/L		89	32 - 137	4	40
Di-n-butyl phthalate	120	108		ug/L		90	27 - 150	6	40
4,6-Dinitro-ortho-cresol	240	169		ug/L		70	14 - 150	7	40
2,4-Dinitrophenol	240	186		ug/L		78	15 - 150	4	40
2,4-Dinitrotoluene	120	118		ug/L		98	35 - 136	4	40
2,6-Dinitrotoluene	120	109		ug/L		90	29 - 140	5	40

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252220-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 400-663975/3-A**  
**Matrix: Water**  
**Analysis Batch: 664128**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 663975**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Di-n-octyl phthalate	120	103		ug/L		86	26 - 150	3	40
1,4-Dioxane	120	49.0		ug/L		41	10 - 87	10	40
1,2-Diphenylhydrazine (as Azobenzene)	120	84.7		ug/L		71	23 - 138	6	40
Hexachlorobenzene	120	121		ug/L		101	10 - 150	7	40
Hexachlorocyclopentadiene	120	58.0		ug/L		48	10 - 124	2	40
Hexachloroethane	120	66.4		ug/L		55	10 - 127	9	40
Indene	120	90.1		ug/L		75	18 - 150	7	40
Isophorone	120	85.5		ug/L		71	28 - 127	1	40
2-Methylphenol	120	87.4		ug/L		73	34 - 124	3	40
3 & 4 Methylphenol	120	81.4		ug/L		68	32 - 122	3	40
2-Nitroaniline	120	94.4		ug/L		79	24 - 139	6	40
3-Nitroaniline	120	84.7		ug/L		71	10 - 128	0	40
4-Nitroaniline	120	94.7		ug/L		79	28 - 118	16	40
Nitrobenzene	120	84.3		ug/L		70	29 - 120	2	40
2-Nitrophenol	120	98.6		ug/L		82	25 - 148	1	40
4-Nitrophenol	240	184		ug/L		77	12 - 129	1	40
N-Nitrosodimethylamine	120	56.8		ug/L		47	10 - 115	5	40
N-Nitrosodi-n-propylamine	120	70.1		ug/L		58	24 - 142	8	40
N-Nitrosodiphenylamine	119	99.9		ug/L		84	29 - 138	7	40
Pentachlorophenol	240	231		ug/L		96	19 - 150	3	40
Phenol	120	79.4		ug/L		66	11 - 95	2	40
Pyridine	240	83.5		ug/L		35	10 - 82	14	40
Quinoline	120	124		ug/L		104	40 - 140	4	40
2,4,5-Trichlorophenol	120	125		ug/L		104	30 - 144	2	40
2,4,6-Trichlorophenol	120	121		ug/L		101	27 - 147	2	40

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
2-Fluorobiphenyl	90		21 - 114
2-Fluorophenol	71		10 - 105
Nitrobenzene-d5	80		16 - 127
Phenol-d5	62		10 - 129
Terphenyl-d14	100		13 - 150
2,4,6-Tribromophenol	111		10 - 150

**Lab Sample ID: LCSD 400-663975/5-A**  
**Matrix: Water**  
**Analysis Batch: 664139**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 663975**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzenethiol	120	28.0		ug/L		23	10 - 140	11	40

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
2-Fluorobiphenyl	80		21 - 114
2-Fluorophenol	46		10 - 105
Nitrobenzene-d5	65		16 - 127
Phenol-d5	38		10 - 129
Terphenyl-d14	101		13 - 150

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252220-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 400-663975/5-A**  
**Matrix: Water**  
**Analysis Batch: 664139**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 663975**

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol	116		10 - 150

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

**Lab Sample ID: MB 400-663975/1-A**  
**Matrix: Water**  
**Analysis Batch: 664170**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 663975**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.099	ug/L		03/11/24 11:26	03/12/24 13:52	1
Acenaphthylene	ND		0.20	0.044	ug/L		03/11/24 11:26	03/12/24 13:52	1
Anthracene	ND		0.20	0.047	ug/L		03/11/24 11:26	03/12/24 13:52	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		03/11/24 11:26	03/12/24 13:52	1
Benzo[a]pyrene	ND		0.20	0.064	ug/L		03/11/24 11:26	03/12/24 13:52	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		03/11/24 11:26	03/12/24 13:52	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		03/11/24 11:26	03/12/24 13:52	1
Benzo[k]fluoranthene	ND		0.20	0.062	ug/L		03/11/24 11:26	03/12/24 13:52	1
Chrysene	ND		0.20	0.033	ug/L		03/11/24 11:26	03/12/24 13:52	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		03/11/24 11:26	03/12/24 13:52	1
Fluoranthene	ND		0.20	0.034	ug/L		03/11/24 11:26	03/12/24 13:52	1
Fluorene	ND		0.20	0.089	ug/L		03/11/24 11:26	03/12/24 13:52	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		03/11/24 11:26	03/12/24 13:52	1
Phenanthrene	ND		0.20	0.090	ug/L		03/11/24 11:26	03/12/24 13:52	1
Pyrene	ND		0.20	0.039	ug/L		03/11/24 11:26	03/12/24 13:52	1
1-Methylnaphthalene	ND		0.20	0.080	ug/L		03/11/24 11:26	03/12/24 13:52	1
2-Methylnaphthalene	ND		0.20	0.066	ug/L		03/11/24 11:26	03/12/24 13:52	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Terphenyl-d14	100		18 - 147	03/11/24 11:26	03/12/24 13:52	1
2-Fluorobiphenyl	65		15 - 128	03/11/24 11:26	03/12/24 13:52	1
Nitrobenzene-d5	75		10 - 144	03/11/24 11:26	03/12/24 13:52	1

**Lab Sample ID: LCS 400-663975/2-A**  
**Matrix: Water**  
**Analysis Batch: 664170**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663975**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	120	111		ug/L		93	10 - 140
Acenaphthylene	120	113		ug/L		94	10 - 140
Anthracene	120	111		ug/L		93	19 - 140
Benzo[a]anthracene	120	121		ug/L		101	25 - 140
Benzo[a]pyrene	120	114		ug/L		95	24 - 140
Benzo[b]fluoranthene	120	112		ug/L		94	34 - 140
Benzo[g,h,i]perylene	120	112		ug/L		93	13 - 140
Benzo[k]fluoranthene	120	126		ug/L		105	21 - 140
Chrysene	120	118		ug/L		98	28 - 140
Dibenz(a,h)anthracene	120	110		ug/L		92	10 - 140
Fluoranthene	120	112		ug/L		93	18 - 140

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252220-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: LCS 400-663975/2-A**  
**Matrix: Water**  
**Analysis Batch: 664170**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663975**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluorene	120	111		ug/L		92	16 - 140
Indeno[1,2,3-cd]pyrene	120	114		ug/L		95	10 - 140
Phenanthrene	120	114		ug/L		95	22 - 140
Pyrene	120	123		ug/L		103	38 - 140
1-Methylnaphthalene	120	69.8		ug/L		58	10 - 140
2-Methylnaphthalene	120	69.8		ug/L		58	10 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	90		18 - 147
2-Fluorobiphenyl	89		15 - 128
Nitrobenzene-d5	64		10 - 144

**Lab Sample ID: LCSD 400-663975/3-A**  
**Matrix: Water**  
**Analysis Batch: 664170**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 663975**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Acenaphthene	120	103		ug/L		86	10 - 140	8	40
Acenaphthylene	120	104		ug/L		87	10 - 140	8	40
Anthracene	120	104		ug/L		86	19 - 140	7	40
Benzo[a]anthracene	120	110		ug/L		92	25 - 140	9	40
Benzo[a]pyrene	120	101		ug/L		84	24 - 140	12	40
Benzo[b]fluoranthene	120	101		ug/L		84	34 - 140	11	40
Benzo[g,h,i]perylene	120	96.8		ug/L		81	13 - 140	14	40
Benzo[k]fluoranthene	120	111		ug/L		92	21 - 140	13	40
Chrysene	120	107		ug/L		89	28 - 140	10	40
Dibenz(a,h)anthracene	120	92.3		ug/L		77	10 - 140	18	40
Fluoranthene	120	104		ug/L		86	18 - 140	8	40
Fluorene	120	99.8		ug/L		83	16 - 140	10	40
Indeno[1,2,3-cd]pyrene	120	96.0		ug/L		80	10 - 140	17	40
Phenanthrene	120	106		ug/L		88	22 - 140	7	40
Pyrene	120	113		ug/L		95	38 - 140	8	40
1-Methylnaphthalene	120	66.7		ug/L		56	10 - 140	4	40
2-Methylnaphthalene	120	66.3		ug/L		55	10 - 140	5	40

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Terphenyl-d14	83		18 - 147
2-Fluorobiphenyl	81		15 - 128
Nitrobenzene-d5	62		10 - 144

## Method: 8011 - EDB and DBCP in Water by Microextraction

**Lab Sample ID: MB 400-663976/1-A**  
**Matrix: Water**  
**Analysis Batch: 664136**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 663976**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.030	0.017	ug/L		03/11/24 11:28	03/12/24 16:18	1

Eurofins Pensacola

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252220-1

## Method: 8011 - EDB and DBCP in Water by Microextraction (Continued)

**Lab Sample ID: MB 400-663976/1-A**  
**Matrix: Water**  
**Analysis Batch: 664136**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 663976**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/11/24 11:28	03/12/24 16:18	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	62		51 - 149				03/11/24 11:28	03/12/24 16:18	1

**Lab Sample ID: LCS 400-663976/2-A**  
**Matrix: Water**  
**Analysis Batch: 664136**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663976**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dibromo-3-Chloropropane	0.101	0.0872		ug/L		87	60 - 140
1,2-Dibromoethane	0.100	0.0799		ug/L		80	60 - 140
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene	69		51 - 149				

**Lab Sample ID: LCSD 400-663976/3-A**  
**Matrix: Water**  
**Analysis Batch: 664136**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 663976**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
1,2-Dibromo-3-Chloropropane	0.101	0.0905		ug/L		90	60 - 140	4	30
1,2-Dibromoethane	0.100	0.0818		ug/L		82	60 - 140	2	30
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene	58		51 - 149						



400-252220 COC



## Shell Oil Products US Chain Of Custody Record

LAB (LOCATION)

ACCOUNT ( )  
 CALSCIENCE ( )  
 TESTAMERICA (TestAmerica Pensacola; 3355 McLemore Dr. Pensacola, FL 32514 (850-474-1001))  
 Other ( )

SOW FDG  
 CHEMICALS  
 TRANSPORTATION  
 OTHER\_ENV\_SERVICES

PIPELINE  
 CONSULTANT  
 RETAIL  
 LUBES

Print Bill To Contact Name: Melissa Remiger  
 PO # 60721927 - 3.1.2  
 USPC/00114/R/02  
 State IL  
 AECOM Project / Task Number: Roxana Monthly GW 60721927 - 3.1.2  
 E-MAIL: melissa.remiger@aecom.com  
 SITE ADDRESS: Street and City 900 South Central Ave; ROXANA  
 PHONE NO: 314-802-1207  
 EDI DELIVERABLE TO (Name, Company, Office Location): Melissa Remiger - please see special instructions  
 SAMPLER NAME(S) (Print): M. Massa, T. Jenkins

CHECK IF NO INCIDENT # APPLIES  
 DATE: 3/5/2024  
 PAGE: 1 of 1

BILL TO CONTACT E-MAIL: melissa.remiger@aecom.com  
 FAX: 314-429-0100  
 PHONE: 314-429-0462

TURNAROUND TIME (CALENDAR DAYS):  
 STANDARD (4 DAY)  5 DAYS  2 DAYS  3 DAYS  4 DAYS  
 RESULTS NEEDED ON WEEKEND

LOG CODE:  
 LA - RWQCB REPORT FORMAT  
 OTHER (SPECIFY) \_EDD  
 Cooler #1  
 Cooler #2

SHELL CONTRACT RATE APPLIES  
 STATE REIMBURSEMENT RATE APPLIES  
 EDD NOT NEEDED  
 RECEIPT VERIFICATION REQUESTED  
 PROVIDE LEDD DISK

SPECIAL INSTRUCTIONS OR NOTES:  
 Email reports to: melissa.remiger@aecom.com  
 Email: mary.massa@aecom.com; Brett.Howell@aecom.com  
 Please include "J" values on Reports.  
 Please provide sample receipt upon login.  
 Please send EQUIS EDDs to EDDSubmissions@aecomshell.com; Vlad.Virjan@aecom.com

ADDRESS: 100 N. Broadway, 20th Floor, ST. LOUIS, MO 63102, USA  
 PROJECT CONTACT (hardcopy or PDF Report to):  
 Melissa Remiger, Mary Massa, Brett Howell

REQUESTED ANALYSIS  
 60721927 - 3.1.2

LAB USE ONLY	FIELD SAMPLE IDENTIFICATION		DATE	TIME	PRESERVATIVE			NO. OF CONT.	
	Matrix	Matrix			HCL	HNO3	H2SO4		NONE
	8011 EDB + DBCP	VOC 8260	3/5/2024	0000	Water	Water	2	2	X
	SVOC 8270		3/5/2024	0000	Water	Water	2	2	
	PAH 8270 SIMS		3/5/2024	0930	Water	Water	6	2	X

TEMPERATURE ON RECEIPT C°  
 CONTAINER PID Readings or Laboratory Notes:

RELINQUISHED BY (SIGNATURE): *Mary Massa*  
 RECEIVED BY (SIGNATURE): *Jammy Cant*  
 DATE: 3/5/2024  
 TIME: 1600

CUSTODY SEALS: 1599838, 1599839, 1599840, 1599841

Version: 27Sept23

3/13/2024

## Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-252220-1

**Login Number: 252220**

**List Source: Eurofins Pensacola**

**List Number: 1**

**Creator: Earnest, Tamantha**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
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	0.3°C & 1.5°C IR8
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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (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 MONTHLY GW

Job ID: 400-252220-1

## Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-24
Kansas	NELAP	E-10253	10-31-24
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-24
North Carolina (WW/SW)	State	314	12-31-24
Oklahoma	NELAP	9810	08-31-24
Pennsylvania	NELAP	68-00467	01-31-25
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-24
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	P330-21-00056	05-17-24
USDA	US Federal Programs	FLGNV23001	01-08-26
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-24

# Roxana Groundwater Monthly – February/March 2024 Data Review

Laboratory SDG: 400-252224-1-Rev.1

Data Reviewer: Andrei Niculau

Peer Reviewer: Cheyana Cokley

Date Reviewed: 04/01/2024

Guidance: USEPA National Functional Guidelines for Organic Superfund Methods  
Data Review 2020

Sample Identification	Sample Identification
TB-ROX-030524-8260-A	TB-ROX-030524-8011-B
TB-ROX-030524-8011-A	MW16-ROX-030524
MW24-ROX-030524	MW6D-ROX-030524-EB
MW3-ROX-030524	MW6D-ROX-030524
MW3-ROX-030524-DUP	MW6C-ROX-030524
MW5-ROX-030524	MW6A-ROX-030524
TB-ROX-030524-8260-B	--

## 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 continuing calibration verification (CCV) for several VOCs and SVOCs were outside evaluation criteria, biased high. No data qualification was required. The laboratory report was revised on March 25, 2024, to include missing ICVs for method 8270E.

Three of 70 (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?*

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?*

Yes

Field ID	Field Duplicate ID
MW3-ROX-030524	MW3-ROX-030524-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?*

No



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Melissa Remiger  
AECOM Technical Services Inc.  
100 N. Broadway  
20th Floor  
St. Louis, Missouri 63102

Generated 3/13/2024 5:59:41 PM

## JOB DESCRIPTION

ROXANA MONTHLY GW

## JOB NUMBER

400-252224-1

Reviewed 04/01/2024  
AN

# Eurofins Pensacola

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

## Authorization



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Authorized for release by  
Leah Klingensmith, Senior Project Manager  
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# Case Narrative

Client: AECOM Technical Services Inc.  
Project: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Job ID: 400-252224-1**

**Eurofins Pensacola**

## Job Narrative 400-252224-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 3/6/2024 9:34 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.3°C and 1.5°C.

### GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-663874 recovered above the upper control limit for Hexachlorobutadiene and Methylene Chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The preservative used in the sample containers provided is not compatible with one of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-ROX-030524-8260-A (400-252224-1), MW24-ROX-030524 (400-252224-3), MW3-ROX-030524 (400-252224-4), MW3-ROX-030524-DUP (400-252224-5), MW5-ROX-030524 (400-252224-6), TB-ROX-030524-8260-B (400-252224-7), MW16-ROX-030524 (400-252224-9), MW6D-ROX-030524-EB (400-252224-10), MW6D-ROX-030524 (400-252224-11), MW6C-ROX-030524 (400-252224-12) and MW6A-ROX-030524 (400-252224-13). The requested target analyte list includes 2-Chloroethyl vinyl ether, Acrolein and Acrylonitrile, which acid-labile compounds that degrades 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 8270E: The continuing calibration verification (CCV) associated with batch 400-664139 recovered above the upper control limit for 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 4-Chlorophenyl phenyl ether, 4-Bromophenyl phenyl ether and Hexachlorobenzene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8270E\_SIM: Detections for the following samples have been confirmed as matching historical data. Re-extraction not performed.

MW3-ROX-030524-DUP (400-252224-5), MW16-ROX-030524 (400-252224-9), MW6D-ROX-030524 (400-252224-11), MW6C-ROX-030524 (400-252224-12) and MW6A-ROX-030524 (400-252224-13)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

### GC Semi VOA

Method 8011: Surrogate recovery in the final CCV for batch 664136 was outside of CCV limits but the target analytes were in control and non-detect in the samples. All surrogates were within the surrogate limits and the data has been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

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# Sample Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-252224-1	TB-ROX-030524-8260-A	Water	03/05/24 00:00	03/06/24 09:34
400-252224-2	TB-ROX-030524-8011-A	Water	03/05/24 00:00	03/06/24 09:34
400-252224-3	MW24-ROX-030524	Water	03/05/24 10:40	03/06/24 09:34
400-252224-4	MW3-ROX-030524	Water	03/05/24 11:35	03/06/24 09:34
400-252224-5	MW3-ROX-030524-DUP	Water	03/05/24 11:35	03/06/24 09:34
400-252224-6	MW5-ROX-030524	Water	03/05/24 12:50	03/06/24 09:34
400-252224-7	TB-ROX-030524-8260-B	Water	03/05/24 00:00	03/06/24 09:34
400-252224-8	TB-ROX-030524-8011-B	Water	03/05/24 00:00	03/06/24 09:34
400-252224-9	MW16-ROX-030524	Water	03/05/24 09:35	03/06/24 09:34
400-252224-10	MW6D-ROX-030524-EB	Water	03/05/24 10:30	03/06/24 09:34
400-252224-11	MW6D-ROX-030524	Water	03/05/24 11:15	03/06/24 09:34
400-252224-12	MW6C-ROX-030524	Water	03/05/24 12:00	03/06/24 09:34
400-252224-13	MW6A-ROX-030524	Water	03/05/24 13:00	03/06/24 09:34



# Detection Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

## Client Sample ID: TB-ROX-030524-8260-A

Lab Sample ID: 400-252224-1

No Detections.

## Client Sample ID: TB-ROX-030524-8011-A

Lab Sample ID: 400-252224-2

No Detections.

## Client Sample ID: MW24-ROX-030524

Lab Sample ID: 400-252224-3

No Detections.

## Client Sample ID: MW3-ROX-030524

Lab Sample ID: 400-252224-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	0.57	J	1.0	0.22	ug/L	1		8260D	Total/NA

## Client Sample ID: MW3-ROX-030524-DUP

Lab Sample ID: 400-252224-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	0.61	J	1.0	0.22	ug/L	1		8260D	Total/NA
Benzo[a]anthracene	0.039	J	0.20	0.033	ug/L	1		8270E SIM	Total/NA
Benzo[b]fluoranthene	0.082	J	0.20	0.036	ug/L	1		8270E SIM	Total/NA
Benzo[g,h,i]perylene	0.069	J	0.20	0.026	ug/L	1		8270E SIM	Total/NA
Benzo[k]fluoranthene	0.093	J	0.20	0.061	ug/L	1		8270E SIM	Total/NA
Chrysene	0.055	J	0.20	0.032	ug/L	1		8270E SIM	Total/NA
Dibenz(a,h)anthracene	0.073	J	0.20	0.047	ug/L	1		8270E SIM	Total/NA
Indeno[1,2,3-cd]pyrene	0.092	J	0.20	0.033	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	0.095	J	0.20	0.078	ug/L	1		8270E SIM	Total/NA

## Client Sample ID: MW5-ROX-030524

Lab Sample ID: 400-252224-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.97	J	1.0	0.50	ug/L	1		8260D	Total/NA
Methyl tert-butyl ether	2.2		1.0	0.22	ug/L	1		8260D	Total/NA
tert-Butylbenzene	1.6		1.0	0.63	ug/L	1		8260D	Total/NA

## Client Sample ID: TB-ROX-030524-8260-B

Lab Sample ID: 400-252224-7

No Detections.

## Client Sample ID: TB-ROX-030524-8011-B

Lab Sample ID: 400-252224-8

No Detections.

## Client Sample ID: MW16-ROX-030524

Lab Sample ID: 400-252224-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.62	J	1.0	0.50	ug/L	1		8260D	Total/NA
Anthracene	0.054	J	0.20	0.048	ug/L	1		8270E SIM	Total/NA
Benzo[a]anthracene	0.12	J	0.20	0.035	ug/L	1		8270E SIM	Total/NA
Benzo[a]pyrene	0.093	J	0.20	0.065	ug/L	1		8270E SIM	Total/NA
Benzo[b]fluoranthene	0.065	J	0.20	0.038	ug/L	1		8270E SIM	Total/NA
Benzo[g,h,i]perylene	0.17	J	0.20	0.028	ug/L	1		8270E SIM	Total/NA
Benzo[k]fluoranthene	0.17	J	0.20	0.063	ug/L	1		8270E SIM	Total/NA
Chrysene	0.22		0.20	0.034	ug/L	1		8270E SIM	Total/NA
Dibenz(a,h)anthracene	0.14	J	0.20	0.049	ug/L	1		8270E SIM	Total/NA
Fluoranthene	0.075	J	0.20	0.035	ug/L	1		8270E SIM	Total/NA
Indeno[1,2,3-cd]pyrene	0.092	J	0.20	0.035	ug/L	1		8270E SIM	Total/NA

This Detection Summary does not include radiochemical test results.

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# Detection Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

## Client Sample ID: MW16-ROX-030524 (Continued)

Lab Sample ID: 400-252224-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Pyrene	0.080	J	0.20	0.040	ug/L	1		8270E SIM	Total/NA

## Client Sample ID: MW6D-ROX-030524-EB

Lab Sample ID: 400-252224-10

No Detections.

## Client Sample ID: MW6D-ROX-030524

Lab Sample ID: 400-252224-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.69	J	1.0	0.50	ug/L	1		8260D	Total/NA
Carbon disulfide	0.51	J	1.0	0.50	ug/L	1		8260D	Total/NA
2-Methylnaphthalene	0.080	J	0.21	0.068	ug/L	1		8270E SIM	Total/NA

## Client Sample ID: MW6C-ROX-030524

Lab Sample ID: 400-252224-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.58	J	1.0	0.50	ug/L	1		8260D	Total/NA
Anthracene	0.12	J	0.20	0.048	ug/L	1		8270E SIM	Total/NA
Fluoranthene	0.044	J	0.20	0.034	ug/L	1		8270E SIM	Total/NA
Fluorene	0.11	J	0.20	0.090	ug/L	1		8270E SIM	Total/NA
Phenanthrene	0.098	J	0.20	0.091	ug/L	1		8270E SIM	Total/NA
Pyrene	0.049	J	0.20	0.039	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	0.11	J	0.20	0.067	ug/L	1		8270E SIM	Total/NA

## Client Sample ID: MW6A-ROX-030524

Lab Sample ID: 400-252224-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.61	J	1.0	0.50	ug/L	1		8260D	Total/NA
Methyl tert-butyl ether	0.31	J	1.0	0.22	ug/L	1		8260D	Total/NA
Acenaphthene	0.13	J	0.21	0.10	ug/L	1		8270E SIM	Total/NA
Acenaphthylene	0.18	J	0.21	0.045	ug/L	1		8270E SIM	Total/NA
Chrysene	0.035	J	0.21	0.034	ug/L	1		8270E SIM	Total/NA

This Detection Summary does not include radiochemical test results.

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# Client Sample Results

Client: AECOM Technical Services Inc.  
 Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: TB-ROX-030524-8260-A**

**Lab Sample ID: 400-252224-1**

**Date Collected: 03/05/24 00:00**

**Matrix: Water**

**Date Received: 03/06/24 09:34**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/10/24 13:23	1
Acrolein	ND		20	3.3	ug/L			03/10/24 13:23	1
Acrylonitrile	ND		10	2.8	ug/L			03/10/24 13:23	1
Benzene	ND		1.0	0.50	ug/L			03/10/24 13:23	1
Bromobenzene	ND		1.0	0.54	ug/L			03/10/24 13:23	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/10/24 13:23	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/10/24 13:23	1
Bromoform	ND		5.0	0.25	ug/L			03/10/24 13:23	1
Bromomethane	ND		1.0	0.98	ug/L			03/10/24 13:23	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/10/24 13:23	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/10/24 13:23	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/10/24 13:23	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/10/24 13:23	1
Chloroethane	ND		1.0	0.76	ug/L			03/10/24 13:23	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/10/24 13:23	1
Chloroform	ND		1.0	0.90	ug/L			03/10/24 13:23	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/10/24 13:23	1
Chloromethane	ND		1.0	0.90	ug/L			03/10/24 13:23	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/10/24 13:23	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/10/24 13:23	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/10/24 13:23	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/10/24 13:23	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/10/24 13:23	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/10/24 13:23	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/10/24 13:23	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/10/24 13:23	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/10/24 13:23	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/10/24 13:23	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 13:23	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 13:23	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 13:23	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/10/24 13:23	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/10/24 13:23	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/10/24 13:23	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/10/24 13:23	1
2-Hexanone	ND		25	1.4	ug/L			03/10/24 13:23	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/10/24 13:23	1
Methylene bromide	ND		5.0	0.22	ug/L			03/10/24 13:23	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/10/24 13:23	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/10/24 13:23	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/10/24 13:23	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/10/24 13:23	1
Naphthalene	ND		5.0	3.0	ug/L			03/10/24 13:23	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/10/24 13:23	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/10/24 13:23	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/10/24 13:23	1
o-Xylene	ND		5.0	0.60	ug/L			03/10/24 13:23	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/10/24 13:23	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/10/24 13:23	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: TB-ROX-030524-8260-A**

**Lab Sample ID: 400-252224-1**

**Date Collected: 03/05/24 00:00**

**Matrix: Water**

**Date Received: 03/06/24 09:34**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/10/24 13:23	1
Styrene	ND		1.0	1.0	ug/L			03/10/24 13:23	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/10/24 13:23	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/10/24 13:23	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/10/24 13:23	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/10/24 13:23	1
Toluene	ND		1.0	0.90	ug/L			03/10/24 13:23	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/10/24 13:23	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/10/24 13:23	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/10/24 13:23	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/10/24 13:23	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/10/24 13:23	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/10/24 13:23	1
Trichloroethene	ND		1.0	0.15	ug/L			03/10/24 13:23	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/10/24 13:23	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/10/24 13:23	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/10/24 13:23	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/10/24 13:23	1
Vinyl acetate	ND		25	0.93	ug/L			03/10/24 13:23	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/10/24 13:23	1
Xylenes, Total	ND		10	1.6	ug/L			03/10/24 13:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		72 - 130		03/10/24 13:23	1
Dibromofluoromethane	102		75 - 126		03/10/24 13:23	1
Toluene-d8 (Surr)	94		64 - 132		03/10/24 13:23	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
 Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: TB-ROX-030524-8011-A**

**Lab Sample ID: 400-252224-2**

**Date Collected: 03/05/24 00:00**

**Matrix: Water**

**Date Received: 03/06/24 09:34**

**Method: EPA 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	0.017	ug/L		03/11/24 11:28	03/13/24 10:12	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/11/24 11:28	03/13/24 10:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		51 - 149				03/11/24 11:28	03/13/24 10:12	1

- 1
- 2
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- 13
- 14
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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW24-ROX-030524**

**Lab Sample ID: 400-252224-3**

**Date Collected: 03/05/24 10:40**

**Matrix: Water**

**Date Received: 03/06/24 09:34**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/10/24 13:50	1
Acrolein	ND		20	3.3	ug/L			03/10/24 13:50	1
Acrylonitrile	ND		10	2.8	ug/L			03/10/24 13:50	1
Benzene	ND		1.0	0.50	ug/L			03/10/24 13:50	1
Bromobenzene	ND		1.0	0.54	ug/L			03/10/24 13:50	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/10/24 13:50	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/10/24 13:50	1
Bromoform	ND		5.0	0.25	ug/L			03/10/24 13:50	1
Bromomethane	ND		1.0	0.98	ug/L			03/10/24 13:50	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/10/24 13:50	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/10/24 13:50	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/10/24 13:50	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/10/24 13:50	1
Chloroethane	ND		1.0	0.76	ug/L			03/10/24 13:50	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/10/24 13:50	1
Chloroform	ND		1.0	0.90	ug/L			03/10/24 13:50	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/10/24 13:50	1
Chloromethane	ND		1.0	0.90	ug/L			03/10/24 13:50	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/10/24 13:50	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/10/24 13:50	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/10/24 13:50	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/10/24 13:50	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/10/24 13:50	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/10/24 13:50	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/10/24 13:50	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/10/24 13:50	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/10/24 13:50	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/10/24 13:50	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 13:50	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 13:50	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 13:50	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/10/24 13:50	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/10/24 13:50	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/10/24 13:50	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/10/24 13:50	1
2-Hexanone	ND		25	1.4	ug/L			03/10/24 13:50	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/10/24 13:50	1
Methylene bromide	ND		5.0	0.22	ug/L			03/10/24 13:50	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/10/24 13:50	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/10/24 13:50	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/10/24 13:50	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/10/24 13:50	1
Naphthalene	ND		5.0	3.0	ug/L			03/10/24 13:50	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/10/24 13:50	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/10/24 13:50	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/10/24 13:50	1
o-Xylene	ND		5.0	0.60	ug/L			03/10/24 13:50	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/10/24 13:50	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/10/24 13:50	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW24-ROX-030524**

**Lab Sample ID: 400-252224-3**

Date Collected: 03/05/24 10:40

Matrix: Water

Date Received: 03/06/24 09:34

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/10/24 13:50	1
Styrene	ND		1.0	1.0	ug/L			03/10/24 13:50	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/10/24 13:50	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/10/24 13:50	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/10/24 13:50	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/10/24 13:50	1
Toluene	ND		1.0	0.90	ug/L			03/10/24 13:50	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/10/24 13:50	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/10/24 13:50	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/10/24 13:50	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/10/24 13:50	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/10/24 13:50	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/10/24 13:50	1
Trichloroethene	ND		1.0	0.15	ug/L			03/10/24 13:50	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/10/24 13:50	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/10/24 13:50	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/10/24 13:50	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/10/24 13:50	1
Vinyl acetate	ND		25	0.93	ug/L			03/10/24 13:50	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/10/24 13:50	1
Xylenes, Total	ND		10	1.6	ug/L			03/10/24 13:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		72 - 130		03/10/24 13:50	1
Dibromofluoromethane	103		75 - 126		03/10/24 13:50	1
Toluene-d8 (Surr)	94		64 - 132		03/10/24 13:50	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.096	ug/L		03/11/24 11:27	03/12/24 14:54	1
Acenaphthylene	ND		0.19	0.043	ug/L		03/11/24 11:27	03/12/24 14:54	1
Anthracene	ND		0.19	0.046	ug/L		03/11/24 11:27	03/12/24 14:54	1
Benzo[a]anthracene	ND		0.19	0.033	ug/L		03/11/24 11:27	03/12/24 14:54	1
Benzo[a]pyrene	ND		0.19	0.062	ug/L		03/11/24 11:27	03/12/24 14:54	1
Benzo[b]fluoranthene	ND		0.19	0.036	ug/L		03/11/24 11:27	03/12/24 14:54	1
Benzo[g,h,i]perylene	ND		0.19	0.026	ug/L		03/11/24 11:27	03/12/24 14:54	1
Benzo[k]fluoranthene	ND		0.19	0.060	ug/L		03/11/24 11:27	03/12/24 14:54	1
Chrysene	ND		0.19	0.032	ug/L		03/11/24 11:27	03/12/24 14:54	1
Dibenz(a,h)anthracene	ND		0.19	0.047	ug/L		03/11/24 11:27	03/12/24 14:54	1
Fluoranthene	ND		0.19	0.033	ug/L		03/11/24 11:27	03/12/24 14:54	1
Fluorene	ND		0.19	0.087	ug/L		03/11/24 11:27	03/12/24 14:54	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.033	ug/L		03/11/24 11:27	03/12/24 14:54	1
Phenanthrene	ND		0.19	0.088	ug/L		03/11/24 11:27	03/12/24 14:54	1
Pyrene	ND		0.19	0.038	ug/L		03/11/24 11:27	03/12/24 14:54	1
1-Methylnaphthalene	ND		0.19	0.078	ug/L		03/11/24 11:27	03/12/24 14:54	1
2-Methylnaphthalene	ND		0.19	0.064	ug/L		03/11/24 11:27	03/12/24 14:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	96		18 - 147	03/11/24 11:27	03/12/24 14:54	1
2-Fluorobiphenyl	65		15 - 128	03/11/24 11:27	03/12/24 14:54	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW24-ROX-030524**

**Lab Sample ID: 400-252224-3**

Date Collected: 03/05/24 10:40

Matrix: Water

Date Received: 03/06/24 09:34

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	65		10 - 144	03/11/24 11:27	03/12/24 14:54	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	8.5	ug/L		03/11/24 11:27	03/12/24 13:29	1
Benzenethiol	ND	*-	9.7	9.6	ug/L		03/11/24 11:27	03/12/24 13:29	1
Benzoic acid	ND		29	23	ug/L		03/11/24 11:27	03/12/24 13:29	1
Benzyl alcohol	ND		9.7	7.1	ug/L		03/11/24 11:27	03/12/24 13:29	1
Bis(2-chloroethoxy)methane	ND		9.7	4.5	ug/L		03/11/24 11:27	03/12/24 13:29	1
Bis(2-chloroethyl)ether	ND		9.7	3.8	ug/L		03/11/24 11:27	03/12/24 13:29	1
bis (2-chloroisopropyl) ether	ND		9.7	1.8	ug/L		03/11/24 11:27	03/12/24 13:29	1
Bis(2-ethylhexyl) phthalate	ND		9.7	8.7	ug/L		03/11/24 11:27	03/12/24 13:29	1
4-Bromophenyl phenyl ether	ND		9.7	8.4	ug/L		03/11/24 11:27	03/12/24 13:29	1
Butyl benzyl phthalate	ND		9.7	5.7	ug/L		03/11/24 11:27	03/12/24 13:29	1
4-Chloroaniline	ND		9.7	4.6	ug/L		03/11/24 11:27	03/12/24 13:29	1
4-Chloro-3-methylphenol	ND		9.7	5.2	ug/L		03/11/24 11:27	03/12/24 13:29	1
2-Chloronaphthalene	ND		9.7	3.7	ug/L		03/11/24 11:27	03/12/24 13:29	1
2-Chlorophenol	ND		9.7	4.0	ug/L		03/11/24 11:27	03/12/24 13:29	1
4-Chlorophenyl phenyl ether	ND		9.7	3.6	ug/L		03/11/24 11:27	03/12/24 13:29	1
Dibenz[a,h]acridine	ND		9.7	2.7	ug/L		03/11/24 11:27	03/12/24 13:29	1
Dibenzofuran	ND		9.7	3.9	ug/L		03/11/24 11:27	03/12/24 13:29	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/11/24 11:27	03/12/24 13:29	1
2,4-Dichlorophenol	ND		9.7	4.2	ug/L		03/11/24 11:27	03/12/24 13:29	1
Diethyl phthalate	ND		9.7	4.3	ug/L		03/11/24 11:27	03/12/24 13:29	1
2,4-Dimethylphenol	ND		9.7	5.1	ug/L		03/11/24 11:27	03/12/24 13:29	1
Dimethyl phthalate	ND		9.7	4.1	ug/L		03/11/24 11:27	03/12/24 13:29	1
Di-n-butyl phthalate	ND		9.7	4.5	ug/L		03/11/24 11:27	03/12/24 13:29	1
4,6-Dinitro-ortho-cresol	ND		9.7	9.7	ug/L		03/11/24 11:27	03/12/24 13:29	1
2,4-Dinitrophenol	ND		29	4.5	ug/L		03/11/24 11:27	03/12/24 13:29	1
2,4-Dinitrotoluene	ND		9.7	5.0	ug/L		03/11/24 11:27	03/12/24 13:29	1
2,6-Dinitrotoluene	ND		9.7	3.8	ug/L		03/11/24 11:27	03/12/24 13:29	1
Di-n-octyl phthalate	ND		9.7	5.8	ug/L		03/11/24 11:27	03/12/24 13:29	1
1,4-Dioxane	ND		9.7	4.2	ug/L		03/11/24 11:27	03/12/24 13:29	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	3.2	ug/L		03/11/24 11:27	03/12/24 13:29	1
Hexachlorobenzene	ND		9.7	9.5	ug/L		03/11/24 11:27	03/12/24 13:29	1
Hexachlorocyclopentadiene	ND		19	4.4	ug/L		03/11/24 11:27	03/12/24 13:29	1
Hexachloroethane	ND		9.7	5.1	ug/L		03/11/24 11:27	03/12/24 13:29	1
Indene	ND		9.7	3.5	ug/L		03/11/24 11:27	03/12/24 13:29	1
Isophorone	ND		9.7	5.1	ug/L		03/11/24 11:27	03/12/24 13:29	1
2-Methylphenol	ND		9.7	3.1	ug/L		03/11/24 11:27	03/12/24 13:29	1
3 & 4 Methylphenol	ND		19	4.5	ug/L		03/11/24 11:27	03/12/24 13:29	1
2-Nitroaniline	ND		9.7	4.9	ug/L		03/11/24 11:27	03/12/24 13:29	1
3-Nitroaniline	ND		9.7	4.6	ug/L		03/11/24 11:27	03/12/24 13:29	1
4-Nitroaniline	ND		9.7	4.0	ug/L		03/11/24 11:27	03/12/24 13:29	1
Nitrobenzene	ND		9.7	4.6	ug/L		03/11/24 11:27	03/12/24 13:29	1
2-Nitrophenol	ND		9.7	4.5	ug/L		03/11/24 11:27	03/12/24 13:29	1
4-Nitrophenol	ND		9.7	3.2	ug/L		03/11/24 11:27	03/12/24 13:29	1
N-Nitrosodimethylamine	ND		9.7	2.1	ug/L		03/11/24 11:27	03/12/24 13:29	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW24-ROX-030524**

**Lab Sample ID: 400-252224-3**

**Date Collected: 03/05/24 10:40**

**Matrix: Water**

**Date Received: 03/06/24 09:34**

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.7	2.4	ug/L		03/11/24 11:27	03/12/24 13:29	1
N-Nitrosodiphenylamine	ND		9.7	3.6	ug/L		03/11/24 11:27	03/12/24 13:29	1
Pentachlorophenol	ND		19	12	ug/L		03/11/24 11:27	03/12/24 13:29	1
Phenol	ND		9.7	4.1	ug/L		03/11/24 11:27	03/12/24 13:29	1
Pyridine	ND		9.7	9.7	ug/L		03/11/24 11:27	03/12/24 13:29	1
Quinoline	ND		9.7	2.3	ug/L		03/11/24 11:27	03/12/24 13:29	1
2,4,5-Trichlorophenol	ND		9.7	3.9	ug/L		03/11/24 11:27	03/12/24 13:29	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		03/11/24 11:27	03/12/24 13:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	82		21 - 114	03/11/24 11:27	03/12/24 13:29	1
2-Fluorophenol	44		10 - 105	03/11/24 11:27	03/12/24 13:29	1
Nitrobenzene-d5	63		16 - 127	03/11/24 11:27	03/12/24 13:29	1
Phenol-d5	33		10 - 129	03/11/24 11:27	03/12/24 13:29	1
Terphenyl-d14	95		13 - 150	03/11/24 11:27	03/12/24 13:29	1
2,4,6-Tribromophenol	91		10 - 150	03/11/24 11:27	03/12/24 13:29	1

**Method: EPA 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	0.017	ug/L		03/11/24 11:28	03/13/24 10:32	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/11/24 11:28	03/13/24 10:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	62		51 - 149	03/11/24 11:28	03/13/24 10:32	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
 Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW3-ROX-030524**

**Lab Sample ID: 400-252224-4**

Date Collected: 03/05/24 11:35

Matrix: Water

Date Received: 03/06/24 09:34

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/10/24 14:17	1
Acrolein	ND		20	3.3	ug/L			03/10/24 14:17	1
Acrylonitrile	ND		10	2.8	ug/L			03/10/24 14:17	1
Benzene	ND		1.0	0.50	ug/L			03/10/24 14:17	1
Bromobenzene	ND		1.0	0.54	ug/L			03/10/24 14:17	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/10/24 14:17	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/10/24 14:17	1
Bromoform	ND		5.0	0.25	ug/L			03/10/24 14:17	1
Bromomethane	ND		1.0	0.98	ug/L			03/10/24 14:17	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/10/24 14:17	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/10/24 14:17	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/10/24 14:17	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/10/24 14:17	1
Chloroethane	ND		1.0	0.76	ug/L			03/10/24 14:17	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/10/24 14:17	1
Chloroform	ND		1.0	0.90	ug/L			03/10/24 14:17	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/10/24 14:17	1
Chloromethane	ND		1.0	0.90	ug/L			03/10/24 14:17	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/10/24 14:17	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/10/24 14:17	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/10/24 14:17	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/10/24 14:17	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/10/24 14:17	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/10/24 14:17	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/10/24 14:17	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/10/24 14:17	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/10/24 14:17	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/10/24 14:17	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 14:17	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 14:17	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 14:17	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/10/24 14:17	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/10/24 14:17	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/10/24 14:17	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/10/24 14:17	1
2-Hexanone	ND		25	1.4	ug/L			03/10/24 14:17	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/10/24 14:17	1
Methylene bromide	ND		5.0	0.22	ug/L			03/10/24 14:17	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/10/24 14:17	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/10/24 14:17	1
<b>Methyl tert-butyl ether</b>	<b>0.57</b>	<b>J</b>	1.0	0.22	ug/L			03/10/24 14:17	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/10/24 14:17	1
Naphthalene	ND		5.0	3.0	ug/L			03/10/24 14:17	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/10/24 14:17	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/10/24 14:17	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/10/24 14:17	1
o-Xylene	ND		5.0	0.60	ug/L			03/10/24 14:17	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/10/24 14:17	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/10/24 14:17	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW3-ROX-030524**

**Lab Sample ID: 400-252224-4**

Date Collected: 03/05/24 11:35

Matrix: Water

Date Received: 03/06/24 09:34

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/10/24 14:17	1
Styrene	ND		1.0	1.0	ug/L			03/10/24 14:17	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/10/24 14:17	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/10/24 14:17	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/10/24 14:17	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/10/24 14:17	1
Toluene	ND		1.0	0.90	ug/L			03/10/24 14:17	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/10/24 14:17	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/10/24 14:17	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/10/24 14:17	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/10/24 14:17	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/10/24 14:17	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/10/24 14:17	1
Trichloroethene	ND		1.0	0.15	ug/L			03/10/24 14:17	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/10/24 14:17	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/10/24 14:17	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/10/24 14:17	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/10/24 14:17	1
Vinyl acetate	ND		25	0.93	ug/L			03/10/24 14:17	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/10/24 14:17	1
Xylenes, Total	ND		10	1.6	ug/L			03/10/24 14:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		72 - 130		03/10/24 14:17	1
Dibromofluoromethane	103		75 - 126		03/10/24 14:17	1
Toluene-d8 (Surr)	93		64 - 132		03/10/24 14:17	1

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.097	ug/L		03/11/24 11:27	03/12/24 15:15	1
Acenaphthylene	ND		0.20	0.043	ug/L		03/11/24 11:27	03/12/24 15:15	1
Anthracene	ND		0.20	0.046	ug/L		03/11/24 11:27	03/12/24 15:15	1
Benzo[a]anthracene	ND		0.20	0.033	ug/L		03/11/24 11:27	03/12/24 15:15	1
Benzo[a]pyrene	ND		0.20	0.063	ug/L		03/11/24 11:27	03/12/24 15:15	1
Benzo[b]fluoranthene	ND		0.20	0.036	ug/L		03/11/24 11:27	03/12/24 15:15	1
Benzo[g,h,i]perylene	ND		0.20	0.026	ug/L		03/11/24 11:27	03/12/24 15:15	1
Benzo[k]fluoranthene	ND		0.20	0.061	ug/L		03/11/24 11:27	03/12/24 15:15	1
Chrysene	ND		0.20	0.032	ug/L		03/11/24 11:27	03/12/24 15:15	1
Dibenz(a,h)anthracene	ND		0.20	0.047	ug/L		03/11/24 11:27	03/12/24 15:15	1
Fluoranthene	ND		0.20	0.033	ug/L		03/11/24 11:27	03/12/24 15:15	1
Fluorene	ND		0.20	0.087	ug/L		03/11/24 11:27	03/12/24 15:15	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.033	ug/L		03/11/24 11:27	03/12/24 15:15	1
Phenanthrene	ND		0.20	0.088	ug/L		03/11/24 11:27	03/12/24 15:15	1
Pyrene	ND		0.20	0.038	ug/L		03/11/24 11:27	03/12/24 15:15	1
1-Methylnaphthalene	ND		0.20	0.078	ug/L		03/11/24 11:27	03/12/24 15:15	1
2-Methylnaphthalene	ND		0.20	0.065	ug/L		03/11/24 11:27	03/12/24 15:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	82		18 - 147	03/11/24 11:27	03/12/24 15:15	1
2-Fluorobiphenyl	58		15 - 128	03/11/24 11:27	03/12/24 15:15	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW3-ROX-030524**

**Lab Sample ID: 400-252224-4**

Date Collected: 03/05/24 11:35

Matrix: Water

Date Received: 03/06/24 09:34

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	63		10 - 144	03/11/24 11:27	03/12/24 15:15	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	8.5	ug/L		03/11/24 11:27	03/12/24 13:56	1
Benzenethiol	ND	*-	9.8	9.7	ug/L		03/11/24 11:27	03/12/24 13:56	1
Benzoic acid	ND		29	24	ug/L		03/11/24 11:27	03/12/24 13:56	1
Benzyl alcohol	ND		9.8	7.2	ug/L		03/11/24 11:27	03/12/24 13:56	1
Bis(2-chloroethoxy)methane	ND		9.8	4.5	ug/L		03/11/24 11:27	03/12/24 13:56	1
Bis(2-chloroethyl)ether	ND		9.8	3.8	ug/L		03/11/24 11:27	03/12/24 13:56	1
bis (2-chloroisopropyl) ether	ND		9.8	1.8	ug/L		03/11/24 11:27	03/12/24 13:56	1
Bis(2-ethylhexyl) phthalate	ND		9.8	8.7	ug/L		03/11/24 11:27	03/12/24 13:56	1
4-Bromophenyl phenyl ether	ND		9.8	8.4	ug/L		03/11/24 11:27	03/12/24 13:56	1
Butyl benzyl phthalate	ND		9.8	5.7	ug/L		03/11/24 11:27	03/12/24 13:56	1
4-Chloroaniline	ND		9.8	4.6	ug/L		03/11/24 11:27	03/12/24 13:56	1
4-Chloro-3-methylphenol	ND		9.8	5.2	ug/L		03/11/24 11:27	03/12/24 13:56	1
2-Chloronaphthalene	ND		9.8	3.7	ug/L		03/11/24 11:27	03/12/24 13:56	1
2-Chlorophenol	ND		9.8	4.0	ug/L		03/11/24 11:27	03/12/24 13:56	1
4-Chlorophenyl phenyl ether	ND		9.8	3.6	ug/L		03/11/24 11:27	03/12/24 13:56	1
Dibenz[a,h]acridine	ND		9.8	2.7	ug/L		03/11/24 11:27	03/12/24 13:56	1
Dibenzofuran	ND		9.8	3.9	ug/L		03/11/24 11:27	03/12/24 13:56	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/11/24 11:27	03/12/24 13:56	1
2,4-Dichlorophenol	ND		9.8	4.2	ug/L		03/11/24 11:27	03/12/24 13:56	1
Diethyl phthalate	ND		9.8	4.3	ug/L		03/11/24 11:27	03/12/24 13:56	1
2,4-Dimethylphenol	ND		9.8	5.1	ug/L		03/11/24 11:27	03/12/24 13:56	1
Dimethyl phthalate	ND		9.8	4.1	ug/L		03/11/24 11:27	03/12/24 13:56	1
Di-n-butyl phthalate	ND		9.8	4.5	ug/L		03/11/24 11:27	03/12/24 13:56	1
4,6-Dinitro-ortho-cresol	ND		9.8	9.8	ug/L		03/11/24 11:27	03/12/24 13:56	1
2,4-Dinitrophenol	ND		29	4.5	ug/L		03/11/24 11:27	03/12/24 13:56	1
2,4-Dinitrotoluene	ND		9.8	5.0	ug/L		03/11/24 11:27	03/12/24 13:56	1
2,6-Dinitrotoluene	ND		9.8	3.8	ug/L		03/11/24 11:27	03/12/24 13:56	1
Di-n-octyl phthalate	ND		9.8	5.9	ug/L		03/11/24 11:27	03/12/24 13:56	1
1,4-Dioxane	ND		9.8	4.2	ug/L		03/11/24 11:27	03/12/24 13:56	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	3.2	ug/L		03/11/24 11:27	03/12/24 13:56	1
Hexachlorobenzene	ND		9.8	9.5	ug/L		03/11/24 11:27	03/12/24 13:56	1
Hexachlorocyclopentadiene	ND		20	4.4	ug/L		03/11/24 11:27	03/12/24 13:56	1
Hexachloroethane	ND		9.8	5.1	ug/L		03/11/24 11:27	03/12/24 13:56	1
Indene	ND		9.8	3.5	ug/L		03/11/24 11:27	03/12/24 13:56	1
Isophorone	ND		9.8	5.1	ug/L		03/11/24 11:27	03/12/24 13:56	1
2-Methylphenol	ND		9.8	3.1	ug/L		03/11/24 11:27	03/12/24 13:56	1
3 & 4 Methylphenol	ND		20	4.5	ug/L		03/11/24 11:27	03/12/24 13:56	1
2-Nitroaniline	ND		9.8	4.9	ug/L		03/11/24 11:27	03/12/24 13:56	1
3-Nitroaniline	ND		9.8	4.6	ug/L		03/11/24 11:27	03/12/24 13:56	1
4-Nitroaniline	ND		9.8	4.0	ug/L		03/11/24 11:27	03/12/24 13:56	1
Nitrobenzene	ND		9.8	4.6	ug/L		03/11/24 11:27	03/12/24 13:56	1
2-Nitrophenol	ND		9.8	4.5	ug/L		03/11/24 11:27	03/12/24 13:56	1
4-Nitrophenol	ND		9.8	3.2	ug/L		03/11/24 11:27	03/12/24 13:56	1
N-Nitrosodimethylamine	ND		9.8	2.2	ug/L		03/11/24 11:27	03/12/24 13:56	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW3-ROX-030524**

**Lab Sample ID: 400-252224-4**

Date Collected: 03/05/24 11:35

Matrix: Water

Date Received: 03/06/24 09:34

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.8	2.5	ug/L		03/11/24 11:27	03/12/24 13:56	1
N-Nitrosodiphenylamine	ND		9.8	3.6	ug/L		03/11/24 11:27	03/12/24 13:56	1
Pentachlorophenol	ND		20	12	ug/L		03/11/24 11:27	03/12/24 13:56	1
Phenol	ND		9.8	4.1	ug/L		03/11/24 11:27	03/12/24 13:56	1
Pyridine	ND		9.8	9.8	ug/L		03/11/24 11:27	03/12/24 13:56	1
Quinoline	ND		9.8	2.4	ug/L		03/11/24 11:27	03/12/24 13:56	1
2,4,5-Trichlorophenol	ND		9.8	3.9	ug/L		03/11/24 11:27	03/12/24 13:56	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		03/11/24 11:27	03/12/24 13:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	74		21 - 114	03/11/24 11:27	03/12/24 13:56	1
2-Fluorophenol	41		10 - 105	03/11/24 11:27	03/12/24 13:56	1
Nitrobenzene-d5	54		16 - 127	03/11/24 11:27	03/12/24 13:56	1
Phenol-d5	31		10 - 129	03/11/24 11:27	03/12/24 13:56	1
Terphenyl-d14	89		13 - 150	03/11/24 11:27	03/12/24 13:56	1
2,4,6-Tribromophenol	94		10 - 150	03/11/24 11:27	03/12/24 13:56	1

**Method: EPA 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	0.017	ug/L		03/11/24 11:28	03/13/24 10:54	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/11/24 11:28	03/13/24 10:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	77		51 - 149	03/11/24 11:28	03/13/24 10:54	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW3-ROX-030524-DUP**

**Lab Sample ID: 400-252224-5**

**Date Collected: 03/05/24 11:35**

**Matrix: Water**

**Date Received: 03/06/24 09:34**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/10/24 14:43	1
Acrolein	ND		20	3.3	ug/L			03/10/24 14:43	1
Acrylonitrile	ND		10	2.8	ug/L			03/10/24 14:43	1
Benzene	ND		1.0	0.50	ug/L			03/10/24 14:43	1
Bromobenzene	ND		1.0	0.54	ug/L			03/10/24 14:43	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/10/24 14:43	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/10/24 14:43	1
Bromoform	ND		5.0	0.25	ug/L			03/10/24 14:43	1
Bromomethane	ND		1.0	0.98	ug/L			03/10/24 14:43	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/10/24 14:43	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/10/24 14:43	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/10/24 14:43	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/10/24 14:43	1
Chloroethane	ND		1.0	0.76	ug/L			03/10/24 14:43	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/10/24 14:43	1
Chloroform	ND		1.0	0.90	ug/L			03/10/24 14:43	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/10/24 14:43	1
Chloromethane	ND		1.0	0.90	ug/L			03/10/24 14:43	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/10/24 14:43	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/10/24 14:43	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/10/24 14:43	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/10/24 14:43	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/10/24 14:43	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/10/24 14:43	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/10/24 14:43	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/10/24 14:43	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/10/24 14:43	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/10/24 14:43	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 14:43	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 14:43	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 14:43	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/10/24 14:43	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/10/24 14:43	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/10/24 14:43	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/10/24 14:43	1
2-Hexanone	ND		25	1.4	ug/L			03/10/24 14:43	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/10/24 14:43	1
Methylene bromide	ND		5.0	0.22	ug/L			03/10/24 14:43	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/10/24 14:43	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/10/24 14:43	1
<b>Methyl tert-butyl ether</b>	<b>0.61</b>	<b>J</b>	1.0	0.22	ug/L			03/10/24 14:43	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/10/24 14:43	1
Naphthalene	ND		5.0	3.0	ug/L			03/10/24 14:43	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/10/24 14:43	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/10/24 14:43	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/10/24 14:43	1
o-Xylene	ND		5.0	0.60	ug/L			03/10/24 14:43	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/10/24 14:43	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/10/24 14:43	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW3-ROX-030524-DUP**

**Lab Sample ID: 400-252224-5**

Date Collected: 03/05/24 11:35

Matrix: Water

Date Received: 03/06/24 09:34

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/10/24 14:43	1
Styrene	ND		1.0	1.0	ug/L			03/10/24 14:43	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/10/24 14:43	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/10/24 14:43	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/10/24 14:43	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/10/24 14:43	1
Toluene	ND		1.0	0.90	ug/L			03/10/24 14:43	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/10/24 14:43	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/10/24 14:43	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/10/24 14:43	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/10/24 14:43	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/10/24 14:43	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/10/24 14:43	1
Trichloroethene	ND		1.0	0.15	ug/L			03/10/24 14:43	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/10/24 14:43	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/10/24 14:43	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/10/24 14:43	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/10/24 14:43	1
Vinyl acetate	ND		25	0.93	ug/L			03/10/24 14:43	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/10/24 14:43	1
Xylenes, Total	ND		10	1.6	ug/L			03/10/24 14:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		72 - 130		03/10/24 14:43	1
Dibromofluoromethane	103		75 - 126		03/10/24 14:43	1
Toluene-d8 (Surr)	94		64 - 132		03/10/24 14:43	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.097	ug/L		03/11/24 11:27	03/12/24 15:35	1
Acenaphthylene	ND		0.20	0.043	ug/L		03/11/24 11:27	03/12/24 15:35	1
Anthracene	ND		0.20	0.046	ug/L		03/11/24 11:27	03/12/24 15:35	1
<b>Benzo[a]anthracene</b>	<b>0.039</b>	<b>J</b>	0.20	0.033	ug/L		03/11/24 11:27	03/12/24 15:35	1
Benzo[a]pyrene	ND		0.20	0.063	ug/L		03/11/24 11:27	03/12/24 15:35	1
<b>Benzo[b]fluoranthene</b>	<b>0.082</b>	<b>J</b>	0.20	0.036	ug/L		03/11/24 11:27	03/12/24 15:35	1
<b>Benzo[g,h,i]perylene</b>	<b>0.069</b>	<b>J</b>	0.20	0.026	ug/L		03/11/24 11:27	03/12/24 15:35	1
<b>Benzo[k]fluoranthene</b>	<b>0.093</b>	<b>J</b>	0.20	0.061	ug/L		03/11/24 11:27	03/12/24 15:35	1
<b>Chrysene</b>	<b>0.055</b>	<b>J</b>	0.20	0.032	ug/L		03/11/24 11:27	03/12/24 15:35	1
<b>Dibenz(a,h)anthracene</b>	<b>0.073</b>	<b>J</b>	0.20	0.047	ug/L		03/11/24 11:27	03/12/24 15:35	1
Fluoranthene	ND		0.20	0.033	ug/L		03/11/24 11:27	03/12/24 15:35	1
Fluorene	ND		0.20	0.087	ug/L		03/11/24 11:27	03/12/24 15:35	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.092</b>	<b>J</b>	0.20	0.033	ug/L		03/11/24 11:27	03/12/24 15:35	1
Phenanthrene	ND		0.20	0.088	ug/L		03/11/24 11:27	03/12/24 15:35	1
Pyrene	ND		0.20	0.038	ug/L		03/11/24 11:27	03/12/24 15:35	1
<b>1-Methylnaphthalene</b>	<b>0.095</b>	<b>J</b>	0.20	0.078	ug/L		03/11/24 11:27	03/12/24 15:35	1
2-Methylnaphthalene	ND		0.20	0.065	ug/L		03/11/24 11:27	03/12/24 15:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	84		18 - 147	03/11/24 11:27	03/12/24 15:35	1
2-Fluorobiphenyl	65		15 - 128	03/11/24 11:27	03/12/24 15:35	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW3-ROX-030524-DUP**

**Lab Sample ID: 400-252224-5**

Date Collected: 03/05/24 11:35

Matrix: Water

Date Received: 03/06/24 09:34

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	68		10 - 144	03/11/24 11:27	03/12/24 15:35	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	8.5	ug/L		03/11/24 11:27	03/12/24 14:22	1
Benzenethiol	ND	*	9.8	9.7	ug/L		03/11/24 11:27	03/12/24 14:22	1
Benzoic acid	ND		29	23	ug/L		03/11/24 11:27	03/12/24 14:22	1
Benzyl alcohol	ND		9.8	7.1	ug/L		03/11/24 11:27	03/12/24 14:22	1
Bis(2-chloroethoxy)methane	ND		9.8	4.5	ug/L		03/11/24 11:27	03/12/24 14:22	1
Bis(2-chloroethyl)ether	ND		9.8	3.8	ug/L		03/11/24 11:27	03/12/24 14:22	1
bis (2-chloroisopropyl) ether	ND		9.8	1.8	ug/L		03/11/24 11:27	03/12/24 14:22	1
Bis(2-ethylhexyl) phthalate	ND		9.8	8.7	ug/L		03/11/24 11:27	03/12/24 14:22	1
4-Bromophenyl phenyl ether	ND		9.8	8.4	ug/L		03/11/24 11:27	03/12/24 14:22	1
Butyl benzyl phthalate	ND		9.8	5.7	ug/L		03/11/24 11:27	03/12/24 14:22	1
4-Chloroaniline	ND		9.8	4.6	ug/L		03/11/24 11:27	03/12/24 14:22	1
4-Chloro-3-methylphenol	ND		9.8	5.2	ug/L		03/11/24 11:27	03/12/24 14:22	1
2-Chloronaphthalene	ND		9.8	3.7	ug/L		03/11/24 11:27	03/12/24 14:22	1
2-Chlorophenol	ND		9.8	4.0	ug/L		03/11/24 11:27	03/12/24 14:22	1
4-Chlorophenyl phenyl ether	ND		9.8	3.6	ug/L		03/11/24 11:27	03/12/24 14:22	1
Dibenz[a,h]acridine	ND		9.8	2.7	ug/L		03/11/24 11:27	03/12/24 14:22	1
Dibenzofuran	ND		9.8	3.9	ug/L		03/11/24 11:27	03/12/24 14:22	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/11/24 11:27	03/12/24 14:22	1
2,4-Dichlorophenol	ND		9.8	4.2	ug/L		03/11/24 11:27	03/12/24 14:22	1
Diethyl phthalate	ND		9.8	4.3	ug/L		03/11/24 11:27	03/12/24 14:22	1
2,4-Dimethylphenol	ND		9.8	5.1	ug/L		03/11/24 11:27	03/12/24 14:22	1
Dimethyl phthalate	ND		9.8	4.1	ug/L		03/11/24 11:27	03/12/24 14:22	1
Di-n-butyl phthalate	ND		9.8	4.5	ug/L		03/11/24 11:27	03/12/24 14:22	1
4,6-Dinitro-ortho-cresol	ND		9.8	9.8	ug/L		03/11/24 11:27	03/12/24 14:22	1
2,4-Dinitrophenol	ND		29	4.5	ug/L		03/11/24 11:27	03/12/24 14:22	1
2,4-Dinitrotoluene	ND		9.8	5.0	ug/L		03/11/24 11:27	03/12/24 14:22	1
2,6-Dinitrotoluene	ND		9.8	3.8	ug/L		03/11/24 11:27	03/12/24 14:22	1
Di-n-octyl phthalate	ND		9.8	5.9	ug/L		03/11/24 11:27	03/12/24 14:22	1
1,4-Dioxane	ND		9.8	4.2	ug/L		03/11/24 11:27	03/12/24 14:22	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	3.2	ug/L		03/11/24 11:27	03/12/24 14:22	1
Hexachlorobenzene	ND		9.8	9.5	ug/L		03/11/24 11:27	03/12/24 14:22	1
Hexachlorocyclopentadiene	ND		20	4.4	ug/L		03/11/24 11:27	03/12/24 14:22	1
Hexachloroethane	ND		9.8	5.1	ug/L		03/11/24 11:27	03/12/24 14:22	1
Indene	ND		9.8	3.5	ug/L		03/11/24 11:27	03/12/24 14:22	1
Isophorone	ND		9.8	5.1	ug/L		03/11/24 11:27	03/12/24 14:22	1
2-Methylphenol	ND		9.8	3.1	ug/L		03/11/24 11:27	03/12/24 14:22	1
3 & 4 Methylphenol	ND		20	4.5	ug/L		03/11/24 11:27	03/12/24 14:22	1
2-Nitroaniline	ND		9.8	4.9	ug/L		03/11/24 11:27	03/12/24 14:22	1
3-Nitroaniline	ND		9.8	4.6	ug/L		03/11/24 11:27	03/12/24 14:22	1
4-Nitroaniline	ND		9.8	4.0	ug/L		03/11/24 11:27	03/12/24 14:22	1
Nitrobenzene	ND		9.8	4.6	ug/L		03/11/24 11:27	03/12/24 14:22	1
2-Nitrophenol	ND		9.8	4.5	ug/L		03/11/24 11:27	03/12/24 14:22	1
4-Nitrophenol	ND		9.8	3.2	ug/L		03/11/24 11:27	03/12/24 14:22	1
N-Nitrosodimethylamine	ND		9.8	2.2	ug/L		03/11/24 11:27	03/12/24 14:22	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW3-ROX-030524-DUP**

**Lab Sample ID: 400-252224-5**

Date Collected: 03/05/24 11:35

Matrix: Water

Date Received: 03/06/24 09:34

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.8	2.4	ug/L		03/11/24 11:27	03/12/24 14:22	1
N-Nitrosodiphenylamine	ND		9.8	3.6	ug/L		03/11/24 11:27	03/12/24 14:22	1
Pentachlorophenol	ND		20	12	ug/L		03/11/24 11:27	03/12/24 14:22	1
Phenol	ND		9.8	4.1	ug/L		03/11/24 11:27	03/12/24 14:22	1
Pyridine	ND		9.8	9.8	ug/L		03/11/24 11:27	03/12/24 14:22	1
Quinoline	ND		9.8	2.3	ug/L		03/11/24 11:27	03/12/24 14:22	1
2,4,5-Trichlorophenol	ND		9.8	3.9	ug/L		03/11/24 11:27	03/12/24 14:22	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		03/11/24 11:27	03/12/24 14:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	81		21 - 114	03/11/24 11:27	03/12/24 14:22	1
2-Fluorophenol	43		10 - 105	03/11/24 11:27	03/12/24 14:22	1
Nitrobenzene-d5	58		16 - 127	03/11/24 11:27	03/12/24 14:22	1
Phenol-d5	32		10 - 129	03/11/24 11:27	03/12/24 14:22	1
Terphenyl-d14	92		13 - 150	03/11/24 11:27	03/12/24 14:22	1
2,4,6-Tribromophenol	104		10 - 150	03/11/24 11:27	03/12/24 14:22	1

**Method: EPA 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	0.017	ug/L		03/11/24 11:28	03/13/24 11:15	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/11/24 11:28	03/13/24 11:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	88		51 - 149	03/11/24 11:28	03/13/24 11:15	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW5-ROX-030524**

**Lab Sample ID: 400-252224-6**

Date Collected: 03/05/24 12:50

Matrix: Water

Date Received: 03/06/24 09:34

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/10/24 15:10	1
Acrolein	ND		20	3.3	ug/L			03/10/24 15:10	1
Acrylonitrile	ND		10	2.8	ug/L			03/10/24 15:10	1
<b>Benzene</b>	<b>0.97</b>	<b>J</b>	1.0	0.50	ug/L			03/10/24 15:10	1
Bromobenzene	ND		1.0	0.54	ug/L			03/10/24 15:10	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/10/24 15:10	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/10/24 15:10	1
Bromoform	ND		5.0	0.25	ug/L			03/10/24 15:10	1
Bromomethane	ND		1.0	0.98	ug/L			03/10/24 15:10	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/10/24 15:10	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/10/24 15:10	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/10/24 15:10	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/10/24 15:10	1
Chloroethane	ND		1.0	0.76	ug/L			03/10/24 15:10	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/10/24 15:10	1
Chloroform	ND		1.0	0.90	ug/L			03/10/24 15:10	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/10/24 15:10	1
Chloromethane	ND		1.0	0.90	ug/L			03/10/24 15:10	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/10/24 15:10	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/10/24 15:10	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/10/24 15:10	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/10/24 15:10	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/10/24 15:10	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/10/24 15:10	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/10/24 15:10	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/10/24 15:10	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/10/24 15:10	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/10/24 15:10	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 15:10	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 15:10	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 15:10	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/10/24 15:10	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/10/24 15:10	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/10/24 15:10	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/10/24 15:10	1
2-Hexanone	ND		25	1.4	ug/L			03/10/24 15:10	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/10/24 15:10	1
Methylene bromide	ND		5.0	0.22	ug/L			03/10/24 15:10	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/10/24 15:10	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/10/24 15:10	1
<b>Methyl tert-butyl ether</b>	<b>2.2</b>		1.0	0.22	ug/L			03/10/24 15:10	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/10/24 15:10	1
Naphthalene	ND		5.0	3.0	ug/L			03/10/24 15:10	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/10/24 15:10	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/10/24 15:10	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/10/24 15:10	1
o-Xylene	ND		5.0	0.60	ug/L			03/10/24 15:10	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/10/24 15:10	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/10/24 15:10	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW5-ROX-030524**

**Lab Sample ID: 400-252224-6**

Date Collected: 03/05/24 12:50

Matrix: Water

Date Received: 03/06/24 09:34

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/10/24 15:10	1
Styrene	ND		1.0	1.0	ug/L			03/10/24 15:10	1
<b>tert-Butylbenzene</b>	<b>1.6</b>		1.0	0.63	ug/L			03/10/24 15:10	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/10/24 15:10	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/10/24 15:10	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/10/24 15:10	1
Toluene	ND		1.0	0.90	ug/L			03/10/24 15:10	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/10/24 15:10	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/10/24 15:10	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/10/24 15:10	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/10/24 15:10	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/10/24 15:10	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/10/24 15:10	1
Trichloroethene	ND		1.0	0.15	ug/L			03/10/24 15:10	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/10/24 15:10	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/10/24 15:10	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/10/24 15:10	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/10/24 15:10	1
Vinyl acetate	ND		25	0.93	ug/L			03/10/24 15:10	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/10/24 15:10	1
Xylenes, Total	ND		10	1.6	ug/L			03/10/24 15:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	100		72 - 130		03/10/24 15:10	1
Dibromofluoromethane	105		75 - 126		03/10/24 15:10	1
Toluene-d8 (Surr)	95		64 - 132		03/10/24 15:10	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.096	ug/L		03/11/24 11:27	03/12/24 15:56	1
Acenaphthylene	ND		0.19	0.043	ug/L		03/11/24 11:27	03/12/24 15:56	1
Anthracene	ND		0.19	0.046	ug/L		03/11/24 11:27	03/12/24 15:56	1
Benzo[a]anthracene	ND		0.19	0.033	ug/L		03/11/24 11:27	03/12/24 15:56	1
Benzo[a]pyrene	ND		0.19	0.062	ug/L		03/11/24 11:27	03/12/24 15:56	1
Benzo[b]fluoranthene	ND		0.19	0.036	ug/L		03/11/24 11:27	03/12/24 15:56	1
Benzo[g,h,i]perylene	ND		0.19	0.026	ug/L		03/11/24 11:27	03/12/24 15:56	1
Benzo[k]fluoranthene	ND		0.19	0.060	ug/L		03/11/24 11:27	03/12/24 15:56	1
Chrysene	ND		0.19	0.032	ug/L		03/11/24 11:27	03/12/24 15:56	1
Dibenz(a,h)anthracene	ND		0.19	0.047	ug/L		03/11/24 11:27	03/12/24 15:56	1
Fluoranthene	ND		0.19	0.033	ug/L		03/11/24 11:27	03/12/24 15:56	1
Fluorene	ND		0.19	0.087	ug/L		03/11/24 11:27	03/12/24 15:56	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.033	ug/L		03/11/24 11:27	03/12/24 15:56	1
Phenanthrene	ND		0.19	0.088	ug/L		03/11/24 11:27	03/12/24 15:56	1
Pyrene	ND		0.19	0.038	ug/L		03/11/24 11:27	03/12/24 15:56	1
1-Methylnaphthalene	ND		0.19	0.078	ug/L		03/11/24 11:27	03/12/24 15:56	1
2-Methylnaphthalene	ND		0.19	0.064	ug/L		03/11/24 11:27	03/12/24 15:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	83		18 - 147	03/11/24 11:27	03/12/24 15:56	1
2-Fluorobiphenyl	63		15 - 128	03/11/24 11:27	03/12/24 15:56	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW5-ROX-030524**

**Lab Sample ID: 400-252224-6**

Date Collected: 03/05/24 12:50

Matrix: Water

Date Received: 03/06/24 09:34

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	67		10 - 144	03/11/24 11:27	03/12/24 15:56	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	8.5	ug/L		03/11/24 11:27	03/12/24 14:49	1
Benzenethiol	ND	*-	9.7	9.6	ug/L		03/11/24 11:27	03/12/24 14:49	1
Benzoic acid	ND		29	23	ug/L		03/11/24 11:27	03/12/24 14:49	1
Benzyl alcohol	ND		9.7	7.1	ug/L		03/11/24 11:27	03/12/24 14:49	1
Bis(2-chloroethoxy)methane	ND		9.7	4.5	ug/L		03/11/24 11:27	03/12/24 14:49	1
Bis(2-chloroethyl)ether	ND		9.7	3.8	ug/L		03/11/24 11:27	03/12/24 14:49	1
bis (2-chloroisopropyl) ether	ND		9.7	1.8	ug/L		03/11/24 11:27	03/12/24 14:49	1
Bis(2-ethylhexyl) phthalate	ND		9.7	8.7	ug/L		03/11/24 11:27	03/12/24 14:49	1
4-Bromophenyl phenyl ether	ND		9.7	8.4	ug/L		03/11/24 11:27	03/12/24 14:49	1
Butyl benzyl phthalate	ND		9.7	5.6	ug/L		03/11/24 11:27	03/12/24 14:49	1
4-Chloroaniline	ND		9.7	4.6	ug/L		03/11/24 11:27	03/12/24 14:49	1
4-Chloro-3-methylphenol	ND		9.7	5.2	ug/L		03/11/24 11:27	03/12/24 14:49	1
2-Chloronaphthalene	ND		9.7	3.7	ug/L		03/11/24 11:27	03/12/24 14:49	1
2-Chlorophenol	ND		9.7	4.0	ug/L		03/11/24 11:27	03/12/24 14:49	1
4-Chlorophenyl phenyl ether	ND		9.7	3.6	ug/L		03/11/24 11:27	03/12/24 14:49	1
Dibenz[a,h]acridine	ND		9.7	2.7	ug/L		03/11/24 11:27	03/12/24 14:49	1
Dibenzofuran	ND		9.7	3.9	ug/L		03/11/24 11:27	03/12/24 14:49	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/11/24 11:27	03/12/24 14:49	1
2,4-Dichlorophenol	ND		9.7	4.2	ug/L		03/11/24 11:27	03/12/24 14:49	1
Diethyl phthalate	ND		9.7	4.3	ug/L		03/11/24 11:27	03/12/24 14:49	1
2,4-Dimethylphenol	ND		9.7	5.1	ug/L		03/11/24 11:27	03/12/24 14:49	1
Dimethyl phthalate	ND		9.7	4.1	ug/L		03/11/24 11:27	03/12/24 14:49	1
Di-n-butyl phthalate	ND		9.7	4.5	ug/L		03/11/24 11:27	03/12/24 14:49	1
4,6-Dinitro-ortho-cresol	ND		9.7	9.7	ug/L		03/11/24 11:27	03/12/24 14:49	1
2,4-Dinitrophenol	ND		29	4.5	ug/L		03/11/24 11:27	03/12/24 14:49	1
2,4-Dinitrotoluene	ND		9.7	5.0	ug/L		03/11/24 11:27	03/12/24 14:49	1
2,6-Dinitrotoluene	ND		9.7	3.8	ug/L		03/11/24 11:27	03/12/24 14:49	1
Di-n-octyl phthalate	ND		9.7	5.8	ug/L		03/11/24 11:27	03/12/24 14:49	1
1,4-Dioxane	ND		9.7	4.2	ug/L		03/11/24 11:27	03/12/24 14:49	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	3.2	ug/L		03/11/24 11:27	03/12/24 14:49	1
Hexachlorobenzene	ND		9.7	9.4	ug/L		03/11/24 11:27	03/12/24 14:49	1
Hexachlorocyclopentadiene	ND		19	4.4	ug/L		03/11/24 11:27	03/12/24 14:49	1
Hexachloroethane	ND		9.7	5.1	ug/L		03/11/24 11:27	03/12/24 14:49	1
Indene	ND		9.7	3.5	ug/L		03/11/24 11:27	03/12/24 14:49	1
Isophorone	ND		9.7	5.1	ug/L		03/11/24 11:27	03/12/24 14:49	1
2-Methylphenol	ND		9.7	3.1	ug/L		03/11/24 11:27	03/12/24 14:49	1
3 & 4 Methylphenol	ND		19	4.5	ug/L		03/11/24 11:27	03/12/24 14:49	1
2-Nitroaniline	ND		9.7	4.9	ug/L		03/11/24 11:27	03/12/24 14:49	1
3-Nitroaniline	ND		9.7	4.6	ug/L		03/11/24 11:27	03/12/24 14:49	1
4-Nitroaniline	ND		9.7	4.0	ug/L		03/11/24 11:27	03/12/24 14:49	1
Nitrobenzene	ND		9.7	4.6	ug/L		03/11/24 11:27	03/12/24 14:49	1
2-Nitrophenol	ND		9.7	4.5	ug/L		03/11/24 11:27	03/12/24 14:49	1
4-Nitrophenol	ND		9.7	3.2	ug/L		03/11/24 11:27	03/12/24 14:49	1
N-Nitrosodimethylamine	ND		9.7	2.1	ug/L		03/11/24 11:27	03/12/24 14:49	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW5-ROX-030524**

**Lab Sample ID: 400-252224-6**

Date Collected: 03/05/24 12:50

Matrix: Water

Date Received: 03/06/24 09:34

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.7	2.4	ug/L		03/11/24 11:27	03/12/24 14:49	1
N-Nitrosodiphenylamine	ND		9.7	3.6	ug/L		03/11/24 11:27	03/12/24 14:49	1
Pentachlorophenol	ND		19	12	ug/L		03/11/24 11:27	03/12/24 14:49	1
Phenol	ND		9.7	4.1	ug/L		03/11/24 11:27	03/12/24 14:49	1
Pyridine	ND		9.7	9.7	ug/L		03/11/24 11:27	03/12/24 14:49	1
Quinoline	ND		9.7	2.3	ug/L		03/11/24 11:27	03/12/24 14:49	1
2,4,5-Trichlorophenol	ND		9.7	3.9	ug/L		03/11/24 11:27	03/12/24 14:49	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		03/11/24 11:27	03/12/24 14:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	90		21 - 114	03/11/24 11:27	03/12/24 14:49	1
2-Fluorophenol	48		10 - 105	03/11/24 11:27	03/12/24 14:49	1
Nitrobenzene-d5	65		16 - 127	03/11/24 11:27	03/12/24 14:49	1
Phenol-d5	36		10 - 129	03/11/24 11:27	03/12/24 14:49	1
Terphenyl-d14	100		13 - 150	03/11/24 11:27	03/12/24 14:49	1
2,4,6-Tribromophenol	118		10 - 150	03/11/24 11:27	03/12/24 14:49	1

**Method: EPA 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	0.017	ug/L		03/11/24 11:28	03/13/24 11:36	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/11/24 11:28	03/13/24 11:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	62		51 - 149	03/11/24 11:28	03/13/24 11:36	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: TB-ROX-030524-8260-B**

**Lab Sample ID: 400-252224-7**

**Date Collected: 03/05/24 00:00**

**Matrix: Water**

**Date Received: 03/06/24 09:34**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/10/24 15:37	1
Acrolein	ND		20	3.3	ug/L			03/10/24 15:37	1
Acrylonitrile	ND		10	2.8	ug/L			03/10/24 15:37	1
Benzene	ND		1.0	0.50	ug/L			03/10/24 15:37	1
Bromobenzene	ND		1.0	0.54	ug/L			03/10/24 15:37	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/10/24 15:37	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/10/24 15:37	1
Bromoform	ND		5.0	0.25	ug/L			03/10/24 15:37	1
Bromomethane	ND		1.0	0.98	ug/L			03/10/24 15:37	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/10/24 15:37	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/10/24 15:37	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/10/24 15:37	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/10/24 15:37	1
Chloroethane	ND		1.0	0.76	ug/L			03/10/24 15:37	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/10/24 15:37	1
Chloroform	ND		1.0	0.90	ug/L			03/10/24 15:37	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/10/24 15:37	1
Chloromethane	ND		1.0	0.90	ug/L			03/10/24 15:37	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/10/24 15:37	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/10/24 15:37	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/10/24 15:37	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/10/24 15:37	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/10/24 15:37	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/10/24 15:37	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/10/24 15:37	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/10/24 15:37	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/10/24 15:37	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/10/24 15:37	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 15:37	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 15:37	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 15:37	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/10/24 15:37	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/10/24 15:37	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/10/24 15:37	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/10/24 15:37	1
2-Hexanone	ND		25	1.4	ug/L			03/10/24 15:37	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/10/24 15:37	1
Methylene bromide	ND		5.0	0.22	ug/L			03/10/24 15:37	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/10/24 15:37	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/10/24 15:37	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/10/24 15:37	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/10/24 15:37	1
Naphthalene	ND		5.0	3.0	ug/L			03/10/24 15:37	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/10/24 15:37	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/10/24 15:37	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/10/24 15:37	1
o-Xylene	ND		5.0	0.60	ug/L			03/10/24 15:37	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/10/24 15:37	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/10/24 15:37	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: TB-ROX-030524-8260-B**

**Lab Sample ID: 400-252224-7**

**Date Collected: 03/05/24 00:00**

**Matrix: Water**

**Date Received: 03/06/24 09:34**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/10/24 15:37	1
Styrene	ND		1.0	1.0	ug/L			03/10/24 15:37	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/10/24 15:37	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/10/24 15:37	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/10/24 15:37	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/10/24 15:37	1
Toluene	ND		1.0	0.90	ug/L			03/10/24 15:37	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/10/24 15:37	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/10/24 15:37	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/10/24 15:37	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/10/24 15:37	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/10/24 15:37	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/10/24 15:37	1
Trichloroethene	ND		1.0	0.15	ug/L			03/10/24 15:37	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/10/24 15:37	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/10/24 15:37	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/10/24 15:37	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/10/24 15:37	1
Vinyl acetate	ND		25	0.93	ug/L			03/10/24 15:37	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/10/24 15:37	1
Xylenes, Total	ND		10	1.6	ug/L			03/10/24 15:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		72 - 130		03/10/24 15:37	1
Dibromofluoromethane	105		75 - 126		03/10/24 15:37	1
Toluene-d8 (Surr)	91		64 - 132		03/10/24 15:37	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
 Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: TB-ROX-030524-8011-B**

**Lab Sample ID: 400-252224-8**

**Date Collected: 03/05/24 00:00**

**Matrix: Water**

**Date Received: 03/06/24 09:34**

**Method: EPA 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	0.019	ug/L		03/11/24 11:28	03/13/24 11:57	1
1,2-Dibromoethane	ND		0.022	0.017	ug/L		03/11/24 11:28	03/13/24 11:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	75		51 - 149				03/11/24 11:28	03/13/24 11:57	1

- 1
- 2
- 3
- 4
- 5
- 6
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- 14
- 15

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW16-ROX-030524**

**Lab Sample ID: 400-252224-9**

Date Collected: 03/05/24 09:35

Matrix: Water

Date Received: 03/06/24 09:34

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/10/24 16:04	1
Acrolein	ND		20	3.3	ug/L			03/10/24 16:04	1
Acrylonitrile	ND		10	2.8	ug/L			03/10/24 16:04	1
<b>Benzene</b>	<b>0.62</b>	<b>J</b>	1.0	0.50	ug/L			03/10/24 16:04	1
Bromobenzene	ND		1.0	0.54	ug/L			03/10/24 16:04	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/10/24 16:04	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/10/24 16:04	1
Bromoform	ND		5.0	0.25	ug/L			03/10/24 16:04	1
Bromomethane	ND		1.0	0.98	ug/L			03/10/24 16:04	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/10/24 16:04	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/10/24 16:04	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/10/24 16:04	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/10/24 16:04	1
Chloroethane	ND		1.0	0.76	ug/L			03/10/24 16:04	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/10/24 16:04	1
Chloroform	ND		1.0	0.90	ug/L			03/10/24 16:04	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/10/24 16:04	1
Chloromethane	ND		1.0	0.90	ug/L			03/10/24 16:04	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/10/24 16:04	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/10/24 16:04	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/10/24 16:04	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/10/24 16:04	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/10/24 16:04	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/10/24 16:04	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/10/24 16:04	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/10/24 16:04	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/10/24 16:04	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/10/24 16:04	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 16:04	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 16:04	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 16:04	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/10/24 16:04	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/10/24 16:04	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/10/24 16:04	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/10/24 16:04	1
2-Hexanone	ND		25	1.4	ug/L			03/10/24 16:04	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/10/24 16:04	1
Methylene bromide	ND		5.0	0.22	ug/L			03/10/24 16:04	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/10/24 16:04	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/10/24 16:04	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/10/24 16:04	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/10/24 16:04	1
Naphthalene	ND		5.0	3.0	ug/L			03/10/24 16:04	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/10/24 16:04	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/10/24 16:04	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/10/24 16:04	1
o-Xylene	ND		5.0	0.60	ug/L			03/10/24 16:04	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/10/24 16:04	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/10/24 16:04	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW16-ROX-030524**

**Lab Sample ID: 400-252224-9**

Date Collected: 03/05/24 09:35

Matrix: Water

Date Received: 03/06/24 09:34

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/10/24 16:04	1
Styrene	ND		1.0	1.0	ug/L			03/10/24 16:04	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/10/24 16:04	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/10/24 16:04	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/10/24 16:04	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/10/24 16:04	1
Toluene	ND		1.0	0.90	ug/L			03/10/24 16:04	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/10/24 16:04	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/10/24 16:04	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/10/24 16:04	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/10/24 16:04	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/10/24 16:04	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/10/24 16:04	1
Trichloroethene	ND		1.0	0.15	ug/L			03/10/24 16:04	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/10/24 16:04	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/10/24 16:04	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/10/24 16:04	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/10/24 16:04	1
Vinyl acetate	ND		25	0.93	ug/L			03/10/24 16:04	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/10/24 16:04	1
Xylenes, Total	ND		10	1.6	ug/L			03/10/24 16:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		72 - 130		03/10/24 16:04	1
Dibromofluoromethane	105		75 - 126		03/10/24 16:04	1
Toluene-d8 (Surr)	94		64 - 132		03/10/24 16:04	1

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.10	ug/L		03/11/24 11:27	03/12/24 16:17	1
Acenaphthylene	ND		0.20	0.045	ug/L		03/11/24 11:27	03/12/24 16:17	1
<b>Anthracene</b>	<b>0.054</b>	<b>J</b>	0.20	0.048	ug/L		03/11/24 11:27	03/12/24 16:17	1
<b>Benzo[a]anthracene</b>	<b>0.12</b>	<b>J</b>	0.20	0.035	ug/L		03/11/24 11:27	03/12/24 16:17	1
<b>Benzo[a]pyrene</b>	<b>0.093</b>	<b>J</b>	0.20	0.065	ug/L		03/11/24 11:27	03/12/24 16:17	1
<b>Benzo[b]fluoranthene</b>	<b>0.065</b>	<b>J</b>	0.20	0.038	ug/L		03/11/24 11:27	03/12/24 16:17	1
<b>Benzo[g,h,i]perylene</b>	<b>0.17</b>	<b>J</b>	0.20	0.028	ug/L		03/11/24 11:27	03/12/24 16:17	1
<b>Benzo[k]fluoranthene</b>	<b>0.17</b>	<b>J</b>	0.20	0.063	ug/L		03/11/24 11:27	03/12/24 16:17	1
<b>Chrysene</b>	<b>0.22</b>		0.20	0.034	ug/L		03/11/24 11:27	03/12/24 16:17	1
<b>Dibenz(a,h)anthracene</b>	<b>0.14</b>	<b>J</b>	0.20	0.049	ug/L		03/11/24 11:27	03/12/24 16:17	1
<b>Fluoranthene</b>	<b>0.075</b>	<b>J</b>	0.20	0.035	ug/L		03/11/24 11:27	03/12/24 16:17	1
Fluorene	ND		0.20	0.091	ug/L		03/11/24 11:27	03/12/24 16:17	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.092</b>	<b>J</b>	0.20	0.035	ug/L		03/11/24 11:27	03/12/24 16:17	1
Phenanthrene	ND		0.20	0.092	ug/L		03/11/24 11:27	03/12/24 16:17	1
<b>Pyrene</b>	<b>0.080</b>	<b>J</b>	0.20	0.040	ug/L		03/11/24 11:27	03/12/24 16:17	1
1-Methylnaphthalene	ND		0.20	0.082	ug/L		03/11/24 11:27	03/12/24 16:17	1
2-Methylnaphthalene	ND		0.20	0.068	ug/L		03/11/24 11:27	03/12/24 16:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	86		18 - 147	03/11/24 11:27	03/12/24 16:17	1
2-Fluorobiphenyl	64		15 - 128	03/11/24 11:27	03/12/24 16:17	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW16-ROX-030524**

**Lab Sample ID: 400-252224-9**

Date Collected: 03/05/24 09:35

Matrix: Water

Date Received: 03/06/24 09:34

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	65		10 - 144	03/11/24 11:27	03/12/24 16:17	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	8.9	ug/L		03/11/24 11:27	03/12/24 15:16	1
Benzenethiol	ND	*-	10	10	ug/L		03/11/24 11:27	03/12/24 15:16	1
Benzoic acid	ND		31	25	ug/L		03/11/24 11:27	03/12/24 15:16	1
Benzyl alcohol	ND		10	7.5	ug/L		03/11/24 11:27	03/12/24 15:16	1
Bis(2-chloroethoxy)methane	ND		10	4.7	ug/L		03/11/24 11:27	03/12/24 15:16	1
Bis(2-chloroethyl)ether	ND		10	4.0	ug/L		03/11/24 11:27	03/12/24 15:16	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		03/11/24 11:27	03/12/24 15:16	1
Bis(2-ethylhexyl) phthalate	ND		10	9.1	ug/L		03/11/24 11:27	03/12/24 15:16	1
4-Bromophenyl phenyl ether	ND		10	8.8	ug/L		03/11/24 11:27	03/12/24 15:16	1
Butyl benzyl phthalate	ND		10	5.9	ug/L		03/11/24 11:27	03/12/24 15:16	1
4-Chloroaniline	ND		10	4.8	ug/L		03/11/24 11:27	03/12/24 15:16	1
4-Chloro-3-methylphenol	ND		10	5.4	ug/L		03/11/24 11:27	03/12/24 15:16	1
2-Chloronaphthalene	ND		10	3.9	ug/L		03/11/24 11:27	03/12/24 15:16	1
2-Chlorophenol	ND		10	4.2	ug/L		03/11/24 11:27	03/12/24 15:16	1
4-Chlorophenyl phenyl ether	ND		10	3.8	ug/L		03/11/24 11:27	03/12/24 15:16	1
Dibenz[a,h]acridine	ND		10	2.9	ug/L		03/11/24 11:27	03/12/24 15:16	1
Dibenzofuran	ND		10	4.1	ug/L		03/11/24 11:27	03/12/24 15:16	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/11/24 11:27	03/12/24 15:16	1
2,4-Dichlorophenol	ND		10	4.4	ug/L		03/11/24 11:27	03/12/24 15:16	1
Diethyl phthalate	ND		10	4.5	ug/L		03/11/24 11:27	03/12/24 15:16	1
2,4-Dimethylphenol	ND		10	5.3	ug/L		03/11/24 11:27	03/12/24 15:16	1
Dimethyl phthalate	ND		10	4.3	ug/L		03/11/24 11:27	03/12/24 15:16	1
Di-n-butyl phthalate	ND		10	4.7	ug/L		03/11/24 11:27	03/12/24 15:16	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		03/11/24 11:27	03/12/24 15:16	1
2,4-Dinitrophenol	ND		31	4.7	ug/L		03/11/24 11:27	03/12/24 15:16	1
2,4-Dinitrotoluene	ND		10	5.2	ug/L		03/11/24 11:27	03/12/24 15:16	1
2,6-Dinitrotoluene	ND		10	4.0	ug/L		03/11/24 11:27	03/12/24 15:16	1
Di-n-octyl phthalate	ND		10	6.1	ug/L		03/11/24 11:27	03/12/24 15:16	1
1,4-Dioxane	ND		10	4.4	ug/L		03/11/24 11:27	03/12/24 15:16	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.4	ug/L		03/11/24 11:27	03/12/24 15:16	1
Hexachlorobenzene	ND		10	9.9	ug/L		03/11/24 11:27	03/12/24 15:16	1
Hexachlorocyclopentadiene	ND		20	4.6	ug/L		03/11/24 11:27	03/12/24 15:16	1
Hexachloroethane	ND		10	5.3	ug/L		03/11/24 11:27	03/12/24 15:16	1
Indene	ND		10	3.7	ug/L		03/11/24 11:27	03/12/24 15:16	1
Isophorone	ND		10	5.3	ug/L		03/11/24 11:27	03/12/24 15:16	1
2-Methylphenol	ND		10	3.3	ug/L		03/11/24 11:27	03/12/24 15:16	1
3 & 4 Methylphenol	ND		20	4.7	ug/L		03/11/24 11:27	03/12/24 15:16	1
2-Nitroaniline	ND		10	5.1	ug/L		03/11/24 11:27	03/12/24 15:16	1
3-Nitroaniline	ND		10	4.8	ug/L		03/11/24 11:27	03/12/24 15:16	1
4-Nitroaniline	ND		10	4.2	ug/L		03/11/24 11:27	03/12/24 15:16	1
Nitrobenzene	ND		10	4.8	ug/L		03/11/24 11:27	03/12/24 15:16	1
2-Nitrophenol	ND		10	4.7	ug/L		03/11/24 11:27	03/12/24 15:16	1
4-Nitrophenol	ND		10	3.4	ug/L		03/11/24 11:27	03/12/24 15:16	1
N-Nitrosodimethylamine	ND		10	2.3	ug/L		03/11/24 11:27	03/12/24 15:16	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW16-ROX-030524**

**Lab Sample ID: 400-252224-9**

Date Collected: 03/05/24 09:35

Matrix: Water

Date Received: 03/06/24 09:34

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	2.6	ug/L		03/11/24 11:27	03/12/24 15:16	1
N-Nitrosodiphenylamine	ND		10	3.8	ug/L		03/11/24 11:27	03/12/24 15:16	1
Pentachlorophenol	ND		20	12	ug/L		03/11/24 11:27	03/12/24 15:16	1
Phenol	ND		10	4.3	ug/L		03/11/24 11:27	03/12/24 15:16	1
Pyridine	ND		10	10	ug/L		03/11/24 11:27	03/12/24 15:16	1
Quinoline	ND		10	2.5	ug/L		03/11/24 11:27	03/12/24 15:16	1
2,4,5-Trichlorophenol	ND		10	4.1	ug/L		03/11/24 11:27	03/12/24 15:16	1
2,4,6-Trichlorophenol	ND		10	3.6	ug/L		03/11/24 11:27	03/12/24 15:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	79		21 - 114	03/11/24 11:27	03/12/24 15:16	1
2-Fluorophenol	44		10 - 105	03/11/24 11:27	03/12/24 15:16	1
Nitrobenzene-d5	57		16 - 127	03/11/24 11:27	03/12/24 15:16	1
Phenol-d5	33		10 - 129	03/11/24 11:27	03/12/24 15:16	1
Terphenyl-d14	89		13 - 150	03/11/24 11:27	03/12/24 15:16	1
2,4,6-Tribromophenol	100		10 - 150	03/11/24 11:27	03/12/24 15:16	1

**Method: EPA 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	0.017	ug/L		03/11/24 11:28	03/13/24 12:18	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/11/24 11:28	03/13/24 12:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	71		51 - 149	03/11/24 11:28	03/13/24 12:18	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW6D-ROX-030524-EB**

**Lab Sample ID: 400-252224-10**

**Date Collected: 03/05/24 10:30**

**Matrix: Water**

**Date Received: 03/06/24 09:34**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/10/24 16:31	1
Acrolein	ND		20	3.3	ug/L			03/10/24 16:31	1
Acrylonitrile	ND		10	2.8	ug/L			03/10/24 16:31	1
Benzene	ND		1.0	0.50	ug/L			03/10/24 16:31	1
Bromobenzene	ND		1.0	0.54	ug/L			03/10/24 16:31	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/10/24 16:31	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/10/24 16:31	1
Bromoform	ND		5.0	0.25	ug/L			03/10/24 16:31	1
Bromomethane	ND		1.0	0.98	ug/L			03/10/24 16:31	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/10/24 16:31	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/10/24 16:31	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/10/24 16:31	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/10/24 16:31	1
Chloroethane	ND		1.0	0.76	ug/L			03/10/24 16:31	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/10/24 16:31	1
Chloroform	ND		1.0	0.90	ug/L			03/10/24 16:31	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/10/24 16:31	1
Chloromethane	ND		1.0	0.90	ug/L			03/10/24 16:31	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/10/24 16:31	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/10/24 16:31	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/10/24 16:31	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/10/24 16:31	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/10/24 16:31	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/10/24 16:31	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/10/24 16:31	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/10/24 16:31	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/10/24 16:31	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/10/24 16:31	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 16:31	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 16:31	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 16:31	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/10/24 16:31	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/10/24 16:31	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/10/24 16:31	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/10/24 16:31	1
2-Hexanone	ND		25	1.4	ug/L			03/10/24 16:31	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/10/24 16:31	1
Methylene bromide	ND		5.0	0.22	ug/L			03/10/24 16:31	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/10/24 16:31	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/10/24 16:31	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/10/24 16:31	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/10/24 16:31	1
Naphthalene	ND		5.0	3.0	ug/L			03/10/24 16:31	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/10/24 16:31	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/10/24 16:31	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/10/24 16:31	1
o-Xylene	ND		5.0	0.60	ug/L			03/10/24 16:31	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/10/24 16:31	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/10/24 16:31	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW6D-ROX-030524-EB**

**Lab Sample ID: 400-252224-10**

Date Collected: 03/05/24 10:30

Matrix: Water

Date Received: 03/06/24 09:34

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/10/24 16:31	1
Styrene	ND		1.0	1.0	ug/L			03/10/24 16:31	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/10/24 16:31	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/10/24 16:31	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/10/24 16:31	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/10/24 16:31	1
Toluene	ND		1.0	0.90	ug/L			03/10/24 16:31	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/10/24 16:31	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/10/24 16:31	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/10/24 16:31	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/10/24 16:31	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/10/24 16:31	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/10/24 16:31	1
Trichloroethene	ND		1.0	0.15	ug/L			03/10/24 16:31	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/10/24 16:31	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/10/24 16:31	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/10/24 16:31	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/10/24 16:31	1
Vinyl acetate	ND		25	0.93	ug/L			03/10/24 16:31	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/10/24 16:31	1
Xylenes, Total	ND		10	1.6	ug/L			03/10/24 16:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		72 - 130		03/10/24 16:31	1
Dibromofluoromethane	106		75 - 126		03/10/24 16:31	1
Toluene-d8 (Surr)	95		64 - 132		03/10/24 16:31	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.21	0.10	ug/L		03/11/24 11:27	03/12/24 16:37	1
Acenaphthylene	ND		0.21	0.046	ug/L		03/11/24 11:27	03/12/24 16:37	1
Anthracene	ND		0.21	0.049	ug/L		03/11/24 11:27	03/12/24 16:37	1
Benzo[a]anthracene	ND		0.21	0.035	ug/L		03/11/24 11:27	03/12/24 16:37	1
Benzo[a]pyrene	ND		0.21	0.066	ug/L		03/11/24 11:27	03/12/24 16:37	1
Benzo[b]fluoranthene	ND		0.21	0.038	ug/L		03/11/24 11:27	03/12/24 16:37	1
Benzo[g,h,i]perylene	ND		0.21	0.028	ug/L		03/11/24 11:27	03/12/24 16:37	1
Benzo[k]fluoranthene	ND		0.21	0.064	ug/L		03/11/24 11:27	03/12/24 16:37	1
Chrysene	ND		0.21	0.034	ug/L		03/11/24 11:27	03/12/24 16:37	1
Dibenz(a,h)anthracene	ND		0.21	0.050	ug/L		03/11/24 11:27	03/12/24 16:37	1
Fluoranthene	ND		0.21	0.035	ug/L		03/11/24 11:27	03/12/24 16:37	1
Fluorene	ND		0.21	0.092	ug/L		03/11/24 11:27	03/12/24 16:37	1
Indeno[1,2,3-cd]pyrene	ND		0.21	0.035	ug/L		03/11/24 11:27	03/12/24 16:37	1
Phenanthrene	ND		0.21	0.093	ug/L		03/11/24 11:27	03/12/24 16:37	1
Pyrene	ND		0.21	0.040	ug/L		03/11/24 11:27	03/12/24 16:37	1
1-Methylnaphthalene	ND		0.21	0.083	ug/L		03/11/24 11:27	03/12/24 16:37	1
2-Methylnaphthalene	ND		0.21	0.069	ug/L		03/11/24 11:27	03/12/24 16:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	98		18 - 147	03/11/24 11:27	03/12/24 16:37	1
2-Fluorobiphenyl	67		15 - 128	03/11/24 11:27	03/12/24 16:37	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW6D-ROX-030524-EB**

**Lab Sample ID: 400-252224-10**

Date Collected: 03/05/24 10:30

Matrix: Water

Date Received: 03/06/24 09:34

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	65		10 - 144	03/11/24 11:27	03/12/24 16:37	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	9.0	ug/L		03/11/24 11:27	03/12/24 15:43	1
Benzenethiol	ND	*-	10	10	ug/L		03/11/24 11:27	03/12/24 15:43	1
Benzoic acid	ND		31	25	ug/L		03/11/24 11:27	03/12/24 15:43	1
Benzyl alcohol	ND		10	7.6	ug/L		03/11/24 11:27	03/12/24 15:43	1
Bis(2-chloroethoxy)methane	ND		10	4.8	ug/L		03/11/24 11:27	03/12/24 15:43	1
Bis(2-chloroethyl)ether	ND		10	4.0	ug/L		03/11/24 11:27	03/12/24 15:43	1
bis (2-chloroisopropyl) ether	ND		10	1.9	ug/L		03/11/24 11:27	03/12/24 15:43	1
Bis(2-ethylhexyl) phthalate	ND		10	9.2	ug/L		03/11/24 11:27	03/12/24 15:43	1
4-Bromophenyl phenyl ether	ND		10	8.9	ug/L		03/11/24 11:27	03/12/24 15:43	1
Butyl benzyl phthalate	ND		10	6.0	ug/L		03/11/24 11:27	03/12/24 15:43	1
4-Chloroaniline	ND		10	4.9	ug/L		03/11/24 11:27	03/12/24 15:43	1
4-Chloro-3-methylphenol	ND		10	5.5	ug/L		03/11/24 11:27	03/12/24 15:43	1
2-Chloronaphthalene	ND		10	3.9	ug/L		03/11/24 11:27	03/12/24 15:43	1
2-Chlorophenol	ND		10	4.3	ug/L		03/11/24 11:27	03/12/24 15:43	1
4-Chlorophenyl phenyl ether	ND		10	3.8	ug/L		03/11/24 11:27	03/12/24 15:43	1
Dibenz[a,h]acridine	ND		10	2.9	ug/L		03/11/24 11:27	03/12/24 15:43	1
Dibenzofuran	ND		10	4.2	ug/L		03/11/24 11:27	03/12/24 15:43	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/11/24 11:27	03/12/24 15:43	1
2,4-Dichlorophenol	ND		10	4.5	ug/L		03/11/24 11:27	03/12/24 15:43	1
Diethyl phthalate	ND		10	4.6	ug/L		03/11/24 11:27	03/12/24 15:43	1
2,4-Dimethylphenol	ND		10	5.4	ug/L		03/11/24 11:27	03/12/24 15:43	1
Dimethyl phthalate	ND		10	4.4	ug/L		03/11/24 11:27	03/12/24 15:43	1
Di-n-butyl phthalate	ND		10	4.8	ug/L		03/11/24 11:27	03/12/24 15:43	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		03/11/24 11:27	03/12/24 15:43	1
2,4-Dinitrophenol	ND		31	4.8	ug/L		03/11/24 11:27	03/12/24 15:43	1
2,4-Dinitrotoluene	ND		10	5.3	ug/L		03/11/24 11:27	03/12/24 15:43	1
2,6-Dinitrotoluene	ND		10	4.0	ug/L		03/11/24 11:27	03/12/24 15:43	1
Di-n-octyl phthalate	ND		10	6.2	ug/L		03/11/24 11:27	03/12/24 15:43	1
1,4-Dioxane	ND		10	4.5	ug/L		03/11/24 11:27	03/12/24 15:43	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.4	ug/L		03/11/24 11:27	03/12/24 15:43	1
Hexachlorobenzene	ND		10	10	ug/L		03/11/24 11:27	03/12/24 15:43	1
Hexachlorocyclopentadiene	ND		21	4.7	ug/L		03/11/24 11:27	03/12/24 15:43	1
Hexachloroethane	ND		10	5.4	ug/L		03/11/24 11:27	03/12/24 15:43	1
Indene	ND		10	3.7	ug/L		03/11/24 11:27	03/12/24 15:43	1
Isophorone	ND		10	5.4	ug/L		03/11/24 11:27	03/12/24 15:43	1
2-Methylphenol	ND		10	3.3	ug/L		03/11/24 11:27	03/12/24 15:43	1
3 & 4 Methylphenol	ND		21	4.8	ug/L		03/11/24 11:27	03/12/24 15:43	1
2-Nitroaniline	ND		10	5.2	ug/L		03/11/24 11:27	03/12/24 15:43	1
3-Nitroaniline	ND		10	4.9	ug/L		03/11/24 11:27	03/12/24 15:43	1
4-Nitroaniline	ND		10	4.3	ug/L		03/11/24 11:27	03/12/24 15:43	1
Nitrobenzene	ND		10	4.9	ug/L		03/11/24 11:27	03/12/24 15:43	1
2-Nitrophenol	ND		10	4.8	ug/L		03/11/24 11:27	03/12/24 15:43	1
4-Nitrophenol	ND		10	3.4	ug/L		03/11/24 11:27	03/12/24 15:43	1
N-Nitrosodimethylamine	ND		10	2.3	ug/L		03/11/24 11:27	03/12/24 15:43	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW6D-ROX-030524-EB**

**Lab Sample ID: 400-252224-10**

Date Collected: 03/05/24 10:30

Matrix: Water

Date Received: 03/06/24 09:34

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	2.6	ug/L		03/11/24 11:27	03/12/24 15:43	1
N-Nitrosodiphenylamine	ND		10	3.8	ug/L		03/11/24 11:27	03/12/24 15:43	1
Pentachlorophenol	ND		21	12	ug/L		03/11/24 11:27	03/12/24 15:43	1
Phenol	ND		10	4.4	ug/L		03/11/24 11:27	03/12/24 15:43	1
Pyridine	ND		10	10	ug/L		03/11/24 11:27	03/12/24 15:43	1
Quinoline	ND		10	2.5	ug/L		03/11/24 11:27	03/12/24 15:43	1
2,4,5-Trichlorophenol	ND		10	4.2	ug/L		03/11/24 11:27	03/12/24 15:43	1
2,4,6-Trichlorophenol	ND		10	3.6	ug/L		03/11/24 11:27	03/12/24 15:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	81		21 - 114	03/11/24 11:27	03/12/24 15:43	1
2-Fluorophenol	43		10 - 105	03/11/24 11:27	03/12/24 15:43	1
Nitrobenzene-d5	59		16 - 127	03/11/24 11:27	03/12/24 15:43	1
Phenol-d5	31		10 - 129	03/11/24 11:27	03/12/24 15:43	1
Terphenyl-d14	90		13 - 150	03/11/24 11:27	03/12/24 15:43	1
2,4,6-Tribromophenol	100		10 - 150	03/11/24 11:27	03/12/24 15:43	1

**Method: EPA 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	0.017	ug/L		03/11/24 11:28	03/13/24 12:39	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/11/24 11:28	03/13/24 12:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	60		51 - 149	03/11/24 11:28	03/13/24 12:39	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW6D-ROX-030524**

**Lab Sample ID: 400-252224-11**

**Date Collected: 03/05/24 11:15**

**Matrix: Water**

**Date Received: 03/06/24 09:34**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/10/24 16:58	1
Acrolein	ND		20	3.3	ug/L			03/10/24 16:58	1
Acrylonitrile	ND		10	2.8	ug/L			03/10/24 16:58	1
<b>Benzene</b>	<b>0.69</b>	<b>J</b>	1.0	0.50	ug/L			03/10/24 16:58	1
Bromobenzene	ND		1.0	0.54	ug/L			03/10/24 16:58	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/10/24 16:58	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/10/24 16:58	1
Bromoform	ND		5.0	0.25	ug/L			03/10/24 16:58	1
Bromomethane	ND		1.0	0.98	ug/L			03/10/24 16:58	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/10/24 16:58	1
<b>Carbon disulfide</b>	<b>0.51</b>	<b>J</b>	1.0	0.50	ug/L			03/10/24 16:58	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/10/24 16:58	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/10/24 16:58	1
Chloroethane	ND		1.0	0.76	ug/L			03/10/24 16:58	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/10/24 16:58	1
Chloroform	ND		1.0	0.90	ug/L			03/10/24 16:58	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/10/24 16:58	1
Chloromethane	ND		1.0	0.90	ug/L			03/10/24 16:58	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/10/24 16:58	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/10/24 16:58	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/10/24 16:58	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/10/24 16:58	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/10/24 16:58	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/10/24 16:58	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/10/24 16:58	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/10/24 16:58	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/10/24 16:58	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/10/24 16:58	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 16:58	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 16:58	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 16:58	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/10/24 16:58	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/10/24 16:58	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/10/24 16:58	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/10/24 16:58	1
2-Hexanone	ND		25	1.4	ug/L			03/10/24 16:58	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/10/24 16:58	1
Methylene bromide	ND		5.0	0.22	ug/L			03/10/24 16:58	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/10/24 16:58	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/10/24 16:58	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/10/24 16:58	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/10/24 16:58	1
Naphthalene	ND		5.0	3.0	ug/L			03/10/24 16:58	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/10/24 16:58	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/10/24 16:58	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/10/24 16:58	1
o-Xylene	ND		5.0	0.60	ug/L			03/10/24 16:58	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/10/24 16:58	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/10/24 16:58	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW6D-ROX-030524**

**Lab Sample ID: 400-252224-11**

Date Collected: 03/05/24 11:15

Matrix: Water

Date Received: 03/06/24 09:34

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/10/24 16:58	1
Styrene	ND		1.0	1.0	ug/L			03/10/24 16:58	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/10/24 16:58	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/10/24 16:58	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/10/24 16:58	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/10/24 16:58	1
Toluene	ND		1.0	0.90	ug/L			03/10/24 16:58	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/10/24 16:58	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/10/24 16:58	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/10/24 16:58	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/10/24 16:58	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/10/24 16:58	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/10/24 16:58	1
Trichloroethene	ND		1.0	0.15	ug/L			03/10/24 16:58	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/10/24 16:58	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/10/24 16:58	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/10/24 16:58	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/10/24 16:58	1
Vinyl acetate	ND		25	0.93	ug/L			03/10/24 16:58	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/10/24 16:58	1
Xylenes, Total	ND		10	1.6	ug/L			03/10/24 16:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	100		72 - 130		03/10/24 16:58	1
Dibromofluoromethane	106		75 - 126		03/10/24 16:58	1
Toluene-d8 (Surr)	95		64 - 132		03/10/24 16:58	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.21	0.10	ug/L		03/11/24 11:27	03/12/24 16:58	1
Acenaphthylene	ND		0.21	0.045	ug/L		03/11/24 11:27	03/12/24 16:58	1
Anthracene	ND		0.21	0.049	ug/L		03/11/24 11:27	03/12/24 16:58	1
Benzo[a]anthracene	ND		0.21	0.035	ug/L		03/11/24 11:27	03/12/24 16:58	1
Benzo[a]pyrene	ND		0.21	0.066	ug/L		03/11/24 11:27	03/12/24 16:58	1
Benzo[b]fluoranthene	ND		0.21	0.038	ug/L		03/11/24 11:27	03/12/24 16:58	1
Benzo[g,h,i]perylene	ND		0.21	0.028	ug/L		03/11/24 11:27	03/12/24 16:58	1
Benzo[k]fluoranthene	ND		0.21	0.064	ug/L		03/11/24 11:27	03/12/24 16:58	1
Chrysene	ND		0.21	0.034	ug/L		03/11/24 11:27	03/12/24 16:58	1
Dibenz(a,h)anthracene	ND		0.21	0.050	ug/L		03/11/24 11:27	03/12/24 16:58	1
Fluoranthene	ND		0.21	0.035	ug/L		03/11/24 11:27	03/12/24 16:58	1
Fluorene	ND		0.21	0.092	ug/L		03/11/24 11:27	03/12/24 16:58	1
Indeno[1,2,3-cd]pyrene	ND		0.21	0.035	ug/L		03/11/24 11:27	03/12/24 16:58	1
Phenanthrene	ND		0.21	0.093	ug/L		03/11/24 11:27	03/12/24 16:58	1
Pyrene	ND		0.21	0.040	ug/L		03/11/24 11:27	03/12/24 16:58	1
1-Methylnaphthalene	ND		0.21	0.083	ug/L		03/11/24 11:27	03/12/24 16:58	1
<b>2-Methylnaphthalene</b>	<b>0.080</b>	<b>J</b>	0.21	0.068	ug/L		03/11/24 11:27	03/12/24 16:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	92		18 - 147	03/11/24 11:27	03/12/24 16:58	1
2-Fluorobiphenyl	65		15 - 128	03/11/24 11:27	03/12/24 16:58	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW6D-ROX-030524**

**Lab Sample ID: 400-252224-11**

Date Collected: 03/05/24 11:15

Matrix: Water

Date Received: 03/06/24 09:34

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	66		10 - 144	03/11/24 11:27	03/12/24 16:58	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	9.0	ug/L		03/11/24 11:27	03/12/24 16:10	1
Benzenethiol	ND	*-	10	10	ug/L		03/11/24 11:27	03/12/24 16:10	1
Benzoic acid	ND		31	25	ug/L		03/11/24 11:27	03/12/24 16:10	1
Benzyl alcohol	ND		10	7.5	ug/L		03/11/24 11:27	03/12/24 16:10	1
Bis(2-chloroethoxy)methane	ND		10	4.8	ug/L		03/11/24 11:27	03/12/24 16:10	1
Bis(2-chloroethyl)ether	ND		10	4.0	ug/L		03/11/24 11:27	03/12/24 16:10	1
bis (2-chloroisopropyl) ether	ND		10	1.9	ug/L		03/11/24 11:27	03/12/24 16:10	1
Bis(2-ethylhexyl) phthalate	ND		10	9.2	ug/L		03/11/24 11:27	03/12/24 16:10	1
4-Bromophenyl phenyl ether	ND		10	8.9	ug/L		03/11/24 11:27	03/12/24 16:10	1
Butyl benzyl phthalate	ND		10	6.0	ug/L		03/11/24 11:27	03/12/24 16:10	1
4-Chloroaniline	ND		10	4.9	ug/L		03/11/24 11:27	03/12/24 16:10	1
4-Chloro-3-methylphenol	ND		10	5.5	ug/L		03/11/24 11:27	03/12/24 16:10	1
2-Chloronaphthalene	ND		10	3.9	ug/L		03/11/24 11:27	03/12/24 16:10	1
2-Chlorophenol	ND		10	4.2	ug/L		03/11/24 11:27	03/12/24 16:10	1
4-Chlorophenyl phenyl ether	ND		10	3.8	ug/L		03/11/24 11:27	03/12/24 16:10	1
Dibenz[a,h]acridine	ND		10	2.9	ug/L		03/11/24 11:27	03/12/24 16:10	1
Dibenzofuran	ND		10	4.1	ug/L		03/11/24 11:27	03/12/24 16:10	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/11/24 11:27	03/12/24 16:10	1
2,4-Dichlorophenol	ND		10	4.4	ug/L		03/11/24 11:27	03/12/24 16:10	1
Diethyl phthalate	ND		10	4.5	ug/L		03/11/24 11:27	03/12/24 16:10	1
2,4-Dimethylphenol	ND		10	5.4	ug/L		03/11/24 11:27	03/12/24 16:10	1
Dimethyl phthalate	ND		10	4.3	ug/L		03/11/24 11:27	03/12/24 16:10	1
Di-n-butyl phthalate	ND		10	4.8	ug/L		03/11/24 11:27	03/12/24 16:10	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		03/11/24 11:27	03/12/24 16:10	1
2,4-Dinitrophenol	ND		31	4.8	ug/L		03/11/24 11:27	03/12/24 16:10	1
2,4-Dinitrotoluene	ND		10	5.3	ug/L		03/11/24 11:27	03/12/24 16:10	1
2,6-Dinitrotoluene	ND		10	4.0	ug/L		03/11/24 11:27	03/12/24 16:10	1
Di-n-octyl phthalate	ND		10	6.2	ug/L		03/11/24 11:27	03/12/24 16:10	1
1,4-Dioxane	ND		10	4.4	ug/L		03/11/24 11:27	03/12/24 16:10	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.4	ug/L		03/11/24 11:27	03/12/24 16:10	1
Hexachlorobenzene	ND		10	10	ug/L		03/11/24 11:27	03/12/24 16:10	1
Hexachlorocyclopentadiene	ND		21	4.7	ug/L		03/11/24 11:27	03/12/24 16:10	1
Hexachloroethane	ND		10	5.4	ug/L		03/11/24 11:27	03/12/24 16:10	1
Indene	ND		10	3.7	ug/L		03/11/24 11:27	03/12/24 16:10	1
Isophorone	ND		10	5.4	ug/L		03/11/24 11:27	03/12/24 16:10	1
2-Methylphenol	ND		10	3.3	ug/L		03/11/24 11:27	03/12/24 16:10	1
3 & 4 Methylphenol	ND		21	4.8	ug/L		03/11/24 11:27	03/12/24 16:10	1
2-Nitroaniline	ND		10	5.2	ug/L		03/11/24 11:27	03/12/24 16:10	1
3-Nitroaniline	ND		10	4.9	ug/L		03/11/24 11:27	03/12/24 16:10	1
4-Nitroaniline	ND		10	4.2	ug/L		03/11/24 11:27	03/12/24 16:10	1
Nitrobenzene	ND		10	4.9	ug/L		03/11/24 11:27	03/12/24 16:10	1
2-Nitrophenol	ND		10	4.8	ug/L		03/11/24 11:27	03/12/24 16:10	1
4-Nitrophenol	ND		10	3.4	ug/L		03/11/24 11:27	03/12/24 16:10	1
N-Nitrosodimethylamine	ND		10	2.3	ug/L		03/11/24 11:27	03/12/24 16:10	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW6D-ROX-030524**

**Lab Sample ID: 400-252224-11**

**Date Collected: 03/05/24 11:15**

**Matrix: Water**

**Date Received: 03/06/24 09:34**

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	2.6	ug/L		03/11/24 11:27	03/12/24 16:10	1
N-Nitrosodiphenylamine	ND		10	3.8	ug/L		03/11/24 11:27	03/12/24 16:10	1
Pentachlorophenol	ND		21	12	ug/L		03/11/24 11:27	03/12/24 16:10	1
Phenol	ND		10	4.3	ug/L		03/11/24 11:27	03/12/24 16:10	1
Pyridine	ND		10	10	ug/L		03/11/24 11:27	03/12/24 16:10	1
Quinoline	ND		10	2.5	ug/L		03/11/24 11:27	03/12/24 16:10	1
2,4,5-Trichlorophenol	ND		10	4.1	ug/L		03/11/24 11:27	03/12/24 16:10	1
2,4,6-Trichlorophenol	ND		10	3.6	ug/L		03/11/24 11:27	03/12/24 16:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	88		21 - 114	03/11/24 11:27	03/12/24 16:10	1
2-Fluorophenol	49		10 - 105	03/11/24 11:27	03/12/24 16:10	1
Nitrobenzene-d5	62		16 - 127	03/11/24 11:27	03/12/24 16:10	1
Phenol-d5	37		10 - 129	03/11/24 11:27	03/12/24 16:10	1
Terphenyl-d14	98		13 - 150	03/11/24 11:27	03/12/24 16:10	1
2,4,6-Tribromophenol	109		10 - 150	03/11/24 11:27	03/12/24 16:10	1

**Method: EPA 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	0.018	ug/L		03/11/24 11:28	03/13/24 13:00	1
1,2-Dibromoethane	ND		0.021	0.016	ug/L		03/11/24 11:28	03/13/24 13:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	61		51 - 149	03/11/24 11:28	03/13/24 13:00	1



# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW6C-ROX-030524**

**Lab Sample ID: 400-252224-12**

Date Collected: 03/05/24 12:00

Matrix: Water

Date Received: 03/06/24 09:34

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/10/24 17:25	1
Acrolein	ND		20	3.3	ug/L			03/10/24 17:25	1
Acrylonitrile	ND		10	2.8	ug/L			03/10/24 17:25	1
<b>Benzene</b>	<b>0.58</b>	<b>J</b>	1.0	0.50	ug/L			03/10/24 17:25	1
Bromobenzene	ND		1.0	0.54	ug/L			03/10/24 17:25	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/10/24 17:25	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/10/24 17:25	1
Bromoform	ND		5.0	0.25	ug/L			03/10/24 17:25	1
Bromomethane	ND		1.0	0.98	ug/L			03/10/24 17:25	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/10/24 17:25	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/10/24 17:25	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/10/24 17:25	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/10/24 17:25	1
Chloroethane	ND		1.0	0.76	ug/L			03/10/24 17:25	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/10/24 17:25	1
Chloroform	ND		1.0	0.90	ug/L			03/10/24 17:25	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/10/24 17:25	1
Chloromethane	ND		1.0	0.90	ug/L			03/10/24 17:25	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/10/24 17:25	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/10/24 17:25	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/10/24 17:25	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/10/24 17:25	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/10/24 17:25	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/10/24 17:25	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/10/24 17:25	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/10/24 17:25	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/10/24 17:25	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/10/24 17:25	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 17:25	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 17:25	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 17:25	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/10/24 17:25	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/10/24 17:25	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/10/24 17:25	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/10/24 17:25	1
2-Hexanone	ND		25	1.4	ug/L			03/10/24 17:25	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/10/24 17:25	1
Methylene bromide	ND		5.0	0.22	ug/L			03/10/24 17:25	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/10/24 17:25	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/10/24 17:25	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/10/24 17:25	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/10/24 17:25	1
Naphthalene	ND		5.0	3.0	ug/L			03/10/24 17:25	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/10/24 17:25	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/10/24 17:25	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/10/24 17:25	1
o-Xylene	ND		5.0	0.60	ug/L			03/10/24 17:25	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/10/24 17:25	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/10/24 17:25	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW6C-ROX-030524**

**Lab Sample ID: 400-252224-12**

Date Collected: 03/05/24 12:00

Matrix: Water

Date Received: 03/06/24 09:34

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/10/24 17:25	1
Styrene	ND		1.0	1.0	ug/L			03/10/24 17:25	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/10/24 17:25	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/10/24 17:25	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/10/24 17:25	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/10/24 17:25	1
Toluene	ND		1.0	0.90	ug/L			03/10/24 17:25	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/10/24 17:25	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/10/24 17:25	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/10/24 17:25	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/10/24 17:25	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/10/24 17:25	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/10/24 17:25	1
Trichloroethene	ND		1.0	0.15	ug/L			03/10/24 17:25	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/10/24 17:25	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/10/24 17:25	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/10/24 17:25	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/10/24 17:25	1
Vinyl acetate	ND		25	0.93	ug/L			03/10/24 17:25	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/10/24 17:25	1
Xylenes, Total	ND		10	1.6	ug/L			03/10/24 17:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		72 - 130		03/10/24 17:25	1
Dibromofluoromethane	106		75 - 126		03/10/24 17:25	1
Toluene-d8 (Surr)	94		64 - 132		03/10/24 17:25	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.10	ug/L		03/11/24 11:27	03/12/24 17:19	1
Acenaphthylene	ND		0.20	0.045	ug/L		03/11/24 11:27	03/12/24 17:19	1
<b>Anthracene</b>	<b>0.12</b>	<b>J</b>	0.20	0.048	ug/L		03/11/24 11:27	03/12/24 17:19	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		03/11/24 11:27	03/12/24 17:19	1
Benzo[a]pyrene	ND		0.20	0.065	ug/L		03/11/24 11:27	03/12/24 17:19	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		03/11/24 11:27	03/12/24 17:19	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		03/11/24 11:27	03/12/24 17:19	1
Benzo[k]fluoranthene	ND		0.20	0.063	ug/L		03/11/24 11:27	03/12/24 17:19	1
Chrysene	ND		0.20	0.033	ug/L		03/11/24 11:27	03/12/24 17:19	1
Dibenz(a,h)anthracene	ND		0.20	0.049	ug/L		03/11/24 11:27	03/12/24 17:19	1
<b>Fluoranthene</b>	<b>0.044</b>	<b>J</b>	0.20	0.034	ug/L		03/11/24 11:27	03/12/24 17:19	1
<b>Fluorene</b>	<b>0.11</b>	<b>J</b>	0.20	0.090	ug/L		03/11/24 11:27	03/12/24 17:19	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		03/11/24 11:27	03/12/24 17:19	1
<b>Phenanthrene</b>	<b>0.098</b>	<b>J</b>	0.20	0.091	ug/L		03/11/24 11:27	03/12/24 17:19	1
<b>Pyrene</b>	<b>0.049</b>	<b>J</b>	0.20	0.039	ug/L		03/11/24 11:27	03/12/24 17:19	1
1-Methylnaphthalene	ND		0.20	0.081	ug/L		03/11/24 11:27	03/12/24 17:19	1
<b>2-Methylnaphthalene</b>	<b>0.11</b>	<b>J</b>	0.20	0.067	ug/L		03/11/24 11:27	03/12/24 17:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	91		18 - 147	03/11/24 11:27	03/12/24 17:19	1
2-Fluorobiphenyl	65		15 - 128	03/11/24 11:27	03/12/24 17:19	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW6C-ROX-030524**

**Lab Sample ID: 400-252224-12**

Date Collected: 03/05/24 12:00

Matrix: Water

Date Received: 03/06/24 09:34

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	66		10 - 144	03/11/24 11:27	03/12/24 17:19	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	8.8	ug/L		03/11/24 11:27	03/12/24 16:37	1
Benzenethiol	ND	*	10	10	ug/L		03/11/24 11:27	03/12/24 16:37	1
Benzoic acid	ND		30	24	ug/L		03/11/24 11:27	03/12/24 16:37	1
Benzyl alcohol	ND		10	7.4	ug/L		03/11/24 11:27	03/12/24 16:37	1
Bis(2-chloroethoxy)methane	ND		10	4.7	ug/L		03/11/24 11:27	03/12/24 16:37	1
Bis(2-chloroethyl)ether	ND		10	3.9	ug/L		03/11/24 11:27	03/12/24 16:37	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		03/11/24 11:27	03/12/24 16:37	1
Bis(2-ethylhexyl) phthalate	ND		10	9.0	ug/L		03/11/24 11:27	03/12/24 16:37	1
4-Bromophenyl phenyl ether	ND		10	8.7	ug/L		03/11/24 11:27	03/12/24 16:37	1
Butyl benzyl phthalate	ND		10	5.9	ug/L		03/11/24 11:27	03/12/24 16:37	1
4-Chloroaniline	ND		10	4.8	ug/L		03/11/24 11:27	03/12/24 16:37	1
4-Chloro-3-methylphenol	ND		10	5.4	ug/L		03/11/24 11:27	03/12/24 16:37	1
2-Chloronaphthalene	ND		10	3.8	ug/L		03/11/24 11:27	03/12/24 16:37	1
2-Chlorophenol	ND		10	4.1	ug/L		03/11/24 11:27	03/12/24 16:37	1
4-Chlorophenyl phenyl ether	ND		10	3.7	ug/L		03/11/24 11:27	03/12/24 16:37	1
Dibenz[a,h]acridine	ND		10	2.8	ug/L		03/11/24 11:27	03/12/24 16:37	1
Dibenzofuran	ND		10	4.0	ug/L		03/11/24 11:27	03/12/24 16:37	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/11/24 11:27	03/12/24 16:37	1
2,4-Dichlorophenol	ND		10	4.4	ug/L		03/11/24 11:27	03/12/24 16:37	1
Diethyl phthalate	ND		10	4.5	ug/L		03/11/24 11:27	03/12/24 16:37	1
2,4-Dimethylphenol	ND		10	5.3	ug/L		03/11/24 11:27	03/12/24 16:37	1
Dimethyl phthalate	ND		10	4.3	ug/L		03/11/24 11:27	03/12/24 16:37	1
Di-n-butyl phthalate	ND		10	4.7	ug/L		03/11/24 11:27	03/12/24 16:37	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		03/11/24 11:27	03/12/24 16:37	1
2,4-Dinitrophenol	ND		30	4.7	ug/L		03/11/24 11:27	03/12/24 16:37	1
2,4-Dinitrotoluene	ND		10	5.2	ug/L		03/11/24 11:27	03/12/24 16:37	1
2,6-Dinitrotoluene	ND		10	3.9	ug/L		03/11/24 11:27	03/12/24 16:37	1
Di-n-octyl phthalate	ND		10	6.1	ug/L		03/11/24 11:27	03/12/24 16:37	1
1,4-Dioxane	ND		10	4.4	ug/L		03/11/24 11:27	03/12/24 16:37	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.3	ug/L		03/11/24 11:27	03/12/24 16:37	1
Hexachlorobenzene	ND		10	9.8	ug/L		03/11/24 11:27	03/12/24 16:37	1
Hexachlorocyclopentadiene	ND		20	4.6	ug/L		03/11/24 11:27	03/12/24 16:37	1
Hexachloroethane	ND		10	5.3	ug/L		03/11/24 11:27	03/12/24 16:37	1
Indene	ND		10	3.6	ug/L		03/11/24 11:27	03/12/24 16:37	1
Isophorone	ND		10	5.3	ug/L		03/11/24 11:27	03/12/24 16:37	1
2-Methylphenol	ND		10	3.2	ug/L		03/11/24 11:27	03/12/24 16:37	1
3 & 4 Methylphenol	ND		20	4.7	ug/L		03/11/24 11:27	03/12/24 16:37	1
2-Nitroaniline	ND		10	5.1	ug/L		03/11/24 11:27	03/12/24 16:37	1
3-Nitroaniline	ND		10	4.8	ug/L		03/11/24 11:27	03/12/24 16:37	1
4-Nitroaniline	ND		10	4.1	ug/L		03/11/24 11:27	03/12/24 16:37	1
Nitrobenzene	ND		10	4.8	ug/L		03/11/24 11:27	03/12/24 16:37	1
2-Nitrophenol	ND		10	4.7	ug/L		03/11/24 11:27	03/12/24 16:37	1
4-Nitrophenol	ND		10	3.3	ug/L		03/11/24 11:27	03/12/24 16:37	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		03/11/24 11:27	03/12/24 16:37	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW6C-ROX-030524**

**Lab Sample ID: 400-252224-12**

**Date Collected: 03/05/24 12:00**

**Matrix: Water**

**Date Received: 03/06/24 09:34**

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		03/11/24 11:27	03/12/24 16:37	1
N-Nitrosodiphenylamine	ND		10	3.7	ug/L		03/11/24 11:27	03/12/24 16:37	1
Pentachlorophenol	ND		20	12	ug/L		03/11/24 11:27	03/12/24 16:37	1
Phenol	ND		10	4.3	ug/L		03/11/24 11:27	03/12/24 16:37	1
Pyridine	ND		10	10	ug/L		03/11/24 11:27	03/12/24 16:37	1
Quinoline	ND		10	2.4	ug/L		03/11/24 11:27	03/12/24 16:37	1
2,4,5-Trichlorophenol	ND		10	4.0	ug/L		03/11/24 11:27	03/12/24 16:37	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		03/11/24 11:27	03/12/24 16:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	88		21 - 114	03/11/24 11:27	03/12/24 16:37	1
2-Fluorophenol	47		10 - 105	03/11/24 11:27	03/12/24 16:37	1
Nitrobenzene-d5	60		16 - 127	03/11/24 11:27	03/12/24 16:37	1
Phenol-d5	35		10 - 129	03/11/24 11:27	03/12/24 16:37	1
Terphenyl-d14	95		13 - 150	03/11/24 11:27	03/12/24 16:37	1
2,4,6-Tribromophenol	109		10 - 150	03/11/24 11:27	03/12/24 16:37	1

**Method: EPA 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	0.017	ug/L		03/11/24 11:28	03/13/24 13:22	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/11/24 11:28	03/13/24 13:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	59		51 - 149	03/11/24 11:28	03/13/24 13:22	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW6A-ROX-030524**

**Lab Sample ID: 400-252224-13**

Date Collected: 03/05/24 13:00

Matrix: Water

Date Received: 03/06/24 09:34

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/10/24 17:52	1
Acrolein	ND		20	3.3	ug/L			03/10/24 17:52	1
Acrylonitrile	ND		10	2.8	ug/L			03/10/24 17:52	1
<b>Benzene</b>	<b>0.61</b>	<b>J</b>	1.0	0.50	ug/L			03/10/24 17:52	1
Bromobenzene	ND		1.0	0.54	ug/L			03/10/24 17:52	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/10/24 17:52	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/10/24 17:52	1
Bromoform	ND		5.0	0.25	ug/L			03/10/24 17:52	1
Bromomethane	ND		1.0	0.98	ug/L			03/10/24 17:52	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/10/24 17:52	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/10/24 17:52	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/10/24 17:52	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/10/24 17:52	1
Chloroethane	ND		1.0	0.76	ug/L			03/10/24 17:52	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/10/24 17:52	1
Chloroform	ND		1.0	0.90	ug/L			03/10/24 17:52	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/10/24 17:52	1
Chloromethane	ND		1.0	0.90	ug/L			03/10/24 17:52	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/10/24 17:52	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/10/24 17:52	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/10/24 17:52	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/10/24 17:52	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/10/24 17:52	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/10/24 17:52	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/10/24 17:52	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/10/24 17:52	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/10/24 17:52	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/10/24 17:52	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 17:52	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 17:52	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 17:52	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/10/24 17:52	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/10/24 17:52	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/10/24 17:52	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/10/24 17:52	1
2-Hexanone	ND		25	1.4	ug/L			03/10/24 17:52	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/10/24 17:52	1
Methylene bromide	ND		5.0	0.22	ug/L			03/10/24 17:52	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/10/24 17:52	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/10/24 17:52	1
<b>Methyl tert-butyl ether</b>	<b>0.31</b>	<b>J</b>	1.0	0.22	ug/L			03/10/24 17:52	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/10/24 17:52	1
Naphthalene	ND		5.0	3.0	ug/L			03/10/24 17:52	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/10/24 17:52	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/10/24 17:52	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/10/24 17:52	1
o-Xylene	ND		5.0	0.60	ug/L			03/10/24 17:52	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/10/24 17:52	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/10/24 17:52	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW6A-ROX-030524**

**Lab Sample ID: 400-252224-13**

Date Collected: 03/05/24 13:00

Matrix: Water

Date Received: 03/06/24 09:34

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/10/24 17:52	1
Styrene	ND		1.0	1.0	ug/L			03/10/24 17:52	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/10/24 17:52	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/10/24 17:52	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/10/24 17:52	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/10/24 17:52	1
Toluene	ND		1.0	0.90	ug/L			03/10/24 17:52	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/10/24 17:52	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/10/24 17:52	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/10/24 17:52	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/10/24 17:52	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/10/24 17:52	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/10/24 17:52	1
Trichloroethene	ND		1.0	0.15	ug/L			03/10/24 17:52	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/10/24 17:52	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/10/24 17:52	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/10/24 17:52	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/10/24 17:52	1
Vinyl acetate	ND		25	0.93	ug/L			03/10/24 17:52	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/10/24 17:52	1
Xylenes, Total	ND		10	1.6	ug/L			03/10/24 17:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	100		72 - 130		03/10/24 17:52	1
Dibromofluoromethane	106		75 - 126		03/10/24 17:52	1
Toluene-d8 (Surr)	93		64 - 132		03/10/24 17:52	1

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	0.13	J	0.21	0.10	ug/L		03/11/24 11:27	03/12/24 17:39	1
Acenaphthylene	0.18	J	0.21	0.045	ug/L		03/11/24 11:27	03/12/24 17:39	1
Anthracene	ND		0.21	0.048	ug/L		03/11/24 11:27	03/12/24 17:39	1
Benzo[a]anthracene	ND		0.21	0.035	ug/L		03/11/24 11:27	03/12/24 17:39	1
Benzo[a]pyrene	ND		0.21	0.066	ug/L		03/11/24 11:27	03/12/24 17:39	1
Benzo[b]fluoranthene	ND		0.21	0.038	ug/L		03/11/24 11:27	03/12/24 17:39	1
Benzo[g,h,i]perylene	ND		0.21	0.028	ug/L		03/11/24 11:27	03/12/24 17:39	1
Benzo[k]fluoranthene	ND		0.21	0.064	ug/L		03/11/24 11:27	03/12/24 17:39	1
Chrysene	0.035	J	0.21	0.034	ug/L		03/11/24 11:27	03/12/24 17:39	1
Dibenz(a,h)anthracene	ND		0.21	0.049	ug/L		03/11/24 11:27	03/12/24 17:39	1
Fluoranthene	ND		0.21	0.035	ug/L		03/11/24 11:27	03/12/24 17:39	1
Fluorene	ND		0.21	0.092	ug/L		03/11/24 11:27	03/12/24 17:39	1
Indeno[1,2,3-cd]pyrene	ND		0.21	0.035	ug/L		03/11/24 11:27	03/12/24 17:39	1
Phenanthrene	ND		0.21	0.093	ug/L		03/11/24 11:27	03/12/24 17:39	1
Pyrene	ND		0.21	0.040	ug/L		03/11/24 11:27	03/12/24 17:39	1
1-Methylnaphthalene	ND		0.21	0.082	ug/L		03/11/24 11:27	03/12/24 17:39	1
2-Methylnaphthalene	ND		0.21	0.068	ug/L		03/11/24 11:27	03/12/24 17:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	73		18 - 147	03/11/24 11:27	03/12/24 17:39	1
2-Fluorobiphenyl	51		15 - 128	03/11/24 11:27	03/12/24 17:39	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW6A-ROX-030524**

**Lab Sample ID: 400-252224-13**

Date Collected: 03/05/24 13:00

Matrix: Water

Date Received: 03/06/24 09:34

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	65		10 - 144	03/11/24 11:27	03/12/24 17:39	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	9.0	ug/L		03/11/24 11:27	03/12/24 17:03	1
Benzenethiol	ND	*	10	10	ug/L		03/11/24 11:27	03/12/24 17:03	1
Benzoic acid	ND		31	25	ug/L		03/11/24 11:27	03/12/24 17:03	1
Benzyl alcohol	ND		10	7.5	ug/L		03/11/24 11:27	03/12/24 17:03	1
Bis(2-chloroethoxy)methane	ND		10	4.7	ug/L		03/11/24 11:27	03/12/24 17:03	1
Bis(2-chloroethyl)ether	ND		10	4.0	ug/L		03/11/24 11:27	03/12/24 17:03	1
bis (2-chloroisopropyl) ether	ND		10	1.9	ug/L		03/11/24 11:27	03/12/24 17:03	1
Bis(2-ethylhexyl) phthalate	ND		10	9.2	ug/L		03/11/24 11:27	03/12/24 17:03	1
4-Bromophenyl phenyl ether	ND		10	8.9	ug/L		03/11/24 11:27	03/12/24 17:03	1
Butyl benzyl phthalate	ND		10	6.0	ug/L		03/11/24 11:27	03/12/24 17:03	1
4-Chloroaniline	ND		10	4.8	ug/L		03/11/24 11:27	03/12/24 17:03	1
4-Chloro-3-methylphenol	ND		10	5.5	ug/L		03/11/24 11:27	03/12/24 17:03	1
2-Chloronaphthalene	ND		10	3.9	ug/L		03/11/24 11:27	03/12/24 17:03	1
2-Chlorophenol	ND		10	4.2	ug/L		03/11/24 11:27	03/12/24 17:03	1
4-Chlorophenyl phenyl ether	ND		10	3.8	ug/L		03/11/24 11:27	03/12/24 17:03	1
Dibenz[a,h]acridine	ND		10	2.9	ug/L		03/11/24 11:27	03/12/24 17:03	1
Dibenzofuran	ND		10	4.1	ug/L		03/11/24 11:27	03/12/24 17:03	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/11/24 11:27	03/12/24 17:03	1
2,4-Dichlorophenol	ND		10	4.4	ug/L		03/11/24 11:27	03/12/24 17:03	1
Diethyl phthalate	ND		10	4.5	ug/L		03/11/24 11:27	03/12/24 17:03	1
2,4-Dimethylphenol	ND		10	5.4	ug/L		03/11/24 11:27	03/12/24 17:03	1
Dimethyl phthalate	ND		10	4.3	ug/L		03/11/24 11:27	03/12/24 17:03	1
Di-n-butyl phthalate	ND		10	4.7	ug/L		03/11/24 11:27	03/12/24 17:03	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		03/11/24 11:27	03/12/24 17:03	1
2,4-Dinitrophenol	ND		31	4.7	ug/L		03/11/24 11:27	03/12/24 17:03	1
2,4-Dinitrotoluene	ND		10	5.3	ug/L		03/11/24 11:27	03/12/24 17:03	1
2,6-Dinitrotoluene	ND		10	4.0	ug/L		03/11/24 11:27	03/12/24 17:03	1
Di-n-octyl phthalate	ND		10	6.2	ug/L		03/11/24 11:27	03/12/24 17:03	1
1,4-Dioxane	ND		10	4.4	ug/L		03/11/24 11:27	03/12/24 17:03	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.4	ug/L		03/11/24 11:27	03/12/24 17:03	1
Hexachlorobenzene	ND		10	10	ug/L		03/11/24 11:27	03/12/24 17:03	1
Hexachlorocyclopentadiene	ND		21	4.6	ug/L		03/11/24 11:27	03/12/24 17:03	1
Hexachloroethane	ND		10	5.4	ug/L		03/11/24 11:27	03/12/24 17:03	1
Indene	ND		10	3.7	ug/L		03/11/24 11:27	03/12/24 17:03	1
Isophorone	ND		10	5.4	ug/L		03/11/24 11:27	03/12/24 17:03	1
2-Methylphenol	ND		10	3.3	ug/L		03/11/24 11:27	03/12/24 17:03	1
3 & 4 Methylphenol	ND		21	4.7	ug/L		03/11/24 11:27	03/12/24 17:03	1
2-Nitroaniline	ND		10	5.1	ug/L		03/11/24 11:27	03/12/24 17:03	1
3-Nitroaniline	ND		10	4.8	ug/L		03/11/24 11:27	03/12/24 17:03	1
4-Nitroaniline	ND		10	4.2	ug/L		03/11/24 11:27	03/12/24 17:03	1
Nitrobenzene	ND		10	4.8	ug/L		03/11/24 11:27	03/12/24 17:03	1
2-Nitrophenol	ND		10	4.7	ug/L		03/11/24 11:27	03/12/24 17:03	1
4-Nitrophenol	ND		10	3.4	ug/L		03/11/24 11:27	03/12/24 17:03	1
N-Nitrosodimethylamine	ND		10	2.3	ug/L		03/11/24 11:27	03/12/24 17:03	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW6A-ROX-030524**

**Lab Sample ID: 400-252224-13**

**Date Collected: 03/05/24 13:00**

**Matrix: Water**

**Date Received: 03/06/24 09:34**

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	2.6	ug/L		03/11/24 11:27	03/12/24 17:03	1
N-Nitrosodiphenylamine	ND		10	3.8	ug/L		03/11/24 11:27	03/12/24 17:03	1
Pentachlorophenol	ND		21	12	ug/L		03/11/24 11:27	03/12/24 17:03	1
Phenol	ND		10	4.3	ug/L		03/11/24 11:27	03/12/24 17:03	1
Pyridine	ND		10	10	ug/L		03/11/24 11:27	03/12/24 17:03	1
Quinoline	ND		10	2.5	ug/L		03/11/24 11:27	03/12/24 17:03	1
2,4,5-Trichlorophenol	ND		10	4.1	ug/L		03/11/24 11:27	03/12/24 17:03	1
2,4,6-Trichlorophenol	ND		10	3.6	ug/L		03/11/24 11:27	03/12/24 17:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	92		21 - 114	03/11/24 11:27	03/12/24 17:03	1
2-Fluorophenol	45		10 - 105	03/11/24 11:27	03/12/24 17:03	1
Nitrobenzene-d5	61		16 - 127	03/11/24 11:27	03/12/24 17:03	1
Phenol-d5	33		10 - 129	03/11/24 11:27	03/12/24 17:03	1
Terphenyl-d14	88		13 - 150	03/11/24 11:27	03/12/24 17:03	1
2,4,6-Tribromophenol	104		10 - 150	03/11/24 11:27	03/12/24 17:03	1

**Method: EPA 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	0.017	ug/L		03/11/24 11:28	03/13/24 14:07	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/11/24 11:28	03/13/24 14:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	75		51 - 149	03/11/24 11:28	03/13/24 14:07	1

# Definitions/Glossary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

## 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.

### GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
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.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

# Surrogate Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (72-130)	DBFM (75-126)	TOL (64-132)
400-252224-1	TB-ROX-030524-8260-A	99	102	94
400-252224-3	MW24-ROX-030524	99	103	94
400-252224-4	MW3-ROX-030524	99	103	93
400-252224-5	MW3-ROX-030524-DUP	102	103	94
400-252224-6	MW5-ROX-030524	100	105	95
400-252224-7	TB-ROX-030524-8260-B	99	105	91
400-252224-9	MW16-ROX-030524	98	105	94
400-252224-10	MW6D-ROX-030524-EB	98	106	95
400-252224-11	MW6D-ROX-030524	100	106	95
400-252224-12	MW6C-ROX-030524	99	106	94
400-252224-13	MW6A-ROX-030524	100	106	93
LCS 400-663874/1002	Lab Control Sample	94	103	96
MB 400-663874/4	Method Blank	99	106	93

### Surrogate Legend

BFB = 4-Bromofluorobenzene  
DBFM = Dibromofluoromethane  
TOL = Toluene-d8 (Surr)

## Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (21-114)	2FP (10-105)	NBZ (16-127)	PHL (10-129)	TPHL (13-150)	TBP (10-150)
400-252224-3	MW24-ROX-030524	82	44	63	33	95	91
400-252224-4	MW3-ROX-030524	74	41	54	31	89	94
400-252224-5	MW3-ROX-030524-DUP	81	43	58	32	92	104
400-252224-6	MW5-ROX-030524	90	48	65	36	100	118
400-252224-9	MW16-ROX-030524	79	44	57	33	89	100
400-252224-10	MW6D-ROX-030524-EB	81	43	59	31	90	100
400-252224-11	MW6D-ROX-030524	88	49	62	37	98	109
400-252224-12	MW6C-ROX-030524	88	47	60	35	95	109
400-252224-13	MW6A-ROX-030524	92	45	61	33	88	104
LCS 400-663975/2-A	Lab Control Sample	97	76	84	66	108	119
LCS 400-663975/4-A	Lab Control Sample	80	51	68	44	93	106
LCSD 400-663975/3-A	Lab Control Sample Dup	90	71	80	62	100	111
LCSD 400-663975/5-A	Lab Control Sample Dup	80	46	65	38	101	116
MB 400-663975/1-A	Method Blank	81	53	71	41	99	82

### Surrogate Legend

FBP = 2-Fluorobiphenyl  
2FP = 2-Fluorophenol  
NBZ = Nitrobenzene-d5  
PHL = Phenol-d5  
TPHL = Terphenyl-d14  
TBP = 2,4,6-Tribromophenol

# Surrogate Summary

Client: AECOM Technical Services Inc.  
 Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TPHL (18-147)	FBP (15-128)	NBZ (10-144)
400-252224-3	MW24-ROX-030524	96	65	65
400-252224-4	MW3-ROX-030524	82	58	63
400-252224-5	MW3-ROX-030524-DUP	84	65	68
400-252224-6	MW5-ROX-030524	83	63	67
400-252224-9	MW16-ROX-030524	86	64	65
400-252224-10	MW6D-ROX-030524-EB	98	67	65
400-252224-11	MW6D-ROX-030524	92	65	66
400-252224-12	MW6C-ROX-030524	91	65	66
400-252224-13	MW6A-ROX-030524	73	51	65
LCS 400-663975/2-A	Lab Control Sample	90	89	64
LCSD 400-663975/3-A	Lab Control Sample Dup	83	81	62
MB 400-663975/1-A	Method Blank	100	65	75

#### 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

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1 (51-149)
400-252224-2	TB-ROX-030524-8011-A	102
400-252224-3	MW24-ROX-030524	62
400-252224-4	MW3-ROX-030524	77
400-252224-5	MW3-ROX-030524-DUP	88
400-252224-6	MW5-ROX-030524	62
400-252224-8	TB-ROX-030524-8011-B	75
400-252224-9	MW16-ROX-030524	71
400-252224-10	MW6D-ROX-030524-EB	60
400-252224-11	MW6D-ROX-030524	61
400-252224-12	MW6C-ROX-030524	59
400-252224-13	MW6A-ROX-030524	75
LCS 400-663976/2-A	Lab Control Sample	69
LCSD 400-663976/3-A	Lab Control Sample Dup	58
MB 400-663976/1-A	Method Blank	62

#### Surrogate Legend

BFB = 4-Bromofluorobenzene

# Method Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET PEN
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET PEN
8270E SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	EET PEN
8011	EDB and DBCP in Water by Microextraction	EPA	EET PEN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET PEN
5030C	Purge and Trap	SW846	EET PEN
8011	Microextraction	SW846	EET 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:**

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001



# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: TB-ROX-030524-8260-A**

**Lab Sample ID: 400-252224-1**

Date Collected: 03/05/24 00:00

Matrix: Water

Date Received: 03/06/24 09:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663874	03/10/24 13:23	CH	EET PEN

**Client Sample ID: TB-ROX-030524-8011-A**

**Lab Sample ID: 400-252224-2**

Date Collected: 03/05/24 00:00

Matrix: Water

Date Received: 03/06/24 09:34

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	663976	03/11/24 11:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 10:12	PG	EET PEN

**Client Sample ID: MW24-ROX-030524**

**Lab Sample ID: 400-252224-3**

Date Collected: 03/05/24 10:40

Matrix: Water

Date Received: 03/06/24 09:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663874	03/10/24 13:50	CH	EET PEN
Total/NA	Prep	3510C			256.6 mL	1 mL	663975	03/11/24 11:27	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664139	03/12/24 13:29	S1B	EET PEN
Total/NA	Prep	3510C			256.6 mL	1 mL	663975	03/11/24 11:27	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	664170	03/12/24 14:54	TH	EET PEN
Total/NA	Prep	8011			35.6 mL	35 mL	663976	03/11/24 11:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 10:32	PG	EET PEN

**Client Sample ID: MW3-ROX-030524**

**Lab Sample ID: 400-252224-4**

Date Collected: 03/05/24 11:35

Matrix: Water

Date Received: 03/06/24 09:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663874	03/10/24 14:17	CH	EET PEN
Total/NA	Prep	3510C			254.8 mL	1 mL	663975	03/11/24 11:27	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664139	03/12/24 13:56	S1B	EET PEN
Total/NA	Prep	3510C			254.8 mL	1 mL	663975	03/11/24 11:27	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	664170	03/12/24 15:15	TH	EET PEN
Total/NA	Prep	8011			35.4 mL	35 mL	663976	03/11/24 11:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 10:54	PG	EET PEN

**Client Sample ID: MW3-ROX-030524-DUP**

**Lab Sample ID: 400-252224-5**

Date Collected: 03/05/24 11:35

Matrix: Water

Date Received: 03/06/24 09:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663874	03/10/24 14:43	CH	EET PEN
Total/NA	Prep	3510C			255.8 mL	1 mL	663975	03/11/24 11:27	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664139	03/12/24 14:22	S1B	EET PEN

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# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW3-ROX-030524-DUP**

**Lab Sample ID: 400-252224-5**

**Date Collected: 03/05/24 11:35**

**Matrix: Water**

**Date Received: 03/06/24 09:34**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			255.8 mL	1 mL	663975	03/11/24 11:27	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	664170	03/12/24 15:35	TH	EET PEN
Total/NA	Prep	8011			35.7 mL	35 mL	663976	03/11/24 11:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 11:15	PG	EET PEN

**Client Sample ID: MW5-ROX-030524**

**Lab Sample ID: 400-252224-6**

**Date Collected: 03/05/24 12:50**

**Matrix: Water**

**Date Received: 03/06/24 09:34**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663874	03/10/24 15:10	CH	EET PEN
Total/NA	Prep	3510C			257 mL	1 mL	663975	03/11/24 11:27	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664139	03/12/24 14:49	S1B	EET PEN
Total/NA	Prep	3510C			257 mL	1 mL	663975	03/11/24 11:27	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	664170	03/12/24 15:56	TH	EET PEN
Total/NA	Prep	8011			35.6 mL	35 mL	663976	03/11/24 11:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 11:36	PG	EET PEN

**Client Sample ID: TB-ROX-030524-8260-B**

**Lab Sample ID: 400-252224-7**

**Date Collected: 03/05/24 00:00**

**Matrix: Water**

**Date Received: 03/06/24 09:34**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663874	03/10/24 15:37	CH	EET PEN

**Client Sample ID: TB-ROX-030524-8011-B**

**Lab Sample ID: 400-252224-8**

**Date Collected: 03/05/24 00:00**

**Matrix: Water**

**Date Received: 03/06/24 09:34**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			31.2 mL	35 mL	663976	03/11/24 11:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 11:57	PG	EET PEN

**Client Sample ID: MW16-ROX-030524**

**Lab Sample ID: 400-252224-9**

**Date Collected: 03/05/24 09:35**

**Matrix: Water**

**Date Received: 03/06/24 09:34**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663874	03/10/24 16:04	CH	EET PEN
Total/NA	Prep	3510C			244.4 mL	1 mL	663975	03/11/24 11:27	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664139	03/12/24 15:16	S1B	EET PEN
Total/NA	Prep	3510C			244.4 mL	1 mL	663975	03/11/24 11:27	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	664170	03/12/24 16:17	TH	EET PEN
Total/NA	Prep	8011			35.7 mL	35 mL	663976	03/11/24 11:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 12:18	PG	EET PEN

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# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW6D-ROX-030524-EB**

**Lab Sample ID: 400-252224-10**

Date Collected: 03/05/24 10:30

Matrix: Water

Date Received: 03/06/24 09:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663874	03/10/24 16:31	CH	EET PEN
Total/NA	Prep	3510C			240.8 mL	1 mL	663975	03/11/24 11:27	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664139	03/12/24 15:43	S1B	EET PEN
Total/NA	Prep	3510C			240.8 mL	1 mL	663975	03/11/24 11:27	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	664170	03/12/24 16:37	TH	EET PEN
Total/NA	Prep	8011			35.6 mL	35 mL	663976	03/11/24 11:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 12:39	PG	EET PEN

**Client Sample ID: MW6D-ROX-030524**

**Lab Sample ID: 400-252224-11**

Date Collected: 03/05/24 11:15

Matrix: Water

Date Received: 03/06/24 09:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663874	03/10/24 16:58	CH	EET PEN
Total/NA	Prep	3510C			241.8 mL	1 mL	663975	03/11/24 11:27	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664139	03/12/24 16:10	S1B	EET PEN
Total/NA	Prep	3510C			241.8 mL	1 mL	663975	03/11/24 11:27	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	664170	03/12/24 16:58	TH	EET PEN
Total/NA	Prep	8011			33.8 mL	35 mL	663976	03/11/24 11:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 13:00	PG	EET PEN

**Client Sample ID: MW6C-ROX-030524**

**Lab Sample ID: 400-252224-12**

Date Collected: 03/05/24 12:00

Matrix: Water

Date Received: 03/06/24 09:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663874	03/10/24 17:25	CH	EET PEN
Total/NA	Prep	3510C			247 mL	1 mL	663975	03/11/24 11:27	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664139	03/12/24 16:37	S1B	EET PEN
Total/NA	Prep	3510C			247 mL	1 mL	663975	03/11/24 11:27	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	664170	03/12/24 17:19	TH	EET PEN
Total/NA	Prep	8011			34.5 mL	35 mL	663976	03/11/24 11:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 13:22	PG	EET PEN

**Client Sample ID: MW6A-ROX-030524**

**Lab Sample ID: 400-252224-13**

Date Collected: 03/05/24 13:00

Matrix: Water

Date Received: 03/06/24 09:34

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	663874	03/10/24 17:52	CH	EET PEN
Total/NA	Prep	3510C			242.8 mL	1 mL	663975	03/11/24 11:27	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664139	03/12/24 17:03	S1B	EET PEN
Total/NA	Prep	3510C			242.8 mL	1 mL	663975	03/11/24 11:27	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	664170	03/12/24 17:39	TH	EET PEN

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# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

**Client Sample ID: MW6A-ROX-030524**

**Lab Sample ID: 400-252224-13**

Date Collected: 03/05/24 13:00

Matrix: Water

Date Received: 03/06/24 09:34

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	663976	03/11/24 11:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 14:07	PG	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-663874/4**

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	8260D		1	5 mL	5 mL	663874	03/10/24 10:14	CH	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-663975/1-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	3510C			250 mL	1 mL	663975	03/11/24 11:26	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664128	03/12/24 17:45	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	663975	03/11/24 11:26	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	664170	03/12/24 13:52	TH	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-663976/1-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	663976	03/11/24 11:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/12/24 16:18	PG	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-663874/1002**

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	8260D		1	5 mL	5 mL	663874	03/10/24 09:11	CH	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-663975/2-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	3510C			250 mL	1 mL	663975	03/11/24 11:26	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664128	03/12/24 18:09	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	663975	03/11/24 11:26	BAW	EET PEN
Total/NA	Analysis	8270E SIM		20	0.4 mL	0.4 mL	664170	03/12/24 14:13	TH	EET PEN

# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-663975/4-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	3510C			250 mL	1 mL	663975	03/11/24 11:26	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664139	03/12/24 12:36	S1B	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-663976/2-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	663976	03/11/24 11:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/12/24 16:39	PG	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-663975/3-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	3510C			250 mL	1 mL	663975	03/11/24 11:26	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664128	03/12/24 18:33	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	663975	03/11/24 11:26	BAW	EET PEN
Total/NA	Analysis	8270E SIM		20	0.4 mL	0.4 mL	664170	03/12/24 14:33	TH	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-663975/5-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	3510C			250 mL	1 mL	663975	03/11/24 11:26	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664139	03/12/24 13:02	S1B	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-663976/3-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	663976	03/11/24 11:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/12/24 17:01	PG	EET PEN

### Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

# QC Association Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

## GC/MS VOA

### Analysis Batch: 663874

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252224-1	TB-ROX-030524-8260-A	Total/NA	Water	8260D	
400-252224-3	MW24-ROX-030524	Total/NA	Water	8260D	
400-252224-4	MW3-ROX-030524	Total/NA	Water	8260D	
400-252224-5	MW3-ROX-030524-DUP	Total/NA	Water	8260D	
400-252224-6	MW5-ROX-030524	Total/NA	Water	8260D	
400-252224-7	TB-ROX-030524-8260-B	Total/NA	Water	8260D	
400-252224-9	MW16-ROX-030524	Total/NA	Water	8260D	
400-252224-10	MW6D-ROX-030524-EB	Total/NA	Water	8260D	
400-252224-11	MW6D-ROX-030524	Total/NA	Water	8260D	
400-252224-12	MW6C-ROX-030524	Total/NA	Water	8260D	
400-252224-13	MW6A-ROX-030524	Total/NA	Water	8260D	
MB 400-663874/4	Method Blank	Total/NA	Water	8260D	
LCS 400-663874/1002	Lab Control Sample	Total/NA	Water	8260D	

## GC/MS Semi VOA

### Prep Batch: 663975

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252224-3	MW24-ROX-030524	Total/NA	Water	3510C	
400-252224-4	MW3-ROX-030524	Total/NA	Water	3510C	
400-252224-5	MW3-ROX-030524-DUP	Total/NA	Water	3510C	
400-252224-6	MW5-ROX-030524	Total/NA	Water	3510C	
400-252224-9	MW16-ROX-030524	Total/NA	Water	3510C	
400-252224-10	MW6D-ROX-030524-EB	Total/NA	Water	3510C	
400-252224-11	MW6D-ROX-030524	Total/NA	Water	3510C	
400-252224-12	MW6C-ROX-030524	Total/NA	Water	3510C	
400-252224-13	MW6A-ROX-030524	Total/NA	Water	3510C	
MB 400-663975/1-A	Method Blank	Total/NA	Water	3510C	
LCS 400-663975/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 400-663975/4-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 400-663975/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
LCSD 400-663975/5-A	Lab Control Sample Dup	Total/NA	Water	3510C	

### Analysis Batch: 664128

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-663975/1-A	Method Blank	Total/NA	Water	8270E	663975
LCS 400-663975/2-A	Lab Control Sample	Total/NA	Water	8270E	663975
LCSD 400-663975/3-A	Lab Control Sample Dup	Total/NA	Water	8270E	663975

### Analysis Batch: 664139

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252224-3	MW24-ROX-030524	Total/NA	Water	8270E	663975
400-252224-4	MW3-ROX-030524	Total/NA	Water	8270E	663975
400-252224-5	MW3-ROX-030524-DUP	Total/NA	Water	8270E	663975
400-252224-6	MW5-ROX-030524	Total/NA	Water	8270E	663975
400-252224-9	MW16-ROX-030524	Total/NA	Water	8270E	663975
400-252224-10	MW6D-ROX-030524-EB	Total/NA	Water	8270E	663975
400-252224-11	MW6D-ROX-030524	Total/NA	Water	8270E	663975
400-252224-12	MW6C-ROX-030524	Total/NA	Water	8270E	663975
400-252224-13	MW6A-ROX-030524	Total/NA	Water	8270E	663975
LCS 400-663975/4-A	Lab Control Sample	Total/NA	Water	8270E	663975

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# QC Association Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

## GC/MS Semi VOA (Continued)

### Analysis Batch: 664139 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 400-663975/5-A	Lab Control Sample Dup	Total/NA	Water	8270E	663975

### Analysis Batch: 664170

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252224-3	MW24-ROX-030524	Total/NA	Water	8270E SIM	663975
400-252224-4	MW3-ROX-030524	Total/NA	Water	8270E SIM	663975
400-252224-5	MW3-ROX-030524-DUP	Total/NA	Water	8270E SIM	663975
400-252224-6	MW5-ROX-030524	Total/NA	Water	8270E SIM	663975
400-252224-9	MW16-ROX-030524	Total/NA	Water	8270E SIM	663975
400-252224-10	MW6D-ROX-030524-EB	Total/NA	Water	8270E SIM	663975
400-252224-11	MW6D-ROX-030524	Total/NA	Water	8270E SIM	663975
400-252224-12	MW6C-ROX-030524	Total/NA	Water	8270E SIM	663975
400-252224-13	MW6A-ROX-030524	Total/NA	Water	8270E SIM	663975
MB 400-663975/1-A	Method Blank	Total/NA	Water	8270E SIM	663975
LCS 400-663975/2-A	Lab Control Sample	Total/NA	Water	8270E SIM	663975
LCSD 400-663975/3-A	Lab Control Sample Dup	Total/NA	Water	8270E SIM	663975

## GC Semi VOA

### Prep Batch: 663976

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252224-2	TB-ROX-030524-8011-A	Total/NA	Water	8011	
400-252224-3	MW24-ROX-030524	Total/NA	Water	8011	
400-252224-4	MW3-ROX-030524	Total/NA	Water	8011	
400-252224-5	MW3-ROX-030524-DUP	Total/NA	Water	8011	
400-252224-6	MW5-ROX-030524	Total/NA	Water	8011	
400-252224-8	TB-ROX-030524-8011-B	Total/NA	Water	8011	
400-252224-9	MW16-ROX-030524	Total/NA	Water	8011	
400-252224-10	MW6D-ROX-030524-EB	Total/NA	Water	8011	
400-252224-11	MW6D-ROX-030524	Total/NA	Water	8011	
400-252224-12	MW6C-ROX-030524	Total/NA	Water	8011	
400-252224-13	MW6A-ROX-030524	Total/NA	Water	8011	
MB 400-663976/1-A	Method Blank	Total/NA	Water	8011	
LCS 400-663976/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 400-663976/3-A	Lab Control Sample Dup	Total/NA	Water	8011	

### Analysis Batch: 664136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252224-2	TB-ROX-030524-8011-A	Total/NA	Water	8011	663976
400-252224-3	MW24-ROX-030524	Total/NA	Water	8011	663976
400-252224-4	MW3-ROX-030524	Total/NA	Water	8011	663976
400-252224-5	MW3-ROX-030524-DUP	Total/NA	Water	8011	663976
400-252224-6	MW5-ROX-030524	Total/NA	Water	8011	663976
400-252224-8	TB-ROX-030524-8011-B	Total/NA	Water	8011	663976
400-252224-9	MW16-ROX-030524	Total/NA	Water	8011	663976
400-252224-10	MW6D-ROX-030524-EB	Total/NA	Water	8011	663976
400-252224-11	MW6D-ROX-030524	Total/NA	Water	8011	663976
400-252224-12	MW6C-ROX-030524	Total/NA	Water	8011	663976
400-252224-13	MW6A-ROX-030524	Total/NA	Water	8011	663976
MB 400-663976/1-A	Method Blank	Total/NA	Water	8011	663976
LCS 400-663976/2-A	Lab Control Sample	Total/NA	Water	8011	663976

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# QC Association Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

## GC Semi VOA (Continued)

### Analysis Batch: 664136 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 400-663976/3-A	Lab Control Sample Dup	Total/NA	Water	8011	663976

- 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 MONTHLY GW

Job ID: 400-252224-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 400-663874/4**  
**Matrix: Water**  
**Analysis Batch: 663874**

**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			03/10/24 10:14	1
Acrolein	ND		20	3.3	ug/L			03/10/24 10:14	1
Acrylonitrile	ND		10	2.8	ug/L			03/10/24 10:14	1
Benzene	ND		1.0	0.50	ug/L			03/10/24 10:14	1
Bromobenzene	ND		1.0	0.54	ug/L			03/10/24 10:14	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/10/24 10:14	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/10/24 10:14	1
Bromoform	ND		5.0	0.25	ug/L			03/10/24 10:14	1
Bromomethane	ND		1.0	0.98	ug/L			03/10/24 10:14	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/10/24 10:14	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/10/24 10:14	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/10/24 10:14	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/10/24 10:14	1
Chloroethane	ND		1.0	0.76	ug/L			03/10/24 10:14	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/10/24 10:14	1
Chloroform	ND		1.0	0.90	ug/L			03/10/24 10:14	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/10/24 10:14	1
Chloromethane	ND		1.0	0.90	ug/L			03/10/24 10:14	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/10/24 10:14	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/10/24 10:14	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/10/24 10:14	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/10/24 10:14	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/10/24 10:14	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/10/24 10:14	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/10/24 10:14	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/10/24 10:14	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/10/24 10:14	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/10/24 10:14	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 10:14	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 10:14	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/10/24 10:14	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/10/24 10:14	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/10/24 10:14	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/10/24 10:14	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/10/24 10:14	1
2-Hexanone	ND		25	1.4	ug/L			03/10/24 10:14	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/10/24 10:14	1
Methylene bromide	ND		5.0	0.22	ug/L			03/10/24 10:14	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/10/24 10:14	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/10/24 10:14	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/10/24 10:14	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/10/24 10:14	1
Naphthalene	ND		5.0	3.0	ug/L			03/10/24 10:14	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/10/24 10:14	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/10/24 10:14	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/10/24 10:14	1
o-Xylene	ND		5.0	0.60	ug/L			03/10/24 10:14	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/10/24 10:14	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-663874/4**  
**Matrix: Water**  
**Analysis Batch: 663874**

**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			03/10/24 10:14	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/10/24 10:14	1
Styrene	ND		1.0	1.0	ug/L			03/10/24 10:14	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/10/24 10:14	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/10/24 10:14	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/10/24 10:14	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/10/24 10:14	1
Toluene	ND		1.0	0.90	ug/L			03/10/24 10:14	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/10/24 10:14	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/10/24 10:14	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/10/24 10:14	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/10/24 10:14	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/10/24 10:14	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/10/24 10:14	1
Trichloroethene	ND		1.0	0.15	ug/L			03/10/24 10:14	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/10/24 10:14	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/10/24 10:14	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/10/24 10:14	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/10/24 10:14	1
Vinyl acetate	ND		25	0.93	ug/L			03/10/24 10:14	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/10/24 10:14	1
Xylenes, Total	ND		10	1.6	ug/L			03/10/24 10:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		72 - 130		03/10/24 10:14	1
Dibromofluoromethane	106		75 - 126		03/10/24 10:14	1
Toluene-d8 (Surr)	93		64 - 132		03/10/24 10:14	1

**Lab Sample ID: LCS 400-663874/1002**  
**Matrix: Water**  
**Analysis Batch: 663874**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	200	161		ug/L		80	43 - 160
Acrolein	500	480		ug/L		96	38 - 160
Acrylonitrile	500	505		ug/L		101	64 - 142
Benzene	50.0	52.2		ug/L		104	70 - 130
Bromobenzene	50.0	52.2		ug/L		104	70 - 132
Bromochloromethane	50.0	54.8		ug/L		110	70 - 130
Bromodichloromethane	50.0	54.9		ug/L		110	67 - 133
Bromoform	50.0	49.4		ug/L		99	57 - 140
Bromomethane	50.0	67.7		ug/L		135	10 - 160
2-Butanone (MEK)	200	181		ug/L		91	61 - 145
Carbon disulfide	50.0	39.9		ug/L		80	61 - 137
Carbon tetrachloride	50.0	55.8		ug/L		112	61 - 137
Chlorobenzene	50.0	53.3		ug/L		107	70 - 130
Chloroethane	50.0	58.2		ug/L		116	55 - 141
2-Chloroethyl vinyl ether	50.0	48.1		ug/L		96	10 - 160

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-663874/1002**  
**Matrix: Water**  
**Analysis Batch: 663874**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroform	50.0	55.0		ug/L		110	69 - 130
1-Chlorohexane	50.0	54.4		ug/L		109	69 - 130
Chloromethane	50.0	51.1		ug/L		102	58 - 137
cis-1,2-Dichloroethene	50.0	54.2		ug/L		108	68 - 130
cis-1,3-Dichloropropene	50.0	52.2		ug/L		104	69 - 132
Dibromochloromethane	50.0	53.1		ug/L		106	67 - 135
1,2-Dichlorobenzene	50.0	52.3		ug/L		105	67 - 130
1,3-Dichlorobenzene	50.0	54.4		ug/L		109	70 - 130
1,4-Dichlorobenzene	50.0	53.8		ug/L		108	70 - 130
Dichlorodifluoromethane	50.0	50.3		ug/L		101	41 - 146
1,1-Dichloroethane	50.0	52.3		ug/L		105	70 - 130
1,2-Dichloroethane	50.0	52.8		ug/L		106	69 - 130
1,1-Dichloroethene	50.0	48.0		ug/L		96	63 - 134
1,2-Dichloropropane	50.0	55.2		ug/L		110	70 - 130
1,3-Dichloropropane	50.0	48.9		ug/L		98	70 - 130
2,2-Dichloropropane	50.0	49.2		ug/L		98	52 - 135
1,1-Dichloropropene	50.0	51.2		ug/L		102	70 - 130
Ethylbenzene	50.0	52.4		ug/L		105	70 - 130
Ethyl methacrylate	50.0	46.2		ug/L		92	68 - 130
Hexachlorobutadiene	50.0	67.2		ug/L		134	53 - 140
2-Hexanone	200	178		ug/L		89	65 - 137
Isopropylbenzene	50.0	55.9		ug/L		112	70 - 130
Methylene bromide	50.0	51.4		ug/L		103	70 - 130
Methylene Chloride	50.0	61.1		ug/L		122	66 - 135
4-Methyl-2-pentanone (MIBK)	200	186		ug/L		93	69 - 138
Methyl tert-butyl ether	50.0	47.1		ug/L		94	66 - 130
m-Xylene & p-Xylene	50.0	53.5		ug/L		107	70 - 130
Naphthalene	50.0	46.2		ug/L		92	47 - 149
n-Butylbenzene	50.0	56.6		ug/L		113	67 - 130
N-Propylbenzene	50.0	53.0		ug/L		106	70 - 130
o-Chlorotoluene	50.0	52.8		ug/L		106	70 - 130
o-Xylene	50.0	52.9		ug/L		106	70 - 130
p-Chlorotoluene	50.0	52.7		ug/L		105	70 - 130
p-Isopropyltoluene	50.0	55.9		ug/L		112	65 - 130
sec-Butylbenzene	50.0	55.0		ug/L		110	66 - 130
Styrene	50.0	54.1		ug/L		108	70 - 130
tert-Butylbenzene	50.0	53.9		ug/L		108	64 - 139
1,1,1,2-Tetrachloroethane	50.0	54.1		ug/L		108	67 - 131
1,1,2,2-Tetrachloroethane	50.0	44.1		ug/L		88	70 - 131
Tetrachloroethene	50.0	53.9		ug/L		108	65 - 130
Toluene	50.0	49.3		ug/L		99	70 - 130
trans-1,2-Dichloroethene	50.0	50.1		ug/L		100	70 - 130
trans-1,3-Dichloropropene	50.0	48.1		ug/L		96	63 - 130
1,2,3-Trichlorobenzene	50.0	55.0		ug/L		110	60 - 138
1,2,4-Trichlorobenzene	50.0	57.4		ug/L		115	60 - 140
1,1,1-Trichloroethane	50.0	53.3		ug/L		107	68 - 130
1,1,2-Trichloroethane	50.0	49.4		ug/L		99	70 - 130
Trichloroethene	50.0	55.6		ug/L		111	70 - 130
Trichlorofluoromethane	50.0	57.8		ug/L		116	65 - 138

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-663874/1002**  
**Matrix: Water**  
**Analysis Batch: 663874**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	50.0	45.9		ug/L		92	70 - 130
1,2,4-Trimethylbenzene	50.0	53.0		ug/L		106	70 - 130
1,3,5-Trimethylbenzene	50.0	53.0		ug/L		106	69 - 130
Vinyl acetate	100	98.7		ug/L		99	26 - 160
Vinyl chloride	50.0	54.6		ug/L		109	59 - 136
Xylenes, Total	100	106		ug/L		106	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	94		72 - 130
Dibromofluoromethane	103		75 - 126
Toluene-d8 (Surr)	96		64 - 132

## Method: 8270E - Semivolatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 400-663975/1-A**  
**Matrix: Water**  
**Analysis Batch: 664128**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 663975**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	8.7	ug/L		03/11/24 11:26	03/12/24 17:45	1
Benzenethiol	ND		10	9.9	ug/L		03/11/24 11:26	03/12/24 17:45	1
Benzoic acid	ND		30	24	ug/L		03/11/24 11:26	03/12/24 17:45	1
Benzyl alcohol	ND		10	7.3	ug/L		03/11/24 11:26	03/12/24 17:45	1
Bis(2-chloroethoxy)methane	ND		10	4.6	ug/L		03/11/24 11:26	03/12/24 17:45	1
Bis(2-chloroethyl)ether	ND		10	3.9	ug/L		03/11/24 11:26	03/12/24 17:45	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		03/11/24 11:26	03/12/24 17:45	1
Bis(2-ethylhexyl) phthalate	ND		10	8.9	ug/L		03/11/24 11:26	03/12/24 17:45	1
4-Bromophenyl phenyl ether	ND		10	8.6	ug/L		03/11/24 11:26	03/12/24 17:45	1
Butyl benzyl phthalate	ND		10	5.8	ug/L		03/11/24 11:26	03/12/24 17:45	1
4-Chloroaniline	ND		10	4.7	ug/L		03/11/24 11:26	03/12/24 17:45	1
4-Chloro-3-methylphenol	ND		10	5.3	ug/L		03/11/24 11:26	03/12/24 17:45	1
2-Chloronaphthalene	ND		10	3.8	ug/L		03/11/24 11:26	03/12/24 17:45	1
2-Chlorophenol	ND		10	4.1	ug/L		03/11/24 11:26	03/12/24 17:45	1
4-Chlorophenyl phenyl ether	ND		10	3.7	ug/L		03/11/24 11:26	03/12/24 17:45	1
Dibenz[a,h]acridine	ND		10	2.8	ug/L		03/11/24 11:26	03/12/24 17:45	1
Dibenzofuran	ND		10	4.0	ug/L		03/11/24 11:26	03/12/24 17:45	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/11/24 11:26	03/12/24 17:45	1
2,4-Dichlorophenol	ND		10	4.3	ug/L		03/11/24 11:26	03/12/24 17:45	1
Diethyl phthalate	ND		10	4.4	ug/L		03/11/24 11:26	03/12/24 17:45	1
2,4-Dimethylphenol	ND		10	5.2	ug/L		03/11/24 11:26	03/12/24 17:45	1
Dimethyl phthalate	ND		10	4.2	ug/L		03/11/24 11:26	03/12/24 17:45	1
Di-n-butyl phthalate	ND		10	4.6	ug/L		03/11/24 11:26	03/12/24 17:45	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		03/11/24 11:26	03/12/24 17:45	1
2,4-Dinitrophenol	ND		30	4.6	ug/L		03/11/24 11:26	03/12/24 17:45	1
2,4-Dinitrotoluene	ND		10	5.1	ug/L		03/11/24 11:26	03/12/24 17:45	1
2,6-Dinitrotoluene	ND		10	3.9	ug/L		03/11/24 11:26	03/12/24 17:45	1
Di-n-octyl phthalate	ND		10	6.0	ug/L		03/11/24 11:26	03/12/24 17:45	1
1,4-Dioxane	ND		10	4.3	ug/L		03/11/24 11:26	03/12/24 17:45	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 400-663975/1-A**  
**Matrix: Water**  
**Analysis Batch: 664128**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 663975**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.3	ug/L		03/11/24 11:26	03/12/24 17:45	1
Hexachlorobenzene	ND		10	9.7	ug/L		03/11/24 11:26	03/12/24 17:45	1
Hexachlorocyclopentadiene	ND		20	4.5	ug/L		03/11/24 11:26	03/12/24 17:45	1
Hexachloroethane	ND		10	5.2	ug/L		03/11/24 11:26	03/12/24 17:45	1
Indene	ND		10	3.6	ug/L		03/11/24 11:26	03/12/24 17:45	1
Isophorone	ND		10	5.2	ug/L		03/11/24 11:26	03/12/24 17:45	1
2-Methylphenol	ND		10	3.2	ug/L		03/11/24 11:26	03/12/24 17:45	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		03/11/24 11:26	03/12/24 17:45	1
2-Nitroaniline	ND		10	5.0	ug/L		03/11/24 11:26	03/12/24 17:45	1
3-Nitroaniline	ND		10	4.7	ug/L		03/11/24 11:26	03/12/24 17:45	1
4-Nitroaniline	ND		10	4.1	ug/L		03/11/24 11:26	03/12/24 17:45	1
Nitrobenzene	ND		10	4.7	ug/L		03/11/24 11:26	03/12/24 17:45	1
2-Nitrophenol	ND		10	4.6	ug/L		03/11/24 11:26	03/12/24 17:45	1
4-Nitrophenol	ND		10	3.3	ug/L		03/11/24 11:26	03/12/24 17:45	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		03/11/24 11:26	03/12/24 17:45	1
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		03/11/24 11:26	03/12/24 17:45	1
N-Nitrosodiphenylamine	ND		10	3.7	ug/L		03/11/24 11:26	03/12/24 17:45	1
Pentachlorophenol	ND		20	12	ug/L		03/11/24 11:26	03/12/24 17:45	1
Phenol	ND		10	4.2	ug/L		03/11/24 11:26	03/12/24 17:45	1
Pyridine	ND		10	10	ug/L		03/11/24 11:26	03/12/24 17:45	1
Quinoline	ND		10	2.4	ug/L		03/11/24 11:26	03/12/24 17:45	1
2,4,5-Trichlorophenol	ND		10	4.0	ug/L		03/11/24 11:26	03/12/24 17:45	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		03/11/24 11:26	03/12/24 17:45	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	81		21 - 114	03/11/24 11:26	03/12/24 17:45	1
2-Fluorophenol	53		10 - 105	03/11/24 11:26	03/12/24 17:45	1
Nitrobenzene-d5	71		16 - 127	03/11/24 11:26	03/12/24 17:45	1
Phenol-d5	41		10 - 129	03/11/24 11:26	03/12/24 17:45	1
Terphenyl-d14	99		13 - 150	03/11/24 11:26	03/12/24 17:45	1
2,4,6-Tribromophenol	82		10 - 150	03/11/24 11:26	03/12/24 17:45	1

**Lab Sample ID: LCS 400-663975/2-A**  
**Matrix: Water**  
**Analysis Batch: 664128**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663975**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aniline	120	66.8		ug/L		56	10 - 127
Benzoic acid	492	271		ug/L		55	19 - 126
Benzyl alcohol	120	90.9		ug/L		76	17 - 109
Bis(2-chloroethoxy)methane	120	89.8		ug/L		75	24 - 125
Bis(2-chloroethyl)ether	120	90.1		ug/L		75	10 - 121
bis (2-chloroisopropyl) ether	120	71.5		ug/L		60	14 - 123
Bis(2-ethylhexyl) phthalate	120	103		ug/L		86	16 - 150
4-Bromophenyl phenyl ether	120	121		ug/L		101	17 - 150
Butyl benzyl phthalate	120	105		ug/L		88	21 - 150
4-Chloroaniline	120	72.3		ug/L		60	10 - 124
4-Chloro-3-methylphenol	120	109		ug/L		91	37 - 131

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 400-663975/2-A**  
**Matrix: Water**  
**Analysis Batch: 664128**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663975**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2-Chloronaphthalene	120	100		ug/L		83	24 - 132
2-Chlorophenol	120	103		ug/L		86	27 - 124
4-Chlorophenyl phenyl ether	120	116		ug/L		97	27 - 147
Dibenz[a,h]acridine	120	117		ug/L		97	40 - 140
Dibenzofuran	120	108		ug/L		90	30 - 135
3,3'-Dichlorobenzidine	160	149		ug/L		93	10 - 150
2,4-Dichlorophenol	120	105		ug/L		87	33 - 132
Diethyl phthalate	120	104		ug/L		87	37 - 145
2,4-Dimethylphenol	120	106		ug/L		88	38 - 132
Dimethyl phthalate	120	111		ug/L		92	32 - 137
Di-n-butyl phthalate	120	114		ug/L		95	27 - 150
4,6-Dinitro-ortho-cresol	240	181		ug/L		75	14 - 150
2,4-Dinitrophenol	240	194		ug/L		81	15 - 150
2,4-Dinitrotoluene	120	123		ug/L		103	35 - 136
2,6-Dinitrotoluene	120	114		ug/L		95	29 - 140
Di-n-octyl phthalate	120	107		ug/L		89	26 - 150
1,4-Dioxane	120	54.3		ug/L		45	10 - 87
1,2-Diphenylhydrazine (as Azobenzene)	120	90.3		ug/L		75	23 - 138
Hexachlorobenzene	120	130		ug/L		108	10 - 150
Hexachlorocyclopentadiene	120	59.0		ug/L		49	10 - 124
Hexachloroethane	120	60.9		ug/L		51	10 - 127
Indene	120	96.9		ug/L		81	18 - 150
Isophorone	120	86.1		ug/L		72	28 - 127
2-Methylphenol	120	89.8		ug/L		75	34 - 124
3 & 4 Methylphenol	120	84.2		ug/L		70	32 - 122
2-Nitroaniline	120	99.8		ug/L		83	24 - 139
3-Nitroaniline	120	84.6		ug/L		71	10 - 128
4-Nitroaniline	120	80.4		ug/L		67	28 - 118
Nitrobenzene	120	86.3		ug/L		72	29 - 120
2-Nitrophenol	120	99.6		ug/L		83	25 - 148
4-Nitrophenol	240	186		ug/L		77	12 - 129
N-Nitrosodimethylamine	120	59.8		ug/L		50	10 - 115
N-Nitrosodi-n-propylamine	120	76.0		ug/L		63	24 - 142
N-Nitrosodiphenylamine	119	107		ug/L		90	29 - 138
Pentachlorophenol	240	238		ug/L		99	19 - 150
Phenol	120	81.2		ug/L		68	11 - 95
Pyridine	240	72.7		ug/L		30	10 - 82
Quinoline	120	119		ug/L		99	40 - 140
2,4,5-Trichlorophenol	120	127		ug/L		106	30 - 144
2,4,6-Trichlorophenol	120	124		ug/L		103	27 - 147

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	97		21 - 114
2-Fluorophenol	76		10 - 105
Nitrobenzene-d5	84		16 - 127
Phenol-d5	66		10 - 129
Terphenyl-d14	108		13 - 150

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 400-663975/2-A**  
**Matrix: Water**  
**Analysis Batch: 664128**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663975**

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol	119		10 - 150

**Lab Sample ID: LCS 400-663975/4-A**  
**Matrix: Water**  
**Analysis Batch: 664139**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663975**

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	Limits	%Rec
		Result	Qualifier					
Benzenethiol	120	31.3		ug/L		26	10 - 140	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	80		21 - 114
2-Fluorophenol	51		10 - 105
Nitrobenzene-d5	68		16 - 127
Phenol-d5	44		10 - 129
Terphenyl-d14	93		13 - 150
2,4,6-Tribromophenol	106		10 - 150

**Lab Sample ID: LCSD 400-663975/3-A**  
**Matrix: Water**  
**Analysis Batch: 664128**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 663975**

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	Limits	RPD	Limit
		Result	Qualifier						
Aniline	120	67.7		ug/L		56	10 - 127	1	40
Benzoic acid	492	276		ug/L		56	19 - 126	2	40
Benzyl alcohol	120	87.0		ug/L		73	17 - 109	4	40
Bis(2-chloroethoxy)methane	120	88.8		ug/L		74	24 - 125	1	40
Bis(2-chloroethyl)ether	120	89.0		ug/L		74	10 - 121	1	40
bis (2-chloroisopropyl) ether	120	68.1		ug/L		57	14 - 123	5	40
Bis(2-ethylhexyl) phthalate	120	99.5		ug/L		83	16 - 150	4	40
4-Bromophenyl phenyl ether	120	114		ug/L		95	17 - 150	6	40
Butyl benzyl phthalate	120	101		ug/L		84	21 - 150	4	40
4-Chloroaniline	120	77.3		ug/L		64	10 - 124	7	40
4-Chloro-3-methylphenol	120	109		ug/L		91	37 - 131	0	40
2-Chloronaphthalene	120	96.8		ug/L		81	24 - 132	3	40
2-Chlorophenol	120	97.2		ug/L		81	27 - 124	5	40
4-Chlorophenyl phenyl ether	120	113		ug/L		94	27 - 147	3	40
Dibenz[a,h]acridine	120	117		ug/L		97	40 - 140	0	40
Dibenzofuran	120	105		ug/L		87	30 - 135	3	40
3,3'-Dichlorobenzidine	160	152		ug/L		95	10 - 150	2	40
2,4-Dichlorophenol	120	106		ug/L		89	33 - 132	1	40
Diethyl phthalate	120	99.4		ug/L		83	37 - 145	4	40
2,4-Dimethylphenol	120	106		ug/L		89	38 - 132	1	40
Dimethyl phthalate	120	107		ug/L		89	32 - 137	4	40
Di-n-butyl phthalate	120	108		ug/L		90	27 - 150	6	40
4,6-Dinitro-ortho-cresol	240	169		ug/L		70	14 - 150	7	40
2,4-Dinitrophenol	240	186		ug/L		78	15 - 150	4	40
2,4-Dinitrotoluene	120	118		ug/L		98	35 - 136	4	40
2,6-Dinitrotoluene	120	109		ug/L		90	29 - 140	5	40

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 400-663975/3-A**  
**Matrix: Water**  
**Analysis Batch: 664128**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 663975**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Di-n-octyl phthalate	120	103		ug/L		86	26 - 150	3	40
1,4-Dioxane	120	49.0		ug/L		41	10 - 87	10	40
1,2-Diphenylhydrazine (as Azobenzene)	120	84.7		ug/L		71	23 - 138	6	40
Hexachlorobenzene	120	121		ug/L		101	10 - 150	7	40
Hexachlorocyclopentadiene	120	58.0		ug/L		48	10 - 124	2	40
Hexachloroethane	120	66.4		ug/L		55	10 - 127	9	40
Indene	120	90.1		ug/L		75	18 - 150	7	40
Isophorone	120	85.5		ug/L		71	28 - 127	1	40
2-Methylphenol	120	87.4		ug/L		73	34 - 124	3	40
3 & 4 Methylphenol	120	81.4		ug/L		68	32 - 122	3	40
2-Nitroaniline	120	94.4		ug/L		79	24 - 139	6	40
3-Nitroaniline	120	84.7		ug/L		71	10 - 128	0	40
4-Nitroaniline	120	94.7		ug/L		79	28 - 118	16	40
Nitrobenzene	120	84.3		ug/L		70	29 - 120	2	40
2-Nitrophenol	120	98.6		ug/L		82	25 - 148	1	40
4-Nitrophenol	240	184		ug/L		77	12 - 129	1	40
N-Nitrosodimethylamine	120	56.8		ug/L		47	10 - 115	5	40
N-Nitrosodi-n-propylamine	120	70.1		ug/L		58	24 - 142	8	40
N-Nitrosodiphenylamine	119	99.9		ug/L		84	29 - 138	7	40
Pentachlorophenol	240	231		ug/L		96	19 - 150	3	40
Phenol	120	79.4		ug/L		66	11 - 95	2	40
Pyridine	240	83.5		ug/L		35	10 - 82	14	40
Quinoline	120	124		ug/L		104	40 - 140	4	40
2,4,5-Trichlorophenol	120	125		ug/L		104	30 - 144	2	40
2,4,6-Trichlorophenol	120	121		ug/L		101	27 - 147	2	40

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	90		21 - 114
2-Fluorophenol	71		10 - 105
Nitrobenzene-d5	80		16 - 127
Phenol-d5	62		10 - 129
Terphenyl-d14	100		13 - 150
2,4,6-Tribromophenol	111		10 - 150

**Lab Sample ID: LCSD 400-663975/5-A**  
**Matrix: Water**  
**Analysis Batch: 664139**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 663975**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzenethiol	120	28.0		ug/L		23	10 - 140	11	40

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	80		21 - 114
2-Fluorophenol	46		10 - 105
Nitrobenzene-d5	65		16 - 127
Phenol-d5	38		10 - 129
Terphenyl-d14	101		13 - 150

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 400-663975/5-A**  
**Matrix: Water**  
**Analysis Batch: 664139**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 663975**

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol	116		10 - 150

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

**Lab Sample ID: MB 400-663975/1-A**  
**Matrix: Water**  
**Analysis Batch: 664170**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 663975**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.099	ug/L		03/11/24 11:26	03/12/24 13:52	1
Acenaphthylene	ND		0.20	0.044	ug/L		03/11/24 11:26	03/12/24 13:52	1
Anthracene	ND		0.20	0.047	ug/L		03/11/24 11:26	03/12/24 13:52	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		03/11/24 11:26	03/12/24 13:52	1
Benzo[a]pyrene	ND		0.20	0.064	ug/L		03/11/24 11:26	03/12/24 13:52	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		03/11/24 11:26	03/12/24 13:52	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		03/11/24 11:26	03/12/24 13:52	1
Benzo[k]fluoranthene	ND		0.20	0.062	ug/L		03/11/24 11:26	03/12/24 13:52	1
Chrysene	ND		0.20	0.033	ug/L		03/11/24 11:26	03/12/24 13:52	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		03/11/24 11:26	03/12/24 13:52	1
Fluoranthene	ND		0.20	0.034	ug/L		03/11/24 11:26	03/12/24 13:52	1
Fluorene	ND		0.20	0.089	ug/L		03/11/24 11:26	03/12/24 13:52	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		03/11/24 11:26	03/12/24 13:52	1
Phenanthrene	ND		0.20	0.090	ug/L		03/11/24 11:26	03/12/24 13:52	1
Pyrene	ND		0.20	0.039	ug/L		03/11/24 11:26	03/12/24 13:52	1
1-Methylnaphthalene	ND		0.20	0.080	ug/L		03/11/24 11:26	03/12/24 13:52	1
2-Methylnaphthalene	ND		0.20	0.066	ug/L		03/11/24 11:26	03/12/24 13:52	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Terphenyl-d14	100		18 - 147	03/11/24 11:26	03/12/24 13:52	1
2-Fluorobiphenyl	65		15 - 128	03/11/24 11:26	03/12/24 13:52	1
Nitrobenzene-d5	75		10 - 144	03/11/24 11:26	03/12/24 13:52	1

**Lab Sample ID: LCS 400-663975/2-A**  
**Matrix: Water**  
**Analysis Batch: 664170**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663975**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	120	111		ug/L		93	10 - 140
Acenaphthylene	120	113		ug/L		94	10 - 140
Anthracene	120	111		ug/L		93	19 - 140
Benzo[a]anthracene	120	121		ug/L		101	25 - 140
Benzo[a]pyrene	120	114		ug/L		95	24 - 140
Benzo[b]fluoranthene	120	112		ug/L		94	34 - 140
Benzo[g,h,i]perylene	120	112		ug/L		93	13 - 140
Benzo[k]fluoranthene	120	126		ug/L		105	21 - 140
Chrysene	120	118		ug/L		98	28 - 140
Dibenz(a,h)anthracene	120	110		ug/L		92	10 - 140
Fluoranthene	120	112		ug/L		93	18 - 140

Eurofins Pensacola

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

Lab Sample ID: LCS 400-663975/2-A

Matrix: Water

Analysis Batch: 664170

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 663975

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Fluorene	120	111		ug/L		92	16 - 140
Indeno[1,2,3-cd]pyrene	120	114		ug/L		95	10 - 140
Phenanthrene	120	114		ug/L		95	22 - 140
Pyrene	120	123		ug/L		103	38 - 140
1-Methylnaphthalene	120	69.8		ug/L		58	10 - 140
2-Methylnaphthalene	120	69.8		ug/L		58	10 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	90		18 - 147
2-Fluorobiphenyl	89		15 - 128
Nitrobenzene-d5	64		10 - 144

Lab Sample ID: LCSD 400-663975/3-A

Matrix: Water

Analysis Batch: 664170

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 663975

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Acenaphthene	120	103		ug/L		86	10 - 140	8	40
Acenaphthylene	120	104		ug/L		87	10 - 140	8	40
Anthracene	120	104		ug/L		86	19 - 140	7	40
Benzo[a]anthracene	120	110		ug/L		92	25 - 140	9	40
Benzo[a]pyrene	120	101		ug/L		84	24 - 140	12	40
Benzo[b]fluoranthene	120	101		ug/L		84	34 - 140	11	40
Benzo[g,h,i]perylene	120	96.8		ug/L		81	13 - 140	14	40
Benzo[k]fluoranthene	120	111		ug/L		92	21 - 140	13	40
Chrysene	120	107		ug/L		89	28 - 140	10	40
Dibenz(a,h)anthracene	120	92.3		ug/L		77	10 - 140	18	40
Fluoranthene	120	104		ug/L		86	18 - 140	8	40
Fluorene	120	99.8		ug/L		83	16 - 140	10	40
Indeno[1,2,3-cd]pyrene	120	96.0		ug/L		80	10 - 140	17	40
Phenanthrene	120	106		ug/L		88	22 - 140	7	40
Pyrene	120	113		ug/L		95	38 - 140	8	40
1-Methylnaphthalene	120	66.7		ug/L		56	10 - 140	4	40
2-Methylnaphthalene	120	66.3		ug/L		55	10 - 140	5	40

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Terphenyl-d14	83		18 - 147
2-Fluorobiphenyl	81		15 - 128
Nitrobenzene-d5	62		10 - 144

## Method: 8011 - EDB and DBCP in Water by Microextraction

Lab Sample ID: MB 400-663976/1-A

Matrix: Water

Analysis Batch: 664136

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 663976

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.030	0.017	ug/L		03/11/24 11:28	03/12/24 16:18	1

Eurofins Pensacola

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252224-1

## Method: 8011 - EDB and DBCP in Water by Microextraction (Continued)

**Lab Sample ID: MB 400-663976/1-A**  
**Matrix: Water**  
**Analysis Batch: 664136**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 663976**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/11/24 11:28	03/12/24 16:18	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	62		51 - 149				03/11/24 11:28	03/12/24 16:18	1

**Lab Sample ID: LCS 400-663976/2-A**  
**Matrix: Water**  
**Analysis Batch: 664136**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663976**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dibromo-3-Chloropropane	0.101	0.0872		ug/L		87	60 - 140
1,2-Dibromoethane	0.100	0.0799		ug/L		80	60 - 140
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene	69		51 - 149				

**Lab Sample ID: LCSD 400-663976/3-A**  
**Matrix: Water**  
**Analysis Batch: 664136**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 663976**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dibromo-3-Chloropropane	0.101	0.0905		ug/L		90	60 - 140	4	30
1,2-Dibromoethane	0.100	0.0818		ug/L		82	60 - 140	2	30
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene	58		51 - 149						



LAB (LOCATION)

400-252224 COC



# Shell Oil Products US Chain Of Custody Record

# AECOM

ACCUTEST ( )  CALSCIENCE ( )  TESTAMERICA (TestAmerica Pensacola; 3355 McLemore Dr. Pensacola, FL 32514 (850-474-1001))  Other ( )

Print Bill To Contact Name: Melissa Remiger  
 PlanNet Site or Project ID: 25278  
 DATE: 3/5/2024  
 PAGE: 1 of 2

PO # : 60721927 - 3.1.2  
 GSAP Project ID : USPC/00114/R/02

STATE ADDRESS: Street and City  
 900 South Central Ave; ROXANA  
 IL  
 PHONE NO.: 314-802-1207  
 E-MAIL: melissa.remiger@aecom.com  
 AECOM Project / Task Number: Roxana Monthly GW 60721927 - 3.1.2  
 AECOM Other ID:

SAMPLER NAME(S) (Print): M. Massa, T. Jenkins  
 LAB USE ONLY

LOG CODE: \_\_\_\_\_

Bill To Contact E-MAIL: melissa.remiger@aecom.com

TURNAROUND TIME (CALENDAR DAYS):  
 STANDARD (14 DAY)  5 DAYS  3 DAYS  2 DAYS  
 LA - RWQCB REPORT FORMAT

DELIVERABLES:  LEVEL 1  LEVEL 2  LEVEL 3  LEVEL 4  
 COOLER #1: \_\_\_\_\_ COOLER #2: \_\_\_\_\_ COOLER #3: \_\_\_\_\_

TEMPERATURE ON RECEIPT C°: \_\_\_\_\_

**SPECIAL INSTRUCTIONS OR NOTES :**  
 Email reports to: melissa.remiger@aecom.com; tbratt.howell@aecom.com  
 melissa.mass@aecom.com; tbratt.howell@aecom.com  
 \* Please include "J" values on Reports.  
 \* Please provide sample receipt upon login.  
 \* Please send EQUIS EDDs to EDDSubmissions@aecomshell.com; Vlad.Virjan@aecom.com

SHELL CONTRACT RATE APPLIES  
 STATE REIMBURSEMENT RATE APPLIES  
 EDD NOT NEEDED  
 RECEIPT VERIFICATION REQUESTED  
 PROVIDE LEDD DISK

LAB USE ONLY	Field Sample Identification		PRESERVATIVE				NO. OF CONT.		
	DATE	TIME	MATRIX	HCL	HNO3	H2SO4		NONE	OTHER
	3/5/2024	0000	Water	2					2
	3/5/2024	0000	Water	2					2
	3/5/2024	1040	Water	6			2		8
	3/5/2024	1135	Water	6			2		8
	3/5/2024	1135	Water	6			2		8
	3/5/2024	1250	Water	6			2		8
	<i>Handwritten signature and date 3/5/24</i>								

TEMPERATURE ON RECEIPT C°: \_\_\_\_\_

Container PID Readings or Laboratory Notes: \_\_\_\_\_

**REQUESTED ANALYSIS**  
60721927 - 3.1.2

Requested Analysis Table:  
 VOC 8260 X  
 8011 EDB + DBCP X  
 SVOC 8270 X  
 PAH 8270 SIMS X

FIELD NOTES:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Relinquished by (Signature): *Mary Massa*  
 MARY MASSA  
 Received by (Signature): *Tammy E. Cant*  
 FEDEX: 6339 6600 0647, 6339 6600 0658  
 Received by (Signature): *Tammy E. Cant*  
 Relinquished by (Signature): *M. Massa*  
 Received by (Signature): *T. Jenkins*

Date: 3/5/2024 Time: 1600  
 Date: 3/6/24 Time: 0934  
 Date: \_\_\_\_\_ Time: \_\_\_\_\_

Shell Oil Products US Chain Of Custody Record **AECOM**

LAB (LOCATION) ACCUTEST ( ) CALSCIENCE ( ) TESTAMERICA ( ) Other ( )

Print Bill To Contact Name: Melissa Remiger  
 PO # 60721927 - 3.1.2  
 STATE: IL  
 PHONE NO: 314-802-1207

DATE: 3/5/2024  
 PAGE: 2 of 2  
 E-MAIL: melissa.remiger@aecom.com

Requested Analysis: 60721927 - 3.1.2

Field Notes:

Temperature on Receipt: °

Container PID Readings or Laboratory Notes:

TEMPERATURE ON RECEIPT °

SPECIAL INSTRUCTIONS OR NOTES:  
 E-mail reports to: melissa.remiger@aecom.com  
 melissa.mass@aecocom; trent.howell@aecom.com

LAB USE ONLY

SAMPLER NAME(S) (Print): E. CHALFANT ; J. MAYER

LOG CODE: AECOM

ADDRESS: 100 N. Broadway, 20th Floor, ST. LOUIS, MO 63102, USA

PROJECT CONTACT (Name, Company, Office Location): Melissa Remiger - please see special instructions

PHONE NO: 314-802-1207

EDF DELIVERABLE TO (Name, Company, Office Location):

STATE: IL

SITE ADDRESS: Street and City: 900 South Central Ave; ROXANA

ROXANA Monthly GW 60721927 - 3.1.2

AECOM Project / Task Number: 60721927 - 3.1.2

URGENT TIME (CALENDAR DAYS): 3 DAYS

RESULTS NEEDED ON WEEKEND:  24 HOURS  WEEKEND

DELIVERABLES:  LEVEL 1  LEVEL 2  LEVEL 3  LEVEL 4

OTHER (SPECIFY) EDD  OTHER #3

COOLER #1: Cooler #2: Cooler #3: Cooler #4:

SHIPPING INSTRUCTIONS OR NOTES:

SHIP TO CONTACT: melissa.remiger@aecom.com

TELEPHONE: 314-429-0100 FAX: 314-429-0462

LAB USE ONLY

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# Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-252224-1

**Login Number: 252224**

**List Source: Eurofins Pensacola**

**List Number: 1**

**Creator: Earnest, Tamantha**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
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	1.5°C & 0.3°C IR8
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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (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 MONTHLY GW

Job ID: 400-252224-1

## Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-24
Kansas	NELAP	E-10253	10-31-24
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-24
North Carolina (WW/SW)	State	314	12-31-24
Oklahoma	NELAP	9810	08-31-24
Pennsylvania	NELAP	68-00467	01-31-25
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-24
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	P330-21-00056	05-17-24
USDA	US Federal Programs	FLGNV23001	01-08-26
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-24



# Roxana Groundwater Monthly – February/March 2024 Data Review

Laboratory SDG: 400-252330-1

Data Reviewer: Adelina Gita

Peer Reviewer: Cheyana Cokley

Date Reviewed: 04/01/2024

Guidance: USEPA National Functional Guidelines for Organic Superfund Methods Data Review 2020

Sample Identification	Sample Identification
TB-ROX-030724-8260-A	TB-ROX-030724-8011-A
MW2-ROX-030724	MW22-ROX-030724
MW22-ROX-030724-DUP	MW14-ROX-030724
TB-ROX-030724-8260-B	TB-ROX-030724-8011-B
P93D-ROX-030724	P57-ROX-030724
P57-ROX-030724-DUP	T12-ROX-030724
P59-ROX-030724	--

## 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 carbon disulfide LCS recovery was outside evaluation criteria. Results for benzene in field duplicate pair P57-ROX-030724-P57-ROX-030724-DUP were qualified as estimated (**J/J**) due to field duplicate RPD above evaluation criteria. The continuing calibration verification (CCV) for 1,1-dichloroethene and chloromethane were outside evaluation criteria, biased low. Several samples were diluted to bring the target analytes within the calibration range and/or due to the abundance of non-target analytes. Elevated reporting limits (RLs) are provided. These issues are addressed further in the appropriate sections of this data review.

Three of 70 (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 400-664105/1002	VOCs	Carbon disulfide	55	N/A	61-137

Analytical data that required qualification based on LCS/LCSD data are included in the table below.

Sample ID	Parameter	Analyte	Qualification
MW2-ROX-030724	VOCs	Carbon disulfide	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?*

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?*

Yes

Field ID	Field Duplicate ID
MW22-ROX-030724	MW22-ROX-030724-DUP
P57-ROX-030724	P57-ROX-030724-DUP

*Were field duplicates within evaluation criteria?*

No

Field ID	Field Duplicate ID	Parameter	Analyte	RPD	Qualification
P57-ROX-030724	P57-ROX-030724-DUP	VOC	Benzene	30	J/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?*

Yes, the continuing calibration verification (CCV) for 1,1-dichloroethene and chloromethane were outside evaluation criteria, biased low. Analytes are qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
MW2-ROX-030724	VOC	1,1-Dichloroethene	UJ
P93D-ROX-030724	VOC	Chloromethane	UJ
T12-ROX-030724	VOC	Chloromethane	UJ
P59-ROX-030724	VOC	Chloromethane	UJ



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Melissa Remiger  
AECOM Technical Services Inc.  
100 N. Broadway  
20th Floor  
St. Louis, Missouri 63102

Generated 3/15/2024 3:14:55 PM

## JOB DESCRIPTION

ROXANA MONTHLY GW

## JOB NUMBER

400-252330-1

Reviewed 4/1/2024  
AG

# Eurofins Pensacola

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

## Authorization



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Authorized for release by  
Leah Klingensmith, Senior Project Manager  
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# Case Narrative

Client: AECOM Technical Services Inc.  
Project: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Job ID: 400-252330-1**

**Eurofins Pensacola**

## Job Narrative 400-252330-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 3/8/2024 9:44 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.2°C and 3.2°C.

### GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-664105 recovered outside acceptance criteria, low biased, for 1,1-Dichloroethene. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The following analyte(s) recovered outside control limits for the LCS associated with analytical batch 400-664105: Carbon disulfide. This is not indicative of a systematic control problem because this was a random marginal exceedance. Qualified results have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-664342 recovered outside acceptance criteria, low biased, for Chloromethane. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: T12-ROX-030724 (400-252330-12) and P59-ROX-030724 (400-252330-13). Elevated reporting limits (RLs) are provided.

Method 8260D: 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-030724-8260-A (400-252330-1), TB-ROX-030724-8260-B (400-252330-7), P93D-ROX-030724 (400-252330-9), T12-ROX-030724 (400-252330-12) and P59-ROX-030724 (400-252330-13). 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 8260D: The following sample was diluted due to the abundance of non-target analytes: MW2-ROX-030724 (400-252330-3). Elevated reporting limits (RLs) are provided.

Method 8260D: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following sample was received preserved with hydrochloric acid: MW2-ROX-030724 (400-252330-3). 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 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: MW22-ROX-030724 (400-252330-4) and MW22-ROX-030724-DUP (400-252330-5). Elevated reporting limits (RLs) are provided.

Method 8260D: 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: MW22-ROX-030724 (400-252330-4), MW22-ROX-030724-DUP (400-252330-5), MW14-ROX-030724 (400-252330-6), P57-ROX-030724 (400-252330-10) and P57-ROX-030724-DUP (400-252330-11). 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 8260D: The results for Naphthalene for samples P57-ROX-030724 (400-252330-10) and P57-ROX-030724-DUP (400-252330-11) do not agree. Reanalysis was performed with concurring results.

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# Case Narrative

Client: AECOM Technical Services Inc.  
Project: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Job ID: 400-252330-1 (Continued)**

**Eurofins Pensacola**

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

## GC/MS Semi VOA

Method 8270E: The initial calibration verification (ICV) analyzed in batch 400-661152 was outside method criteria for the following analyte(s): 2,4-Dimethylphenol and Hexachlorocyclopentadiene. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270E: The initial calibration verification (ICV) analyzed in batch 400-661154 was outside method criteria for the following analyte(s): Benzenethiol. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270E: The continuing calibration verification (CCV) associated with batch 400-664128 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8270E: The continuing calibration verification (CCV) associated with batch 400-664128 recovered above the upper control limit for 2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2,4-Dichlorophenol, 2,4-Dinitrotoluene, 4-Bromophenyl phenyl ether, 4-Chloro-3-methylphenol, 4-Chlorophenyl phenyl ether, Dibenzofuran, Dimethyl phthalate and Hexachlorobenzene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8270E: The following sample was diluted due to the nature of the sample matrix: P59-ROX-030724 (400-252330-13). Elevated reporting limits (RLs) are provided.

Method 8270E\_SIM: Detections for the following samples have been confirmed as matching historical data. Re-extraction not performed.

MW2-ROX-030724 (400-252330-3), MW22-ROX-030724 (400-252330-4), MW22-ROX-030724-DUP (400-252330-5), MW14-ROX-030724 (400-252330-6), P57-ROX-030724 (400-252330-10), P57-ROX-030724-DUP (400-252330-11), T12-ROX-030724 (400-252330-12) and P59-ROX-030724 (400-252330-13)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

## GC Semi VOA

Method 8011: The continuing calibration verification (CCV) associated with batch 400-664510 recovered above the upper control limit for 1,2-Dibromo-3-Chloropropane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCV 400-664441/24-A).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Eurofins Pensacola

# Sample Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-252330-1	TB-ROX-030724-8260-A	Water	03/07/24 12:00	03/08/24 09:44
400-252330-2	TB-ROX-030724-8011-A	Water	03/07/24 12:00	03/08/24 09:44
400-252330-3	MW2-ROX-030724	Water	03/07/24 09:20	03/08/24 09:44
400-252330-4	MW22-ROX-030724	Water	03/07/24 10:15	03/08/24 09:44
400-252330-5	MW22-ROX-030724-DUP	Water	03/07/24 10:15	03/08/24 09:44
400-252330-6	MW14-ROX-030724	Water	03/07/24 12:10	03/08/24 09:44
400-252330-7	TB-ROX-030724-8260-B	Water	03/07/24 12:00	03/08/24 09:44
400-252330-8	TB-ROX-030724-8011-B	Water	03/07/24 12:00	03/08/24 09:44
400-252330-9	P93D-ROX-030724	Water	03/07/24 09:30	03/08/24 09:44
400-252330-10	P57-ROX-030724	Water	03/07/24 10:25	03/08/24 09:44
400-252330-11	P57-ROX-030724-DUP	Water	03/07/24 10:25	03/08/24 09:44
400-252330-12	T12-ROX-030724	Water	03/07/24 11:35	03/08/24 09:44
400-252330-13	P59-ROX-030724	Water	03/07/24 13:15	03/08/24 09:44

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# Detection Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: TB-ROX-030724-8260-A**

**Lab Sample ID: 400-252330-1**

No Detections.

**Client Sample ID: TB-ROX-030724-8011-A**

**Lab Sample ID: 400-252330-2**

No Detections.

**Client Sample ID: MW2-ROX-030724**

**Lab Sample ID: 400-252330-3**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	180		5.0	2.5	ug/L	5		8260D	Total/NA
Isopropylbenzene	23		5.0	2.7	ug/L	5		8260D	Total/NA
m-Xylene & p-Xylene	93		25	3.2	ug/L	5		8260D	Total/NA
N-Propylbenzene	31		5.0	3.5	ug/L	5		8260D	Total/NA
o-Xylene	8.5	J	25	3.0	ug/L	5		8260D	Total/NA
1,2,4-Trimethylbenzene	18		5.0	4.1	ug/L	5		8260D	Total/NA
1,3,5-Trimethylbenzene	11		5.0	2.8	ug/L	5		8260D	Total/NA
Xylenes, Total	100		50	8.0	ug/L	5		8260D	Total/NA
1-Methylnaphthalene	8.1		0.19	0.078	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	12		0.19	0.064	ug/L	1		8270E SIM	Total/NA

**Client Sample ID: MW22-ROX-030724**

**Lab Sample ID: 400-252330-4**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	69		5.0	2.5	ug/L	5		8260D	Total/NA
Ethylbenzene	200		5.0	2.5	ug/L	5		8260D	Total/NA
Isopropylbenzene	65		5.0	2.7	ug/L	5		8260D	Total/NA
m-Xylene & p-Xylene	740		25	3.2	ug/L	5		8260D	Total/NA
Naphthalene	84		25	15	ug/L	5		8260D	Total/NA
n-Butylbenzene	13		5.0	3.8	ug/L	5		8260D	Total/NA
N-Propylbenzene	130		5.0	3.5	ug/L	5		8260D	Total/NA
o-Xylene	31		25	3.0	ug/L	5		8260D	Total/NA
p-Isopropyltoluene	5.8		5.0	3.6	ug/L	5		8260D	Total/NA
sec-Butylbenzene	7.0		5.0	3.5	ug/L	5		8260D	Total/NA
tert-Butylbenzene	11		5.0	3.2	ug/L	5		8260D	Total/NA
Toluene	47		5.0	4.5	ug/L	5		8260D	Total/NA
1,2,4-Trimethylbenzene	110		5.0	4.1	ug/L	5		8260D	Total/NA
1,3,5-Trimethylbenzene	180		5.0	2.8	ug/L	5		8260D	Total/NA
Xylenes, Total	770		50	8.0	ug/L	5		8260D	Total/NA
1-Methylnaphthalene	12		0.20	0.080	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	16		0.20	0.066	ug/L	1		8270E SIM	Total/NA

**Client Sample ID: MW22-ROX-030724-DUP**

**Lab Sample ID: 400-252330-5**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	66		5.0	2.5	ug/L	5		8260D	Total/NA
Ethylbenzene	190		5.0	2.5	ug/L	5		8260D	Total/NA
Isopropylbenzene	60		5.0	2.7	ug/L	5		8260D	Total/NA
m-Xylene & p-Xylene	690		25	3.2	ug/L	5		8260D	Total/NA
Naphthalene	81		25	15	ug/L	5		8260D	Total/NA
n-Butylbenzene	12		5.0	3.8	ug/L	5		8260D	Total/NA
N-Propylbenzene	120		5.0	3.5	ug/L	5		8260D	Total/NA
o-Xylene	28		25	3.0	ug/L	5		8260D	Total/NA
p-Isopropyltoluene	5.6		5.0	3.6	ug/L	5		8260D	Total/NA
sec-Butylbenzene	6.3		5.0	3.5	ug/L	5		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Pensacola

# Detection Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

## Client Sample ID: MW22-ROX-030724-DUP (Continued)

Lab Sample ID: 400-252330-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
tert-Butylbenzene	10		5.0	3.2	ug/L	5		8260D	Total/NA
Toluene	44		5.0	4.5	ug/L	5		8260D	Total/NA
1,2,4-Trimethylbenzene	110		5.0	4.1	ug/L	5		8260D	Total/NA
1,3,5-Trimethylbenzene	160		5.0	2.8	ug/L	5		8260D	Total/NA
Xylenes, Total	710		50	8.0	ug/L	5		8260D	Total/NA
1-Methylnaphthalene	12		0.20	0.080	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	16		0.20	0.066	ug/L	1		8270E SIM	Total/NA

## Client Sample ID: MW14-ROX-030724

Lab Sample ID: 400-252330-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
m-Xylene & p-Xylene	1.1	J	5.0	0.63	ug/L	1		8260D	Total/NA
o-Xylene	0.81	J	5.0	0.60	ug/L	1		8260D	Total/NA
1,2,4-Trimethylbenzene	1.2		1.0	0.82	ug/L	1		8260D	Total/NA
1,3,5-Trimethylbenzene	0.56	J	1.0	0.56	ug/L	1		8260D	Total/NA
Xylenes, Total	1.9	J	10	1.6	ug/L	1		8260D	Total/NA
1-Methylnaphthalene	0.29		0.20	0.080	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	0.25		0.20	0.066	ug/L	1		8270E SIM	Total/NA

## Client Sample ID: TB-ROX-030724-8260-B

Lab Sample ID: 400-252330-7

No Detections.

## Client Sample ID: TB-ROX-030724-8011-B

Lab Sample ID: 400-252330-8

No Detections.

## Client Sample ID: P93D-ROX-030724

Lab Sample ID: 400-252330-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	0.59	J	1.0	0.22	ug/L	1		8260D	Total/NA

## Client Sample ID: P57-ROX-030724

Lab Sample ID: 400-252330-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	38	J	1.0	0.50	ug/L	1		8260D	Total/NA
Ethylbenzene	1.4		1.0	0.50	ug/L	1		8260D	Total/NA
Isopropylbenzene	35		1.0	0.53	ug/L	1		8260D	Total/NA
m-Xylene & p-Xylene	1.0	J	5.0	0.63	ug/L	1		8260D	Total/NA
Naphthalene	5.2		5.0	3.0	ug/L	1		8260D	Total/NA
n-Butylbenzene	5.2		1.0	0.76	ug/L	1		8260D	Total/NA
N-Propylbenzene	44		1.0	0.69	ug/L	1		8260D	Total/NA
p-Isopropyltoluene	0.79	J	1.0	0.71	ug/L	1		8260D	Total/NA
sec-Butylbenzene	9.0		1.0	0.70	ug/L	1		8260D	Total/NA
tert-Butylbenzene	9.7		1.0	0.63	ug/L	1		8260D	Total/NA
Toluene	4.1		1.0	0.90	ug/L	1		8260D	Total/NA
Acenaphthene	0.29		0.21	0.10	ug/L	1		8270E SIM	Total/NA
Anthracene	0.096	J	0.21	0.050	ug/L	1		8270E SIM	Total/NA
Fluorene	0.49		0.21	0.094	ug/L	1		8270E SIM	Total/NA
Phenanthrene	0.44		0.21	0.095	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	25		0.21	0.085	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	21		0.21	0.070	ug/L	1		8270E SIM	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Pensacola

# Detection Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

Client Sample ID: P57-ROX-030724-DUP

Lab Sample ID: 400-252330-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	28	J	1.0	0.50	ug/L	1		8260D	Total/NA
Ethylbenzene	1.1		1.0	0.50	ug/L	1		8260D	Total/NA
Isopropylbenzene	31		1.0	0.53	ug/L	1		8260D	Total/NA
m-Xylene & p-Xylene	0.89	J	5.0	0.63	ug/L	1		8260D	Total/NA
n-Butylbenzene	4.5		1.0	0.76	ug/L	1		8260D	Total/NA
N-Propylbenzene	39		1.0	0.69	ug/L	1		8260D	Total/NA
p-Isopropyltoluene	0.75	J	1.0	0.71	ug/L	1		8260D	Total/NA
sec-Butylbenzene	8.2		1.0	0.70	ug/L	1		8260D	Total/NA
tert-Butylbenzene	8.8		1.0	0.63	ug/L	1		8260D	Total/NA
Toluene	3.7		1.0	0.90	ug/L	1		8260D	Total/NA
Acenaphthene	0.28		0.22	0.11	ug/L	1		8270E SIM	Total/NA
Anthracene	0.080	J	0.22	0.051	ug/L	1		8270E SIM	Total/NA
Fluorene	0.51		0.22	0.096	ug/L	1		8270E SIM	Total/NA
Phenanthrene	0.41		0.22	0.097	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	24		0.22	0.086	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	18		0.22	0.071	ug/L	1		8270E SIM	Total/NA

Client Sample ID: T12-ROX-030724

Lab Sample ID: 400-252330-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	930		5.0	2.5	ug/L	5		8260D	Total/NA
Ethylbenzene	3.3	J	5.0	2.5	ug/L	5		8260D	Total/NA
Isopropylbenzene	7.1		5.0	2.7	ug/L	5		8260D	Total/NA
m-Xylene & p-Xylene	16	J	25	3.2	ug/L	5		8260D	Total/NA
N-Propylbenzene	7.4		5.0	3.5	ug/L	5		8260D	Total/NA
Toluene	15		5.0	4.5	ug/L	5		8260D	Total/NA
Xylenes, Total	18	J	50	8.0	ug/L	5		8260D	Total/NA
Acenaphthene	0.37		0.21	0.10	ug/L	1		8270E SIM	Total/NA
Anthracene	0.12	J	0.21	0.049	ug/L	1		8270E SIM	Total/NA
Fluorene	0.31		0.21	0.093	ug/L	1		8270E SIM	Total/NA
Phenanthrene	0.62		0.21	0.094	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	16		0.21	0.084	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	23		0.21	0.069	ug/L	1		8270E SIM	Total/NA
Phenol	39		10	4.4	ug/L	1		8270E	Total/NA

Client Sample ID: P59-ROX-030724

Lab Sample ID: 400-252330-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1100		5.0	2.5	ug/L	5		8260D	Total/NA
2-Butanone (MEK)	20	J	130	13	ug/L	5		8260D	Total/NA
Ethylbenzene	50		5.0	2.5	ug/L	5		8260D	Total/NA
Isopropylbenzene	24		5.0	2.7	ug/L	5		8260D	Total/NA
m-Xylene & p-Xylene	57		25	3.2	ug/L	5		8260D	Total/NA
Naphthalene	17	J	25	15	ug/L	5		8260D	Total/NA
N-Propylbenzene	34		5.0	3.5	ug/L	5		8260D	Total/NA
Toluene	47		5.0	4.5	ug/L	5		8260D	Total/NA
1,2,4-Trimethylbenzene	7.2		5.0	4.1	ug/L	5		8260D	Total/NA
1,3,5-Trimethylbenzene	13		5.0	2.8	ug/L	5		8260D	Total/NA
Xylenes, Total	59		50	8.0	ug/L	5		8260D	Total/NA
Acenaphthene	0.74		0.21	0.11	ug/L	1		8270E SIM	Total/NA
Anthracene	0.32		0.21	0.050	ug/L	1		8270E SIM	Total/NA
Benzo[a]anthracene	0.090	J	0.21	0.036	ug/L	1		8270E SIM	Total/NA

This Detection Summary does not include radiochemical test results.

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# Detection Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

Client Sample ID: P59-ROX-030724 (Continued)

Lab Sample ID: 400-252330-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chrysene	0.15	J	0.21	0.035	ug/L	1		8270E SIM	Total/NA
Fluoranthene	0.20	J	0.21	0.036	ug/L	1		8270E SIM	Total/NA
Fluorene	0.40		0.21	0.095	ug/L	1		8270E SIM	Total/NA
Phenanthrene	0.97		0.21	0.096	ug/L	1		8270E SIM	Total/NA
Pyrene	0.44		0.21	0.042	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	12		0.21	0.085	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	15		0.21	0.070	ug/L	1		8270E SIM	Total/NA
Phenol	12	J	21	9.0	ug/L	2		8270E	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Pensacola

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: TB-ROX-030724-8260-A**

**Lab Sample ID: 400-252330-1**

**Date Collected: 03/07/24 12:00**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/13/24 19:08	1
Acrolein	ND		20	3.3	ug/L			03/13/24 19:08	1
Acrylonitrile	ND		10	2.8	ug/L			03/13/24 19:08	1
Benzene	ND		1.0	0.50	ug/L			03/13/24 19:08	1
Bromobenzene	ND		1.0	0.54	ug/L			03/13/24 19:08	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/13/24 19:08	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/13/24 19:08	1
Bromoform	ND		5.0	0.25	ug/L			03/13/24 19:08	1
Bromomethane	ND		1.0	0.98	ug/L			03/13/24 19:08	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/13/24 19:08	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/13/24 19:08	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/13/24 19:08	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/13/24 19:08	1
Chloroethane	ND		1.0	0.76	ug/L			03/13/24 19:08	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/13/24 19:08	1
Chloroform	ND		1.0	0.90	ug/L			03/13/24 19:08	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/13/24 19:08	1
Chloromethane	ND		1.0	0.90	ug/L			03/13/24 19:08	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/13/24 19:08	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/13/24 19:08	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/13/24 19:08	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/13/24 19:08	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/13/24 19:08	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/13/24 19:08	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/13/24 19:08	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/13/24 19:08	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/13/24 19:08	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/13/24 19:08	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 19:08	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 19:08	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 19:08	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/13/24 19:08	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/13/24 19:08	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/13/24 19:08	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/13/24 19:08	1
2-Hexanone	ND		25	1.4	ug/L			03/13/24 19:08	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/13/24 19:08	1
Methylene bromide	ND		5.0	0.22	ug/L			03/13/24 19:08	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/13/24 19:08	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/13/24 19:08	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/13/24 19:08	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/13/24 19:08	1
Naphthalene	ND		5.0	3.0	ug/L			03/13/24 19:08	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/13/24 19:08	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/13/24 19:08	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/13/24 19:08	1
o-Xylene	ND		5.0	0.60	ug/L			03/13/24 19:08	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/13/24 19:08	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/13/24 19:08	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: TB-ROX-030724-8260-A**

**Lab Sample ID: 400-252330-1**

**Date Collected: 03/07/24 12:00**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/13/24 19:08	1
Styrene	ND		1.0	1.0	ug/L			03/13/24 19:08	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/13/24 19:08	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/13/24 19:08	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/13/24 19:08	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/13/24 19:08	1
Toluene	ND		1.0	0.90	ug/L			03/13/24 19:08	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/13/24 19:08	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/13/24 19:08	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/13/24 19:08	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/13/24 19:08	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/13/24 19:08	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/13/24 19:08	1
Trichloroethene	ND		1.0	0.15	ug/L			03/13/24 19:08	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/13/24 19:08	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/13/24 19:08	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/13/24 19:08	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/13/24 19:08	1
Vinyl acetate	ND		25	0.93	ug/L			03/13/24 19:08	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/13/24 19:08	1
Xylenes, Total	ND		10	1.6	ug/L			03/13/24 19:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		72 - 130		03/13/24 19:08	1
Dibromofluoromethane	103		75 - 126		03/13/24 19:08	1
Toluene-d8 (Surr)	100		64 - 132		03/13/24 19:08	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
 Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: TB-ROX-030724-8011-A**

**Lab Sample ID: 400-252330-2**

**Date Collected: 03/07/24 12:00**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

**Method: EPA 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	0.017	ug/L		03/14/24 07:46	03/14/24 16:32	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/14/24 07:46	03/14/24 16:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	103		51 - 149				03/14/24 07:46	03/14/24 16:32	1

- 1
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- 15

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: MW2-ROX-030724**

**Lab Sample ID: 400-252330-3**

Date Collected: 03/07/24 09:20

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		130	50	ug/L			03/12/24 18:58	5
Acrolein	ND		100	17	ug/L			03/12/24 18:58	5
Acrylonitrile	ND		50	14	ug/L			03/12/24 18:58	5
Benzene	ND		5.0	2.5	ug/L			03/12/24 18:58	5
Bromobenzene	ND		5.0	2.7	ug/L			03/12/24 18:58	5
Bromochloromethane	ND		5.0	1.1	ug/L			03/12/24 18:58	5
Bromodichloromethane	ND		5.0	2.5	ug/L			03/12/24 18:58	5
Bromoform	ND		25	1.3	ug/L			03/12/24 18:58	5
Bromomethane	ND		5.0	4.9	ug/L			03/12/24 18:58	5
2-Butanone (MEK)	ND		130	13	ug/L			03/12/24 18:58	5
Carbon disulfide	ND	*- UJ	5.0	2.5	ug/L			03/12/24 18:58	5
Carbon tetrachloride	ND		5.0	0.95	ug/L			03/12/24 18:58	5
Chlorobenzene	ND		5.0	4.5	ug/L			03/12/24 18:58	5
Chloroethane	ND		5.0	3.8	ug/L			03/12/24 18:58	5
2-Chloroethyl vinyl ether	ND		25	10	ug/L			03/12/24 18:58	5
Chloroform	ND		5.0	4.5	ug/L			03/12/24 18:58	5
1-Chlorohexane	ND		5.0	1.6	ug/L			03/12/24 18:58	5
Chloromethane	ND		5.0	4.5	ug/L			03/12/24 18:58	5
cis-1,2-Dichloroethene	ND		5.0	1.0	ug/L			03/12/24 18:58	5
cis-1,3-Dichloropropene	ND		25	2.5	ug/L			03/12/24 18:58	5
Dibromochloromethane	ND		5.0	1.2	ug/L			03/12/24 18:58	5
1,2-Dichlorobenzene	ND		5.0	2.5	ug/L			03/12/24 18:58	5
1,3-Dichlorobenzene	ND		5.0	2.7	ug/L			03/12/24 18:58	5
1,4-Dichlorobenzene	ND		5.0	3.2	ug/L			03/12/24 18:58	5
Dichlorodifluoromethane	ND		5.0	4.3	ug/L			03/12/24 18:58	5
1,1-Dichloroethane	ND		5.0	2.5	ug/L			03/12/24 18:58	5
1,2-Dichloroethane	ND		5.0	0.95	ug/L			03/12/24 18:58	5
1,1-Dichloroethene	ND	UJ	5.0	2.5	ug/L			03/12/24 18:58	5
1,2-Dichloropropane	ND		5.0	2.5	ug/L			03/12/24 18:58	5
1,3-Dichloropropane	ND		5.0	2.5	ug/L			03/12/24 18:58	5
2,2-Dichloropropane	ND		5.0	2.5	ug/L			03/12/24 18:58	5
1,1-Dichloropropene	ND		5.0	2.5	ug/L			03/12/24 18:58	5
<b>Ethylbenzene</b>	<b>180</b>		5.0	2.5	ug/L			03/12/24 18:58	5
Ethyl methacrylate	ND		5.0	3.0	ug/L			03/12/24 18:58	5
Hexachlorobutadiene	ND		25	4.5	ug/L			03/12/24 18:58	5
2-Hexanone	ND		130	7.0	ug/L			03/12/24 18:58	5
<b>Isopropylbenzene</b>	<b>23</b>		5.0	2.7	ug/L			03/12/24 18:58	5
Methylene bromide	ND		25	1.1	ug/L			03/12/24 18:58	5
Methylene Chloride	ND		25	15	ug/L			03/12/24 18:58	5
4-Methyl-2-pentanone (MIBK)	ND		130	9.0	ug/L			03/12/24 18:58	5
Methyl tert-butyl ether	ND		5.0	1.1	ug/L			03/12/24 18:58	5
<b>m-Xylene &amp; p-Xylene</b>	<b>93</b>		25	3.2	ug/L			03/12/24 18:58	5
Naphthalene	ND		25	15	ug/L			03/12/24 18:58	5
n-Butylbenzene	ND		5.0	3.8	ug/L			03/12/24 18:58	5
<b>N-Propylbenzene</b>	<b>31</b>		5.0	3.5	ug/L			03/12/24 18:58	5
o-Chlorotoluene	ND		5.0	2.9	ug/L			03/12/24 18:58	5
<b>o-Xylene</b>	<b>8.5 J</b>		25	3.0	ug/L			03/12/24 18:58	5
p-Chlorotoluene	ND		5.0	2.8	ug/L			03/12/24 18:58	5
p-Isopropyltoluene	ND		5.0	3.6	ug/L			03/12/24 18:58	5

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: MW2-ROX-030724**

**Lab Sample ID: 400-252330-3**

Date Collected: 03/07/24 09:20

Matrix: Water

Date Received: 03/08/24 09:44

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		5.0	3.5	ug/L			03/12/24 18:58	5
Styrene	ND		5.0	5.0	ug/L			03/12/24 18:58	5
tert-Butylbenzene	ND		5.0	3.2	ug/L			03/12/24 18:58	5
1,1,1,2-Tetrachloroethane	ND		5.0	0.80	ug/L			03/12/24 18:58	5
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/L			03/12/24 18:58	5
Tetrachloroethene	ND		5.0	4.5	ug/L			03/12/24 18:58	5
Toluene	ND		5.0	4.5	ug/L			03/12/24 18:58	5
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/L			03/12/24 18:58	5
trans-1,3-Dichloropropene	ND		25	1.0	ug/L			03/12/24 18:58	5
1,2,3-Trichlorobenzene	ND		5.0	4.5	ug/L			03/12/24 18:58	5
1,2,4-Trichlorobenzene	ND		5.0	4.1	ug/L			03/12/24 18:58	5
1,1,1-Trichloroethane	ND		5.0	0.90	ug/L			03/12/24 18:58	5
1,1,2-Trichloroethane	ND		25	1.1	ug/L			03/12/24 18:58	5
Trichloroethene	ND		5.0	0.75	ug/L			03/12/24 18:58	5
Trichlorofluoromethane	ND		5.0	2.6	ug/L			03/12/24 18:58	5
1,2,3-Trichloropropane	ND		25	4.2	ug/L			03/12/24 18:58	5
<b>1,2,4-Trimethylbenzene</b>	<b>18</b>		5.0	4.1	ug/L			03/12/24 18:58	5
<b>1,3,5-Trimethylbenzene</b>	<b>11</b>		5.0	2.8	ug/L			03/12/24 18:58	5
Vinyl acetate	ND		130	4.7	ug/L			03/12/24 18:58	5
Vinyl chloride	ND		5.0	2.5	ug/L			03/12/24 18:58	5
<b>Xylenes, Total</b>	<b>100</b>		50	8.0	ug/L			03/12/24 18:58	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	100		72 - 130		03/12/24 18:58	5
Dibromofluoromethane	104		75 - 126		03/12/24 18:58	5
Toluene-d8 (Surr)	99		64 - 132		03/12/24 18:58	5

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.096	ug/L		03/10/24 14:41	03/11/24 20:37	1
Acenaphthylene	ND		0.19	0.043	ug/L		03/10/24 14:41	03/11/24 20:37	1
Anthracene	ND		0.19	0.046	ug/L		03/10/24 14:41	03/11/24 20:37	1
Benzo[a]anthracene	ND		0.19	0.033	ug/L		03/10/24 14:41	03/11/24 20:37	1
Benzo[a]pyrene	ND		0.19	0.062	ug/L		03/10/24 14:41	03/11/24 20:37	1
Benzo[b]fluoranthene	ND		0.19	0.036	ug/L		03/10/24 14:41	03/11/24 20:37	1
Benzo[g,h,i]perylene	ND		0.19	0.026	ug/L		03/10/24 14:41	03/11/24 20:37	1
Benzo[k]fluoranthene	ND		0.19	0.060	ug/L		03/10/24 14:41	03/11/24 20:37	1
Chrysene	ND		0.19	0.032	ug/L		03/10/24 14:41	03/11/24 20:37	1
Dibenz(a,h)anthracene	ND		0.19	0.047	ug/L		03/10/24 14:41	03/11/24 20:37	1
Fluoranthene	ND		0.19	0.033	ug/L		03/10/24 14:41	03/11/24 20:37	1
Fluorene	ND		0.19	0.087	ug/L		03/10/24 14:41	03/11/24 20:37	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.033	ug/L		03/10/24 14:41	03/11/24 20:37	1
Phenanthrene	ND		0.19	0.088	ug/L		03/10/24 14:41	03/11/24 20:37	1
Pyrene	ND		0.19	0.038	ug/L		03/10/24 14:41	03/11/24 20:37	1
<b>1-Methylnaphthalene</b>	<b>8.1</b>		0.19	0.078	ug/L		03/10/24 14:41	03/11/24 20:37	1
<b>2-Methylnaphthalene</b>	<b>12</b>		0.19	0.064	ug/L		03/10/24 14:41	03/11/24 20:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	72		18 - 147	03/10/24 14:41	03/11/24 20:37	1
2-Fluorobiphenyl	57		15 - 128	03/10/24 14:41	03/11/24 20:37	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: MW2-ROX-030724**

**Lab Sample ID: 400-252330-3**

Date Collected: 03/07/24 09:20

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	72		10 - 144	03/10/24 14:41	03/11/24 20:37	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	8.5	ug/L		03/10/24 14:41	03/12/24 14:14	1
Benzenethiol	ND		9.7	9.6	ug/L		03/10/24 14:41	03/12/24 14:14	1
Benzoic acid	ND		29	23	ug/L		03/10/24 14:41	03/12/24 14:14	1
Benzyl alcohol	ND		9.7	7.1	ug/L		03/10/24 14:41	03/12/24 14:14	1
Bis(2-chloroethoxy)methane	ND		9.7	4.5	ug/L		03/10/24 14:41	03/12/24 14:14	1
Bis(2-chloroethyl)ether	ND		9.7	3.8	ug/L		03/10/24 14:41	03/12/24 14:14	1
bis (2-chloroisopropyl) ether	ND		9.7	1.8	ug/L		03/10/24 14:41	03/12/24 14:14	1
Bis(2-ethylhexyl) phthalate	ND		9.7	8.7	ug/L		03/10/24 14:41	03/12/24 14:14	1
4-Bromophenyl phenyl ether	ND		9.7	8.4	ug/L		03/10/24 14:41	03/12/24 14:14	1
Butyl benzyl phthalate	ND		9.7	5.6	ug/L		03/10/24 14:41	03/12/24 14:14	1
4-Chloroaniline	ND		9.7	4.6	ug/L		03/10/24 14:41	03/12/24 14:14	1
4-Chloro-3-methylphenol	ND		9.7	5.2	ug/L		03/10/24 14:41	03/12/24 14:14	1
2-Chloronaphthalene	ND		9.7	3.7	ug/L		03/10/24 14:41	03/12/24 14:14	1
2-Chlorophenol	ND		9.7	4.0	ug/L		03/10/24 14:41	03/12/24 14:14	1
4-Chlorophenyl phenyl ether	ND		9.7	3.6	ug/L		03/10/24 14:41	03/12/24 14:14	1
Dibenz[a,h]acridine	ND		9.7	2.7	ug/L		03/10/24 14:41	03/12/24 14:14	1
Dibenzofuran	ND		9.7	3.9	ug/L		03/10/24 14:41	03/12/24 14:14	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/10/24 14:41	03/12/24 14:14	1
2,4-Dichlorophenol	ND		9.7	4.2	ug/L		03/10/24 14:41	03/12/24 14:14	1
Diethyl phthalate	ND		9.7	4.3	ug/L		03/10/24 14:41	03/12/24 14:14	1
2,4-Dimethylphenol	ND		9.7	5.1	ug/L		03/10/24 14:41	03/12/24 14:14	1
Dimethyl phthalate	ND		9.7	4.1	ug/L		03/10/24 14:41	03/12/24 14:14	1
Di-n-butyl phthalate	ND		9.7	4.5	ug/L		03/10/24 14:41	03/12/24 14:14	1
4,6-Dinitro-ortho-cresol	ND		9.7	9.7	ug/L		03/10/24 14:41	03/12/24 14:14	1
2,4-Dinitrophenol	ND		29	4.5	ug/L		03/10/24 14:41	03/12/24 14:14	1
2,4-Dinitrotoluene	ND		9.7	5.0	ug/L		03/10/24 14:41	03/12/24 14:14	1
2,6-Dinitrotoluene	ND		9.7	3.8	ug/L		03/10/24 14:41	03/12/24 14:14	1
Di-n-octyl phthalate	ND		9.7	5.8	ug/L		03/10/24 14:41	03/12/24 14:14	1
1,4-Dioxane	ND		9.7	4.2	ug/L		03/10/24 14:41	03/12/24 14:14	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	3.2	ug/L		03/10/24 14:41	03/12/24 14:14	1
Hexachlorobenzene	ND		9.7	9.4	ug/L		03/10/24 14:41	03/12/24 14:14	1
Hexachlorocyclopentadiene	ND		19	4.4	ug/L		03/10/24 14:41	03/12/24 14:14	1
Hexachloroethane	ND		9.7	5.1	ug/L		03/10/24 14:41	03/12/24 14:14	1
Indene	ND		9.7	3.5	ug/L		03/10/24 14:41	03/12/24 14:14	1
Isophorone	ND		9.7	5.1	ug/L		03/10/24 14:41	03/12/24 14:14	1
2-Methylphenol	ND		9.7	3.1	ug/L		03/10/24 14:41	03/12/24 14:14	1
3 & 4 Methylphenol	ND		19	4.5	ug/L		03/10/24 14:41	03/12/24 14:14	1
2-Nitroaniline	ND		9.7	4.9	ug/L		03/10/24 14:41	03/12/24 14:14	1
3-Nitroaniline	ND		9.7	4.6	ug/L		03/10/24 14:41	03/12/24 14:14	1
4-Nitroaniline	ND		9.7	4.0	ug/L		03/10/24 14:41	03/12/24 14:14	1
Nitrobenzene	ND		9.7	4.6	ug/L		03/10/24 14:41	03/12/24 14:14	1
2-Nitrophenol	ND		9.7	4.5	ug/L		03/10/24 14:41	03/12/24 14:14	1
4-Nitrophenol	ND		9.7	3.2	ug/L		03/10/24 14:41	03/12/24 14:14	1
N-Nitrosodimethylamine	ND		9.7	2.1	ug/L		03/10/24 14:41	03/12/24 14:14	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: MW2-ROX-030724**

**Lab Sample ID: 400-252330-3**

**Date Collected: 03/07/24 09:20**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.7	2.4	ug/L		03/10/24 14:41	03/12/24 14:14	1
N-Nitrosodiphenylamine	ND		9.7	3.6	ug/L		03/10/24 14:41	03/12/24 14:14	1
Pentachlorophenol	ND		19	12	ug/L		03/10/24 14:41	03/12/24 14:14	1
Phenol	ND		9.7	4.1	ug/L		03/10/24 14:41	03/12/24 14:14	1
Pyridine	ND		9.7	9.7	ug/L		03/10/24 14:41	03/12/24 14:14	1
Quinoline	ND		9.7	2.3	ug/L		03/10/24 14:41	03/12/24 14:14	1
2,4,5-Trichlorophenol	ND		9.7	3.9	ug/L		03/10/24 14:41	03/12/24 14:14	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		03/10/24 14:41	03/12/24 14:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	95		21 - 114	03/10/24 14:41	03/12/24 14:14	1
2-Fluorophenol	53		10 - 105	03/10/24 14:41	03/12/24 14:14	1
Nitrobenzene-d5	74		16 - 127	03/10/24 14:41	03/12/24 14:14	1
Phenol-d5	42		10 - 129	03/10/24 14:41	03/12/24 14:14	1
Terphenyl-d14	104		13 - 150	03/10/24 14:41	03/12/24 14:14	1
2,4,6-Tribromophenol	94		10 - 150	03/10/24 14:41	03/12/24 14:14	1

**Method: EPA 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	0.017	ug/L		03/13/24 09:28	03/13/24 22:17	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/13/24 09:28	03/13/24 22:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	69		51 - 149	03/13/24 09:28	03/13/24 22:17	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: MW22-ROX-030724**

**Lab Sample ID: 400-252330-4**

Date Collected: 03/07/24 10:15

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		130	50	ug/L			03/15/24 11:47	5
Acrolein	ND		100	17	ug/L			03/15/24 11:47	5
Acrylonitrile	ND		50	14	ug/L			03/15/24 11:47	5
<b>Benzene</b>	<b>69</b>		5.0	2.5	ug/L			03/15/24 11:47	5
Bromobenzene	ND		5.0	2.7	ug/L			03/15/24 11:47	5
Bromochloromethane	ND		5.0	1.1	ug/L			03/15/24 11:47	5
Bromodichloromethane	ND		5.0	2.5	ug/L			03/15/24 11:47	5
Bromoform	ND		25	1.3	ug/L			03/15/24 11:47	5
Bromomethane	ND		5.0	4.9	ug/L			03/15/24 11:47	5
2-Butanone (MEK)	ND		130	13	ug/L			03/15/24 11:47	5
Carbon disulfide	ND		5.0	2.5	ug/L			03/15/24 11:47	5
Carbon tetrachloride	ND		5.0	0.95	ug/L			03/15/24 11:47	5
Chlorobenzene	ND		5.0	4.5	ug/L			03/15/24 11:47	5
Chloroethane	ND		5.0	3.8	ug/L			03/15/24 11:47	5
2-Chloroethyl vinyl ether	ND		25	10	ug/L			03/15/24 11:47	5
Chloroform	ND		5.0	4.5	ug/L			03/15/24 11:47	5
1-Chlorohexane	ND		5.0	1.6	ug/L			03/15/24 11:47	5
Chloromethane	ND		5.0	4.5	ug/L			03/15/24 11:47	5
cis-1,2-Dichloroethene	ND		5.0	1.0	ug/L			03/15/24 11:47	5
cis-1,3-Dichloropropene	ND		25	2.5	ug/L			03/15/24 11:47	5
Dibromochloromethane	ND		5.0	1.2	ug/L			03/15/24 11:47	5
1,2-Dichlorobenzene	ND		5.0	2.5	ug/L			03/15/24 11:47	5
1,3-Dichlorobenzene	ND		5.0	2.7	ug/L			03/15/24 11:47	5
1,4-Dichlorobenzene	ND		5.0	3.2	ug/L			03/15/24 11:47	5
Dichlorodifluoromethane	ND		5.0	4.3	ug/L			03/15/24 11:47	5
1,1-Dichloroethane	ND		5.0	2.5	ug/L			03/15/24 11:47	5
1,2-Dichloroethane	ND		5.0	0.95	ug/L			03/15/24 11:47	5
1,1-Dichloroethene	ND		5.0	2.5	ug/L			03/15/24 11:47	5
1,2-Dichloropropane	ND		5.0	2.5	ug/L			03/15/24 11:47	5
1,3-Dichloropropane	ND		5.0	2.5	ug/L			03/15/24 11:47	5
2,2-Dichloropropane	ND		5.0	2.5	ug/L			03/15/24 11:47	5
1,1-Dichloropropene	ND		5.0	2.5	ug/L			03/15/24 11:47	5
<b>Ethylbenzene</b>	<b>200</b>		5.0	2.5	ug/L			03/15/24 11:47	5
Ethyl methacrylate	ND		5.0	3.0	ug/L			03/15/24 11:47	5
Hexachlorobutadiene	ND		25	4.5	ug/L			03/15/24 11:47	5
2-Hexanone	ND		130	7.0	ug/L			03/15/24 11:47	5
<b>Isopropylbenzene</b>	<b>65</b>		5.0	2.7	ug/L			03/15/24 11:47	5
Methylene bromide	ND		25	1.1	ug/L			03/15/24 11:47	5
Methylene Chloride	ND		25	15	ug/L			03/15/24 11:47	5
4-Methyl-2-pentanone (MIBK)	ND		130	9.0	ug/L			03/15/24 11:47	5
Methyl tert-butyl ether	ND		5.0	1.1	ug/L			03/15/24 11:47	5
<b>m-Xylene &amp; p-Xylene</b>	<b>740</b>		25	3.2	ug/L			03/15/24 11:47	5
<b>Naphthalene</b>	<b>84</b>		25	15	ug/L			03/15/24 11:47	5
<b>n-Butylbenzene</b>	<b>13</b>		5.0	3.8	ug/L			03/15/24 11:47	5
<b>N-Propylbenzene</b>	<b>130</b>		5.0	3.5	ug/L			03/15/24 11:47	5
o-Chlorotoluene	ND		5.0	2.9	ug/L			03/15/24 11:47	5
<b>o-Xylene</b>	<b>31</b>		25	3.0	ug/L			03/15/24 11:47	5
p-Chlorotoluene	ND		5.0	2.8	ug/L			03/15/24 11:47	5
<b>p-Isopropyltoluene</b>	<b>5.8</b>		5.0	3.6	ug/L			03/15/24 11:47	5

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: MW22-ROX-030724**

**Lab Sample ID: 400-252330-4**

Date Collected: 03/07/24 10:15

Matrix: Water

Date Received: 03/08/24 09:44

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>sec-Butylbenzene</b>	<b>7.0</b>		5.0	3.5	ug/L			03/15/24 11:47	5
Styrene	ND		5.0	5.0	ug/L			03/15/24 11:47	5
<b>tert-Butylbenzene</b>	<b>11</b>		5.0	3.2	ug/L			03/15/24 11:47	5
1,1,1,2-Tetrachloroethane	ND		5.0	0.80	ug/L			03/15/24 11:47	5
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/L			03/15/24 11:47	5
Tetrachloroethene	ND		5.0	4.5	ug/L			03/15/24 11:47	5
<b>Toluene</b>	<b>47</b>		5.0	4.5	ug/L			03/15/24 11:47	5
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/L			03/15/24 11:47	5
trans-1,3-Dichloropropene	ND		25	1.0	ug/L			03/15/24 11:47	5
1,2,3-Trichlorobenzene	ND		5.0	4.5	ug/L			03/15/24 11:47	5
1,2,4-Trichlorobenzene	ND		5.0	4.1	ug/L			03/15/24 11:47	5
1,1,1-Trichloroethane	ND		5.0	0.90	ug/L			03/15/24 11:47	5
1,1,2-Trichloroethane	ND		25	1.1	ug/L			03/15/24 11:47	5
Trichloroethene	ND		5.0	0.75	ug/L			03/15/24 11:47	5
Trichlorofluoromethane	ND		5.0	2.6	ug/L			03/15/24 11:47	5
1,2,3-Trichloropropane	ND		25	4.2	ug/L			03/15/24 11:47	5
<b>1,2,4-Trimethylbenzene</b>	<b>110</b>		5.0	4.1	ug/L			03/15/24 11:47	5
<b>1,3,5-Trimethylbenzene</b>	<b>180</b>		5.0	2.8	ug/L			03/15/24 11:47	5
Vinyl acetate	ND		130	4.7	ug/L			03/15/24 11:47	5
Vinyl chloride	ND		5.0	2.5	ug/L			03/15/24 11:47	5
<b>Xylenes, Total</b>	<b>770</b>		50	8.0	ug/L			03/15/24 11:47	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		72 - 130		03/15/24 11:47	5
Dibromofluoromethane	103		75 - 126		03/15/24 11:47	5
Toluene-d8 (Surr)	101		64 - 132		03/15/24 11:47	5

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.099	ug/L		03/10/24 14:41	03/11/24 20:57	1
Acenaphthylene	ND		0.20	0.044	ug/L		03/10/24 14:41	03/11/24 20:57	1
Anthracene	ND		0.20	0.047	ug/L		03/10/24 14:41	03/11/24 20:57	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		03/10/24 14:41	03/11/24 20:57	1
Benzo[a]pyrene	ND		0.20	0.064	ug/L		03/10/24 14:41	03/11/24 20:57	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		03/10/24 14:41	03/11/24 20:57	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		03/10/24 14:41	03/11/24 20:57	1
Benzo[k]fluoranthene	ND		0.20	0.062	ug/L		03/10/24 14:41	03/11/24 20:57	1
Chrysene	ND		0.20	0.033	ug/L		03/10/24 14:41	03/11/24 20:57	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		03/10/24 14:41	03/11/24 20:57	1
Fluoranthene	ND		0.20	0.034	ug/L		03/10/24 14:41	03/11/24 20:57	1
Fluorene	ND		0.20	0.089	ug/L		03/10/24 14:41	03/11/24 20:57	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		03/10/24 14:41	03/11/24 20:57	1
Phenanthrene	ND		0.20	0.090	ug/L		03/10/24 14:41	03/11/24 20:57	1
Pyrene	ND		0.20	0.039	ug/L		03/10/24 14:41	03/11/24 20:57	1
<b>1-Methylnaphthalene</b>	<b>12</b>		0.20	0.080	ug/L		03/10/24 14:41	03/11/24 20:57	1
<b>2-Methylnaphthalene</b>	<b>16</b>		0.20	0.066	ug/L		03/10/24 14:41	03/11/24 20:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	75		18 - 147	03/10/24 14:41	03/11/24 20:57	1
2-Fluorobiphenyl	48		15 - 128	03/10/24 14:41	03/11/24 20:57	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: MW22-ROX-030724**

**Lab Sample ID: 400-252330-4**

Date Collected: 03/07/24 10:15

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	61		10 - 144	03/10/24 14:41	03/11/24 20:57	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	8.7	ug/L		03/10/24 14:41	03/12/24 14:37	1
Benzenethiol	ND		10	9.9	ug/L		03/10/24 14:41	03/12/24 14:37	1
Benzoic acid	ND		30	24	ug/L		03/10/24 14:41	03/12/24 14:37	1
Benzyl alcohol	ND		10	7.3	ug/L		03/10/24 14:41	03/12/24 14:37	1
Bis(2-chloroethoxy)methane	ND		10	4.6	ug/L		03/10/24 14:41	03/12/24 14:37	1
Bis(2-chloroethyl)ether	ND		10	3.9	ug/L		03/10/24 14:41	03/12/24 14:37	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		03/10/24 14:41	03/12/24 14:37	1
Bis(2-ethylhexyl) phthalate	ND		10	8.9	ug/L		03/10/24 14:41	03/12/24 14:37	1
4-Bromophenyl phenyl ether	ND		10	8.6	ug/L		03/10/24 14:41	03/12/24 14:37	1
Butyl benzyl phthalate	ND		10	5.8	ug/L		03/10/24 14:41	03/12/24 14:37	1
4-Chloroaniline	ND		10	4.7	ug/L		03/10/24 14:41	03/12/24 14:37	1
4-Chloro-3-methylphenol	ND		10	5.3	ug/L		03/10/24 14:41	03/12/24 14:37	1
2-Chloronaphthalene	ND		10	3.8	ug/L		03/10/24 14:41	03/12/24 14:37	1
2-Chlorophenol	ND		10	4.1	ug/L		03/10/24 14:41	03/12/24 14:37	1
4-Chlorophenyl phenyl ether	ND		10	3.7	ug/L		03/10/24 14:41	03/12/24 14:37	1
Dibenz[a,h]acridine	ND		10	2.8	ug/L		03/10/24 14:41	03/12/24 14:37	1
Dibenzofuran	ND		10	4.0	ug/L		03/10/24 14:41	03/12/24 14:37	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/10/24 14:41	03/12/24 14:37	1
2,4-Dichlorophenol	ND		10	4.3	ug/L		03/10/24 14:41	03/12/24 14:37	1
Diethyl phthalate	ND		10	4.4	ug/L		03/10/24 14:41	03/12/24 14:37	1
2,4-Dimethylphenol	ND		10	5.2	ug/L		03/10/24 14:41	03/12/24 14:37	1
Dimethyl phthalate	ND		10	4.2	ug/L		03/10/24 14:41	03/12/24 14:37	1
Di-n-butyl phthalate	ND		10	4.6	ug/L		03/10/24 14:41	03/12/24 14:37	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		03/10/24 14:41	03/12/24 14:37	1
2,4-Dinitrophenol	ND		30	4.6	ug/L		03/10/24 14:41	03/12/24 14:37	1
2,4-Dinitrotoluene	ND		10	5.1	ug/L		03/10/24 14:41	03/12/24 14:37	1
2,6-Dinitrotoluene	ND		10	3.9	ug/L		03/10/24 14:41	03/12/24 14:37	1
Di-n-octyl phthalate	ND		10	6.0	ug/L		03/10/24 14:41	03/12/24 14:37	1
1,4-Dioxane	ND		10	4.3	ug/L		03/10/24 14:41	03/12/24 14:37	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.3	ug/L		03/10/24 14:41	03/12/24 14:37	1
Hexachlorobenzene	ND		10	9.7	ug/L		03/10/24 14:41	03/12/24 14:37	1
Hexachlorocyclopentadiene	ND		20	4.5	ug/L		03/10/24 14:41	03/12/24 14:37	1
Hexachloroethane	ND		10	5.2	ug/L		03/10/24 14:41	03/12/24 14:37	1
Indene	ND		10	3.6	ug/L		03/10/24 14:41	03/12/24 14:37	1
Isophorone	ND		10	5.2	ug/L		03/10/24 14:41	03/12/24 14:37	1
2-Methylphenol	ND		10	3.2	ug/L		03/10/24 14:41	03/12/24 14:37	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		03/10/24 14:41	03/12/24 14:37	1
2-Nitroaniline	ND		10	5.0	ug/L		03/10/24 14:41	03/12/24 14:37	1
3-Nitroaniline	ND		10	4.7	ug/L		03/10/24 14:41	03/12/24 14:37	1
4-Nitroaniline	ND		10	4.1	ug/L		03/10/24 14:41	03/12/24 14:37	1
Nitrobenzene	ND		10	4.7	ug/L		03/10/24 14:41	03/12/24 14:37	1
2-Nitrophenol	ND		10	4.6	ug/L		03/10/24 14:41	03/12/24 14:37	1
4-Nitrophenol	ND		10	3.3	ug/L		03/10/24 14:41	03/12/24 14:37	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		03/10/24 14:41	03/12/24 14:37	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: MW22-ROX-030724**

**Lab Sample ID: 400-252330-4**

**Date Collected: 03/07/24 10:15**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		03/10/24 14:41	03/12/24 14:37	1
N-Nitrosodiphenylamine	ND		10	3.7	ug/L		03/10/24 14:41	03/12/24 14:37	1
Pentachlorophenol	ND		20	12	ug/L		03/10/24 14:41	03/12/24 14:37	1
Phenol	ND		10	4.2	ug/L		03/10/24 14:41	03/12/24 14:37	1
Pyridine	ND		10	10	ug/L		03/10/24 14:41	03/12/24 14:37	1
Quinoline	ND		10	2.4	ug/L		03/10/24 14:41	03/12/24 14:37	1
2,4,5-Trichlorophenol	ND		10	4.0	ug/L		03/10/24 14:41	03/12/24 14:37	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		03/10/24 14:41	03/12/24 14:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	96		21 - 114	03/10/24 14:41	03/12/24 14:37	1
2-Fluorophenol	35		10 - 105	03/10/24 14:41	03/12/24 14:37	1
Nitrobenzene-d5	74		16 - 127	03/10/24 14:41	03/12/24 14:37	1
Phenol-d5	36		10 - 129	03/10/24 14:41	03/12/24 14:37	1
Terphenyl-d14	106		13 - 150	03/10/24 14:41	03/12/24 14:37	1
2,4,6-Tribromophenol	90		10 - 150	03/10/24 14:41	03/12/24 14:37	1

**Method: EPA 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	0.017	ug/L		03/13/24 09:28	03/13/24 22:38	1
1,2-Dibromoethane	ND		0.019	0.015	ug/L		03/13/24 09:28	03/13/24 22:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	86		51 - 149	03/13/24 09:28	03/13/24 22:38	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: MW22-ROX-030724-DUP**

**Lab Sample ID: 400-252330-5**

Date Collected: 03/07/24 10:15

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		130	50	ug/L			03/15/24 12:11	5
Acrolein	ND		100	17	ug/L			03/15/24 12:11	5
Acrylonitrile	ND		50	14	ug/L			03/15/24 12:11	5
<b>Benzene</b>	<b>66</b>		5.0	2.5	ug/L			03/15/24 12:11	5
Bromobenzene	ND		5.0	2.7	ug/L			03/15/24 12:11	5
Bromochloromethane	ND		5.0	1.1	ug/L			03/15/24 12:11	5
Bromodichloromethane	ND		5.0	2.5	ug/L			03/15/24 12:11	5
Bromoform	ND		25	1.3	ug/L			03/15/24 12:11	5
Bromomethane	ND		5.0	4.9	ug/L			03/15/24 12:11	5
2-Butanone (MEK)	ND		130	13	ug/L			03/15/24 12:11	5
Carbon disulfide	ND		5.0	2.5	ug/L			03/15/24 12:11	5
Carbon tetrachloride	ND		5.0	0.95	ug/L			03/15/24 12:11	5
Chlorobenzene	ND		5.0	4.5	ug/L			03/15/24 12:11	5
Chloroethane	ND		5.0	3.8	ug/L			03/15/24 12:11	5
2-Chloroethyl vinyl ether	ND		25	10	ug/L			03/15/24 12:11	5
Chloroform	ND		5.0	4.5	ug/L			03/15/24 12:11	5
1-Chlorohexane	ND		5.0	1.6	ug/L			03/15/24 12:11	5
Chloromethane	ND		5.0	4.5	ug/L			03/15/24 12:11	5
cis-1,2-Dichloroethene	ND		5.0	1.0	ug/L			03/15/24 12:11	5
cis-1,3-Dichloropropene	ND		25	2.5	ug/L			03/15/24 12:11	5
Dibromochloromethane	ND		5.0	1.2	ug/L			03/15/24 12:11	5
1,2-Dichlorobenzene	ND		5.0	2.5	ug/L			03/15/24 12:11	5
1,3-Dichlorobenzene	ND		5.0	2.7	ug/L			03/15/24 12:11	5
1,4-Dichlorobenzene	ND		5.0	3.2	ug/L			03/15/24 12:11	5
Dichlorodifluoromethane	ND		5.0	4.3	ug/L			03/15/24 12:11	5
1,1-Dichloroethane	ND		5.0	2.5	ug/L			03/15/24 12:11	5
1,2-Dichloroethane	ND		5.0	0.95	ug/L			03/15/24 12:11	5
1,1-Dichloroethene	ND		5.0	2.5	ug/L			03/15/24 12:11	5
1,2-Dichloropropane	ND		5.0	2.5	ug/L			03/15/24 12:11	5
1,3-Dichloropropane	ND		5.0	2.5	ug/L			03/15/24 12:11	5
2,2-Dichloropropane	ND		5.0	2.5	ug/L			03/15/24 12:11	5
1,1-Dichloropropene	ND		5.0	2.5	ug/L			03/15/24 12:11	5
<b>Ethylbenzene</b>	<b>190</b>		5.0	2.5	ug/L			03/15/24 12:11	5
Ethyl methacrylate	ND		5.0	3.0	ug/L			03/15/24 12:11	5
Hexachlorobutadiene	ND		25	4.5	ug/L			03/15/24 12:11	5
2-Hexanone	ND		130	7.0	ug/L			03/15/24 12:11	5
<b>Isopropylbenzene</b>	<b>60</b>		5.0	2.7	ug/L			03/15/24 12:11	5
Methylene bromide	ND		25	1.1	ug/L			03/15/24 12:11	5
Methylene Chloride	ND		25	15	ug/L			03/15/24 12:11	5
4-Methyl-2-pentanone (MIBK)	ND		130	9.0	ug/L			03/15/24 12:11	5
Methyl tert-butyl ether	ND		5.0	1.1	ug/L			03/15/24 12:11	5
<b>m-Xylene &amp; p-Xylene</b>	<b>690</b>		25	3.2	ug/L			03/15/24 12:11	5
<b>Naphthalene</b>	<b>81</b>		25	15	ug/L			03/15/24 12:11	5
<b>n-Butylbenzene</b>	<b>12</b>		5.0	3.8	ug/L			03/15/24 12:11	5
<b>N-Propylbenzene</b>	<b>120</b>		5.0	3.5	ug/L			03/15/24 12:11	5
o-Chlorotoluene	ND		5.0	2.9	ug/L			03/15/24 12:11	5
<b>o-Xylene</b>	<b>28</b>		25	3.0	ug/L			03/15/24 12:11	5
p-Chlorotoluene	ND		5.0	2.8	ug/L			03/15/24 12:11	5
<b>p-Isopropyltoluene</b>	<b>5.6</b>		5.0	3.6	ug/L			03/15/24 12:11	5

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: MW22-ROX-030724-DUP**

**Lab Sample ID: 400-252330-5**

Date Collected: 03/07/24 10:15

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>sec-Butylbenzene</b>	<b>6.3</b>		5.0	3.5	ug/L			03/15/24 12:11	5
Styrene	ND		5.0	5.0	ug/L			03/15/24 12:11	5
<b>tert-Butylbenzene</b>	<b>10</b>		5.0	3.2	ug/L			03/15/24 12:11	5
1,1,1,2-Tetrachloroethane	ND		5.0	0.80	ug/L			03/15/24 12:11	5
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/L			03/15/24 12:11	5
Tetrachloroethene	ND		5.0	4.5	ug/L			03/15/24 12:11	5
<b>Toluene</b>	<b>44</b>		5.0	4.5	ug/L			03/15/24 12:11	5
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/L			03/15/24 12:11	5
trans-1,3-Dichloropropene	ND		25	1.0	ug/L			03/15/24 12:11	5
1,2,3-Trichlorobenzene	ND		5.0	4.5	ug/L			03/15/24 12:11	5
1,2,4-Trichlorobenzene	ND		5.0	4.1	ug/L			03/15/24 12:11	5
1,1,1-Trichloroethane	ND		5.0	0.90	ug/L			03/15/24 12:11	5
1,1,2-Trichloroethane	ND		25	1.1	ug/L			03/15/24 12:11	5
Trichloroethene	ND		5.0	0.75	ug/L			03/15/24 12:11	5
Trichlorofluoromethane	ND		5.0	2.6	ug/L			03/15/24 12:11	5
1,2,3-Trichloropropane	ND		25	4.2	ug/L			03/15/24 12:11	5
<b>1,2,4-Trimethylbenzene</b>	<b>110</b>		5.0	4.1	ug/L			03/15/24 12:11	5
<b>1,3,5-Trimethylbenzene</b>	<b>160</b>		5.0	2.8	ug/L			03/15/24 12:11	5
Vinyl acetate	ND		130	4.7	ug/L			03/15/24 12:11	5
Vinyl chloride	ND		5.0	2.5	ug/L			03/15/24 12:11	5
<b>Xylenes, Total</b>	<b>710</b>		50	8.0	ug/L			03/15/24 12:11	5
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene	102		72 - 130					03/15/24 12:11	5
Dibromofluoromethane	104		75 - 126					03/15/24 12:11	5
Toluene-d8 (Surr)	99		64 - 132					03/15/24 12:11	5

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.099	ug/L		03/10/24 14:41	03/11/24 21:17	1
Acenaphthylene	ND		0.20	0.044	ug/L		03/10/24 14:41	03/11/24 21:17	1
Anthracene	ND		0.20	0.047	ug/L		03/10/24 14:41	03/11/24 21:17	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		03/10/24 14:41	03/11/24 21:17	1
Benzo[a]pyrene	ND		0.20	0.064	ug/L		03/10/24 14:41	03/11/24 21:17	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		03/10/24 14:41	03/11/24 21:17	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		03/10/24 14:41	03/11/24 21:17	1
Benzo[k]fluoranthene	ND		0.20	0.062	ug/L		03/10/24 14:41	03/11/24 21:17	1
Chrysene	ND		0.20	0.033	ug/L		03/10/24 14:41	03/11/24 21:17	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		03/10/24 14:41	03/11/24 21:17	1
Fluoranthene	ND		0.20	0.034	ug/L		03/10/24 14:41	03/11/24 21:17	1
Fluorene	ND		0.20	0.089	ug/L		03/10/24 14:41	03/11/24 21:17	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		03/10/24 14:41	03/11/24 21:17	1
Phenanthrene	ND		0.20	0.090	ug/L		03/10/24 14:41	03/11/24 21:17	1
Pyrene	ND		0.20	0.039	ug/L		03/10/24 14:41	03/11/24 21:17	1
<b>1-Methylnaphthalene</b>	<b>12</b>		0.20	0.080	ug/L		03/10/24 14:41	03/11/24 21:17	1
<b>2-Methylnaphthalene</b>	<b>16</b>		0.20	0.066	ug/L		03/10/24 14:41	03/11/24 21:17	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
Terphenyl-d14	83		18 - 147				03/10/24 14:41	03/11/24 21:17	1
2-Fluorobiphenyl	51		15 - 128				03/10/24 14:41	03/11/24 21:17	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: MW22-ROX-030724-DUP**

**Lab Sample ID: 400-252330-5**

Date Collected: 03/07/24 10:15

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	63		10 - 144	03/10/24 14:41	03/11/24 21:17	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	8.7	ug/L		03/10/24 14:41	03/12/24 15:01	1
Benzenethiol	ND		10	9.9	ug/L		03/10/24 14:41	03/12/24 15:01	1
Benzoic acid	ND		30	24	ug/L		03/10/24 14:41	03/12/24 15:01	1
Benzyl alcohol	ND		10	7.3	ug/L		03/10/24 14:41	03/12/24 15:01	1
Bis(2-chloroethoxy)methane	ND		10	4.6	ug/L		03/10/24 14:41	03/12/24 15:01	1
Bis(2-chloroethyl)ether	ND		10	3.9	ug/L		03/10/24 14:41	03/12/24 15:01	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		03/10/24 14:41	03/12/24 15:01	1
Bis(2-ethylhexyl) phthalate	ND		10	8.9	ug/L		03/10/24 14:41	03/12/24 15:01	1
4-Bromophenyl phenyl ether	ND		10	8.6	ug/L		03/10/24 14:41	03/12/24 15:01	1
Butyl benzyl phthalate	ND		10	5.8	ug/L		03/10/24 14:41	03/12/24 15:01	1
4-Chloroaniline	ND		10	4.7	ug/L		03/10/24 14:41	03/12/24 15:01	1
4-Chloro-3-methylphenol	ND		10	5.3	ug/L		03/10/24 14:41	03/12/24 15:01	1
2-Chloronaphthalene	ND		10	3.8	ug/L		03/10/24 14:41	03/12/24 15:01	1
2-Chlorophenol	ND		10	4.1	ug/L		03/10/24 14:41	03/12/24 15:01	1
4-Chlorophenyl phenyl ether	ND		10	3.7	ug/L		03/10/24 14:41	03/12/24 15:01	1
Dibenz[a,h]acridine	ND		10	2.8	ug/L		03/10/24 14:41	03/12/24 15:01	1
Dibenzofuran	ND		10	4.0	ug/L		03/10/24 14:41	03/12/24 15:01	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/10/24 14:41	03/12/24 15:01	1
2,4-Dichlorophenol	ND		10	4.3	ug/L		03/10/24 14:41	03/12/24 15:01	1
Diethyl phthalate	ND		10	4.4	ug/L		03/10/24 14:41	03/12/24 15:01	1
2,4-Dimethylphenol	ND		10	5.2	ug/L		03/10/24 14:41	03/12/24 15:01	1
Dimethyl phthalate	ND		10	4.2	ug/L		03/10/24 14:41	03/12/24 15:01	1
Di-n-butyl phthalate	ND		10	4.6	ug/L		03/10/24 14:41	03/12/24 15:01	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		03/10/24 14:41	03/12/24 15:01	1
2,4-Dinitrophenol	ND		30	4.6	ug/L		03/10/24 14:41	03/12/24 15:01	1
2,4-Dinitrotoluene	ND		10	5.1	ug/L		03/10/24 14:41	03/12/24 15:01	1
2,6-Dinitrotoluene	ND		10	3.9	ug/L		03/10/24 14:41	03/12/24 15:01	1
Di-n-octyl phthalate	ND		10	6.0	ug/L		03/10/24 14:41	03/12/24 15:01	1
1,4-Dioxane	ND		10	4.3	ug/L		03/10/24 14:41	03/12/24 15:01	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.3	ug/L		03/10/24 14:41	03/12/24 15:01	1
Hexachlorobenzene	ND		10	9.7	ug/L		03/10/24 14:41	03/12/24 15:01	1
Hexachlorocyclopentadiene	ND		20	4.5	ug/L		03/10/24 14:41	03/12/24 15:01	1
Hexachloroethane	ND		10	5.2	ug/L		03/10/24 14:41	03/12/24 15:01	1
Indene	ND		10	3.6	ug/L		03/10/24 14:41	03/12/24 15:01	1
Isophorone	ND		10	5.2	ug/L		03/10/24 14:41	03/12/24 15:01	1
2-Methylphenol	ND		10	3.2	ug/L		03/10/24 14:41	03/12/24 15:01	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		03/10/24 14:41	03/12/24 15:01	1
2-Nitroaniline	ND		10	5.0	ug/L		03/10/24 14:41	03/12/24 15:01	1
3-Nitroaniline	ND		10	4.7	ug/L		03/10/24 14:41	03/12/24 15:01	1
4-Nitroaniline	ND		10	4.1	ug/L		03/10/24 14:41	03/12/24 15:01	1
Nitrobenzene	ND		10	4.7	ug/L		03/10/24 14:41	03/12/24 15:01	1
2-Nitrophenol	ND		10	4.6	ug/L		03/10/24 14:41	03/12/24 15:01	1
4-Nitrophenol	ND		10	3.3	ug/L		03/10/24 14:41	03/12/24 15:01	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		03/10/24 14:41	03/12/24 15:01	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: MW22-ROX-030724-DUP**

**Lab Sample ID: 400-252330-5**

Date Collected: 03/07/24 10:15

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		03/10/24 14:41	03/12/24 15:01	1
N-Nitrosodiphenylamine	ND		10	3.7	ug/L		03/10/24 14:41	03/12/24 15:01	1
Pentachlorophenol	ND		20	12	ug/L		03/10/24 14:41	03/12/24 15:01	1
Phenol	ND		10	4.2	ug/L		03/10/24 14:41	03/12/24 15:01	1
Pyridine	ND		10	10	ug/L		03/10/24 14:41	03/12/24 15:01	1
Quinoline	ND		10	2.4	ug/L		03/10/24 14:41	03/12/24 15:01	1
2,4,5-Trichlorophenol	ND		10	4.0	ug/L		03/10/24 14:41	03/12/24 15:01	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		03/10/24 14:41	03/12/24 15:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	99		21 - 114	03/10/24 14:41	03/12/24 15:01	1
2-Fluorophenol	38		10 - 105	03/10/24 14:41	03/12/24 15:01	1
Nitrobenzene-d5	77		16 - 127	03/10/24 14:41	03/12/24 15:01	1
Phenol-d5	41		10 - 129	03/10/24 14:41	03/12/24 15:01	1
Terphenyl-d14	108		13 - 150	03/10/24 14:41	03/12/24 15:01	1
2,4,6-Tribromophenol	95		10 - 150	03/10/24 14:41	03/12/24 15:01	1

**Method: EPA 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	0.017	ug/L		03/13/24 09:28	03/13/24 23:00	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/13/24 09:28	03/13/24 23:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	85		51 - 149	03/13/24 09:28	03/13/24 23:00	1



# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: MW14-ROX-030724**

**Lab Sample ID: 400-252330-6**

Date Collected: 03/07/24 12:10

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/15/24 10:33	1
Acrolein	ND		20	3.3	ug/L			03/15/24 10:33	1
Acrylonitrile	ND		10	2.8	ug/L			03/15/24 10:33	1
Benzene	ND		1.0	0.50	ug/L			03/15/24 10:33	1
Bromobenzene	ND		1.0	0.54	ug/L			03/15/24 10:33	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/15/24 10:33	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/15/24 10:33	1
Bromoform	ND		5.0	0.25	ug/L			03/15/24 10:33	1
Bromomethane	ND		1.0	0.98	ug/L			03/15/24 10:33	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/15/24 10:33	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/15/24 10:33	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/15/24 10:33	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/15/24 10:33	1
Chloroethane	ND		1.0	0.76	ug/L			03/15/24 10:33	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/15/24 10:33	1
Chloroform	ND		1.0	0.90	ug/L			03/15/24 10:33	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/15/24 10:33	1
Chloromethane	ND		1.0	0.90	ug/L			03/15/24 10:33	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/15/24 10:33	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/15/24 10:33	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/15/24 10:33	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/15/24 10:33	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/15/24 10:33	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/15/24 10:33	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/15/24 10:33	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/15/24 10:33	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/15/24 10:33	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/15/24 10:33	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/15/24 10:33	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/15/24 10:33	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/15/24 10:33	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/15/24 10:33	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/15/24 10:33	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/15/24 10:33	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/15/24 10:33	1
2-Hexanone	ND		25	1.4	ug/L			03/15/24 10:33	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/15/24 10:33	1
Methylene bromide	ND		5.0	0.22	ug/L			03/15/24 10:33	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/15/24 10:33	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/15/24 10:33	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/15/24 10:33	1
<b>m-Xylene &amp; p-Xylene</b>	<b>1.1</b>	<b>J</b>	5.0	0.63	ug/L			03/15/24 10:33	1
Naphthalene	ND		5.0	3.0	ug/L			03/15/24 10:33	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/15/24 10:33	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/15/24 10:33	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/15/24 10:33	1
<b>o-Xylene</b>	<b>0.81</b>	<b>J</b>	5.0	0.60	ug/L			03/15/24 10:33	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/15/24 10:33	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/15/24 10:33	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: MW14-ROX-030724**

**Lab Sample ID: 400-252330-6**

Date Collected: 03/07/24 12:10

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/15/24 10:33	1
Styrene	ND		1.0	1.0	ug/L			03/15/24 10:33	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/15/24 10:33	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/15/24 10:33	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/15/24 10:33	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/15/24 10:33	1
Toluene	ND		1.0	0.90	ug/L			03/15/24 10:33	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/15/24 10:33	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/15/24 10:33	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/15/24 10:33	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/15/24 10:33	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/15/24 10:33	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/15/24 10:33	1
Trichloroethene	ND		1.0	0.15	ug/L			03/15/24 10:33	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/15/24 10:33	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/15/24 10:33	1
<b>1,2,4-Trimethylbenzene</b>	<b>1.2</b>		1.0	0.82	ug/L			03/15/24 10:33	1
<b>1,3,5-Trimethylbenzene</b>	<b>0.56 J</b>		1.0	0.56	ug/L			03/15/24 10:33	1
Vinyl acetate	ND		25	0.93	ug/L			03/15/24 10:33	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/15/24 10:33	1
<b>Xylenes, Total</b>	<b>1.9 J</b>		10	1.6	ug/L			03/15/24 10:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		72 - 130		03/15/24 10:33	1
Dibromofluoromethane	102		75 - 126		03/15/24 10:33	1
Toluene-d8 (Surr)	100		64 - 132		03/15/24 10:33	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.099	ug/L		03/10/24 14:41	03/11/24 21:38	1
Acenaphthylene	ND		0.20	0.044	ug/L		03/10/24 14:41	03/11/24 21:38	1
Anthracene	ND		0.20	0.047	ug/L		03/10/24 14:41	03/11/24 21:38	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		03/10/24 14:41	03/11/24 21:38	1
Benzo[a]pyrene	ND		0.20	0.064	ug/L		03/10/24 14:41	03/11/24 21:38	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		03/10/24 14:41	03/11/24 21:38	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		03/10/24 14:41	03/11/24 21:38	1
Benzo[k]fluoranthene	ND		0.20	0.062	ug/L		03/10/24 14:41	03/11/24 21:38	1
Chrysene	ND		0.20	0.033	ug/L		03/10/24 14:41	03/11/24 21:38	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		03/10/24 14:41	03/11/24 21:38	1
Fluoranthene	ND		0.20	0.034	ug/L		03/10/24 14:41	03/11/24 21:38	1
Fluorene	ND		0.20	0.089	ug/L		03/10/24 14:41	03/11/24 21:38	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		03/10/24 14:41	03/11/24 21:38	1
Phenanthrene	ND		0.20	0.090	ug/L		03/10/24 14:41	03/11/24 21:38	1
Pyrene	ND		0.20	0.039	ug/L		03/10/24 14:41	03/11/24 21:38	1
<b>1-Methylnaphthalene</b>	<b>0.29</b>		0.20	0.080	ug/L		03/10/24 14:41	03/11/24 21:38	1
<b>2-Methylnaphthalene</b>	<b>0.25</b>		0.20	0.066	ug/L		03/10/24 14:41	03/11/24 21:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	79		18 - 147	03/10/24 14:41	03/11/24 21:38	1
2-Fluorobiphenyl	65		15 - 128	03/10/24 14:41	03/11/24 21:38	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: MW14-ROX-030724**

**Lab Sample ID: 400-252330-6**

Date Collected: 03/07/24 12:10

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	77		10 - 144	03/10/24 14:41	03/11/24 21:38	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	8.7	ug/L		03/10/24 14:41	03/12/24 15:24	1
Benzenethiol	ND		10	9.9	ug/L		03/10/24 14:41	03/12/24 15:24	1
Benzoic acid	ND		30	24	ug/L		03/10/24 14:41	03/12/24 15:24	1
Benzyl alcohol	ND		10	7.3	ug/L		03/10/24 14:41	03/12/24 15:24	1
Bis(2-chloroethoxy)methane	ND		10	4.6	ug/L		03/10/24 14:41	03/12/24 15:24	1
Bis(2-chloroethyl)ether	ND		10	3.9	ug/L		03/10/24 14:41	03/12/24 15:24	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		03/10/24 14:41	03/12/24 15:24	1
Bis(2-ethylhexyl) phthalate	ND		10	8.9	ug/L		03/10/24 14:41	03/12/24 15:24	1
4-Bromophenyl phenyl ether	ND		10	8.6	ug/L		03/10/24 14:41	03/12/24 15:24	1
Butyl benzyl phthalate	ND		10	5.8	ug/L		03/10/24 14:41	03/12/24 15:24	1
4-Chloroaniline	ND		10	4.7	ug/L		03/10/24 14:41	03/12/24 15:24	1
4-Chloro-3-methylphenol	ND		10	5.3	ug/L		03/10/24 14:41	03/12/24 15:24	1
2-Chloronaphthalene	ND		10	3.8	ug/L		03/10/24 14:41	03/12/24 15:24	1
2-Chlorophenol	ND		10	4.1	ug/L		03/10/24 14:41	03/12/24 15:24	1
4-Chlorophenyl phenyl ether	ND		10	3.7	ug/L		03/10/24 14:41	03/12/24 15:24	1
Dibenz[a,h]acridine	ND		10	2.8	ug/L		03/10/24 14:41	03/12/24 15:24	1
Dibenzofuran	ND		10	4.0	ug/L		03/10/24 14:41	03/12/24 15:24	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/10/24 14:41	03/12/24 15:24	1
2,4-Dichlorophenol	ND		10	4.3	ug/L		03/10/24 14:41	03/12/24 15:24	1
Diethyl phthalate	ND		10	4.4	ug/L		03/10/24 14:41	03/12/24 15:24	1
2,4-Dimethylphenol	ND		10	5.2	ug/L		03/10/24 14:41	03/12/24 15:24	1
Dimethyl phthalate	ND		10	4.2	ug/L		03/10/24 14:41	03/12/24 15:24	1
Di-n-butyl phthalate	ND		10	4.6	ug/L		03/10/24 14:41	03/12/24 15:24	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		03/10/24 14:41	03/12/24 15:24	1
2,4-Dinitrophenol	ND		30	4.6	ug/L		03/10/24 14:41	03/12/24 15:24	1
2,4-Dinitrotoluene	ND		10	5.1	ug/L		03/10/24 14:41	03/12/24 15:24	1
2,6-Dinitrotoluene	ND		10	3.9	ug/L		03/10/24 14:41	03/12/24 15:24	1
Di-n-octyl phthalate	ND		10	6.0	ug/L		03/10/24 14:41	03/12/24 15:24	1
1,4-Dioxane	ND		10	4.3	ug/L		03/10/24 14:41	03/12/24 15:24	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.3	ug/L		03/10/24 14:41	03/12/24 15:24	1
Hexachlorobenzene	ND		10	9.7	ug/L		03/10/24 14:41	03/12/24 15:24	1
Hexachlorocyclopentadiene	ND		20	4.5	ug/L		03/10/24 14:41	03/12/24 15:24	1
Hexachloroethane	ND		10	5.2	ug/L		03/10/24 14:41	03/12/24 15:24	1
Indene	ND		10	3.6	ug/L		03/10/24 14:41	03/12/24 15:24	1
Isophorone	ND		10	5.2	ug/L		03/10/24 14:41	03/12/24 15:24	1
2-Methylphenol	ND		10	3.2	ug/L		03/10/24 14:41	03/12/24 15:24	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		03/10/24 14:41	03/12/24 15:24	1
2-Nitroaniline	ND		10	5.0	ug/L		03/10/24 14:41	03/12/24 15:24	1
3-Nitroaniline	ND		10	4.7	ug/L		03/10/24 14:41	03/12/24 15:24	1
4-Nitroaniline	ND		10	4.1	ug/L		03/10/24 14:41	03/12/24 15:24	1
Nitrobenzene	ND		10	4.7	ug/L		03/10/24 14:41	03/12/24 15:24	1
2-Nitrophenol	ND		10	4.6	ug/L		03/10/24 14:41	03/12/24 15:24	1
4-Nitrophenol	ND		10	3.3	ug/L		03/10/24 14:41	03/12/24 15:24	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		03/10/24 14:41	03/12/24 15:24	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: MW14-ROX-030724**

**Lab Sample ID: 400-252330-6**

**Date Collected: 03/07/24 12:10**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		03/10/24 14:41	03/12/24 15:24	1
N-Nitrosodiphenylamine	ND		10	3.7	ug/L		03/10/24 14:41	03/12/24 15:24	1
Pentachlorophenol	ND		20	12	ug/L		03/10/24 14:41	03/12/24 15:24	1
Phenol	ND		10	4.2	ug/L		03/10/24 14:41	03/12/24 15:24	1
Pyridine	ND		10	10	ug/L		03/10/24 14:41	03/12/24 15:24	1
Quinoline	ND		10	2.4	ug/L		03/10/24 14:41	03/12/24 15:24	1
2,4,5-Trichlorophenol	ND		10	4.0	ug/L		03/10/24 14:41	03/12/24 15:24	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		03/10/24 14:41	03/12/24 15:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	99		21 - 114	03/10/24 14:41	03/12/24 15:24	1
2-Fluorophenol	55		10 - 105	03/10/24 14:41	03/12/24 15:24	1
Nitrobenzene-d5	79		16 - 127	03/10/24 14:41	03/12/24 15:24	1
Phenol-d5	40		10 - 129	03/10/24 14:41	03/12/24 15:24	1
Terphenyl-d14	105		13 - 150	03/10/24 14:41	03/12/24 15:24	1
2,4,6-Tribromophenol	87		10 - 150	03/10/24 14:41	03/12/24 15:24	1

**Method: EPA 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	0.017	ug/L		03/13/24 09:28	03/13/24 23:21	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/13/24 09:28	03/13/24 23:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	73		51 - 149	03/13/24 09:28	03/13/24 23:21	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: TB-ROX-030724-8260-B**

**Lab Sample ID: 400-252330-7**

**Date Collected: 03/07/24 12:00**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/13/24 20:22	1
Acrolein	ND		20	3.3	ug/L			03/13/24 20:22	1
Acrylonitrile	ND		10	2.8	ug/L			03/13/24 20:22	1
Benzene	ND		1.0	0.50	ug/L			03/13/24 20:22	1
Bromobenzene	ND		1.0	0.54	ug/L			03/13/24 20:22	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/13/24 20:22	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/13/24 20:22	1
Bromoform	ND		5.0	0.25	ug/L			03/13/24 20:22	1
Bromomethane	ND		1.0	0.98	ug/L			03/13/24 20:22	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/13/24 20:22	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/13/24 20:22	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/13/24 20:22	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/13/24 20:22	1
Chloroethane	ND		1.0	0.76	ug/L			03/13/24 20:22	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/13/24 20:22	1
Chloroform	ND		1.0	0.90	ug/L			03/13/24 20:22	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/13/24 20:22	1
Chloromethane	ND		1.0	0.90	ug/L			03/13/24 20:22	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/13/24 20:22	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/13/24 20:22	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/13/24 20:22	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/13/24 20:22	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/13/24 20:22	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/13/24 20:22	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/13/24 20:22	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/13/24 20:22	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/13/24 20:22	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/13/24 20:22	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 20:22	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 20:22	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 20:22	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/13/24 20:22	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/13/24 20:22	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/13/24 20:22	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/13/24 20:22	1
2-Hexanone	ND		25	1.4	ug/L			03/13/24 20:22	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/13/24 20:22	1
Methylene bromide	ND		5.0	0.22	ug/L			03/13/24 20:22	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/13/24 20:22	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/13/24 20:22	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/13/24 20:22	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/13/24 20:22	1
Naphthalene	ND		5.0	3.0	ug/L			03/13/24 20:22	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/13/24 20:22	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/13/24 20:22	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/13/24 20:22	1
o-Xylene	ND		5.0	0.60	ug/L			03/13/24 20:22	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/13/24 20:22	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/13/24 20:22	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: TB-ROX-030724-8260-B**

**Lab Sample ID: 400-252330-7**

**Date Collected: 03/07/24 12:00**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/13/24 20:22	1
Styrene	ND		1.0	1.0	ug/L			03/13/24 20:22	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/13/24 20:22	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/13/24 20:22	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/13/24 20:22	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/13/24 20:22	1
Toluene	ND		1.0	0.90	ug/L			03/13/24 20:22	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/13/24 20:22	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/13/24 20:22	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/13/24 20:22	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/13/24 20:22	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/13/24 20:22	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/13/24 20:22	1
Trichloroethene	ND		1.0	0.15	ug/L			03/13/24 20:22	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/13/24 20:22	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/13/24 20:22	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/13/24 20:22	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/13/24 20:22	1
Vinyl acetate	ND		25	0.93	ug/L			03/13/24 20:22	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/13/24 20:22	1
Xylenes, Total	ND		10	1.6	ug/L			03/13/24 20:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	100		72 - 130		03/13/24 20:22	1
Dibromofluoromethane	103		75 - 126		03/13/24 20:22	1
Toluene-d8 (Surr)	100		64 - 132		03/13/24 20:22	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
 Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: TB-ROX-030724-8011-B**

**Lab Sample ID: 400-252330-8**

**Date Collected: 03/07/24 12:00**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

**Method: EPA 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	0.017	ug/L		03/13/24 09:28	03/13/24 23:42	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/13/24 09:28	03/13/24 23:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	96		51 - 149				03/13/24 09:28	03/13/24 23:42	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15



# Client Sample Results

Client: AECOM Technical Services Inc.  
 Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: P93D-ROX-030724**

**Lab Sample ID: 400-252330-9**

**Date Collected: 03/07/24 09:30**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/13/24 20:46	1
Acrolein	ND		20	3.3	ug/L			03/13/24 20:46	1
Acrylonitrile	ND		10	2.8	ug/L			03/13/24 20:46	1
Benzene	ND		1.0	0.50	ug/L			03/13/24 20:46	1
Bromobenzene	ND		1.0	0.54	ug/L			03/13/24 20:46	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/13/24 20:46	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/13/24 20:46	1
Bromoform	ND		5.0	0.25	ug/L			03/13/24 20:46	1
Bromomethane	ND		1.0	0.98	ug/L			03/13/24 20:46	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/13/24 20:46	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/13/24 20:46	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/13/24 20:46	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/13/24 20:46	1
Chloroethane	ND		1.0	0.76	ug/L			03/13/24 20:46	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/13/24 20:46	1
Chloroform	ND		1.0	0.90	ug/L			03/13/24 20:46	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/13/24 20:46	1
Chloromethane	ND	UJ	1.0	0.90	ug/L			03/13/24 20:46	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/13/24 20:46	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/13/24 20:46	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/13/24 20:46	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/13/24 20:46	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/13/24 20:46	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/13/24 20:46	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/13/24 20:46	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/13/24 20:46	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/13/24 20:46	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/13/24 20:46	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 20:46	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 20:46	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 20:46	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/13/24 20:46	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/13/24 20:46	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/13/24 20:46	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/13/24 20:46	1
2-Hexanone	ND		25	1.4	ug/L			03/13/24 20:46	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/13/24 20:46	1
Methylene bromide	ND		5.0	0.22	ug/L			03/13/24 20:46	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/13/24 20:46	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/13/24 20:46	1
<b>Methyl tert-butyl ether</b>	<b>0.59</b>	<b>J</b>	1.0	0.22	ug/L			03/13/24 20:46	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/13/24 20:46	1
Naphthalene	ND		5.0	3.0	ug/L			03/13/24 20:46	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/13/24 20:46	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/13/24 20:46	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/13/24 20:46	1
o-Xylene	ND		5.0	0.60	ug/L			03/13/24 20:46	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/13/24 20:46	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/13/24 20:46	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: P93D-ROX-030724**

**Lab Sample ID: 400-252330-9**

Date Collected: 03/07/24 09:30

Matrix: Water

Date Received: 03/08/24 09:44

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/13/24 20:46	1
Styrene	ND		1.0	1.0	ug/L			03/13/24 20:46	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/13/24 20:46	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/13/24 20:46	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/13/24 20:46	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/13/24 20:46	1
Toluene	ND		1.0	0.90	ug/L			03/13/24 20:46	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/13/24 20:46	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/13/24 20:46	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/13/24 20:46	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/13/24 20:46	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/13/24 20:46	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/13/24 20:46	1
Trichloroethene	ND		1.0	0.15	ug/L			03/13/24 20:46	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/13/24 20:46	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/13/24 20:46	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/13/24 20:46	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/13/24 20:46	1
Vinyl acetate	ND		25	0.93	ug/L			03/13/24 20:46	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/13/24 20:46	1
Xylenes, Total	ND		10	1.6	ug/L			03/13/24 20:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		72 - 130		03/13/24 20:46	1
Dibromofluoromethane	103		75 - 126		03/13/24 20:46	1
Toluene-d8 (Surr)	100		64 - 132		03/13/24 20:46	1

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.10	ug/L		03/10/24 14:41	03/11/24 21:58	1
Acenaphthylene	ND		0.20	0.045	ug/L		03/10/24 14:41	03/11/24 21:58	1
Anthracene	ND		0.20	0.048	ug/L		03/10/24 14:41	03/11/24 21:58	1
Benzo[a]anthracene	ND		0.20	0.035	ug/L		03/10/24 14:41	03/11/24 21:58	1
Benzo[a]pyrene	ND		0.20	0.065	ug/L		03/10/24 14:41	03/11/24 21:58	1
Benzo[b]fluoranthene	ND		0.20	0.038	ug/L		03/10/24 14:41	03/11/24 21:58	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		03/10/24 14:41	03/11/24 21:58	1
Benzo[k]fluoranthene	ND		0.20	0.063	ug/L		03/10/24 14:41	03/11/24 21:58	1
Chrysene	ND		0.20	0.034	ug/L		03/10/24 14:41	03/11/24 21:58	1
Dibenz(a,h)anthracene	ND		0.20	0.049	ug/L		03/10/24 14:41	03/11/24 21:58	1
Fluoranthene	ND		0.20	0.035	ug/L		03/10/24 14:41	03/11/24 21:58	1
Fluorene	ND		0.20	0.090	ug/L		03/10/24 14:41	03/11/24 21:58	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.035	ug/L		03/10/24 14:41	03/11/24 21:58	1
Phenanthrene	ND		0.20	0.091	ug/L		03/10/24 14:41	03/11/24 21:58	1
Pyrene	ND		0.20	0.040	ug/L		03/10/24 14:41	03/11/24 21:58	1
1-Methylnaphthalene	ND		0.20	0.081	ug/L		03/10/24 14:41	03/11/24 21:58	1
2-Methylnaphthalene	ND		0.20	0.067	ug/L		03/10/24 14:41	03/11/24 21:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	78		18 - 147	03/10/24 14:41	03/11/24 21:58	1
2-Fluorobiphenyl	66		15 - 128	03/10/24 14:41	03/11/24 21:58	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: P93D-ROX-030724**

**Lab Sample ID: 400-252330-9**

Date Collected: 03/07/24 09:30

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	77		10 - 144	03/10/24 14:41	03/11/24 21:58	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	8.8	ug/L		03/10/24 14:41	03/12/24 15:48	1
Benzenethiol	ND		10	10	ug/L		03/10/24 14:41	03/12/24 15:48	1
Benzoic acid	ND		30	24	ug/L		03/10/24 14:41	03/12/24 15:48	1
Benzyl alcohol	ND		10	7.4	ug/L		03/10/24 14:41	03/12/24 15:48	1
Bis(2-chloroethoxy)methane	ND		10	4.7	ug/L		03/10/24 14:41	03/12/24 15:48	1
Bis(2-chloroethyl)ether	ND		10	4.0	ug/L		03/10/24 14:41	03/12/24 15:48	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		03/10/24 14:41	03/12/24 15:48	1
Bis(2-ethylhexyl) phthalate	ND		10	9.0	ug/L		03/10/24 14:41	03/12/24 15:48	1
4-Bromophenyl phenyl ether	ND		10	8.7	ug/L		03/10/24 14:41	03/12/24 15:48	1
Butyl benzyl phthalate	ND		10	5.9	ug/L		03/10/24 14:41	03/12/24 15:48	1
4-Chloroaniline	ND		10	4.8	ug/L		03/10/24 14:41	03/12/24 15:48	1
4-Chloro-3-methylphenol	ND		10	5.4	ug/L		03/10/24 14:41	03/12/24 15:48	1
2-Chloronaphthalene	ND		10	3.9	ug/L		03/10/24 14:41	03/12/24 15:48	1
2-Chlorophenol	ND		10	4.2	ug/L		03/10/24 14:41	03/12/24 15:48	1
4-Chlorophenyl phenyl ether	ND		10	3.8	ug/L		03/10/24 14:41	03/12/24 15:48	1
Dibenz[a,h]acridine	ND		10	2.8	ug/L		03/10/24 14:41	03/12/24 15:48	1
Dibenzofuran	ND		10	4.1	ug/L		03/10/24 14:41	03/12/24 15:48	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/10/24 14:41	03/12/24 15:48	1
2,4-Dichlorophenol	ND		10	4.4	ug/L		03/10/24 14:41	03/12/24 15:48	1
Diethyl phthalate	ND		10	4.5	ug/L		03/10/24 14:41	03/12/24 15:48	1
2,4-Dimethylphenol	ND		10	5.3	ug/L		03/10/24 14:41	03/12/24 15:48	1
Dimethyl phthalate	ND		10	4.3	ug/L		03/10/24 14:41	03/12/24 15:48	1
Di-n-butyl phthalate	ND		10	4.7	ug/L		03/10/24 14:41	03/12/24 15:48	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		03/10/24 14:41	03/12/24 15:48	1
2,4-Dinitrophenol	ND		30	4.7	ug/L		03/10/24 14:41	03/12/24 15:48	1
2,4-Dinitrotoluene	ND		10	5.2	ug/L		03/10/24 14:41	03/12/24 15:48	1
2,6-Dinitrotoluene	ND		10	4.0	ug/L		03/10/24 14:41	03/12/24 15:48	1
Di-n-octyl phthalate	ND		10	6.1	ug/L		03/10/24 14:41	03/12/24 15:48	1
1,4-Dioxane	ND		10	4.4	ug/L		03/10/24 14:41	03/12/24 15:48	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.4	ug/L		03/10/24 14:41	03/12/24 15:48	1
Hexachlorobenzene	ND		10	9.8	ug/L		03/10/24 14:41	03/12/24 15:48	1
Hexachlorocyclopentadiene	ND		20	4.6	ug/L		03/10/24 14:41	03/12/24 15:48	1
Hexachloroethane	ND		10	5.3	ug/L		03/10/24 14:41	03/12/24 15:48	1
Indene	ND		10	3.7	ug/L		03/10/24 14:41	03/12/24 15:48	1
Isophorone	ND		10	5.3	ug/L		03/10/24 14:41	03/12/24 15:48	1
2-Methylphenol	ND		10	3.2	ug/L		03/10/24 14:41	03/12/24 15:48	1
3 & 4 Methylphenol	ND		20	4.7	ug/L		03/10/24 14:41	03/12/24 15:48	1
2-Nitroaniline	ND		10	5.1	ug/L		03/10/24 14:41	03/12/24 15:48	1
3-Nitroaniline	ND		10	4.8	ug/L		03/10/24 14:41	03/12/24 15:48	1
4-Nitroaniline	ND		10	4.2	ug/L		03/10/24 14:41	03/12/24 15:48	1
Nitrobenzene	ND		10	4.8	ug/L		03/10/24 14:41	03/12/24 15:48	1
2-Nitrophenol	ND		10	4.7	ug/L		03/10/24 14:41	03/12/24 15:48	1
4-Nitrophenol	ND		10	3.4	ug/L		03/10/24 14:41	03/12/24 15:48	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		03/10/24 14:41	03/12/24 15:48	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: P93D-ROX-030724**

**Lab Sample ID: 400-252330-9**

Date Collected: 03/07/24 09:30

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		03/10/24 14:41	03/12/24 15:48	1
N-Nitrosodiphenylamine	ND		10	3.8	ug/L		03/10/24 14:41	03/12/24 15:48	1
Pentachlorophenol	ND		20	12	ug/L		03/10/24 14:41	03/12/24 15:48	1
Phenol	ND		10	4.3	ug/L		03/10/24 14:41	03/12/24 15:48	1
Pyridine	ND		10	10	ug/L		03/10/24 14:41	03/12/24 15:48	1
Quinoline	ND		10	2.4	ug/L		03/10/24 14:41	03/12/24 15:48	1
2,4,5-Trichlorophenol	ND		10	4.1	ug/L		03/10/24 14:41	03/12/24 15:48	1
2,4,6-Trichlorophenol	ND		10	3.6	ug/L		03/10/24 14:41	03/12/24 15:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	102		21 - 114	03/10/24 14:41	03/12/24 15:48	1
2-Fluorophenol	58		10 - 105	03/10/24 14:41	03/12/24 15:48	1
Nitrobenzene-d5	83		16 - 127	03/10/24 14:41	03/12/24 15:48	1
Phenol-d5	43		10 - 129	03/10/24 14:41	03/12/24 15:48	1
Terphenyl-d14	107		13 - 150	03/10/24 14:41	03/12/24 15:48	1
2,4,6-Tribromophenol	97		10 - 150	03/10/24 14:41	03/12/24 15:48	1

**Method: EPA 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	0.017	ug/L		03/13/24 09:28	03/14/24 00:03	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/13/24 09:28	03/14/24 00:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	83		51 - 149	03/13/24 09:28	03/14/24 00:03	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: P57-ROX-030724**

**Lab Sample ID: 400-252330-10**

Date Collected: 03/07/24 10:25

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/15/24 10:58	1
Acrolein	ND		20	3.3	ug/L			03/15/24 10:58	1
Acrylonitrile	ND		10	2.8	ug/L			03/15/24 10:58	1
<b>Benzene</b>	<b>38</b>	<b>J</b>	1.0	0.50	ug/L			03/15/24 10:58	1
Bromobenzene	ND		1.0	0.54	ug/L			03/15/24 10:58	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/15/24 10:58	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/15/24 10:58	1
Bromoform	ND		5.0	0.25	ug/L			03/15/24 10:58	1
Bromomethane	ND		1.0	0.98	ug/L			03/15/24 10:58	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/15/24 10:58	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/15/24 10:58	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/15/24 10:58	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/15/24 10:58	1
Chloroethane	ND		1.0	0.76	ug/L			03/15/24 10:58	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/15/24 10:58	1
Chloroform	ND		1.0	0.90	ug/L			03/15/24 10:58	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/15/24 10:58	1
Chloromethane	ND		1.0	0.90	ug/L			03/15/24 10:58	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/15/24 10:58	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/15/24 10:58	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/15/24 10:58	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/15/24 10:58	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/15/24 10:58	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/15/24 10:58	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/15/24 10:58	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/15/24 10:58	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/15/24 10:58	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/15/24 10:58	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/15/24 10:58	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/15/24 10:58	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/15/24 10:58	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/15/24 10:58	1
<b>Ethylbenzene</b>	<b>1.4</b>		1.0	0.50	ug/L			03/15/24 10:58	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/15/24 10:58	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/15/24 10:58	1
2-Hexanone	ND		25	1.4	ug/L			03/15/24 10:58	1
<b>Isopropylbenzene</b>	<b>35</b>		1.0	0.53	ug/L			03/15/24 10:58	1
Methylene bromide	ND		5.0	0.22	ug/L			03/15/24 10:58	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/15/24 10:58	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/15/24 10:58	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/15/24 10:58	1
<b>m-Xylene &amp; p-Xylene</b>	<b>1.0</b>	<b>J</b>	5.0	0.63	ug/L			03/15/24 10:58	1
<b>Naphthalene</b>	<b>5.2</b>		5.0	3.0	ug/L			03/15/24 10:58	1
<b>n-Butylbenzene</b>	<b>5.2</b>		1.0	0.76	ug/L			03/15/24 10:58	1
<b>N-Propylbenzene</b>	<b>44</b>		1.0	0.69	ug/L			03/15/24 10:58	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/15/24 10:58	1
o-Xylene	ND		5.0	0.60	ug/L			03/15/24 10:58	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/15/24 10:58	1
<b>p-Isopropyltoluene</b>	<b>0.79</b>	<b>J</b>	1.0	0.71	ug/L			03/15/24 10:58	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: P57-ROX-030724**

**Lab Sample ID: 400-252330-10**

Date Collected: 03/07/24 10:25

Matrix: Water

Date Received: 03/08/24 09:44

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>sec-Butylbenzene</b>	<b>9.0</b>		1.0	0.70	ug/L			03/15/24 10:58	1
Styrene	ND		1.0	1.0	ug/L			03/15/24 10:58	1
<b>tert-Butylbenzene</b>	<b>9.7</b>		1.0	0.63	ug/L			03/15/24 10:58	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/15/24 10:58	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/15/24 10:58	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/15/24 10:58	1
<b>Toluene</b>	<b>4.1</b>		1.0	0.90	ug/L			03/15/24 10:58	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/15/24 10:58	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/15/24 10:58	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/15/24 10:58	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/15/24 10:58	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/15/24 10:58	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/15/24 10:58	1
Trichloroethene	ND		1.0	0.15	ug/L			03/15/24 10:58	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/15/24 10:58	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/15/24 10:58	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/15/24 10:58	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/15/24 10:58	1
Vinyl acetate	ND		25	0.93	ug/L			03/15/24 10:58	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/15/24 10:58	1
Xylenes, Total	ND		10	1.6	ug/L			03/15/24 10:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		72 - 130		03/15/24 10:58	1
Dibromofluoromethane	103		75 - 126		03/15/24 10:58	1
Toluene-d8 (Surr)	98		64 - 132		03/15/24 10:58	1

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acenaphthene</b>	<b>0.29</b>		0.21	0.10	ug/L		03/10/24 14:41	03/11/24 22:18	1
Acenaphthylene	ND		0.21	0.047	ug/L		03/10/24 14:41	03/11/24 22:18	1
<b>Anthracene</b>	<b>0.096</b>	<b>J</b>	0.21	0.050	ug/L		03/10/24 14:41	03/11/24 22:18	1
Benzo[a]anthracene	ND		0.21	0.036	ug/L		03/10/24 14:41	03/11/24 22:18	1
Benzo[a]pyrene	ND		0.21	0.068	ug/L		03/10/24 14:41	03/11/24 22:18	1
Benzo[b]fluoranthene	ND		0.21	0.039	ug/L		03/10/24 14:41	03/11/24 22:18	1
Benzo[g,h,i]perylene	ND		0.21	0.029	ug/L		03/10/24 14:41	03/11/24 22:18	1
Benzo[k]fluoranthene	ND		0.21	0.066	ug/L		03/10/24 14:41	03/11/24 22:18	1
Chrysene	ND		0.21	0.035	ug/L		03/10/24 14:41	03/11/24 22:18	1
Dibenz(a,h)anthracene	ND		0.21	0.051	ug/L		03/10/24 14:41	03/11/24 22:18	1
Fluoranthene	ND		0.21	0.036	ug/L		03/10/24 14:41	03/11/24 22:18	1
<b>Fluorene</b>	<b>0.49</b>		0.21	0.094	ug/L		03/10/24 14:41	03/11/24 22:18	1
Indeno[1,2,3-cd]pyrene	ND		0.21	0.036	ug/L		03/10/24 14:41	03/11/24 22:18	1
<b>Phenanthrene</b>	<b>0.44</b>		0.21	0.095	ug/L		03/10/24 14:41	03/11/24 22:18	1
Pyrene	ND		0.21	0.041	ug/L		03/10/24 14:41	03/11/24 22:18	1
<b>1-Methylnaphthalene</b>	<b>25</b>		0.21	0.085	ug/L		03/10/24 14:41	03/11/24 22:18	1
<b>2-Methylnaphthalene</b>	<b>21</b>		0.21	0.070	ug/L		03/10/24 14:41	03/11/24 22:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	76		18 - 147	03/10/24 14:41	03/11/24 22:18	1
2-Fluorobiphenyl	43		15 - 128	03/10/24 14:41	03/11/24 22:18	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: P57-ROX-030724**

**Lab Sample ID: 400-252330-10**

Date Collected: 03/07/24 10:25

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	73		10 - 144	03/10/24 14:41	03/11/24 22:18	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		11	9.2	ug/L		03/10/24 14:41	03/12/24 16:11	1
Benzenethiol	ND		11	10	ug/L		03/10/24 14:41	03/12/24 16:11	1
Benzoic acid	ND		32	25	ug/L		03/10/24 14:41	03/12/24 16:11	1
Benzyl alcohol	ND		11	7.7	ug/L		03/10/24 14:41	03/12/24 16:11	1
Bis(2-chloroethoxy)methane	ND		11	4.9	ug/L		03/10/24 14:41	03/12/24 16:11	1
Bis(2-chloroethyl)ether	ND		11	4.1	ug/L		03/10/24 14:41	03/12/24 16:11	1
bis (2-chloroisopropyl) ether	ND		11	1.9	ug/L		03/10/24 14:41	03/12/24 16:11	1
Bis(2-ethylhexyl) phthalate	ND		11	9.4	ug/L		03/10/24 14:41	03/12/24 16:11	1
4-Bromophenyl phenyl ether	ND		11	9.1	ug/L		03/10/24 14:41	03/12/24 16:11	1
Butyl benzyl phthalate	ND		11	6.1	ug/L		03/10/24 14:41	03/12/24 16:11	1
4-Chloroaniline	ND		11	5.0	ug/L		03/10/24 14:41	03/12/24 16:11	1
4-Chloro-3-methylphenol	ND		11	5.6	ug/L		03/10/24 14:41	03/12/24 16:11	1
2-Chloronaphthalene	ND		11	4.0	ug/L		03/10/24 14:41	03/12/24 16:11	1
2-Chlorophenol	ND		11	4.3	ug/L		03/10/24 14:41	03/12/24 16:11	1
4-Chlorophenyl phenyl ether	ND		11	3.9	ug/L		03/10/24 14:41	03/12/24 16:11	1
Dibenz[a,h]acridine	ND		11	3.0	ug/L		03/10/24 14:41	03/12/24 16:11	1
Dibenzofuran	ND		11	4.2	ug/L		03/10/24 14:41	03/12/24 16:11	1
3,3'-Dichlorobenzidine	ND		12	12	ug/L		03/10/24 14:41	03/12/24 16:11	1
2,4-Dichlorophenol	ND		11	4.6	ug/L		03/10/24 14:41	03/12/24 16:11	1
Diethyl phthalate	ND		11	4.7	ug/L		03/10/24 14:41	03/12/24 16:11	1
2,4-Dimethylphenol	ND		11	5.5	ug/L		03/10/24 14:41	03/12/24 16:11	1
Dimethyl phthalate	ND		11	4.4	ug/L		03/10/24 14:41	03/12/24 16:11	1
Di-n-butyl phthalate	ND		11	4.9	ug/L		03/10/24 14:41	03/12/24 16:11	1
4,6-Dinitro-ortho-cresol	ND		11	11	ug/L		03/10/24 14:41	03/12/24 16:11	1
2,4-Dinitrophenol	ND		32	4.9	ug/L		03/10/24 14:41	03/12/24 16:11	1
2,4-Dinitrotoluene	ND		11	5.4	ug/L		03/10/24 14:41	03/12/24 16:11	1
2,6-Dinitrotoluene	ND		11	4.1	ug/L		03/10/24 14:41	03/12/24 16:11	1
Di-n-octyl phthalate	ND		11	6.4	ug/L		03/10/24 14:41	03/12/24 16:11	1
1,4-Dioxane	ND		11	4.6	ug/L		03/10/24 14:41	03/12/24 16:11	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		11	3.5	ug/L		03/10/24 14:41	03/12/24 16:11	1
Hexachlorobenzene	ND		11	10	ug/L		03/10/24 14:41	03/12/24 16:11	1
Hexachlorocyclopentadiene	ND		21	4.8	ug/L		03/10/24 14:41	03/12/24 16:11	1
Hexachloroethane	ND		11	5.5	ug/L		03/10/24 14:41	03/12/24 16:11	1
Indene	ND		11	3.8	ug/L		03/10/24 14:41	03/12/24 16:11	1
Isophorone	ND		11	5.5	ug/L		03/10/24 14:41	03/12/24 16:11	1
2-Methylphenol	ND		11	3.4	ug/L		03/10/24 14:41	03/12/24 16:11	1
3 & 4 Methylphenol	ND		21	4.9	ug/L		03/10/24 14:41	03/12/24 16:11	1
2-Nitroaniline	ND		11	5.3	ug/L		03/10/24 14:41	03/12/24 16:11	1
3-Nitroaniline	ND		11	5.0	ug/L		03/10/24 14:41	03/12/24 16:11	1
4-Nitroaniline	ND		11	4.3	ug/L		03/10/24 14:41	03/12/24 16:11	1
Nitrobenzene	ND		11	5.0	ug/L		03/10/24 14:41	03/12/24 16:11	1
2-Nitrophenol	ND		11	4.9	ug/L		03/10/24 14:41	03/12/24 16:11	1
4-Nitrophenol	ND		11	3.5	ug/L		03/10/24 14:41	03/12/24 16:11	1
N-Nitrosodimethylamine	ND		11	2.3	ug/L		03/10/24 14:41	03/12/24 16:11	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: P57-ROX-030724**

**Lab Sample ID: 400-252330-10**

Date Collected: 03/07/24 10:25

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		11	2.6	ug/L		03/10/24 14:41	03/12/24 16:11	1
N-Nitrosodiphenylamine	ND		11	3.9	ug/L		03/10/24 14:41	03/12/24 16:11	1
Pentachlorophenol	ND		21	13	ug/L		03/10/24 14:41	03/12/24 16:11	1
Phenol	ND		11	4.4	ug/L		03/10/24 14:41	03/12/24 16:11	1
Pyridine	ND		11	11	ug/L		03/10/24 14:41	03/12/24 16:11	1
Quinoline	ND		11	2.5	ug/L		03/10/24 14:41	03/12/24 16:11	1
2,4,5-Trichlorophenol	ND		11	4.2	ug/L		03/10/24 14:41	03/12/24 16:11	1
2,4,6-Trichlorophenol	ND		11	3.7	ug/L		03/10/24 14:41	03/12/24 16:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	101		21 - 114	03/10/24 14:41	03/12/24 16:11	1
2-Fluorophenol	60		10 - 105	03/10/24 14:41	03/12/24 16:11	1
Nitrobenzene-d5	82		16 - 127	03/10/24 14:41	03/12/24 16:11	1
Phenol-d5	43		10 - 129	03/10/24 14:41	03/12/24 16:11	1
Terphenyl-d14	106		13 - 150	03/10/24 14:41	03/12/24 16:11	1
2,4,6-Tribromophenol	113		10 - 150	03/10/24 14:41	03/12/24 16:11	1

**Method: EPA 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	0.016	ug/L		03/13/24 09:28	03/14/24 00:24	1
1,2-Dibromoethane	ND		0.019	0.015	ug/L		03/13/24 09:28	03/14/24 00:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	71		51 - 149	03/13/24 09:28	03/14/24 00:24	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: P57-ROX-030724-DUP**

**Lab Sample ID: 400-252330-11**

**Date Collected: 03/07/24 10:25**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/15/24 11:22	1
Acrolein	ND		20	3.3	ug/L			03/15/24 11:22	1
Acrylonitrile	ND		10	2.8	ug/L			03/15/24 11:22	1
<b>Benzene</b>	<b>28</b>	<b>J</b>	1.0	0.50	ug/L			03/15/24 11:22	1
Bromobenzene	ND		1.0	0.54	ug/L			03/15/24 11:22	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/15/24 11:22	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/15/24 11:22	1
Bromoform	ND		5.0	0.25	ug/L			03/15/24 11:22	1
Bromomethane	ND		1.0	0.98	ug/L			03/15/24 11:22	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/15/24 11:22	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/15/24 11:22	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/15/24 11:22	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/15/24 11:22	1
Chloroethane	ND		1.0	0.76	ug/L			03/15/24 11:22	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/15/24 11:22	1
Chloroform	ND		1.0	0.90	ug/L			03/15/24 11:22	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/15/24 11:22	1
Chloromethane	ND		1.0	0.90	ug/L			03/15/24 11:22	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/15/24 11:22	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/15/24 11:22	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/15/24 11:22	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/15/24 11:22	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/15/24 11:22	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/15/24 11:22	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/15/24 11:22	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/15/24 11:22	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/15/24 11:22	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/15/24 11:22	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/15/24 11:22	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/15/24 11:22	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/15/24 11:22	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/15/24 11:22	1
<b>Ethylbenzene</b>	<b>1.1</b>		1.0	0.50	ug/L			03/15/24 11:22	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/15/24 11:22	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/15/24 11:22	1
2-Hexanone	ND		25	1.4	ug/L			03/15/24 11:22	1
<b>Isopropylbenzene</b>	<b>31</b>		1.0	0.53	ug/L			03/15/24 11:22	1
Methylene bromide	ND		5.0	0.22	ug/L			03/15/24 11:22	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/15/24 11:22	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/15/24 11:22	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/15/24 11:22	1
<b>m-Xylene &amp; p-Xylene</b>	<b>0.89</b>	<b>J</b>	5.0	0.63	ug/L			03/15/24 11:22	1
Naphthalene	ND		5.0	3.0	ug/L			03/15/24 11:22	1
<b>n-Butylbenzene</b>	<b>4.5</b>		1.0	0.76	ug/L			03/15/24 11:22	1
<b>N-Propylbenzene</b>	<b>39</b>		1.0	0.69	ug/L			03/15/24 11:22	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/15/24 11:22	1
o-Xylene	ND		5.0	0.60	ug/L			03/15/24 11:22	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/15/24 11:22	1
<b>p-Isopropyltoluene</b>	<b>0.75</b>	<b>J</b>	1.0	0.71	ug/L			03/15/24 11:22	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: P57-ROX-030724-DUP**

**Lab Sample ID: 400-252330-11**

Date Collected: 03/07/24 10:25

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>sec-Butylbenzene</b>	<b>8.2</b>		1.0	0.70	ug/L			03/15/24 11:22	1
Styrene	ND		1.0	1.0	ug/L			03/15/24 11:22	1
<b>tert-Butylbenzene</b>	<b>8.8</b>		1.0	0.63	ug/L			03/15/24 11:22	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/15/24 11:22	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/15/24 11:22	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/15/24 11:22	1
<b>Toluene</b>	<b>3.7</b>		1.0	0.90	ug/L			03/15/24 11:22	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/15/24 11:22	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/15/24 11:22	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/15/24 11:22	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/15/24 11:22	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/15/24 11:22	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/15/24 11:22	1
Trichloroethene	ND		1.0	0.15	ug/L			03/15/24 11:22	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/15/24 11:22	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/15/24 11:22	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/15/24 11:22	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/15/24 11:22	1
Vinyl acetate	ND		25	0.93	ug/L			03/15/24 11:22	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/15/24 11:22	1
Xylenes, Total	ND		10	1.6	ug/L			03/15/24 11:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		72 - 130		03/15/24 11:22	1
Dibromofluoromethane	103		75 - 126		03/15/24 11:22	1
Toluene-d8 (Surr)	97		64 - 132		03/15/24 11:22	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acenaphthene</b>	<b>0.28</b>		0.22	0.11	ug/L		03/10/24 14:41	03/11/24 22:39	1
Acenaphthylene	ND		0.22	0.047	ug/L		03/10/24 14:41	03/11/24 22:39	1
<b>Anthracene</b>	<b>0.080</b>	<b>J</b>	0.22	0.051	ug/L		03/10/24 14:41	03/11/24 22:39	1
Benzo[a]anthracene	ND		0.22	0.037	ug/L		03/10/24 14:41	03/11/24 22:39	1
Benzo[a]pyrene	ND		0.22	0.069	ug/L		03/10/24 14:41	03/11/24 22:39	1
Benzo[b]fluoranthene	ND		0.22	0.040	ug/L		03/10/24 14:41	03/11/24 22:39	1
Benzo[g,h,i]perylene	ND		0.22	0.029	ug/L		03/10/24 14:41	03/11/24 22:39	1
Benzo[k]fluoranthene	ND		0.22	0.067	ug/L		03/10/24 14:41	03/11/24 22:39	1
Chrysene	ND		0.22	0.035	ug/L		03/10/24 14:41	03/11/24 22:39	1
Dibenz(a,h)anthracene	ND		0.22	0.052	ug/L		03/10/24 14:41	03/11/24 22:39	1
Fluoranthene	ND		0.22	0.037	ug/L		03/10/24 14:41	03/11/24 22:39	1
<b>Fluorene</b>	<b>0.51</b>		0.22	0.096	ug/L		03/10/24 14:41	03/11/24 22:39	1
Indeno[1,2,3-cd]pyrene	ND		0.22	0.037	ug/L		03/10/24 14:41	03/11/24 22:39	1
<b>Phenanthrene</b>	<b>0.41</b>		0.22	0.097	ug/L		03/10/24 14:41	03/11/24 22:39	1
Pyrene	ND		0.22	0.042	ug/L		03/10/24 14:41	03/11/24 22:39	1
<b>1-Methylnaphthalene</b>	<b>24</b>		0.22	0.086	ug/L		03/10/24 14:41	03/11/24 22:39	1
<b>2-Methylnaphthalene</b>	<b>18</b>		0.22	0.071	ug/L		03/10/24 14:41	03/11/24 22:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	75		18 - 147	03/10/24 14:41	03/11/24 22:39	1
2-Fluorobiphenyl	42		15 - 128	03/10/24 14:41	03/11/24 22:39	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: P57-ROX-030724-DUP**

**Lab Sample ID: 400-252330-11**

Date Collected: 03/07/24 10:25

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	72		10 - 144	03/10/24 14:41	03/11/24 22:39	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		11	9.4	ug/L		03/10/24 14:41	03/12/24 16:35	1
Benzenethiol	ND		11	11	ug/L		03/10/24 14:41	03/12/24 16:35	1
Benzoic acid	ND		32	26	ug/L		03/10/24 14:41	03/12/24 16:35	1
Benzyl alcohol	ND		11	7.9	ug/L		03/10/24 14:41	03/12/24 16:35	1
Bis(2-chloroethoxy)methane	ND		11	4.9	ug/L		03/10/24 14:41	03/12/24 16:35	1
Bis(2-chloroethyl)ether	ND		11	4.2	ug/L		03/10/24 14:41	03/12/24 16:35	1
bis (2-chloroisopropyl) ether	ND		11	1.9	ug/L		03/10/24 14:41	03/12/24 16:35	1
Bis(2-ethylhexyl) phthalate	ND		11	9.6	ug/L		03/10/24 14:41	03/12/24 16:35	1
4-Bromophenyl phenyl ether	ND		11	9.3	ug/L		03/10/24 14:41	03/12/24 16:35	1
Butyl benzyl phthalate	ND		11	6.2	ug/L		03/10/24 14:41	03/12/24 16:35	1
4-Chloroaniline	ND		11	5.1	ug/L		03/10/24 14:41	03/12/24 16:35	1
4-Chloro-3-methylphenol	ND		11	5.7	ug/L		03/10/24 14:41	03/12/24 16:35	1
2-Chloronaphthalene	ND		11	4.1	ug/L		03/10/24 14:41	03/12/24 16:35	1
2-Chlorophenol	ND		11	4.4	ug/L		03/10/24 14:41	03/12/24 16:35	1
4-Chlorophenyl phenyl ether	ND		11	4.0	ug/L		03/10/24 14:41	03/12/24 16:35	1
Dibenz[a,h]acridine	ND		11	3.0	ug/L		03/10/24 14:41	03/12/24 16:35	1
Dibenzofuran	ND		11	4.3	ug/L		03/10/24 14:41	03/12/24 16:35	1
3,3'-Dichlorobenzidine	ND		12	12	ug/L		03/10/24 14:41	03/12/24 16:35	1
2,4-Dichlorophenol	ND		11	4.6	ug/L		03/10/24 14:41	03/12/24 16:35	1
Diethyl phthalate	ND		11	4.7	ug/L		03/10/24 14:41	03/12/24 16:35	1
2,4-Dimethylphenol	ND		11	5.6	ug/L		03/10/24 14:41	03/12/24 16:35	1
Dimethyl phthalate	ND		11	4.5	ug/L		03/10/24 14:41	03/12/24 16:35	1
Di-n-butyl phthalate	ND		11	4.9	ug/L		03/10/24 14:41	03/12/24 16:35	1
4,6-Dinitro-ortho-cresol	ND		11	11	ug/L		03/10/24 14:41	03/12/24 16:35	1
2,4-Dinitrophenol	ND		32	4.9	ug/L		03/10/24 14:41	03/12/24 16:35	1
2,4-Dinitrotoluene	ND		11	5.5	ug/L		03/10/24 14:41	03/12/24 16:35	1
2,6-Dinitrotoluene	ND		11	4.2	ug/L		03/10/24 14:41	03/12/24 16:35	1
Di-n-octyl phthalate	ND		11	6.5	ug/L		03/10/24 14:41	03/12/24 16:35	1
1,4-Dioxane	ND		11	4.6	ug/L		03/10/24 14:41	03/12/24 16:35	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		11	3.5	ug/L		03/10/24 14:41	03/12/24 16:35	1
Hexachlorobenzene	ND		11	10	ug/L		03/10/24 14:41	03/12/24 16:35	1
Hexachlorocyclopentadiene	ND		22	4.8	ug/L		03/10/24 14:41	03/12/24 16:35	1
Hexachloroethane	ND		11	5.6	ug/L		03/10/24 14:41	03/12/24 16:35	1
Indene	ND		11	3.9	ug/L		03/10/24 14:41	03/12/24 16:35	1
Isophorone	ND		11	5.6	ug/L		03/10/24 14:41	03/12/24 16:35	1
2-Methylphenol	ND		11	3.4	ug/L		03/10/24 14:41	03/12/24 16:35	1
3 & 4 Methylphenol	ND		22	4.9	ug/L		03/10/24 14:41	03/12/24 16:35	1
2-Nitroaniline	ND		11	5.4	ug/L		03/10/24 14:41	03/12/24 16:35	1
3-Nitroaniline	ND		11	5.1	ug/L		03/10/24 14:41	03/12/24 16:35	1
4-Nitroaniline	ND		11	4.4	ug/L		03/10/24 14:41	03/12/24 16:35	1
Nitrobenzene	ND		11	5.1	ug/L		03/10/24 14:41	03/12/24 16:35	1
2-Nitrophenol	ND		11	4.9	ug/L		03/10/24 14:41	03/12/24 16:35	1
4-Nitrophenol	ND		11	3.5	ug/L		03/10/24 14:41	03/12/24 16:35	1
N-Nitrosodimethylamine	ND		11	2.4	ug/L		03/10/24 14:41	03/12/24 16:35	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: P57-ROX-030724-DUP**

**Lab Sample ID: 400-252330-11**

Date Collected: 03/07/24 10:25

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		11	2.7	ug/L		03/10/24 14:41	03/12/24 16:35	1
N-Nitrosodiphenylamine	ND		11	4.0	ug/L		03/10/24 14:41	03/12/24 16:35	1
Pentachlorophenol	ND		22	13	ug/L		03/10/24 14:41	03/12/24 16:35	1
Phenol	ND		11	4.5	ug/L		03/10/24 14:41	03/12/24 16:35	1
Pyridine	ND		11	11	ug/L		03/10/24 14:41	03/12/24 16:35	1
Quinoline	ND		11	2.6	ug/L		03/10/24 14:41	03/12/24 16:35	1
2,4,5-Trichlorophenol	ND		11	4.3	ug/L		03/10/24 14:41	03/12/24 16:35	1
2,4,6-Trichlorophenol	ND		11	3.8	ug/L		03/10/24 14:41	03/12/24 16:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	99		21 - 114	03/10/24 14:41	03/12/24 16:35	1
2-Fluorophenol	62		10 - 105	03/10/24 14:41	03/12/24 16:35	1
Nitrobenzene-d5	79		16 - 127	03/10/24 14:41	03/12/24 16:35	1
Phenol-d5	49		10 - 129	03/10/24 14:41	03/12/24 16:35	1
Terphenyl-d14	108		13 - 150	03/10/24 14:41	03/12/24 16:35	1
2,4,6-Tribromophenol	101		10 - 150	03/10/24 14:41	03/12/24 16:35	1

**Method: EPA 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	0.017	ug/L		03/13/24 09:28	03/14/24 00:46	1
1,2-Dibromoethane	ND		0.021	0.015	ug/L		03/13/24 09:28	03/14/24 00:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	74		51 - 149	03/13/24 09:28	03/14/24 00:46	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: T12-ROX-030724**

**Lab Sample ID: 400-252330-12**

**Date Collected: 03/07/24 11:35**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		130	50	ug/L			03/13/24 23:13	5
Acrolein	ND		100	17	ug/L			03/13/24 23:13	5
Acrylonitrile	ND		50	14	ug/L			03/13/24 23:13	5
<b>Benzene</b>	<b>930</b>		5.0	2.5	ug/L			03/13/24 23:13	5
Bromobenzene	ND		5.0	2.7	ug/L			03/13/24 23:13	5
Bromochloromethane	ND		5.0	1.1	ug/L			03/13/24 23:13	5
Bromodichloromethane	ND		5.0	2.5	ug/L			03/13/24 23:13	5
Bromoform	ND		25	1.3	ug/L			03/13/24 23:13	5
Bromomethane	ND		5.0	4.9	ug/L			03/13/24 23:13	5
2-Butanone (MEK)	ND		130	13	ug/L			03/13/24 23:13	5
Carbon disulfide	ND		5.0	2.5	ug/L			03/13/24 23:13	5
Carbon tetrachloride	ND		5.0	0.95	ug/L			03/13/24 23:13	5
Chlorobenzene	ND		5.0	4.5	ug/L			03/13/24 23:13	5
Chloroethane	ND		5.0	3.8	ug/L			03/13/24 23:13	5
2-Chloroethyl vinyl ether	ND		25	10	ug/L			03/13/24 23:13	5
Chloroform	ND		5.0	4.5	ug/L			03/13/24 23:13	5
1-Chlorohexane	ND		5.0	1.6	ug/L			03/13/24 23:13	5
Chloromethane	ND	UJ	5.0	4.5	ug/L			03/13/24 23:13	5
cis-1,2-Dichloroethene	ND		5.0	1.0	ug/L			03/13/24 23:13	5
cis-1,3-Dichloropropene	ND		25	2.5	ug/L			03/13/24 23:13	5
Dibromochloromethane	ND		5.0	1.2	ug/L			03/13/24 23:13	5
1,2-Dichlorobenzene	ND		5.0	2.5	ug/L			03/13/24 23:13	5
1,3-Dichlorobenzene	ND		5.0	2.7	ug/L			03/13/24 23:13	5
1,4-Dichlorobenzene	ND		5.0	3.2	ug/L			03/13/24 23:13	5
Dichlorodifluoromethane	ND		5.0	4.3	ug/L			03/13/24 23:13	5
1,1-Dichloroethane	ND		5.0	2.5	ug/L			03/13/24 23:13	5
1,2-Dichloroethane	ND		5.0	0.95	ug/L			03/13/24 23:13	5
1,1-Dichloroethene	ND		5.0	2.5	ug/L			03/13/24 23:13	5
1,2-Dichloropropane	ND		5.0	2.5	ug/L			03/13/24 23:13	5
1,3-Dichloropropane	ND		5.0	2.5	ug/L			03/13/24 23:13	5
2,2-Dichloropropane	ND		5.0	2.5	ug/L			03/13/24 23:13	5
1,1-Dichloropropene	ND		5.0	2.5	ug/L			03/13/24 23:13	5
<b>Ethylbenzene</b>	<b>3.3 J</b>		5.0	2.5	ug/L			03/13/24 23:13	5
Ethyl methacrylate	ND		5.0	3.0	ug/L			03/13/24 23:13	5
Hexachlorobutadiene	ND		25	4.5	ug/L			03/13/24 23:13	5
2-Hexanone	ND		130	7.0	ug/L			03/13/24 23:13	5
<b>Isopropylbenzene</b>	<b>7.1</b>		5.0	2.7	ug/L			03/13/24 23:13	5
Methylene bromide	ND		25	1.1	ug/L			03/13/24 23:13	5
Methylene Chloride	ND		25	15	ug/L			03/13/24 23:13	5
4-Methyl-2-pentanone (MIBK)	ND		130	9.0	ug/L			03/13/24 23:13	5
Methyl tert-butyl ether	ND		5.0	1.1	ug/L			03/13/24 23:13	5
<b>m-Xylene &amp; p-Xylene</b>	<b>16 J</b>		25	3.2	ug/L			03/13/24 23:13	5
Naphthalene	ND		25	15	ug/L			03/13/24 23:13	5
n-Butylbenzene	ND		5.0	3.8	ug/L			03/13/24 23:13	5
<b>N-Propylbenzene</b>	<b>7.4</b>		5.0	3.5	ug/L			03/13/24 23:13	5
o-Chlorotoluene	ND		5.0	2.9	ug/L			03/13/24 23:13	5
o-Xylene	ND		25	3.0	ug/L			03/13/24 23:13	5
p-Chlorotoluene	ND		5.0	2.8	ug/L			03/13/24 23:13	5
p-Isopropyltoluene	ND		5.0	3.6	ug/L			03/13/24 23:13	5

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: T12-ROX-030724**

**Lab Sample ID: 400-252330-12**

Date Collected: 03/07/24 11:35

Matrix: Water

Date Received: 03/08/24 09:44

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		5.0	3.5	ug/L			03/13/24 23:13	5
Styrene	ND		5.0	5.0	ug/L			03/13/24 23:13	5
tert-Butylbenzene	ND		5.0	3.2	ug/L			03/13/24 23:13	5
1,1,1,2-Tetrachloroethane	ND		5.0	0.80	ug/L			03/13/24 23:13	5
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/L			03/13/24 23:13	5
Tetrachloroethene	ND		5.0	4.5	ug/L			03/13/24 23:13	5
<b>Toluene</b>	<b>15</b>		5.0	4.5	ug/L			03/13/24 23:13	5
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/L			03/13/24 23:13	5
trans-1,3-Dichloropropene	ND		25	1.0	ug/L			03/13/24 23:13	5
1,2,3-Trichlorobenzene	ND		5.0	4.5	ug/L			03/13/24 23:13	5
1,2,4-Trichlorobenzene	ND		5.0	4.1	ug/L			03/13/24 23:13	5
1,1,1-Trichloroethane	ND		5.0	0.90	ug/L			03/13/24 23:13	5
1,1,2-Trichloroethane	ND		25	1.1	ug/L			03/13/24 23:13	5
Trichloroethene	ND		5.0	0.75	ug/L			03/13/24 23:13	5
Trichlorofluoromethane	ND		5.0	2.6	ug/L			03/13/24 23:13	5
1,2,3-Trichloropropane	ND		25	4.2	ug/L			03/13/24 23:13	5
1,2,4-Trimethylbenzene	ND		5.0	4.1	ug/L			03/13/24 23:13	5
1,3,5-Trimethylbenzene	ND		5.0	2.8	ug/L			03/13/24 23:13	5
Vinyl acetate	ND		130	4.7	ug/L			03/13/24 23:13	5
Vinyl chloride	ND		5.0	2.5	ug/L			03/13/24 23:13	5
<b>Xylenes, Total</b>	<b>18 J</b>		50	8.0	ug/L			03/13/24 23:13	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	104		72 - 130		03/13/24 23:13	5
Dibromofluoromethane	103		75 - 126		03/13/24 23:13	5
Toluene-d8 (Surr)	101		64 - 132		03/13/24 23:13	5

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acenaphthene</b>	<b>0.37</b>		0.21	0.10	ug/L		03/10/24 14:41	03/11/24 22:59	1
Acenaphthylene	ND		0.21	0.046	ug/L		03/10/24 14:41	03/11/24 22:59	1
<b>Anthracene</b>	<b>0.12 J</b>		0.21	0.049	ug/L		03/10/24 14:41	03/11/24 22:59	1
Benzo[a]anthracene	ND		0.21	0.036	ug/L		03/10/24 14:41	03/11/24 22:59	1
Benzo[a]pyrene	ND		0.21	0.067	ug/L		03/10/24 14:41	03/11/24 22:59	1
Benzo[b]fluoranthene	ND		0.21	0.039	ug/L		03/10/24 14:41	03/11/24 22:59	1
Benzo[g,h,i]perylene	ND		0.21	0.028	ug/L		03/10/24 14:41	03/11/24 22:59	1
Benzo[k]fluoranthene	ND		0.21	0.065	ug/L		03/10/24 14:41	03/11/24 22:59	1
Chrysene	ND		0.21	0.035	ug/L		03/10/24 14:41	03/11/24 22:59	1
Dibenz(a,h)anthracene	ND		0.21	0.050	ug/L		03/10/24 14:41	03/11/24 22:59	1
Fluoranthene	ND		0.21	0.036	ug/L		03/10/24 14:41	03/11/24 22:59	1
<b>Fluorene</b>	<b>0.31</b>		0.21	0.093	ug/L		03/10/24 14:41	03/11/24 22:59	1
Indeno[1,2,3-cd]pyrene	ND		0.21	0.036	ug/L		03/10/24 14:41	03/11/24 22:59	1
<b>Phenanthrene</b>	<b>0.62</b>		0.21	0.094	ug/L		03/10/24 14:41	03/11/24 22:59	1
Pyrene	ND		0.21	0.041	ug/L		03/10/24 14:41	03/11/24 22:59	1
<b>1-Methylnaphthalene</b>	<b>16</b>		0.21	0.084	ug/L		03/10/24 14:41	03/11/24 22:59	1
<b>2-Methylnaphthalene</b>	<b>23</b>		0.21	0.069	ug/L		03/10/24 14:41	03/11/24 22:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	73		18 - 147	03/10/24 14:41	03/11/24 22:59	1
2-Fluorobiphenyl	52		15 - 128	03/10/24 14:41	03/11/24 22:59	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: T12-ROX-030724**

**Lab Sample ID: 400-252330-12**

Date Collected: 03/07/24 11:35

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	67		10 - 144	03/10/24 14:41	03/11/24 22:59	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	9.1	ug/L		03/10/24 14:41	03/12/24 16:58	1
Benzenethiol	ND		10	10	ug/L		03/10/24 14:41	03/12/24 16:58	1
Benzoic acid	ND		31	25	ug/L		03/10/24 14:41	03/12/24 16:58	1
Benzyl alcohol	ND		10	7.7	ug/L		03/10/24 14:41	03/12/24 16:58	1
Bis(2-chloroethoxy)methane	ND		10	4.8	ug/L		03/10/24 14:41	03/12/24 16:58	1
Bis(2-chloroethyl)ether	ND		10	4.1	ug/L		03/10/24 14:41	03/12/24 16:58	1
bis (2-chloroisopropyl) ether	ND		10	1.9	ug/L		03/10/24 14:41	03/12/24 16:58	1
Bis(2-ethylhexyl) phthalate	ND		10	9.3	ug/L		03/10/24 14:41	03/12/24 16:58	1
4-Bromophenyl phenyl ether	ND		10	9.0	ug/L		03/10/24 14:41	03/12/24 16:58	1
Butyl benzyl phthalate	ND		10	6.1	ug/L		03/10/24 14:41	03/12/24 16:58	1
4-Chloroaniline	ND		10	4.9	ug/L		03/10/24 14:41	03/12/24 16:58	1
4-Chloro-3-methylphenol	ND		10	5.6	ug/L		03/10/24 14:41	03/12/24 16:58	1
2-Chloronaphthalene	ND		10	4.0	ug/L		03/10/24 14:41	03/12/24 16:58	1
2-Chlorophenol	ND		10	4.3	ug/L		03/10/24 14:41	03/12/24 16:58	1
4-Chlorophenyl phenyl ether	ND		10	3.9	ug/L		03/10/24 14:41	03/12/24 16:58	1
Dibenz[a,h]acridine	ND		10	2.9	ug/L		03/10/24 14:41	03/12/24 16:58	1
Dibenzofuran	ND		10	4.2	ug/L		03/10/24 14:41	03/12/24 16:58	1
3,3'-Dichlorobenzidine	ND		12	12	ug/L		03/10/24 14:41	03/12/24 16:58	1
2,4-Dichlorophenol	ND		10	4.5	ug/L		03/10/24 14:41	03/12/24 16:58	1
Diethyl phthalate	ND		10	4.6	ug/L		03/10/24 14:41	03/12/24 16:58	1
2,4-Dimethylphenol	ND		10	5.5	ug/L		03/10/24 14:41	03/12/24 16:58	1
Dimethyl phthalate	ND		10	4.4	ug/L		03/10/24 14:41	03/12/24 16:58	1
Di-n-butyl phthalate	ND		10	4.8	ug/L		03/10/24 14:41	03/12/24 16:58	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		03/10/24 14:41	03/12/24 16:58	1
2,4-Dinitrophenol	ND		31	4.8	ug/L		03/10/24 14:41	03/12/24 16:58	1
2,4-Dinitrotoluene	ND		10	5.4	ug/L		03/10/24 14:41	03/12/24 16:58	1
2,6-Dinitrotoluene	ND		10	4.1	ug/L		03/10/24 14:41	03/12/24 16:58	1
Di-n-octyl phthalate	ND		10	6.3	ug/L		03/10/24 14:41	03/12/24 16:58	1
1,4-Dioxane	ND		10	4.5	ug/L		03/10/24 14:41	03/12/24 16:58	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.5	ug/L		03/10/24 14:41	03/12/24 16:58	1
Hexachlorobenzene	ND		10	10	ug/L		03/10/24 14:41	03/12/24 16:58	1
Hexachlorocyclopentadiene	ND		21	4.7	ug/L		03/10/24 14:41	03/12/24 16:58	1
Hexachloroethane	ND		10	5.5	ug/L		03/10/24 14:41	03/12/24 16:58	1
Indene	ND		10	3.8	ug/L		03/10/24 14:41	03/12/24 16:58	1
Isophorone	ND		10	5.5	ug/L		03/10/24 14:41	03/12/24 16:58	1
2-Methylphenol	ND		10	3.4	ug/L		03/10/24 14:41	03/12/24 16:58	1
3 & 4 Methylphenol	ND		21	4.8	ug/L		03/10/24 14:41	03/12/24 16:58	1
2-Nitroaniline	ND		10	5.2	ug/L		03/10/24 14:41	03/12/24 16:58	1
3-Nitroaniline	ND		10	4.9	ug/L		03/10/24 14:41	03/12/24 16:58	1
4-Nitroaniline	ND		10	4.3	ug/L		03/10/24 14:41	03/12/24 16:58	1
Nitrobenzene	ND		10	4.9	ug/L		03/10/24 14:41	03/12/24 16:58	1
2-Nitrophenol	ND		10	4.8	ug/L		03/10/24 14:41	03/12/24 16:58	1
4-Nitrophenol	ND		10	3.5	ug/L		03/10/24 14:41	03/12/24 16:58	1
N-Nitrosodimethylamine	ND		10	2.3	ug/L		03/10/24 14:41	03/12/24 16:58	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: T12-ROX-030724**

**Lab Sample ID: 400-252330-12**

Date Collected: 03/07/24 11:35

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	2.6	ug/L		03/10/24 14:41	03/12/24 16:58	1
N-Nitrosodiphenylamine	ND		10	3.9	ug/L		03/10/24 14:41	03/12/24 16:58	1
Pentachlorophenol	ND		21	12	ug/L		03/10/24 14:41	03/12/24 16:58	1
<b>Phenol</b>	<b>39</b>		10	4.4	ug/L		03/10/24 14:41	03/12/24 16:58	1
Pyridine	ND		10	10	ug/L		03/10/24 14:41	03/12/24 16:58	1
Quinoline	ND		10	2.5	ug/L		03/10/24 14:41	03/12/24 16:58	1
2,4,5-Trichlorophenol	ND		10	4.2	ug/L		03/10/24 14:41	03/12/24 16:58	1
2,4,6-Trichlorophenol	ND		10	3.7	ug/L		03/10/24 14:41	03/12/24 16:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	100		21 - 114	03/10/24 14:41	03/12/24 16:58	1
2-Fluorophenol	62		10 - 105	03/10/24 14:41	03/12/24 16:58	1
Nitrobenzene-d5	82		16 - 127	03/10/24 14:41	03/12/24 16:58	1
Phenol-d5	50		10 - 129	03/10/24 14:41	03/12/24 16:58	1
Terphenyl-d14	113		13 - 150	03/10/24 14:41	03/12/24 16:58	1
2,4,6-Tribromophenol	120		10 - 150	03/10/24 14:41	03/12/24 16:58	1

**Method: EPA 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	0.017	ug/L		03/13/24 09:28	03/14/24 01:07	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/13/24 09:28	03/14/24 01:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	75		51 - 149	03/13/24 09:28	03/14/24 01:07	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: P59-ROX-030724**

**Lab Sample ID: 400-252330-13**

Date Collected: 03/07/24 13:15

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		130	50	ug/L			03/13/24 23:37	5
Acrolein	ND		100	17	ug/L			03/13/24 23:37	5
Acrylonitrile	ND		50	14	ug/L			03/13/24 23:37	5
<b>Benzene</b>	<b>1100</b>		5.0	2.5	ug/L			03/13/24 23:37	5
Bromobenzene	ND		5.0	2.7	ug/L			03/13/24 23:37	5
Bromochloromethane	ND		5.0	1.1	ug/L			03/13/24 23:37	5
Bromodichloromethane	ND		5.0	2.5	ug/L			03/13/24 23:37	5
Bromoform	ND		25	1.3	ug/L			03/13/24 23:37	5
Bromomethane	ND		5.0	4.9	ug/L			03/13/24 23:37	5
<b>2-Butanone (MEK)</b>	<b>20</b>	<b>J</b>	130	13	ug/L			03/13/24 23:37	5
Carbon disulfide	ND		5.0	2.5	ug/L			03/13/24 23:37	5
Carbon tetrachloride	ND		5.0	0.95	ug/L			03/13/24 23:37	5
Chlorobenzene	ND		5.0	4.5	ug/L			03/13/24 23:37	5
Chloroethane	ND		5.0	3.8	ug/L			03/13/24 23:37	5
2-Chloroethyl vinyl ether	ND		25	10	ug/L			03/13/24 23:37	5
Chloroform	ND		5.0	4.5	ug/L			03/13/24 23:37	5
1-Chlorohexane	ND		5.0	1.6	ug/L			03/13/24 23:37	5
Chloromethane	ND	<b>UJ</b>	5.0	4.5	ug/L			03/13/24 23:37	5
cis-1,2-Dichloroethene	ND		5.0	1.0	ug/L			03/13/24 23:37	5
cis-1,3-Dichloropropene	ND		25	2.5	ug/L			03/13/24 23:37	5
Dibromochloromethane	ND		5.0	1.2	ug/L			03/13/24 23:37	5
1,2-Dichlorobenzene	ND		5.0	2.5	ug/L			03/13/24 23:37	5
1,3-Dichlorobenzene	ND		5.0	2.7	ug/L			03/13/24 23:37	5
1,4-Dichlorobenzene	ND		5.0	3.2	ug/L			03/13/24 23:37	5
Dichlorodifluoromethane	ND		5.0	4.3	ug/L			03/13/24 23:37	5
1,1-Dichloroethane	ND		5.0	2.5	ug/L			03/13/24 23:37	5
1,2-Dichloroethane	ND		5.0	0.95	ug/L			03/13/24 23:37	5
1,1-Dichloroethene	ND		5.0	2.5	ug/L			03/13/24 23:37	5
1,2-Dichloropropane	ND		5.0	2.5	ug/L			03/13/24 23:37	5
1,3-Dichloropropane	ND		5.0	2.5	ug/L			03/13/24 23:37	5
2,2-Dichloropropane	ND		5.0	2.5	ug/L			03/13/24 23:37	5
1,1-Dichloropropene	ND		5.0	2.5	ug/L			03/13/24 23:37	5
<b>Ethylbenzene</b>	<b>50</b>		5.0	2.5	ug/L			03/13/24 23:37	5
Ethyl methacrylate	ND		5.0	3.0	ug/L			03/13/24 23:37	5
Hexachlorobutadiene	ND		25	4.5	ug/L			03/13/24 23:37	5
2-Hexanone	ND		130	7.0	ug/L			03/13/24 23:37	5
<b>Isopropylbenzene</b>	<b>24</b>		5.0	2.7	ug/L			03/13/24 23:37	5
Methylene bromide	ND		25	1.1	ug/L			03/13/24 23:37	5
Methylene Chloride	ND		25	15	ug/L			03/13/24 23:37	5
4-Methyl-2-pentanone (MIBK)	ND		130	9.0	ug/L			03/13/24 23:37	5
Methyl tert-butyl ether	ND		5.0	1.1	ug/L			03/13/24 23:37	5
<b>m-Xylene &amp; p-Xylene</b>	<b>57</b>		25	3.2	ug/L			03/13/24 23:37	5
<b>Naphthalene</b>	<b>17</b>	<b>J</b>	25	15	ug/L			03/13/24 23:37	5
n-Butylbenzene	ND		5.0	3.8	ug/L			03/13/24 23:37	5
<b>N-Propylbenzene</b>	<b>34</b>		5.0	3.5	ug/L			03/13/24 23:37	5
o-Chlorotoluene	ND		5.0	2.9	ug/L			03/13/24 23:37	5
o-Xylene	ND		25	3.0	ug/L			03/13/24 23:37	5
p-Chlorotoluene	ND		5.0	2.8	ug/L			03/13/24 23:37	5
p-Isopropyltoluene	ND		5.0	3.6	ug/L			03/13/24 23:37	5

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: P59-ROX-030724**

**Lab Sample ID: 400-252330-13**

Date Collected: 03/07/24 13:15

Matrix: Water

Date Received: 03/08/24 09:44

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		5.0	3.5	ug/L			03/13/24 23:37	5
Styrene	ND		5.0	5.0	ug/L			03/13/24 23:37	5
tert-Butylbenzene	ND		5.0	3.2	ug/L			03/13/24 23:37	5
1,1,1,2-Tetrachloroethane	ND		5.0	0.80	ug/L			03/13/24 23:37	5
1,1,2,2-Tetrachloroethane	ND		5.0	2.5	ug/L			03/13/24 23:37	5
Tetrachloroethene	ND		5.0	4.5	ug/L			03/13/24 23:37	5
<b>Toluene</b>	<b>47</b>		5.0	4.5	ug/L			03/13/24 23:37	5
trans-1,2-Dichloroethene	ND		5.0	2.5	ug/L			03/13/24 23:37	5
trans-1,3-Dichloropropene	ND		25	1.0	ug/L			03/13/24 23:37	5
1,2,3-Trichlorobenzene	ND		5.0	4.5	ug/L			03/13/24 23:37	5
1,2,4-Trichlorobenzene	ND		5.0	4.1	ug/L			03/13/24 23:37	5
1,1,1-Trichloroethane	ND		5.0	0.90	ug/L			03/13/24 23:37	5
1,1,2-Trichloroethane	ND		25	1.1	ug/L			03/13/24 23:37	5
Trichloroethene	ND		5.0	0.75	ug/L			03/13/24 23:37	5
Trichlorofluoromethane	ND		5.0	2.6	ug/L			03/13/24 23:37	5
1,2,3-Trichloropropane	ND		25	4.2	ug/L			03/13/24 23:37	5
<b>1,2,4-Trimethylbenzene</b>	<b>7.2</b>		5.0	4.1	ug/L			03/13/24 23:37	5
<b>1,3,5-Trimethylbenzene</b>	<b>13</b>		5.0	2.8	ug/L			03/13/24 23:37	5
Vinyl acetate	ND		130	4.7	ug/L			03/13/24 23:37	5
Vinyl chloride	ND		5.0	2.5	ug/L			03/13/24 23:37	5
<b>Xylenes, Total</b>	<b>59</b>		50	8.0	ug/L			03/13/24 23:37	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		72 - 130		03/13/24 23:37	5
Dibromofluoromethane	104		75 - 126		03/13/24 23:37	5
Toluene-d8 (Surr)	100		64 - 132		03/13/24 23:37	5

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acenaphthene</b>	<b>0.74</b>		0.21	0.11	ug/L		03/10/24 14:41	03/11/24 23:20	1
Acenaphthylene	ND		0.21	0.047	ug/L		03/10/24 14:41	03/11/24 23:20	1
<b>Anthracene</b>	<b>0.32</b>		0.21	0.050	ug/L		03/10/24 14:41	03/11/24 23:20	1
<b>Benzo[a]anthracene</b>	<b>0.090</b>	<b>J</b>	0.21	0.036	ug/L		03/10/24 14:41	03/11/24 23:20	1
Benzo[a]pyrene	ND		0.21	0.068	ug/L		03/10/24 14:41	03/11/24 23:20	1
Benzo[b]fluoranthene	ND		0.21	0.039	ug/L		03/10/24 14:41	03/11/24 23:20	1
Benzo[g,h,i]perylene	ND		0.21	0.029	ug/L		03/10/24 14:41	03/11/24 23:20	1
Benzo[k]fluoranthene	ND		0.21	0.066	ug/L		03/10/24 14:41	03/11/24 23:20	1
<b>Chrysene</b>	<b>0.15</b>	<b>J</b>	0.21	0.035	ug/L		03/10/24 14:41	03/11/24 23:20	1
Dibenz(a,h)anthracene	ND		0.21	0.051	ug/L		03/10/24 14:41	03/11/24 23:20	1
<b>Fluoranthene</b>	<b>0.20</b>	<b>J</b>	0.21	0.036	ug/L		03/10/24 14:41	03/11/24 23:20	1
<b>Fluorene</b>	<b>0.40</b>		0.21	0.095	ug/L		03/10/24 14:41	03/11/24 23:20	1
Indeno[1,2,3-cd]pyrene	ND		0.21	0.036	ug/L		03/10/24 14:41	03/11/24 23:20	1
<b>Phenanthrene</b>	<b>0.97</b>		0.21	0.096	ug/L		03/10/24 14:41	03/11/24 23:20	1
<b>Pyrene</b>	<b>0.44</b>		0.21	0.042	ug/L		03/10/24 14:41	03/11/24 23:20	1
<b>1-Methylnaphthalene</b>	<b>12</b>		0.21	0.085	ug/L		03/10/24 14:41	03/11/24 23:20	1
<b>2-Methylnaphthalene</b>	<b>15</b>		0.21	0.070	ug/L		03/10/24 14:41	03/11/24 23:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	71		18 - 147	03/10/24 14:41	03/11/24 23:20	1
2-Fluorobiphenyl	58		15 - 128	03/10/24 14:41	03/11/24 23:20	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: P59-ROX-030724**

**Lab Sample ID: 400-252330-13**

Date Collected: 03/07/24 13:15

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	59		10 - 144	03/10/24 14:41	03/11/24 23:20	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		21	19	ug/L		03/10/24 14:41	03/12/24 17:22	2
Benzenethiol	ND		21	21	ug/L		03/10/24 14:41	03/12/24 17:22	2
Benzoic acid	ND		64	51	ug/L		03/10/24 14:41	03/12/24 17:22	2
Benzyl alcohol	ND		21	16	ug/L		03/10/24 14:41	03/12/24 17:22	2
Bis(2-chloroethoxy)methane	ND		21	9.8	ug/L		03/10/24 14:41	03/12/24 17:22	2
Bis(2-chloroethyl)ether	ND		21	8.3	ug/L		03/10/24 14:41	03/12/24 17:22	2
bis (2-chloroisopropyl) ether	ND		21	3.8	ug/L		03/10/24 14:41	03/12/24 17:22	2
Bis(2-ethylhexyl) phthalate	ND		21	19	ug/L		03/10/24 14:41	03/12/24 17:22	2
4-Bromophenyl phenyl ether	ND		21	18	ug/L		03/10/24 14:41	03/12/24 17:22	2
Butyl benzyl phthalate	ND		21	12	ug/L		03/10/24 14:41	03/12/24 17:22	2
4-Chloroaniline	ND		21	10	ug/L		03/10/24 14:41	03/12/24 17:22	2
4-Chloro-3-methylphenol	ND		21	11	ug/L		03/10/24 14:41	03/12/24 17:22	2
2-Chloronaphthalene	ND		21	8.1	ug/L		03/10/24 14:41	03/12/24 17:22	2
2-Chlorophenol	ND		21	8.8	ug/L		03/10/24 14:41	03/12/24 17:22	2
4-Chlorophenyl phenyl ether	ND		21	7.9	ug/L		03/10/24 14:41	03/12/24 17:22	2
Dibenz[a,h]acridine	ND		21	6.0	ug/L		03/10/24 14:41	03/12/24 17:22	2
Dibenzofuran	ND		21	8.5	ug/L		03/10/24 14:41	03/12/24 17:22	2
3,3'-Dichlorobenzidine	ND		23	23	ug/L		03/10/24 14:41	03/12/24 17:22	2
2,4-Dichlorophenol	ND		21	9.2	ug/L		03/10/24 14:41	03/12/24 17:22	2
Diethyl phthalate	ND		21	9.4	ug/L		03/10/24 14:41	03/12/24 17:22	2
2,4-Dimethylphenol	ND		21	11	ug/L		03/10/24 14:41	03/12/24 17:22	2
Dimethyl phthalate	ND		21	9.0	ug/L		03/10/24 14:41	03/12/24 17:22	2
Di-n-butyl phthalate	ND		21	9.8	ug/L		03/10/24 14:41	03/12/24 17:22	2
4,6-Dinitro-ortho-cresol	ND		21	21	ug/L		03/10/24 14:41	03/12/24 17:22	2
2,4-Dinitrophenol	ND		64	9.8	ug/L		03/10/24 14:41	03/12/24 17:22	2
2,4-Dinitrotoluene	ND		21	11	ug/L		03/10/24 14:41	03/12/24 17:22	2
2,6-Dinitrotoluene	ND		21	8.3	ug/L		03/10/24 14:41	03/12/24 17:22	2
Di-n-octyl phthalate	ND		21	13	ug/L		03/10/24 14:41	03/12/24 17:22	2
1,4-Dioxane	ND		21	9.2	ug/L		03/10/24 14:41	03/12/24 17:22	2
1,2-Diphenylhydrazine (as Azobenzene)	ND		21	7.0	ug/L		03/10/24 14:41	03/12/24 17:22	2
Hexachlorobenzene	ND		21	21	ug/L		03/10/24 14:41	03/12/24 17:22	2
Hexachlorocyclopentadiene	ND		43	9.6	ug/L		03/10/24 14:41	03/12/24 17:22	2
Hexachloroethane	ND		21	11	ug/L		03/10/24 14:41	03/12/24 17:22	2
Indene	ND		21	7.7	ug/L		03/10/24 14:41	03/12/24 17:22	2
Isophorone	ND		21	11	ug/L		03/10/24 14:41	03/12/24 17:22	2
2-Methylphenol	ND		21	6.8	ug/L		03/10/24 14:41	03/12/24 17:22	2
3 & 4 Methylphenol	ND		43	9.8	ug/L		03/10/24 14:41	03/12/24 17:22	2
2-Nitroaniline	ND		21	11	ug/L		03/10/24 14:41	03/12/24 17:22	2
3-Nitroaniline	ND		21	10	ug/L		03/10/24 14:41	03/12/24 17:22	2
4-Nitroaniline	ND		21	8.8	ug/L		03/10/24 14:41	03/12/24 17:22	2
Nitrobenzene	ND		21	10	ug/L		03/10/24 14:41	03/12/24 17:22	2
2-Nitrophenol	ND		21	9.8	ug/L		03/10/24 14:41	03/12/24 17:22	2
4-Nitrophenol	ND		21	7.0	ug/L		03/10/24 14:41	03/12/24 17:22	2
N-Nitrosodimethylamine	ND		21	4.7	ug/L		03/10/24 14:41	03/12/24 17:22	2

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: P59-ROX-030724**

**Lab Sample ID: 400-252330-13**

Date Collected: 03/07/24 13:15

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		21	5.3	ug/L		03/10/24 14:41	03/12/24 17:22	2
N-Nitrosodiphenylamine	ND		21	7.9	ug/L		03/10/24 14:41	03/12/24 17:22	2
Pentachlorophenol	ND		43	25	ug/L		03/10/24 14:41	03/12/24 17:22	2
<b>Phenol</b>	<b>12</b>	<b>J</b>	21	9.0	ug/L		03/10/24 14:41	03/12/24 17:22	2
Pyridine	ND		21	21	ug/L		03/10/24 14:41	03/12/24 17:22	2
Quinoline	ND		21	5.1	ug/L		03/10/24 14:41	03/12/24 17:22	2
2,4,5-Trichlorophenol	ND		21	8.5	ug/L		03/10/24 14:41	03/12/24 17:22	2
2,4,6-Trichlorophenol	ND		21	7.5	ug/L		03/10/24 14:41	03/12/24 17:22	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	96		21 - 114	03/10/24 14:41	03/12/24 17:22	2
2-Fluorophenol	54		10 - 105	03/10/24 14:41	03/12/24 17:22	2
Nitrobenzene-d5	74		16 - 127	03/10/24 14:41	03/12/24 17:22	2
Phenol-d5	40		10 - 129	03/10/24 14:41	03/12/24 17:22	2
Terphenyl-d14	98		13 - 150	03/10/24 14:41	03/12/24 17:22	2
2,4,6-Tribromophenol	98		10 - 150	03/10/24 14:41	03/12/24 17:22	2

**Method: EPA 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	0.017	ug/L		03/13/24 09:28	03/14/24 09:14	1
1,2-Dibromoethane	ND		0.019	0.015	ug/L		03/13/24 09:28	03/14/24 09:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	68		51 - 149	03/13/24 09:28	03/14/24 09:14	1

# Definitions/Glossary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
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
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### 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.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count



# Surrogate Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (72-130)	DBFM (75-126)	TOL (64-132)
400-252330-1	TB-ROX-030724-8260-A	102	103	100
400-252330-3	MW2-ROX-030724	100	104	99
400-252330-4	MW22-ROX-030724	102	103	101
400-252330-5	MW22-ROX-030724-DUP	102	104	99
400-252330-6	MW14-ROX-030724	102	102	100
400-252330-7	TB-ROX-030724-8260-B	100	103	100
400-252330-9	P93D-ROX-030724	102	103	100
400-252330-10	P57-ROX-030724	102	103	98
400-252330-11	P57-ROX-030724-DUP	101	103	97
400-252330-12	T12-ROX-030724	104	103	101
400-252330-13	P59-ROX-030724	102	104	100
LCS 400-664105/1002	Lab Control Sample	99	104	101
LCS 400-664342/1002	Lab Control Sample	99	103	100
LCS 400-664562/1002	Lab Control Sample	99	101	99
MB 400-664105/4	Method Blank	100	103	101
MB 400-664342/4	Method Blank	102	104	101
MB 400-664562/5	Method Blank	100	102	99

### Surrogate Legend

BFB = 4-Bromofluorobenzene  
DBFM = Dibromofluoromethane  
TOL = Toluene-d8 (Surr)

## Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (21-114)	2FP (10-105)	NBZ (16-127)	PHL (10-129)	TPHL (13-150)	TBP (10-150)
400-252330-3	MW2-ROX-030724	95	53	74	42	104	94
400-252330-4	MW22-ROX-030724	96	35	74	36	106	90
400-252330-5	MW22-ROX-030724-DUP	99	38	77	41	108	95
400-252330-6	MW14-ROX-030724	99	55	79	40	105	87
400-252330-9	P93D-ROX-030724	102	58	83	43	107	97
400-252330-10	P57-ROX-030724	101	60	82	43	106	113
400-252330-11	P57-ROX-030724-DUP	99	62	79	49	108	101
400-252330-12	T12-ROX-030724	100	62	82	50	113	120
400-252330-13	P59-ROX-030724	96	54	74	40	98	98
LCS 400-663919/2-A	Lab Control Sample	95	73	82	61	101	109
LCS 400-663919/4-A	Lab Control Sample	91	62	77	53	107	88
LCSD 400-663919/3-A	Lab Control Sample Dup	98	74	86	61	102	115
LCSD 400-663919/5-A	Lab Control Sample Dup	93	63	76	50	105	90
MB 400-663919/1-A	Method Blank	102	62	85	47	103	99

### Surrogate Legend

FBP = 2-Fluorobiphenyl  
2FP = 2-Fluorophenol  
NBZ = Nitrobenzene-d5  
PHL = Phenol-d5  
TPHL = Terphenyl-d14  
TBP = 2,4,6-Tribromophenol

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# Surrogate Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TPHL (18-147)	FBP (15-128)	NBZ (10-144)
400-252330-3	MW2-ROX-030724	72	57	72
400-252330-4	MW22-ROX-030724	75	48	61
400-252330-5	MW22-ROX-030724-DUP	83	51	63
400-252330-6	MW14-ROX-030724	79	65	77
400-252330-9	P93D-ROX-030724	78	66	77
400-252330-10	P57-ROX-030724	76	43	73
400-252330-11	P57-ROX-030724-DUP	75	42	72
400-252330-12	T12-ROX-030724	73	52	67
400-252330-13	P59-ROX-030724	71	58	59
LCS 400-663919/2-A	Lab Control Sample	78	78	73
LCSD 400-663919/3-A	Lab Control Sample Dup	83	84	81
MB 400-663919/1-A	Method Blank	83	68	74

**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)
		BFB1 (51-149)
400-252330-2	TB-ROX-030724-8011-A	103
400-252330-3	MW2-ROX-030724	69
400-252330-4	MW22-ROX-030724	86
400-252330-5	MW22-ROX-030724-DUP	85
400-252330-6	MW14-ROX-030724	73
400-252330-8	TB-ROX-030724-8011-B	96
400-252330-9	P93D-ROX-030724	83
400-252330-10	P57-ROX-030724	71
400-252330-11	P57-ROX-030724-DUP	74
400-252330-12	T12-ROX-030724	75
400-252330-13	P59-ROX-030724	68
LCS 400-664279/2-A	Lab Control Sample	70
LCS 400-664441/2-A	Lab Control Sample	78 p
LCSD 400-664279/3-A	Lab Control Sample Dup	75
LCSD 400-664441/3-A	Lab Control Sample Dup	83 p
MB 400-664279/1-A	Method Blank	72
MB 400-664441/1-A	Method Blank	90 p

**Surrogate Legend**  
 BFB = 4-Bromofluorobenzene

# Method Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET PEN
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET PEN
8270E SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	EET PEN
8011	EDB and DBCP in Water by Microextraction	EPA	EET PEN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET PEN
5030C	Purge and Trap	SW846	EET PEN
8011	Microextraction	SW846	EET 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:**

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001



# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: TB-ROX-030724-8260-A**

**Lab Sample ID: 400-252330-1**

Date Collected: 03/07/24 12:00

Matrix: Water

Date Received: 03/08/24 09:44

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	664342	03/13/24 19:08	KR	EET PEN

**Client Sample ID: TB-ROX-030724-8011-A**

**Lab Sample ID: 400-252330-2**

Date Collected: 03/07/24 12:00

Matrix: Water

Date Received: 03/08/24 09:44

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	664441	03/14/24 07:46	PG	EET PEN
Total/NA	Analysis	8011		1			664510	03/14/24 16:32	PG	EET PEN

**Client Sample ID: MW2-ROX-030724**

**Lab Sample ID: 400-252330-3**

Date Collected: 03/07/24 09:20

Matrix: Water

Date Received: 03/08/24 09:44

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		5	5 mL	5 mL	664105	03/12/24 18:58	KR	EET PEN
Total/NA	Prep	3510C			256.8 mL	1 mL	663919	03/10/24 14:41	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664128	03/12/24 14:14	S1B	EET PEN
Total/NA	Prep	3510C			256.8 mL	1 mL	663919	03/10/24 14:41	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	663974	03/11/24 20:37	TH	EET PEN
Total/NA	Prep	8011			35.7 mL	35 mL	664279	03/13/24 09:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 22:17	PG	EET PEN

**Client Sample ID: MW22-ROX-030724**

**Lab Sample ID: 400-252330-4**

Date Collected: 03/07/24 10:15

Matrix: Water

Date Received: 03/08/24 09:44

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		5	5 mL	5 mL	664562	03/15/24 11:47	WPD	EET PEN
Total/NA	Prep	3510C			249.4 mL	1 mL	663919	03/10/24 14:41	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664128	03/12/24 14:37	S1B	EET PEN
Total/NA	Prep	3510C			249.4 mL	1 mL	663919	03/10/24 14:41	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	663974	03/11/24 20:57	TH	EET PEN
Total/NA	Prep	8011			36 mL	35 mL	664279	03/13/24 09:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 22:38	PG	EET PEN

**Client Sample ID: MW22-ROX-030724-DUP**

**Lab Sample ID: 400-252330-5**

Date Collected: 03/07/24 10:15

Matrix: Water

Date Received: 03/08/24 09:44

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		5	5 mL	5 mL	664562	03/15/24 12:11	WPD	EET PEN
Total/NA	Prep	3510C			249.6 mL	1 mL	663919	03/10/24 14:41	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664128	03/12/24 15:01	S1B	EET PEN

# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: MW22-ROX-030724-DUP**

**Lab Sample ID: 400-252330-5**

**Date Collected: 03/07/24 10:15**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			249.6 mL	1 mL	663919	03/10/24 14:41	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	663974	03/11/24 21:17	TH	EET PEN
Total/NA	Prep	8011			35.5 mL	35 mL	664279	03/13/24 09:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 23:00	PG	EET PEN

**Client Sample ID: MW14-ROX-030724**

**Lab Sample ID: 400-252330-6**

**Date Collected: 03/07/24 12:10**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	664562	03/15/24 10:33	WPD	EET PEN
Total/NA	Prep	3510C			249.6 mL	1 mL	663919	03/10/24 14:41	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664128	03/12/24 15:24	S1B	EET PEN
Total/NA	Prep	3510C			249.6 mL	1 mL	663919	03/10/24 14:41	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	663974	03/11/24 21:38	TH	EET PEN
Total/NA	Prep	8011			34.8 mL	35 mL	664279	03/13/24 09:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 23:21	PG	EET PEN

**Client Sample ID: TB-ROX-030724-8260-B**

**Lab Sample ID: 400-252330-7**

**Date Collected: 03/07/24 12:00**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	664342	03/13/24 20:22	KR	EET PEN

**Client Sample ID: TB-ROX-030724-8011-B**

**Lab Sample ID: 400-252330-8**

**Date Collected: 03/07/24 12:00**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35.6 mL	35 mL	664279	03/13/24 09:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 23:42	PG	EET PEN

**Client Sample ID: P93D-ROX-030724**

**Lab Sample ID: 400-252330-9**

**Date Collected: 03/07/24 09:30**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	664342	03/13/24 20:46	KR	EET PEN
Total/NA	Prep	3510C			246.2 mL	1 mL	663919	03/10/24 14:41	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664128	03/12/24 15:48	S1B	EET PEN
Total/NA	Prep	3510C			246.2 mL	1 mL	663919	03/10/24 14:41	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	663974	03/11/24 21:58	TH	EET PEN
Total/NA	Prep	8011			35.2 mL	35 mL	664279	03/13/24 09:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/14/24 00:03	PG	EET PEN

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# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

## Client Sample ID: P57-ROX-030724

## Lab Sample ID: 400-252330-10

Date Collected: 03/07/24 10:25

Matrix: Water

Date Received: 03/08/24 09:44

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	664562	03/15/24 10:58	WPD	EET PEN
Total/NA	Prep	3510C			236 mL	1 mL	663919	03/10/24 14:41	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664128	03/12/24 16:11	S1B	EET PEN
Total/NA	Prep	3510C			236 mL	1 mL	663919	03/10/24 14:41	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	663974	03/11/24 22:18	TH	EET PEN
Total/NA	Prep	8011			36.2 mL	35 mL	664279	03/13/24 09:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/14/24 00:24	PG	EET PEN

## Client Sample ID: P57-ROX-030724-DUP

## Lab Sample ID: 400-252330-11

Date Collected: 03/07/24 10:25

Matrix: Water

Date Received: 03/08/24 09:44

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	664562	03/15/24 11:22	WPD	EET PEN
Total/NA	Prep	3510C			232.4 mL	1 mL	663919	03/10/24 14:41	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664128	03/12/24 16:35	S1B	EET PEN
Total/NA	Prep	3510C			232.4 mL	1 mL	663919	03/10/24 14:41	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	663974	03/11/24 22:39	TH	EET PEN
Total/NA	Prep	8011			34.1 mL	35 mL	664279	03/13/24 09:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/14/24 00:46	PG	EET PEN

## Client Sample ID: T12-ROX-030724

## Lab Sample ID: 400-252330-12

Date Collected: 03/07/24 11:35

Matrix: Water

Date Received: 03/08/24 09:44

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		5	5 mL	5 mL	664342	03/13/24 23:13	KR	EET PEN
Total/NA	Prep	3510C			238.2 mL	1 mL	663919	03/10/24 14:41	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664128	03/12/24 16:58	S1B	EET PEN
Total/NA	Prep	3510C			238.2 mL	1 mL	663919	03/10/24 14:41	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	663974	03/11/24 22:59	TH	EET PEN
Total/NA	Prep	8011			35.2 mL	35 mL	664279	03/13/24 09:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/14/24 01:07	PG	EET PEN

## Client Sample ID: P59-ROX-030724

## Lab Sample ID: 400-252330-13

Date Collected: 03/07/24 13:15

Matrix: Water

Date Received: 03/08/24 09:44

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		5	5 mL	5 mL	664342	03/13/24 23:37	KR	EET PEN
Total/NA	Prep	3510C			234.2 mL	1 mL	663919	03/10/24 14:41	STC	EET PEN
Total/NA	Analysis	8270E		2	0.4 mL	0.4 mL	664128	03/12/24 17:22	S1B	EET PEN
Total/NA	Prep	3510C			234.2 mL	1 mL	663919	03/10/24 14:41	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	663974	03/11/24 23:20	TH	EET PEN

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# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: P59-ROX-030724**

**Lab Sample ID: 400-252330-13**

Date Collected: 03/07/24 13:15

Matrix: Water

Date Received: 03/08/24 09:44

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35.9 mL	35 mL	664279	03/13/24 09:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/14/24 09:14	PG	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-663919/1-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	3510C			250 mL	1 mL	663919	03/10/24 14:41	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664128	03/12/24 12:16	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	663919	03/10/24 14:41	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	663974	03/11/24 17:33	TH	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-664105/4**

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	8260D		1	5 mL	5 mL	664105	03/12/24 10:35	KR	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-664279/1-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	664279	03/13/24 09:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 18:00	PG	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-664342/4**

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	8260D		1	5 mL	5 mL	664342	03/13/24 15:53	KR	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-664441/1-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	664441	03/14/24 07:46	PG	EET PEN
Total/NA	Analysis	8011		1			664510	03/14/24 15:07	PG	EET PEN



# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-664562/5**

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	8260D		1	5 mL	5 mL	664562	03/15/24 08:31	WPD	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-663919/2-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	3510C			250 mL	1 mL	663919	03/10/24 14:41	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664128	03/12/24 12:40	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	663919	03/10/24 14:41	STC	EET PEN
Total/NA	Analysis	8270E SIM		20	0.4 mL	0.4 mL	663974	03/11/24 17:53	TH	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-663919/4-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	3510C			250 mL	1 mL	663919	03/10/24 14:41	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664128	03/12/24 13:27	S1B	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-664105/1002**

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	8260D		1	5 mL	5 mL	664105	03/12/24 08:51	KR	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-664279/2-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	664279	03/13/24 09:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 18:22	PG	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-664342/1002**

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	8260D		1	5 mL	5 mL	664342	03/13/24 14:23	KR	EET PEN

# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-664441/2-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	664441	03/14/24 07:46	PG	EET PEN
Total/NA	Analysis	8011		1			664510	03/14/24 15:29	PG	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-664562/1002

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	8260D		1	5 mL	5 mL	664562	03/15/24 07:18	WPD	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-663919/3-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	3510C			250 mL	1 mL	663919	03/10/24 14:41	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664128	03/12/24 13:03	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	663919	03/10/24 14:41	STC	EET PEN
Total/NA	Analysis	8270E SIM		20	0.4 mL	0.4 mL	663974	03/11/24 18:14	TH	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-663919/5-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	3510C			250 mL	1 mL	663919	03/10/24 14:41	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664128	03/12/24 13:50	S1B	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-664279/3-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	664279	03/13/24 09:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 18:43	PG	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-664441/3-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	664441	03/14/24 07:46	PG	EET PEN
Total/NA	Analysis	8011		1			664510	03/14/24 15:50	PG	EET PEN

### Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Eurofins Pensacola

# QC Association Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

## GC/MS VOA

### Analysis Batch: 664105

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252330-3	MW2-ROX-030724	Total/NA	Water	8260D	
MB 400-664105/4	Method Blank	Total/NA	Water	8260D	
LCS 400-664105/1002	Lab Control Sample	Total/NA	Water	8260D	

### Analysis Batch: 664342

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252330-1	TB-ROX-030724-8260-A	Total/NA	Water	8260D	
400-252330-7	TB-ROX-030724-8260-B	Total/NA	Water	8260D	
400-252330-9	P93D-ROX-030724	Total/NA	Water	8260D	
400-252330-12	T12-ROX-030724	Total/NA	Water	8260D	
400-252330-13	P59-ROX-030724	Total/NA	Water	8260D	
MB 400-664342/4	Method Blank	Total/NA	Water	8260D	
LCS 400-664342/1002	Lab Control Sample	Total/NA	Water	8260D	

### Analysis Batch: 664562

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252330-4	MW22-ROX-030724	Total/NA	Water	8260D	
400-252330-5	MW22-ROX-030724-DUP	Total/NA	Water	8260D	
400-252330-6	MW14-ROX-030724	Total/NA	Water	8260D	
400-252330-10	P57-ROX-030724	Total/NA	Water	8260D	
400-252330-11	P57-ROX-030724-DUP	Total/NA	Water	8260D	
MB 400-664562/5	Method Blank	Total/NA	Water	8260D	
LCS 400-664562/1002	Lab Control Sample	Total/NA	Water	8260D	

## GC/MS Semi VOA

### Prep Batch: 663919

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252330-3	MW2-ROX-030724	Total/NA	Water	3510C	
400-252330-4	MW22-ROX-030724	Total/NA	Water	3510C	
400-252330-5	MW22-ROX-030724-DUP	Total/NA	Water	3510C	
400-252330-6	MW14-ROX-030724	Total/NA	Water	3510C	
400-252330-9	P93D-ROX-030724	Total/NA	Water	3510C	
400-252330-10	P57-ROX-030724	Total/NA	Water	3510C	
400-252330-11	P57-ROX-030724-DUP	Total/NA	Water	3510C	
400-252330-12	T12-ROX-030724	Total/NA	Water	3510C	
400-252330-13	P59-ROX-030724	Total/NA	Water	3510C	
MB 400-663919/1-A	Method Blank	Total/NA	Water	3510C	
LCS 400-663919/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 400-663919/4-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 400-663919/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
LCSD 400-663919/5-A	Lab Control Sample Dup	Total/NA	Water	3510C	

### Analysis Batch: 663974

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252330-3	MW2-ROX-030724	Total/NA	Water	8270E SIM	663919
400-252330-4	MW22-ROX-030724	Total/NA	Water	8270E SIM	663919
400-252330-5	MW22-ROX-030724-DUP	Total/NA	Water	8270E SIM	663919
400-252330-6	MW14-ROX-030724	Total/NA	Water	8270E SIM	663919
400-252330-9	P93D-ROX-030724	Total/NA	Water	8270E SIM	663919
400-252330-10	P57-ROX-030724	Total/NA	Water	8270E SIM	663919

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# QC Association Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

## GC/MS Semi VOA (Continued)

### Analysis Batch: 663974 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252330-11	P57-ROX-030724-DUP	Total/NA	Water	8270E SIM	663919
400-252330-12	T12-ROX-030724	Total/NA	Water	8270E SIM	663919
400-252330-13	P59-ROX-030724	Total/NA	Water	8270E SIM	663919
MB 400-663919/1-A	Method Blank	Total/NA	Water	8270E SIM	663919
LCS 400-663919/2-A	Lab Control Sample	Total/NA	Water	8270E SIM	663919
LCSD 400-663919/3-A	Lab Control Sample Dup	Total/NA	Water	8270E SIM	663919

### Analysis Batch: 664128

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252330-3	MW2-ROX-030724	Total/NA	Water	8270E	663919
400-252330-4	MW22-ROX-030724	Total/NA	Water	8270E	663919
400-252330-5	MW22-ROX-030724-DUP	Total/NA	Water	8270E	663919
400-252330-6	MW14-ROX-030724	Total/NA	Water	8270E	663919
400-252330-9	P93D-ROX-030724	Total/NA	Water	8270E	663919
400-252330-10	P57-ROX-030724	Total/NA	Water	8270E	663919
400-252330-11	P57-ROX-030724-DUP	Total/NA	Water	8270E	663919
400-252330-12	T12-ROX-030724	Total/NA	Water	8270E	663919
400-252330-13	P59-ROX-030724	Total/NA	Water	8270E	663919
MB 400-663919/1-A	Method Blank	Total/NA	Water	8270E	663919
LCS 400-663919/2-A	Lab Control Sample	Total/NA	Water	8270E	663919
LCS 400-663919/4-A	Lab Control Sample	Total/NA	Water	8270E	663919
LCSD 400-663919/3-A	Lab Control Sample Dup	Total/NA	Water	8270E	663919
LCSD 400-663919/5-A	Lab Control Sample Dup	Total/NA	Water	8270E	663919

## GC Semi VOA

### Analysis Batch: 664136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252330-3	MW2-ROX-030724	Total/NA	Water	8011	664279
400-252330-4	MW22-ROX-030724	Total/NA	Water	8011	664279
400-252330-5	MW22-ROX-030724-DUP	Total/NA	Water	8011	664279
400-252330-6	MW14-ROX-030724	Total/NA	Water	8011	664279
400-252330-8	TB-ROX-030724-8011-B	Total/NA	Water	8011	664279
400-252330-9	P93D-ROX-030724	Total/NA	Water	8011	664279
400-252330-10	P57-ROX-030724	Total/NA	Water	8011	664279
400-252330-11	P57-ROX-030724-DUP	Total/NA	Water	8011	664279
400-252330-12	T12-ROX-030724	Total/NA	Water	8011	664279
400-252330-13	P59-ROX-030724	Total/NA	Water	8011	664279
MB 400-664279/1-A	Method Blank	Total/NA	Water	8011	664279
LCS 400-664279/2-A	Lab Control Sample	Total/NA	Water	8011	664279
LCSD 400-664279/3-A	Lab Control Sample Dup	Total/NA	Water	8011	664279

### Prep Batch: 664279

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252330-3	MW2-ROX-030724	Total/NA	Water	8011	
400-252330-4	MW22-ROX-030724	Total/NA	Water	8011	
400-252330-5	MW22-ROX-030724-DUP	Total/NA	Water	8011	
400-252330-6	MW14-ROX-030724	Total/NA	Water	8011	
400-252330-8	TB-ROX-030724-8011-B	Total/NA	Water	8011	
400-252330-9	P93D-ROX-030724	Total/NA	Water	8011	
400-252330-10	P57-ROX-030724	Total/NA	Water	8011	

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# QC Association Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

## GC Semi VOA (Continued)

### Prep Batch: 664279 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252330-11	P57-ROX-030724-DUP	Total/NA	Water	8011	
400-252330-12	T12-ROX-030724	Total/NA	Water	8011	
400-252330-13	P59-ROX-030724	Total/NA	Water	8011	
MB 400-664279/1-A	Method Blank	Total/NA	Water	8011	
LCS 400-664279/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 400-664279/3-A	Lab Control Sample Dup	Total/NA	Water	8011	

### Prep Batch: 664441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252330-2	TB-ROX-030724-8011-A	Total/NA	Water	8011	
MB 400-664441/1-A	Method Blank	Total/NA	Water	8011	
LCS 400-664441/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 400-664441/3-A	Lab Control Sample Dup	Total/NA	Water	8011	

### Analysis Batch: 664510

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252330-2	TB-ROX-030724-8011-A	Total/NA	Water	8011	664441
MB 400-664441/1-A	Method Blank	Total/NA	Water	8011	664441
LCS 400-664441/2-A	Lab Control Sample	Total/NA	Water	8011	664441
LCSD 400-664441/3-A	Lab Control Sample Dup	Total/NA	Water	8011	664441

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 400-664105/4**  
**Matrix: Water**  
**Analysis Batch: 664105**

**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			03/12/24 10:35	1
Acrolein	ND		20	3.3	ug/L			03/12/24 10:35	1
Acrylonitrile	ND		10	2.8	ug/L			03/12/24 10:35	1
Benzene	ND		1.0	0.50	ug/L			03/12/24 10:35	1
Bromobenzene	ND		1.0	0.54	ug/L			03/12/24 10:35	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/12/24 10:35	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/12/24 10:35	1
Bromoform	ND		5.0	0.25	ug/L			03/12/24 10:35	1
Bromomethane	ND		1.0	0.98	ug/L			03/12/24 10:35	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/12/24 10:35	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/12/24 10:35	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/12/24 10:35	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/12/24 10:35	1
Chloroethane	ND		1.0	0.76	ug/L			03/12/24 10:35	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/12/24 10:35	1
Chloroform	ND		1.0	0.90	ug/L			03/12/24 10:35	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/12/24 10:35	1
Chloromethane	ND		1.0	0.90	ug/L			03/12/24 10:35	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/12/24 10:35	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/12/24 10:35	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/12/24 10:35	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/12/24 10:35	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/12/24 10:35	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/12/24 10:35	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/12/24 10:35	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/12/24 10:35	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/12/24 10:35	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/12/24 10:35	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/12/24 10:35	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/12/24 10:35	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/12/24 10:35	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/12/24 10:35	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/12/24 10:35	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/12/24 10:35	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/12/24 10:35	1
2-Hexanone	ND		25	1.4	ug/L			03/12/24 10:35	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/12/24 10:35	1
Methylene bromide	ND		5.0	0.22	ug/L			03/12/24 10:35	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/12/24 10:35	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/12/24 10:35	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/12/24 10:35	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/12/24 10:35	1
Naphthalene	ND		5.0	3.0	ug/L			03/12/24 10:35	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/12/24 10:35	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/12/24 10:35	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/12/24 10:35	1
o-Xylene	ND		5.0	0.60	ug/L			03/12/24 10:35	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/12/24 10:35	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-664105/4**  
**Matrix: Water**  
**Analysis Batch: 664105**

**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			03/12/24 10:35	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/12/24 10:35	1
Styrene	ND		1.0	1.0	ug/L			03/12/24 10:35	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/12/24 10:35	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/12/24 10:35	1
1,1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/12/24 10:35	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/12/24 10:35	1
Toluene	ND		1.0	0.90	ug/L			03/12/24 10:35	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/12/24 10:35	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/12/24 10:35	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/12/24 10:35	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/12/24 10:35	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/12/24 10:35	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/12/24 10:35	1
Trichloroethene	ND		1.0	0.15	ug/L			03/12/24 10:35	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/12/24 10:35	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/12/24 10:35	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/12/24 10:35	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/12/24 10:35	1
Vinyl acetate	ND		25	0.93	ug/L			03/12/24 10:35	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/12/24 10:35	1
Xylenes, Total	ND		10	1.6	ug/L			03/12/24 10:35	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	100		72 - 130		03/12/24 10:35	1
Dibromofluoromethane	103		75 - 126		03/12/24 10:35	1
Toluene-d8 (Surr)	101		64 - 132		03/12/24 10:35	1

**Lab Sample ID: LCS 400-664105/1002**  
**Matrix: Water**  
**Analysis Batch: 664105**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	200	212		ug/L		106	43 - 160
Acrolein	500	551		ug/L		110	38 - 160
Acrylonitrile	500	456		ug/L		91	64 - 142
Benzene	50.0	43.9		ug/L		88	70 - 130
Bromobenzene	50.0	51.1		ug/L		102	70 - 132
Bromochloromethane	50.0	46.4		ug/L		93	70 - 130
Bromodichloromethane	50.0	48.0		ug/L		96	67 - 133
Bromoform	50.0	50.7		ug/L		101	57 - 140
Bromomethane	50.0	37.7		ug/L		75	10 - 160
2-Butanone (MEK)	200	192		ug/L		96	61 - 145
Carbon disulfide	50.0	27.3	*	ug/L		55	61 - 137
Carbon tetrachloride	50.0	44.3		ug/L		89	61 - 137
Chlorobenzene	50.0	49.5		ug/L		99	70 - 130
Chloroethane	50.0	46.3		ug/L		93	55 - 141
2-Chloroethyl vinyl ether	50.0	50.1		ug/L		100	10 - 160

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-664105/1002**  
**Matrix: Water**  
**Analysis Batch: 664105**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroform	50.0	48.2		ug/L		96	69 - 130
1-Chlorohexane	50.0	48.9		ug/L		98	69 - 130
Chloromethane	50.0	43.6		ug/L		87	58 - 137
cis-1,2-Dichloroethene	50.0	42.8		ug/L		86	68 - 130
cis-1,3-Dichloropropene	50.0	47.3		ug/L		95	69 - 132
Dibromochloromethane	50.0	50.1		ug/L		100	67 - 135
1,2-Dichlorobenzene	50.0	52.9		ug/L		106	67 - 130
1,3-Dichlorobenzene	50.0	52.9		ug/L		106	70 - 130
1,4-Dichlorobenzene	50.0	52.4		ug/L		105	70 - 130
Dichlorodifluoromethane	50.0	43.7		ug/L		87	41 - 146
1,1-Dichloroethane	50.0	47.8		ug/L		96	70 - 130
1,2-Dichloroethane	50.0	45.5		ug/L		91	69 - 130
1,1-Dichloroethene	50.0	39.3		ug/L		79	63 - 134
1,2-Dichloropropane	50.0	47.0		ug/L		94	70 - 130
1,3-Dichloropropane	50.0	48.5		ug/L		97	70 - 130
2,2-Dichloropropane	50.0	44.8		ug/L		90	52 - 135
1,1-Dichloropropene	50.0	42.3		ug/L		85	70 - 130
Ethylbenzene	50.0	48.3		ug/L		97	70 - 130
Ethyl methacrylate	50.0	48.0		ug/L		96	68 - 130
Hexachlorobutadiene	50.0	57.6		ug/L		115	53 - 140
2-Hexanone	200	199		ug/L		100	65 - 137
Isopropylbenzene	50.0	50.4		ug/L		101	70 - 130
Methylene bromide	50.0	46.7		ug/L		93	70 - 130
Methylene Chloride	50.0	42.7		ug/L		85	66 - 135
4-Methyl-2-pentanone (MIBK)	200	189		ug/L		95	69 - 138
Methyl tert-butyl ether	50.0	46.7		ug/L		93	66 - 130
m-Xylene & p-Xylene	50.0	48.6		ug/L		97	70 - 130
Naphthalene	50.0	45.8		ug/L		92	47 - 149
n-Butylbenzene	50.0	54.1		ug/L		108	67 - 130
N-Propylbenzene	50.0	52.8		ug/L		106	70 - 130
o-Chlorotoluene	50.0	50.4		ug/L		101	70 - 130
o-Xylene	50.0	48.6		ug/L		97	70 - 130
p-Chlorotoluene	50.0	51.3		ug/L		103	70 - 130
p-Isopropyltoluene	50.0	54.4		ug/L		109	65 - 130
sec-Butylbenzene	50.0	53.5		ug/L		107	66 - 130
Styrene	50.0	49.2		ug/L		98	70 - 130
tert-Butylbenzene	50.0	50.2		ug/L		100	64 - 139
1,1,1,2-Tetrachloroethane	50.0	51.1		ug/L		102	67 - 131
1,1,1,2,2-Tetrachloroethane	50.0	54.0		ug/L		108	70 - 131
Tetrachloroethene	50.0	43.2		ug/L		86	65 - 130
Toluene	50.0	46.0		ug/L		92	70 - 130
trans-1,2-Dichloroethene	50.0	42.4		ug/L		85	70 - 130
trans-1,3-Dichloropropene	50.0	48.4		ug/L		97	63 - 130
1,2,3-Trichlorobenzene	50.0	52.8		ug/L		106	60 - 138
1,2,4-Trichlorobenzene	50.0	53.9		ug/L		108	60 - 140
1,1,1-Trichloroethane	50.0	44.4		ug/L		89	68 - 130
1,1,2-Trichloroethane	50.0	49.3		ug/L		99	70 - 130
Trichloroethene	50.0	45.2		ug/L		90	70 - 130
Trichlorofluoromethane	50.0	52.6		ug/L		105	65 - 138

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-664105/1002**  
**Matrix: Water**  
**Analysis Batch: 664105**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	50.0	53.3		ug/L		107	70 - 130
1,2,4-Trimethylbenzene	50.0	51.6		ug/L		103	70 - 130
1,3,5-Trimethylbenzene	50.0	51.9		ug/L		104	69 - 130
Vinyl acetate	100	103		ug/L		103	26 - 160
Vinyl chloride	50.0	46.3		ug/L		93	59 - 136
Xylenes, Total	100	97.1		ug/L		97	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	99		72 - 130
Dibromofluoromethane	104		75 - 126
Toluene-d8 (Surr)	101		64 - 132

**Lab Sample ID: MB 400-664342/4**  
**Matrix: Water**  
**Analysis Batch: 664342**

**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			03/13/24 15:53	1
Acrolein	ND		20	3.3	ug/L			03/13/24 15:53	1
Acrylonitrile	ND		10	2.8	ug/L			03/13/24 15:53	1
Benzene	ND		1.0	0.50	ug/L			03/13/24 15:53	1
Bromobenzene	ND		1.0	0.54	ug/L			03/13/24 15:53	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/13/24 15:53	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/13/24 15:53	1
Bromoform	ND		5.0	0.25	ug/L			03/13/24 15:53	1
Bromomethane	ND		1.0	0.98	ug/L			03/13/24 15:53	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/13/24 15:53	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/13/24 15:53	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/13/24 15:53	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/13/24 15:53	1
Chloroethane	ND		1.0	0.76	ug/L			03/13/24 15:53	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/13/24 15:53	1
Chloroform	ND		1.0	0.90	ug/L			03/13/24 15:53	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/13/24 15:53	1
Chloromethane	ND		1.0	0.90	ug/L			03/13/24 15:53	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/13/24 15:53	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/13/24 15:53	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/13/24 15:53	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/13/24 15:53	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/13/24 15:53	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/13/24 15:53	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/13/24 15:53	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/13/24 15:53	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/13/24 15:53	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/13/24 15:53	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 15:53	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 15:53	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 15:53	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-664342/4**  
**Matrix: Water**  
**Analysis Batch: 664342**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/13/24 15:53	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/13/24 15:53	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/13/24 15:53	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/13/24 15:53	1
2-Hexanone	ND		25	1.4	ug/L			03/13/24 15:53	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/13/24 15:53	1
Methylene bromide	ND		5.0	0.22	ug/L			03/13/24 15:53	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/13/24 15:53	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/13/24 15:53	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/13/24 15:53	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/13/24 15:53	1
Naphthalene	ND		5.0	3.0	ug/L			03/13/24 15:53	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/13/24 15:53	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/13/24 15:53	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/13/24 15:53	1
o-Xylene	ND		5.0	0.60	ug/L			03/13/24 15:53	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/13/24 15:53	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/13/24 15:53	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/13/24 15:53	1
Styrene	ND		1.0	1.0	ug/L			03/13/24 15:53	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/13/24 15:53	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/13/24 15:53	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/13/24 15:53	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/13/24 15:53	1
Toluene	ND		1.0	0.90	ug/L			03/13/24 15:53	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/13/24 15:53	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/13/24 15:53	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/13/24 15:53	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/13/24 15:53	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/13/24 15:53	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/13/24 15:53	1
Trichloroethene	ND		1.0	0.15	ug/L			03/13/24 15:53	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/13/24 15:53	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/13/24 15:53	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/13/24 15:53	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/13/24 15:53	1
Vinyl acetate	ND		25	0.93	ug/L			03/13/24 15:53	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/13/24 15:53	1
Xylenes, Total	ND		10	1.6	ug/L			03/13/24 15:53	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		72 - 130		03/13/24 15:53	1
Dibromofluoromethane	104		75 - 126		03/13/24 15:53	1
Toluene-d8 (Surr)	101		64 - 132		03/13/24 15:53	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-664342/1002**  
**Matrix: Water**  
**Analysis Batch: 664342**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	200	197		ug/L		98	43 - 160
Acrolein	500	569		ug/L		114	38 - 160
Acrylonitrile	500	470		ug/L		94	64 - 142
Benzene	50.0	45.1		ug/L		90	70 - 130
Bromobenzene	50.0	50.7		ug/L		101	70 - 132
Bromochloromethane	50.0	47.5		ug/L		95	70 - 130
Bromodichloromethane	50.0	48.6		ug/L		97	67 - 133
Bromoform	50.0	49.8		ug/L		100	57 - 140
Bromomethane	50.0	42.2		ug/L		84	10 - 160
2-Butanone (MEK)	200	196		ug/L		98	61 - 145
Carbon disulfide	50.0	30.5		ug/L		61	61 - 137
Carbon tetrachloride	50.0	44.9		ug/L		90	61 - 137
Chlorobenzene	50.0	49.2		ug/L		98	70 - 130
Chloroethane	50.0	44.4		ug/L		89	55 - 141
2-Chloroethyl vinyl ether	50.0	49.1		ug/L		98	10 - 160
Chloroform	50.0	48.6		ug/L		97	69 - 130
1-Chlorohexane	50.0	47.4		ug/L		95	69 - 130
Chloromethane	50.0	38.3		ug/L		77	58 - 137
cis-1,2-Dichloroethene	50.0	43.1		ug/L		86	68 - 130
cis-1,3-Dichloropropene	50.0	48.0		ug/L		96	69 - 132
Dibromochloromethane	50.0	49.2		ug/L		98	67 - 135
1,2-Dichlorobenzene	50.0	52.9		ug/L		106	67 - 130
1,3-Dichlorobenzene	50.0	52.3		ug/L		105	70 - 130
1,4-Dichlorobenzene	50.0	52.4		ug/L		105	70 - 130
Dichlorodifluoromethane	50.0	44.2		ug/L		88	41 - 146
1,1-Dichloroethane	50.0	48.2		ug/L		96	70 - 130
1,2-Dichloroethane	50.0	46.4		ug/L		93	69 - 130
1,1-Dichloroethene	50.0	42.9		ug/L		86	63 - 134
1,2-Dichloropropane	50.0	46.6		ug/L		93	70 - 130
1,3-Dichloropropane	50.0	48.6		ug/L		97	70 - 130
2,2-Dichloropropane	50.0	46.0		ug/L		92	52 - 135
1,1-Dichloropropene	50.0	43.9		ug/L		88	70 - 130
Ethylbenzene	50.0	48.1		ug/L		96	70 - 130
Ethyl methacrylate	50.0	48.8		ug/L		98	68 - 130
Hexachlorobutadiene	50.0	55.7		ug/L		111	53 - 140
2-Hexanone	200	196		ug/L		98	65 - 137
Isopropylbenzene	50.0	50.1		ug/L		100	70 - 130
Methylene bromide	50.0	47.5		ug/L		95	70 - 130
Methylene Chloride	50.0	45.1		ug/L		90	66 - 135
4-Methyl-2-pentanone (MIBK)	200	189		ug/L		94	69 - 138
Methyl tert-butyl ether	50.0	48.0		ug/L		96	66 - 130
m-Xylene & p-Xylene	50.0	48.2		ug/L		96	70 - 130
Naphthalene	50.0	43.1		ug/L		86	47 - 149
n-Butylbenzene	50.0	53.0		ug/L		106	67 - 130
N-Propylbenzene	50.0	52.4		ug/L		105	70 - 130
o-Chlorotoluene	50.0	49.9		ug/L		100	70 - 130
o-Xylene	50.0	48.4		ug/L		97	70 - 130
p-Chlorotoluene	50.0	50.8		ug/L		102	70 - 130

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-664342/1002**  
**Matrix: Water**  
**Analysis Batch: 664342**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
p-Isopropyltoluene	50.0	53.6		ug/L		107	65 - 130
sec-Butylbenzene	50.0	53.2		ug/L		106	66 - 130
Styrene	50.0	49.4		ug/L		99	70 - 130
tert-Butylbenzene	50.0	50.2		ug/L		100	64 - 139
1,1,1,2-Tetrachloroethane	50.0	50.4		ug/L		101	67 - 131
1,1,1,2-Tetrachloroethane	50.0	53.1		ug/L		106	70 - 131
Tetrachloroethene	50.0	41.7		ug/L		83	65 - 130
Toluene	50.0	46.0		ug/L		92	70 - 130
trans-1,2-Dichloroethene	50.0	43.9		ug/L		88	70 - 130
trans-1,3-Dichloropropene	50.0	48.9		ug/L		98	63 - 130
1,2,3-Trichlorobenzene	50.0	51.4		ug/L		103	60 - 138
1,2,4-Trichlorobenzene	50.0	51.9		ug/L		104	60 - 140
1,1,1-Trichloroethane	50.0	45.8		ug/L		92	68 - 130
1,1,2-Trichloroethane	50.0	49.0		ug/L		98	70 - 130
Trichloroethene	50.0	45.2		ug/L		90	70 - 130
Trichlorofluoromethane	50.0	47.6		ug/L		95	65 - 138
1,2,3-Trichloropropane	50.0	52.7		ug/L		105	70 - 130
1,2,4-Trimethylbenzene	50.0	52.1		ug/L		104	70 - 130
1,3,5-Trimethylbenzene	50.0	51.6		ug/L		103	69 - 130
Vinyl acetate	100	103		ug/L		103	26 - 160
Vinyl chloride	50.0	44.2		ug/L		88	59 - 136
Xylenes, Total	100	96.6		ug/L		97	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	99		72 - 130
Dibromofluoromethane	103		75 - 126
Toluene-d8 (Surr)	100		64 - 132

**Lab Sample ID: MB 400-664562/5**  
**Matrix: Water**  
**Analysis Batch: 664562**

**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			03/15/24 08:31	1
Acrolein	ND		20	3.3	ug/L			03/15/24 08:31	1
Acrylonitrile	ND		10	2.8	ug/L			03/15/24 08:31	1
Benzene	ND		1.0	0.50	ug/L			03/15/24 08:31	1
Bromobenzene	ND		1.0	0.54	ug/L			03/15/24 08:31	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/15/24 08:31	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/15/24 08:31	1
Bromoform	ND		5.0	0.25	ug/L			03/15/24 08:31	1
Bromomethane	ND		1.0	0.98	ug/L			03/15/24 08:31	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/15/24 08:31	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/15/24 08:31	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/15/24 08:31	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/15/24 08:31	1
Chloroethane	ND		1.0	0.76	ug/L			03/15/24 08:31	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/15/24 08:31	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
 Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-664562/5**  
**Matrix: Water**  
**Analysis Batch: 664562**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	ND		1.0	0.90	ug/L			03/15/24 08:31	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/15/24 08:31	1
Chloromethane	ND		1.0	0.90	ug/L			03/15/24 08:31	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/15/24 08:31	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/15/24 08:31	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/15/24 08:31	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/15/24 08:31	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/15/24 08:31	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/15/24 08:31	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/15/24 08:31	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/15/24 08:31	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/15/24 08:31	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/15/24 08:31	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/15/24 08:31	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/15/24 08:31	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/15/24 08:31	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/15/24 08:31	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/15/24 08:31	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/15/24 08:31	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/15/24 08:31	1
2-Hexanone	ND		25	1.4	ug/L			03/15/24 08:31	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/15/24 08:31	1
Methylene bromide	ND		5.0	0.22	ug/L			03/15/24 08:31	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/15/24 08:31	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/15/24 08:31	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/15/24 08:31	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/15/24 08:31	1
Naphthalene	ND		5.0	3.0	ug/L			03/15/24 08:31	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/15/24 08:31	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/15/24 08:31	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/15/24 08:31	1
o-Xylene	ND		5.0	0.60	ug/L			03/15/24 08:31	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/15/24 08:31	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/15/24 08:31	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/15/24 08:31	1
Styrene	ND		1.0	1.0	ug/L			03/15/24 08:31	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/15/24 08:31	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/15/24 08:31	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/15/24 08:31	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/15/24 08:31	1
Toluene	ND		1.0	0.90	ug/L			03/15/24 08:31	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/15/24 08:31	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/15/24 08:31	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/15/24 08:31	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/15/24 08:31	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/15/24 08:31	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/15/24 08:31	1
Trichloroethene	ND		1.0	0.15	ug/L			03/15/24 08:31	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/15/24 08:31	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-664562/5**  
**Matrix: Water**  
**Analysis Batch: 664562**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/15/24 08:31	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/15/24 08:31	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/15/24 08:31	1
Vinyl acetate	ND		25	0.93	ug/L			03/15/24 08:31	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/15/24 08:31	1
Xylenes, Total	ND		10	1.6	ug/L			03/15/24 08:31	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	100		72 - 130		03/15/24 08:31	1
Dibromofluoromethane	102		75 - 126		03/15/24 08:31	1
Toluene-d8 (Surr)	99		64 - 132		03/15/24 08:31	1

**Lab Sample ID: LCS 400-664562/1002**  
**Matrix: Water**  
**Analysis Batch: 664562**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	200	199		ug/L		99	43 - 160
Acrolein	500	450		ug/L		90	38 - 160
Acrylonitrile	500	434		ug/L		87	64 - 142
Benzene	50.0	49.7		ug/L		99	70 - 130
Bromobenzene	50.0	51.8		ug/L		104	70 - 132
Bromochloromethane	50.0	50.9		ug/L		102	70 - 130
Bromodichloromethane	50.0	49.2		ug/L		98	67 - 133
Bromoform	50.0	49.7		ug/L		99	57 - 140
Bromomethane	50.0	45.8		ug/L		92	10 - 160
2-Butanone (MEK)	200	186		ug/L		93	61 - 145
Carbon disulfide	50.0	48.5		ug/L		97	61 - 137
Carbon tetrachloride	50.0	49.2		ug/L		98	61 - 137
Chlorobenzene	50.0	50.8		ug/L		102	70 - 130
Chloroethane	50.0	50.8		ug/L		102	55 - 141
2-Chloroethyl vinyl ether	50.0	43.1		ug/L		86	10 - 160
Chloroform	50.0	48.7		ug/L		97	69 - 130
1-Chlorohexane	50.0	50.1		ug/L		100	69 - 130
Chloromethane	50.0	41.4		ug/L		83	58 - 137
cis-1,2-Dichloroethene	50.0	46.4		ug/L		93	68 - 130
cis-1,3-Dichloropropene	50.0	49.6		ug/L		99	69 - 132
Dibromochloromethane	50.0	49.6		ug/L		99	67 - 135
1,2-Dichlorobenzene	50.0	52.2		ug/L		104	67 - 130
1,3-Dichlorobenzene	50.0	52.3		ug/L		105	70 - 130
1,4-Dichlorobenzene	50.0	51.7		ug/L		103	70 - 130
Dichlorodifluoromethane	50.0	41.6		ug/L		83	41 - 146
1,1-Dichloroethane	50.0	51.4		ug/L		103	70 - 130
1,2-Dichloroethane	50.0	47.9		ug/L		96	69 - 130
1,1-Dichloroethene	50.0	48.7		ug/L		97	63 - 134
1,2-Dichloropropane	50.0	50.1		ug/L		100	70 - 130
1,3-Dichloropropane	50.0	49.7		ug/L		99	70 - 130
2,2-Dichloropropane	50.0	48.5		ug/L		97	52 - 135

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-664562/1002**  
**Matrix: Water**  
**Analysis Batch: 664562**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloropropene	50.0	51.0		ug/L		102	70 - 130
Ethylbenzene	50.0	50.8		ug/L		102	70 - 130
Ethyl methacrylate	50.0	46.6		ug/L		93	68 - 130
Hexachlorobutadiene	50.0	55.2		ug/L		110	53 - 140
2-Hexanone	200	186		ug/L		93	65 - 137
Isopropylbenzene	50.0	50.9		ug/L		102	70 - 130
Methylene bromide	50.0	48.3		ug/L		97	70 - 130
Methylene Chloride	50.0	48.9		ug/L		98	66 - 135
4-Methyl-2-pentanone (MIBK)	200	177		ug/L		89	69 - 138
Methyl tert-butyl ether	50.0	48.8		ug/L		98	66 - 130
m-Xylene & p-Xylene	50.0	50.3		ug/L		101	70 - 130
Naphthalene	50.0	35.7		ug/L		71	47 - 149
n-Butylbenzene	50.0	51.6		ug/L		103	67 - 130
N-Propylbenzene	50.0	54.1		ug/L		108	70 - 130
o-Chlorotoluene	50.0	49.5		ug/L		99	70 - 130
o-Xylene	50.0	49.5		ug/L		99	70 - 130
p-Chlorotoluene	50.0	52.2		ug/L		104	70 - 130
p-Isopropyltoluene	50.0	54.5		ug/L		109	65 - 130
sec-Butylbenzene	50.0	54.1		ug/L		108	66 - 130
Styrene	50.0	48.9		ug/L		98	70 - 130
tert-Butylbenzene	50.0	50.5		ug/L		101	64 - 139
1,1,1,2-Tetrachloroethane	50.0	50.5		ug/L		101	67 - 131
1,1,2,2-Tetrachloroethane	50.0	52.1		ug/L		104	70 - 131
Tetrachloroethene	50.0	47.2		ug/L		94	65 - 130
Toluene	50.0	49.5		ug/L		99	70 - 130
trans-1,2-Dichloroethene	50.0	50.4		ug/L		101	70 - 130
trans-1,3-Dichloropropene	50.0	47.8		ug/L		96	63 - 130
1,2,3-Trichlorobenzene	50.0	50.9		ug/L		102	60 - 138
1,2,4-Trichlorobenzene	50.0	52.0		ug/L		104	60 - 140
1,1,1-Trichloroethane	50.0	49.1		ug/L		98	68 - 130
1,1,2-Trichloroethane	50.0	48.3		ug/L		97	70 - 130
Trichloroethene	50.0	50.5		ug/L		101	70 - 130
Trichlorofluoromethane	50.0	51.6		ug/L		103	65 - 138
1,2,3-Trichloropropane	50.0	48.7		ug/L		97	70 - 130
1,2,4-Trimethylbenzene	50.0	52.0		ug/L		104	70 - 130
1,3,5-Trimethylbenzene	50.0	53.0		ug/L		106	69 - 130
Vinyl acetate	100	100		ug/L		100	26 - 160
Vinyl chloride	50.0	46.8		ug/L		94	59 - 136
Xylenes, Total	100	99.8		ug/L		100	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	99		72 - 130
Dibromofluoromethane	101		75 - 126
Toluene-d8 (Surr)	99		64 - 132

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 400-663919/1-A**  
**Matrix: Water**  
**Analysis Batch: 664128**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 663919**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	8.7	ug/L		03/10/24 14:41	03/12/24 12:16	1
Benzenethiol	ND		10	9.9	ug/L		03/10/24 14:41	03/12/24 12:16	1
Benzoic acid	ND		30	24	ug/L		03/10/24 14:41	03/12/24 12:16	1
Benzyl alcohol	ND		10	7.3	ug/L		03/10/24 14:41	03/12/24 12:16	1
Bis(2-chloroethoxy)methane	ND		10	4.6	ug/L		03/10/24 14:41	03/12/24 12:16	1
Bis(2-chloroethyl)ether	ND		10	3.9	ug/L		03/10/24 14:41	03/12/24 12:16	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		03/10/24 14:41	03/12/24 12:16	1
Bis(2-ethylhexyl) phthalate	ND		10	8.9	ug/L		03/10/24 14:41	03/12/24 12:16	1
4-Bromophenyl phenyl ether	ND		10	8.6	ug/L		03/10/24 14:41	03/12/24 12:16	1
Butyl benzyl phthalate	ND		10	5.8	ug/L		03/10/24 14:41	03/12/24 12:16	1
4-Chloroaniline	ND		10	4.7	ug/L		03/10/24 14:41	03/12/24 12:16	1
4-Chloro-3-methylphenol	ND		10	5.3	ug/L		03/10/24 14:41	03/12/24 12:16	1
2-Chloronaphthalene	ND		10	3.8	ug/L		03/10/24 14:41	03/12/24 12:16	1
2-Chlorophenol	ND		10	4.1	ug/L		03/10/24 14:41	03/12/24 12:16	1
4-Chlorophenyl phenyl ether	ND		10	3.7	ug/L		03/10/24 14:41	03/12/24 12:16	1
Dibenz[a,h]acridine	ND		10	2.8	ug/L		03/10/24 14:41	03/12/24 12:16	1
Dibenzofuran	ND		10	4.0	ug/L		03/10/24 14:41	03/12/24 12:16	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/10/24 14:41	03/12/24 12:16	1
2,4-Dichlorophenol	ND		10	4.3	ug/L		03/10/24 14:41	03/12/24 12:16	1
Diethyl phthalate	ND		10	4.4	ug/L		03/10/24 14:41	03/12/24 12:16	1
2,4-Dimethylphenol	ND		10	5.2	ug/L		03/10/24 14:41	03/12/24 12:16	1
Dimethyl phthalate	ND		10	4.2	ug/L		03/10/24 14:41	03/12/24 12:16	1
Di-n-butyl phthalate	ND		10	4.6	ug/L		03/10/24 14:41	03/12/24 12:16	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		03/10/24 14:41	03/12/24 12:16	1
2,4-Dinitrophenol	ND		30	4.6	ug/L		03/10/24 14:41	03/12/24 12:16	1
2,4-Dinitrotoluene	ND		10	5.1	ug/L		03/10/24 14:41	03/12/24 12:16	1
2,6-Dinitrotoluene	ND		10	3.9	ug/L		03/10/24 14:41	03/12/24 12:16	1
Di-n-octyl phthalate	ND		10	6.0	ug/L		03/10/24 14:41	03/12/24 12:16	1
1,4-Dioxane	ND		10	4.3	ug/L		03/10/24 14:41	03/12/24 12:16	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.3	ug/L		03/10/24 14:41	03/12/24 12:16	1
Hexachlorobenzene	ND		10	9.7	ug/L		03/10/24 14:41	03/12/24 12:16	1
Hexachlorocyclopentadiene	ND		20	4.5	ug/L		03/10/24 14:41	03/12/24 12:16	1
Hexachloroethane	ND		10	5.2	ug/L		03/10/24 14:41	03/12/24 12:16	1
Indene	ND		10	3.6	ug/L		03/10/24 14:41	03/12/24 12:16	1
Isophorone	ND		10	5.2	ug/L		03/10/24 14:41	03/12/24 12:16	1
2-Methylphenol	ND		10	3.2	ug/L		03/10/24 14:41	03/12/24 12:16	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		03/10/24 14:41	03/12/24 12:16	1
2-Nitroaniline	ND		10	5.0	ug/L		03/10/24 14:41	03/12/24 12:16	1
3-Nitroaniline	ND		10	4.7	ug/L		03/10/24 14:41	03/12/24 12:16	1
4-Nitroaniline	ND		10	4.1	ug/L		03/10/24 14:41	03/12/24 12:16	1
Nitrobenzene	ND		10	4.7	ug/L		03/10/24 14:41	03/12/24 12:16	1
2-Nitrophenol	ND		10	4.6	ug/L		03/10/24 14:41	03/12/24 12:16	1
4-Nitrophenol	ND		10	3.3	ug/L		03/10/24 14:41	03/12/24 12:16	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		03/10/24 14:41	03/12/24 12:16	1
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		03/10/24 14:41	03/12/24 12:16	1
N-Nitrosodiphenylamine	ND		10	3.7	ug/L		03/10/24 14:41	03/12/24 12:16	1
Pentachlorophenol	ND		20	12	ug/L		03/10/24 14:41	03/12/24 12:16	1
Phenol	ND		10	4.2	ug/L		03/10/24 14:41	03/12/24 12:16	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 400-663919/1-A**  
**Matrix: Water**  
**Analysis Batch: 664128**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 663919**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Pyridine	ND		10	10	ug/L		03/10/24 14:41	03/12/24 12:16	1
Quinoline	ND		10	2.4	ug/L		03/10/24 14:41	03/12/24 12:16	1
2,4,5-Trichlorophenol	ND		10	4.0	ug/L		03/10/24 14:41	03/12/24 12:16	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		03/10/24 14:41	03/12/24 12:16	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2-Fluorobiphenyl	102		21 - 114	03/10/24 14:41	03/12/24 12:16	1
2-Fluorophenol	62		10 - 105	03/10/24 14:41	03/12/24 12:16	1
Nitrobenzene-d5	85		16 - 127	03/10/24 14:41	03/12/24 12:16	1
Phenol-d5	47		10 - 129	03/10/24 14:41	03/12/24 12:16	1
Terphenyl-d14	103		13 - 150	03/10/24 14:41	03/12/24 12:16	1
2,4,6-Tribromophenol	99		10 - 150	03/10/24 14:41	03/12/24 12:16	1

**Lab Sample ID: LCS 400-663919/2-A**  
**Matrix: Water**  
**Analysis Batch: 664128**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663919**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Aniline	120	60.6		ug/L		50	10 - 127
Benzoic acid	492	263		ug/L		54	19 - 126
Benzyl alcohol	120	87.9		ug/L		73	17 - 109
Bis(2-chloroethoxy)methane	120	86.1		ug/L		72	24 - 125
Bis(2-chloroethyl)ether	120	87.9		ug/L		73	10 - 121
bis (2-chloroisopropyl) ether	120	70.9		ug/L		59	14 - 123
Bis(2-ethylhexyl) phthalate	120	96.4		ug/L		80	16 - 150
4-Bromophenyl phenyl ether	120	114		ug/L		95	17 - 150
Butyl benzyl phthalate	120	97.9		ug/L		82	21 - 150
4-Chloroaniline	120	71.7		ug/L		60	10 - 124
4-Chloro-3-methylphenol	120	104		ug/L		86	37 - 131
2-Chloronaphthalene	120	102		ug/L		85	24 - 132
2-Chlorophenol	120	94.6		ug/L		79	27 - 124
4-Chlorophenyl phenyl ether	120	114		ug/L		95	27 - 147
Dibenz[a,h]acridine	120	111		ug/L		92	40 - 140
Dibenzofuran	120	106		ug/L		88	30 - 135
3,3'-Dichlorobenzidine	160	142		ug/L		88	10 - 150
2,4-Dichlorophenol	120	99.9		ug/L		83	33 - 132
Diethyl phthalate	120	101		ug/L		84	37 - 145
2,4-Dimethylphenol	120	99.7		ug/L		83	38 - 132
Dimethyl phthalate	120	106		ug/L		88	32 - 137
Di-n-butyl phthalate	120	104		ug/L		86	27 - 150
4,6-Dinitro-ortho-cresol	240	189		ug/L		79	14 - 150
2,4-Dinitrophenol	240	211		ug/L		88	15 - 150
2,4-Dinitrotoluene	120	114		ug/L		95	35 - 136
2,6-Dinitrotoluene	120	107		ug/L		89	29 - 140
Di-n-octyl phthalate	120	98.5		ug/L		82	26 - 150
1,4-Dioxane	120	52.5		ug/L		44	10 - 87
1,2-Diphenylhydrazine (as Azobenzene)	120	85.8		ug/L		71	23 - 138
Hexachlorobenzene	120	117		ug/L		97	10 - 150

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 400-663919/2-A**  
**Matrix: Water**  
**Analysis Batch: 664128**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663919**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Hexachlorocyclopentadiene	120	99.3		ug/L		83	10 - 124
Hexachloroethane	120	79.5		ug/L		66	10 - 127
Indene	120	96.3		ug/L		80	18 - 150
Isophorone	120	84.1		ug/L		70	28 - 127
2-Methylphenol	120	85.2		ug/L		71	34 - 124
3 & 4 Methylphenol	120	81.8		ug/L		68	32 - 122
2-Nitroaniline	120	94.5		ug/L		79	24 - 139
3-Nitroaniline	120	83.8		ug/L		70	10 - 128
4-Nitroaniline	120	96.4		ug/L		80	28 - 118
Nitrobenzene	120	82.9		ug/L		69	29 - 120
2-Nitrophenol	120	98.6		ug/L		82	25 - 148
4-Nitrophenol	240	173		ug/L		72	12 - 129
N-Nitrosodimethylamine	120	57.3		ug/L		48	10 - 115
N-Nitrosodi-n-propylamine	120	73.7		ug/L		61	24 - 142
N-Nitrosodiphenylamine	119	98.7		ug/L		83	29 - 138
Pentachlorophenol	240	203		ug/L		84	19 - 150
Phenol	120	67.6		ug/L		56	11 - 95
Pyridine	240	57.7		ug/L		24	10 - 82
Quinoline	120	118		ug/L		98	40 - 140
2,4,5-Trichlorophenol	120	118		ug/L		98	30 - 144
2,4,6-Trichlorophenol	120	115		ug/L		96	27 - 147

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	95		21 - 114
2-Fluorophenol	73		10 - 105
Nitrobenzene-d5	82		16 - 127
Phenol-d5	61		10 - 129
Terphenyl-d14	101		13 - 150
2,4,6-Tribromophenol	109		10 - 150

**Lab Sample ID: LCS 400-663919/4-A**  
**Matrix: Water**  
**Analysis Batch: 664128**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663919**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzenethiol	120	124		ug/L		103	10 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	91		21 - 114
2-Fluorophenol	62		10 - 105
Nitrobenzene-d5	77		16 - 127
Phenol-d5	53		10 - 129
Terphenyl-d14	107		13 - 150
2,4,6-Tribromophenol	88		10 - 150

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 400-663919/3-A**  
**Matrix: Water**  
**Analysis Batch: 664128**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 663919**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD
									Limit
Aniline	120	57.4		ug/L		48	10 - 127	5	40
Benzoic acid	492	202		ug/L		41	19 - 126	26	40
Benzyl alcohol	120	92.1		ug/L		77	17 - 109	5	40
Bis(2-chloroethoxy)methane	120	92.4		ug/L		77	24 - 125	7	40
Bis(2-chloroethyl)ether	120	88.6		ug/L		74	10 - 121	1	40
bis (2-chloroisopropyl) ether	120	75.2		ug/L		63	14 - 123	6	40
Bis(2-ethylhexyl) phthalate	120	104		ug/L		87	16 - 150	8	40
4-Bromophenyl phenyl ether	120	124		ug/L		104	17 - 150	8	40
Butyl benzyl phthalate	120	104		ug/L		87	21 - 150	6	40
4-Chloroaniline	120	75.4		ug/L		63	10 - 124	5	40
4-Chloro-3-methylphenol	120	111		ug/L		92	37 - 131	7	40
2-Chloronaphthalene	120	110		ug/L		91	24 - 132	7	40
2-Chlorophenol	120	102		ug/L		85	27 - 124	7	40
4-Chlorophenyl phenyl ether	120	122		ug/L		102	27 - 147	7	40
Dibenz[a,h]acridine	120	128		ug/L		107	40 - 140	14	40
Dibenzofuran	120	111		ug/L		93	30 - 135	5	40
3,3'-Dichlorobenzidine	160	148		ug/L		93	10 - 150	5	40
2,4-Dichlorophenol	120	106		ug/L		89	33 - 132	6	40
Diethyl phthalate	120	108		ug/L		90	37 - 145	7	40
2,4-Dimethylphenol	120	106		ug/L		88	38 - 132	6	40
Dimethyl phthalate	120	113		ug/L		94	32 - 137	6	40
Di-n-butyl phthalate	120	114		ug/L		95	27 - 150	9	40
4,6-Dinitro-ortho-cresol	240	209		ug/L		87	14 - 150	10	40
2,4-Dinitrophenol	240	230		ug/L		96	15 - 150	8	40
2,4-Dinitrotoluene	120	124		ug/L		103	35 - 136	8	40
2,6-Dinitrotoluene	120	114		ug/L		95	29 - 140	6	40
Di-n-octyl phthalate	120	108		ug/L		90	26 - 150	9	40
1,4-Dioxane	120	51.6		ug/L		43	10 - 87	2	40
1,2-Diphenylhydrazine (as Azobenzene)	120	91.8		ug/L		76	23 - 138	7	40
Hexachlorobenzene	120	123		ug/L		102	10 - 150	5	40
Hexachlorocyclopentadiene	120	107		ug/L		89	10 - 124	8	40
Hexachloroethane	120	86.2		ug/L		72	10 - 127	8	40
Indene	120	104		ug/L		87	18 - 150	8	40
Isophorone	120	89.6		ug/L		75	28 - 127	6	40
2-Methylphenol	120	89.6		ug/L		75	34 - 124	5	40
3 & 4 Methylphenol	120	85.3		ug/L		71	32 - 122	4	40
2-Nitroaniline	120	99.0		ug/L		83	24 - 139	5	40
3-Nitroaniline	120	87.8		ug/L		73	10 - 128	5	40
4-Nitroaniline	120	101		ug/L		84	28 - 118	4	40
Nitrobenzene	120	88.9		ug/L		74	29 - 120	7	40
2-Nitrophenol	120	101		ug/L		84	25 - 148	2	40
4-Nitrophenol	240	175		ug/L		73	12 - 129	1	40
N-Nitrosodimethylamine	120	58.1		ug/L		48	10 - 115	1	40
N-Nitrosodi-n-propylamine	120	77.1		ug/L		64	24 - 142	5	40
N-Nitrosodiphenylamine	119	106		ug/L		89	29 - 138	7	40
Pentachlorophenol	240	229		ug/L		96	19 - 150	12	40
Phenol	120	74.7		ug/L		62	11 - 95	10	40
Pyridine	240	41.2		ug/L		17	10 - 82	33	40

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 400-663919/3-A**  
**Matrix: Water**  
**Analysis Batch: 664128**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 663919**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Quinoline	120	112		ug/L		94	40 - 140	5	40
2,4,5-Trichlorophenol	120	128		ug/L		107	30 - 144	9	40
2,4,6-Trichlorophenol	120	125		ug/L		104	27 - 147	8	40

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
2-Fluorobiphenyl	98		21 - 114
2-Fluorophenol	74		10 - 105
Nitrobenzene-d5	86		16 - 127
Phenol-d5	61		10 - 129
Terphenyl-d14	102		13 - 150
2,4,6-Tribromophenol	115		10 - 150

**Lab Sample ID: LCSD 400-663919/5-A**  
**Matrix: Water**  
**Analysis Batch: 664128**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 663919**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzenethiol	120	118		ug/L		98	10 - 140	5	40

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
2-Fluorobiphenyl	93		21 - 114
2-Fluorophenol	63		10 - 105
Nitrobenzene-d5	76		16 - 127
Phenol-d5	50		10 - 129
Terphenyl-d14	105		13 - 150
2,4,6-Tribromophenol	90		10 - 150

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

**Lab Sample ID: MB 400-663919/1-A**  
**Matrix: Water**  
**Analysis Batch: 663974**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 663919**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.099	ug/L		03/10/24 14:41	03/11/24 17:33	1
Acenaphthylene	ND		0.20	0.044	ug/L		03/10/24 14:41	03/11/24 17:33	1
Anthracene	ND		0.20	0.047	ug/L		03/10/24 14:41	03/11/24 17:33	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		03/10/24 14:41	03/11/24 17:33	1
Benzo[a]pyrene	ND		0.20	0.064	ug/L		03/10/24 14:41	03/11/24 17:33	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		03/10/24 14:41	03/11/24 17:33	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		03/10/24 14:41	03/11/24 17:33	1
Benzo[k]fluoranthene	ND		0.20	0.062	ug/L		03/10/24 14:41	03/11/24 17:33	1
Chrysene	ND		0.20	0.033	ug/L		03/10/24 14:41	03/11/24 17:33	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		03/10/24 14:41	03/11/24 17:33	1
Fluoranthene	ND		0.20	0.034	ug/L		03/10/24 14:41	03/11/24 17:33	1
Fluorene	ND		0.20	0.089	ug/L		03/10/24 14:41	03/11/24 17:33	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		03/10/24 14:41	03/11/24 17:33	1
Phenanthrene	ND		0.20	0.090	ug/L		03/10/24 14:41	03/11/24 17:33	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: MB 400-663919/1-A**  
**Matrix: Water**  
**Analysis Batch: 663974**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 663919**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Pyrene	ND		0.20	0.039	ug/L		03/10/24 14:41	03/11/24 17:33	1
1-Methylnaphthalene	ND		0.20	0.080	ug/L		03/10/24 14:41	03/11/24 17:33	1
2-Methylnaphthalene	ND		0.20	0.066	ug/L		03/10/24 14:41	03/11/24 17:33	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Terphenyl-d14	83		18 - 147	03/10/24 14:41	03/11/24 17:33	1
2-Fluorobiphenyl	68		15 - 128	03/10/24 14:41	03/11/24 17:33	1
Nitrobenzene-d5	74		10 - 144	03/10/24 14:41	03/11/24 17:33	1

**Lab Sample ID: LCS 400-663919/2-A**  
**Matrix: Water**  
**Analysis Batch: 663974**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 663919**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Acenaphthene	120	106		ug/L		88	10 - 140
Acenaphthylene	120	109		ug/L		90	10 - 140
Anthracene	120	106		ug/L		88	19 - 140
Benzo[a]anthracene	120	110		ug/L		91	25 - 140
Benzo[a]pyrene	120	105		ug/L		88	24 - 140
Benzo[b]fluoranthene	120	109		ug/L		91	34 - 140
Benzo[g,h,i]perylene	120	102		ug/L		85	13 - 140
Benzo[k]fluoranthene	120	110		ug/L		91	21 - 140
Chrysene	120	104		ug/L		87	28 - 140
Dibenz(a,h)anthracene	120	107		ug/L		89	10 - 140
Fluoranthene	120	111		ug/L		92	18 - 140
Fluorene	120	112		ug/L		94	16 - 140
Indeno[1,2,3-cd]pyrene	120	107		ug/L		89	10 - 140
Phenanthrene	120	104		ug/L		86	22 - 140
Pyrene	120	103		ug/L		86	38 - 140
1-Methylnaphthalene	120	81.9		ug/L		68	10 - 140
2-Methylnaphthalene	120	84.1		ug/L		70	10 - 140

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
Terphenyl-d14	78		18 - 147
2-Fluorobiphenyl	78		15 - 128
Nitrobenzene-d5	73		10 - 144

**Lab Sample ID: LCSD 400-663919/3-A**  
**Matrix: Water**  
**Analysis Batch: 663974**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 663919**

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
		Result	Qualifier						
Acenaphthene	120	114		ug/L		95	10 - 140	8	40
Acenaphthylene	120	118		ug/L		99	10 - 140	9	40
Anthracene	120	113		ug/L		94	19 - 140	7	40
Benzo[a]anthracene	120	121		ug/L		100	25 - 140	9	40
Benzo[a]pyrene	120	114		ug/L		95	24 - 140	8	40
Benzo[b]fluoranthene	120	118		ug/L		98	34 - 140	8	40

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: LCSD 400-663919/3-A**  
**Matrix: Water**  
**Analysis Batch: 663974**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 663919**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Benzo[g,h,i]perylene	120	109		ug/L		91	13 - 140	7	40	
Benzo[k]fluoranthene	120	116		ug/L		97	21 - 140	6	40	
Chrysene	120	113		ug/L		94	28 - 140	8	40	
Dibenz(a,h)anthracene	120	115		ug/L		96	10 - 140	8	40	
Fluoranthene	120	118		ug/L		99	18 - 140	7	40	
Fluorene	120	121		ug/L		101	16 - 140	7	40	
Indeno[1,2,3-cd]pyrene	120	115		ug/L		96	10 - 140	7	40	
Phenanthrene	120	112		ug/L		93	22 - 140	8	40	
Pyrene	120	113		ug/L		94	38 - 140	9	40	
1-Methylnaphthalene	120	90.2		ug/L		75	10 - 140	10	40	
2-Methylnaphthalene	120	92.0		ug/L		77	10 - 140	9	40	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
Terphenyl-d14	83		18 - 147
2-Fluorobiphenyl	84		15 - 128
Nitrobenzene-d5	81		10 - 144

## Method: 8011 - EDB and DBCP in Water by Microextraction

**Lab Sample ID: MB 400-664279/1-A**  
**Matrix: Water**  
**Analysis Batch: 664136**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 664279**

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2-Dibromo-3-Chloropropane	ND		0.030	0.017	ug/L		03/13/24 09:28	03/13/24 18:00	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/13/24 09:28	03/13/24 18:00	1

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene	72		51 - 149	03/13/24 09:28	03/13/24 18:00	1

**Lab Sample ID: LCS 400-664279/2-A**  
**Matrix: Water**  
**Analysis Batch: 664136**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 664279**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec	
							Limits	RPD
1,2-Dibromo-3-Chloropropane	0.101	0.0922		ug/L		92	60 - 140	
1,2-Dibromoethane	0.100	0.0876		ug/L		87	60 - 140	

Surrogate	LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	70		51 - 149

**Lab Sample ID: LCSD 400-664279/3-A**  
**Matrix: Water**  
**Analysis Batch: 664136**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 664279**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
1,2-Dibromo-3-Chloropropane	0.101	0.103		ug/L		102	60 - 140	11	30	
1,2-Dibromoethane	0.100	0.0821		ug/L		82	60 - 140	7	30	

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252330-1

## Method: 8011 - EDB and DBCP in Water by Microextraction (Continued)

**Lab Sample ID: LCSD 400-664279/3-A**  
**Matrix: Water**  
**Analysis Batch: 664136**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 664279**

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	75		51 - 149

**Lab Sample ID: MB 400-664441/1-A**  
**Matrix: Water**  
**Analysis Batch: 664510**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 664441**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2-Dibromo-3-Chloropropane	ND		0.030	0.017	ug/L		03/14/24 07:46	03/14/24 15:07	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/14/24 07:46	03/14/24 15:07	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene	90	p	51 - 149	03/14/24 07:46	03/14/24 15:07	1

**Lab Sample ID: LCS 400-664441/2-A**  
**Matrix: Water**  
**Analysis Batch: 664510**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 664441**

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec	
		Result	Qualifier				Limits	
1,2-Dibromo-3-Chloropropane	0.101	0.115		ug/L		114	60 - 140	
1,2-Dibromoethane	0.100	0.0964		ug/L		96	60 - 140	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	78	p	51 - 149

**Lab Sample ID: LCSD 400-664441/3-A**  
**Matrix: Water**  
**Analysis Batch: 664510**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 664441**

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec		RPD	
		Result	Qualifier				Limits	RPD	Limit	
1,2-Dibromo-3-Chloropropane	0.101	0.106		ug/L		105	60 - 140	9	30	
1,2-Dibromoethane	0.100	0.0844		ug/L		84	60 - 140	13	30	

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	83	p	51 - 149



LAB (LOCATION)

ACCUTEST ( ) CALSCIENCE ( ) TESTAMERICA (TestAmerica P Pensacola, FL 32514 (850-474-400-2523330 COC Other ( )



Shell Oil Products US Chain Of Custody Record

AECOM

Please Check Appropriate Box: SGW FDG, PIPELINE, CHEMICALS, CONSULTANT, TRANSPORTATION, OTHER ENV. SERVICES

Print Bill To Contact Name: Melissa Remiger, PO # 60721927 - 3.1.2, State IL

CHECK IF NO INCIDENT # APPLIES, DATE: 3/7/2024, PAGE: 1 of 2

SAMPLING COMPANY: AECOM, ADDRESS: 100 N. Broadway, 20th Floor, ST. LOUIS, MO 63102, USA, PROJECT CONTACT (Hardcopy or PDF Report to): Melissa Remiger, Mary Massa, Brett Howell

PlaNNet Site or Project ID: 25278, GSAP Project ID: USPC/00114/R/02, AECOM Project / Task Number: 60721927 - 3.1.2

DELIVERABLES: LEVEL 1, 2, 3, 4, TEMPERATURE ON RECEIPT C, SPECIAL INSTRUCTIONS OR NOTES

REQUESTED ANALYSIS: 60721927 - 3.1.2, FIELD NOTES: TEMPERATURE ON RECEIPT C, Container PID Readings or Laboratory Notes

Table with columns: LAB USE ONLY, Field Sample Identification, SAMPLING DATE, TIME, MATRIX, PRESERVATIVE, NO. OF CONT., RESULTS NEEDED ON

Table with columns: 8011 EDB + DBCP, SVOC 8270, PAH 8270 SIMS, VOC 8260

Relinquished by: (Signature) MARY MASSA, RECEIVED BY: (Signature) [Signature], FEDEX: 6339 6600 0680, 6339 6600 0691

Relinquished by: (Signature) [Signature], RECEIVED BY: (Signature) [Signature], Date: 3.8.24, Time: 9:44

CUSTODY SEALS: 1599846, 1599847, 1599848, 1599849

Version: 27Sept23



ACUTEST ( )  
 CALSCIENCE ( )  
 TESTAMERICA (TestAmerica Pensacola; 3355 McLemore Dr. Pensacola, FL 32514 (850-474-1001))  
 Other ( )

SGW FDG  
 CHEMICALS  
 TRANSPORTATION  
 PIPELINE  
 CONSULTANT  
 OTHER\_ENV\_SERVICES

RETAIL  
 LUBES

Print Bill To Contact Name: Melissa Remiger  
 PlanNet Site or Project ID: 25278  
 GSAP Project ID: USPC00114/R/02  
 DATE: 3/7/2024  
 PAGE: 2 of 2

SAMPLING COMPANY: AECOM  
 ADDRESS: 100 N. Broadway, 20th Floor, ST. LOUIS, MO 63102, USA  
 PROJECT CONTACT (Hardcopy or PDF Report to): Melissa Remiger, Mary Massa, Brett Howell  
 TELEPHONE: 314-429-0100 FAX: 314-429-0462  
 BILL TO CONTACT E-MAIL: melissa.remiger@aecom.com  
 TURNAROUND TIME (CALENDAR DAYS):  
 STANDARD (14 DAY)  5 DAYS  3 DAYS  2 DAYS  RESULTS NEEDED ON WEEKEND

LA - RWQCB REPORT FORMAT  
 LEVEL 1  LEVEL 2  LEVEL 3  LEVEL 4  
 OTHER (SPECIFY) EDD \_\_\_\_\_  
 Cooler #1: \_\_\_\_\_ Cooler #2: \_\_\_\_\_ Cooler #3: \_\_\_\_\_

SPECIAL INSTRUCTIONS OR NOTES:  
 Email reports to: melissa.remiger@aecom.com; mary.mass@aecom.com; brett.howell@aecom.com  
 Please include "J" values on Reports.  
 Please provide sample receipt upon login.  
 Please send EQUIS EDDs to EDDSubmissions@aecomshell.com; Vlad.Virjan@aecom.com

SHELL CONTRACT RATE APPLIES  
 STATE REIMBURSEMENT RATE APPLIES  
 EDD 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	HNO3	H2SO4	NONE		OTHER
	TB-ROX-030724-8260-B	0000	3/7/2024	0000	Water	2					2
	TB-ROX-030724-8011-B	0000	3/7/2024	0000	Water	2					2
	P93D-ROX-030724	0930	3/7/2024	0930	Water	6		2			8
	P57-ROX-030724	1025	3/7/2024	1025	Water	6		2			8
	P57-ROX-030724-DUP	1025	3/7/2024	1025	Water	6		2			8
	T12-ROX-030724	1135	3/7/2024	1135	Water	6		2			8
	P59-ROX-030724	1315	3/7/2024	1315	Water	6		2			8
	<i>Handwritten signature and date: 3/8/24</i>										

Relinquished by: (Signature) \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
**E. CHALFANT**  
 Relinquished by: (Signature) \_\_\_\_\_ Date: 3/7/2024 Time: 1600  
 Relinquished by: (Signature) \_\_\_\_\_ Date: 3/8/24 Time: 9:44  
 Relinquished by: (Signature) \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

REQUESTED ANALYSIS: 60721927 - 3.1.2  
 FIELD NOTES:  
 TEMPERATURE ON RECEIPT °C:  
 Container PID Readings or Laboratory Notes:

STATE: IL  
 CITY: 900 South Central Ave; ROXANA  
 PHONE NO.: 314-802-1207  
 E-MAIL: melissa.remiger@aecom.com  
 AECOM Project / Task Number: Roxana Monthly GW 60721927 - 3.1.2  
 AECOM Other ID:

SAMPLER NAME(S) (Print): E. CHALFANT ; J. MAYER  
 LAB USE ONLY

CUSTODY SEALS: SEE PAGE 1  
 Version: 2/1/Sep/23

# Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-252330-1

**Login Number: 252330**

**List Source: Eurofins Pensacola**

**List Number: 1**

**Creator: Roberts, Alexis J**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
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	3.2°C, 1.2°C IR8
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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (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 MONTHLY GW

Job ID: 400-252330-1

## Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-24
Kansas	NELAP	E-10253	10-31-24
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-24
North Carolina (WW/SW)	State	314	12-31-24
Oklahoma	NELAP	9810	08-31-24
Pennsylvania	NELAP	68-00467	01-31-25
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-24
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	P330-21-00056	05-17-24
USDA	US Federal Programs	FLGNV23001	01-08-26
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-24

# Roxana Groundwater Monthly – February/March 2024 Data Review

Laboratory SDG: 400-252332-1-Rev.2

Data Reviewer: Andrei Niculau

Peer Reviewer: Cheyana Cokley

Date Reviewed: 04/02/2024

Guidance: USEPA National Functional Guidelines for Organic Superfund Methods Data Review 2020

Sample Identification	Sample Identification
TB-ROX-030624-8260-A	TB-ROX-030624-8260-B
TB-ROX-030624-8011-A	TB-ROX-030624-8011-B
MW13-ROX-030624	MW6B-ROX-030624
P114R-ROX-030624	P56-ROX-030624
MW12-ROX-030624-EB	P93A-ROX-030624
MW12-ROX-030624	P93C-ROX-030624
ROST4PZE-ROX-030624	--

## 1.0 Data Package Completeness

*Were all items delivered as specified in the QAPP and COC as appropriate?*

Yes, the laboratory case narrative indicated that one voa container, for sample MW13-ROX-030624 was received broken. No impact on the data is anticipated; therefore, no qualification is required.

## 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 VOC MS/MSD recoveries, and/or MS/MSD RPDs, were outside evaluation criteria in sample RPST4PZE-ROX-030624. The continuing calibration verifications (CCV) for isopropylbenzene was outside evaluation criteria, biased high. The continuing calibration verifications (CCV) for multiple analytes were outside evaluation criteria, biased low. Sample P93C-ROX-030624 was diluted to bring the target analytes within the calibration range. Elevated reporting limits (RLs) are provided. These issues are addressed further in the appropriate sections of this data review. The laboratory report was revised on March 25, 2024, to include missing ICVs for method 8270E. The laboratory report was revised on April 08, 2024, to correct a sample identification.

Three of 70 (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 indicate 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 400-664107/1002	VOCs	Hexachlorobutadiene	147	N/A	53-140
LCS 400-664271/1002	VOCs	Hexachlorobutadiene	152	N/A	53-140
LCS 400-664447/1002	VOCs	Methylene Chloride	136	N/A	66-135
LCS/LCSD 400-664310/2-A/3-A	SVOCs	Bis(2-ethylhexyl) phthalate	51/77	41	16-150/40
LCS/LCSD 400-664310/2-A/3-A	SVOCs	Butyl benzyl phthalate	51/78	41	21-150/40
LCS/LCSD 400-664310/2-A/3-A	SVOCs	3,3'-Dichlorobenzidine	62/94	41	10-150/40
LCS/LCSD 400-664310/2-A/3-A	SVOCs	2,4-Dinitrophenol	69/105	41	15-150/40

Analytical data reported as non-detect and associated with LCS/LCSD recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. Analytical data associated with LCS/LCSD RPD alone outside evaluation criteria did not require qualification.

## 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, although not requested, sample ROST4PZE-ROX-030624 was spiked and analyzed for VOCs.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
ROST4PZE-ROX-030624 MS/MSD	VOCs	2-Chloroethyl vinyl ether	6/0	NC	10-150/50
ROST4PZE-ROX-030624 MS/MSD	VOCs	Hexachlorobutadiene	117/80	38	31-149/36

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery (%)	RPD	MS/MSD/ RPD Criteria
ROST4PZE-ROX-030624 MS/MSD	VOCs	n-Butylbenzene	97/69	<b>34</b>	41-142/31
ROST4PZE-ROX-030624 MS/MSD	VOCs	p-Isopropyltoluene	99/71	<b>32</b>	48-139/30
ROST4PZE-ROX-030624 MS/MSD	VOCs	sec-Butylbenzene	102/74	<b>32</b>	50-138/30

Analytical data that required qualification based on MS/MSD data are included in the table below. Professional judgement was used to qualify; however, not reject 2-chloroethyl vinyl ether due to acceptable LCS recoveries and to the acid reactive nature of 2-chloroethyl vinyl ether. Analytical data reported as non-detect and associated with MS/MSD recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. Analytical data associated with MS/MSD RPD alone outside evaluation criteria did not require qualification.

Sample ID	Parameter	Analyte	Qualification
ROST4PZE-ROX-030624	VOCs	2-Chloroethyl vinyl ether	<b>UJ</b>

#### 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 with the exception of VOCs in sample P93C-ROX-030624 due to the nature of the sample matrix. VOCs were non-detect at a dilution factor of 5000X, with raised reporting limits of 130000 µg/L. Due to historical detections, please see section 12.0 of the data review for additional qualifications.

#### 12.0 Additional Qualifications

*Were additional qualifications applied?*

Yes, the continuing calibration verifications (CCV) for isopropylbenzene was outside evaluation criteria, biased high. The continuing calibration verifications (CCV) for chloromethane and vinyl chloride were outside evaluation criteria, biased low. Analytes are qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
ROST4PZE-ROX-030624	VOCs	Isopropylbenzene	J
P93C-ROX-030624	VOCs	Chloromethane	UJ
P93C-ROX-030624	VOCs	Vinyl chloride	UJ

Additionally, VOCs in sample P93C-ROX-030624 were qualified as estimated non-detect due to sample dilution and historical detections. Vinyl chloride and chloromethane, in sample P93C-ROX-030624, were previously qualified per section 12.0; no further qualification is required.

Sample ID	Parameter	Analyte	Qualification
P93C-ROX-030624	VOCs	All non-detects	UJ



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Melissa Remiger  
AECOM Technical Services Inc.  
100 N. Broadway  
20th Floor  
St. Louis, Missouri 63102

Generated 4/8/2024 10:04:16 AM Revision 1

## JOB DESCRIPTION

ROXANA MONTHLY GW

## JOB NUMBER

400-252332-1

Reviewed 04/08/2024  
CDC

# Eurofins Pensacola

## Job Notes

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

## Authorization



Authorized for release by  
Leah Klingensmith, Senior Project Manager  
[Leah.Klingensmith@et.eurofinsus.com](mailto:Leah.Klingensmith@et.eurofinsus.com)  
(615)301-5038

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# Case Narrative

Client: AECOM Technical Services Inc.  
Project: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Job ID: 400-252332-1**

**Eurofins Pensacola**

## Job Narrative 400-252332-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Revision

Report revised to correct sample ID, ROST4PZE-ROX-030624 (400-252332-7). Superedes report dated 3-20-2024.

Level IV report revised to include missing ICV 8270 data. Superedes report dated 3-20-2024.

### Receipt

The samples were received on 3/8/2024 9:44 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.8°C and 2.8°C.

### Receipt Exceptions

One VOA container for the following sample was received broken

### GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-664107 recovered above the upper control limit for 1,2,4-Trichlorobenzene and Hexachlorobutadiene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The laboratory control sample (LCS) for analytical batch 400-664107 recovered outside control limits for the following analytes: Hexachlorobutadiene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-664271 recovered above the upper control limit for 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, 1,2-Dichloroethane, 1,2-Dichloropropane, Chloroform, Bromodichloromethane, Hexachlorobutadiene, Isopropylbenzene, Methylene Chloride, p-Isopropyltoluene and Trichloroethene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The laboratory control sample (LCS) for analytical batch 400-664271 recovered outside control limits for the following analytes: Hexachlorobutadiene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) precision for analytical batch 400-664271 was outside control limits. Sample matrix interference is suspected.

Method 8260D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 400-664271 were outside control limits for 2-Chloroethyl vinyl ether due to the acidic nature of the parent sample.

Method 8260D: The RPD for the MS/MSD for 2-chloroethyl vinyl ether was not calculable for analytical batch 400-664271 because the recoveries were below the reporting limit due to the acidic nature of the parent sample.

Method 8260D: 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: MW13-ROX-030624 (400-252332-3), P114R-ROX-030624 (400-252332-4), MW12-ROX-030624-EB (400-252332-5), MW12-ROX-030624 (400-252332-6), ROST4PZE-ROX-030624 (400-252332-7), TB-ROX-030624-8260-B (400-252332-8) and MW6B-ROX-030624 (400-252332-10). The requested target analyte list include 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an

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# Case Narrative

Client: AECOM Technical Services Inc.  
Project: ROXANA MONTHLY GW

Job ID: 400-252332-1

## Job ID: 400-252332-1 (Continued)

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acidic medium.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-664447 recovered above the upper control limit for Methylene Chloride. The samples associated with this CCV were non-detects for the affected analyte; therefore, the data have been reported.

Method 8260D: The laboratory control sample (LCS) for analytical batch 400-664447 recovered outside control limits for the following analyte: Methylene Chloride. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-664766 recovered above the upper control limit for 1,1,2-Trichloroethane and 1,3-Dichloropropane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-664766 recovered outside acceptance criteria, low biased, for Chloromethane and Vinyl chloride. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: P93C-ROX-030624 (400-252332-13). Elevated reporting limits (RLs) are provided.

Method 8260D: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes requested. The following sample was received preserved with hydrochloric acid: P93C-ROX-030624 (400-252332-13). 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 8260D: 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: P56-ROX-030624 (400-252332-11) and P93A-ROX-030624 (400-252332-12). The requested target analyte list includes 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 8270E: The continuing calibration verification (CCV) associated with batch 400-664465 recovered above the upper control limit for 2,4,5-Trichlorophenol, 4-Chlorophenyl phenyl ether, Hexachlorobenzene and 4-Bromophenyl phenyl ether. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8270E: The continuing calibration verification (CCV) associated with batch 400-664465 recovered above the upper control limit for Benzenethiol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8270E: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 400-664310 and analytical batch 400-664465 recovered outside control limits for the following analytes: 3,3'-Dichlorobenzidine, 2,4-Dinitrophenol, Bis(2-ethylhexyl) phthalate and Butyl benzyl phthalate.

Method 8270E\_SIM: Target analytes detected in the following samples and in historical data. Method blank non-detect for all analytes. Re-extraction not performed.

MW13-ROX-030624 (400-252332-3), P114R-ROX-030624 (400-252332-4), MW6B-ROX-030624 (400-252332-10), P56-ROX-030624 (400-252332-11) and P93C-ROX-030624 (400-252332-13)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

### GC Semi VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

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# Sample Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-252332-1	TB-ROX-030624-8260-A	Water	03/06/24 12:00	03/08/24 09:44
400-252332-2	TB-ROX-030624-8011-A	Water	03/06/24 12:00	03/08/24 09:44
400-252332-3	MW13-ROX-030624	Water	03/06/24 09:45	03/08/24 09:44
400-252332-4	P114R-ROX-030624	Water	03/06/24 11:00	03/08/24 09:44
400-252332-5	MW12-ROX-030624-EB	Water	03/06/24 12:00	03/08/24 09:44
400-252332-6	MW12-ROX-030624	Water	03/06/24 13:00	03/08/24 09:44
400-252332-7	ROST4PZE-ROX-030624	Water	03/06/24 14:00	03/08/24 09:44
400-252332-8	TB-ROX-030624-8260-B	Water	03/06/24 12:00	03/08/24 09:44
400-252332-9	TB-ROX-030624-8011-B	Water	03/06/24 12:00	03/08/24 09:44
400-252332-10	MW6B-ROX-030624	Water	03/06/24 09:20	03/08/24 09:44
400-252332-11	P56-ROX-030624	Water	03/06/24 10:40	03/08/24 09:44
400-252332-12	P93A-ROX-030624	Water	03/06/24 11:40	03/08/24 09:44
400-252332-13	P93C-ROX-030624	Water	03/06/24 12:25	03/08/24 09:44



# Detection Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: TB-ROX-030624-8260-A**

**Lab Sample ID: 400-252332-1**

No Detections.

**Client Sample ID: TB-ROX-030624-8011-A**

**Lab Sample ID: 400-252332-2**

No Detections.

**Client Sample ID: MW13-ROX-030624**

**Lab Sample ID: 400-252332-3**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	0.64	J	1.0	0.22	ug/L	1		8260D	Total/NA
Benzo[a]anthracene	0.078	J	0.19	0.033	ug/L	1		8270E SIM	Total/NA
Benzo[b]fluoranthene	0.074	J	0.19	0.036	ug/L	1		8270E SIM	Total/NA
Benzo[g,h,i]perylene	0.061	J	0.19	0.026	ug/L	1		8270E SIM	Total/NA
Benzo[k]fluoranthene	0.067	J	0.19	0.060	ug/L	1		8270E SIM	Total/NA
Chrysene	0.072	J	0.19	0.032	ug/L	1		8270E SIM	Total/NA
Dibenz(a,h)anthracene	0.052	J	0.19	0.047	ug/L	1		8270E SIM	Total/NA
Fluoranthene	0.073	J	0.19	0.033	ug/L	1		8270E SIM	Total/NA
Indeno[1,2,3-cd]pyrene	0.067	J	0.19	0.033	ug/L	1		8270E SIM	Total/NA
Pyrene	0.043	J	0.19	0.038	ug/L	1		8270E SIM	Total/NA

**Client Sample ID: P114R-ROX-030624**

**Lab Sample ID: 400-252332-4**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	1.6		1.0	0.22	ug/L	1		8260D	Total/NA
Acenaphthene	0.30		0.20	0.098	ug/L	1		8270E SIM	Total/NA
Acenaphthylene	0.15	J	0.20	0.044	ug/L	1		8270E SIM	Total/NA
Chrysene	0.033	J	0.20	0.033	ug/L	1		8270E SIM	Total/NA
Fluoranthene	0.036	J	0.20	0.034	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	0.11	J	0.20	0.079	ug/L	1		8270E SIM	Total/NA

**Client Sample ID: MW12-ROX-030624-EB**

**Lab Sample ID: 400-252332-5**

No Detections.

**Client Sample ID: MW12-ROX-030624**

**Lab Sample ID: 400-252332-6**

No Detections.

**Client Sample ID: ROST4PZE-ROX-030624**

**Lab Sample ID: 400-252332-7**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1.5		1.0	0.50	ug/L	1		8260D	Total/NA
Ethylbenzene	2.6		1.0	0.50	ug/L	1		8260D	Total/NA
Isopropylbenzene	0.53	J	1.0	0.53	ug/L	1		8260D	Total/NA
m-Xylene & p-Xylene	2.0	J	5.0	0.63	ug/L	1		8260D	Total/NA
1,2,4-Trimethylbenzene	6.4		1.0	0.82	ug/L	1		8260D	Total/NA
Xylenes, Total	2.3	J	10	1.6	ug/L	1		8260D	Total/NA
Acenaphthene	0.35		0.19	0.096	ug/L	1		8270E SIM	Total/NA
Anthracene	0.47		0.19	0.046	ug/L	1		8270E SIM	Total/NA
Fluoranthene	0.050	J	0.19	0.033	ug/L	1		8270E SIM	Total/NA
Fluorene	0.30		0.19	0.087	ug/L	1		8270E SIM	Total/NA
Phenanthrene	1.8		0.19	0.087	ug/L	1		8270E SIM	Total/NA
Pyrene	0.096	J	0.19	0.038	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	3.4		0.19	0.078	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	1.5		0.19	0.064	ug/L	1		8270E SIM	Total/NA

This Detection Summary does not include radiochemical test results.

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# Detection Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## Client Sample ID: TB-ROX-030624-8260-B

Lab Sample ID: 400-252332-8

No Detections.

## Client Sample ID: TB-ROX-030624-8011-B

Lab Sample ID: 400-252332-9

No Detections.

## Client Sample ID: MW6B-ROX-030624

Lab Sample ID: 400-252332-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.70	J	1.0	0.50	ug/L	1		8260D	Total/NA
Methyl tert-butyl ether	0.43	J	1.0	0.22	ug/L	1		8260D	Total/NA
Acenaphthene	0.20	J	0.21	0.10	ug/L	1		8270E SIM	Total/NA
Acenaphthylene	0.091	J	0.21	0.046	ug/L	1		8270E SIM	Total/NA
Fluoranthene	0.052	J	0.21	0.035	ug/L	1		8270E SIM	Total/NA
Fluorene	0.093	J	0.21	0.093	ug/L	1		8270E SIM	Total/NA
Phenanthrene	0.13	J	0.21	0.094	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	0.095	J	0.21	0.083	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	0.13	J	0.21	0.069	ug/L	1		8270E SIM	Total/NA

## Client Sample ID: P56-ROX-030624

Lab Sample ID: 400-252332-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.71	J	1.0	0.50	ug/L	1		8260D	Total/NA
Isopropylbenzene	8.0		1.0	0.53	ug/L	1		8260D	Total/NA
m-Xylene & p-Xylene	1.6	J	5.0	0.63	ug/L	1		8260D	Total/NA
N-Propylbenzene	8.7		1.0	0.69	ug/L	1		8260D	Total/NA
sec-Butylbenzene	1.4		1.0	0.70	ug/L	1		8260D	Total/NA
Xylenes, Total	1.6	J	10	1.6	ug/L	1		8260D	Total/NA
Acenaphthene	0.52		0.21	0.10	ug/L	1		8270E SIM	Total/NA
Acenaphthylene	0.13	J	0.21	0.045	ug/L	1		8270E SIM	Total/NA
Anthracene	0.074	J	0.21	0.049	ug/L	1		8270E SIM	Total/NA
Fluorene	0.28		0.21	0.092	ug/L	1		8270E SIM	Total/NA
Phenanthrene	0.34		0.21	0.093	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	3.2		0.21	0.083	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	1.8		0.21	0.068	ug/L	1		8270E SIM	Total/NA

## Client Sample ID: P93A-ROX-030624

Lab Sample ID: 400-252332-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.50	J	1.0	0.50	ug/L	1		8260D	Total/NA
tert-Butylbenzene	2.6		1.0	0.63	ug/L	1		8260D	Total/NA
1-Methylnaphthalene	0.11	J	0.21	0.083	ug/L	1		8270E SIM	Total/NA

## Client Sample ID: P93C-ROX-030624

Lab Sample ID: 400-252332-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene - DL	2400000		10000	5000	ug/L	10000		8260D	Total/NA
Benzo[a]anthracene	0.036	J	0.21	0.035	ug/L	1		8270E SIM	Total/NA
Chrysene	0.041	J	0.21	0.034	ug/L	1		8270E SIM	Total/NA
Fluoranthene	0.043	J	0.21	0.035	ug/L	1		8270E SIM	Total/NA
Phenol	42		10	4.3	ug/L	1		8270E	Total/NA

This Detection Summary does not include radiochemical test results.

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: TB-ROX-030624-8260-A**

**Lab Sample ID: 400-252332-1**

**Date Collected: 03/06/24 12:00**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/12/24 19:40	1
Acrolein	ND		20	3.3	ug/L			03/12/24 19:40	1
Acrylonitrile	ND		10	2.8	ug/L			03/12/24 19:40	1
Benzene	ND		1.0	0.50	ug/L			03/12/24 19:40	1
Bromobenzene	ND		1.0	0.54	ug/L			03/12/24 19:40	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/12/24 19:40	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/12/24 19:40	1
Bromoform	ND		5.0	0.25	ug/L			03/12/24 19:40	1
Bromomethane	ND		1.0	0.98	ug/L			03/12/24 19:40	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/12/24 19:40	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/12/24 19:40	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/12/24 19:40	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/12/24 19:40	1
Chloroethane	ND		1.0	0.76	ug/L			03/12/24 19:40	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/12/24 19:40	1
Chloroform	ND		1.0	0.90	ug/L			03/12/24 19:40	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/12/24 19:40	1
Chloromethane	ND		1.0	0.90	ug/L			03/12/24 19:40	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/12/24 19:40	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/12/24 19:40	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/12/24 19:40	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/12/24 19:40	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/12/24 19:40	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/12/24 19:40	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/12/24 19:40	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/12/24 19:40	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/12/24 19:40	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/12/24 19:40	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/12/24 19:40	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/12/24 19:40	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/12/24 19:40	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/12/24 19:40	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/12/24 19:40	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/12/24 19:40	1
Hexachlorobutadiene	ND	*+	5.0	0.90	ug/L			03/12/24 19:40	1
2-Hexanone	ND		25	1.4	ug/L			03/12/24 19:40	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/12/24 19:40	1
Methylene bromide	ND		5.0	0.22	ug/L			03/12/24 19:40	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/12/24 19:40	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/12/24 19:40	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/12/24 19:40	1
Naphthalene	ND		5.0	3.0	ug/L			03/12/24 19:40	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/12/24 19:40	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/12/24 19:40	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/12/24 19:40	1
o-Xylene	ND		5.0	0.60	ug/L			03/12/24 19:40	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/12/24 19:40	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/12/24 19:40	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/12/24 19:40	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: TB-ROX-030624-8260-A**

**Lab Sample ID: 400-252332-1**

**Date Collected: 03/06/24 12:00**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		1.0	1.0	ug/L			03/12/24 19:40	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/12/24 19:40	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/12/24 19:40	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/12/24 19:40	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/12/24 19:40	1
Toluene	ND		1.0	0.90	ug/L			03/12/24 19:40	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/12/24 19:40	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/12/24 19:40	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/12/24 19:40	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/12/24 19:40	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/12/24 19:40	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/12/24 19:40	1
Trichloroethene	ND		1.0	0.15	ug/L			03/12/24 19:40	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/12/24 19:40	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/12/24 19:40	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/12/24 19:40	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/12/24 19:40	1
Vinyl acetate	ND		25	0.93	ug/L			03/12/24 19:40	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/12/24 19:40	1
Xylenes, Total	ND		10	1.6	ug/L			03/12/24 19:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		72 - 130		03/12/24 19:40	1
Dibromofluoromethane	103		75 - 126		03/12/24 19:40	1
Toluene-d8 (Surr)	92		64 - 132		03/12/24 19:40	1

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND	*+	5.0	3.0	ug/L			03/14/24 12:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	100		72 - 130		03/14/24 12:42	1
Dibromofluoromethane	105		75 - 126		03/14/24 12:42	1
Toluene-d8 (Surr)	92		64 - 132		03/14/24 12:42	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
 Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: TB-ROX-030624-8011-A**

**Lab Sample ID: 400-252332-2**

**Date Collected: 03/06/24 12:00**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

**Method: EPA 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	0.017	ug/L		03/12/24 11:21	03/13/24 06:20	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/12/24 11:21	03/13/24 06:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	93		51 - 149				03/12/24 11:21	03/13/24 06:20	1

- 1
- 2
- 3
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- 14
- 15



# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: MW13-ROX-030624**

**Lab Sample ID: 400-252332-3**

Date Collected: 03/06/24 09:45

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/13/24 14:22	1
Acrolein	ND		20	3.3	ug/L			03/13/24 14:22	1
Acrylonitrile	ND		10	2.8	ug/L			03/13/24 14:22	1
Benzene	ND		1.0	0.50	ug/L			03/13/24 14:22	1
Bromobenzene	ND		1.0	0.54	ug/L			03/13/24 14:22	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/13/24 14:22	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/13/24 14:22	1
Bromoform	ND		5.0	0.25	ug/L			03/13/24 14:22	1
Bromomethane	ND		1.0	0.98	ug/L			03/13/24 14:22	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/13/24 14:22	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/13/24 14:22	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/13/24 14:22	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/13/24 14:22	1
Chloroethane	ND		1.0	0.76	ug/L			03/13/24 14:22	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/13/24 14:22	1
Chloroform	ND		1.0	0.90	ug/L			03/13/24 14:22	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/13/24 14:22	1
Chloromethane	ND		1.0	0.90	ug/L			03/13/24 14:22	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/13/24 14:22	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/13/24 14:22	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/13/24 14:22	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/13/24 14:22	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/13/24 14:22	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/13/24 14:22	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/13/24 14:22	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/13/24 14:22	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/13/24 14:22	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/13/24 14:22	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 14:22	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 14:22	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 14:22	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/13/24 14:22	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/13/24 14:22	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/13/24 14:22	1
Hexachlorobutadiene	ND	*+	5.0	0.90	ug/L			03/13/24 14:22	1
2-Hexanone	ND		25	1.4	ug/L			03/13/24 14:22	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/13/24 14:22	1
Methylene bromide	ND		5.0	0.22	ug/L			03/13/24 14:22	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/13/24 14:22	1
<b>Methyl tert-butyl ether</b>	<b>0.64</b>	<b>J</b>	1.0	0.22	ug/L			03/13/24 14:22	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/13/24 14:22	1
Naphthalene	ND		5.0	3.0	ug/L			03/13/24 14:22	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/13/24 14:22	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/13/24 14:22	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/13/24 14:22	1
o-Xylene	ND		5.0	0.60	ug/L			03/13/24 14:22	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/13/24 14:22	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/13/24 14:22	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/13/24 14:22	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: MW13-ROX-030624**

**Lab Sample ID: 400-252332-3**

Date Collected: 03/06/24 09:45

Matrix: Water

Date Received: 03/08/24 09:44

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		1.0	1.0	ug/L			03/13/24 14:22	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/13/24 14:22	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/13/24 14:22	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/13/24 14:22	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/13/24 14:22	1
Toluene	ND		1.0	0.90	ug/L			03/13/24 14:22	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/13/24 14:22	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/13/24 14:22	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/13/24 14:22	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/13/24 14:22	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/13/24 14:22	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/13/24 14:22	1
Trichloroethene	ND		1.0	0.15	ug/L			03/13/24 14:22	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/13/24 14:22	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/13/24 14:22	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/13/24 14:22	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/13/24 14:22	1
Vinyl acetate	ND		25	0.93	ug/L			03/13/24 14:22	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/13/24 14:22	1
Xylenes, Total	ND		10	1.6	ug/L			03/13/24 14:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		72 - 130		03/13/24 14:22	1
Dibromofluoromethane	104		75 - 126		03/13/24 14:22	1
Toluene-d8 (Surr)	94		64 - 132		03/13/24 14:22	1

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND	+	5.0	3.0	ug/L			03/14/24 13:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		72 - 130		03/14/24 13:09	1
Dibromofluoromethane	102		75 - 126		03/14/24 13:09	1
Toluene-d8 (Surr)	93		64 - 132		03/14/24 13:09	1

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.096	ug/L		03/13/24 11:36	03/14/24 13:01	1
Acenaphthylene	ND		0.19	0.043	ug/L		03/13/24 11:36	03/14/24 13:01	1
Anthracene	ND		0.19	0.046	ug/L		03/13/24 11:36	03/14/24 13:01	1
<b>Benzo[a]anthracene</b>	<b>0.078</b>	<b>J</b>	0.19	0.033	ug/L		03/13/24 11:36	03/14/24 13:01	1
Benzo[a]pyrene	ND		0.19	0.062	ug/L		03/13/24 11:36	03/14/24 13:01	1
<b>Benzo[b]fluoranthene</b>	<b>0.074</b>	<b>J</b>	0.19	0.036	ug/L		03/13/24 11:36	03/14/24 13:01	1
<b>Benzo[g,h,i]perylene</b>	<b>0.061</b>	<b>J</b>	0.19	0.026	ug/L		03/13/24 11:36	03/14/24 13:01	1
<b>Benzo[k]fluoranthene</b>	<b>0.067</b>	<b>J</b>	0.19	0.060	ug/L		03/13/24 11:36	03/14/24 13:01	1
<b>Chrysene</b>	<b>0.072</b>	<b>J</b>	0.19	0.032	ug/L		03/13/24 11:36	03/14/24 13:01	1
<b>Dibenz(a,h)anthracene</b>	<b>0.052</b>	<b>J</b>	0.19	0.047	ug/L		03/13/24 11:36	03/14/24 13:01	1
<b>Fluoranthene</b>	<b>0.073</b>	<b>J</b>	0.19	0.033	ug/L		03/13/24 11:36	03/14/24 13:01	1
Fluorene	ND		0.19	0.086	ug/L		03/13/24 11:36	03/14/24 13:01	1
<b>Indeno[1,2,3-cd]pyrene</b>	<b>0.067</b>	<b>J</b>	0.19	0.033	ug/L		03/13/24 11:36	03/14/24 13:01	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: MW13-ROX-030624**

**Lab Sample ID: 400-252332-3**

Date Collected: 03/06/24 09:45

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	ND		0.19	0.087	ug/L		03/13/24 11:36	03/14/24 13:01	1
<b>Pyrene</b>	<b>0.043</b>	<b>J</b>	0.19	0.038	ug/L		03/13/24 11:36	03/14/24 13:01	1
1-Methylnaphthalene	ND		0.19	0.078	ug/L		03/13/24 11:36	03/14/24 13:01	1
2-Methylnaphthalene	ND		0.19	0.064	ug/L		03/13/24 11:36	03/14/24 13:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	53		18 - 147				03/13/24 11:36	03/14/24 13:01	1
2-Fluorobiphenyl	38		15 - 128				03/13/24 11:36	03/14/24 13:01	1
Nitrobenzene-d5	44		10 - 144				03/13/24 11:36	03/14/24 13:01	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	8.4	ug/L		03/13/24 11:36	03/14/24 17:28	1
Benzenethiol	ND		9.7	9.6	ug/L		03/13/24 11:36	03/14/24 17:28	1
Benzoic acid	ND		29	23	ug/L		03/13/24 11:36	03/14/24 17:28	1
Benzyl alcohol	ND		9.7	7.1	ug/L		03/13/24 11:36	03/14/24 17:28	1
Bis(2-chloroethoxy)methane	ND		9.7	4.5	ug/L		03/13/24 11:36	03/14/24 17:28	1
Bis(2-chloroethyl)ether	ND		9.7	3.8	ug/L		03/13/24 11:36	03/14/24 17:28	1
bis (2-chloroisopropyl) ether	ND		9.7	1.7	ug/L		03/13/24 11:36	03/14/24 17:28	1
Bis(2-ethylhexyl) phthalate	ND	*1	9.7	8.6	ug/L		03/13/24 11:36	03/14/24 17:28	1
4-Bromophenyl phenyl ether	ND		9.7	8.3	ug/L		03/13/24 11:36	03/14/24 17:28	1
Butyl benzyl phthalate	ND	*1	9.7	5.6	ug/L		03/13/24 11:36	03/14/24 17:28	1
4-Chloroaniline	ND		9.7	4.6	ug/L		03/13/24 11:36	03/14/24 17:28	1
4-Chloro-3-methylphenol	ND		9.7	5.1	ug/L		03/13/24 11:36	03/14/24 17:28	1
2-Chloronaphthalene	ND		9.7	3.7	ug/L		03/13/24 11:36	03/14/24 17:28	1
2-Chlorophenol	ND		9.7	4.0	ug/L		03/13/24 11:36	03/14/24 17:28	1
4-Chlorophenyl phenyl ether	ND		9.7	3.6	ug/L		03/13/24 11:36	03/14/24 17:28	1
Dibenz[a,h]acridine	ND		9.7	2.7	ug/L		03/13/24 11:36	03/14/24 17:28	1
Dibenzofuran	ND		9.7	3.9	ug/L		03/13/24 11:36	03/14/24 17:28	1
2,3'-Dichlorobenzidine	ND	*1	11	11	ug/L		03/13/24 11:36	03/14/24 17:28	1
2,4-Dichlorophenol	ND		9.7	4.2	ug/L		03/13/24 11:36	03/14/24 17:28	1
Diethyl phthalate	ND		9.7	4.3	ug/L		03/13/24 11:36	03/14/24 17:28	1
2,4-Dimethylphenol	ND		9.7	5.0	ug/L		03/13/24 11:36	03/14/24 17:28	1
Dimethyl phthalate	ND		9.7	4.1	ug/L		03/13/24 11:36	03/14/24 17:28	1
Di-n-butyl phthalate	ND		9.7	4.5	ug/L		03/13/24 11:36	03/14/24 17:28	1
4,6-Dinitro-ortho-cresol	ND		9.7	9.7	ug/L		03/13/24 11:36	03/14/24 17:28	1
2,4-Dinitrophenol	ND	*1	29	4.5	ug/L		03/13/24 11:36	03/14/24 17:28	1
2,4-Dinitrotoluene	ND		9.7	4.9	ug/L		03/13/24 11:36	03/14/24 17:28	1
2,6-Dinitrotoluene	ND		9.7	3.8	ug/L		03/13/24 11:36	03/14/24 17:28	1
Di-n-octyl phthalate	ND		9.7	5.8	ug/L		03/13/24 11:36	03/14/24 17:28	1
1,4-Dioxane	ND		9.7	4.2	ug/L		03/13/24 11:36	03/14/24 17:28	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	3.2	ug/L		03/13/24 11:36	03/14/24 17:28	1
Hexachlorobenzene	ND		9.7	9.4	ug/L		03/13/24 11:36	03/14/24 17:28	1
Hexachlorocyclopentadiene	ND		19	4.4	ug/L		03/13/24 11:36	03/14/24 17:28	1
Hexachloroethane	ND		9.7	5.0	ug/L		03/13/24 11:36	03/14/24 17:28	1
Indene	ND		9.7	3.5	ug/L		03/13/24 11:36	03/14/24 17:28	1
Isophorone	ND		9.7	5.0	ug/L		03/13/24 11:36	03/14/24 17:28	1
2-Methylphenol	ND		9.7	3.1	ug/L		03/13/24 11:36	03/14/24 17:28	1
3 & 4 Methylphenol	ND		19	4.5	ug/L		03/13/24 11:36	03/14/24 17:28	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: MW13-ROX-030624**

**Lab Sample ID: 400-252332-3**

Date Collected: 03/06/24 09:45

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		9.7	4.9	ug/L		03/13/24 11:36	03/14/24 17:28	1
3-Nitroaniline	ND		9.7	4.6	ug/L		03/13/24 11:36	03/14/24 17:28	1
4-Nitroaniline	ND		9.7	4.0	ug/L		03/13/24 11:36	03/14/24 17:28	1
Nitrobenzene	ND		9.7	4.6	ug/L		03/13/24 11:36	03/14/24 17:28	1
2-Nitrophenol	ND		9.7	4.5	ug/L		03/13/24 11:36	03/14/24 17:28	1
4-Nitrophenol	ND		9.7	3.2	ug/L		03/13/24 11:36	03/14/24 17:28	1
N-Nitrosodimethylamine	ND		9.7	2.1	ug/L		03/13/24 11:36	03/14/24 17:28	1
N-Nitrosodi-n-propylamine	ND		9.7	2.4	ug/L		03/13/24 11:36	03/14/24 17:28	1
N-Nitrosodiphenylamine	ND		9.7	3.6	ug/L		03/13/24 11:36	03/14/24 17:28	1
Pentachlorophenol	ND		19	12	ug/L		03/13/24 11:36	03/14/24 17:28	1
Phenol	ND		9.7	4.1	ug/L		03/13/24 11:36	03/14/24 17:28	1
Pyridine	ND		9.7	9.7	ug/L		03/13/24 11:36	03/14/24 17:28	1
Quinoline	ND		9.7	2.3	ug/L		03/13/24 11:36	03/14/24 17:28	1
2,4,5-Trichlorophenol	ND		9.7	3.9	ug/L		03/13/24 11:36	03/14/24 17:28	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		03/13/24 11:36	03/14/24 17:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	74		21 - 114	03/13/24 11:36	03/14/24 17:28	1
2-Fluorophenol	41		10 - 105	03/13/24 11:36	03/14/24 17:28	1
Nitrobenzene-d5	54		16 - 127	03/13/24 11:36	03/14/24 17:28	1
Phenol-d5	32		10 - 129	03/13/24 11:36	03/14/24 17:28	1
Terphenyl-d14	82		13 - 150	03/13/24 11:36	03/14/24 17:28	1
2,4,6-Tribromophenol	94		10 - 150	03/13/24 11:36	03/14/24 17:28	1

**Method: EPA 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	0.017	ug/L		03/12/24 11:21	03/13/24 06:41	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/12/24 11:21	03/13/24 06:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	82		51 - 149	03/12/24 11:21	03/13/24 06:41	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: P114R-ROX-030624**

**Lab Sample ID: 400-252332-4**

**Date Collected: 03/06/24 11:00**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/13/24 14:50	1
Acrolein	ND		20	3.3	ug/L			03/13/24 14:50	1
Acrylonitrile	ND		10	2.8	ug/L			03/13/24 14:50	1
Benzene	ND		1.0	0.50	ug/L			03/13/24 14:50	1
Bromobenzene	ND		1.0	0.54	ug/L			03/13/24 14:50	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/13/24 14:50	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/13/24 14:50	1
Bromoform	ND		5.0	0.25	ug/L			03/13/24 14:50	1
Bromomethane	ND		1.0	0.98	ug/L			03/13/24 14:50	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/13/24 14:50	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/13/24 14:50	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/13/24 14:50	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/13/24 14:50	1
Chloroethane	ND		1.0	0.76	ug/L			03/13/24 14:50	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/13/24 14:50	1
Chloroform	ND		1.0	0.90	ug/L			03/13/24 14:50	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/13/24 14:50	1
Chloromethane	ND		1.0	0.90	ug/L			03/13/24 14:50	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/13/24 14:50	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/13/24 14:50	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/13/24 14:50	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/13/24 14:50	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/13/24 14:50	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/13/24 14:50	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/13/24 14:50	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/13/24 14:50	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/13/24 14:50	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/13/24 14:50	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 14:50	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 14:50	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 14:50	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/13/24 14:50	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/13/24 14:50	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/13/24 14:50	1
Hexachlorobutadiene	ND	*+	5.0	0.90	ug/L			03/13/24 14:50	1
2-Hexanone	ND		25	1.4	ug/L			03/13/24 14:50	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/13/24 14:50	1
Methylene bromide	ND		5.0	0.22	ug/L			03/13/24 14:50	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/13/24 14:50	1
<b>Methyl tert-butyl ether</b>	<b>1.6</b>		1.0	0.22	ug/L			03/13/24 14:50	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/13/24 14:50	1
Naphthalene	ND		5.0	3.0	ug/L			03/13/24 14:50	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/13/24 14:50	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/13/24 14:50	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/13/24 14:50	1
o-Xylene	ND		5.0	0.60	ug/L			03/13/24 14:50	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/13/24 14:50	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/13/24 14:50	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/13/24 14:50	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: P114R-ROX-030624**

**Lab Sample ID: 400-252332-4**

**Date Collected: 03/06/24 11:00**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		1.0	1.0	ug/L			03/13/24 14:50	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/13/24 14:50	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/13/24 14:50	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/13/24 14:50	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/13/24 14:50	1
Toluene	ND		1.0	0.90	ug/L			03/13/24 14:50	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/13/24 14:50	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/13/24 14:50	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/13/24 14:50	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/13/24 14:50	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/13/24 14:50	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/13/24 14:50	1
Trichloroethene	ND		1.0	0.15	ug/L			03/13/24 14:50	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/13/24 14:50	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/13/24 14:50	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/13/24 14:50	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/13/24 14:50	1
Vinyl acetate	ND		25	0.93	ug/L			03/13/24 14:50	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/13/24 14:50	1
Xylenes, Total	ND		10	1.6	ug/L			03/13/24 14:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		72 - 130		03/13/24 14:50	1
Dibromofluoromethane	104		75 - 126		03/13/24 14:50	1
Toluene-d8 (Surr)	93		64 - 132		03/13/24 14:50	1

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND	+	5.0	3.0	ug/L			03/14/24 13:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		72 - 130		03/14/24 13:36	1
Dibromofluoromethane	102		75 - 126		03/14/24 13:36	1
Toluene-d8 (Surr)	92		64 - 132		03/14/24 13:36	1

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acenaphthene</b>	<b>0.30</b>		0.20	0.098	ug/L		03/13/24 11:36	03/14/24 13:22	1
<b>Acenaphthylene</b>	<b>0.15</b>	<b>J</b>	0.20	0.044	ug/L		03/13/24 11:36	03/14/24 13:22	1
Anthracene	ND		0.20	0.047	ug/L		03/13/24 11:36	03/14/24 13:22	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		03/13/24 11:36	03/14/24 13:22	1
Benzo[a]pyrene	ND		0.20	0.063	ug/L		03/13/24 11:36	03/14/24 13:22	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		03/13/24 11:36	03/14/24 13:22	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		03/13/24 11:36	03/14/24 13:22	1
Benzo[k]fluoranthene	ND		0.20	0.062	ug/L		03/13/24 11:36	03/14/24 13:22	1
<b>Chrysene</b>	<b>0.033</b>	<b>J</b>	0.20	0.033	ug/L		03/13/24 11:36	03/14/24 13:22	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		03/13/24 11:36	03/14/24 13:22	1
<b>Fluoranthene</b>	<b>0.036</b>	<b>J</b>	0.20	0.034	ug/L		03/13/24 11:36	03/14/24 13:22	1
Fluorene	ND		0.20	0.088	ug/L		03/13/24 11:36	03/14/24 13:22	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		03/13/24 11:36	03/14/24 13:22	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: P114R-ROX-030624**

**Lab Sample ID: 400-252332-4**

**Date Collected: 03/06/24 11:00**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	ND		0.20	0.089	ug/L		03/13/24 11:36	03/14/24 13:22	1
Pyrene	ND		0.20	0.039	ug/L		03/13/24 11:36	03/14/24 13:22	1
<b>1-Methylnaphthalene</b>	<b>0.11</b>	<b>J</b>	0.20	0.079	ug/L		03/13/24 11:36	03/14/24 13:22	1
2-Methylnaphthalene	ND		0.20	0.065	ug/L		03/13/24 11:36	03/14/24 13:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	63		18 - 147				03/13/24 11:36	03/14/24 13:22	1
2-Fluorobiphenyl	57		15 - 128				03/13/24 11:36	03/14/24 13:22	1
Nitrobenzene-d5	41		10 - 144				03/13/24 11:36	03/14/24 13:22	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.9	8.6	ug/L		03/13/24 11:36	03/14/24 17:55	1
Benzenethiol	ND		9.9	9.8	ug/L		03/13/24 11:36	03/14/24 17:55	1
Benzoic acid	ND		30	24	ug/L		03/13/24 11:36	03/14/24 17:55	1
Benzyl alcohol	ND		9.9	7.2	ug/L		03/13/24 11:36	03/14/24 17:55	1
Bis(2-chloroethoxy)methane	ND		9.9	4.6	ug/L		03/13/24 11:36	03/14/24 17:55	1
Bis(2-chloroethyl)ether	ND		9.9	3.9	ug/L		03/13/24 11:36	03/14/24 17:55	1
bis (2-chloroisopropyl) ether	ND		9.9	1.8	ug/L		03/13/24 11:36	03/14/24 17:55	1
Bis(2-ethylhexyl) phthalate	ND	*1	9.9	8.8	ug/L		03/13/24 11:36	03/14/24 17:55	1
4-Bromophenyl phenyl ether	ND		9.9	8.5	ug/L		03/13/24 11:36	03/14/24 17:55	1
Butyl benzyl phthalate	ND	*1	9.9	5.8	ug/L		03/13/24 11:36	03/14/24 17:55	1
4-Chloroaniline	ND		9.9	4.7	ug/L		03/13/24 11:36	03/14/24 17:55	1
4-Chloro-3-methylphenol	ND		9.9	5.3	ug/L		03/13/24 11:36	03/14/24 17:55	1
2-Chloronaphthalene	ND		9.9	3.8	ug/L		03/13/24 11:36	03/14/24 17:55	1
2-Chlorophenol	ND		9.9	4.1	ug/L		03/13/24 11:36	03/14/24 17:55	1
4-Chlorophenyl phenyl ether	ND		9.9	3.7	ug/L		03/13/24 11:36	03/14/24 17:55	1
Dibenz[a,h]acridine	ND		9.9	2.8	ug/L		03/13/24 11:36	03/14/24 17:55	1
Dibenzofuran	ND		9.9	4.0	ug/L		03/13/24 11:36	03/14/24 17:55	1
3,3'-Dichlorobenzidine	ND	*1	11	11	ug/L		03/13/24 11:36	03/14/24 17:55	1
2,4-Dichlorophenol	ND		9.9	4.3	ug/L		03/13/24 11:36	03/14/24 17:55	1
Diethyl phthalate	ND		9.9	4.4	ug/L		03/13/24 11:36	03/14/24 17:55	1
2,4-Dimethylphenol	ND		9.9	5.2	ug/L		03/13/24 11:36	03/14/24 17:55	1
Dimethyl phthalate	ND		9.9	4.2	ug/L		03/13/24 11:36	03/14/24 17:55	1
Di-n-butyl phthalate	ND		9.9	4.6	ug/L		03/13/24 11:36	03/14/24 17:55	1
4,6-Dinitro-ortho-cresol	ND		9.9	9.9	ug/L		03/13/24 11:36	03/14/24 17:55	1
2,4-Dinitrophenol	ND	*1	30	4.6	ug/L		03/13/24 11:36	03/14/24 17:55	1
2,4-Dinitrotoluene	ND		9.9	5.1	ug/L		03/13/24 11:36	03/14/24 17:55	1
2,6-Dinitrotoluene	ND		9.9	3.9	ug/L		03/13/24 11:36	03/14/24 17:55	1
Di-n-octyl phthalate	ND		9.9	6.0	ug/L		03/13/24 11:36	03/14/24 17:55	1
1,4-Dioxane	ND		9.9	4.3	ug/L		03/13/24 11:36	03/14/24 17:55	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.9	3.3	ug/L		03/13/24 11:36	03/14/24 17:55	1
Hexachlorobenzene	ND		9.9	9.6	ug/L		03/13/24 11:36	03/14/24 17:55	1
Hexachlorocyclopentadiene	ND		20	4.5	ug/L		03/13/24 11:36	03/14/24 17:55	1
Hexachloroethane	ND		9.9	5.2	ug/L		03/13/24 11:36	03/14/24 17:55	1
Indene	ND		9.9	3.6	ug/L		03/13/24 11:36	03/14/24 17:55	1
Isophorone	ND		9.9	5.2	ug/L		03/13/24 11:36	03/14/24 17:55	1
2-Methylphenol	ND		9.9	3.2	ug/L		03/13/24 11:36	03/14/24 17:55	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		03/13/24 11:36	03/14/24 17:55	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: P114R-ROX-030624**

**Lab Sample ID: 400-252332-4**

**Date Collected: 03/06/24 11:00**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		9.9	5.0	ug/L		03/13/24 11:36	03/14/24 17:55	1
3-Nitroaniline	ND		9.9	4.7	ug/L		03/13/24 11:36	03/14/24 17:55	1
4-Nitroaniline	ND		9.9	4.1	ug/L		03/13/24 11:36	03/14/24 17:55	1
Nitrobenzene	ND		9.9	4.7	ug/L		03/13/24 11:36	03/14/24 17:55	1
2-Nitrophenol	ND		9.9	4.6	ug/L		03/13/24 11:36	03/14/24 17:55	1
4-Nitrophenol	ND		9.9	3.3	ug/L		03/13/24 11:36	03/14/24 17:55	1
N-Nitrosodimethylamine	ND		9.9	2.2	ug/L		03/13/24 11:36	03/14/24 17:55	1
N-Nitrosodi-n-propylamine	ND		9.9	2.5	ug/L		03/13/24 11:36	03/14/24 17:55	1
N-Nitrosodiphenylamine	ND		9.9	3.7	ug/L		03/13/24 11:36	03/14/24 17:55	1
Pentachlorophenol	ND		20	12	ug/L		03/13/24 11:36	03/14/24 17:55	1
Phenol	ND		9.9	4.2	ug/L		03/13/24 11:36	03/14/24 17:55	1
Pyridine	ND		9.9	9.9	ug/L		03/13/24 11:36	03/14/24 17:55	1
Quinoline	ND		9.9	2.4	ug/L		03/13/24 11:36	03/14/24 17:55	1
2,4,5-Trichlorophenol	ND		9.9	4.0	ug/L		03/13/24 11:36	03/14/24 17:55	1
2,4,6-Trichlorophenol	ND		9.9	3.5	ug/L		03/13/24 11:36	03/14/24 17:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	78		21 - 114	03/13/24 11:36	03/14/24 17:55	1
2-Fluorophenol	41		10 - 105	03/13/24 11:36	03/14/24 17:55	1
Nitrobenzene-d5	56		16 - 127	03/13/24 11:36	03/14/24 17:55	1
Phenol-d5	31		10 - 129	03/13/24 11:36	03/14/24 17:55	1
Terphenyl-d14	81		13 - 150	03/13/24 11:36	03/14/24 17:55	1
2,4,6-Tribromophenol	105		10 - 150	03/13/24 11:36	03/14/24 17:55	1

**Method: EPA 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	0.017	ug/L		03/12/24 11:21	03/13/24 07:01	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/12/24 11:21	03/13/24 07:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	82		51 - 149	03/12/24 11:21	03/13/24 07:01	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: MW12-ROX-030624-EB**

**Lab Sample ID: 400-252332-5**

**Date Collected: 03/06/24 12:00**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/13/24 15:17	1
Acrolein	ND		20	3.3	ug/L			03/13/24 15:17	1
Acrylonitrile	ND		10	2.8	ug/L			03/13/24 15:17	1
Benzene	ND		1.0	0.50	ug/L			03/13/24 15:17	1
Bromobenzene	ND		1.0	0.54	ug/L			03/13/24 15:17	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/13/24 15:17	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/13/24 15:17	1
Bromoform	ND		5.0	0.25	ug/L			03/13/24 15:17	1
Bromomethane	ND		1.0	0.98	ug/L			03/13/24 15:17	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/13/24 15:17	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/13/24 15:17	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/13/24 15:17	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/13/24 15:17	1
Chloroethane	ND		1.0	0.76	ug/L			03/13/24 15:17	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/13/24 15:17	1
Chloroform	ND		1.0	0.90	ug/L			03/13/24 15:17	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/13/24 15:17	1
Chloromethane	ND		1.0	0.90	ug/L			03/13/24 15:17	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/13/24 15:17	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/13/24 15:17	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/13/24 15:17	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/13/24 15:17	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/13/24 15:17	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/13/24 15:17	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/13/24 15:17	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/13/24 15:17	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/13/24 15:17	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/13/24 15:17	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 15:17	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 15:17	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 15:17	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/13/24 15:17	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/13/24 15:17	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/13/24 15:17	1
Hexachlorobutadiene	ND	+	5.0	0.90	ug/L			03/13/24 15:17	1
2-Hexanone	ND		25	1.4	ug/L			03/13/24 15:17	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/13/24 15:17	1
Methylene bromide	ND		5.0	0.22	ug/L			03/13/24 15:17	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/13/24 15:17	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/13/24 15:17	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/13/24 15:17	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/13/24 15:17	1
Naphthalene	ND		5.0	3.0	ug/L			03/13/24 15:17	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/13/24 15:17	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/13/24 15:17	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/13/24 15:17	1
o-Xylene	ND		5.0	0.60	ug/L			03/13/24 15:17	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/13/24 15:17	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/13/24 15:17	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: MW12-ROX-030624-EB**

**Lab Sample ID: 400-252332-5**

Date Collected: 03/06/24 12:00

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/13/24 15:17	1
Styrene	ND		1.0	1.0	ug/L			03/13/24 15:17	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/13/24 15:17	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/13/24 15:17	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/13/24 15:17	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/13/24 15:17	1
Toluene	ND		1.0	0.90	ug/L			03/13/24 15:17	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/13/24 15:17	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/13/24 15:17	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/13/24 15:17	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/13/24 15:17	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/13/24 15:17	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/13/24 15:17	1
Trichloroethene	ND		1.0	0.15	ug/L			03/13/24 15:17	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/13/24 15:17	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/13/24 15:17	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/13/24 15:17	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/13/24 15:17	1
Vinyl acetate	ND		25	0.93	ug/L			03/13/24 15:17	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/13/24 15:17	1
Xylenes, Total	ND		10	1.6	ug/L			03/13/24 15:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	97		72 - 130		03/13/24 15:17	1
Dibromofluoromethane	103		75 - 126		03/13/24 15:17	1
Toluene-d8 (Surr)	93		64 - 132		03/13/24 15:17	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.096	ug/L		03/13/24 11:36	03/14/24 13:42	1
Acenaphthylene	ND		0.19	0.043	ug/L		03/13/24 11:36	03/14/24 13:42	1
Anthracene	ND		0.19	0.046	ug/L		03/13/24 11:36	03/14/24 13:42	1
Benzo[a]anthracene	ND		0.19	0.033	ug/L		03/13/24 11:36	03/14/24 13:42	1
Benzo[a]pyrene	ND		0.19	0.062	ug/L		03/13/24 11:36	03/14/24 13:42	1
Benzo[b]fluoranthene	ND		0.19	0.036	ug/L		03/13/24 11:36	03/14/24 13:42	1
Benzo[g,h,i]perylene	ND		0.19	0.026	ug/L		03/13/24 11:36	03/14/24 13:42	1
Benzo[k]fluoranthene	ND		0.19	0.060	ug/L		03/13/24 11:36	03/14/24 13:42	1
Chrysene	ND		0.19	0.032	ug/L		03/13/24 11:36	03/14/24 13:42	1
Dibenz(a,h)anthracene	ND		0.19	0.047	ug/L		03/13/24 11:36	03/14/24 13:42	1
Fluoranthene	ND		0.19	0.033	ug/L		03/13/24 11:36	03/14/24 13:42	1
Fluorene	ND		0.19	0.086	ug/L		03/13/24 11:36	03/14/24 13:42	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.033	ug/L		03/13/24 11:36	03/14/24 13:42	1
Phenanthrene	ND		0.19	0.087	ug/L		03/13/24 11:36	03/14/24 13:42	1
Pyrene	ND		0.19	0.038	ug/L		03/13/24 11:36	03/14/24 13:42	1
1-Methylnaphthalene	ND		0.19	0.078	ug/L		03/13/24 11:36	03/14/24 13:42	1
2-Methylnaphthalene	ND		0.19	0.064	ug/L		03/13/24 11:36	03/14/24 13:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	79		18 - 147	03/13/24 11:36	03/14/24 13:42	1
2-Fluorobiphenyl	63		15 - 128	03/13/24 11:36	03/14/24 13:42	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: MW12-ROX-030624-EB**

**Lab Sample ID: 400-252332-5**

Date Collected: 03/06/24 12:00

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	52		10 - 144	03/13/24 11:36	03/14/24 13:42	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	8.4	ug/L		03/13/24 11:36	03/14/24 18:22	1
Benzenethiol	ND		9.7	9.6	ug/L		03/13/24 11:36	03/14/24 18:22	1
Benzoic acid	ND		29	23	ug/L		03/13/24 11:36	03/14/24 18:22	1
Benzyl alcohol	ND		9.7	7.1	ug/L		03/13/24 11:36	03/14/24 18:22	1
Bis(2-chloroethoxy)methane	ND		9.7	4.5	ug/L		03/13/24 11:36	03/14/24 18:22	1
Bis(2-chloroethyl)ether	ND		9.7	3.8	ug/L		03/13/24 11:36	03/14/24 18:22	1
bis (2-chloroisopropyl) ether	ND		9.7	1.7	ug/L		03/13/24 11:36	03/14/24 18:22	1
Bis(2-ethylhexyl) phthalate	ND	*1	9.7	8.6	ug/L		03/13/24 11:36	03/14/24 18:22	1
4-Bromophenyl phenyl ether	ND		9.7	8.3	ug/L		03/13/24 11:36	03/14/24 18:22	1
Butyl benzyl phthalate	ND	*1	9.7	5.6	ug/L		03/13/24 11:36	03/14/24 18:22	1
4-Chloroaniline	ND		9.7	4.6	ug/L		03/13/24 11:36	03/14/24 18:22	1
4-Chloro-3-methylphenol	ND		9.7	5.1	ug/L		03/13/24 11:36	03/14/24 18:22	1
2-Chloronaphthalene	ND		9.7	3.7	ug/L		03/13/24 11:36	03/14/24 18:22	1
2-Chlorophenol	ND		9.7	4.0	ug/L		03/13/24 11:36	03/14/24 18:22	1
4-Chlorophenyl phenyl ether	ND		9.7	3.6	ug/L		03/13/24 11:36	03/14/24 18:22	1
Dibenz[a,h]acridine	ND		9.7	2.7	ug/L		03/13/24 11:36	03/14/24 18:22	1
Dibenzofuran	ND		9.7	3.9	ug/L		03/13/24 11:36	03/14/24 18:22	1
3,3'-Dichlorobenzidine	ND	*1	11	11	ug/L		03/13/24 11:36	03/14/24 18:22	1
2,4-Dichlorophenol	ND		9.7	4.2	ug/L		03/13/24 11:36	03/14/24 18:22	1
Diethyl phthalate	ND		9.7	4.3	ug/L		03/13/24 11:36	03/14/24 18:22	1
2,4-Dimethylphenol	ND		9.7	5.0	ug/L		03/13/24 11:36	03/14/24 18:22	1
Dimethyl phthalate	ND		9.7	4.1	ug/L		03/13/24 11:36	03/14/24 18:22	1
Di-n-butyl phthalate	ND		9.7	4.5	ug/L		03/13/24 11:36	03/14/24 18:22	1
4,6-Dinitro-ortho-cresol	ND		9.7	9.7	ug/L		03/13/24 11:36	03/14/24 18:22	1
2,4-Dinitrophenol	ND	*1	29	4.5	ug/L		03/13/24 11:36	03/14/24 18:22	1
2,4-Dinitrotoluene	ND		9.7	4.9	ug/L		03/13/24 11:36	03/14/24 18:22	1
2,6-Dinitrotoluene	ND		9.7	3.8	ug/L		03/13/24 11:36	03/14/24 18:22	1
Di-n-octyl phthalate	ND		9.7	5.8	ug/L		03/13/24 11:36	03/14/24 18:22	1
1,4-Dioxane	ND		9.7	4.2	ug/L		03/13/24 11:36	03/14/24 18:22	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	3.2	ug/L		03/13/24 11:36	03/14/24 18:22	1
Hexachlorobenzene	ND		9.7	9.4	ug/L		03/13/24 11:36	03/14/24 18:22	1
Hexachlorocyclopentadiene	ND		19	4.4	ug/L		03/13/24 11:36	03/14/24 18:22	1
Hexachloroethane	ND		9.7	5.0	ug/L		03/13/24 11:36	03/14/24 18:22	1
Indene	ND		9.7	3.5	ug/L		03/13/24 11:36	03/14/24 18:22	1
Isophorone	ND		9.7	5.0	ug/L		03/13/24 11:36	03/14/24 18:22	1
2-Methylphenol	ND		9.7	3.1	ug/L		03/13/24 11:36	03/14/24 18:22	1
3 & 4 Methylphenol	ND		19	4.5	ug/L		03/13/24 11:36	03/14/24 18:22	1
2-Nitroaniline	ND		9.7	4.8	ug/L		03/13/24 11:36	03/14/24 18:22	1
3-Nitroaniline	ND		9.7	4.6	ug/L		03/13/24 11:36	03/14/24 18:22	1
4-Nitroaniline	ND		9.7	4.0	ug/L		03/13/24 11:36	03/14/24 18:22	1
Nitrobenzene	ND		9.7	4.6	ug/L		03/13/24 11:36	03/14/24 18:22	1
2-Nitrophenol	ND		9.7	4.5	ug/L		03/13/24 11:36	03/14/24 18:22	1
4-Nitrophenol	ND		9.7	3.2	ug/L		03/13/24 11:36	03/14/24 18:22	1
N-Nitrosodimethylamine	ND		9.7	2.1	ug/L		03/13/24 11:36	03/14/24 18:22	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: MW12-ROX-030624-EB**

**Lab Sample ID: 400-252332-5**

**Date Collected: 03/06/24 12:00**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.7	2.4	ug/L		03/13/24 11:36	03/14/24 18:22	1
N-Nitrosodiphenylamine	ND		9.7	3.6	ug/L		03/13/24 11:36	03/14/24 18:22	1
Pentachlorophenol	ND		19	12	ug/L		03/13/24 11:36	03/14/24 18:22	1
Phenol	ND		9.7	4.1	ug/L		03/13/24 11:36	03/14/24 18:22	1
Pyridine	ND		9.7	9.7	ug/L		03/13/24 11:36	03/14/24 18:22	1
Quinoline	ND		9.7	2.3	ug/L		03/13/24 11:36	03/14/24 18:22	1
2,4,5-Trichlorophenol	ND		9.7	3.9	ug/L		03/13/24 11:36	03/14/24 18:22	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		03/13/24 11:36	03/14/24 18:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	83		21 - 114	03/13/24 11:36	03/14/24 18:22	1
2-Fluorophenol	47		10 - 105	03/13/24 11:36	03/14/24 18:22	1
Nitrobenzene-d5	63		16 - 127	03/13/24 11:36	03/14/24 18:22	1
Phenol-d5	35		10 - 129	03/13/24 11:36	03/14/24 18:22	1
Terphenyl-d14	94		13 - 150	03/13/24 11:36	03/14/24 18:22	1
2,4,6-Tribromophenol	114		10 - 150	03/13/24 11:36	03/14/24 18:22	1

**Method: EPA 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	0.017	ug/L		03/12/24 11:21	03/13/24 07:43	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/12/24 11:21	03/13/24 07:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		51 - 149	03/12/24 11:21	03/13/24 07:43	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: MW12-ROX-030624**

**Lab Sample ID: 400-252332-6**

**Date Collected: 03/06/24 13:00**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/13/24 15:44	1
Acrolein	ND		20	3.3	ug/L			03/13/24 15:44	1
Acrylonitrile	ND		10	2.8	ug/L			03/13/24 15:44	1
Benzene	ND		1.0	0.50	ug/L			03/13/24 15:44	1
Bromobenzene	ND		1.0	0.54	ug/L			03/13/24 15:44	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/13/24 15:44	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/13/24 15:44	1
Bromoform	ND		5.0	0.25	ug/L			03/13/24 15:44	1
Bromomethane	ND		1.0	0.98	ug/L			03/13/24 15:44	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/13/24 15:44	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/13/24 15:44	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/13/24 15:44	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/13/24 15:44	1
Chloroethane	ND		1.0	0.76	ug/L			03/13/24 15:44	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/13/24 15:44	1
Chloroform	ND		1.0	0.90	ug/L			03/13/24 15:44	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/13/24 15:44	1
Chloromethane	ND		1.0	0.90	ug/L			03/13/24 15:44	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/13/24 15:44	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/13/24 15:44	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/13/24 15:44	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/13/24 15:44	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/13/24 15:44	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/13/24 15:44	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/13/24 15:44	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/13/24 15:44	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/13/24 15:44	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/13/24 15:44	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 15:44	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 15:44	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 15:44	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/13/24 15:44	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/13/24 15:44	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/13/24 15:44	1
Hexachlorobutadiene	ND	*+	5.0	0.90	ug/L			03/13/24 15:44	1
2-Hexanone	ND		25	1.4	ug/L			03/13/24 15:44	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/13/24 15:44	1
Methylene bromide	ND		5.0	0.22	ug/L			03/13/24 15:44	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/13/24 15:44	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/13/24 15:44	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/13/24 15:44	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/13/24 15:44	1
Naphthalene	ND		5.0	3.0	ug/L			03/13/24 15:44	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/13/24 15:44	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/13/24 15:44	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/13/24 15:44	1
o-Xylene	ND		5.0	0.60	ug/L			03/13/24 15:44	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/13/24 15:44	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/13/24 15:44	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: MW12-ROX-030624**

**Lab Sample ID: 400-252332-6**

Date Collected: 03/06/24 13:00

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/13/24 15:44	1
Styrene	ND		1.0	1.0	ug/L			03/13/24 15:44	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/13/24 15:44	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/13/24 15:44	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/13/24 15:44	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/13/24 15:44	1
Toluene	ND		1.0	0.90	ug/L			03/13/24 15:44	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/13/24 15:44	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/13/24 15:44	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/13/24 15:44	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/13/24 15:44	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/13/24 15:44	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/13/24 15:44	1
Trichloroethene	ND		1.0	0.15	ug/L			03/13/24 15:44	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/13/24 15:44	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/13/24 15:44	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/13/24 15:44	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/13/24 15:44	1
Vinyl acetate	ND		25	0.93	ug/L			03/13/24 15:44	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/13/24 15:44	1
Xylenes, Total	ND		10	1.6	ug/L			03/13/24 15:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		72 - 130		03/13/24 15:44	1
Dibromofluoromethane	103		75 - 126		03/13/24 15:44	1
Toluene-d8 (Surr)	93		64 - 132		03/13/24 15:44	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.096	ug/L		03/13/24 11:36	03/14/24 14:03	1
Acenaphthylene	ND		0.19	0.043	ug/L		03/13/24 11:36	03/14/24 14:03	1
Anthracene	ND		0.19	0.046	ug/L		03/13/24 11:36	03/14/24 14:03	1
Benzo[a]anthracene	ND		0.19	0.033	ug/L		03/13/24 11:36	03/14/24 14:03	1
Benzo[a]pyrene	ND		0.19	0.062	ug/L		03/13/24 11:36	03/14/24 14:03	1
Benzo[b]fluoranthene	ND		0.19	0.036	ug/L		03/13/24 11:36	03/14/24 14:03	1
Benzo[g,h,i]perylene	ND		0.19	0.026	ug/L		03/13/24 11:36	03/14/24 14:03	1
Benzo[k]fluoranthene	ND		0.19	0.060	ug/L		03/13/24 11:36	03/14/24 14:03	1
Chrysene	ND		0.19	0.032	ug/L		03/13/24 11:36	03/14/24 14:03	1
Dibenz(a,h)anthracene	ND		0.19	0.047	ug/L		03/13/24 11:36	03/14/24 14:03	1
Fluoranthene	ND		0.19	0.033	ug/L		03/13/24 11:36	03/14/24 14:03	1
Fluorene	ND		0.19	0.087	ug/L		03/13/24 11:36	03/14/24 14:03	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.033	ug/L		03/13/24 11:36	03/14/24 14:03	1
Phenanthrene	ND		0.19	0.087	ug/L		03/13/24 11:36	03/14/24 14:03	1
Pyrene	ND		0.19	0.038	ug/L		03/13/24 11:36	03/14/24 14:03	1
1-Methylnaphthalene	ND		0.19	0.078	ug/L		03/13/24 11:36	03/14/24 14:03	1
2-Methylnaphthalene	ND		0.19	0.064	ug/L		03/13/24 11:36	03/14/24 14:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	78		18 - 147	03/13/24 11:36	03/14/24 14:03	1
2-Fluorobiphenyl	55		15 - 128	03/13/24 11:36	03/14/24 14:03	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: MW12-ROX-030624**

**Lab Sample ID: 400-252332-6**

Date Collected: 03/06/24 13:00

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	41		10 - 144	03/13/24 11:36	03/14/24 14:03	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	8.5	ug/L		03/13/24 11:36	03/14/24 18:50	1
Benzenethiol	ND		9.7	9.6	ug/L		03/13/24 11:36	03/14/24 18:50	1
Benzoic acid	ND		29	23	ug/L		03/13/24 11:36	03/14/24 18:50	1
Benzyl alcohol	ND		9.7	7.1	ug/L		03/13/24 11:36	03/14/24 18:50	1
Bis(2-chloroethoxy)methane	ND		9.7	4.5	ug/L		03/13/24 11:36	03/14/24 18:50	1
Bis(2-chloroethyl)ether	ND		9.7	3.8	ug/L		03/13/24 11:36	03/14/24 18:50	1
bis (2-chloroisopropyl) ether	ND		9.7	1.7	ug/L		03/13/24 11:36	03/14/24 18:50	1
Bis(2-ethylhexyl) phthalate	ND	*1	9.7	8.7	ug/L		03/13/24 11:36	03/14/24 18:50	1
4-Bromophenyl phenyl ether	ND		9.7	8.4	ug/L		03/13/24 11:36	03/14/24 18:50	1
Butyl benzyl phthalate	ND	*1	9.7	5.6	ug/L		03/13/24 11:36	03/14/24 18:50	1
4-Chloroaniline	ND		9.7	4.6	ug/L		03/13/24 11:36	03/14/24 18:50	1
4-Chloro-3-methylphenol	ND		9.7	5.2	ug/L		03/13/24 11:36	03/14/24 18:50	1
2-Chloronaphthalene	ND		9.7	3.7	ug/L		03/13/24 11:36	03/14/24 18:50	1
2-Chlorophenol	ND		9.7	4.0	ug/L		03/13/24 11:36	03/14/24 18:50	1
4-Chlorophenyl phenyl ether	ND		9.7	3.6	ug/L		03/13/24 11:36	03/14/24 18:50	1
Dibenz[a,h]acridine	ND		9.7	2.7	ug/L		03/13/24 11:36	03/14/24 18:50	1
Dibenzofuran	ND		9.7	3.9	ug/L		03/13/24 11:36	03/14/24 18:50	1
3,3'-Dichlorobenzidine	ND	*1	11	11	ug/L		03/13/24 11:36	03/14/24 18:50	1
2,4-Dichlorophenol	ND		9.7	4.2	ug/L		03/13/24 11:36	03/14/24 18:50	1
Diethyl phthalate	ND		9.7	4.3	ug/L		03/13/24 11:36	03/14/24 18:50	1
2,4-Dimethylphenol	ND		9.7	5.1	ug/L		03/13/24 11:36	03/14/24 18:50	1
Dimethyl phthalate	ND		9.7	4.1	ug/L		03/13/24 11:36	03/14/24 18:50	1
Di-n-butyl phthalate	ND		9.7	4.5	ug/L		03/13/24 11:36	03/14/24 18:50	1
4,6-Dinitro-ortho-cresol	ND		9.7	9.7	ug/L		03/13/24 11:36	03/14/24 18:50	1
2,4-Dinitrophenol	ND	*1	29	4.5	ug/L		03/13/24 11:36	03/14/24 18:50	1
2,4-Dinitrotoluene	ND		9.7	5.0	ug/L		03/13/24 11:36	03/14/24 18:50	1
2,6-Dinitrotoluene	ND		9.7	3.8	ug/L		03/13/24 11:36	03/14/24 18:50	1
Di-n-octyl phthalate	ND		9.7	5.8	ug/L		03/13/24 11:36	03/14/24 18:50	1
1,4-Dioxane	ND		9.7	4.2	ug/L		03/13/24 11:36	03/14/24 18:50	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	3.2	ug/L		03/13/24 11:36	03/14/24 18:50	1
Hexachlorobenzene	ND		9.7	9.4	ug/L		03/13/24 11:36	03/14/24 18:50	1
Hexachlorocyclopentadiene	ND		19	4.4	ug/L		03/13/24 11:36	03/14/24 18:50	1
Hexachloroethane	ND		9.7	5.1	ug/L		03/13/24 11:36	03/14/24 18:50	1
Indene	ND		9.7	3.5	ug/L		03/13/24 11:36	03/14/24 18:50	1
Isophorone	ND		9.7	5.1	ug/L		03/13/24 11:36	03/14/24 18:50	1
2-Methylphenol	ND		9.7	3.1	ug/L		03/13/24 11:36	03/14/24 18:50	1
3 & 4 Methylphenol	ND		19	4.5	ug/L		03/13/24 11:36	03/14/24 18:50	1
2-Nitroaniline	ND		9.7	4.9	ug/L		03/13/24 11:36	03/14/24 18:50	1
3-Nitroaniline	ND		9.7	4.6	ug/L		03/13/24 11:36	03/14/24 18:50	1
4-Nitroaniline	ND		9.7	4.0	ug/L		03/13/24 11:36	03/14/24 18:50	1
Nitrobenzene	ND		9.7	4.6	ug/L		03/13/24 11:36	03/14/24 18:50	1
2-Nitrophenol	ND		9.7	4.5	ug/L		03/13/24 11:36	03/14/24 18:50	1
4-Nitrophenol	ND		9.7	3.2	ug/L		03/13/24 11:36	03/14/24 18:50	1
N-Nitrosodimethylamine	ND		9.7	2.1	ug/L		03/13/24 11:36	03/14/24 18:50	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: MW12-ROX-030624**

**Lab Sample ID: 400-252332-6**

**Date Collected: 03/06/24 13:00**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.7	2.4	ug/L		03/13/24 11:36	03/14/24 18:50	1
N-Nitrosodiphenylamine	ND		9.7	3.6	ug/L		03/13/24 11:36	03/14/24 18:50	1
Pentachlorophenol	ND		19	12	ug/L		03/13/24 11:36	03/14/24 18:50	1
Phenol	ND		9.7	4.1	ug/L		03/13/24 11:36	03/14/24 18:50	1
Pyridine	ND		9.7	9.7	ug/L		03/13/24 11:36	03/14/24 18:50	1
Quinoline	ND		9.7	2.3	ug/L		03/13/24 11:36	03/14/24 18:50	1
2,4,5-Trichlorophenol	ND		9.7	3.9	ug/L		03/13/24 11:36	03/14/24 18:50	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		03/13/24 11:36	03/14/24 18:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	64		21 - 114	03/13/24 11:36	03/14/24 18:50	1
2-Fluorophenol	30		10 - 105	03/13/24 11:36	03/14/24 18:50	1
Nitrobenzene-d5	47		16 - 127	03/13/24 11:36	03/14/24 18:50	1
Phenol-d5	21		10 - 129	03/13/24 11:36	03/14/24 18:50	1
Terphenyl-d14	78		13 - 150	03/13/24 11:36	03/14/24 18:50	1
2,4,6-Tribromophenol	84		10 - 150	03/13/24 11:36	03/14/24 18:50	1

**Method: EPA 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	0.017	ug/L		03/12/24 11:21	03/13/24 08:04	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/12/24 11:21	03/13/24 08:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	77		51 - 149	03/12/24 11:21	03/13/24 08:04	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: ROST4PZE-ROX-030624**

**Lab Sample ID: 400-252332-7**

**Date Collected: 03/06/24 14:00**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/13/24 11:40	1
Acrolein	ND		20	3.3	ug/L			03/13/24 11:40	1
Acrylonitrile	ND		10	2.8	ug/L			03/13/24 11:40	1
<b>Benzene</b>	<b>1.5</b>		1.0	0.50	ug/L			03/13/24 11:40	1
Bromobenzene	ND		1.0	0.54	ug/L			03/13/24 11:40	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/13/24 11:40	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/13/24 11:40	1
Bromoform	ND		5.0	0.25	ug/L			03/13/24 11:40	1
Bromomethane	ND		1.0	0.98	ug/L			03/13/24 11:40	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/13/24 11:40	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/13/24 11:40	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/13/24 11:40	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/13/24 11:40	1
Chloroethane	ND		1.0	0.76	ug/L			03/13/24 11:40	1
2-Chloroethyl vinyl ether	ND	F1 UJ	5.0	2.0	ug/L			03/13/24 11:40	1
Chloroform	ND		1.0	0.90	ug/L			03/13/24 11:40	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/13/24 11:40	1
Chloromethane	ND		1.0	0.90	ug/L			03/13/24 11:40	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/13/24 11:40	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/13/24 11:40	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/13/24 11:40	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/13/24 11:40	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/13/24 11:40	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/13/24 11:40	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/13/24 11:40	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/13/24 11:40	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/13/24 11:40	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/13/24 11:40	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 11:40	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 11:40	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 11:40	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/13/24 11:40	1
<b>Ethylbenzene</b>	<b>2.6</b>		1.0	0.50	ug/L			03/13/24 11:40	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/13/24 11:40	1
Hexachlorobutadiene	ND	*+ F2	5.0	0.90	ug/L			03/13/24 11:40	1
2-Hexanone	ND		25	1.4	ug/L			03/13/24 11:40	1
<b>Isopropylbenzene</b>	<b>0.53</b>	<b>J J</b>	1.0	0.53	ug/L			03/13/24 11:40	1
Methylene bromide	ND		5.0	0.22	ug/L			03/13/24 11:40	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/13/24 11:40	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/13/24 11:40	1
<b>m-Xylene &amp; p-Xylene</b>	<b>2.0</b>	<b>J</b>	5.0	0.63	ug/L			03/13/24 11:40	1
Naphthalene	ND		5.0	3.0	ug/L			03/13/24 11:40	1
n-Butylbenzene	ND	F2	1.0	0.76	ug/L			03/13/24 11:40	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/13/24 11:40	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/13/24 11:40	1
o-Xylene	ND		5.0	0.60	ug/L			03/13/24 11:40	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/13/24 11:40	1
p-Isopropyltoluene	ND	F2	1.0	0.71	ug/L			03/13/24 11:40	1
sec-Butylbenzene	ND	F2	1.0	0.70	ug/L			03/13/24 11:40	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: ROST4PZE-ROX-030624**

**Lab Sample ID: 400-252332-7**

Date Collected: 03/06/24 14:00

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		1.0	1.0	ug/L			03/13/24 11:40	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/13/24 11:40	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/13/24 11:40	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/13/24 11:40	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/13/24 11:40	1
Toluene	ND		1.0	0.90	ug/L			03/13/24 11:40	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/13/24 11:40	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/13/24 11:40	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/13/24 11:40	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/13/24 11:40	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/13/24 11:40	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/13/24 11:40	1
Trichloroethene	ND		1.0	0.15	ug/L			03/13/24 11:40	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/13/24 11:40	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/13/24 11:40	1
<b>1,2,4-Trimethylbenzene</b>	<b>6.4</b>		1.0	0.82	ug/L			03/13/24 11:40	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/13/24 11:40	1
Vinyl acetate	ND		25	0.93	ug/L			03/13/24 11:40	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/13/24 11:40	1
<b>Xylenes, Total</b>	<b>2.3</b>	<b>J</b>	10	1.6	ug/L			03/13/24 11:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	100		72 - 130		03/13/24 11:40	1
Dibromofluoromethane	103		75 - 126		03/13/24 11:40	1
Toluene-d8 (Surr)	98		64 - 132		03/13/24 11:40	1

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND	+	5.0	3.0	ug/L			03/14/24 14:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		72 - 130		03/14/24 14:03	1
Dibromofluoromethane	101		75 - 126		03/14/24 14:03	1
Toluene-d8 (Surr)	95		64 - 132		03/14/24 14:03	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acenaphthene</b>	<b>0.35</b>		0.19	0.096	ug/L		03/13/24 11:36	03/14/24 14:23	1
Acenaphthylene	ND		0.19	0.043	ug/L		03/13/24 11:36	03/14/24 14:23	1
<b>Anthracene</b>	<b>0.47</b>		0.19	0.046	ug/L		03/13/24 11:36	03/14/24 14:23	1
Benzo[a]anthracene	ND		0.19	0.033	ug/L		03/13/24 11:36	03/14/24 14:23	1
Benzo[a]pyrene	ND		0.19	0.062	ug/L		03/13/24 11:36	03/14/24 14:23	1
Benzo[b]fluoranthene	ND		0.19	0.036	ug/L		03/13/24 11:36	03/14/24 14:23	1
Benzo[g,h,i]perylene	ND		0.19	0.026	ug/L		03/13/24 11:36	03/14/24 14:23	1
Benzo[k]fluoranthene	ND		0.19	0.060	ug/L		03/13/24 11:36	03/14/24 14:23	1
Chrysene	ND		0.19	0.032	ug/L		03/13/24 11:36	03/14/24 14:23	1
Dibenz(a,h)anthracene	ND		0.19	0.047	ug/L		03/13/24 11:36	03/14/24 14:23	1
<b>Fluoranthene</b>	<b>0.050</b>	<b>J</b>	0.19	0.033	ug/L		03/13/24 11:36	03/14/24 14:23	1
<b>Fluorene</b>	<b>0.30</b>		0.19	0.087	ug/L		03/13/24 11:36	03/14/24 14:23	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.033	ug/L		03/13/24 11:36	03/14/24 14:23	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: ROST4PZE-ROX-030624**

**Lab Sample ID: 400-252332-7**

Date Collected: 03/06/24 14:00

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	1.8		0.19	0.087	ug/L		03/13/24 11:36	03/14/24 14:23	1
Pyrene	0.096	J	0.19	0.038	ug/L		03/13/24 11:36	03/14/24 14:23	1
1-Methylnaphthalene	3.4		0.19	0.078	ug/L		03/13/24 11:36	03/14/24 14:23	1
2-Methylnaphthalene	1.5		0.19	0.064	ug/L		03/13/24 11:36	03/14/24 14:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	59		18 - 147				03/13/24 11:36	03/14/24 14:23	1
2-Fluorobiphenyl	55		15 - 128				03/13/24 11:36	03/14/24 14:23	1
Nitrobenzene-d5	49		10 - 144				03/13/24 11:36	03/14/24 14:23	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	8.5	ug/L		03/13/24 11:36	03/14/24 19:17	1
Benzenethiol	ND		9.7	9.6	ug/L		03/13/24 11:36	03/14/24 19:17	1
Benzoic acid	ND		29	23	ug/L		03/13/24 11:36	03/14/24 19:17	1
Benzyl alcohol	ND		9.7	7.1	ug/L		03/13/24 11:36	03/14/24 19:17	1
Bis(2-chloroethoxy)methane	ND		9.7	4.5	ug/L		03/13/24 11:36	03/14/24 19:17	1
Bis(2-chloroethyl)ether	ND		9.7	3.8	ug/L		03/13/24 11:36	03/14/24 19:17	1
bis (2-chloroisopropyl) ether	ND		9.7	1.7	ug/L		03/13/24 11:36	03/14/24 19:17	1
Bis(2-ethylhexyl) phthalate	ND	*1	9.7	8.7	ug/L		03/13/24 11:36	03/14/24 19:17	1
4-Bromophenyl phenyl ether	ND		9.7	8.4	ug/L		03/13/24 11:36	03/14/24 19:17	1
Butyl benzyl phthalate	ND	*1	9.7	5.6	ug/L		03/13/24 11:36	03/14/24 19:17	1
4-Chloroaniline	ND		9.7	4.6	ug/L		03/13/24 11:36	03/14/24 19:17	1
4-Chloro-3-methylphenol	ND		9.7	5.2	ug/L		03/13/24 11:36	03/14/24 19:17	1
2-Chloronaphthalene	ND		9.7	3.7	ug/L		03/13/24 11:36	03/14/24 19:17	1
2-Chlorophenol	ND		9.7	4.0	ug/L		03/13/24 11:36	03/14/24 19:17	1
4-Chlorophenyl phenyl ether	ND		9.7	3.6	ug/L		03/13/24 11:36	03/14/24 19:17	1
Dibenz[a,h]acridine	ND		9.7	2.7	ug/L		03/13/24 11:36	03/14/24 19:17	1
Dibenzofuran	ND		9.7	3.9	ug/L		03/13/24 11:36	03/14/24 19:17	1
3,3'-Dichlorobenzidine	ND	*1	11	11	ug/L		03/13/24 11:36	03/14/24 19:17	1
2,4-Dichlorophenol	ND		9.7	4.2	ug/L		03/13/24 11:36	03/14/24 19:17	1
Diethyl phthalate	ND		9.7	4.3	ug/L		03/13/24 11:36	03/14/24 19:17	1
2,4-Dimethylphenol	ND		9.7	5.1	ug/L		03/13/24 11:36	03/14/24 19:17	1
Dimethyl phthalate	ND		9.7	4.1	ug/L		03/13/24 11:36	03/14/24 19:17	1
Di-n-butyl phthalate	ND		9.7	4.5	ug/L		03/13/24 11:36	03/14/24 19:17	1
4,6-Dinitro-ortho-cresol	ND		9.7	9.7	ug/L		03/13/24 11:36	03/14/24 19:17	1
2,4-Dinitrophenol	ND	*1	29	4.5	ug/L		03/13/24 11:36	03/14/24 19:17	1
2,4-Dinitrotoluene	ND		9.7	5.0	ug/L		03/13/24 11:36	03/14/24 19:17	1
2,6-Dinitrotoluene	ND		9.7	3.8	ug/L		03/13/24 11:36	03/14/24 19:17	1
Di-n-octyl phthalate	ND		9.7	5.8	ug/L		03/13/24 11:36	03/14/24 19:17	1
1,4-Dioxane	ND		9.7	4.2	ug/L		03/13/24 11:36	03/14/24 19:17	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	3.2	ug/L		03/13/24 11:36	03/14/24 19:17	1
Hexachlorobenzene	ND		9.7	9.4	ug/L		03/13/24 11:36	03/14/24 19:17	1
Hexachlorocyclopentadiene	ND		19	4.4	ug/L		03/13/24 11:36	03/14/24 19:17	1
Hexachloroethane	ND		9.7	5.1	ug/L		03/13/24 11:36	03/14/24 19:17	1
Indene	ND		9.7	3.5	ug/L		03/13/24 11:36	03/14/24 19:17	1
Isophorone	ND		9.7	5.1	ug/L		03/13/24 11:36	03/14/24 19:17	1
2-Methylphenol	ND		9.7	3.1	ug/L		03/13/24 11:36	03/14/24 19:17	1
3 & 4 Methylphenol	ND		19	4.5	ug/L		03/13/24 11:36	03/14/24 19:17	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: ROST4PZE-ROX-030624**

**Lab Sample ID: 400-252332-7**

Date Collected: 03/06/24 14:00

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		9.7	4.9	ug/L		03/13/24 11:36	03/14/24 19:17	1
3-Nitroaniline	ND		9.7	4.6	ug/L		03/13/24 11:36	03/14/24 19:17	1
4-Nitroaniline	ND		9.7	4.0	ug/L		03/13/24 11:36	03/14/24 19:17	1
Nitrobenzene	ND		9.7	4.6	ug/L		03/13/24 11:36	03/14/24 19:17	1
2-Nitrophenol	ND		9.7	4.5	ug/L		03/13/24 11:36	03/14/24 19:17	1
4-Nitrophenol	ND		9.7	3.2	ug/L		03/13/24 11:36	03/14/24 19:17	1
N-Nitrosodimethylamine	ND		9.7	2.1	ug/L		03/13/24 11:36	03/14/24 19:17	1
N-Nitrosodi-n-propylamine	ND		9.7	2.4	ug/L		03/13/24 11:36	03/14/24 19:17	1
N-Nitrosodiphenylamine	ND		9.7	3.6	ug/L		03/13/24 11:36	03/14/24 19:17	1
Pentachlorophenol	ND		19	12	ug/L		03/13/24 11:36	03/14/24 19:17	1
Phenol	ND		9.7	4.1	ug/L		03/13/24 11:36	03/14/24 19:17	1
Pyridine	ND		9.7	9.7	ug/L		03/13/24 11:36	03/14/24 19:17	1
Quinoline	ND		9.7	2.3	ug/L		03/13/24 11:36	03/14/24 19:17	1
2,4,5-Trichlorophenol	ND		9.7	3.9	ug/L		03/13/24 11:36	03/14/24 19:17	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		03/13/24 11:36	03/14/24 19:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	79		21 - 114	03/13/24 11:36	03/14/24 19:17	1
2-Fluorophenol	40		10 - 105	03/13/24 11:36	03/14/24 19:17	1
Nitrobenzene-d5	56		16 - 127	03/13/24 11:36	03/14/24 19:17	1
Phenol-d5	30		10 - 129	03/13/24 11:36	03/14/24 19:17	1
Terphenyl-d14	80		13 - 150	03/13/24 11:36	03/14/24 19:17	1
2,4,6-Tribromophenol	101		10 - 150	03/13/24 11:36	03/14/24 19:17	1

**Method: EPA 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	0.017	ug/L		03/12/24 11:21	03/13/24 08:24	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/12/24 11:21	03/13/24 08:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	85		51 - 149	03/12/24 11:21	03/13/24 08:24	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: TB-ROX-030624-8260-B**

**Lab Sample ID: 400-252332-8**

**Date Collected: 03/06/24 12:00**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/13/24 16:11	1
Acrolein	ND		20	3.3	ug/L			03/13/24 16:11	1
Acrylonitrile	ND		10	2.8	ug/L			03/13/24 16:11	1
Benzene	ND		1.0	0.50	ug/L			03/13/24 16:11	1
Bromobenzene	ND		1.0	0.54	ug/L			03/13/24 16:11	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/13/24 16:11	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/13/24 16:11	1
Bromoform	ND		5.0	0.25	ug/L			03/13/24 16:11	1
Bromomethane	ND		1.0	0.98	ug/L			03/13/24 16:11	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/13/24 16:11	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/13/24 16:11	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/13/24 16:11	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/13/24 16:11	1
Chloroethane	ND		1.0	0.76	ug/L			03/13/24 16:11	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/13/24 16:11	1
Chloroform	ND		1.0	0.90	ug/L			03/13/24 16:11	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/13/24 16:11	1
Chloromethane	ND		1.0	0.90	ug/L			03/13/24 16:11	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/13/24 16:11	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/13/24 16:11	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/13/24 16:11	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/13/24 16:11	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/13/24 16:11	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/13/24 16:11	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/13/24 16:11	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/13/24 16:11	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/13/24 16:11	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/13/24 16:11	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 16:11	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 16:11	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 16:11	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/13/24 16:11	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/13/24 16:11	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/13/24 16:11	1
Hexachlorobutadiene	ND	*+	5.0	0.90	ug/L			03/13/24 16:11	1
2-Hexanone	ND		25	1.4	ug/L			03/13/24 16:11	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/13/24 16:11	1
Methylene bromide	ND		5.0	0.22	ug/L			03/13/24 16:11	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/13/24 16:11	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/13/24 16:11	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/13/24 16:11	1
Naphthalene	ND		5.0	3.0	ug/L			03/13/24 16:11	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/13/24 16:11	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/13/24 16:11	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/13/24 16:11	1
o-Xylene	ND		5.0	0.60	ug/L			03/13/24 16:11	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/13/24 16:11	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/13/24 16:11	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/13/24 16:11	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: TB-ROX-030624-8260-B**

**Lab Sample ID: 400-252332-8**

**Date Collected: 03/06/24 12:00**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		1.0	1.0	ug/L			03/13/24 16:11	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/13/24 16:11	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/13/24 16:11	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/13/24 16:11	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/13/24 16:11	1
Toluene	ND		1.0	0.90	ug/L			03/13/24 16:11	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/13/24 16:11	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/13/24 16:11	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/13/24 16:11	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/13/24 16:11	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/13/24 16:11	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/13/24 16:11	1
Trichloroethene	ND		1.0	0.15	ug/L			03/13/24 16:11	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/13/24 16:11	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/13/24 16:11	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/13/24 16:11	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/13/24 16:11	1
Vinyl acetate	ND		25	0.93	ug/L			03/13/24 16:11	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/13/24 16:11	1
Xylenes, Total	ND		10	1.6	ug/L			03/13/24 16:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		72 - 130		03/13/24 16:11	1
Dibromofluoromethane	103		75 - 126		03/13/24 16:11	1
Toluene-d8 (Surr)	94		64 - 132		03/13/24 16:11	1

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND	*+	5.0	3.0	ug/L			03/14/24 16:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		72 - 130		03/14/24 16:45	1
Dibromofluoromethane	104		75 - 126		03/14/24 16:45	1
Toluene-d8 (Surr)	92		64 - 132		03/14/24 16:45	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
 Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: TB-ROX-030624-8011-B**

**Lab Sample ID: 400-252332-9**

**Date Collected: 03/06/24 12:00**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

**Method: EPA 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	0.017	ug/L		03/12/24 11:21	03/13/24 08:45	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/12/24 11:21	03/13/24 08:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	85		51 - 149				03/12/24 11:21	03/13/24 08:45	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: MW6B-ROX-030624**

**Lab Sample ID: 400-252332-10**

Date Collected: 03/06/24 09:20

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/13/24 16:38	1
Acrolein	ND		20	3.3	ug/L			03/13/24 16:38	1
Acrylonitrile	ND		10	2.8	ug/L			03/13/24 16:38	1
<b>Benzene</b>	<b>0.70</b>	<b>J</b>	1.0	0.50	ug/L			03/13/24 16:38	1
Bromobenzene	ND		1.0	0.54	ug/L			03/13/24 16:38	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/13/24 16:38	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/13/24 16:38	1
Bromoform	ND		5.0	0.25	ug/L			03/13/24 16:38	1
Bromomethane	ND		1.0	0.98	ug/L			03/13/24 16:38	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/13/24 16:38	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/13/24 16:38	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/13/24 16:38	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/13/24 16:38	1
Chloroethane	ND		1.0	0.76	ug/L			03/13/24 16:38	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/13/24 16:38	1
Chloroform	ND		1.0	0.90	ug/L			03/13/24 16:38	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/13/24 16:38	1
Chloromethane	ND		1.0	0.90	ug/L			03/13/24 16:38	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/13/24 16:38	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/13/24 16:38	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/13/24 16:38	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/13/24 16:38	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/13/24 16:38	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/13/24 16:38	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/13/24 16:38	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/13/24 16:38	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/13/24 16:38	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/13/24 16:38	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 16:38	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 16:38	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 16:38	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/13/24 16:38	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/13/24 16:38	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/13/24 16:38	1
Hexachlorobutadiene	ND	*+	5.0	0.90	ug/L			03/13/24 16:38	1
2-Hexanone	ND		25	1.4	ug/L			03/13/24 16:38	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/13/24 16:38	1
Methylene bromide	ND		5.0	0.22	ug/L			03/13/24 16:38	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/13/24 16:38	1
<b>Methyl tert-butyl ether</b>	<b>0.43</b>	<b>J</b>	1.0	0.22	ug/L			03/13/24 16:38	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/13/24 16:38	1
Naphthalene	ND		5.0	3.0	ug/L			03/13/24 16:38	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/13/24 16:38	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/13/24 16:38	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/13/24 16:38	1
o-Xylene	ND		5.0	0.60	ug/L			03/13/24 16:38	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/13/24 16:38	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/13/24 16:38	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/13/24 16:38	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: MW6B-ROX-030624**

**Lab Sample ID: 400-252332-10**

Date Collected: 03/06/24 09:20

Matrix: Water

Date Received: 03/08/24 09:44

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		1.0	1.0	ug/L			03/13/24 16:38	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/13/24 16:38	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/13/24 16:38	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/13/24 16:38	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/13/24 16:38	1
Toluene	ND		1.0	0.90	ug/L			03/13/24 16:38	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/13/24 16:38	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/13/24 16:38	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/13/24 16:38	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/13/24 16:38	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/13/24 16:38	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/13/24 16:38	1
Trichloroethene	ND		1.0	0.15	ug/L			03/13/24 16:38	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/13/24 16:38	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/13/24 16:38	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/13/24 16:38	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/13/24 16:38	1
Vinyl acetate	ND		25	0.93	ug/L			03/13/24 16:38	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/13/24 16:38	1
Xylenes, Total	ND		10	1.6	ug/L			03/13/24 16:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		72 - 130		03/13/24 16:38	1
Dibromofluoromethane	105		75 - 126		03/13/24 16:38	1
Toluene-d8 (Surr)	94		64 - 132		03/13/24 16:38	1

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND	+	5.0	3.0	ug/L			03/14/24 17:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		72 - 130		03/14/24 17:12	1
Dibromofluoromethane	104		75 - 126		03/14/24 17:12	1
Toluene-d8 (Surr)	92		64 - 132		03/14/24 17:12	1

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acenaphthene</b>	<b>0.20</b>	<b>J</b>	0.21	0.10	ug/L		03/13/24 11:36	03/14/24 14:44	1
<b>Acenaphthylene</b>	<b>0.091</b>	<b>J</b>	0.21	0.046	ug/L		03/13/24 11:36	03/14/24 14:44	1
Anthracene	ND		0.21	0.049	ug/L		03/13/24 11:36	03/14/24 14:44	1
Benzo[a]anthracene	ND		0.21	0.035	ug/L		03/13/24 11:36	03/14/24 14:44	1
Benzo[a]pyrene	ND		0.21	0.067	ug/L		03/13/24 11:36	03/14/24 14:44	1
Benzo[b]fluoranthene	ND		0.21	0.039	ug/L		03/13/24 11:36	03/14/24 14:44	1
Benzo[g,h,i]perylene	ND		0.21	0.028	ug/L		03/13/24 11:36	03/14/24 14:44	1
Benzo[k]fluoranthene	ND		0.21	0.065	ug/L		03/13/24 11:36	03/14/24 14:44	1
Chrysene	ND		0.21	0.034	ug/L		03/13/24 11:36	03/14/24 14:44	1
Dibenz(a,h)anthracene	ND		0.21	0.050	ug/L		03/13/24 11:36	03/14/24 14:44	1
<b>Fluoranthene</b>	<b>0.052</b>	<b>J</b>	0.21	0.035	ug/L		03/13/24 11:36	03/14/24 14:44	1
<b>Fluorene</b>	<b>0.093</b>	<b>J</b>	0.21	0.093	ug/L		03/13/24 11:36	03/14/24 14:44	1
Indeno[1,2,3-cd]pyrene	ND		0.21	0.035	ug/L		03/13/24 11:36	03/14/24 14:44	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: MW6B-ROX-030624**

**Lab Sample ID: 400-252332-10**

Date Collected: 03/06/24 09:20

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	0.13	J	0.21	0.094	ug/L		03/13/24 11:36	03/14/24 14:44	1
Pyrene	ND		0.21	0.041	ug/L		03/13/24 11:36	03/14/24 14:44	1
1-Methylnaphthalene	0.095	J	0.21	0.083	ug/L		03/13/24 11:36	03/14/24 14:44	1
2-Methylnaphthalene	0.13	J	0.21	0.069	ug/L		03/13/24 11:36	03/14/24 14:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	58		18 - 147				03/13/24 11:36	03/14/24 14:44	1
2-Fluorobiphenyl	52		15 - 128				03/13/24 11:36	03/14/24 14:44	1
Nitrobenzene-d5	41		10 - 144				03/13/24 11:36	03/14/24 14:44	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	9.1	ug/L		03/13/24 11:36	03/14/24 19:44	1
Benzenethiol	ND		10	10	ug/L		03/13/24 11:36	03/14/24 19:44	1
Benzoic acid	ND		31	25	ug/L		03/13/24 11:36	03/14/24 19:44	1
Benzyl alcohol	ND		10	7.6	ug/L		03/13/24 11:36	03/14/24 19:44	1
Bis(2-chloroethoxy)methane	ND		10	4.8	ug/L		03/13/24 11:36	03/14/24 19:44	1
Bis(2-chloroethyl)ether	ND		10	4.1	ug/L		03/13/24 11:36	03/14/24 19:44	1
bis (2-chloroisopropyl) ether	ND		10	1.9	ug/L		03/13/24 11:36	03/14/24 19:44	1
Bis(2-ethylhexyl) phthalate	ND	*1	10	9.3	ug/L		03/13/24 11:36	03/14/24 19:44	1
4-Bromophenyl phenyl ether	ND		10	9.0	ug/L		03/13/24 11:36	03/14/24 19:44	1
Butyl benzyl phthalate	ND	*1	10	6.0	ug/L		03/13/24 11:36	03/14/24 19:44	1
4-Chloroaniline	ND		10	4.9	ug/L		03/13/24 11:36	03/14/24 19:44	1
4-Chloro-3-methylphenol	ND		10	5.5	ug/L		03/13/24 11:36	03/14/24 19:44	1
2-Chloronaphthalene	ND		10	4.0	ug/L		03/13/24 11:36	03/14/24 19:44	1
2-Chlorophenol	ND		10	4.3	ug/L		03/13/24 11:36	03/14/24 19:44	1
4-Chlorophenyl phenyl ether	ND		10	3.9	ug/L		03/13/24 11:36	03/14/24 19:44	1
Dibenz[a,h]acridine	ND		10	2.9	ug/L		03/13/24 11:36	03/14/24 19:44	1
Dibenzofuran	ND		10	4.2	ug/L		03/13/24 11:36	03/14/24 19:44	1
3,3'-Dichlorobenzidine	ND	*1	11	11	ug/L		03/13/24 11:36	03/14/24 19:44	1
2,4-Dichlorophenol	ND		10	4.5	ug/L		03/13/24 11:36	03/14/24 19:44	1
Diethyl phthalate	ND		10	4.6	ug/L		03/13/24 11:36	03/14/24 19:44	1
2,4-Dimethylphenol	ND		10	5.4	ug/L		03/13/24 11:36	03/14/24 19:44	1
Dimethyl phthalate	ND		10	4.4	ug/L		03/13/24 11:36	03/14/24 19:44	1
Di-n-butyl phthalate	ND		10	4.8	ug/L		03/13/24 11:36	03/14/24 19:44	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		03/13/24 11:36	03/14/24 19:44	1
2,4-Dinitrophenol	ND	*1	31	4.8	ug/L		03/13/24 11:36	03/14/24 19:44	1
2,4-Dinitrotoluene	ND		10	5.3	ug/L		03/13/24 11:36	03/14/24 19:44	1
2,6-Dinitrotoluene	ND		10	4.1	ug/L		03/13/24 11:36	03/14/24 19:44	1
Di-n-octyl phthalate	ND		10	6.3	ug/L		03/13/24 11:36	03/14/24 19:44	1
1,4-Dioxane	ND		10	4.5	ug/L		03/13/24 11:36	03/14/24 19:44	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.4	ug/L		03/13/24 11:36	03/14/24 19:44	1
Hexachlorobenzene	ND		10	10	ug/L		03/13/24 11:36	03/14/24 19:44	1
Hexachlorocyclopentadiene	ND		21	4.7	ug/L		03/13/24 11:36	03/14/24 19:44	1
Hexachloroethane	ND		10	5.4	ug/L		03/13/24 11:36	03/14/24 19:44	1
Indene	ND		10	3.8	ug/L		03/13/24 11:36	03/14/24 19:44	1
Isophorone	ND		10	5.4	ug/L		03/13/24 11:36	03/14/24 19:44	1
2-Methylphenol	ND		10	3.3	ug/L		03/13/24 11:36	03/14/24 19:44	1
3 & 4 Methylphenol	ND		21	4.8	ug/L		03/13/24 11:36	03/14/24 19:44	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: MW6B-ROX-030624**

**Lab Sample ID: 400-252332-10**

Date Collected: 03/06/24 09:20

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		10	5.2	ug/L		03/13/24 11:36	03/14/24 19:44	1
3-Nitroaniline	ND		10	4.9	ug/L		03/13/24 11:36	03/14/24 19:44	1
4-Nitroaniline	ND		10	4.3	ug/L		03/13/24 11:36	03/14/24 19:44	1
Nitrobenzene	ND		10	4.9	ug/L		03/13/24 11:36	03/14/24 19:44	1
2-Nitrophenol	ND		10	4.8	ug/L		03/13/24 11:36	03/14/24 19:44	1
4-Nitrophenol	ND		10	3.4	ug/L		03/13/24 11:36	03/14/24 19:44	1
N-Nitrosodimethylamine	ND		10	2.3	ug/L		03/13/24 11:36	03/14/24 19:44	1
N-Nitrosodi-n-propylamine	ND		10	2.6	ug/L		03/13/24 11:36	03/14/24 19:44	1
N-Nitrosodiphenylamine	ND		10	3.9	ug/L		03/13/24 11:36	03/14/24 19:44	1
Pentachlorophenol	ND		21	12	ug/L		03/13/24 11:36	03/14/24 19:44	1
Phenol	ND		10	4.4	ug/L		03/13/24 11:36	03/14/24 19:44	1
Pyridine	ND		10	10	ug/L		03/13/24 11:36	03/14/24 19:44	1
Quinoline	ND		10	2.5	ug/L		03/13/24 11:36	03/14/24 19:44	1
2,4,5-Trichlorophenol	ND		10	4.2	ug/L		03/13/24 11:36	03/14/24 19:44	1
2,4,6-Trichlorophenol	ND		10	3.6	ug/L		03/13/24 11:36	03/14/24 19:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	67		21 - 114	03/13/24 11:36	03/14/24 19:44	1
2-Fluorophenol	37		10 - 105	03/13/24 11:36	03/14/24 19:44	1
Nitrobenzene-d5	47		16 - 127	03/13/24 11:36	03/14/24 19:44	1
Phenol-d5	28		10 - 129	03/13/24 11:36	03/14/24 19:44	1
Terphenyl-d14	76		13 - 150	03/13/24 11:36	03/14/24 19:44	1
2,4,6-Tribromophenol	92		10 - 150	03/13/24 11:36	03/14/24 19:44	1

**Method: EPA 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	0.017	ug/L		03/12/24 11:21	03/13/24 09:06	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/12/24 11:21	03/13/24 09:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	81		51 - 149	03/12/24 11:21	03/13/24 09:06	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: P56-ROX-030624**

**Lab Sample ID: 400-252332-11**

**Date Collected: 03/06/24 10:40**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/19/24 10:23	1
Acrolein	ND		20	3.3	ug/L			03/19/24 10:23	1
Acrylonitrile	ND		10	2.8	ug/L			03/19/24 10:23	1
<b>Benzene</b>	<b>0.71</b>	<b>J</b>	1.0	0.50	ug/L			03/19/24 10:23	1
Bromobenzene	ND		1.0	0.54	ug/L			03/19/24 10:23	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/19/24 10:23	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/19/24 10:23	1
Bromoform	ND		5.0	0.25	ug/L			03/19/24 10:23	1
Bromomethane	ND		1.0	0.98	ug/L			03/19/24 10:23	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/19/24 10:23	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/19/24 10:23	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/19/24 10:23	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/19/24 10:23	1
Chloroethane	ND		1.0	0.76	ug/L			03/19/24 10:23	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/19/24 10:23	1
Chloroform	ND		1.0	0.90	ug/L			03/19/24 10:23	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/19/24 10:23	1
Chloromethane	ND		1.0	0.90	ug/L			03/19/24 10:23	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/19/24 10:23	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/19/24 10:23	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/19/24 10:23	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/19/24 10:23	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/19/24 10:23	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/19/24 10:23	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/19/24 10:23	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/19/24 10:23	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/19/24 10:23	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/19/24 10:23	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/19/24 10:23	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/19/24 10:23	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/19/24 10:23	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/19/24 10:23	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/19/24 10:23	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/19/24 10:23	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/19/24 10:23	1
2-Hexanone	ND		25	1.4	ug/L			03/19/24 10:23	1
<b>Isopropylbenzene</b>	<b>8.0</b>		1.0	0.53	ug/L			03/19/24 10:23	1
Methylene bromide	ND		5.0	0.22	ug/L			03/19/24 10:23	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/19/24 10:23	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/19/24 10:23	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/19/24 10:23	1
<b>m-Xylene &amp; p-Xylene</b>	<b>1.6</b>	<b>J</b>	5.0	0.63	ug/L			03/19/24 10:23	1
Naphthalene	ND		5.0	3.0	ug/L			03/19/24 10:23	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/19/24 10:23	1
<b>N-Propylbenzene</b>	<b>8.7</b>		1.0	0.69	ug/L			03/19/24 10:23	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/19/24 10:23	1
o-Xylene	ND		5.0	0.60	ug/L			03/19/24 10:23	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/19/24 10:23	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/19/24 10:23	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: P56-ROX-030624**

**Lab Sample ID: 400-252332-11**

Date Collected: 03/06/24 10:40

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>sec-Butylbenzene</b>	<b>1.4</b>		1.0	0.70	ug/L			03/19/24 10:23	1
Styrene	ND		1.0	1.0	ug/L			03/19/24 10:23	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/19/24 10:23	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/19/24 10:23	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/19/24 10:23	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/19/24 10:23	1
Toluene	ND		1.0	0.90	ug/L			03/19/24 10:23	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/19/24 10:23	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/19/24 10:23	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/19/24 10:23	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/19/24 10:23	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/19/24 10:23	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/19/24 10:23	1
Trichloroethene	ND		1.0	0.15	ug/L			03/19/24 10:23	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/19/24 10:23	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/19/24 10:23	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/19/24 10:23	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/19/24 10:23	1
Vinyl acetate	ND		25	0.93	ug/L			03/19/24 10:23	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/19/24 10:23	1
<b>Xylenes, Total</b>	<b>1.6 J</b>		10	1.6	ug/L			03/19/24 10:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		72 - 130		03/19/24 10:23	1
Dibromofluoromethane	103		75 - 126		03/19/24 10:23	1
Toluene-d8 (Surr)	95		64 - 132		03/19/24 10:23	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acenaphthene</b>	<b>0.52</b>		0.21	0.10	ug/L		03/13/24 11:36	03/14/24 15:05	1
<b>Acenaphthylene</b>	<b>0.13 J</b>		0.21	0.045	ug/L		03/13/24 11:36	03/14/24 15:05	1
<b>Anthracene</b>	<b>0.074 J</b>		0.21	0.049	ug/L		03/13/24 11:36	03/14/24 15:05	1
Benzo[a]anthracene	ND		0.21	0.035	ug/L		03/13/24 11:36	03/14/24 15:05	1
Benzo[a]pyrene	ND		0.21	0.066	ug/L		03/13/24 11:36	03/14/24 15:05	1
Benzo[b]fluoranthene	ND		0.21	0.038	ug/L		03/13/24 11:36	03/14/24 15:05	1
Benzo[g,h,i]perylene	ND		0.21	0.028	ug/L		03/13/24 11:36	03/14/24 15:05	1
Benzo[k]fluoranthene	ND		0.21	0.064	ug/L		03/13/24 11:36	03/14/24 15:05	1
Chrysene	ND		0.21	0.034	ug/L		03/13/24 11:36	03/14/24 15:05	1
Dibenz(a,h)anthracene	ND		0.21	0.050	ug/L		03/13/24 11:36	03/14/24 15:05	1
Fluoranthene	ND		0.21	0.035	ug/L		03/13/24 11:36	03/14/24 15:05	1
<b>Fluorene</b>	<b>0.28</b>		0.21	0.092	ug/L		03/13/24 11:36	03/14/24 15:05	1
Indeno[1,2,3-cd]pyrene	ND		0.21	0.035	ug/L		03/13/24 11:36	03/14/24 15:05	1
<b>Phenanthrene</b>	<b>0.34</b>		0.21	0.093	ug/L		03/13/24 11:36	03/14/24 15:05	1
Pyrene	ND		0.21	0.040	ug/L		03/13/24 11:36	03/14/24 15:05	1
<b>1-Methylnaphthalene</b>	<b>3.2</b>		0.21	0.083	ug/L		03/13/24 11:36	03/14/24 15:05	1
<b>2-Methylnaphthalene</b>	<b>1.8</b>		0.21	0.068	ug/L		03/13/24 11:36	03/14/24 15:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	69		18 - 147	03/13/24 11:36	03/14/24 15:05	1
2-Fluorobiphenyl	44		15 - 128	03/13/24 11:36	03/14/24 15:05	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: P56-ROX-030624**

**Lab Sample ID: 400-252332-11**

Date Collected: 03/06/24 10:40

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	43		10 - 144	03/13/24 11:36	03/14/24 15:05	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	9.0	ug/L		03/13/24 11:36	03/14/24 20:11	1
Benzenethiol	ND		10	10	ug/L		03/13/24 11:36	03/14/24 20:11	1
Benzoic acid	ND		31	25	ug/L		03/13/24 11:36	03/14/24 20:11	1
Benzyl alcohol	ND		10	7.5	ug/L		03/13/24 11:36	03/14/24 20:11	1
Bis(2-chloroethoxy)methane	ND		10	4.7	ug/L		03/13/24 11:36	03/14/24 20:11	1
Bis(2-chloroethyl)ether	ND		10	4.0	ug/L		03/13/24 11:36	03/14/24 20:11	1
bis (2-chloroisopropyl) ether	ND		10	1.9	ug/L		03/13/24 11:36	03/14/24 20:11	1
Bis(2-ethylhexyl) phthalate	ND	*1	10	9.2	ug/L		03/13/24 11:36	03/14/24 20:11	1
4-Bromophenyl phenyl ether	ND		10	8.9	ug/L		03/13/24 11:36	03/14/24 20:11	1
Butyl benzyl phthalate	ND	*1	10	6.0	ug/L		03/13/24 11:36	03/14/24 20:11	1
4-Chloroaniline	ND		10	4.9	ug/L		03/13/24 11:36	03/14/24 20:11	1
4-Chloro-3-methylphenol	ND		10	5.5	ug/L		03/13/24 11:36	03/14/24 20:11	1
2-Chloronaphthalene	ND		10	3.9	ug/L		03/13/24 11:36	03/14/24 20:11	1
2-Chlorophenol	ND		10	4.2	ug/L		03/13/24 11:36	03/14/24 20:11	1
4-Chlorophenyl phenyl ether	ND		10	3.8	ug/L		03/13/24 11:36	03/14/24 20:11	1
Dibenz[a,h]acridine	ND		10	2.9	ug/L		03/13/24 11:36	03/14/24 20:11	1
Dibenzofuran	ND		10	4.1	ug/L		03/13/24 11:36	03/14/24 20:11	1
3,3'-Dichlorobenzidine	ND	*1	11	11	ug/L		03/13/24 11:36	03/14/24 20:11	1
2,4-Dichlorophenol	ND		10	4.4	ug/L		03/13/24 11:36	03/14/24 20:11	1
Diethyl phthalate	ND		10	4.5	ug/L		03/13/24 11:36	03/14/24 20:11	1
2,4-Dimethylphenol	ND		10	5.4	ug/L		03/13/24 11:36	03/14/24 20:11	1
Dimethyl phthalate	ND		10	4.3	ug/L		03/13/24 11:36	03/14/24 20:11	1
Di-n-butyl phthalate	ND		10	4.7	ug/L		03/13/24 11:36	03/14/24 20:11	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		03/13/24 11:36	03/14/24 20:11	1
2,4-Dinitrophenol	ND	*1	31	4.7	ug/L		03/13/24 11:36	03/14/24 20:11	1
2,4-Dinitrotoluene	ND		10	5.3	ug/L		03/13/24 11:36	03/14/24 20:11	1
2,6-Dinitrotoluene	ND		10	4.0	ug/L		03/13/24 11:36	03/14/24 20:11	1
Di-n-octyl phthalate	ND		10	6.2	ug/L		03/13/24 11:36	03/14/24 20:11	1
1,4-Dioxane	ND		10	4.4	ug/L		03/13/24 11:36	03/14/24 20:11	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.4	ug/L		03/13/24 11:36	03/14/24 20:11	1
Hexachlorobenzene	ND		10	10	ug/L		03/13/24 11:36	03/14/24 20:11	1
Hexachlorocyclopentadiene	ND		21	4.6	ug/L		03/13/24 11:36	03/14/24 20:11	1
Hexachloroethane	ND		10	5.4	ug/L		03/13/24 11:36	03/14/24 20:11	1
Indene	ND		10	3.7	ug/L		03/13/24 11:36	03/14/24 20:11	1
Isophorone	ND		10	5.4	ug/L		03/13/24 11:36	03/14/24 20:11	1
2-Methylphenol	ND		10	3.3	ug/L		03/13/24 11:36	03/14/24 20:11	1
3 & 4 Methylphenol	ND		21	4.7	ug/L		03/13/24 11:36	03/14/24 20:11	1
2-Nitroaniline	ND		10	5.2	ug/L		03/13/24 11:36	03/14/24 20:11	1
3-Nitroaniline	ND		10	4.9	ug/L		03/13/24 11:36	03/14/24 20:11	1
4-Nitroaniline	ND		10	4.2	ug/L		03/13/24 11:36	03/14/24 20:11	1
Nitrobenzene	ND		10	4.9	ug/L		03/13/24 11:36	03/14/24 20:11	1
2-Nitrophenol	ND		10	4.7	ug/L		03/13/24 11:36	03/14/24 20:11	1
4-Nitrophenol	ND		10	3.4	ug/L		03/13/24 11:36	03/14/24 20:11	1
N-Nitrosodimethylamine	ND		10	2.3	ug/L		03/13/24 11:36	03/14/24 20:11	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: P56-ROX-030624**

**Lab Sample ID: 400-252332-11**

Date Collected: 03/06/24 10:40

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	2.6	ug/L		03/13/24 11:36	03/14/24 20:11	1
N-Nitrosodiphenylamine	ND		10	3.8	ug/L		03/13/24 11:36	03/14/24 20:11	1
Pentachlorophenol	ND		21	12	ug/L		03/13/24 11:36	03/14/24 20:11	1
Phenol	ND		10	4.3	ug/L		03/13/24 11:36	03/14/24 20:11	1
Pyridine	ND		10	10	ug/L		03/13/24 11:36	03/14/24 20:11	1
Quinoline	ND		10	2.5	ug/L		03/13/24 11:36	03/14/24 20:11	1
2,4,5-Trichlorophenol	ND		10	4.1	ug/L		03/13/24 11:36	03/14/24 20:11	1
2,4,6-Trichlorophenol	ND		10	3.6	ug/L		03/13/24 11:36	03/14/24 20:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	63		21 - 114	03/13/24 11:36	03/14/24 20:11	1
2-Fluorophenol	36		10 - 105	03/13/24 11:36	03/14/24 20:11	1
Nitrobenzene-d5	46		16 - 127	03/13/24 11:36	03/14/24 20:11	1
Phenol-d5	28		10 - 129	03/13/24 11:36	03/14/24 20:11	1
Terphenyl-d14	72		13 - 150	03/13/24 11:36	03/14/24 20:11	1
2,4,6-Tribromophenol	88		10 - 150	03/13/24 11:36	03/14/24 20:11	1

**Method: EPA 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	0.017	ug/L		03/12/24 11:21	03/13/24 09:27	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/12/24 11:21	03/13/24 09:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	95		51 - 149	03/12/24 11:21	03/13/24 09:27	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: P93A-ROX-030624**

**Lab Sample ID: 400-252332-12**

Date Collected: 03/06/24 11:40

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/19/24 10:47	1
Acrolein	ND		20	3.3	ug/L			03/19/24 10:47	1
Acrylonitrile	ND		10	2.8	ug/L			03/19/24 10:47	1
<b>Benzene</b>	<b>0.50</b>	<b>J</b>	1.0	0.50	ug/L			03/19/24 10:47	1
Bromobenzene	ND		1.0	0.54	ug/L			03/19/24 10:47	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/19/24 10:47	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/19/24 10:47	1
Bromoform	ND		5.0	0.25	ug/L			03/19/24 10:47	1
Bromomethane	ND		1.0	0.98	ug/L			03/19/24 10:47	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/19/24 10:47	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/19/24 10:47	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/19/24 10:47	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/19/24 10:47	1
Chloroethane	ND		1.0	0.76	ug/L			03/19/24 10:47	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/19/24 10:47	1
Chloroform	ND		1.0	0.90	ug/L			03/19/24 10:47	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/19/24 10:47	1
Chloromethane	ND		1.0	0.90	ug/L			03/19/24 10:47	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/19/24 10:47	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/19/24 10:47	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/19/24 10:47	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/19/24 10:47	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/19/24 10:47	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/19/24 10:47	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/19/24 10:47	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/19/24 10:47	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/19/24 10:47	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/19/24 10:47	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/19/24 10:47	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/19/24 10:47	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/19/24 10:47	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/19/24 10:47	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/19/24 10:47	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/19/24 10:47	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/19/24 10:47	1
2-Hexanone	ND		25	1.4	ug/L			03/19/24 10:47	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/19/24 10:47	1
Methylene bromide	ND		5.0	0.22	ug/L			03/19/24 10:47	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/19/24 10:47	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/19/24 10:47	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/19/24 10:47	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/19/24 10:47	1
Naphthalene	ND		5.0	3.0	ug/L			03/19/24 10:47	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/19/24 10:47	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/19/24 10:47	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/19/24 10:47	1
o-Xylene	ND		5.0	0.60	ug/L			03/19/24 10:47	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/19/24 10:47	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/19/24 10:47	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: P93A-ROX-030624**

**Lab Sample ID: 400-252332-12**

Date Collected: 03/06/24 11:40

Matrix: Water

Date Received: 03/08/24 09:44

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/19/24 10:47	1
Styrene	ND		1.0	1.0	ug/L			03/19/24 10:47	1
<b>tert-Butylbenzene</b>	<b>2.6</b>		1.0	0.63	ug/L			03/19/24 10:47	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/19/24 10:47	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/19/24 10:47	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/19/24 10:47	1
Toluene	ND		1.0	0.90	ug/L			03/19/24 10:47	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/19/24 10:47	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/19/24 10:47	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/19/24 10:47	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/19/24 10:47	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/19/24 10:47	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/19/24 10:47	1
Trichloroethene	ND		1.0	0.15	ug/L			03/19/24 10:47	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/19/24 10:47	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/19/24 10:47	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/19/24 10:47	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/19/24 10:47	1
Vinyl acetate	ND		25	0.93	ug/L			03/19/24 10:47	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/19/24 10:47	1
Xylenes, Total	ND		10	1.6	ug/L			03/19/24 10:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		72 - 130		03/19/24 10:47	1
Dibromofluoromethane	106		75 - 126		03/19/24 10:47	1
Toluene-d8 (Surr)	96		64 - 132		03/19/24 10:47	1

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.21	0.10	ug/L		03/13/24 11:36	03/14/24 15:25	1
Acenaphthylene	ND		0.21	0.046	ug/L		03/13/24 11:36	03/14/24 15:25	1
Anthracene	ND		0.21	0.049	ug/L		03/13/24 11:36	03/14/24 15:25	1
Benzo[a]anthracene	ND		0.21	0.035	ug/L		03/13/24 11:36	03/14/24 15:25	1
Benzo[a]pyrene	ND		0.21	0.066	ug/L		03/13/24 11:36	03/14/24 15:25	1
Benzo[b]fluoranthene	ND		0.21	0.038	ug/L		03/13/24 11:36	03/14/24 15:25	1
Benzo[g,h,i]perylene	ND		0.21	0.028	ug/L		03/13/24 11:36	03/14/24 15:25	1
Benzo[k]fluoranthene	ND		0.21	0.064	ug/L		03/13/24 11:36	03/14/24 15:25	1
Chrysene	ND		0.21	0.034	ug/L		03/13/24 11:36	03/14/24 15:25	1
Dibenz(a,h)anthracene	ND		0.21	0.050	ug/L		03/13/24 11:36	03/14/24 15:25	1
Fluoranthene	ND		0.21	0.035	ug/L		03/13/24 11:36	03/14/24 15:25	1
Fluorene	ND		0.21	0.092	ug/L		03/13/24 11:36	03/14/24 15:25	1
Indeno[1,2,3-cd]pyrene	ND		0.21	0.035	ug/L		03/13/24 11:36	03/14/24 15:25	1
Phenanthrene	ND		0.21	0.093	ug/L		03/13/24 11:36	03/14/24 15:25	1
Pyrene	ND		0.21	0.040	ug/L		03/13/24 11:36	03/14/24 15:25	1
<b>1-Methylnaphthalene</b>	<b>0.11</b>	<b>J</b>	0.21	0.083	ug/L		03/13/24 11:36	03/14/24 15:25	1
2-Methylnaphthalene	ND		0.21	0.068	ug/L		03/13/24 11:36	03/14/24 15:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	62		18 - 147	03/13/24 11:36	03/14/24 15:25	1
2-Fluorobiphenyl	55		15 - 128	03/13/24 11:36	03/14/24 15:25	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: P93A-ROX-030624**

**Lab Sample ID: 400-252332-12**

Date Collected: 03/06/24 11:40

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	45		10 - 144	03/13/24 11:36	03/14/24 15:25	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	9.0	ug/L		03/13/24 11:36	03/14/24 20:38	1
Benzenethiol	ND		10	10	ug/L		03/13/24 11:36	03/14/24 20:38	1
Benzoic acid	ND		31	25	ug/L		03/13/24 11:36	03/14/24 20:38	1
Benzyl alcohol	ND		10	7.6	ug/L		03/13/24 11:36	03/14/24 20:38	1
Bis(2-chloroethoxy)methane	ND		10	4.8	ug/L		03/13/24 11:36	03/14/24 20:38	1
Bis(2-chloroethyl)ether	ND		10	4.0	ug/L		03/13/24 11:36	03/14/24 20:38	1
bis (2-chloroisopropyl) ether	ND		10	1.9	ug/L		03/13/24 11:36	03/14/24 20:38	1
Bis(2-ethylhexyl) phthalate	ND	*1	10	9.2	ug/L		03/13/24 11:36	03/14/24 20:38	1
4-Bromophenyl phenyl ether	ND		10	8.9	ug/L		03/13/24 11:36	03/14/24 20:38	1
Butyl benzyl phthalate	ND	*1	10	6.0	ug/L		03/13/24 11:36	03/14/24 20:38	1
4-Chloroaniline	ND		10	4.9	ug/L		03/13/24 11:36	03/14/24 20:38	1
4-Chloro-3-methylphenol	ND		10	5.5	ug/L		03/13/24 11:36	03/14/24 20:38	1
2-Chloronaphthalene	ND		10	3.9	ug/L		03/13/24 11:36	03/14/24 20:38	1
2-Chlorophenol	ND		10	4.2	ug/L		03/13/24 11:36	03/14/24 20:38	1
4-Chlorophenyl phenyl ether	ND		10	3.8	ug/L		03/13/24 11:36	03/14/24 20:38	1
Dibenz[a,h]acridine	ND		10	2.9	ug/L		03/13/24 11:36	03/14/24 20:38	1
Dibenzofuran	ND		10	4.1	ug/L		03/13/24 11:36	03/14/24 20:38	1
3,3'-Dichlorobenzidine	ND	*1	11	11	ug/L		03/13/24 11:36	03/14/24 20:38	1
2,4-Dichlorophenol	ND		10	4.4	ug/L		03/13/24 11:36	03/14/24 20:38	1
Diethyl phthalate	ND		10	4.6	ug/L		03/13/24 11:36	03/14/24 20:38	1
2,4-Dimethylphenol	ND		10	5.4	ug/L		03/13/24 11:36	03/14/24 20:38	1
Dimethyl phthalate	ND		10	4.3	ug/L		03/13/24 11:36	03/14/24 20:38	1
Di-n-butyl phthalate	ND		10	4.8	ug/L		03/13/24 11:36	03/14/24 20:38	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		03/13/24 11:36	03/14/24 20:38	1
2,4-Dinitrophenol	ND	*1	31	4.8	ug/L		03/13/24 11:36	03/14/24 20:38	1
2,4-Dinitrotoluene	ND		10	5.3	ug/L		03/13/24 11:36	03/14/24 20:38	1
2,6-Dinitrotoluene	ND		10	4.0	ug/L		03/13/24 11:36	03/14/24 20:38	1
Di-n-octyl phthalate	ND		10	6.2	ug/L		03/13/24 11:36	03/14/24 20:38	1
1,4-Dioxane	ND		10	4.4	ug/L		03/13/24 11:36	03/14/24 20:38	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.4	ug/L		03/13/24 11:36	03/14/24 20:38	1
Hexachlorobenzene	ND		10	10	ug/L		03/13/24 11:36	03/14/24 20:38	1
Hexachlorocyclopentadiene	ND		21	4.7	ug/L		03/13/24 11:36	03/14/24 20:38	1
Hexachloroethane	ND		10	5.4	ug/L		03/13/24 11:36	03/14/24 20:38	1
Indene	ND		10	3.7	ug/L		03/13/24 11:36	03/14/24 20:38	1
Isophorone	ND		10	5.4	ug/L		03/13/24 11:36	03/14/24 20:38	1
2-Methylphenol	ND		10	3.3	ug/L		03/13/24 11:36	03/14/24 20:38	1
3 & 4 Methylphenol	ND		21	4.8	ug/L		03/13/24 11:36	03/14/24 20:38	1
2-Nitroaniline	ND		10	5.2	ug/L		03/13/24 11:36	03/14/24 20:38	1
3-Nitroaniline	ND		10	4.9	ug/L		03/13/24 11:36	03/14/24 20:38	1
4-Nitroaniline	ND		10	4.2	ug/L		03/13/24 11:36	03/14/24 20:38	1
Nitrobenzene	ND		10	4.9	ug/L		03/13/24 11:36	03/14/24 20:38	1
2-Nitrophenol	ND		10	4.8	ug/L		03/13/24 11:36	03/14/24 20:38	1
4-Nitrophenol	ND		10	3.4	ug/L		03/13/24 11:36	03/14/24 20:38	1
N-Nitrosodimethylamine	ND		10	2.3	ug/L		03/13/24 11:36	03/14/24 20:38	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: P93A-ROX-030624**

**Lab Sample ID: 400-252332-12**

**Date Collected: 03/06/24 11:40**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	2.6	ug/L		03/13/24 11:36	03/14/24 20:38	1
N-Nitrosodiphenylamine	ND		10	3.8	ug/L		03/13/24 11:36	03/14/24 20:38	1
Pentachlorophenol	ND		21	12	ug/L		03/13/24 11:36	03/14/24 20:38	1
Phenol	ND		10	4.3	ug/L		03/13/24 11:36	03/14/24 20:38	1
Pyridine	ND		10	10	ug/L		03/13/24 11:36	03/14/24 20:38	1
Quinoline	ND		10	2.5	ug/L		03/13/24 11:36	03/14/24 20:38	1
2,4,5-Trichlorophenol	ND		10	4.1	ug/L		03/13/24 11:36	03/14/24 20:38	1
2,4,6-Trichlorophenol	ND		10	3.6	ug/L		03/13/24 11:36	03/14/24 20:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	85		21 - 114	03/13/24 11:36	03/14/24 20:38	1
2-Fluorophenol	48		10 - 105	03/13/24 11:36	03/14/24 20:38	1
Nitrobenzene-d5	64		16 - 127	03/13/24 11:36	03/14/24 20:38	1
Phenol-d5	37		10 - 129	03/13/24 11:36	03/14/24 20:38	1
Terphenyl-d14	102		13 - 150	03/13/24 11:36	03/14/24 20:38	1
2,4,6-Tribromophenol	115		10 - 150	03/13/24 11:36	03/14/24 20:38	1

**Method: EPA 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	0.017	ug/L		03/13/24 09:28	03/13/24 21:13	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/13/24 09:28	03/13/24 21:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	80		51 - 149	03/13/24 09:28	03/13/24 21:13	1



# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: P93C-ROX-030624**

**Lab Sample ID: 400-252332-13**

**Date Collected: 03/06/24 12:25**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		130000	50000	ug/L			03/18/24 13:39	5000
Acrolein	ND	UJ	100000	17000	ug/L			03/18/24 13:39	5000
Acrylonitrile	ND	UJ	50000	14000	ug/L			03/18/24 13:39	5000
Bromobenzene	ND	UJ	5000	2700	ug/L			03/18/24 13:39	5000
Bromochloromethane	ND	UJ	5000	1100	ug/L			03/18/24 13:39	5000
Bromodichloromethane	ND	UJ	5000	2500	ug/L			03/18/24 13:39	5000
Bromoform	ND	UJ	25000	1300	ug/L			03/18/24 13:39	5000
Bromomethane	ND	UJ	5000	4900	ug/L			03/18/24 13:39	5000
2-Butanone (MEK)	ND	UJ	130000	13000	ug/L			03/18/24 13:39	5000
Carbon disulfide	ND	UJ	5000	2500	ug/L			03/18/24 13:39	5000
Carbon tetrachloride	ND	UJ	5000	950	ug/L			03/18/24 13:39	5000
Chlorobenzene	ND	UJ	5000	4500	ug/L			03/18/24 13:39	5000
Chloroethane	ND	UJ	5000	3800	ug/L			03/18/24 13:39	5000
2-Chloroethyl vinyl ether	ND	UJ	25000	10000	ug/L			03/18/24 13:39	5000
Chloroform	ND	UJ	5000	4500	ug/L			03/18/24 13:39	5000
1-Chlorohexane	ND	UJ	5000	1600	ug/L			03/18/24 13:39	5000
Chloromethane	ND	UJ	5000	4500	ug/L			03/18/24 13:39	5000
cis-1,2-Dichloroethene	ND	UJ	5000	1000	ug/L			03/18/24 13:39	5000
cis-1,3-Dichloropropene	ND	UJ	25000	2500	ug/L			03/18/24 13:39	5000
Dibromochloromethane	ND	UJ	5000	1200	ug/L			03/18/24 13:39	5000
1,2-Dichlorobenzene	ND	UJ	5000	2500	ug/L			03/18/24 13:39	5000
1,3-Dichlorobenzene	ND	UJ	5000	2700	ug/L			03/18/24 13:39	5000
1,4-Dichlorobenzene	ND	UJ	5000	3200	ug/L			03/18/24 13:39	5000
Dichlorodifluoromethane	ND	UJ	5000	4300	ug/L			03/18/24 13:39	5000
1,1-Dichloroethane	ND	UJ	5000	2500	ug/L			03/18/24 13:39	5000
1,2-Dichloroethane	ND	UJ	5000	950	ug/L			03/18/24 13:39	5000
1,1-Dichloroethene	ND	UJ	5000	2500	ug/L			03/18/24 13:39	5000
1,2-Dichloropropane	ND	UJ	5000	2500	ug/L			03/18/24 13:39	5000
1,3-Dichloropropane	ND	UJ	5000	2500	ug/L			03/18/24 13:39	5000
2,2-Dichloropropane	ND	UJ	5000	2500	ug/L			03/18/24 13:39	5000
1,1-Dichloropropene	ND	UJ	5000	2500	ug/L			03/18/24 13:39	5000
Ethylbenzene	ND	UJ	5000	2500	ug/L			03/18/24 13:39	5000
Ethyl methacrylate	ND	UJ	5000	3000	ug/L			03/18/24 13:39	5000
Hexachlorobutadiene	ND	UJ	25000	4500	ug/L			03/18/24 13:39	5000
2-Hexanone	ND	UJ	130000	7000	ug/L			03/18/24 13:39	5000
Isopropylbenzene	ND	UJ	5000	2700	ug/L			03/18/24 13:39	5000
Methylene bromide	ND	UJ	25000	1100	ug/L			03/18/24 13:39	5000
Methylene Chloride	ND	UJ	25000	15000	ug/L			03/18/24 13:39	5000
4-Methyl-2-pentanone (MIBK)	ND	UJ	130000	9000	ug/L			03/18/24 13:39	5000
Methyl tert-butyl ether	ND	UJ	5000	1100	ug/L			03/18/24 13:39	5000
m-Xylene & p-Xylene	ND	UJ	25000	3200	ug/L			03/18/24 13:39	5000
Naphthalene	ND	UJ	25000	15000	ug/L			03/18/24 13:39	5000
n-Butylbenzene	ND	UJ	5000	3800	ug/L			03/18/24 13:39	5000
N-Propylbenzene	ND	UJ	5000	3500	ug/L			03/18/24 13:39	5000
o-Chlorotoluene	ND	UJ	5000	2900	ug/L			03/18/24 13:39	5000
o-Xylene	ND	UJ	25000	3000	ug/L			03/18/24 13:39	5000
p-Chlorotoluene	ND	UJ	5000	2800	ug/L			03/18/24 13:39	5000
p-Isopropyltoluene	ND	UJ	5000	3600	ug/L			03/18/24 13:39	5000
sec-Butylbenzene	ND	UJ	5000	3500	ug/L			03/18/24 13:39	5000

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: P93C-ROX-030624**

**Lab Sample ID: 400-252332-13**

Date Collected: 03/06/24 12:25

Matrix: Water

Date Received: 03/08/24 09:44

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND	UJ	5000	5000	ug/L			03/18/24 13:39	5000
tert-Butylbenzene	ND	UJ	5000	3200	ug/L			03/18/24 13:39	5000
1,1,1,2-Tetrachloroethane	ND	UJ	5000	800	ug/L			03/18/24 13:39	5000
1,1,1,2,2-Tetrachloroethane	ND	UJ	5000	2500	ug/L			03/18/24 13:39	5000
Tetrachloroethene	ND	UJ	5000	4500	ug/L			03/18/24 13:39	5000
Toluene	ND	UJ	5000	4500	ug/L			03/18/24 13:39	5000
trans-1,2-Dichloroethene	ND	UJ	5000	2500	ug/L			03/18/24 13:39	5000
trans-1,3-Dichloropropene	ND	UJ	25000	1000	ug/L			03/18/24 13:39	5000
1,2,3-Trichlorobenzene	ND	UJ	5000	4500	ug/L			03/18/24 13:39	5000
1,2,4-Trichlorobenzene	ND	UJ	5000	4100	ug/L			03/18/24 13:39	5000
1,1,1-Trichloroethane	ND	UJ	5000	900	ug/L			03/18/24 13:39	5000
1,1,2-Trichloroethane	ND	UJ	25000	1100	ug/L			03/18/24 13:39	5000
Trichloroethene	ND	UJ	5000	750	ug/L			03/18/24 13:39	5000
Trichlorofluoromethane	ND	UJ	5000	2600	ug/L			03/18/24 13:39	5000
1,2,3-Trichloropropane	ND	UJ	25000	4200	ug/L			03/18/24 13:39	5000
1,2,4-Trimethylbenzene	ND	UJ	5000	4100	ug/L			03/18/24 13:39	5000
1,3,5-Trimethylbenzene	ND	UJ	5000	2800	ug/L			03/18/24 13:39	5000
Vinyl acetate	ND	UJ	130000	4700	ug/L			03/18/24 13:39	5000
Vinyl chloride	ND	UJ	5000	2500	ug/L			03/18/24 13:39	5000
Xylenes, Total	ND	UJ	50000	8000	ug/L			03/18/24 13:39	5000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107		72 - 130		03/18/24 13:39	5000
Dibromofluoromethane	103		75 - 126		03/18/24 13:39	5000
Toluene-d8 (Surr)	101		64 - 132		03/18/24 13:39	5000

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Benzene</b>	<b>2400000</b>		10000	5000	ug/L			03/18/24 16:19	10000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	106		72 - 130		03/18/24 16:19	10000
Dibromofluoromethane	107		75 - 126		03/18/24 16:19	10000
Toluene-d8 (Surr)	99		64 - 132		03/18/24 16:19	10000

## Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.21	0.10	ug/L		03/13/24 11:36	03/14/24 15:46	1
Acenaphthylene	ND		0.21	0.045	ug/L		03/13/24 11:36	03/14/24 15:46	1
Anthracene	ND		0.21	0.049	ug/L		03/13/24 11:36	03/14/24 15:46	1
<b>Benzo[a]anthracene</b>	<b>0.036</b>	<b>J</b>	0.21	0.035	ug/L		03/13/24 11:36	03/14/24 15:46	1
Benzo[a]pyrene	ND		0.21	0.066	ug/L		03/13/24 11:36	03/14/24 15:46	1
Benzo[b]fluoranthene	ND		0.21	0.038	ug/L		03/13/24 11:36	03/14/24 15:46	1
Benzo[g,h,i]perylene	ND		0.21	0.028	ug/L		03/13/24 11:36	03/14/24 15:46	1
Benzo[k]fluoranthene	ND		0.21	0.064	ug/L		03/13/24 11:36	03/14/24 15:46	1
<b>Chrysene</b>	<b>0.041</b>	<b>J</b>	0.21	0.034	ug/L		03/13/24 11:36	03/14/24 15:46	1
Dibenz(a,h)anthracene	ND		0.21	0.050	ug/L		03/13/24 11:36	03/14/24 15:46	1
<b>Fluoranthene</b>	<b>0.043</b>	<b>J</b>	0.21	0.035	ug/L		03/13/24 11:36	03/14/24 15:46	1
Fluorene	ND		0.21	0.092	ug/L		03/13/24 11:36	03/14/24 15:46	1
Indeno[1,2,3-cd]pyrene	ND		0.21	0.035	ug/L		03/13/24 11:36	03/14/24 15:46	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: P93C-ROX-030624**

**Lab Sample ID: 400-252332-13**

Date Collected: 03/06/24 12:25

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	ND		0.21	0.093	ug/L		03/13/24 11:36	03/14/24 15:46	1
Pyrene	ND		0.21	0.040	ug/L		03/13/24 11:36	03/14/24 15:46	1
1-Methylnaphthalene	ND		0.21	0.083	ug/L		03/13/24 11:36	03/14/24 15:46	1
2-Methylnaphthalene	ND		0.21	0.068	ug/L		03/13/24 11:36	03/14/24 15:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	47		18 - 147				03/13/24 11:36	03/14/24 15:46	1
2-Fluorobiphenyl	33		15 - 128				03/13/24 11:36	03/14/24 15:46	1
Nitrobenzene-d5	22		10 - 144				03/13/24 11:36	03/14/24 15:46	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	9.0	ug/L		03/13/24 11:36	03/14/24 21:05	1
Benzenethiol	ND		10	10	ug/L		03/13/24 11:36	03/14/24 21:05	1
Benzoic acid	ND		31	25	ug/L		03/13/24 11:36	03/14/24 21:05	1
Benzyl alcohol	ND		10	7.5	ug/L		03/13/24 11:36	03/14/24 21:05	1
Bis(2-chloroethoxy)methane	ND		10	4.8	ug/L		03/13/24 11:36	03/14/24 21:05	1
Bis(2-chloroethyl)ether	ND		10	4.0	ug/L		03/13/24 11:36	03/14/24 21:05	1
bis (2-chloroisopropyl) ether	ND		10	1.9	ug/L		03/13/24 11:36	03/14/24 21:05	1
Bis(2-ethylhexyl) phthalate	ND	*1	10	9.2	ug/L		03/13/24 11:36	03/14/24 21:05	1
4-Bromophenyl phenyl ether	ND		10	8.9	ug/L		03/13/24 11:36	03/14/24 21:05	1
Butyl benzyl phthalate	ND	*1	10	6.0	ug/L		03/13/24 11:36	03/14/24 21:05	1
4-Chloroaniline	ND		10	4.9	ug/L		03/13/24 11:36	03/14/24 21:05	1
4-Chloro-3-methylphenol	ND		10	5.5	ug/L		03/13/24 11:36	03/14/24 21:05	1
2-Chloronaphthalene	ND		10	3.9	ug/L		03/13/24 11:36	03/14/24 21:05	1
2-Chlorophenol	ND		10	4.2	ug/L		03/13/24 11:36	03/14/24 21:05	1
4-Chlorophenyl phenyl ether	ND		10	3.8	ug/L		03/13/24 11:36	03/14/24 21:05	1
Dibenz[a,h]acridine	ND		10	2.9	ug/L		03/13/24 11:36	03/14/24 21:05	1
Dibenzofuran	ND		10	4.1	ug/L		03/13/24 11:36	03/14/24 21:05	1
3,3'-Dichlorobenzidine	ND	*1	11	11	ug/L		03/13/24 11:36	03/14/24 21:05	1
2,4-Dichlorophenol	ND		10	4.4	ug/L		03/13/24 11:36	03/14/24 21:05	1
Diethyl phthalate	ND		10	4.5	ug/L		03/13/24 11:36	03/14/24 21:05	1
2,4-Dimethylphenol	ND		10	5.4	ug/L		03/13/24 11:36	03/14/24 21:05	1
Dimethyl phthalate	ND		10	4.3	ug/L		03/13/24 11:36	03/14/24 21:05	1
Di-n-butyl phthalate	ND		10	4.8	ug/L		03/13/24 11:36	03/14/24 21:05	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		03/13/24 11:36	03/14/24 21:05	1
2,4-Dinitrophenol	ND	*1	31	4.8	ug/L		03/13/24 11:36	03/14/24 21:05	1
2,4-Dinitrotoluene	ND		10	5.3	ug/L		03/13/24 11:36	03/14/24 21:05	1
2,6-Dinitrotoluene	ND		10	4.0	ug/L		03/13/24 11:36	03/14/24 21:05	1
Di-n-octyl phthalate	ND		10	6.2	ug/L		03/13/24 11:36	03/14/24 21:05	1
1,4-Dioxane	ND		10	4.4	ug/L		03/13/24 11:36	03/14/24 21:05	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.4	ug/L		03/13/24 11:36	03/14/24 21:05	1
Hexachlorobenzene	ND		10	10	ug/L		03/13/24 11:36	03/14/24 21:05	1
Hexachlorocyclopentadiene	ND		21	4.7	ug/L		03/13/24 11:36	03/14/24 21:05	1
Hexachloroethane	ND		10	5.4	ug/L		03/13/24 11:36	03/14/24 21:05	1
Indene	ND		10	3.7	ug/L		03/13/24 11:36	03/14/24 21:05	1
Isophorone	ND		10	5.4	ug/L		03/13/24 11:36	03/14/24 21:05	1
2-Methylphenol	ND		10	3.3	ug/L		03/13/24 11:36	03/14/24 21:05	1
3 & 4 Methylphenol	ND		21	4.8	ug/L		03/13/24 11:36	03/14/24 21:05	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: P93C-ROX-030624**

**Lab Sample ID: 400-252332-13**

Date Collected: 03/06/24 12:25

Matrix: Water

Date Received: 03/08/24 09:44

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		10	5.2	ug/L		03/13/24 11:36	03/14/24 21:05	1
3-Nitroaniline	ND		10	4.9	ug/L		03/13/24 11:36	03/14/24 21:05	1
4-Nitroaniline	ND		10	4.2	ug/L		03/13/24 11:36	03/14/24 21:05	1
Nitrobenzene	ND		10	4.9	ug/L		03/13/24 11:36	03/14/24 21:05	1
2-Nitrophenol	ND		10	4.8	ug/L		03/13/24 11:36	03/14/24 21:05	1
4-Nitrophenol	ND		10	3.4	ug/L		03/13/24 11:36	03/14/24 21:05	1
N-Nitrosodimethylamine	ND		10	2.3	ug/L		03/13/24 11:36	03/14/24 21:05	1
N-Nitrosodi-n-propylamine	ND		10	2.6	ug/L		03/13/24 11:36	03/14/24 21:05	1
N-Nitrosodiphenylamine	ND		10	3.8	ug/L		03/13/24 11:36	03/14/24 21:05	1
Pentachlorophenol	ND		21	12	ug/L		03/13/24 11:36	03/14/24 21:05	1
<b>Phenol</b>	<b>42</b>		10	4.3	ug/L		03/13/24 11:36	03/14/24 21:05	1
Pyridine	ND		10	10	ug/L		03/13/24 11:36	03/14/24 21:05	1
Quinoline	ND		10	2.5	ug/L		03/13/24 11:36	03/14/24 21:05	1
2,4,5-Trichlorophenol	ND		10	4.1	ug/L		03/13/24 11:36	03/14/24 21:05	1
2,4,6-Trichlorophenol	ND		10	3.6	ug/L		03/13/24 11:36	03/14/24 21:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	53		21 - 114				03/13/24 11:36	03/14/24 21:05	1
2-Fluorophenol	30		10 - 105				03/13/24 11:36	03/14/24 21:05	1
Nitrobenzene-d5	36		16 - 127				03/13/24 11:36	03/14/24 21:05	1
Phenol-d5	25		10 - 129				03/13/24 11:36	03/14/24 21:05	1
Terphenyl-d14	65		13 - 150				03/13/24 11:36	03/14/24 21:05	1
2,4,6-Tribromophenol	77		10 - 150				03/13/24 11:36	03/14/24 21:05	1

**Method: EPA 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	0.017	ug/L		03/13/24 09:28	03/13/24 21:56	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/13/24 09:28	03/13/24 21:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	60		51 - 149				03/13/24 09:28	03/13/24 21:56	1

# Definitions/Glossary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control 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
*1	LCS/LCSD RPD exceeds control 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.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

# Surrogate Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (72-130)	DBFM (75-126)	TOL (64-132)
400-252332-1	TB-ROX-030624-8260-A	98	103	92
400-252332-1 - RA	TB-ROX-030624-8260-A	100	105	92
400-252332-3	MW13-ROX-030624	98	104	94
400-252332-3 - RA	MW13-ROX-030624	99	102	93
400-252332-4	P114R-ROX-030624	98	104	93
400-252332-4 - RA	P114R-ROX-030624	99	102	92
400-252332-5	MW12-ROX-030624-EB	97	103	93
400-252332-6	MW12-ROX-030624	98	103	93
400-252332-7	ROST4PZE-ROX-030624	100	103	98
400-252332-7 - RA	ROST4PZE-ROX-030624	98	101	95
400-252332-7 MS	ROST4PZE-ROX-030624	97	100	96
400-252332-7 MSD	ROST4PZE-ROX-030624	97	102	94
400-252332-8	TB-ROX-030624-8260-B	98	103	94
400-252332-8 - RA	TB-ROX-030624-8260-B	98	104	92
400-252332-10	MW6B-ROX-030624	99	105	94
400-252332-10 - RA	MW6B-ROX-030624	99	104	92
400-252332-11	P56-ROX-030624	98	103	95
400-252332-12	P93A-ROX-030624	99	106	96
400-252332-13	P93C-ROX-030624	107	103	101
400-252332-13 - DL	P93C-ROX-030624	106	107	99
LCS 400-664107/1002	Lab Control Sample	97	103	95
LCS 400-664271/1002	Lab Control Sample	97	103	97
LCS 400-664447/1002	Lab Control Sample	94	104	94
LCS 400-664766/1002	Lab Control Sample	108	101	100
LCS 400-664902/1002	Lab Control Sample	97	104	97
MB 400-664107/4	Method Blank	98	103	95
MB 400-664271/4	Method Blank	99	102	94
MB 400-664447/51	Method Blank	98	104	92
MB 400-664766/15	Method Blank	107	114	99
MB 400-664902/5	Method Blank	100	105	95

### Surrogate Legend

BFB = 4-Bromofluorobenzene  
DBFM = Dibromofluoromethane  
TOL = Toluene-d8 (Surr)

## Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (21-114)	2FP (10-105)	NBZ (16-127)	PHL (10-129)	TPHL (13-150)	TBP (10-150)
400-252332-3	MW13-ROX-030624	74	41	54	32	82	94
400-252332-4	P114R-ROX-030624	78	41	56	31	81	105
400-252332-5	MW12-ROX-030624-EB	83	47	63	35	94	114
400-252332-6	MW12-ROX-030624	64	30	47	21	78	84
400-252332-7	ROST4PZE-ROX-030624	79	40	56	30	80	101
400-252332-10	MW6B-ROX-030624	67	37	47	28	76	92
400-252332-11	P56-ROX-030624	63	36	46	28	72	88
400-252332-12	P93A-ROX-030624	85	48	64	37	102	115

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# Surrogate Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (21-114)	2FP (10-105)	NBZ (16-127)	PHL (10-129)	TPHL (13-150)	TBP (10-150)
400-252332-13	P93C-ROX-030624	53	30	36	25	65	77
LCS 400-664310/2-A	Lab Control Sample	66	44	54	37	75	89
LCS 400-664310/4-A	Lab Control Sample	83	49	59	38	102	116
LCSD 400-664310/3-A	Lab Control Sample Dup	85	55	70	47	96	121
LCSD 400-664310/5-A	Lab Control Sample Dup	82	49	62	38	104	112
MB 400-664310/1-A	Method Blank	70	37	55	26	91	94

### Surrogate Legend

FBP = 2-Fluorobiphenyl  
2FP = 2-Fluorophenol  
NBZ = Nitrobenzene-d5  
PHL = Phenol-d5  
TPHL = Terphenyl-d14  
TBP = 2,4,6-Tribromophenol

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TPHL (18-147)	FBP (15-128)	NBZ (10-144)
400-252332-3	MW13-ROX-030624	53	38	44
400-252332-4	P114R-ROX-030624	63	57	41
400-252332-5	MW12-ROX-030624-EB	79	63	52
400-252332-6	MW12-ROX-030624	78	55	41
400-252332-7	ROST4PZE-ROX-030624	59	55	49
400-252332-10	MW6B-ROX-030624	58	52	41
400-252332-11	P56-ROX-030624	69	44	43
400-252332-12	P93A-ROX-030624	62	55	45
400-252332-13	P93C-ROX-030624	47	33	22
LCS 400-664310/2-A	Lab Control Sample	57	56	37
LCSD 400-664310/3-A	Lab Control Sample Dup	78	75	47
MB 400-664310/1-A	Method Blank	77	56	54

### 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)
		BFB1 (51-149)
400-252332-2	TB-ROX-030624-8011-A	93
400-252332-3	MW13-ROX-030624	82
400-252332-4	P114R-ROX-030624	82
400-252332-5	MW12-ROX-030624-EB	98
400-252332-6	MW12-ROX-030624	77
400-252332-7	ROST4PZE-ROX-030624	85
400-252332-9	TB-ROX-030624-8011-B	85

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# Surrogate Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**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	BFB1 (51-149)
400-252332-10	MW6B-ROX-030624	81
400-252332-11	P56-ROX-030624	95
400-252332-12	P93A-ROX-030624	80
400-252332-13	P93C-ROX-030624	60
LCS 400-664151/2-A	Lab Control Sample	64
LCS 400-664279/2-A	Lab Control Sample	70
LCSD 400-664151/3-A	Lab Control Sample Dup	57
LCSD 400-664279/3-A	Lab Control Sample Dup	75
MB 400-664151/1-A	Method Blank	77
MB 400-664279/1-A	Method Blank	72

### Surrogate Legend

BFB = 4-Bromofluorobenzene

# Method Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET PEN
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET PEN
8270E SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	EET PEN
8011	EDB and DBCP in Water by Microextraction	EPA	EET PEN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET PEN
5030C	Purge and Trap	SW846	EET PEN
8011	Microextraction	SW846	EET 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:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: TB-ROX-030624-8260-A**

**Lab Sample ID: 400-252332-1**

**Date Collected: 03/06/24 12:00**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	664107	03/12/24 19:40	KR	EET PEN
Total/NA	Analysis	8260D	RA	1	5 mL	5 mL	664447	03/14/24 12:42	CH	EET PEN

**Client Sample ID: TB-ROX-030624-8011-A**

**Lab Sample ID: 400-252332-2**

**Date Collected: 03/06/24 12:00**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			35.6 mL	35 mL	664151	03/12/24 11:21	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 06:20	PG	EET PEN

**Client Sample ID: MW13-ROX-030624**

**Lab Sample ID: 400-252332-3**

**Date Collected: 03/06/24 09:45**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	664271	03/13/24 14:22	CH	EET PEN
Total/NA	Analysis	8260D	RA	1	5 mL	5 mL	664447	03/14/24 13:09	CH	EET PEN
Total/NA	Prep	3510C			257.6 mL	1 mL	664310	03/13/24 11:36	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664465	03/14/24 17:28	VC1	EET PEN
Total/NA	Prep	3510C			257.6 mL	1 mL	664310	03/13/24 11:36	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	664473	03/14/24 13:01	TH	EET PEN
Total/NA	Prep	8011			34.3 mL	35 mL	664151	03/12/24 11:21	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 06:41	PG	EET PEN

**Client Sample ID: P114R-ROX-030624**

**Lab Sample ID: 400-252332-4**

**Date Collected: 03/06/24 11:00**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	664271	03/13/24 14:50	CH	EET PEN
Total/NA	Analysis	8260D	RA	1	5 mL	5 mL	664447	03/14/24 13:36	CH	EET PEN
Total/NA	Prep	3510C			252 mL	1 mL	664310	03/13/24 11:36	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664465	03/14/24 17:55	VC1	EET PEN
Total/NA	Prep	3510C			252 mL	1 mL	664310	03/13/24 11:36	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	664473	03/14/24 13:22	TH	EET PEN
Total/NA	Prep	8011			35.1 mL	35 mL	664151	03/12/24 11:21	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 07:01	PG	EET PEN

**Client Sample ID: MW12-ROX-030624-EB**

**Lab Sample ID: 400-252332-5**

**Date Collected: 03/06/24 12:00**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	664271	03/13/24 15:17	CH	EET PEN

Eurofins Pensacola

# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: MW12-ROX-030624-EB**

**Lab Sample ID: 400-252332-5**

**Date Collected: 03/06/24 12:00**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			258 mL	1 mL	664310	03/13/24 11:36	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664465	03/14/24 18:22	VC1	EET PEN
Total/NA	Prep	3510C			258 mL	1 mL	664310	03/13/24 11:36	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	664473	03/14/24 13:42	TH	EET PEN
Total/NA	Prep	8011			34.8 mL	35 mL	664151	03/12/24 11:21	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 07:43	PG	EET PEN

**Client Sample ID: MW12-ROX-030624**

**Lab Sample ID: 400-252332-6**

**Date Collected: 03/06/24 13:00**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	664271	03/13/24 15:44	CH	EET PEN
Total/NA	Prep	3510C			257.2 mL	1 mL	664310	03/13/24 11:36	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664465	03/14/24 18:50	VC1	EET PEN
Total/NA	Prep	3510C			257.2 mL	1 mL	664310	03/13/24 11:36	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	664473	03/14/24 14:03	TH	EET PEN
Total/NA	Prep	8011			35.5 mL	35 mL	664151	03/12/24 11:21	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 08:04	PG	EET PEN

**Client Sample ID: ROST4PZE-ROX-030624**

**Lab Sample ID: 400-252332-7**

**Date Collected: 03/06/24 14:00**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	664271	03/13/24 11:40	CH	EET PEN
Total/NA	Analysis	8260D	RA	1	5 mL	5 mL	664447	03/14/24 14:03	CH	EET PEN
Total/NA	Prep	3510C			257.2 mL	1 mL	664310	03/13/24 11:36	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664465	03/14/24 19:17	VC1	EET PEN
Total/NA	Prep	3510C			257.2 mL	1 mL	664310	03/13/24 11:36	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	664473	03/14/24 14:23	TH	EET PEN
Total/NA	Prep	8011			34.8 mL	35 mL	664151	03/12/24 11:21	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 08:24	PG	EET PEN

**Client Sample ID: TB-ROX-030624-8260-B**

**Lab Sample ID: 400-252332-8**

**Date Collected: 03/06/24 12:00**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	664271	03/13/24 16:11	CH	EET PEN
Total/NA	Analysis	8260D	RA	1	5 mL	5 mL	664447	03/14/24 16:45	CH	EET PEN

# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: TB-ROX-030624-8011-B**

**Lab Sample ID: 400-252332-9**

Date Collected: 03/06/24 12:00

Matrix: Water

Date Received: 03/08/24 09:44

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			34.3 mL	35 mL	664151	03/12/24 11:21	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 08:45	PG	EET PEN

**Client Sample ID: MW6B-ROX-030624**

**Lab Sample ID: 400-252332-10**

Date Collected: 03/06/24 09:20

Matrix: Water

Date Received: 03/08/24 09:44

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	664271	03/13/24 16:38	CH	EET PEN
Total/NA	Analysis	8260D	RA	1	5 mL	5 mL	664447	03/14/24 17:12	CH	EET PEN
Total/NA	Prep	3510C			239.8 mL	1 mL	664310	03/13/24 11:36	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664465	03/14/24 19:44	VC1	EET PEN
Total/NA	Prep	3510C			239.8 mL	1 mL	664310	03/13/24 11:36	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	664473	03/14/24 14:44	TH	EET PEN
Total/NA	Prep	8011			35.1 mL	35 mL	664151	03/12/24 11:21	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 09:06	PG	EET PEN

**Client Sample ID: P56-ROX-030624**

**Lab Sample ID: 400-252332-11**

Date Collected: 03/06/24 10:40

Matrix: Water

Date Received: 03/08/24 09:44

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	664902	03/19/24 10:23	WPD	EET PEN
Total/NA	Prep	3510C			242.2 mL	1 mL	664310	03/13/24 11:36	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664465	03/14/24 20:11	VC1	EET PEN
Total/NA	Prep	3510C			242.2 mL	1 mL	664310	03/13/24 11:36	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	664473	03/14/24 15:05	TH	EET PEN
Total/NA	Prep	8011			35 mL	35 mL	664151	03/12/24 11:21	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 09:27	PG	EET PEN

**Client Sample ID: P93A-ROX-030624**

**Lab Sample ID: 400-252332-12**

Date Collected: 03/06/24 11:40

Matrix: Water

Date Received: 03/08/24 09:44

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	664902	03/19/24 10:47	WPD	EET PEN
Total/NA	Prep	3510C			241.6 mL	1 mL	664310	03/13/24 11:36	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664465	03/14/24 20:38	VC1	EET PEN
Total/NA	Prep	3510C			241.6 mL	1 mL	664310	03/13/24 11:36	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	664473	03/14/24 15:25	TH	EET PEN
Total/NA	Prep	8011			34.7 mL	35 mL	664279	03/13/24 09:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 21:13	PG	EET PEN

# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: P93C-ROX-030624**

**Lab Sample ID: 400-252332-13**

**Date Collected: 03/06/24 12:25**

**Matrix: Water**

**Date Received: 03/08/24 09:44**

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		5000	5 mL	5 mL	664766	03/18/24 13:39	BPO	EET PEN
Total/NA	Analysis	8260D	DL	10000	5 mL	5 mL	664766	03/18/24 16:19	BPO	EET PEN
Total/NA	Prep	3510C			241.8 mL	1 mL	664310	03/13/24 11:36	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664465	03/14/24 21:05	VC1	EET PEN
Total/NA	Prep	3510C			241.8 mL	1 mL	664310	03/13/24 11:36	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	664473	03/14/24 15:46	TH	EET PEN
Total/NA	Prep	8011			34.5 mL	35 mL	664279	03/13/24 09:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 21:56	PG	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-664107/4**

**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	8260D		1	5 mL	5 mL	664107	03/12/24 10:39	KR	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-664151/1-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	664151	03/12/24 11:21	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 15:10	PG	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-664271/4**

**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	8260D		1	5 mL	5 mL	664271	03/13/24 13:28	CH	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-664279/1-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	664279	03/13/24 09:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 18:00	PG	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-664310/1-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	3510C			250 mL	1 mL	664310	03/13/24 11:36	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664465	03/14/24 15:13	VC1	EET PEN

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# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-664310/1-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	3510C			250 mL	1 mL	664310	03/13/24 11:36	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	664333	03/13/24 19:13	VC1	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-664447/51**

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	8260D		1	5 mL	5 mL	664447	03/14/24 15:51	CH	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-664766/15**

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	8260D		1	5 mL	5 mL	664766	03/18/24 11:00	BPO	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-664902/5**

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	8260D		1	5 mL	5 mL	664902	03/19/24 09:10	WPD	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-664107/1002**

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	8260D		1	5 mL	5 mL	664107	03/12/24 08:56	KR	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-664151/2-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	664151	03/12/24 11:21	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 15:32	PG	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-664271/1002**

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	8260D		1	5 mL	5 mL	664271	03/13/24 09:36	CH	EET PEN

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# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-664279/2-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	664279	03/13/24 09:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 18:22	PG	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-664310/2-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	3510C			250 mL	1 mL	664310	03/13/24 11:36	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664465	03/14/24 15:40	VC1	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	664310	03/13/24 11:36	BAW	EET PEN
Total/NA	Analysis	8270E SIM		20	0.4 mL	0.4 mL	664333	03/13/24 19:34	VC1	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-664310/4-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	3510C			250 mL	1 mL	664310	03/13/24 11:36	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664465	03/14/24 16:34	VC1	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-664447/1002

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	8260D		1	5 mL	5 mL	664447	03/14/24 08:25	CH	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-664766/1002

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	8260D		1	5 mL	5 mL	664766	03/18/24 09:49	BPO	EET PEN

## Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 400-664902/1002

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	8260D		1	5 mL	5 mL	664902	03/19/24 07:57	WPD	EET PEN

# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-664151/3-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	664151	03/12/24 11:21	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 15:53	PG	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-664279/3-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	664279	03/13/24 09:28	PG	EET PEN
Total/NA	Analysis	8011		1			664136	03/13/24 18:43	PG	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-664310/3-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	3510C			250 mL	1 mL	664310	03/13/24 11:36	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664465	03/14/24 16:07	VC1	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	664310	03/13/24 11:36	BAW	EET PEN
Total/NA	Analysis	8270E SIM		20	0.4 mL	0.4 mL	664333	03/13/24 19:54	VC1	EET PEN

## Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 400-664310/5-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	3510C			250 mL	1 mL	664310	03/13/24 11:36	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664465	03/14/24 17:01	VC1	EET PEN

## Client Sample ID: ROST4PZE-ROX-030624

Lab Sample ID: 400-252332-7 MS

Date Collected: 03/06/24 14:00

Matrix: Water

Date Received: 03/08/24 09:44

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	664271	03/13/24 12:07	CH	EET PEN

## Client Sample ID: ROST4PZE-ROX-030624

Lab Sample ID: 400-252332-7 MSD

Date Collected: 03/06/24 14:00

Matrix: Water

Date Received: 03/08/24 09:44

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	664271	03/13/24 12:34	CH	EET PEN

### Laboratory References:

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

Eurofins Pensacola

# QC Association Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## GC/MS VOA

### Analysis Batch: 664107

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252332-1	TB-ROX-030624-8260-A	Total/NA	Water	8260D	
MB 400-664107/4	Method Blank	Total/NA	Water	8260D	
LCS 400-664107/1002	Lab Control Sample	Total/NA	Water	8260D	

### Analysis Batch: 664271

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252332-3	MW13-ROX-030624	Total/NA	Water	8260D	
400-252332-4	P114R-ROX-030624	Total/NA	Water	8260D	
400-252332-5	MW12-ROX-030624-EB	Total/NA	Water	8260D	
400-252332-6	MW12-ROX-030624	Total/NA	Water	8260D	
400-252332-7	ROST4PZE-ROX-030624	Total/NA	Water	8260D	
400-252332-8	TB-ROX-030624-8260-B	Total/NA	Water	8260D	
400-252332-10	MW6B-ROX-030624	Total/NA	Water	8260D	
MB 400-664271/4	Method Blank	Total/NA	Water	8260D	
LCS 400-664271/1002	Lab Control Sample	Total/NA	Water	8260D	
400-252332-7 MS	ROST4PZE-ROX-030624	Total/NA	Water	8260D	
400-252332-7 MSD	ROST4PZE-ROX-030624	Total/NA	Water	8260D	

### Analysis Batch: 664447

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252332-1 - RA	TB-ROX-030624-8260-A	Total/NA	Water	8260D	
400-252332-3 - RA	MW13-ROX-030624	Total/NA	Water	8260D	
400-252332-4 - RA	P114R-ROX-030624	Total/NA	Water	8260D	
400-252332-7 - RA	ROST4PZE-ROX-030624	Total/NA	Water	8260D	
400-252332-8 - RA	TB-ROX-030624-8260-B	Total/NA	Water	8260D	
400-252332-10 - RA	MW6B-ROX-030624	Total/NA	Water	8260D	
MB 400-664447/51	Method Blank	Total/NA	Water	8260D	
LCS 400-664447/1002	Lab Control Sample	Total/NA	Water	8260D	

### Analysis Batch: 664766

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252332-13	P93C-ROX-030624	Total/NA	Water	8260D	
400-252332-13 - DL	P93C-ROX-030624	Total/NA	Water	8260D	
MB 400-664766/15	Method Blank	Total/NA	Water	8260D	
LCS 400-664766/1002	Lab Control Sample	Total/NA	Water	8260D	

### Analysis Batch: 664902

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252332-11	P56-ROX-030624	Total/NA	Water	8260D	
400-252332-12	P93A-ROX-030624	Total/NA	Water	8260D	
MB 400-664902/5	Method Blank	Total/NA	Water	8260D	
LCS 400-664902/1002	Lab Control Sample	Total/NA	Water	8260D	

## GC/MS Semi VOA

### Prep Batch: 664310

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252332-3	MW13-ROX-030624	Total/NA	Water	3510C	
400-252332-4	P114R-ROX-030624	Total/NA	Water	3510C	
400-252332-5	MW12-ROX-030624-EB	Total/NA	Water	3510C	
400-252332-6	MW12-ROX-030624	Total/NA	Water	3510C	

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# QC Association Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## GC/MS Semi VOA (Continued)

### Prep Batch: 664310 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252332-7	ROST4PZE-ROX-030624	Total/NA	Water	3510C	
400-252332-10	MW6B-ROX-030624	Total/NA	Water	3510C	
400-252332-11	P56-ROX-030624	Total/NA	Water	3510C	
400-252332-12	P93A-ROX-030624	Total/NA	Water	3510C	
400-252332-13	P93C-ROX-030624	Total/NA	Water	3510C	
MB 400-664310/1-A	Method Blank	Total/NA	Water	3510C	
LCS 400-664310/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 400-664310/4-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 400-664310/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
LCSD 400-664310/5-A	Lab Control Sample Dup	Total/NA	Water	3510C	

### Analysis Batch: 664333

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 400-664310/1-A	Method Blank	Total/NA	Water	8270E SIM	664310
LCS 400-664310/2-A	Lab Control Sample	Total/NA	Water	8270E SIM	664310
LCSD 400-664310/3-A	Lab Control Sample Dup	Total/NA	Water	8270E SIM	664310

### Analysis Batch: 664465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252332-3	MW13-ROX-030624	Total/NA	Water	8270E	664310
400-252332-4	P114R-ROX-030624	Total/NA	Water	8270E	664310
400-252332-5	MW12-ROX-030624-EB	Total/NA	Water	8270E	664310
400-252332-6	MW12-ROX-030624	Total/NA	Water	8270E	664310
400-252332-7	ROST4PZE-ROX-030624	Total/NA	Water	8270E	664310
400-252332-10	MW6B-ROX-030624	Total/NA	Water	8270E	664310
400-252332-11	P56-ROX-030624	Total/NA	Water	8270E	664310
400-252332-12	P93A-ROX-030624	Total/NA	Water	8270E	664310
400-252332-13	P93C-ROX-030624	Total/NA	Water	8270E	664310
MB 400-664310/1-A	Method Blank	Total/NA	Water	8270E	664310
LCS 400-664310/2-A	Lab Control Sample	Total/NA	Water	8270E	664310
LCS 400-664310/4-A	Lab Control Sample	Total/NA	Water	8270E	664310
LCSD 400-664310/3-A	Lab Control Sample Dup	Total/NA	Water	8270E	664310
LCSD 400-664310/5-A	Lab Control Sample Dup	Total/NA	Water	8270E	664310

### Analysis Batch: 664473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252332-3	MW13-ROX-030624	Total/NA	Water	8270E SIM	664310
400-252332-4	P114R-ROX-030624	Total/NA	Water	8270E SIM	664310
400-252332-5	MW12-ROX-030624-EB	Total/NA	Water	8270E SIM	664310
400-252332-6	MW12-ROX-030624	Total/NA	Water	8270E SIM	664310
400-252332-7	ROST4PZE-ROX-030624	Total/NA	Water	8270E SIM	664310
400-252332-10	MW6B-ROX-030624	Total/NA	Water	8270E SIM	664310
400-252332-11	P56-ROX-030624	Total/NA	Water	8270E SIM	664310
400-252332-12	P93A-ROX-030624	Total/NA	Water	8270E SIM	664310
400-252332-13	P93C-ROX-030624	Total/NA	Water	8270E SIM	664310

## GC Semi VOA

### Analysis Batch: 664136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252332-2	TB-ROX-030624-8011-A	Total/NA	Water	8011	664151

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# QC Association Summary

Client: AECOM Technical Services Inc.  
 Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## GC Semi VOA (Continued)

### Analysis Batch: 664136 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252332-3	MW13-ROX-030624	Total/NA	Water	8011	664151
400-252332-4	P114R-ROX-030624	Total/NA	Water	8011	664151
400-252332-5	MW12-ROX-030624-EB	Total/NA	Water	8011	664151
400-252332-6	MW12-ROX-030624	Total/NA	Water	8011	664151
400-252332-7	ROST4PZE-ROX-030624	Total/NA	Water	8011	664151
400-252332-9	TB-ROX-030624-8011-B	Total/NA	Water	8011	664151
400-252332-10	MW6B-ROX-030624	Total/NA	Water	8011	664151
400-252332-11	P56-ROX-030624	Total/NA	Water	8011	664151
400-252332-12	P93A-ROX-030624	Total/NA	Water	8011	664279
400-252332-13	P93C-ROX-030624	Total/NA	Water	8011	664279
MB 400-664151/1-A	Method Blank	Total/NA	Water	8011	664151
MB 400-664279/1-A	Method Blank	Total/NA	Water	8011	664279
LCS 400-664151/2-A	Lab Control Sample	Total/NA	Water	8011	664151
LCS 400-664279/2-A	Lab Control Sample	Total/NA	Water	8011	664279
LCSD 400-664151/3-A	Lab Control Sample Dup	Total/NA	Water	8011	664151
LCSD 400-664279/3-A	Lab Control Sample Dup	Total/NA	Water	8011	664279

### Prep Batch: 664151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252332-2	TB-ROX-030624-8011-A	Total/NA	Water	8011	
400-252332-3	MW13-ROX-030624	Total/NA	Water	8011	
400-252332-4	P114R-ROX-030624	Total/NA	Water	8011	
400-252332-5	MW12-ROX-030624-EB	Total/NA	Water	8011	
400-252332-6	MW12-ROX-030624	Total/NA	Water	8011	
400-252332-7	ROST4PZE-ROX-030624	Total/NA	Water	8011	
400-252332-9	TB-ROX-030624-8011-B	Total/NA	Water	8011	
400-252332-10	MW6B-ROX-030624	Total/NA	Water	8011	
400-252332-11	P56-ROX-030624	Total/NA	Water	8011	
MB 400-664151/1-A	Method Blank	Total/NA	Water	8011	
LCS 400-664151/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 400-664151/3-A	Lab Control Sample Dup	Total/NA	Water	8011	

### Prep Batch: 664279

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252332-12	P93A-ROX-030624	Total/NA	Water	8011	
400-252332-13	P93C-ROX-030624	Total/NA	Water	8011	
MB 400-664279/1-A	Method Blank	Total/NA	Water	8011	
LCS 400-664279/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 400-664279/3-A	Lab Control Sample Dup	Total/NA	Water	8011	

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

**Lab Sample ID: MB 400-664107/4**  
**Matrix: Water**  
**Analysis Batch: 664107**

**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			03/12/24 10:39	1
Acrolein	ND		20	3.3	ug/L			03/12/24 10:39	1
Acrylonitrile	ND		10	2.8	ug/L			03/12/24 10:39	1
Benzene	ND		1.0	0.50	ug/L			03/12/24 10:39	1
Bromobenzene	ND		1.0	0.54	ug/L			03/12/24 10:39	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/12/24 10:39	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/12/24 10:39	1
Bromoform	ND		5.0	0.25	ug/L			03/12/24 10:39	1
Bromomethane	ND		1.0	0.98	ug/L			03/12/24 10:39	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/12/24 10:39	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/12/24 10:39	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/12/24 10:39	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/12/24 10:39	1
Chloroethane	ND		1.0	0.76	ug/L			03/12/24 10:39	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/12/24 10:39	1
Chloroform	ND		1.0	0.90	ug/L			03/12/24 10:39	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/12/24 10:39	1
Chloromethane	ND		1.0	0.90	ug/L			03/12/24 10:39	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/12/24 10:39	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/12/24 10:39	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/12/24 10:39	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/12/24 10:39	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/12/24 10:39	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/12/24 10:39	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/12/24 10:39	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/12/24 10:39	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/12/24 10:39	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/12/24 10:39	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/12/24 10:39	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/12/24 10:39	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/12/24 10:39	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/12/24 10:39	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/12/24 10:39	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/12/24 10:39	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/12/24 10:39	1
2-Hexanone	ND		25	1.4	ug/L			03/12/24 10:39	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/12/24 10:39	1
Methylene bromide	ND		5.0	0.22	ug/L			03/12/24 10:39	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/12/24 10:39	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/12/24 10:39	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/12/24 10:39	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/12/24 10:39	1
Naphthalene	ND		5.0	3.0	ug/L			03/12/24 10:39	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/12/24 10:39	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/12/24 10:39	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/12/24 10:39	1
o-Xylene	ND		5.0	0.60	ug/L			03/12/24 10:39	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/12/24 10:39	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-664107/4**  
**Matrix: Water**  
**Analysis Batch: 664107**

**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			03/12/24 10:39	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/12/24 10:39	1
Styrene	ND		1.0	1.0	ug/L			03/12/24 10:39	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/12/24 10:39	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/12/24 10:39	1
1,1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/12/24 10:39	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/12/24 10:39	1
Toluene	ND		1.0	0.90	ug/L			03/12/24 10:39	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/12/24 10:39	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/12/24 10:39	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/12/24 10:39	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/12/24 10:39	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/12/24 10:39	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/12/24 10:39	1
Trichloroethene	ND		1.0	0.15	ug/L			03/12/24 10:39	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/12/24 10:39	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/12/24 10:39	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/12/24 10:39	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/12/24 10:39	1
Vinyl acetate	ND		25	0.93	ug/L			03/12/24 10:39	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/12/24 10:39	1
Xylenes, Total	ND		10	1.6	ug/L			03/12/24 10:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		72 - 130		03/12/24 10:39	1
Dibromofluoromethane	103		75 - 126		03/12/24 10:39	1
Toluene-d8 (Surr)	95		64 - 132		03/12/24 10:39	1

**Lab Sample ID: LCS 400-664107/1002**  
**Matrix: Water**  
**Analysis Batch: 664107**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	200	185		ug/L		92	43 - 160
Acrolein	500	487		ug/L		97	38 - 160
Acrylonitrile	500	506		ug/L		101	64 - 142
Benzene	50.0	52.0		ug/L		104	70 - 130
Bromobenzene	50.0	54.3		ug/L		109	70 - 132
Bromochloromethane	50.0	54.9		ug/L		110	70 - 130
Bromodichloromethane	50.0	56.6		ug/L		113	67 - 133
Bromoform	50.0	51.6		ug/L		103	57 - 140
Bromomethane	50.0	59.0		ug/L		118	10 - 160
2-Butanone (MEK)	200	205		ug/L		103	61 - 145
Carbon disulfide	50.0	31.9		ug/L		64	61 - 137
Carbon tetrachloride	50.0	54.4		ug/L		109	61 - 137
Chlorobenzene	50.0	53.6		ug/L		107	70 - 130
Chloroethane	50.0	54.4		ug/L		109	55 - 141
2-Chloroethyl vinyl ether	50.0	51.7		ug/L		103	10 - 160

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-664107/1002**  
**Matrix: Water**  
**Analysis Batch: 664107**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroform	50.0	56.2		ug/L		112	69 - 130
1-Chlorohexane	50.0	54.0		ug/L		108	69 - 130
Chloromethane	50.0	47.4		ug/L		95	58 - 137
cis-1,2-Dichloroethene	50.0	53.1		ug/L		106	68 - 130
cis-1,3-Dichloropropene	50.0	54.6		ug/L		109	69 - 132
Dibromochloromethane	50.0	53.5		ug/L		107	67 - 135
1,2-Dichlorobenzene	50.0	54.6		ug/L		109	67 - 130
1,3-Dichlorobenzene	50.0	56.5		ug/L		113	70 - 130
1,4-Dichlorobenzene	50.0	55.2		ug/L		110	70 - 130
Dichlorodifluoromethane	50.0	50.0		ug/L		100	41 - 146
1,1-Dichloroethane	50.0	51.6		ug/L		103	70 - 130
1,2-Dichloroethane	50.0	54.5		ug/L		109	69 - 130
1,1-Dichloroethene	50.0	43.1		ug/L		86	63 - 134
1,2-Dichloropropane	50.0	56.4		ug/L		113	70 - 130
1,3-Dichloropropane	50.0	50.1		ug/L		100	70 - 130
2,2-Dichloropropane	50.0	48.9		ug/L		98	52 - 135
1,1-Dichloropropene	50.0	50.4		ug/L		101	70 - 130
Ethylbenzene	50.0	53.2		ug/L		106	70 - 130
Ethyl methacrylate	50.0	48.2		ug/L		96	68 - 130
Hexachlorobutadiene	50.0	73.3	*+	ug/L		147	53 - 140
2-Hexanone	200	200		ug/L		100	65 - 137
Isopropylbenzene	50.0	56.3		ug/L		113	70 - 130
Methylene bromide	50.0	53.7		ug/L		107	70 - 130
Methylene Chloride	50.0	50.3		ug/L		101	66 - 135
4-Methyl-2-pentanone (MIBK)	200	207		ug/L		103	69 - 138
Methyl tert-butyl ether	50.0	48.9		ug/L		98	66 - 130
m-Xylene & p-Xylene	50.0	54.0		ug/L		108	70 - 130
Naphthalene	50.0	50.2		ug/L		100	47 - 149
n-Butylbenzene	50.0	58.9		ug/L		118	67 - 130
N-Propylbenzene	50.0	55.3		ug/L		111	70 - 130
o-Chlorotoluene	50.0	54.4		ug/L		109	70 - 130
o-Xylene	50.0	54.0		ug/L		108	70 - 130
p-Chlorotoluene	50.0	55.0		ug/L		110	70 - 130
p-Isopropyltoluene	50.0	57.3		ug/L		115	65 - 130
sec-Butylbenzene	50.0	56.9		ug/L		114	66 - 130
Styrene	50.0	54.8		ug/L		110	70 - 130
tert-Butylbenzene	50.0	56.4		ug/L		113	64 - 139
1,1,1,2-Tetrachloroethane	50.0	55.2		ug/L		110	67 - 131
1,1,1,2,2-Tetrachloroethane	50.0	47.3		ug/L		95	70 - 131
Tetrachloroethene	50.0	53.8		ug/L		108	65 - 130
Toluene	50.0	50.0		ug/L		100	70 - 130
trans-1,2-Dichloroethene	50.0	46.3		ug/L		93	70 - 130
trans-1,3-Dichloropropene	50.0	49.0		ug/L		98	63 - 130
1,2,3-Trichlorobenzene	50.0	59.5		ug/L		119	60 - 138
1,2,4-Trichlorobenzene	50.0	61.1		ug/L		122	60 - 140
1,1,1-Trichloroethane	50.0	53.5		ug/L		107	68 - 130
1,1,2-Trichloroethane	50.0	50.5		ug/L		101	70 - 130
Trichloroethene	50.0	55.5		ug/L		111	70 - 130
Trichlorofluoromethane	50.0	59.8		ug/L		120	65 - 138

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-664107/1002**  
**Matrix: Water**  
**Analysis Batch: 664107**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	50.0	49.3		ug/L		99	70 - 130
1,2,4-Trimethylbenzene	50.0	54.9		ug/L		110	70 - 130
1,3,5-Trimethylbenzene	50.0	54.3		ug/L		109	69 - 130
Vinyl acetate	100	106		ug/L		106	26 - 160
Vinyl chloride	50.0	55.1		ug/L		110	59 - 136
Xylenes, Total	100	108		ug/L		108	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	97		72 - 130
Dibromofluoromethane	103		75 - 126
Toluene-d8 (Surr)	95		64 - 132

**Lab Sample ID: MB 400-664271/4**  
**Matrix: Water**  
**Analysis Batch: 664271**

**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			03/13/24 13:28	1
Acrolein	ND		20	3.3	ug/L			03/13/24 13:28	1
Acrylonitrile	ND		10	2.8	ug/L			03/13/24 13:28	1
Benzene	ND		1.0	0.50	ug/L			03/13/24 13:28	1
Bromobenzene	ND		1.0	0.54	ug/L			03/13/24 13:28	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/13/24 13:28	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/13/24 13:28	1
Bromoform	ND		5.0	0.25	ug/L			03/13/24 13:28	1
Bromomethane	ND		1.0	0.98	ug/L			03/13/24 13:28	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/13/24 13:28	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/13/24 13:28	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/13/24 13:28	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/13/24 13:28	1
Chloroethane	ND		1.0	0.76	ug/L			03/13/24 13:28	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/13/24 13:28	1
Chloroform	ND		1.0	0.90	ug/L			03/13/24 13:28	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/13/24 13:28	1
Chloromethane	ND		1.0	0.90	ug/L			03/13/24 13:28	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/13/24 13:28	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/13/24 13:28	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/13/24 13:28	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/13/24 13:28	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/13/24 13:28	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/13/24 13:28	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/13/24 13:28	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/13/24 13:28	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/13/24 13:28	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/13/24 13:28	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 13:28	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 13:28	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/13/24 13:28	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-664271/4**  
**Matrix: Water**  
**Analysis Batch: 664271**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/13/24 13:28	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/13/24 13:28	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/13/24 13:28	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/13/24 13:28	1
2-Hexanone	ND		25	1.4	ug/L			03/13/24 13:28	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/13/24 13:28	1
Methylene bromide	ND		5.0	0.22	ug/L			03/13/24 13:28	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/13/24 13:28	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/13/24 13:28	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/13/24 13:28	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/13/24 13:28	1
Naphthalene	ND		5.0	3.0	ug/L			03/13/24 13:28	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/13/24 13:28	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/13/24 13:28	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/13/24 13:28	1
o-Xylene	ND		5.0	0.60	ug/L			03/13/24 13:28	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/13/24 13:28	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/13/24 13:28	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/13/24 13:28	1
Styrene	ND		1.0	1.0	ug/L			03/13/24 13:28	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/13/24 13:28	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/13/24 13:28	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/13/24 13:28	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/13/24 13:28	1
Toluene	ND		1.0	0.90	ug/L			03/13/24 13:28	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/13/24 13:28	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/13/24 13:28	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/13/24 13:28	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/13/24 13:28	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/13/24 13:28	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/13/24 13:28	1
Trichloroethene	ND		1.0	0.15	ug/L			03/13/24 13:28	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/13/24 13:28	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/13/24 13:28	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/13/24 13:28	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/13/24 13:28	1
Vinyl acetate	ND		25	0.93	ug/L			03/13/24 13:28	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/13/24 13:28	1
Xylenes, Total	ND		10	1.6	ug/L			03/13/24 13:28	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		72 - 130		03/13/24 13:28	1
Dibromofluoromethane	102		75 - 126		03/13/24 13:28	1
Toluene-d8 (Surr)	94		64 - 132		03/13/24 13:28	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-664271/1002**  
**Matrix: Water**  
**Analysis Batch: 664271**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	200	189		ug/L		94	43 - 160
Acrolein	500	467		ug/L		93	38 - 160
Acrylonitrile	500	536		ug/L		107	64 - 142
Benzene	50.0	56.9		ug/L		114	70 - 130
Bromobenzene	50.0	57.1		ug/L		114	70 - 132
Bromochloromethane	50.0	58.8		ug/L		118	70 - 130
Bromodichloromethane	50.0	61.1		ug/L		122	67 - 133
Bromoform	50.0	54.1		ug/L		108	57 - 140
Bromomethane	50.0	61.6		ug/L		123	10 - 160
2-Butanone (MEK)	200	211		ug/L		106	61 - 145
Carbon disulfide	50.0	39.1		ug/L		78	61 - 137
Carbon tetrachloride	50.0	60.0		ug/L		120	61 - 137
Chlorobenzene	50.0	57.6		ug/L		115	70 - 130
Chloroethane	50.0	54.9		ug/L		110	55 - 141
2-Chloroethyl vinyl ether	50.0	53.3		ug/L		107	10 - 160
Chloroform	50.0	60.6		ug/L		121	69 - 130
1-Chlorohexane	50.0	59.8		ug/L		120	69 - 130
Chloromethane	50.0	48.3		ug/L		97	58 - 137
cis-1,2-Dichloroethene	50.0	59.6		ug/L		119	68 - 130
cis-1,3-Dichloropropene	50.0	58.8		ug/L		118	69 - 132
Dibromochloromethane	50.0	57.5		ug/L		115	67 - 135
1,2-Dichlorobenzene	50.0	57.4		ug/L		115	67 - 130
1,3-Dichlorobenzene	50.0	59.1		ug/L		118	70 - 130
1,4-Dichlorobenzene	50.0	57.5		ug/L		115	70 - 130
Dichlorodifluoromethane	50.0	52.1		ug/L		104	41 - 146
1,1-Dichloroethane	50.0	57.2		ug/L		114	70 - 130
1,2-Dichloroethane	50.0	60.1		ug/L		120	69 - 130
1,1-Dichloroethene	50.0	49.8		ug/L		100	63 - 134
1,2-Dichloropropane	50.0	60.7		ug/L		121	70 - 130
1,3-Dichloropropane	50.0	53.7		ug/L		107	70 - 130
2,2-Dichloropropane	50.0	54.4		ug/L		109	52 - 135
1,1-Dichloropropene	50.0	56.8		ug/L		114	70 - 130
Ethylbenzene	50.0	56.8		ug/L		114	70 - 130
Ethyl methacrylate	50.0	51.9		ug/L		104	68 - 130
Hexachlorobutadiene	50.0	75.9	*+	ug/L		152	53 - 140
2-Hexanone	200	208		ug/L		104	65 - 137
Isopropylbenzene	50.0	60.2		ug/L		120	70 - 130
Methylene bromide	50.0	57.3		ug/L		115	70 - 130
Methylene Chloride	50.0	64.9		ug/L		130	66 - 135
4-Methyl-2-pentanone (MIBK)	200	219		ug/L		109	69 - 138
Methyl tert-butyl ether	50.0	52.6		ug/L		105	66 - 130
m-Xylene & p-Xylene	50.0	57.6		ug/L		115	70 - 130
Naphthalene	50.0	51.9		ug/L		104	47 - 149
n-Butylbenzene	50.0	61.3		ug/L		123	67 - 130
N-Propylbenzene	50.0	58.1		ug/L		116	70 - 130
o-Chlorotoluene	50.0	56.2		ug/L		112	70 - 130
o-Xylene	50.0	57.2		ug/L		114	70 - 130
p-Chlorotoluene	50.0	58.0		ug/L		116	70 - 130

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-664271/1002**  
**Matrix: Water**  
**Analysis Batch: 664271**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
p-Isopropyltoluene	50.0	60.4		ug/L		121	65 - 130
sec-Butylbenzene	50.0	59.7		ug/L		119	66 - 130
Styrene	50.0	57.9		ug/L		116	70 - 130
tert-Butylbenzene	50.0	59.4		ug/L		119	64 - 139
1,1,1,2-Tetrachloroethane	50.0	57.8		ug/L		116	67 - 131
1,1,2,2-Tetrachloroethane	50.0	50.0		ug/L		100	70 - 131
Tetrachloroethene	50.0	59.3		ug/L		119	65 - 130
Toluene	50.0	54.4		ug/L		109	70 - 130
trans-1,2-Dichloroethene	50.0	53.4		ug/L		107	70 - 130
trans-1,3-Dichloropropene	50.0	53.0		ug/L		106	63 - 130
1,2,3-Trichlorobenzene	50.0	63.5		ug/L		127	60 - 138
1,2,4-Trichlorobenzene	50.0	63.4		ug/L		127	60 - 140
1,1,1-Trichloroethane	50.0	58.9		ug/L		118	68 - 130
1,1,2-Trichloroethane	50.0	53.8		ug/L		108	70 - 130
Trichloroethene	50.0	60.1		ug/L		120	70 - 130
Trichlorofluoromethane	50.0	58.6		ug/L		117	65 - 138
1,2,3-Trichloropropane	50.0	51.1		ug/L		102	70 - 130
1,2,4-Trimethylbenzene	50.0	57.0		ug/L		114	70 - 130
1,3,5-Trimethylbenzene	50.0	58.0		ug/L		116	69 - 130
Vinyl acetate	100	106		ug/L		106	26 - 160
Vinyl chloride	50.0	54.7		ug/L		109	59 - 136
Xylenes, Total	100	115		ug/L		115	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	97		72 - 130
Dibromofluoromethane	103		75 - 126
Toluene-d8 (Surr)	97		64 - 132

**Lab Sample ID: 400-252332-7 MS**  
**Matrix: Water**  
**Analysis Batch: 664271**

**Client Sample ID: ROST4PZE-ROX-030624**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	ND		200	161		ug/L		80	43 - 150
Acrolein	ND		500	427		ug/L		85	38 - 150
Acrylonitrile	ND		500	531		ug/L		106	62 - 149
Benzene	1.5		50.0	53.5		ug/L		104	56 - 142
Bromobenzene	ND		50.0	49.8		ug/L		100	59 - 136
Bromochloromethane	ND		50.0	52.6		ug/L		105	64 - 140
Bromodichloromethane	ND		50.0	54.5		ug/L		109	59 - 143
Bromoform	ND		50.0	49.0		ug/L		98	50 - 140
Bromomethane	ND		50.0	61.8		ug/L		124	10 - 150
2-Butanone (MEK)	ND		200	189		ug/L		95	55 - 150
Carbon disulfide	ND		50.0	31.2		ug/L		62	48 - 150
Carbon tetrachloride	ND		50.0	54.3		ug/L		109	55 - 145
Chlorobenzene	ND		50.0	50.9		ug/L		102	64 - 130
Chloroethane	ND		50.0	53.9		ug/L		108	50 - 150
2-Chloroethyl vinyl ether	ND	F1	50.0	3.02	J F1	ug/L		6	10 - 150

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: 400-252332-7 MS**

**Client Sample ID: ROST4PZE-ROX-030624**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 664271**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroform	ND		50.0	56.5		ug/L		113	60 - 141
1-Chlorohexane	ND		50.0	52.3		ug/L		105	56 - 136
Chloromethane	ND		50.0	61.8		ug/L		124	49 - 148
cis-1,2-Dichloroethene	ND		50.0	53.7		ug/L		107	59 - 143
cis-1,3-Dichloropropene	ND		50.0	52.6		ug/L		105	57 - 140
Dibromochloromethane	ND		50.0	52.0		ug/L		104	56 - 143
1,2-Dichlorobenzene	ND		50.0	48.6		ug/L		97	52 - 137
1,3-Dichlorobenzene	ND		50.0	49.5		ug/L		99	54 - 135
1,4-Dichlorobenzene	ND		50.0	48.6		ug/L		97	53 - 135
Dichlorodifluoromethane	ND		50.0	46.8		ug/L		94	16 - 150
1,1-Dichloroethane	ND		50.0	52.2		ug/L		104	61 - 144
1,2-Dichloroethane	ND		50.0	55.3		ug/L		111	60 - 141
1,1-Dichloroethene	ND		50.0	44.6		ug/L		89	54 - 147
1,2-Dichloropropane	ND		50.0	55.9		ug/L		112	66 - 137
1,3-Dichloropropane	ND		50.0	49.5		ug/L		99	66 - 133
2,2-Dichloropropane	ND		50.0	48.4		ug/L		97	42 - 144
1,1-Dichloropropene	ND		50.0	51.3		ug/L		103	65 - 136
Ethylbenzene	2.6		50.0	53.0		ug/L		101	58 - 131
Ethyl methacrylate	ND		50.0	46.5		ug/L		93	64 - 130
Hexachlorobutadiene	ND	*+ F2	50.0	58.6		ug/L		117	31 - 149
2-Hexanone	ND		200	188		ug/L		94	65 - 140
Isopropylbenzene	0.53	J	50.0	52.7		ug/L		104	56 - 133
Methylene bromide	ND		50.0	52.3		ug/L		105	63 - 138
Methylene Chloride	6.7		50.0	62.3		ug/L		111	60 - 146
4-Methyl-2-pentanone (MIBK)	ND		200	227		ug/L		114	63 - 146
Methyl tert-butyl ether	ND		50.0	48.1		ug/L		96	59 - 137
m-Xylene & p-Xylene	2.0	J	50.0	53.0		ug/L		102	57 - 130
Naphthalene	ND		50.0	47.8		ug/L		96	25 - 150
n-Butylbenzene	ND	F2	50.0	48.5		ug/L		97	41 - 142
N-Propylbenzene	ND		50.0	48.6		ug/L		97	51 - 138
o-Chlorotoluene	ND		50.0	48.9		ug/L		98	53 - 134
o-Xylene	ND		50.0	50.6		ug/L		101	61 - 130
p-Chlorotoluene	ND		50.0	48.9		ug/L		98	54 - 133
p-Isopropyltoluene	ND	F2	50.0	49.4		ug/L		99	48 - 139
sec-Butylbenzene	ND	F2	50.0	50.8		ug/L		102	50 - 138
Styrene	ND		50.0	50.9		ug/L		102	58 - 131
tert-Butylbenzene	ND		50.0	51.2		ug/L		102	54 - 146
1,1,1,2-Tetrachloroethane	ND		50.0	52.6		ug/L		105	59 - 137
1,1,2,2-Tetrachloroethane	ND		50.0	46.5		ug/L		93	66 - 135
Tetrachloroethene	ND		50.0	52.1		ug/L		104	52 - 133
Toluene	ND		50.0	49.0		ug/L		98	65 - 130
trans-1,2-Dichloroethene	ND		50.0	47.9		ug/L		96	61 - 143
trans-1,3-Dichloropropene	ND		50.0	47.8		ug/L		96	53 - 133
1,2,3-Trichlorobenzene	ND		50.0	52.7		ug/L		105	43 - 145
1,2,4-Trichlorobenzene	ND		50.0	52.8		ug/L		106	39 - 148
1,1,1-Trichloroethane	ND		50.0	53.0		ug/L		106	57 - 142
1,1,2-Trichloroethane	ND		50.0	50.1		ug/L		100	66 - 131
Trichloroethene	ND		50.0	54.9		ug/L		110	64 - 136
Trichlorofluoromethane	ND		50.0	56.9		ug/L		114	54 - 150

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: 400-252332-7 MS**

**Client Sample ID: ROST4PZE-ROX-030624**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 664271**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	ND		50.0	47.3		ug/L		95	65 - 133
1,2,4-Trimethylbenzene	6.4		50.0	54.7		ug/L		97	50 - 139
1,3,5-Trimethylbenzene	ND		50.0	48.5		ug/L		97	52 - 135
Vinyl acetate	ND		100	99.9		ug/L		100	26 - 150
Vinyl chloride	ND		50.0	51.9		ug/L		104	46 - 150
Xylenes, Total	2.3	J	100	104		ug/L		101	59 - 130

Surrogate	MS %Recovery	MS Qualifier	MS Limits
4-Bromofluorobenzene	97		72 - 130
Dibromofluoromethane	100		75 - 126
Toluene-d8 (Surr)	96		64 - 132

**Lab Sample ID: 400-252332-7 MSD**

**Client Sample ID: ROST4PZE-ROX-030624**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 664271**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Acetone	ND		200	162		ug/L		81	43 - 150	1	30
Acrolein	ND		500	471		ug/L		94	38 - 150	10	31
Acrylonitrile	ND		500	544		ug/L		109	62 - 149	2	30
Benzene	1.5		50.0	49.6		ug/L		96	56 - 142	8	30
Bromobenzene	ND		50.0	42.4		ug/L		85	59 - 136	16	30
Bromochloromethane	ND		50.0	52.9		ug/L		106	64 - 140	1	30
Bromodichloromethane	ND		50.0	51.8		ug/L		104	59 - 143	5	30
Bromoform	ND		50.0	47.1		ug/L		94	50 - 140	4	30
Bromomethane	ND		50.0	72.8		ug/L		146	10 - 150	16	50
2-Butanone (MEK)	ND		200	192		ug/L		96	55 - 150	1	30
Carbon disulfide	ND		50.0	30.0		ug/L		60	48 - 150	4	30
Carbon tetrachloride	ND		50.0	50.5		ug/L		101	55 - 145	7	30
Chlorobenzene	ND		50.0	43.9		ug/L		88	64 - 130	15	30
Chloroethane	ND		50.0	54.1		ug/L		108	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	53.8		ug/L		108	60 - 141	5	30
1-Chlorohexane	ND		50.0	41.9		ug/L		84	56 - 136	22	30
Chloromethane	ND		50.0	53.8		ug/L		108	49 - 148	14	31
cis-1,2-Dichloroethene	ND		50.0	52.4		ug/L		105	59 - 143	2	30
cis-1,3-Dichloropropene	ND		50.0	50.1		ug/L		100	57 - 140	5	30
Dibromochloromethane	ND		50.0	49.1		ug/L		98	56 - 143	6	30
1,2-Dichlorobenzene	ND		50.0	40.2		ug/L		80	52 - 137	19	30
1,3-Dichlorobenzene	ND		50.0	39.5		ug/L		79	54 - 135	22	30
1,4-Dichlorobenzene	ND		50.0	39.0		ug/L		78	53 - 135	22	30
Dichlorodifluoromethane	ND		50.0	52.4		ug/L		105	16 - 150	11	31
1,1-Dichloroethane	ND		50.0	51.0		ug/L		102	61 - 144	2	30
1,2-Dichloroethane	ND		50.0	53.6		ug/L		107	60 - 141	3	30
1,1-Dichloroethene	ND		50.0	43.7		ug/L		87	54 - 147	2	30
1,2-Dichloropropane	ND		50.0	51.3		ug/L		103	66 - 137	9	30
1,3-Dichloropropane	ND		50.0	46.8		ug/L		94	66 - 133	6	30
2,2-Dichloropropane	ND		50.0	48.2		ug/L		96	42 - 144	0	31

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: 400-252332-7 MSD**

**Client Sample ID: ROST4PZE-ROX-030624**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 664271**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		
1,1-Dichloropropene	ND		50.0	47.9		ug/L		96	65 - 136	7	30
Ethylbenzene	2.6		50.0	43.9		ug/L		83	58 - 131	19	30
Ethyl methacrylate	ND		50.0	46.1		ug/L		92	64 - 130	1	30
Hexachlorobutadiene	ND	*+ F2	50.0	39.9	F2	ug/L		80	31 - 149	38	36
2-Hexanone	ND		200	187		ug/L		94	65 - 140	0	30
Isopropylbenzene	0.53	J	50.0	42.1		ug/L		83	56 - 133	22	30
Methylene bromide	ND		50.0	50.1		ug/L		100	63 - 138	4	30
Methylene Chloride	6.7		50.0	60.9		ug/L		108	60 - 146	2	32
4-Methyl-2-pentanone (MIBK)	ND		200	224		ug/L		112	63 - 146	1	30
Methyl tert-butyl ether	ND		50.0	50.3		ug/L		101	59 - 137	4	30
m-Xylene & p-Xylene	2.0	J	50.0	43.2		ug/L		82	57 - 130	20	30
Naphthalene	ND		50.0	44.9		ug/L		90	25 - 150	6	30
n-Butylbenzene	ND	F2	50.0	34.3	F2	ug/L		69	41 - 142	34	31
N-Propylbenzene	ND		50.0	37.2		ug/L		74	51 - 138	27	30
o-Chlorotoluene	ND		50.0	38.5		ug/L		77	53 - 134	24	30
o-Xylene	ND		50.0	42.1		ug/L		84	61 - 130	18	30
p-Chlorotoluene	ND		50.0	37.8		ug/L		76	54 - 133	26	30
p-Isopropyltoluene	ND	F2	50.0	35.7	F2	ug/L		71	48 - 139	32	30
sec-Butylbenzene	ND	F2	50.0	36.8	F2	ug/L		74	50 - 138	32	30
Styrene	ND		50.0	42.2		ug/L		84	58 - 131	19	30
tert-Butylbenzene	ND		50.0	38.5		ug/L		77	54 - 146	28	30
1,1,1,2-Tetrachloroethane	ND		50.0	47.0		ug/L		94	59 - 137	11	30
1,1,2,2-Tetrachloroethane	ND		50.0	44.5		ug/L		89	66 - 135	4	30
Tetrachloroethene	ND		50.0	44.1		ug/L		88	52 - 133	17	30
Toluene	ND		50.0	43.6		ug/L		87	65 - 130	12	30
trans-1,2-Dichloroethene	ND		50.0	46.8		ug/L		94	61 - 143	2	30
trans-1,3-Dichloropropene	ND		50.0	45.0		ug/L		90	53 - 133	6	30
1,2,3-Trichlorobenzene	ND		50.0	45.0		ug/L		90	43 - 145	16	30
1,2,4-Trichlorobenzene	ND		50.0	43.6		ug/L		87	39 - 148	19	30
1,1,1-Trichloroethane	ND		50.0	50.4		ug/L		101	57 - 142	5	30
1,1,2-Trichloroethane	ND		50.0	48.4		ug/L		97	66 - 131	3	30
Trichloroethene	ND		50.0	49.8		ug/L		100	64 - 136	10	30
Trichlorofluoromethane	ND		50.0	58.3		ug/L		117	54 - 150	2	30
1,2,3-Trichloropropane	ND		50.0	45.8		ug/L		92	65 - 133	3	30
1,2,4-Trimethylbenzene	6.4		50.0	42.1		ug/L		71	50 - 139	26	30
1,3,5-Trimethylbenzene	ND		50.0	36.8		ug/L		74	52 - 135	28	30
Vinyl acetate	ND		100	110		ug/L		110	26 - 150	9	33
Vinyl chloride	ND		50.0	54.0		ug/L		108	46 - 150	4	30
Xylenes, Total	2.3	J	100	85.3		ug/L		83	59 - 130	19	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene	97		72 - 130
Dibromofluoromethane	102		75 - 126
Toluene-d8 (Surr)	94		64 - 132

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-664447/51**  
**Matrix: Water**  
**Analysis Batch: 664447**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		5.0	3.0	ug/L			03/14/24 15:51	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		72 - 130					03/14/24 15:51	1
Dibromofluoromethane	104		75 - 126					03/14/24 15:51	1
Toluene-d8 (Surr)	92		64 - 132					03/14/24 15:51	1

**Lab Sample ID: LCS 400-664447/1002**  
**Matrix: Water**  
**Analysis Batch: 664447**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Methylene Chloride	50.0	68.2	*+	ug/L		136	66 - 135
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene	94		72 - 130				
Dibromofluoromethane	104		75 - 126				
Toluene-d8 (Surr)	94		64 - 132				

**Lab Sample ID: MB 400-664766/15**  
**Matrix: Water**  
**Analysis Batch: 664766**

**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			03/18/24 11:00	1
Acrolein	ND		20	3.3	ug/L			03/18/24 11:00	1
Acrylonitrile	ND		10	2.8	ug/L			03/18/24 11:00	1
Benzene	ND		1.0	0.50	ug/L			03/18/24 11:00	1
Bromobenzene	ND		1.0	0.54	ug/L			03/18/24 11:00	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/18/24 11:00	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/18/24 11:00	1
Bromoform	ND		5.0	0.25	ug/L			03/18/24 11:00	1
Bromomethane	ND		1.0	0.98	ug/L			03/18/24 11:00	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/18/24 11:00	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/18/24 11:00	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/18/24 11:00	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/18/24 11:00	1
Chloroethane	ND		1.0	0.76	ug/L			03/18/24 11:00	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/18/24 11:00	1
Chloroform	ND		1.0	0.90	ug/L			03/18/24 11:00	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/18/24 11:00	1
Chloromethane	ND		1.0	0.90	ug/L			03/18/24 11:00	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/18/24 11:00	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/18/24 11:00	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/18/24 11:00	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/18/24 11:00	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/18/24 11:00	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/18/24 11:00	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-664766/15**  
**Matrix: Water**  
**Analysis Batch: 664766**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/18/24 11:00	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/18/24 11:00	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/18/24 11:00	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/18/24 11:00	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/18/24 11:00	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/18/24 11:00	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/18/24 11:00	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/18/24 11:00	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/18/24 11:00	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/18/24 11:00	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/18/24 11:00	1
2-Hexanone	ND		25	1.4	ug/L			03/18/24 11:00	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/18/24 11:00	1
Methylene bromide	ND		5.0	0.22	ug/L			03/18/24 11:00	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/18/24 11:00	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/18/24 11:00	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/18/24 11:00	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/18/24 11:00	1
Naphthalene	ND		5.0	3.0	ug/L			03/18/24 11:00	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/18/24 11:00	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/18/24 11:00	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/18/24 11:00	1
o-Xylene	ND		5.0	0.60	ug/L			03/18/24 11:00	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/18/24 11:00	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/18/24 11:00	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/18/24 11:00	1
Styrene	ND		1.0	1.0	ug/L			03/18/24 11:00	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/18/24 11:00	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/18/24 11:00	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/18/24 11:00	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/18/24 11:00	1
Toluene	ND		1.0	0.90	ug/L			03/18/24 11:00	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/18/24 11:00	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/18/24 11:00	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/18/24 11:00	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/18/24 11:00	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/18/24 11:00	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/18/24 11:00	1
Trichloroethene	ND		1.0	0.15	ug/L			03/18/24 11:00	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/18/24 11:00	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/18/24 11:00	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/18/24 11:00	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/18/24 11:00	1
Vinyl acetate	ND		25	0.93	ug/L			03/18/24 11:00	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/18/24 11:00	1
Xylenes, Total	ND		10	1.6	ug/L			03/18/24 11:00	1

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-664766/15**  
**Matrix: Water**  
**Analysis Batch: 664766**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107		72 - 130		03/18/24 11:00	1
Dibromofluoromethane	114		75 - 126		03/18/24 11:00	1
Toluene-d8 (Surr)	99		64 - 132		03/18/24 11:00	1

**Lab Sample ID: LCS 400-664766/1002**  
**Matrix: Water**  
**Analysis Batch: 664766**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	200	124		ug/L		62	43 - 160
Acrolein	500	512		ug/L		102	38 - 160
Acrylonitrile	500	533		ug/L		107	64 - 142
Benzene	50.0	50.3		ug/L		101	70 - 130
Bromobenzene	50.0	54.8		ug/L		110	70 - 132
Bromochloromethane	50.0	51.9		ug/L		104	70 - 130
Bromodichloromethane	50.0	57.2		ug/L		114	67 - 133
Bromoform	50.0	57.5		ug/L		115	57 - 140
Bromomethane	50.0	34.8		ug/L		70	10 - 160
2-Butanone (MEK)	200	144		ug/L		72	61 - 145
Carbon disulfide	50.0	31.0		ug/L		62	61 - 137
Carbon tetrachloride	50.0	49.1		ug/L		98	61 - 137
Chlorobenzene	50.0	52.6		ug/L		105	70 - 130
Chloroethane	50.0	47.5		ug/L		95	55 - 141
2-Chloroethyl vinyl ether	50.0	66.7		ug/L		133	10 - 160
Chloroform	50.0	54.4		ug/L		109	69 - 130
1-Chlorohexane	50.0	51.3		ug/L		103	69 - 130
Chloromethane	50.0	35.3		ug/L		71	58 - 137
cis-1,2-Dichloroethane	50.0	52.4		ug/L		105	68 - 130
cis-1,3-Dichloropropene	50.0	57.2		ug/L		114	69 - 132
Dibromochloromethane	50.0	59.2		ug/L		118	67 - 135
1,2-Dichlorobenzene	50.0	54.7		ug/L		109	67 - 130
1,3-Dichlorobenzene	50.0	54.7		ug/L		109	70 - 130
1,4-Dichlorobenzene	50.0	54.4		ug/L		109	70 - 130
Dichlorodifluoromethane	50.0	31.8		ug/L		64	41 - 146
1,1-Dichloroethane	50.0	51.6		ug/L		103	70 - 130
1,2-Dichloroethane	50.0	57.6		ug/L		115	69 - 130
1,1-Dichloroethene	50.0	43.3		ug/L		87	63 - 134
1,2-Dichloropropane	50.0	55.7		ug/L		111	70 - 130
1,3-Dichloropropane	50.0	60.8		ug/L		122	70 - 130
2,2-Dichloropropane	50.0	44.0		ug/L		88	52 - 135
1,1-Dichloropropene	50.0	48.7		ug/L		97	70 - 130
Ethylbenzene	50.0	53.1		ug/L		106	70 - 130
Ethyl methacrylate	50.0	57.5		ug/L		115	68 - 130
Hexachlorobutadiene	50.0	54.1		ug/L		108	53 - 140
2-Hexanone	200	171		ug/L		86	65 - 137
Isopropylbenzene	50.0	52.3		ug/L		105	70 - 130
Methylene bromide	50.0	55.1		ug/L		110	70 - 130
Methylene Chloride	50.0	53.1		ug/L		106	66 - 135

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-664766/1002**  
**Matrix: Water**  
**Analysis Batch: 664766**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
4-Methyl-2-pentanone (MIBK)	200	209		ug/L		104	69 - 138
Methyl tert-butyl ether	50.0	54.0		ug/L		108	66 - 130
m-Xylene & p-Xylene	50.0	52.4		ug/L		105	70 - 130
Naphthalene	50.0	52.0		ug/L		104	47 - 149
n-Butylbenzene	50.0	59.8		ug/L		120	67 - 130
N-Propylbenzene	50.0	55.8		ug/L		112	70 - 130
o-Chlorotoluene	50.0	56.3		ug/L		113	70 - 130
o-Xylene	50.0	53.8		ug/L		108	70 - 130
p-Chlorotoluene	50.0	57.2		ug/L		114	70 - 130
p-Isopropyltoluene	50.0	55.7		ug/L		111	65 - 130
sec-Butylbenzene	50.0	55.1		ug/L		110	66 - 130
Styrene	50.0	56.3		ug/L		113	70 - 130
tert-Butylbenzene	50.0	55.5		ug/L		111	64 - 139
1,1,1,2-Tetrachloroethane	50.0	54.5		ug/L		109	67 - 131
1,1,2,2-Tetrachloroethane	50.0	59.9		ug/L		120	70 - 131
Tetrachloroethene	50.0	48.4		ug/L		97	65 - 130
Toluene	50.0	50.3		ug/L		101	70 - 130
trans-1,2-Dichloroethene	50.0	45.6		ug/L		91	70 - 130
trans-1,3-Dichloropropene	50.0	59.8		ug/L		120	63 - 130
1,2,3-Trichlorobenzene	50.0	51.2		ug/L		102	60 - 138
1,2,4-Trichlorobenzene	50.0	50.4		ug/L		101	60 - 140
1,1,1-Trichloroethane	50.0	49.5		ug/L		99	68 - 130
1,1,2-Trichloroethane	50.0	60.9		ug/L		122	70 - 130
Trichloroethene	50.0	48.7		ug/L		97	70 - 130
Trichlorofluoromethane	50.0	41.6		ug/L		83	65 - 138
1,2,3-Trichloropropane	50.0	58.0		ug/L		116	70 - 130
1,2,4-Trimethylbenzene	50.0	56.5		ug/L		113	70 - 130
1,3,5-Trimethylbenzene	50.0	55.2		ug/L		110	69 - 130
Vinyl acetate	100	113		ug/L		113	26 - 160
Vinyl chloride	50.0	38.7		ug/L		77	59 - 136
Xylenes, Total	100	106		ug/L		106	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	108		72 - 130
Dibromofluoromethane	101		75 - 126
Toluene-d8 (Surr)	100		64 - 132

**Lab Sample ID: MB 400-664902/5**  
**Matrix: Water**  
**Analysis Batch: 664902**

**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			03/19/24 09:10	1
Acrolein	ND		20	3.3	ug/L			03/19/24 09:10	1
Acrylonitrile	ND		10	2.8	ug/L			03/19/24 09:10	1
Benzene	ND		1.0	0.50	ug/L			03/19/24 09:10	1
Bromobenzene	ND		1.0	0.54	ug/L			03/19/24 09:10	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/19/24 09:10	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-664902/5**  
**Matrix: Water**  
**Analysis Batch: 664902**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		1.0	0.50	ug/L			03/19/24 09:10	1
Bromoform	ND		5.0	0.25	ug/L			03/19/24 09:10	1
Bromomethane	ND		1.0	0.98	ug/L			03/19/24 09:10	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/19/24 09:10	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/19/24 09:10	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/19/24 09:10	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/19/24 09:10	1
Chloroethane	ND		1.0	0.76	ug/L			03/19/24 09:10	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/19/24 09:10	1
Chloroform	ND		1.0	0.90	ug/L			03/19/24 09:10	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/19/24 09:10	1
Chloromethane	ND		1.0	0.90	ug/L			03/19/24 09:10	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/19/24 09:10	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/19/24 09:10	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/19/24 09:10	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/19/24 09:10	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/19/24 09:10	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/19/24 09:10	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/19/24 09:10	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/19/24 09:10	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/19/24 09:10	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/19/24 09:10	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/19/24 09:10	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/19/24 09:10	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/19/24 09:10	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/19/24 09:10	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/19/24 09:10	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/19/24 09:10	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/19/24 09:10	1
2-Hexanone	ND		25	1.4	ug/L			03/19/24 09:10	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/19/24 09:10	1
Methylene bromide	ND		5.0	0.22	ug/L			03/19/24 09:10	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/19/24 09:10	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/19/24 09:10	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/19/24 09:10	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/19/24 09:10	1
Naphthalene	ND		5.0	3.0	ug/L			03/19/24 09:10	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/19/24 09:10	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/19/24 09:10	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/19/24 09:10	1
o-Xylene	ND		5.0	0.60	ug/L			03/19/24 09:10	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/19/24 09:10	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/19/24 09:10	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/19/24 09:10	1
Styrene	ND		1.0	1.0	ug/L			03/19/24 09:10	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/19/24 09:10	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/19/24 09:10	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/19/24 09:10	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/19/24 09:10	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-664902/5**  
**Matrix: Water**  
**Analysis Batch: 664902**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	ND		1.0	0.90	ug/L			03/19/24 09:10	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/19/24 09:10	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/19/24 09:10	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/19/24 09:10	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/19/24 09:10	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/19/24 09:10	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/19/24 09:10	1
Trichloroethene	ND		1.0	0.15	ug/L			03/19/24 09:10	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/19/24 09:10	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/19/24 09:10	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/19/24 09:10	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/19/24 09:10	1
Vinyl acetate	ND		25	0.93	ug/L			03/19/24 09:10	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/19/24 09:10	1
Xylenes, Total	ND		10	1.6	ug/L			03/19/24 09:10	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	100		72 - 130		03/19/24 09:10	1
Dibromofluoromethane	105		75 - 126		03/19/24 09:10	1
Toluene-d8 (Surr)	95		64 - 132		03/19/24 09:10	1

**Lab Sample ID: LCS 400-664902/1002**  
**Matrix: Water**  
**Analysis Batch: 664902**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	200	197		ug/L		98	43 - 160
Acrolein	500	471		ug/L		94	38 - 160
Acrylonitrile	500	455		ug/L		91	64 - 142
Benzene	50.0	50.1		ug/L		100	70 - 130
Bromobenzene	50.0	45.9		ug/L		92	70 - 132
Bromochloromethane	50.0	51.1		ug/L		102	70 - 130
Bromodichloromethane	50.0	50.0		ug/L		100	67 - 133
Bromoform	50.0	43.9		ug/L		88	57 - 140
Bromomethane	50.0	47.4		ug/L		95	10 - 160
2-Butanone (MEK)	200	195		ug/L		97	61 - 145
Carbon disulfide	50.0	49.2		ug/L		98	61 - 137
Carbon tetrachloride	50.0	50.1		ug/L		100	61 - 137
Chlorobenzene	50.0	47.2		ug/L		94	70 - 130
Chloroethane	50.0	43.3		ug/L		87	55 - 141
2-Chloroethyl vinyl ether	50.0	46.4		ug/L		93	10 - 160
Chloroform	50.0	49.9		ug/L		100	69 - 130
1-Chlorohexane	50.0	46.8		ug/L		94	69 - 130
Chloromethane	50.0	43.8		ug/L		88	58 - 137
cis-1,2-Dichloroethene	50.0	47.9		ug/L		96	68 - 130
cis-1,3-Dichloropropene	50.0	50.5		ug/L		101	69 - 132
Dibromochloromethane	50.0	46.6		ug/L		93	67 - 135
1,2-Dichlorobenzene	50.0	47.0		ug/L		94	67 - 130

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-664902/1002**  
**Matrix: Water**  
**Analysis Batch: 664902**

**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	46.6		ug/L		93	70 - 130
1,4-Dichlorobenzene	50.0	46.2		ug/L		92	70 - 130
Dichlorodifluoromethane	50.0	39.2		ug/L		78	41 - 146
1,1-Dichloroethane	50.0	52.5		ug/L		105	70 - 130
1,2-Dichloroethane	50.0	48.4		ug/L		97	69 - 130
1,1-Dichloroethene	50.0	49.3		ug/L		99	63 - 134
1,2-Dichloropropane	50.0	50.8		ug/L		102	70 - 130
1,3-Dichloropropane	50.0	45.9		ug/L		92	70 - 130
2,2-Dichloropropane	50.0	49.2		ug/L		98	52 - 135
1,1-Dichloropropene	50.0	50.7		ug/L		101	70 - 130
Ethylbenzene	50.0	46.7		ug/L		93	70 - 130
Ethyl methacrylate	50.0	44.6		ug/L		89	68 - 130
Hexachlorobutadiene	50.0	48.9		ug/L		98	53 - 140
2-Hexanone	200	174		ug/L		87	65 - 137
Isopropylbenzene	50.0	47.1		ug/L		94	70 - 130
Methylene bromide	50.0	48.3		ug/L		97	70 - 130
Methylene Chloride	50.0	50.8		ug/L		102	66 - 135
4-Methyl-2-pentanone (MIBK)	200	181		ug/L		91	69 - 138
Methyl tert-butyl ether	50.0	49.1		ug/L		98	66 - 130
m-Xylene & p-Xylene	50.0	47.1		ug/L		94	70 - 130
Naphthalene	50.0	35.6		ug/L		71	47 - 149
n-Butylbenzene	50.0	46.8		ug/L		94	67 - 130
N-Propylbenzene	50.0	47.8		ug/L		96	70 - 130
o-Chlorotoluene	50.0	45.1		ug/L		90	70 - 130
o-Xylene	50.0	46.3		ug/L		93	70 - 130
p-Chlorotoluene	50.0	45.4		ug/L		91	70 - 130
p-Isopropyltoluene	50.0	48.0		ug/L		96	65 - 130
sec-Butylbenzene	50.0	47.4		ug/L		95	66 - 130
Styrene	50.0	46.7		ug/L		93	70 - 130
tert-Butylbenzene	50.0	44.5		ug/L		89	64 - 139
1,1,1,2-Tetrachloroethane	50.0	46.9		ug/L		94	67 - 131
1,1,1,2,2-Tetrachloroethane	50.0	45.3		ug/L		91	70 - 131
Tetrachloroethene	50.0	44.1		ug/L		88	65 - 130
Toluene	50.0	46.6		ug/L		93	70 - 130
trans-1,2-Dichloroethene	50.0	51.1		ug/L		102	70 - 130
trans-1,3-Dichloropropene	50.0	45.5		ug/L		91	63 - 130
1,2,3-Trichlorobenzene	50.0	46.3		ug/L		93	60 - 138
1,2,4-Trichlorobenzene	50.0	45.1		ug/L		90	60 - 140
1,1,1-Trichloroethane	50.0	49.6		ug/L		99	68 - 130
1,1,2-Trichloroethane	50.0	45.5		ug/L		91	70 - 130
Trichloroethene	50.0	51.2		ug/L		102	70 - 130
Trichlorofluoromethane	50.0	48.5		ug/L		97	65 - 138
1,2,3-Trichloropropane	50.0	43.8		ug/L		88	70 - 130
1,2,4-Trimethylbenzene	50.0	46.1		ug/L		92	70 - 130
1,3,5-Trimethylbenzene	50.0	47.0		ug/L		94	69 - 130
Vinyl acetate	100	92.3		ug/L		92	26 - 160
Vinyl chloride	50.0	45.6		ug/L		91	59 - 136
Xylenes, Total	100	93.4		ug/L		93	70 - 130

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-664902/1002**  
**Matrix: Water**  
**Analysis Batch: 664902**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	97		72 - 130
Dibromofluoromethane	104		75 - 126
Toluene-d8 (Surr)	97		64 - 132

## Method: 8270E - Semivolatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 400-664310/1-A**  
**Matrix: Water**  
**Analysis Batch: 664465**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 664310**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aniline	ND		10	8.7	ug/L		03/13/24 11:36	03/14/24 15:13	1
Benzenethiol	ND		10	9.9	ug/L		03/13/24 11:36	03/14/24 15:13	1
Benzoic acid	ND		30	24	ug/L		03/13/24 11:36	03/14/24 15:13	1
Benzyl alcohol	ND		10	7.3	ug/L		03/13/24 11:36	03/14/24 15:13	1
Bis(2-chloroethoxy)methane	ND		10	4.6	ug/L		03/13/24 11:36	03/14/24 15:13	1
Bis(2-chloroethyl)ether	ND		10	3.9	ug/L		03/13/24 11:36	03/14/24 15:13	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		03/13/24 11:36	03/14/24 15:13	1
Bis(2-ethylhexyl) phthalate	ND		10	8.9	ug/L		03/13/24 11:36	03/14/24 15:13	1
4-Bromophenyl phenyl ether	ND		10	8.6	ug/L		03/13/24 11:36	03/14/24 15:13	1
Butyl benzyl phthalate	ND		10	5.8	ug/L		03/13/24 11:36	03/14/24 15:13	1
4-Chloroaniline	ND		10	4.7	ug/L		03/13/24 11:36	03/14/24 15:13	1
4-Chloro-3-methylphenol	ND		10	5.3	ug/L		03/13/24 11:36	03/14/24 15:13	1
2-Chloronaphthalene	ND		10	3.8	ug/L		03/13/24 11:36	03/14/24 15:13	1
2-Chlorophenol	ND		10	4.1	ug/L		03/13/24 11:36	03/14/24 15:13	1
4-Chlorophenyl phenyl ether	ND		10	3.7	ug/L		03/13/24 11:36	03/14/24 15:13	1
Dibenz[a,h]acridine	ND		10	2.8	ug/L		03/13/24 11:36	03/14/24 15:13	1
Dibenzofuran	ND		10	4.0	ug/L		03/13/24 11:36	03/14/24 15:13	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/13/24 11:36	03/14/24 15:13	1
2,4-Dichlorophenol	ND		10	4.3	ug/L		03/13/24 11:36	03/14/24 15:13	1
Diethyl phthalate	ND		10	4.4	ug/L		03/13/24 11:36	03/14/24 15:13	1
2,4-Dimethylphenol	ND		10	5.2	ug/L		03/13/24 11:36	03/14/24 15:13	1
Dimethyl phthalate	ND		10	4.2	ug/L		03/13/24 11:36	03/14/24 15:13	1
Di-n-butyl phthalate	ND		10	4.6	ug/L		03/13/24 11:36	03/14/24 15:13	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		03/13/24 11:36	03/14/24 15:13	1
2,4-Dinitrophenol	ND		30	4.6	ug/L		03/13/24 11:36	03/14/24 15:13	1
2,4-Dinitrotoluene	ND		10	5.1	ug/L		03/13/24 11:36	03/14/24 15:13	1
2,6-Dinitrotoluene	ND		10	3.9	ug/L		03/13/24 11:36	03/14/24 15:13	1
Di-n-octyl phthalate	ND		10	6.0	ug/L		03/13/24 11:36	03/14/24 15:13	1
1,4-Dioxane	ND		10	4.3	ug/L		03/13/24 11:36	03/14/24 15:13	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.3	ug/L		03/13/24 11:36	03/14/24 15:13	1
Hexachlorobenzene	ND		10	9.7	ug/L		03/13/24 11:36	03/14/24 15:13	1
Hexachlorocyclopentadiene	ND		20	4.5	ug/L		03/13/24 11:36	03/14/24 15:13	1
Hexachloroethane	ND		10	5.2	ug/L		03/13/24 11:36	03/14/24 15:13	1
Indene	ND		10	3.6	ug/L		03/13/24 11:36	03/14/24 15:13	1
Isophorone	ND		10	5.2	ug/L		03/13/24 11:36	03/14/24 15:13	1
2-Methylphenol	ND		10	3.2	ug/L		03/13/24 11:36	03/14/24 15:13	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		03/13/24 11:36	03/14/24 15:13	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 400-664310/1-A**  
**Matrix: Water**  
**Analysis Batch: 664465**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 664310**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		10	5.0	ug/L		03/13/24 11:36	03/14/24 15:13	1
3-Nitroaniline	ND		10	4.7	ug/L		03/13/24 11:36	03/14/24 15:13	1
4-Nitroaniline	ND		10	4.1	ug/L		03/13/24 11:36	03/14/24 15:13	1
Nitrobenzene	ND		10	4.7	ug/L		03/13/24 11:36	03/14/24 15:13	1
2-Nitrophenol	ND		10	4.6	ug/L		03/13/24 11:36	03/14/24 15:13	1
4-Nitrophenol	ND		10	3.3	ug/L		03/13/24 11:36	03/14/24 15:13	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		03/13/24 11:36	03/14/24 15:13	1
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		03/13/24 11:36	03/14/24 15:13	1
N-Nitrosodiphenylamine	ND		10	3.7	ug/L		03/13/24 11:36	03/14/24 15:13	1
Pentachlorophenol	ND		20	12	ug/L		03/13/24 11:36	03/14/24 15:13	1
Phenol	ND		10	4.2	ug/L		03/13/24 11:36	03/14/24 15:13	1
Pyridine	ND		10	10	ug/L		03/13/24 11:36	03/14/24 15:13	1
Quinoline	ND		10	2.4	ug/L		03/13/24 11:36	03/14/24 15:13	1
2,4,5-Trichlorophenol	ND		10	4.0	ug/L		03/13/24 11:36	03/14/24 15:13	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		03/13/24 11:36	03/14/24 15:13	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	70		21 - 114	03/13/24 11:36	03/14/24 15:13	1
2-Fluorophenol	37		10 - 105	03/13/24 11:36	03/14/24 15:13	1
Nitrobenzene-d5	55		16 - 127	03/13/24 11:36	03/14/24 15:13	1
Phenol-d5	26		10 - 129	03/13/24 11:36	03/14/24 15:13	1
Terphenyl-d14	91		13 - 150	03/13/24 11:36	03/14/24 15:13	1
2,4,6-Tribromophenol	94		10 - 150	03/13/24 11:36	03/14/24 15:13	1

**Lab Sample ID: LCS 400-664310/2-A**  
**Matrix: Water**  
**Analysis Batch: 664465**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 664310**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aniline	120	52.0		ug/L		43	10 - 127
Benzoic acid	492	139		ug/L		28	19 - 126
Benzyl alcohol	120	58.4		ug/L		49	17 - 109
Bis(2-chloroethoxy)methane	120	61.0		ug/L		51	24 - 125
Bis(2-chloroethyl)ether	120	50.8		ug/L		42	10 - 121
bis (2-chloroisopropyl) ether	120	46.6		ug/L		39	14 - 123
Bis(2-ethylhexyl) phthalate	120	60.7		ug/L		51	16 - 150
4-Bromophenyl phenyl ether	120	79.3		ug/L		66	17 - 150
Butyl benzyl phthalate	120	61.6		ug/L		51	21 - 150
4-Chloroaniline	120	61.2		ug/L		51	10 - 124
4-Chloro-3-methylphenol	120	68.0		ug/L		57	37 - 131
2-Chloronaphthalene	120	72.3		ug/L		60	24 - 132
2-Chlorophenol	120	63.8		ug/L		53	27 - 124
4-Chlorophenyl phenyl ether	120	77.6		ug/L		65	27 - 147
Dibenz[a,h]acridine	120	88.2		ug/L		74	40 - 140
Dibenzofuran	120	75.3		ug/L		63	30 - 135
3,3'-Dichlorobenzidine	160	99.8		ug/L		62	10 - 150
2,4-Dichlorophenol	120	68.5		ug/L		57	33 - 132
Diethyl phthalate	120	73.8		ug/L		61	37 - 145

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 400-664310/2-A**  
**Matrix: Water**  
**Analysis Batch: 664465**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 664310**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2,4-Dimethylphenol	120	71.3		ug/L		59	38 - 132
Dimethyl phthalate	120	71.4		ug/L		59	32 - 137
Di-n-butyl phthalate	120	72.6		ug/L		60	27 - 150
4,6-Dinitro-ortho-cresol	240	175		ug/L		73	14 - 150
2,4-Dinitrophenol	240	166		ug/L		69	15 - 150
2,4-Dinitrotoluene	120	80.8		ug/L		67	35 - 136
2,6-Dinitrotoluene	120	73.5		ug/L		61	29 - 140
Di-n-octyl phthalate	120	62.8		ug/L		52	26 - 150
1,4-Dioxane	120	35.9		ug/L		30	10 - 87
1,2-Diphenylhydrazine (as Azobenzene)	120	59.0		ug/L		49	23 - 138
Hexachlorobenzene	120	80.6		ug/L		67	10 - 150
Hexachlorocyclopentadiene	120	76.2		ug/L		63	10 - 124
Hexachloroethane	120	51.6		ug/L		43	10 - 127
Indene	120	64.9		ug/L		54	18 - 150
Isophorone	120	57.1		ug/L		48	28 - 127
2-Methylphenol	120	62.0		ug/L		52	34 - 124
3 & 4 Methylphenol	120	60.9		ug/L		51	32 - 122
2-Nitroaniline	120	62.2		ug/L		52	24 - 139
3-Nitroaniline	120	54.9		ug/L		46	10 - 128
4-Nitroaniline	120	72.6		ug/L		61	28 - 118
Nitrobenzene	120	56.4		ug/L		47	29 - 120
2-Nitrophenol	120	67.1		ug/L		56	25 - 148
4-Nitrophenol	240	134		ug/L		56	12 - 129
N-Nitrosodimethylamine	120	39.7		ug/L		33	10 - 115
N-Nitrosodi-n-propylamine	120	58.0		ug/L		48	24 - 142
N-Nitrosodiphenylamine	119	71.6		ug/L		60	29 - 138
Pentachlorophenol	240	178		ug/L		74	19 - 150
Phenol	120	43.2		ug/L		36	11 - 95
Pyridine	240	49.3		ug/L		21	10 - 82
Quinoline	120	93.7		ug/L		78	40 - 140
2,4,5-Trichlorophenol	120	77.0		ug/L		64	30 - 144
2,4,6-Trichlorophenol	120	74.7		ug/L		62	27 - 147

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	66		21 - 114
2-Fluorophenol	44		10 - 105
Nitrobenzene-d5	54		16 - 127
Phenol-d5	37		10 - 129
Terphenyl-d14	75		13 - 150
2,4,6-Tribromophenol	89		10 - 150

**Lab Sample ID: LCS 400-664310/4-A**  
**Matrix: Water**  
**Analysis Batch: 664465**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 664310**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzenethiol	120	94.3		ug/L		79	10 - 140

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 400-664310/4-A**  
**Matrix: Water**  
**Analysis Batch: 664465**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 664310**

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	83		21 - 114
2-Fluorophenol	49		10 - 105
Nitrobenzene-d5	59		16 - 127
Phenol-d5	38		10 - 129
Terphenyl-d14	102		13 - 150
2,4,6-Tribromophenol	116		10 - 150

**Lab Sample ID: LCSD 400-664310/3-A**  
**Matrix: Water**  
**Analysis Batch: 664465**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 664310**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	RPD Limit
							Limits	RPD		
Aniline	120	60.7		ug/L		51	10 - 127	15	40	
Benzoic acid	492	191		ug/L		39	19 - 126	32	40	
Benzyl alcohol	120	74.8		ug/L		62	17 - 109	25	40	
Bis(2-chloroethoxy)methane	120	80.9		ug/L		67	24 - 125	28	40	
Bis(2-chloroethyl)ether	120	72.1		ug/L		60	10 - 121	35	40	
bis (2-chloroisopropyl) ether	120	62.8		ug/L		52	14 - 123	30	40	
Bis(2-ethylhexyl) phthalate	120	92.1	*1	ug/L		77	16 - 150	41	40	
4-Bromophenyl phenyl ether	120	113		ug/L		94	17 - 150	35	40	
Butyl benzyl phthalate	120	93.7	*1	ug/L		78	21 - 150	41	40	
4-Chloroaniline	120	78.5		ug/L		65	10 - 124	25	40	
4-Chloro-3-methylphenol	120	89.8		ug/L		75	37 - 131	28	40	
2-Chloronaphthalene	120	94.0		ug/L		78	24 - 132	26	40	
2-Chlorophenol	120	84.6		ug/L		71	27 - 124	28	40	
4-Chlorophenyl phenyl ether	120	108		ug/L		90	27 - 147	32	40	
Dibenz[a,h]acridine	120	130		ug/L		108	40 - 140	38	40	
Dibenzofuran	120	99.6		ug/L		83	30 - 135	28	40	
3,3'-Dichlorobenzidine	160	150	*1	ug/L		94	10 - 150	41	40	
2,4-Dichlorophenol	120	91.2		ug/L		76	33 - 132	28	40	
Diethyl phthalate	120	101		ug/L		84	37 - 145	31	40	
2,4-Dimethylphenol	120	97.3		ug/L		81	38 - 132	31	40	
Dimethyl phthalate	120	97.1		ug/L		81	32 - 137	30	40	
Di-n-butyl phthalate	120	102		ug/L		85	27 - 150	33	40	
4,6-Dinitro-ortho-cresol	240	255		ug/L		106	14 - 150	37	40	
2,4-Dinitrophenol	240	253	*1	ug/L		105	15 - 150	41	40	
2,4-Dinitrotoluene	120	118		ug/L		98	35 - 136	37	40	
2,6-Dinitrotoluene	120	104		ug/L		86	29 - 140	34	40	
Di-n-octyl phthalate	120	93.2		ug/L		78	26 - 150	39	40	
1,4-Dioxane	120	46.3		ug/L		39	10 - 87	25	40	
1,2-Diphenylhydrazine (as Azobenzene)	120	83.5		ug/L		70	23 - 138	34	40	
Hexachlorobenzene	120	115		ug/L		96	10 - 150	35	40	
Hexachlorocyclopentadiene	120	107		ug/L		89	10 - 124	34	40	
Hexachloroethane	120	71.8		ug/L		60	10 - 127	33	40	
Indene	120	88.7		ug/L		74	18 - 150	31	40	
Isophorone	120	77.0		ug/L		64	28 - 127	30	40	
2-Methylphenol	120	82.9		ug/L		69	34 - 124	29	40	
3 & 4 Methylphenol	120	78.6		ug/L		65	32 - 122	25	40	

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 400-664310/3-A**  
**Matrix: Water**  
**Analysis Batch: 664465**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 664310**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2-Nitroaniline	120	82.9		ug/L		69	24 - 139	28	40
3-Nitroaniline	120	77.9		ug/L		65	10 - 128	35	40
4-Nitroaniline	120	102		ug/L		85	28 - 118	34	40
Nitrobenzene	120	75.7		ug/L		63	29 - 120	29	40
2-Nitrophenol	120	89.4		ug/L		74	25 - 148	28	40
4-Nitrophenol	240	177		ug/L		74	12 - 129	28	40
N-Nitrosodimethylamine	120	50.7		ug/L		42	10 - 115	24	40
N-Nitrosodi-n-propylamine	120	77.8		ug/L		65	24 - 142	29	40
N-Nitrosodiphenylamine	119	100		ug/L		84	29 - 138	33	40
Pentachlorophenol	240	256		ug/L		107	19 - 150	36	40
Phenol	120	55.2		ug/L		46	11 - 95	24	40
Pyridine	240	50.7		ug/L		21	10 - 82	3	40
Quinoline	120	115		ug/L		96	40 - 140	20	40
2,4,5-Trichlorophenol	120	107		ug/L		89	30 - 144	32	40
2,4,6-Trichlorophenol	120	105		ug/L		88	27 - 147	34	40

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	85		21 - 114
2-Fluorophenol	55		10 - 105
Nitrobenzene-d5	70		16 - 127
Phenol-d5	47		10 - 129
Terphenyl-d14	96		13 - 150
2,4,6-Tribromophenol	121		10 - 150

**Lab Sample ID: LCSD 400-664310/5-A**  
**Matrix: Water**  
**Analysis Batch: 664465**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 664310**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzenethiol	120	82.7		ug/L		69	10 - 140	13	40

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	82		21 - 114
2-Fluorophenol	49		10 - 105
Nitrobenzene-d5	62		16 - 127
Phenol-d5	38		10 - 129
Terphenyl-d14	104		13 - 150
2,4,6-Tribromophenol	112		10 - 150

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

**Lab Sample ID: MB 400-664310/1-A**  
**Matrix: Water**  
**Analysis Batch: 664333**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 664310**

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acenaphthene	ND		0.20	0.099	ug/L		03/13/24 11:36	03/13/24 19:13	1
Acenaphthylene	ND		0.20	0.044	ug/L		03/13/24 11:36	03/13/24 19:13	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: MB 400-664310/1-A**  
**Matrix: Water**  
**Analysis Batch: 664333**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 664310**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Anthracene	ND		0.20	0.047	ug/L		03/13/24 11:36	03/13/24 19:13	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		03/13/24 11:36	03/13/24 19:13	1
Benzo[a]pyrene	ND		0.20	0.064	ug/L		03/13/24 11:36	03/13/24 19:13	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		03/13/24 11:36	03/13/24 19:13	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		03/13/24 11:36	03/13/24 19:13	1
Benzo[k]fluoranthene	ND		0.20	0.062	ug/L		03/13/24 11:36	03/13/24 19:13	1
Chrysene	ND		0.20	0.033	ug/L		03/13/24 11:36	03/13/24 19:13	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		03/13/24 11:36	03/13/24 19:13	1
Fluoranthene	ND		0.20	0.034	ug/L		03/13/24 11:36	03/13/24 19:13	1
Fluorene	ND		0.20	0.089	ug/L		03/13/24 11:36	03/13/24 19:13	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		03/13/24 11:36	03/13/24 19:13	1
Phenanthrene	ND		0.20	0.090	ug/L		03/13/24 11:36	03/13/24 19:13	1
Pyrene	ND		0.20	0.039	ug/L		03/13/24 11:36	03/13/24 19:13	1
1-Methylnaphthalene	ND		0.20	0.080	ug/L		03/13/24 11:36	03/13/24 19:13	1
2-Methylnaphthalene	ND		0.20	0.066	ug/L		03/13/24 11:36	03/13/24 19:13	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	77		18 - 147	03/13/24 11:36	03/13/24 19:13	1
2-Fluorobiphenyl	56		15 - 128	03/13/24 11:36	03/13/24 19:13	1
Nitrobenzene-d5	54		10 - 144	03/13/24 11:36	03/13/24 19:13	1

**Lab Sample ID: LCS 400-664310/2-A**  
**Matrix: Water**  
**Analysis Batch: 664333**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 664310**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Acenaphthene	120	74.8		ug/L		62	10 - 140
Acenaphthylene	120	77.0		ug/L		64	10 - 140
Anthracene	120	77.3		ug/L		64	19 - 140
Benzo[a]anthracene	120	78.3		ug/L		65	25 - 140
Benzo[a]pyrene	120	73.5		ug/L		61	24 - 140
Benzo[b]fluoranthene	120	67.0		ug/L		56	34 - 140
Benzo[g,h,i]perylene	120	68.5		ug/L		57	13 - 140
Benzo[k]fluoranthene	120	76.2		ug/L		64	21 - 140
Chrysene	120	74.9		ug/L		62	28 - 140
Dibenz(a,h)anthracene	120	77.0		ug/L		64	10 - 140
Fluoranthene	120	79.3		ug/L		66	18 - 140
Fluorene	120	81.4		ug/L		68	16 - 140
Indeno[1,2,3-cd]pyrene	120	75.5		ug/L		63	10 - 140
Phenanthrene	120	74.6		ug/L		62	22 - 140
Pyrene	120	66.8		ug/L		56	38 - 140
1-Methylnaphthalene	120	75.4		ug/L		63	10 - 140
2-Methylnaphthalene	120	77.2		ug/L		64	10 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Terphenyl-d14	57		18 - 147
2-Fluorobiphenyl	56		15 - 128
Nitrobenzene-d5	37		10 - 144

Eurofins Pensacola



# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

**Lab Sample ID: LCSD 400-664310/3-A**  
**Matrix: Water**  
**Analysis Batch: 664333**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 664310**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
Acenaphthene	120	98.6		ug/L		82	10 - 140	28	40
Acenaphthylene	120	105		ug/L		87	10 - 140	30	40
Anthracene	120	106		ug/L		88	19 - 140	31	40
Benzo[a]anthracene	120	111		ug/L		92	25 - 140	34	40
Benzo[a]pyrene	120	107		ug/L		89	24 - 140	37	40
Benzo[b]fluoranthene	120	97.5		ug/L		81	34 - 140	37	40
Benzo[g,h,i]perylene	120	94.8		ug/L		79	13 - 140	32	40
Benzo[k]fluoranthene	120	112		ug/L		93	21 - 140	38	40
Chrysene	120	105		ug/L		87	28 - 140	33	40
Dibenz(a,h)anthracene	120	107		ug/L		90	10 - 140	33	40
Fluoranthene	120	111		ug/L		93	18 - 140	34	40
Fluorene	120	109		ug/L		91	16 - 140	29	40
Indeno[1,2,3-cd]pyrene	120	105		ug/L		88	10 - 140	33	40
Phenanthrene	120	103		ug/L		86	22 - 140	32	40
Pyrene	120	95.7		ug/L		80	38 - 140	36	40
1-Methylnaphthalene	120	95.9		ug/L		80	10 - 140	24	40
2-Methylnaphthalene	120	79.4		ug/L		66	10 - 140	3	40

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
Terphenyl-d14	78		18 - 147
2-Fluorobiphenyl	75		15 - 128
Nitrobenzene-d5	47		10 - 144

## Method: 8011 - EDB and DBCP in Water by Microextraction

**Lab Sample ID: MB 400-664151/1-A**  
**Matrix: Water**  
**Analysis Batch: 664136**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 664151**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	ND		0.030	0.017	ug/L		03/12/24 11:21	03/13/24 15:10	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/12/24 11:21	03/13/24 15:10	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	77		51 - 149	03/12/24 11:21	03/13/24 15:10	1

**Lab Sample ID: LCS 400-664151/2-A**  
**Matrix: Water**  
**Analysis Batch: 664136**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 664151**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dibromo-3-Chloropropane	0.101	0.104		ug/L		103	60 - 140
1,2-Dibromoethane	0.100	0.0895		ug/L		89	60 - 140

Surrogate	LCS %Recovery	LCS Qualifier	LCS Limits
4-Bromofluorobenzene	64		51 - 149

Eurofins Pensacola

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## Method: 8011 - EDB and DBCP in Water by Microextraction (Continued)

**Lab Sample ID: LCSD 400-664151/3-A**  
**Matrix: Water**  
**Analysis Batch: 664136**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 664151**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
1,2-Dibromo-3-Chloropropane	0.101	0.100		ug/L		100	60 - 140	3	30	
1,2-Dibromoethane	0.100	0.0785		ug/L		78	60 - 140	13	30	
		<b>LCS</b>	<b>LCS</b>							
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>							
4-Bromofluorobenzene	57		51 - 149							

**Lab Sample ID: MB 400-664279/1-A**  
**Matrix: Water**  
**Analysis Batch: 664136**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 664279**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared		Analyzed		Dil Fac
							03/13/24 09:28	03/13/24 18:00	03/13/24 18:00	03/13/24 18:00	
1,2-Dibromo-3-Chloropropane	ND		0.030	0.017	ug/L		03/13/24 09:28	03/13/24 18:00	03/13/24 18:00	18:00	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/13/24 09:28	03/13/24 18:00	03/13/24 18:00	18:00	1
		<b>MB</b>	<b>MB</b>								
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>		
4-Bromofluorobenzene	72		51 - 149				03/13/24 09:28	03/13/24 18:00	1		

**Lab Sample ID: LCS 400-664279/2-A**  
**Matrix: Water**  
**Analysis Batch: 664136**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 664279**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
1,2-Dibromo-3-Chloropropane	0.101	0.0922		ug/L		92	60 - 140			
1,2-Dibromoethane	0.100	0.0876		ug/L		87	60 - 140			
		<b>LCS</b>	<b>LCS</b>							
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>							
4-Bromofluorobenzene	70		51 - 149							

**Lab Sample ID: LCSD 400-664279/3-A**  
**Matrix: Water**  
**Analysis Batch: 664136**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 664279**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
1,2-Dibromo-3-Chloropropane	0.101	0.103		ug/L		102	60 - 140	11	30	
1,2-Dibromoethane	0.100	0.0821		ug/L		82	60 - 140	7	30	
		<b>LCS</b>	<b>LCS</b>							
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>							
4-Bromofluorobenzene	75		51 - 149							



ACCUTEST ( )  
 CALSCIENCE ( )  
 TESTAMERICA (TestAmerica Pensacola, FL 32514 (850-474-1001))  
 Other ( )

400-252332 COC  
 Pensacola, FL 32514 (850-474-1001)

LAB USE ONLY

Print Bill To Contact Name: Melissa Remtger  
 PO # 25278  
 GSAP Project ID  
 60721927 - 3.1.2  
 USPC00114/R02  
 AECOM Project / Task Number: Roxana Monthly GW  
 60721927 - 3.1.2

SITE ADDRESS: Street and City  
 900 South Central Ave; ROXANA, IL  
 STATE: IL  
 PHONE NO.: 314-802-1207  
 E-MAIL: melissa.remtger@aecom.com

EDF DELIVERABLE TO (Name, Company, Office Location):  
 Melissa Remtger - please see special instructions

SAMPLER NAME(S) (Print):  
 M. Massa, T. Jenkins

LOG CODE

OTHER\_BW\_SERVICES

LA - RWQCB REPORT FORMAT  
 STANDARD (14 DAY) [x] 5 DAYS [ ] 2 DAYS [ ] 3 DAYS [ ] WEEKEND

RESULTS NEEDED ON

TURNAROUND TIME (CALENDAR DAYS):

LA - RWQCB REPORT FORMAT  
 STANDARD (14 DAY) [x] 5 DAYS [ ] 2 DAYS [ ] 3 DAYS [ ] WEEKEND

DELIVERABLES: [ ] LEVEL 1 [x] LEVEL 2 [ ] LEVEL 3 [x] LEVEL 4 [ ] OTHER (SPECIFY) \_ EDD  
 Cooler #1 Cooler #2 Cooler #3

TEMPERATURE ON RECEIPT °C

SPECIAL INSTRUCTIONS OR NOTES :  
 SHELL CONTRACT RATE APPLIES  
 STATE REIMBURSEMENT RATE APPLIES  
 EDD NOT NEEDED  
 RECEIPT VERIFICATION REQUESTED  
 PROVIDE LEDD DISK

Please include "J" values on Reports.  
 Please provide sample receipt upon login.  
 Please send Equis EDDs to EDDSubmissions@aecomshell.com; Vlad.Virjan@aecom.com

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE				NO. OF CONT.
		DATE	TIME		HCL	HNO3	H2SO4	NONE	
	TB-ROX-030624-8260-A	3/6/2024	0000	Water	2				2
	TB-ROX-030624-8011-A	3/6/2024	0000	Water	2				2
	MW13-ROX-030624	3/6/2024	0945	Water	6			2	8
	P114R-ROX-030624	3/6/2024	1100	Water	6			2	8
	MW12-ROX-30624-EB	3/6/2024	1200	Water	6			2	8
	MW12-ROX-30624	3/6/2024	1300	Water	6			2	8
	ROST4PZE-ROX-030624	3/6/2024	1400	Water	6			2	8

RECEIVED BY: (Signature) [Signature] DATE: 3/6/2024 TIME: 1600

TEMPERATURE ON RECEIPT °C  
 0.8  
 2.8  
 DLS

Container PID Readings or Laboratory Notes:

REQUESTED ANALYSIS  
 60721927 - 3.1.2

VOC 8260 X  
 8011 EDB + DBCP X  
 SVOC 8270 X  
 PAH 8270 SIMS X

RECEIVED BY: (Signature) [Signature] DATE: 3/6/2024 TIME: 9:44



## Leah Klingensmith

---

**From:** Massa, Mary <Mary.Massa@aecom.com>  
**Sent:** Wednesday, March 6, 2024 2:52 PM  
**To:** Leah Klingensmith; Lisa Monroe; Trina Perez  
**Cc:** Pennington, Wendy; Remiger, Melissa  
**Subject:** #60721927-3.1.2 Roxana (Feb-Mar) Monthly Groundwater - samples arriving tomorrow (Thursday) in Pensacola  
**Attachments:** Feb-Mar 24 Roxana GW COC\_030424.pdf

**CAUTION: EXTERNAL EMAIL** - Sent from an email domain that is not formally trusted by Eurofins.

Do not click on links or open attachments unless you recognise the sender and are certain that the content is safe.

Hi Leah,

Please see the attached COCs for #60721927-3.1.2 Roxana (February-March) Monthly Groundwater - samples arriving tomorrow (Thursday) in Pensacola and let the group know of any questions or concerns.

**Please note:**

- There is an expedited 5 day TAT requested for monthly sampling
- PG 2 of the in-cooler COC is incorrectly missing the "-B" on the trip blank IDs, corrected COC is attached.

Thank you,

**Mary Massa (D'Angelo)**, RG (MO)

Geologist, US West Environment  
M +1 (314) 795-7580  
[mary.massa@aecom.com](mailto:mary.massa@aecom.com)

**AECOM**

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St. Louis, MO, 63102, US  
T +1 (314) 429-0100  
[aecom.com](http://aecom.com)

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LAB (LOCATION)

ACCOUNT ( )  
 CALSCIENCE ( )  
 TESTAMERICA (TestAmerica Pensacola; 3555 McLemore Dr, Pensacola, FL 32514 (850-474-1001))  
 Other ( )

SCW FDG  
 PIPELINE  
 CHEMICALS  
 CONSULTANT  
 TRANSPORTATION  
 OTHER - ENV. SERVICES

CHECK IF NO INCIDENT # APPLIES  
 DATE: 3/6/2024  
 PAGE: 1 of 2

**Print Bill To Contact Name:** Melissa Remiger  
**PlanNet Site or Project ID:** 25278  
**PO #:** GSAP Project ID  
**60721927 - 3.1.2** USPC/00114/R/02

**STATE ADDRESS:** Street and city  
 900 South Central Ave; ROXANA  
 STATE: IL  
**PHONE NO.:** 314-302-1207  
**E-MAIL:** melissa.remiger@aecom.com  
**AECOM Project / Task Number:** Roxana Monthly GW 60721927 - 3.1.2

**EDF DELIVERABLE TO (Name, Company, Office Location):** Melissa Remiger - please see special instructions  
**SAMPLER NAME(S) (Print):** M. Massa, T. Jenkins  
**LAB USE ONLY**

**REQUESTED ANALYSIS:** 60721927 - 3.1.2  
**FIELD NOTES:**

**TEMPERATURE ON RECEIPT C°:**  
**Container PID Readings or Laboratory Notes:**

**LOG CODE:**  
 LA - RWQCB REPORT FORMAT  
 24 HOURS  
 2 DAYS  
 3 DAYS  
 5 DAYS  
 14 DAYS  
 OTHER (SPECIFY) \_EDD\_ WEEKEND

**DELIVERABLES:**  LEVEL 1  LEVEL 2  LEVEL 3  LEVEL 4  
**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.
	DATE	TIME		HCL	HNO3	H2SO4	NONE	
VB-ROX-030624-8260-A	3/6/2024	0000	Water	2				2
VB-ROX-030624-8011-A	3/6/2024	0000	Water	2				2
MW13-ROX-030624	3/6/2024	0945	Water	6			2	8
P114R-ROX-030624	3/6/2024	1100	Water	6			2	8
MW12-ROX-30624-EB	3/6/2024	1200	Water	6			2	8
MW12-ROX-30624	3/6/2024	1300	Water	6			2	8
ROST4PZE-ROX-030624	3/6/2024	1400	Water	6			2	8

**RELINQUISHED BY:** (Signature) \_\_\_\_\_  
 Received by: (Signature) \_\_\_\_\_  
**DATE:** 3/6/2024  
**TIME:** 1600

**RELINQUISHED BY:** (Signature) \_\_\_\_\_  
 Received by: (Signature) \_\_\_\_\_  
**DATE:** 3/6/2024  
**TIME:** 1600

**RELINQUISHED BY:** (Signature) \_\_\_\_\_  
 Received by: (Signature) \_\_\_\_\_  
**DATE:** 3/6/2024  
**TIME:** 1600





LAB (LOCATION)

ACCURTEST ( )  
 CALSCIENCE ( )  
 TESTAMERICA (TestAmerica Pensacola: 3555 McLemore Dr., Pensacola, FL 32514 (850-474-1001))  
 Other ( )

SCW FDG  
 CHEMICALS  
 TRANSPORTATION

PIPELINE  
 CONSULTANT  
 OTHER - ENV. SERVICES

RETAIL  
 LUBES

Print Bill To Contact Name: Melissa Remiger  
 PlanNet Site or Project ID: 25278  
 PO #: 60721927 - 3.1.2  
 GSAP Project ID: USPC/00114/R/02

CHECK IF NO INCIDENT # APPLIES:  DATE: 3/6/2024  
 PAGE: 2 of 2

AECOM Project / Task Number: Roxana Monthly GW 60721927 - 3.1.2  
 STATE: IL  
 SITE ADDRESS: Street and city: 900 South Central Ave; ROXANA  
 E-WALL: melissa.remiger@aecom.com  
 PHONE NO.: 314-502-1207  
 EDI DELIVERABLE TO (Name, Company, Office Location): Melissa Remiger - please see special instructions  
 SAMPLER NAME(S) (Print): E. CHALFANT ; J. MAYER

REQUESTED ANALYSIS: 60721927 - 3.1.2  
 FIELD NOTES:

VOC 8260	SVC 8270	PAH 8270 SIMS	PRESERVATIVE				NO. OF CONT.
			HCL	HNO3	H2SO4	OTHER	
X			2			2	
X			2			2	
X			6		2	8	
X			6		2	8	
X			6		2	8	
X			6		2	8	
X			6		2	8	

SPECIAL INSTRUCTIONS OR NOTES:  
 SHELL CONTRACT RATE APPLIES  
 STATE REIMBURSEMENT RATE APPLIES  
 EDD NOT NEEDED  
 RECEIPT VERIFICATION REQUESTED  
 PROVIDE LEDD DISK

Email reports to: melissa.remiger@aecom.com; mary.mass@aecom.com; britt.howell@aecom.com  
 \* Please include "J" values on Reports.  
 \* Please provide sample receipt upon login.  
 \* Please send Equis EDDs to EDDSubmissions@aecomshell.com; Vlad.Virjan@aecom.com

DELIVERABLES:  LEVEL 1  LEVEL 2  LEVEL 3  LEVEL 4  OTHER (SPECIFY) \_ EDD  
 TEMPERATURE ON RECEIPT C°: Cooler #1: Cooler #2: Cooler #3:

TURNAROUND TIME (CALENDAR DAYS):  5 DAYS  2 DAYS  24 HOURS  WEEKEND  
 LA - RWQCB REPORT FORMAT

Bill To Contact E-MAIL: melissa.remiger@aecom.com  
 RESULTS NEEDED ON WEEKEND

ADDRESS: 100 N. Broadway, 20th Floor, ST. LOUIS, MO 63102, USA  
 PROJECT CONTACT (Hierarchy or PDF Report to): Melissa Remiger, Mary Massa, Brett Howell

TELEPHONE: 314-429-0100 FAX: 314-429-0462  
 LOG CODE:

RECEIVED BY: (Signature) Date: 3/6/2024 Time: 1600  
 FEDEX: see page 1.  
 RECEIVED BY: (Signature) Date: Time:

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RECEIVED BY: (Signature) Date: Time:





# Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-252332-1

**Login Number: 252332**

**List Source: Eurofins Pensacola**

**List Number: 1**

**Creator: Roberts, Alexis J**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
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	0.8°C, 2.8°C IR8
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.	False	Sample #3 has a broken VOA
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 <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

# Accreditation/Certification Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252332-1

## Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-24
Kansas	NELAP	E-10253	10-31-24
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-24
North Carolina (WW/SW)	State	314	12-31-24
Oklahoma	NELAP	9810	08-31-24
Pennsylvania	NELAP	68-00467	01-31-25
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-24
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	P330-21-00056	05-17-24
USDA	US Federal Programs	FLGNV23001	01-08-26
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-24

# Roxana Groundwater Monthly – February/March 2024 Data Review

Laboratory SDG: 400-252406-1-Rev.1

Data Reviewer: Adelina Gita

Peer Reviewer: Cheyana Cokley

Date Reviewed: 04/02/2024

Guidance: USEPA National Functional Guidelines for Organic Superfund Methods  
Data Review 2020

Sample Identification	Sample Identification
TB-ROX-030824-8260-B	TB-ROX-030824-8011-B
MW25-ROX-030824-EB	MW25-ROX-030824
TB-ROX-030824-8260-A	TB-ROX-030824-8011-A
P58-ROX-030824	P58-ROX-030824-DUP
P93B-ROX-030824	MW7-ROX-030824
MW7-ROX-030824-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, although not indicated in the laboratory case narrative, 2-methylnaphthalene was detected in the equipment blank MW25-ROX-030824-EB. VOC and SVOCs LCS/LCSD recoveries, and/or LCS/LCSD RPDs, were outside evaluation criteria. The PAH internal standard recovery for naphthalene-d<sub>8</sub> was outside criteria in sample P93B-ROX-030824. The continuing calibration verifications (CCV) for multiple analytes were outside evaluation criteria, biased low. Several samples were diluted to bring the target analytes within the calibration range. Elevated reporting limits (RLs) are provided. These issues are addressed further in the appropriate sections of this data review. The laboratory report was revised on March 25, 2024, to include missing ICVs for method 8270E.

Three of 70 (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?*

Yes

Blank ID	Parameter	Analyte	Concentration /Amount
MW25-ROX-030824-EB	PAHs	2-Methylnaphthalene	0.14 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.

## 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 400-664695/1002	VOCs	Hexachlorobutadiene	147	N/A	53-140
LCS/LCSD 400-664601/2-A/3-A	SVOCs	Pyridine	15/7	80	10-82/40

Analytical data that required qualification based on LCS/LCSD data are included in the table below. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
MW25-ROX-030824	SVOCs	Pyridine	UJ
P58-ROX-030824	SVOCs	Pyridine	UJ
P58-ROX-030824-DUP	SVOCs	Pyridine	UJ
P93B-ROX-030824	SVOCs	Pyridine	UJ
MW7-ROX-030824	SVOCs	Pyridine	UJ
MW7-ROX-030824-DUP	SVOCs	Pyridine	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?*

No

## 8.0 Internal Standard (IS) Recoveries

*Were internal standard area recoveries within evaluation criteria?*

No

Sample ID	Parameter	Analyte	IS Area Recovery	12/24 Hour Standard	IS Criteria
P93B-ROX-030824	PAHs	Naphthalene-d <sub>8</sub>	76306	28754	57508-14377

Qualifications due to internal standard recoveries are included in the table below.

Sample ID	Parameter	Analyte	Qualification
P93B-ROX-030824	PAHs	1-Methylnaphthalene	J
P93B-ROX-030824	PAHs	2-Methylnaphthalene	J

## 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-030824	P58-ROX-030824-DUP
MW7-ROX-030824	MW7-ROX-030824-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 with the exception of non-detect VOCs in samples P93B-ROX-030824, MW7-ROX-030824 and MW7-ROX-030824-DUP to bring benzene into calibration range of the instrument. VOCs were non-detect at a dilution factor between 500X and 5000X, with raised reporting limits between 500 and 130000 µg/L. Due to historical detections, please see section 12.0 of the data review for additional qualifications.

## 12.0 Additional Qualifications

*Were additional qualifications applied?*

Yes, the continuing calibration verification (CCV) for vinyl chloride and chloromethane were outside evaluation criteria, biased low. Analytes are qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
P93B-ROX-030824	VOCs	Vinyl chloride	UJ
P93B-ROX-030824	VOCs	Chloromethane	UJ

Additionally, VOCs in samples P93B-ROX-030824, MW7-ROX-030824 and MW7-ROX-030824-DUP were qualified as estimated non-detect due to sample dilution and historical

detections. Vinyl chloride and chloromethane, in sample P93B-ROX-030824, were previously qualified per section 12.0; no further qualification is required.

<b>Sample ID</b>	<b>Parameter</b>	<b>Analyte</b>	<b>Qualification</b>
P93B-ROX-030824	VOCs	All non-detect	<b>UJ</b>
MW7-ROX-030824	VOCs	All non-detect	<b>UJ</b>
MW7-ROX-030824-DUP	VOCs	All non-detect	<b>UJ</b>



# ANALYTICAL REPORT

## PREPARED FOR

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AECOM Technical Services Inc.  
100 N. Broadway  
20th Floor  
St. Louis, Missouri 63102

Generated 3/18/2024 7:38:55 PM

## JOB DESCRIPTION

ROXANA MONTHLY GW

## JOB NUMBER

400-252406-1

Reviewed 4/2/2024  
AG



# Eurofins Pensacola

## Job Notes

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## Authorization



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# Case Narrative

Client: AECOM Technical Services Inc.  
Project: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Job ID: 400-252406-1**

**Eurofins Pensacola**

## Job Narrative 400-252406-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 3/9/2024 8:07 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.1°C.

### GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-664695 recovered above the upper control limit for 1,2,4-Trichlorobenzene, 1,2-Dichloroethane, 1,2-Dichloropropane, Carbon tetrachloride, Dichlorobromomethane, Chloroform and Hexachlorobutadiene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The laboratory control sample (LCS) for analytical batch 400-664695 recovered outside control limits for the following analyte: Hexachlorobutadiene. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-664711 recovered above the upper control limit for Chloroform, Dichlorobromomethane, Hexachlorobutadiene and Methylene Chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The preservative used in the sample containers provided is not compatible with one of the Method 8260 analytes requested. The following samples were received preserved with hydrochloric acid: TB-ROX-030824-8260-A (400-252406-5), P58-ROX-030824 (400-252406-7), P58-ROX-030824-DUP (400-252406-8), MW7-ROX-030824 (400-252406-10) and MW7-ROX-030824-DUP (400-252406-11). The requested target analyte list includes 2-Chloroethyl vinyl ether Acrolein and Acrylonitrile, which are acid-labile compound that degrades in an acidic medium.

Method 8260D: The following samples were diluted to bring the concentration of target analytes within the calibration range: P58-ROX-030824 (400-252406-7), P58-ROX-030824-DUP (400-252406-8), MW7-ROX-030824 (400-252406-10) and MW7-ROX-030824-DUP (400-252406-11). Elevated reporting limits (RLs) are provided.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-664766 recovered above the upper control limit for 1,1,2-Trichloroethane and 1,3-Dichloropropane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-664766 recovered outside acceptance criteria, low biased, for Chloromethane and Vinyl chloride. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: P93B-ROX-030824 (400-252406-9). Elevated reporting limits (RLs) are provided.

Method 8260D: The preservative used in the sample containers provided is not compatible with one of the Method 8260 analytes requested. The following sample was received preserved with hydrochloric acid: P93B-ROX-030824 (400-252406-9). The requested target analyte list includes 2-Chloroethyl vinyl ether Acrolein and Acrylonitrile, which are acid-labile compound that degrades in an acidic medium.

Method 8260D: The preservative used in the sample containers provided is not compatible with some of the Method 8260 analytes

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# Case Narrative

Client: AECOM Technical Services Inc.  
Project: ROXANA MONTHLY GW

Job ID: 400-252406-1

## Job ID: 400-252406-1 (Continued)

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requested. The following samples were received preserved with hydrochloric acid: TB-ROX-030824-8260-B (400-252406-1), MW25-ROX-030824-EB (400-252406-3) and MW25-ROX-030824 (400-252406-4). The requested target analyte list includes 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 8270E: The laboratory control sample duplicate (LCSD) for preparation batch 400-664601 and analytical batch 400-664636 recovered outside control limits for the following analyte(s): Pyridine. Pyridine has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified.

Method 8270E: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 400-664601 and analytical batch 400-664636 recovered outside control limits for the following analytes: Pyridine.

Method 8270E: The continuing calibration verification (CCV) associated with batch 400-664636 recovered above the upper control limit for Hexachlorocyclopentadiene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8270E\_SIM: The continuing calibration verification (CCV) associated with batch 400-664638 recovered above the upper control limit for Fluoranthene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8270E\_SIM: One of six Internal standard responses had high bias and was outside of the upper control limit for the following sample: P93B-ROX-030824 (400-252406-9). The sample(s) shows evidence of matrix interference. The associated surrogate and two target analytes have a corresponding low bias and have been reported and qualified accordingly.

Method 8270E\_SIM: Target analytes detected in the following samples and in historical data. Method blank non-detect for all analytes. Re-extraction not performed.

MW25-ROX-030824-EB (400-252406-3), P58-ROX-030824 (400-252406-7), P58-ROX-030824-DUP (400-252406-8), P93B-ROX-030824 (400-252406-9), MW7-ROX-030824 (400-252406-10) and MW7-ROX-030824-DUP (400-252406-11)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

### GC Semi VOA

Method 8011: The continuing calibration verification (CCV) associated with batch 400-664510 recovered above the upper control limit for 1,2-Dibromo-3-Chloropropane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCV 400-664441/24-A).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

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# Sample Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-252406-1	TB-ROX-030824-8260-B	Water	03/08/24 00:01	03/09/24 08:07
400-252406-2	TB-ROX-030824-8011-B	Water	03/08/24 00:01	03/09/24 08:07
400-252406-3	MW25-ROX-030824-EB	Water	03/08/24 08:30	03/09/24 08:07
400-252406-4	MW25-ROX-030824	Water	03/08/24 10:25	03/09/24 08:07
400-252406-5	TB-ROX-030824-8260-A	Water	03/08/24 00:01	03/09/24 08:07
400-252406-6	TB-ROX-030824-8011-A	Water	03/08/24 00:01	03/09/24 08:07
400-252406-7	P58-ROX-030824	Water	03/08/24 10:30	03/09/24 08:07
400-252406-8	P58-ROX-030824-DUP	Water	03/08/24 10:30	03/09/24 08:07
400-252406-9	P93B-ROX-030824	Water	03/08/24 12:00	03/09/24 08:07
400-252406-10	MW7-ROX-030824	Water	03/08/24 14:10	03/09/24 08:07
400-252406-11	MW7-ROX-030824-DUP	Water	03/08/24 14:10	03/09/24 08:07

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## Detection Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

### Client Sample ID: TB-ROX-030824-8260-B

Lab Sample ID: 400-252406-1

No Detections.

### Client Sample ID: TB-ROX-030824-8011-B

Lab Sample ID: 400-252406-2

No Detections.

### Client Sample ID: MW25-ROX-030824-EB

Lab Sample ID: 400-252406-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Methylnaphthalene	0.14	J	0.19	0.062	ug/L	1		8270E SIM	Total/NA

### Client Sample ID: MW25-ROX-030824

Lab Sample ID: 400-252406-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	14	J	25	10	ug/L	1		8260D	Total/NA
Benzene	24		1.0	0.50	ug/L	1		8260D	Total/NA
Carbon disulfide	0.58	J	1.0	0.50	ug/L	1		8260D	Total/NA
Methyl tert-butyl ether	0.82	J	1.0	0.22	ug/L	1		8260D	Total/NA

### Client Sample ID: TB-ROX-030824-8260-A

Lab Sample ID: 400-252406-5

No Detections.

### Client Sample ID: TB-ROX-030824-8011-A

Lab Sample ID: 400-252406-6

No Detections.

### Client Sample ID: P58-ROX-030824

Lab Sample ID: 400-252406-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	360	J	500	250	ug/L	500		8260D	Total/NA
Benzene - DL	430000		2000	1000	ug/L	2000		8260D	Total/NA
Acenaphthene	0.40		0.20	0.097	ug/L	1		8270E SIM	Total/NA
Anthracene	0.098	J	0.20	0.046	ug/L	1		8270E SIM	Total/NA
Benzo[a]anthracene	0.047	J	0.20	0.033	ug/L	1		8270E SIM	Total/NA
Chrysene	0.060	J	0.20	0.032	ug/L	1		8270E SIM	Total/NA
Fluorene	0.83		0.20	0.087	ug/L	1		8270E SIM	Total/NA
Phenanthrene	0.59		0.20	0.088	ug/L	1		8270E SIM	Total/NA
Pyrene	0.097	J	0.20	0.038	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	33		0.20	0.079	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	19		0.20	0.065	ug/L	1		8270E SIM	Total/NA
Phenol	260		9.8	4.1	ug/L	1		8270E	Total/NA

### Client Sample ID: P58-ROX-030824-DUP

Lab Sample ID: 400-252406-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	330	J	500	250	ug/L	500		8260D	Total/NA
Benzene - DL	430000		2000	1000	ug/L	2000		8260D	Total/NA
Acenaphthene	0.41		0.20	0.097	ug/L	1		8270E SIM	Total/NA
Anthracene	0.11	J	0.20	0.046	ug/L	1		8270E SIM	Total/NA
Benzo[a]anthracene	0.044	J	0.20	0.033	ug/L	1		8270E SIM	Total/NA
Chrysene	0.058	J	0.20	0.032	ug/L	1		8270E SIM	Total/NA
Fluoranthene	0.036	J	0.20	0.033	ug/L	1		8270E SIM	Total/NA
Fluorene	0.84		0.20	0.087	ug/L	1		8270E SIM	Total/NA
Phenanthrene	0.60		0.20	0.088	ug/L	1		8270E SIM	Total/NA
Pyrene	0.097	J	0.20	0.038	ug/L	1		8270E SIM	Total/NA

This Detection Summary does not include radiochemical test results.

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# Detection Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

## Client Sample ID: P58-ROX-030824-DUP (Continued)

Lab Sample ID: 400-252406-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1-Methylnaphthalene	30		0.20	0.078	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	17		0.20	0.064	ug/L	1		8270E SIM	Total/NA
Phenol	220		9.8	4.1	ug/L	1		8270E	Total/NA

## Client Sample ID: P93B-ROX-030824

Lab Sample ID: 400-252406-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene - DL	2500000		10000	5000	ug/L	10000		8260D	Total/NA
1-Methylnaphthalene	0.093	J *3 J	0.19	0.078	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	0.067	J *3 J	0.19	0.064	ug/L	1		8270E SIM	Total/NA
Phenol	120		9.7	4.1	ug/L	1		8270E	Total/NA

## Client Sample ID: MW7-ROX-030824

Lab Sample ID: 400-252406-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene - DL	510000		2000	1000	ug/L	2000		8260D	Total/NA
Acenaphthene	0.14	J	0.20	0.097	ug/L	1		8270E SIM	Total/NA
Fluorene	0.14	J	0.20	0.087	ug/L	1		8270E SIM	Total/NA
Phenanthrene	0.30		0.20	0.088	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	1.4		0.20	0.079	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	1.5		0.20	0.065	ug/L	1		8270E SIM	Total/NA
Phenol	50		9.8	4.1	ug/L	1		8270E	Total/NA

## Client Sample ID: MW7-ROX-030824-DUP

Lab Sample ID: 400-252406-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene - DL	490000		2000	1000	ug/L	2000		8260D	Total/NA
Acenaphthene	0.22		0.19	0.095	ug/L	1		8270E SIM	Total/NA
Anthracene	0.048	J	0.19	0.045	ug/L	1		8270E SIM	Total/NA
Fluorene	0.24		0.19	0.085	ug/L	1		8270E SIM	Total/NA
Phenanthrene	0.47		0.19	0.086	ug/L	1		8270E SIM	Total/NA
Pyrene	0.038	J	0.19	0.037	ug/L	1		8270E SIM	Total/NA
1-Methylnaphthalene	1.7		0.19	0.076	ug/L	1		8270E SIM	Total/NA
2-Methylnaphthalene	1.8		0.19	0.063	ug/L	1		8270E SIM	Total/NA
Phenol	52		9.6	4.0	ug/L	1		8270E	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Pensacola



# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: TB-ROX-030824-8260-B**

**Lab Sample ID: 400-252406-1**

Date Collected: 03/08/24 00:01

Matrix: Water

Date Received: 03/09/24 08:07

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/16/24 21:25	1
Acrolein	ND		20	3.3	ug/L			03/16/24 21:25	1
Acrylonitrile	ND		10	2.8	ug/L			03/16/24 21:25	1
Benzene	ND		1.0	0.50	ug/L			03/16/24 21:25	1
Bromobenzene	ND		1.0	0.54	ug/L			03/16/24 21:25	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/16/24 21:25	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/16/24 21:25	1
Bromoform	ND		5.0	0.25	ug/L			03/16/24 21:25	1
Bromomethane	ND		1.0	0.98	ug/L			03/16/24 21:25	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/16/24 21:25	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/16/24 21:25	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/16/24 21:25	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/16/24 21:25	1
Chloroethane	ND		1.0	0.76	ug/L			03/16/24 21:25	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/16/24 21:25	1
Chloroform	ND		1.0	0.90	ug/L			03/16/24 21:25	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/16/24 21:25	1
Chloromethane	ND		1.0	0.90	ug/L			03/16/24 21:25	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/16/24 21:25	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/16/24 21:25	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/16/24 21:25	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/16/24 21:25	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/16/24 21:25	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/16/24 21:25	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/16/24 21:25	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/16/24 21:25	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/16/24 21:25	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/16/24 21:25	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/16/24 21:25	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/16/24 21:25	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/16/24 21:25	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/16/24 21:25	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/16/24 21:25	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/16/24 21:25	1
Hexachlorobutadiene	ND	*+	5.0	0.90	ug/L			03/16/24 21:25	1
2-Hexanone	ND		25	1.4	ug/L			03/16/24 21:25	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/16/24 21:25	1
Methylene bromide	ND		5.0	0.22	ug/L			03/16/24 21:25	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/16/24 21:25	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/16/24 21:25	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/16/24 21:25	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/16/24 21:25	1
Naphthalene	ND		5.0	3.0	ug/L			03/16/24 21:25	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/16/24 21:25	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/16/24 21:25	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/16/24 21:25	1
o-Xylene	ND		5.0	0.60	ug/L			03/16/24 21:25	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/16/24 21:25	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/16/24 21:25	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: TB-ROX-030824-8260-B**

**Lab Sample ID: 400-252406-1**

Date Collected: 03/08/24 00:01

Matrix: Water

Date Received: 03/09/24 08:07

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/16/24 21:25	1
Styrene	ND		1.0	1.0	ug/L			03/16/24 21:25	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/16/24 21:25	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/16/24 21:25	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/16/24 21:25	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/16/24 21:25	1
Toluene	ND		1.0	0.90	ug/L			03/16/24 21:25	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/16/24 21:25	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/16/24 21:25	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/16/24 21:25	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/16/24 21:25	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/16/24 21:25	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/16/24 21:25	1
Trichloroethene	ND		1.0	0.15	ug/L			03/16/24 21:25	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/16/24 21:25	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/16/24 21:25	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/16/24 21:25	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/16/24 21:25	1
Vinyl acetate	ND		25	0.93	ug/L			03/16/24 21:25	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/16/24 21:25	1
Xylenes, Total	ND		10	1.6	ug/L			03/16/24 21:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	97		72 - 130		03/16/24 21:25	1
Dibromofluoromethane	106		75 - 126		03/16/24 21:25	1
Toluene-d8 (Surr)	89		64 - 132		03/16/24 21:25	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
 Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: TB-ROX-030824-8011-B**

**Lab Sample ID: 400-252406-2**

Date Collected: 03/08/24 00:01

Matrix: Water

Date Received: 03/09/24 08:07

**Method: EPA 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	0.017	ug/L		03/14/24 07:46	03/14/24 16:54	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/14/24 07:46	03/14/24 16:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	138		51 - 149				03/14/24 07:46	03/14/24 16:54	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: MW25-ROX-030824-EB**

**Lab Sample ID: 400-252406-3**

Date Collected: 03/08/24 08:30

Matrix: Water

Date Received: 03/09/24 08:07

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/16/24 21:51	1
Acrolein	ND		20	3.3	ug/L			03/16/24 21:51	1
Acrylonitrile	ND		10	2.8	ug/L			03/16/24 21:51	1
Benzene	ND		1.0	0.50	ug/L			03/16/24 21:51	1
Bromobenzene	ND		1.0	0.54	ug/L			03/16/24 21:51	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/16/24 21:51	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/16/24 21:51	1
Bromoform	ND		5.0	0.25	ug/L			03/16/24 21:51	1
Bromomethane	ND		1.0	0.98	ug/L			03/16/24 21:51	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/16/24 21:51	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/16/24 21:51	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/16/24 21:51	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/16/24 21:51	1
Chloroethane	ND		1.0	0.76	ug/L			03/16/24 21:51	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/16/24 21:51	1
Chloroform	ND		1.0	0.90	ug/L			03/16/24 21:51	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/16/24 21:51	1
Chloromethane	ND		1.0	0.90	ug/L			03/16/24 21:51	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/16/24 21:51	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/16/24 21:51	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/16/24 21:51	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/16/24 21:51	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/16/24 21:51	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/16/24 21:51	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/16/24 21:51	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/16/24 21:51	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/16/24 21:51	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/16/24 21:51	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/16/24 21:51	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/16/24 21:51	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/16/24 21:51	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/16/24 21:51	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/16/24 21:51	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/16/24 21:51	1
Hexachlorobutadiene	ND	*+	5.0	0.90	ug/L			03/16/24 21:51	1
2-Hexanone	ND		25	1.4	ug/L			03/16/24 21:51	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/16/24 21:51	1
Methylene bromide	ND		5.0	0.22	ug/L			03/16/24 21:51	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/16/24 21:51	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/16/24 21:51	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/16/24 21:51	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/16/24 21:51	1
Naphthalene	ND		5.0	3.0	ug/L			03/16/24 21:51	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/16/24 21:51	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/16/24 21:51	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/16/24 21:51	1
o-Xylene	ND		5.0	0.60	ug/L			03/16/24 21:51	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/16/24 21:51	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/16/24 21:51	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: MW25-ROX-030824-EB**

**Lab Sample ID: 400-252406-3**

Date Collected: 03/08/24 08:30

Matrix: Water

Date Received: 03/09/24 08:07

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/16/24 21:51	1
Styrene	ND		1.0	1.0	ug/L			03/16/24 21:51	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/16/24 21:51	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/16/24 21:51	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/16/24 21:51	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/16/24 21:51	1
Toluene	ND		1.0	0.90	ug/L			03/16/24 21:51	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/16/24 21:51	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/16/24 21:51	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/16/24 21:51	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/16/24 21:51	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/16/24 21:51	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/16/24 21:51	1
Trichloroethene	ND		1.0	0.15	ug/L			03/16/24 21:51	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/16/24 21:51	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/16/24 21:51	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/16/24 21:51	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/16/24 21:51	1
Vinyl acetate	ND		25	0.93	ug/L			03/16/24 21:51	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/16/24 21:51	1
Xylenes, Total	ND		10	1.6	ug/L			03/16/24 21:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		72 - 130					03/16/24 21:51	1
Dibromofluoromethane	107		75 - 126					03/16/24 21:51	1
Toluene-d8 (Surr)	90		64 - 132					03/16/24 21:51	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.093	ug/L		03/15/24 10:01	03/15/24 16:22	1
Acenaphthylene	ND		0.19	0.042	ug/L		03/15/24 10:01	03/15/24 16:22	1
Anthracene	ND		0.19	0.044	ug/L		03/15/24 10:01	03/15/24 16:22	1
Benzo[a]anthracene	ND		0.19	0.032	ug/L		03/15/24 10:01	03/15/24 16:22	1
Benzo[a]pyrene	ND		0.19	0.060	ug/L		03/15/24 10:01	03/15/24 16:22	1
Benzo[b]fluoranthene	ND		0.19	0.035	ug/L		03/15/24 10:01	03/15/24 16:22	1
Benzo[g,h,i]perylene	ND		0.19	0.025	ug/L		03/15/24 10:01	03/15/24 16:22	1
Benzo[k]fluoranthene	ND		0.19	0.059	ug/L		03/15/24 10:01	03/15/24 16:22	1
Chrysene	ND		0.19	0.031	ug/L		03/15/24 10:01	03/15/24 16:22	1
Dibenz(a,h)anthracene	ND		0.19	0.045	ug/L		03/15/24 10:01	03/15/24 16:22	1
Fluoranthene	ND		0.19	0.032	ug/L		03/15/24 10:01	03/15/24 16:22	1
Fluorene	ND		0.19	0.084	ug/L		03/15/24 10:01	03/15/24 16:22	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.032	ug/L		03/15/24 10:01	03/15/24 16:22	1
Phenanthrene	ND		0.19	0.085	ug/L		03/15/24 10:01	03/15/24 16:22	1
Pyrene	ND		0.19	0.037	ug/L		03/15/24 10:01	03/15/24 16:22	1
1-Methylnaphthalene	ND		0.19	0.076	ug/L		03/15/24 10:01	03/15/24 16:22	1
<b>2-Methylnaphthalene</b>	<b>0.14</b>	<b>J</b>	0.19	0.062	ug/L		03/15/24 10:01	03/15/24 16:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	82		18 - 147				03/15/24 10:01	03/15/24 16:22	1
2-Fluorobiphenyl	58		15 - 128				03/15/24 10:01	03/15/24 16:22	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: MW25-ROX-030824-EB**

**Lab Sample ID: 400-252406-3**

Date Collected: 03/08/24 08:30

Matrix: Water

Date Received: 03/09/24 08:07

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	43		10 - 144	03/15/24 10:01	03/15/24 16:22	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.4	8.2	ug/L		03/15/24 10:01	03/15/24 19:15	1
Benzenethiol	ND		9.4	9.3	ug/L		03/15/24 10:01	03/15/24 19:15	1
Benzoic acid	ND		28	23	ug/L		03/15/24 10:01	03/15/24 19:15	1
Benzyl alcohol	ND		9.4	6.9	ug/L		03/15/24 10:01	03/15/24 19:15	1
Bis(2-chloroethoxy)methane	ND		9.4	4.3	ug/L		03/15/24 10:01	03/15/24 19:15	1
Bis(2-chloroethyl)ether	ND		9.4	3.7	ug/L		03/15/24 10:01	03/15/24 19:15	1
bis (2-chloroisopropyl) ether	ND		9.4	1.7	ug/L		03/15/24 10:01	03/15/24 19:15	1
Bis(2-ethylhexyl) phthalate	ND		9.4	8.4	ug/L		03/15/24 10:01	03/15/24 19:15	1
4-Bromophenyl phenyl ether	ND		9.4	8.1	ug/L		03/15/24 10:01	03/15/24 19:15	1
Butyl benzyl phthalate	ND		9.4	5.5	ug/L		03/15/24 10:01	03/15/24 19:15	1
4-Chloroaniline	ND		9.4	4.4	ug/L		03/15/24 10:01	03/15/24 19:15	1
4-Chloro-3-methylphenol	ND		9.4	5.0	ug/L		03/15/24 10:01	03/15/24 19:15	1
2-Chloronaphthalene	ND		9.4	3.6	ug/L		03/15/24 10:01	03/15/24 19:15	1
2-Chlorophenol	ND		9.4	3.9	ug/L		03/15/24 10:01	03/15/24 19:15	1
4-Chlorophenyl phenyl ether	ND		9.4	3.5	ug/L		03/15/24 10:01	03/15/24 19:15	1
Dibenz[a,h]acridine	ND		9.4	2.6	ug/L		03/15/24 10:01	03/15/24 19:15	1
Dibenzofuran	ND		9.4	3.8	ug/L		03/15/24 10:01	03/15/24 19:15	1
3,3'-Dichlorobenzidine	ND		10	10	ug/L		03/15/24 10:01	03/15/24 19:15	1
2,4-Dichlorophenol	ND		9.4	4.1	ug/L		03/15/24 10:01	03/15/24 19:15	1
Diethyl phthalate	ND		9.4	4.2	ug/L		03/15/24 10:01	03/15/24 19:15	1
2,4-Dimethylphenol	ND		9.4	4.9	ug/L		03/15/24 10:01	03/15/24 19:15	1
Dimethyl phthalate	ND		9.4	4.0	ug/L		03/15/24 10:01	03/15/24 19:15	1
Di-n-butyl phthalate	ND		9.4	4.3	ug/L		03/15/24 10:01	03/15/24 19:15	1
4,6-Dinitro-ortho-cresol	ND		9.4	9.4	ug/L		03/15/24 10:01	03/15/24 19:15	1
2,4-Dinitrophenol	ND		28	4.3	ug/L		03/15/24 10:01	03/15/24 19:15	1
2,4-Dinitrotoluene	ND		9.4	4.8	ug/L		03/15/24 10:01	03/15/24 19:15	1
2,6-Dinitrotoluene	ND		9.4	3.7	ug/L		03/15/24 10:01	03/15/24 19:15	1
Di-n-octyl phthalate	ND		9.4	5.7	ug/L		03/15/24 10:01	03/15/24 19:15	1
1,4-Dioxane	ND		9.4	4.1	ug/L		03/15/24 10:01	03/15/24 19:15	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.4	3.1	ug/L		03/15/24 10:01	03/15/24 19:15	1
Hexachlorobenzene	ND		9.4	9.2	ug/L		03/15/24 10:01	03/15/24 19:15	1
Hexachlorocyclopentadiene	ND		19	4.2	ug/L		03/15/24 10:01	03/15/24 19:15	1
Hexachloroethane	ND		9.4	4.9	ug/L		03/15/24 10:01	03/15/24 19:15	1
Indene	ND		9.4	3.4	ug/L		03/15/24 10:01	03/15/24 19:15	1
Isophorone	ND		9.4	4.9	ug/L		03/15/24 10:01	03/15/24 19:15	1
2-Methylphenol	ND		9.4	3.0	ug/L		03/15/24 10:01	03/15/24 19:15	1
3 & 4 Methylphenol	ND		19	4.3	ug/L		03/15/24 10:01	03/15/24 19:15	1
2-Nitroaniline	ND		9.4	4.7	ug/L		03/15/24 10:01	03/15/24 19:15	1
3-Nitroaniline	ND		9.4	4.4	ug/L		03/15/24 10:01	03/15/24 19:15	1
4-Nitroaniline	ND		9.4	3.9	ug/L		03/15/24 10:01	03/15/24 19:15	1
Nitrobenzene	ND		9.4	4.4	ug/L		03/15/24 10:01	03/15/24 19:15	1
2-Nitrophenol	ND		9.4	4.3	ug/L		03/15/24 10:01	03/15/24 19:15	1
4-Nitrophenol	ND		9.4	3.1	ug/L		03/15/24 10:01	03/15/24 19:15	1
N-Nitrosodimethylamine	ND		9.4	2.1	ug/L		03/15/24 10:01	03/15/24 19:15	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: MW25-ROX-030824-EB**

**Lab Sample ID: 400-252406-3**

Date Collected: 03/08/24 08:30

Matrix: Water

Date Received: 03/09/24 08:07

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.4	2.4	ug/L		03/15/24 10:01	03/15/24 19:15	1
N-Nitrosodiphenylamine	ND		9.4	3.5	ug/L		03/15/24 10:01	03/15/24 19:15	1
Pentachlorophenol	ND		19	11	ug/L		03/15/24 10:01	03/15/24 19:15	1
Phenol	ND		9.4	4.0	ug/L		03/15/24 10:01	03/15/24 19:15	1
Pyridine	ND	*- *1	9.4	9.4	ug/L		03/15/24 10:01	03/15/24 19:15	1
Quinoline	ND		9.4	2.3	ug/L		03/15/24 10:01	03/15/24 19:15	1
2,4,5-Trichlorophenol	ND		9.4	3.8	ug/L		03/15/24 10:01	03/15/24 19:15	1
2,4,6-Trichlorophenol	ND		9.4	3.3	ug/L		03/15/24 10:01	03/15/24 19:15	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorobiphenyl	64		21 - 114				03/15/24 10:01	03/15/24 19:15	1
2-Fluorophenol	41		10 - 105				03/15/24 10:01	03/15/24 19:15	1
Nitrobenzene-d5	52		16 - 127				03/15/24 10:01	03/15/24 19:15	1
Phenol-d5	30		10 - 129				03/15/24 10:01	03/15/24 19:15	1
Terphenyl-d14	74		13 - 150				03/15/24 10:01	03/15/24 19:15	1
2,4,6-Tribromophenol	59		10 - 150				03/15/24 10:01	03/15/24 19:15	1

**Method: EPA 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	0.017	ug/L		03/14/24 07:46	03/14/24 17:15	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/14/24 07:46	03/14/24 17:15	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene	114		51 - 149				03/14/24 07:46	03/14/24 17:15	1



# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: MW25-ROX-030824**

**Lab Sample ID: 400-252406-4**

Date Collected: 03/08/24 10:25

Matrix: Water

Date Received: 03/09/24 08:07

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acetone</b>	<b>14</b>	<b>J</b>	25	10	ug/L			03/16/24 22:18	1
Acrolein	ND		20	3.3	ug/L			03/16/24 22:18	1
Acrylonitrile	ND		10	2.8	ug/L			03/16/24 22:18	1
<b>Benzene</b>	<b>24</b>		1.0	0.50	ug/L			03/16/24 22:18	1
Bromobenzene	ND		1.0	0.54	ug/L			03/16/24 22:18	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/16/24 22:18	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/16/24 22:18	1
Bromoform	ND		5.0	0.25	ug/L			03/16/24 22:18	1
Bromomethane	ND		1.0	0.98	ug/L			03/16/24 22:18	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/16/24 22:18	1
<b>Carbon disulfide</b>	<b>0.58</b>	<b>J</b>	1.0	0.50	ug/L			03/16/24 22:18	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/16/24 22:18	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/16/24 22:18	1
Chloroethane	ND		1.0	0.76	ug/L			03/16/24 22:18	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/16/24 22:18	1
Chloroform	ND		1.0	0.90	ug/L			03/16/24 22:18	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/16/24 22:18	1
Chloromethane	ND		1.0	0.90	ug/L			03/16/24 22:18	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/16/24 22:18	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/16/24 22:18	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/16/24 22:18	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/16/24 22:18	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/16/24 22:18	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/16/24 22:18	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/16/24 22:18	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/16/24 22:18	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/16/24 22:18	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/16/24 22:18	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/16/24 22:18	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/16/24 22:18	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/16/24 22:18	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/16/24 22:18	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/16/24 22:18	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/16/24 22:18	1
Hexachlorobutadiene	ND	*+	5.0	0.90	ug/L			03/16/24 22:18	1
2-Hexanone	ND		25	1.4	ug/L			03/16/24 22:18	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/16/24 22:18	1
Methylene bromide	ND		5.0	0.22	ug/L			03/16/24 22:18	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/16/24 22:18	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/16/24 22:18	1
<b>Methyl tert-butyl ether</b>	<b>0.82</b>	<b>J</b>	1.0	0.22	ug/L			03/16/24 22:18	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/16/24 22:18	1
Naphthalene	ND		5.0	3.0	ug/L			03/16/24 22:18	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/16/24 22:18	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/16/24 22:18	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/16/24 22:18	1
o-Xylene	ND		5.0	0.60	ug/L			03/16/24 22:18	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/16/24 22:18	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/16/24 22:18	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: MW25-ROX-030824**

**Lab Sample ID: 400-252406-4**

Date Collected: 03/08/24 10:25

Matrix: Water

Date Received: 03/09/24 08:07

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/16/24 22:18	1
Styrene	ND		1.0	1.0	ug/L			03/16/24 22:18	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/16/24 22:18	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/16/24 22:18	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/16/24 22:18	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/16/24 22:18	1
Toluene	ND		1.0	0.90	ug/L			03/16/24 22:18	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/16/24 22:18	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/16/24 22:18	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/16/24 22:18	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/16/24 22:18	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/16/24 22:18	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/16/24 22:18	1
Trichloroethene	ND		1.0	0.15	ug/L			03/16/24 22:18	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/16/24 22:18	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/16/24 22:18	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/16/24 22:18	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/16/24 22:18	1
Vinyl acetate	ND		25	0.93	ug/L			03/16/24 22:18	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/16/24 22:18	1
Xylenes, Total	ND		10	1.6	ug/L			03/16/24 22:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		72 - 130					03/16/24 22:18	1
Dibromofluoromethane	102		75 - 126					03/16/24 22:18	1
Toluene-d8 (Surr)	92		64 - 132					03/16/24 22:18	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.10	ug/L		03/15/24 10:01	03/15/24 16:43	1
Acenaphthylene	ND		0.20	0.045	ug/L		03/15/24 10:01	03/15/24 16:43	1
Anthracene	ND		0.20	0.048	ug/L		03/15/24 10:01	03/15/24 16:43	1
Benzo[a]anthracene	ND		0.20	0.035	ug/L		03/15/24 10:01	03/15/24 16:43	1
Benzo[a]pyrene	ND		0.20	0.065	ug/L		03/15/24 10:01	03/15/24 16:43	1
Benzo[b]fluoranthene	ND		0.20	0.038	ug/L		03/15/24 10:01	03/15/24 16:43	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		03/15/24 10:01	03/15/24 16:43	1
Benzo[k]fluoranthene	ND		0.20	0.063	ug/L		03/15/24 10:01	03/15/24 16:43	1
Chrysene	ND		0.20	0.034	ug/L		03/15/24 10:01	03/15/24 16:43	1
Dibenz(a,h)anthracene	ND		0.20	0.049	ug/L		03/15/24 10:01	03/15/24 16:43	1
Fluoranthene	ND		0.20	0.035	ug/L		03/15/24 10:01	03/15/24 16:43	1
Fluorene	ND		0.20	0.090	ug/L		03/15/24 10:01	03/15/24 16:43	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.035	ug/L		03/15/24 10:01	03/15/24 16:43	1
Phenanthrene	ND		0.20	0.091	ug/L		03/15/24 10:01	03/15/24 16:43	1
Pyrene	ND		0.20	0.040	ug/L		03/15/24 10:01	03/15/24 16:43	1
1-Methylnaphthalene	ND		0.20	0.081	ug/L		03/15/24 10:01	03/15/24 16:43	1
2-Methylnaphthalene	ND		0.20	0.067	ug/L		03/15/24 10:01	03/15/24 16:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	52		18 - 147				03/15/24 10:01	03/15/24 16:43	1
2-Fluorobiphenyl	45		15 - 128				03/15/24 10:01	03/15/24 16:43	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: MW25-ROX-030824**

**Lab Sample ID: 400-252406-4**

Date Collected: 03/08/24 10:25

Matrix: Water

Date Received: 03/09/24 08:07

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	34		10 - 144	03/15/24 10:01	03/15/24 16:43	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	8.8	ug/L		03/15/24 10:01	03/15/24 19:37	1
Benzenethiol	ND		10	10	ug/L		03/15/24 10:01	03/15/24 19:37	1
Benzoic acid	ND		30	24	ug/L		03/15/24 10:01	03/15/24 19:37	1
Benzyl alcohol	ND		10	7.4	ug/L		03/15/24 10:01	03/15/24 19:37	1
Bis(2-chloroethoxy)methane	ND		10	4.7	ug/L		03/15/24 10:01	03/15/24 19:37	1
Bis(2-chloroethyl)ether	ND		10	4.0	ug/L		03/15/24 10:01	03/15/24 19:37	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		03/15/24 10:01	03/15/24 19:37	1
Bis(2-ethylhexyl) phthalate	ND		10	9.0	ug/L		03/15/24 10:01	03/15/24 19:37	1
4-Bromophenyl phenyl ether	ND		10	8.7	ug/L		03/15/24 10:01	03/15/24 19:37	1
Butyl benzyl phthalate	ND		10	5.9	ug/L		03/15/24 10:01	03/15/24 19:37	1
4-Chloroaniline	ND		10	4.8	ug/L		03/15/24 10:01	03/15/24 19:37	1
4-Chloro-3-methylphenol	ND		10	5.4	ug/L		03/15/24 10:01	03/15/24 19:37	1
2-Chloronaphthalene	ND		10	3.9	ug/L		03/15/24 10:01	03/15/24 19:37	1
2-Chlorophenol	ND		10	4.2	ug/L		03/15/24 10:01	03/15/24 19:37	1
4-Chlorophenyl phenyl ether	ND		10	3.8	ug/L		03/15/24 10:01	03/15/24 19:37	1
Dibenz[a,h]acridine	ND		10	2.8	ug/L		03/15/24 10:01	03/15/24 19:37	1
Dibenzofuran	ND		10	4.1	ug/L		03/15/24 10:01	03/15/24 19:37	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/15/24 10:01	03/15/24 19:37	1
2,4-Dichlorophenol	ND		10	4.4	ug/L		03/15/24 10:01	03/15/24 19:37	1
Diethyl phthalate	ND		10	4.5	ug/L		03/15/24 10:01	03/15/24 19:37	1
2,4-Dimethylphenol	ND		10	5.3	ug/L		03/15/24 10:01	03/15/24 19:37	1
Dimethyl phthalate	ND		10	4.3	ug/L		03/15/24 10:01	03/15/24 19:37	1
Di-n-butyl phthalate	ND		10	4.7	ug/L		03/15/24 10:01	03/15/24 19:37	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		03/15/24 10:01	03/15/24 19:37	1
2,4-Dinitrophenol	ND		30	4.7	ug/L		03/15/24 10:01	03/15/24 19:37	1
2,4-Dinitrotoluene	ND		10	5.2	ug/L		03/15/24 10:01	03/15/24 19:37	1
2,6-Dinitrotoluene	ND		10	4.0	ug/L		03/15/24 10:01	03/15/24 19:37	1
Di-n-octyl phthalate	ND		10	6.1	ug/L		03/15/24 10:01	03/15/24 19:37	1
1,4-Dioxane	ND		10	4.4	ug/L		03/15/24 10:01	03/15/24 19:37	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.4	ug/L		03/15/24 10:01	03/15/24 19:37	1
Hexachlorobenzene	ND		10	9.9	ug/L		03/15/24 10:01	03/15/24 19:37	1
Hexachlorocyclopentadiene	ND		20	4.6	ug/L		03/15/24 10:01	03/15/24 19:37	1
Hexachloroethane	ND		10	5.3	ug/L		03/15/24 10:01	03/15/24 19:37	1
Indene	ND		10	3.7	ug/L		03/15/24 10:01	03/15/24 19:37	1
Isophorone	ND		10	5.3	ug/L		03/15/24 10:01	03/15/24 19:37	1
2-Methylphenol	ND		10	3.3	ug/L		03/15/24 10:01	03/15/24 19:37	1
3 & 4 Methylphenol	ND		20	4.7	ug/L		03/15/24 10:01	03/15/24 19:37	1
2-Nitroaniline	ND		10	5.1	ug/L		03/15/24 10:01	03/15/24 19:37	1
3-Nitroaniline	ND		10	4.8	ug/L		03/15/24 10:01	03/15/24 19:37	1
4-Nitroaniline	ND		10	4.2	ug/L		03/15/24 10:01	03/15/24 19:37	1
Nitrobenzene	ND		10	4.8	ug/L		03/15/24 10:01	03/15/24 19:37	1
2-Nitrophenol	ND		10	4.7	ug/L		03/15/24 10:01	03/15/24 19:37	1
4-Nitrophenol	ND		10	3.4	ug/L		03/15/24 10:01	03/15/24 19:37	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		03/15/24 10:01	03/15/24 19:37	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: MW25-ROX-030824**

**Lab Sample ID: 400-252406-4**

Date Collected: 03/08/24 10:25

Matrix: Water

Date Received: 03/09/24 08:07

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		03/15/24 10:01	03/15/24 19:37	1
N-Nitrosodiphenylamine	ND		10	3.8	ug/L		03/15/24 10:01	03/15/24 19:37	1
Pentachlorophenol	ND		20	12	ug/L		03/15/24 10:01	03/15/24 19:37	1
Phenol	ND		10	4.3	ug/L		03/15/24 10:01	03/15/24 19:37	1
Pyridine	ND	*- *1 UJ	10	10	ug/L		03/15/24 10:01	03/15/24 19:37	1
Quinoline	ND		10	2.4	ug/L		03/15/24 10:01	03/15/24 19:37	1
2,4,5-Trichlorophenol	ND		10	4.1	ug/L		03/15/24 10:01	03/15/24 19:37	1
2,4,6-Trichlorophenol	ND		10	3.6	ug/L		03/15/24 10:01	03/15/24 19:37	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorobiphenyl	58		21 - 114				03/15/24 10:01	03/15/24 19:37	1
2-Fluorophenol	39		10 - 105				03/15/24 10:01	03/15/24 19:37	1
Nitrobenzene-d5	46		16 - 127				03/15/24 10:01	03/15/24 19:37	1
Phenol-d5	28		10 - 129				03/15/24 10:01	03/15/24 19:37	1
Terphenyl-d14	63		13 - 150				03/15/24 10:01	03/15/24 19:37	1
2,4,6-Tribromophenol	61		10 - 150				03/15/24 10:01	03/15/24 19:37	1

**Method: EPA 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	0.016	ug/L		03/14/24 07:46	03/14/24 17:36	1
1,2-Dibromoethane	ND		0.019	0.015	ug/L		03/14/24 07:46	03/14/24 17:36	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene	91		51 - 149				03/14/24 07:46	03/14/24 17:36	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: TB-ROX-030824-8260-A**

**Lab Sample ID: 400-252406-5**

Date Collected: 03/08/24 00:01

Matrix: Water

Date Received: 03/09/24 08:07

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/17/24 18:00	1
Acrolein	ND		20	3.3	ug/L			03/17/24 18:00	1
Acrylonitrile	ND		10	2.8	ug/L			03/17/24 18:00	1
Benzene	ND		1.0	0.50	ug/L			03/17/24 18:00	1
Bromobenzene	ND		1.0	0.54	ug/L			03/17/24 18:00	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/17/24 18:00	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/17/24 18:00	1
Bromoform	ND		5.0	0.25	ug/L			03/17/24 18:00	1
Bromomethane	ND		1.0	0.98	ug/L			03/17/24 18:00	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/17/24 18:00	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/17/24 18:00	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/17/24 18:00	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/17/24 18:00	1
Chloroethane	ND		1.0	0.76	ug/L			03/17/24 18:00	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/17/24 18:00	1
Chloroform	ND		1.0	0.90	ug/L			03/17/24 18:00	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/17/24 18:00	1
Chloromethane	ND		1.0	0.90	ug/L			03/17/24 18:00	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/17/24 18:00	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/17/24 18:00	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/17/24 18:00	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/17/24 18:00	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/17/24 18:00	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/17/24 18:00	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/17/24 18:00	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/17/24 18:00	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/17/24 18:00	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/17/24 18:00	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/17/24 18:00	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/17/24 18:00	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/17/24 18:00	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/17/24 18:00	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/17/24 18:00	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/17/24 18:00	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/17/24 18:00	1
2-Hexanone	ND		25	1.4	ug/L			03/17/24 18:00	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/17/24 18:00	1
Methylene bromide	ND		5.0	0.22	ug/L			03/17/24 18:00	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/17/24 18:00	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/17/24 18:00	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/17/24 18:00	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/17/24 18:00	1
Naphthalene	ND		5.0	3.0	ug/L			03/17/24 18:00	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/17/24 18:00	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/17/24 18:00	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/17/24 18:00	1
o-Xylene	ND		5.0	0.60	ug/L			03/17/24 18:00	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/17/24 18:00	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/17/24 18:00	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: TB-ROX-030824-8260-A**

**Lab Sample ID: 400-252406-5**

Date Collected: 03/08/24 00:01

Matrix: Water

Date Received: 03/09/24 08:07

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/17/24 18:00	1
Styrene	ND		1.0	1.0	ug/L			03/17/24 18:00	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/17/24 18:00	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/17/24 18:00	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/17/24 18:00	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/17/24 18:00	1
Toluene	ND		1.0	0.90	ug/L			03/17/24 18:00	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/17/24 18:00	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/17/24 18:00	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/17/24 18:00	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/17/24 18:00	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/17/24 18:00	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/17/24 18:00	1
Trichloroethene	ND		1.0	0.15	ug/L			03/17/24 18:00	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/17/24 18:00	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/17/24 18:00	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/17/24 18:00	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/17/24 18:00	1
Vinyl acetate	ND		25	0.93	ug/L			03/17/24 18:00	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/17/24 18:00	1
Xylenes, Total	ND		10	1.6	ug/L			03/17/24 18:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		72 - 130		03/17/24 18:00	1
Dibromofluoromethane	111		75 - 126		03/17/24 18:00	1
Toluene-d8 (Surr)	88		64 - 132		03/17/24 18:00	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: TB-ROX-030824-8011-A**

**Lab Sample ID: 400-252406-6**

Date Collected: 03/08/24 00:01

Matrix: Water

Date Received: 03/09/24 08:07

**Method: EPA 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	0.017	ug/L		03/14/24 07:46	03/14/24 17:58	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/14/24 07:46	03/14/24 17:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	116		51 - 149				03/14/24 07:46	03/14/24 17:58	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: P58-ROX-030824**

**Lab Sample ID: 400-252406-7**

Date Collected: 03/08/24 10:30

Matrix: Water

Date Received: 03/09/24 08:07

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		13000	5000	ug/L			03/17/24 18:27	500
Acrolein	ND		10000	1700	ug/L			03/17/24 18:27	500
Acrylonitrile	ND		5000	1400	ug/L			03/17/24 18:27	500
Bromobenzene	ND		500	270	ug/L			03/17/24 18:27	500
Bromochloromethane	ND		500	110	ug/L			03/17/24 18:27	500
Bromodichloromethane	ND		500	250	ug/L			03/17/24 18:27	500
Bromoform	ND		2500	130	ug/L			03/17/24 18:27	500
Bromomethane	ND		500	490	ug/L			03/17/24 18:27	500
2-Butanone (MEK)	ND		13000	1300	ug/L			03/17/24 18:27	500
Carbon disulfide	ND		500	250	ug/L			03/17/24 18:27	500
Carbon tetrachloride	ND		500	95	ug/L			03/17/24 18:27	500
Chlorobenzene	ND		500	450	ug/L			03/17/24 18:27	500
Chloroethane	ND		500	380	ug/L			03/17/24 18:27	500
2-Chloroethyl vinyl ether	ND		2500	1000	ug/L			03/17/24 18:27	500
Chloroform	ND		500	450	ug/L			03/17/24 18:27	500
1-Chlorohexane	ND		500	160	ug/L			03/17/24 18:27	500
Chloromethane	ND		500	450	ug/L			03/17/24 18:27	500
cis-1,2-Dichloroethene	ND		500	100	ug/L			03/17/24 18:27	500
cis-1,3-Dichloropropene	ND		2500	250	ug/L			03/17/24 18:27	500
Dibromochloromethane	ND		500	120	ug/L			03/17/24 18:27	500
1,2-Dichlorobenzene	ND		500	250	ug/L			03/17/24 18:27	500
1,3-Dichlorobenzene	ND		500	270	ug/L			03/17/24 18:27	500
1,4-Dichlorobenzene	ND		500	320	ug/L			03/17/24 18:27	500
Dichlorodifluoromethane	ND		500	430	ug/L			03/17/24 18:27	500
1,1-Dichloroethane	ND		500	250	ug/L			03/17/24 18:27	500
1,2-Dichloroethane	ND		500	95	ug/L			03/17/24 18:27	500
1,1-Dichloroethene	ND		500	250	ug/L			03/17/24 18:27	500
1,2-Dichloropropane	ND		500	250	ug/L			03/17/24 18:27	500
1,3-Dichloropropane	ND		500	250	ug/L			03/17/24 18:27	500
2,2-Dichloropropane	ND		500	250	ug/L			03/17/24 18:27	500
1,1-Dichloropropene	ND		500	250	ug/L			03/17/24 18:27	500
<b>Ethylbenzene</b>	<b>360</b>	<b>J</b>	500	250	ug/L			03/17/24 18:27	500
Ethyl methacrylate	ND		500	300	ug/L			03/17/24 18:27	500
Hexachlorobutadiene	ND		2500	450	ug/L			03/17/24 18:27	500
2-Hexanone	ND		13000	700	ug/L			03/17/24 18:27	500
Isopropylbenzene	ND		500	270	ug/L			03/17/24 18:27	500
Methylene bromide	ND		2500	110	ug/L			03/17/24 18:27	500
Methylene Chloride	ND		2500	1500	ug/L			03/17/24 18:27	500
4-Methyl-2-pentanone (MIBK)	ND		13000	900	ug/L			03/17/24 18:27	500
Methyl tert-butyl ether	ND		500	110	ug/L			03/17/24 18:27	500
m-Xylene & p-Xylene	ND		2500	320	ug/L			03/17/24 18:27	500
Naphthalene	ND		2500	1500	ug/L			03/17/24 18:27	500
n-Butylbenzene	ND		500	380	ug/L			03/17/24 18:27	500
N-Propylbenzene	ND		500	350	ug/L			03/17/24 18:27	500
o-Chlorotoluene	ND		500	290	ug/L			03/17/24 18:27	500
o-Xylene	ND		2500	300	ug/L			03/17/24 18:27	500
p-Chlorotoluene	ND		500	280	ug/L			03/17/24 18:27	500
p-Isopropyltoluene	ND		500	360	ug/L			03/17/24 18:27	500
sec-Butylbenzene	ND		500	350	ug/L			03/17/24 18:27	500

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: P58-ROX-030824**

**Lab Sample ID: 400-252406-7**

Date Collected: 03/08/24 10:30

Matrix: Water

Date Received: 03/09/24 08:07

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		500	500	ug/L			03/17/24 18:27	500
tert-Butylbenzene	ND		500	320	ug/L			03/17/24 18:27	500
1,1,1,2-Tetrachloroethane	ND		500	80	ug/L			03/17/24 18:27	500
1,1,2,2-Tetrachloroethane	ND		500	250	ug/L			03/17/24 18:27	500
Tetrachloroethene	ND		500	450	ug/L			03/17/24 18:27	500
Toluene	ND		500	450	ug/L			03/17/24 18:27	500
trans-1,2-Dichloroethene	ND		500	250	ug/L			03/17/24 18:27	500
trans-1,3-Dichloropropene	ND		2500	100	ug/L			03/17/24 18:27	500
1,2,3-Trichlorobenzene	ND		500	450	ug/L			03/17/24 18:27	500
1,2,4-Trichlorobenzene	ND		500	410	ug/L			03/17/24 18:27	500
1,1,1-Trichloroethane	ND		500	90	ug/L			03/17/24 18:27	500
1,1,2-Trichloroethane	ND		2500	110	ug/L			03/17/24 18:27	500
Trichloroethene	ND		500	75	ug/L			03/17/24 18:27	500
Trichlorofluoromethane	ND		500	260	ug/L			03/17/24 18:27	500
1,2,3-Trichloropropane	ND		2500	420	ug/L			03/17/24 18:27	500
1,2,4-Trimethylbenzene	ND		500	410	ug/L			03/17/24 18:27	500
1,3,5-Trimethylbenzene	ND		500	280	ug/L			03/17/24 18:27	500
Vinyl acetate	ND		13000	470	ug/L			03/17/24 18:27	500
Vinyl chloride	ND		500	250	ug/L			03/17/24 18:27	500
Xylenes, Total	ND		5000	800	ug/L			03/17/24 18:27	500
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	97		72 - 130					03/17/24 18:27	500
Dibromofluoromethane	98		75 - 126					03/17/24 18:27	500
Toluene-d8 (Surr)	89		64 - 132					03/17/24 18:27	500

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Benzene</b>	<b>460000</b>		2000	1000	ug/L			03/18/24 11:46	2000
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107		72 - 130					03/18/24 11:46	2000
Dibromofluoromethane	106		75 - 126					03/18/24 11:46	2000
Toluene-d8 (Surr)	100		64 - 132					03/18/24 11:46	2000

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acenaphthene</b>	<b>0.40</b>		0.20	0.097	ug/L		03/15/24 10:01	03/15/24 17:03	1
Acenaphthylene	ND		0.20	0.043	ug/L		03/15/24 10:01	03/15/24 17:03	1
<b>Anthracene</b>	<b>0.098</b>	<b>J</b>	0.20	0.046	ug/L		03/15/24 10:01	03/15/24 17:03	1
<b>Benzo[a]anthracene</b>	<b>0.047</b>	<b>J</b>	0.20	0.033	ug/L		03/15/24 10:01	03/15/24 17:03	1
Benzo[a]pyrene	ND		0.20	0.063	ug/L		03/15/24 10:01	03/15/24 17:03	1
Benzo[b]fluoranthene	ND		0.20	0.036	ug/L		03/15/24 10:01	03/15/24 17:03	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		03/15/24 10:01	03/15/24 17:03	1
Benzo[k]fluoranthene	ND		0.20	0.061	ug/L		03/15/24 10:01	03/15/24 17:03	1
<b>Chrysene</b>	<b>0.060</b>	<b>J</b>	0.20	0.032	ug/L		03/15/24 10:01	03/15/24 17:03	1
Dibenz(a,h)anthracene	ND		0.20	0.047	ug/L		03/15/24 10:01	03/15/24 17:03	1
Fluoranthene	ND		0.20	0.033	ug/L		03/15/24 10:01	03/15/24 17:03	1
<b>Fluorene</b>	<b>0.83</b>		0.20	0.087	ug/L		03/15/24 10:01	03/15/24 17:03	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.033	ug/L		03/15/24 10:01	03/15/24 17:03	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: P58-ROX-030824**

**Lab Sample ID: 400-252406-7**

Date Collected: 03/08/24 10:30

Matrix: Water

Date Received: 03/09/24 08:07

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	0.59		0.20	0.088	ug/L		03/15/24 10:01	03/15/24 17:03	1
Pyrene	0.097	J	0.20	0.038	ug/L		03/15/24 10:01	03/15/24 17:03	1
1-Methylnaphthalene	33		0.20	0.079	ug/L		03/15/24 10:01	03/15/24 17:03	1
2-Methylnaphthalene	19		0.20	0.065	ug/L		03/15/24 10:01	03/15/24 17:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	48		18 - 147				03/15/24 10:01	03/15/24 17:03	1
2-Fluorobiphenyl	33		15 - 128				03/15/24 10:01	03/15/24 17:03	1
Nitrobenzene-d5	36		10 - 144				03/15/24 10:01	03/15/24 17:03	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	8.5	ug/L		03/15/24 10:01	03/15/24 20:00	1
Benzenethiol	ND		9.8	9.7	ug/L		03/15/24 10:01	03/15/24 20:00	1
Benzoic acid	ND		29	24	ug/L		03/15/24 10:01	03/15/24 20:00	1
Benzyl alcohol	ND		9.8	7.2	ug/L		03/15/24 10:01	03/15/24 20:00	1
Bis(2-chloroethoxy)methane	ND		9.8	4.5	ug/L		03/15/24 10:01	03/15/24 20:00	1
Bis(2-chloroethyl)ether	ND		9.8	3.8	ug/L		03/15/24 10:01	03/15/24 20:00	1
bis (2-chloroisopropyl) ether	ND		9.8	1.8	ug/L		03/15/24 10:01	03/15/24 20:00	1
Bis(2-ethylhexyl) phthalate	ND		9.8	8.7	ug/L		03/15/24 10:01	03/15/24 20:00	1
4-Bromophenyl phenyl ether	ND		9.8	8.4	ug/L		03/15/24 10:01	03/15/24 20:00	1
Butyl benzyl phthalate	ND		9.8	5.7	ug/L		03/15/24 10:01	03/15/24 20:00	1
4-Chloroaniline	ND		9.8	4.6	ug/L		03/15/24 10:01	03/15/24 20:00	1
4-Chloro-3-methylphenol	ND		9.8	5.2	ug/L		03/15/24 10:01	03/15/24 20:00	1
2-Chloronaphthalene	ND		9.8	3.7	ug/L		03/15/24 10:01	03/15/24 20:00	1
2-Chlorophenol	ND		9.8	4.0	ug/L		03/15/24 10:01	03/15/24 20:00	1
4-Chlorophenyl phenyl ether	ND		9.8	3.6	ug/L		03/15/24 10:01	03/15/24 20:00	1
Dibenz[a,h]acridine	ND		9.8	2.7	ug/L		03/15/24 10:01	03/15/24 20:00	1
Dibenzofuran	ND		9.8	3.9	ug/L		03/15/24 10:01	03/15/24 20:00	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/15/24 10:01	03/15/24 20:00	1
2,4-Dichlorophenol	ND		9.8	4.2	ug/L		03/15/24 10:01	03/15/24 20:00	1
Diethyl phthalate	ND		9.8	4.3	ug/L		03/15/24 10:01	03/15/24 20:00	1
2,4-Dimethylphenol	ND		9.8	5.1	ug/L		03/15/24 10:01	03/15/24 20:00	1
Dimethyl phthalate	ND		9.8	4.1	ug/L		03/15/24 10:01	03/15/24 20:00	1
Di-n-butyl phthalate	ND		9.8	4.5	ug/L		03/15/24 10:01	03/15/24 20:00	1
4,6-Dinitro-ortho-cresol	ND		9.8	9.8	ug/L		03/15/24 10:01	03/15/24 20:00	1
2,4-Dinitrophenol	ND		29	4.5	ug/L		03/15/24 10:01	03/15/24 20:00	1
2,4-Dinitrotoluene	ND		9.8	5.0	ug/L		03/15/24 10:01	03/15/24 20:00	1
2,6-Dinitrotoluene	ND		9.8	3.8	ug/L		03/15/24 10:01	03/15/24 20:00	1
Di-n-octyl phthalate	ND		9.8	5.9	ug/L		03/15/24 10:01	03/15/24 20:00	1
1,4-Dioxane	ND		9.8	4.2	ug/L		03/15/24 10:01	03/15/24 20:00	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	3.2	ug/L		03/15/24 10:01	03/15/24 20:00	1
Hexachlorobenzene	ND		9.8	9.5	ug/L		03/15/24 10:01	03/15/24 20:00	1
Hexachlorocyclopentadiene	ND		20	4.4	ug/L		03/15/24 10:01	03/15/24 20:00	1
Hexachloroethane	ND		9.8	5.1	ug/L		03/15/24 10:01	03/15/24 20:00	1
Indene	ND		9.8	3.5	ug/L		03/15/24 10:01	03/15/24 20:00	1
Isophorone	ND		9.8	5.1	ug/L		03/15/24 10:01	03/15/24 20:00	1
2-Methylphenol	ND		9.8	3.1	ug/L		03/15/24 10:01	03/15/24 20:00	1
3 & 4 Methylphenol	ND		20	4.5	ug/L		03/15/24 10:01	03/15/24 20:00	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: P58-ROX-030824**

**Lab Sample ID: 400-252406-7**

Date Collected: 03/08/24 10:30

Matrix: Water

Date Received: 03/09/24 08:07

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		9.8	4.9	ug/L		03/15/24 10:01	03/15/24 20:00	1
3-Nitroaniline	ND		9.8	4.6	ug/L		03/15/24 10:01	03/15/24 20:00	1
4-Nitroaniline	ND		9.8	4.0	ug/L		03/15/24 10:01	03/15/24 20:00	1
Nitrobenzene	ND		9.8	4.6	ug/L		03/15/24 10:01	03/15/24 20:00	1
2-Nitrophenol	ND		9.8	4.5	ug/L		03/15/24 10:01	03/15/24 20:00	1
4-Nitrophenol	ND		9.8	3.2	ug/L		03/15/24 10:01	03/15/24 20:00	1
N-Nitrosodimethylamine	ND		9.8	2.2	ug/L		03/15/24 10:01	03/15/24 20:00	1
N-Nitrosodi-n-propylamine	ND		9.8	2.5	ug/L		03/15/24 10:01	03/15/24 20:00	1
N-Nitrosodiphenylamine	ND		9.8	3.6	ug/L		03/15/24 10:01	03/15/24 20:00	1
Pentachlorophenol	ND		20	12	ug/L		03/15/24 10:01	03/15/24 20:00	1
<b>Phenol</b>	<b>260</b>		9.8	4.1	ug/L		03/15/24 10:01	03/15/24 20:00	1
Pyridine	ND	*- *1 UJ	9.8	9.8	ug/L		03/15/24 10:01	03/15/24 20:00	1
Quinoline	ND		9.8	2.4	ug/L		03/15/24 10:01	03/15/24 20:00	1
2,4,5-Trichlorophenol	ND		9.8	3.9	ug/L		03/15/24 10:01	03/15/24 20:00	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		03/15/24 10:01	03/15/24 20:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	59		21 - 114	03/15/24 10:01	03/15/24 20:00	1
2-Fluorophenol	40		10 - 105	03/15/24 10:01	03/15/24 20:00	1
Nitrobenzene-d5	53		16 - 127	03/15/24 10:01	03/15/24 20:00	1
Phenol-d5	32		10 - 129	03/15/24 10:01	03/15/24 20:00	1
Terphenyl-d14	60		13 - 150	03/15/24 10:01	03/15/24 20:00	1
2,4,6-Tribromophenol	76		10 - 150	03/15/24 10:01	03/15/24 20:00	1

**Method: EPA 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	0.017	ug/L		03/14/24 07:46	03/14/24 18:19	1
1,2-Dibromoethane	ND		0.019	0.015	ug/L		03/14/24 07:46	03/14/24 18:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	82		51 - 149	03/14/24 07:46	03/14/24 18:19	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: P58-ROX-030824-DUP**

**Lab Sample ID: 400-252406-8**

Date Collected: 03/08/24 10:30

Matrix: Water

Date Received: 03/09/24 08:07

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		13000	5000	ug/L			03/17/24 18:54	500
Acrolein	ND		10000	1700	ug/L			03/17/24 18:54	500
Acrylonitrile	ND		5000	1400	ug/L			03/17/24 18:54	500
Bromobenzene	ND		500	270	ug/L			03/17/24 18:54	500
Bromochloromethane	ND		500	110	ug/L			03/17/24 18:54	500
Bromodichloromethane	ND		500	250	ug/L			03/17/24 18:54	500
Bromoform	ND		2500	130	ug/L			03/17/24 18:54	500
Bromomethane	ND		500	490	ug/L			03/17/24 18:54	500
2-Butanone (MEK)	ND		13000	1300	ug/L			03/17/24 18:54	500
Carbon disulfide	ND		500	250	ug/L			03/17/24 18:54	500
Carbon tetrachloride	ND		500	95	ug/L			03/17/24 18:54	500
Chlorobenzene	ND		500	450	ug/L			03/17/24 18:54	500
Chloroethane	ND		500	380	ug/L			03/17/24 18:54	500
2-Chloroethyl vinyl ether	ND		2500	1000	ug/L			03/17/24 18:54	500
Chloroform	ND		500	450	ug/L			03/17/24 18:54	500
1-Chlorohexane	ND		500	160	ug/L			03/17/24 18:54	500
Chloromethane	ND		500	450	ug/L			03/17/24 18:54	500
cis-1,2-Dichloroethene	ND		500	100	ug/L			03/17/24 18:54	500
cis-1,3-Dichloropropene	ND		2500	250	ug/L			03/17/24 18:54	500
Dibromochloromethane	ND		500	120	ug/L			03/17/24 18:54	500
1,2-Dichlorobenzene	ND		500	250	ug/L			03/17/24 18:54	500
1,3-Dichlorobenzene	ND		500	270	ug/L			03/17/24 18:54	500
1,4-Dichlorobenzene	ND		500	320	ug/L			03/17/24 18:54	500
Dichlorodifluoromethane	ND		500	430	ug/L			03/17/24 18:54	500
1,1-Dichloroethane	ND		500	250	ug/L			03/17/24 18:54	500
1,2-Dichloroethane	ND		500	95	ug/L			03/17/24 18:54	500
1,1-Dichloroethene	ND		500	250	ug/L			03/17/24 18:54	500
1,2-Dichloropropane	ND		500	250	ug/L			03/17/24 18:54	500
1,3-Dichloropropane	ND		500	250	ug/L			03/17/24 18:54	500
2,2-Dichloropropane	ND		500	250	ug/L			03/17/24 18:54	500
1,1-Dichloropropene	ND		500	250	ug/L			03/17/24 18:54	500
<b>Ethylbenzene</b>	<b>330</b>	<b>J</b>	500	250	ug/L			03/17/24 18:54	500
Ethyl methacrylate	ND		500	300	ug/L			03/17/24 18:54	500
Hexachlorobutadiene	ND		2500	450	ug/L			03/17/24 18:54	500
2-Hexanone	ND		13000	700	ug/L			03/17/24 18:54	500
Isopropylbenzene	ND		500	270	ug/L			03/17/24 18:54	500
Methylene bromide	ND		2500	110	ug/L			03/17/24 18:54	500
Methylene Chloride	ND		2500	1500	ug/L			03/17/24 18:54	500
4-Methyl-2-pentanone (MIBK)	ND		13000	900	ug/L			03/17/24 18:54	500
Methyl tert-butyl ether	ND		500	110	ug/L			03/17/24 18:54	500
m-Xylene & p-Xylene	ND		2500	320	ug/L			03/17/24 18:54	500
Naphthalene	ND		2500	1500	ug/L			03/17/24 18:54	500
n-Butylbenzene	ND		500	380	ug/L			03/17/24 18:54	500
N-Propylbenzene	ND		500	350	ug/L			03/17/24 18:54	500
o-Chlorotoluene	ND		500	290	ug/L			03/17/24 18:54	500
o-Xylene	ND		2500	300	ug/L			03/17/24 18:54	500
p-Chlorotoluene	ND		500	280	ug/L			03/17/24 18:54	500
p-Isopropyltoluene	ND		500	360	ug/L			03/17/24 18:54	500
sec-Butylbenzene	ND		500	350	ug/L			03/17/24 18:54	500

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: P58-ROX-030824-DUP**

**Lab Sample ID: 400-252406-8**

Date Collected: 03/08/24 10:30

Matrix: Water

Date Received: 03/09/24 08:07

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		500	500	ug/L			03/17/24 18:54	500
tert-Butylbenzene	ND		500	320	ug/L			03/17/24 18:54	500
1,1,1,2-Tetrachloroethane	ND		500	80	ug/L			03/17/24 18:54	500
1,1,2,2-Tetrachloroethane	ND		500	250	ug/L			03/17/24 18:54	500
Tetrachloroethene	ND		500	450	ug/L			03/17/24 18:54	500
Toluene	ND		500	450	ug/L			03/17/24 18:54	500
trans-1,2-Dichloroethene	ND		500	250	ug/L			03/17/24 18:54	500
trans-1,3-Dichloropropene	ND		2500	100	ug/L			03/17/24 18:54	500
1,2,3-Trichlorobenzene	ND		500	450	ug/L			03/17/24 18:54	500
1,2,4-Trichlorobenzene	ND		500	410	ug/L			03/17/24 18:54	500
1,1,1-Trichloroethane	ND		500	90	ug/L			03/17/24 18:54	500
1,1,2-Trichloroethane	ND		2500	110	ug/L			03/17/24 18:54	500
Trichloroethene	ND		500	75	ug/L			03/17/24 18:54	500
Trichlorofluoromethane	ND		500	260	ug/L			03/17/24 18:54	500
1,2,3-Trichloropropane	ND		2500	420	ug/L			03/17/24 18:54	500
1,2,4-Trimethylbenzene	ND		500	410	ug/L			03/17/24 18:54	500
1,3,5-Trimethylbenzene	ND		500	280	ug/L			03/17/24 18:54	500
Vinyl acetate	ND		13000	470	ug/L			03/17/24 18:54	500
Vinyl chloride	ND		500	250	ug/L			03/17/24 18:54	500
Xylenes, Total	ND		5000	800	ug/L			03/17/24 18:54	500
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	97		72 - 130					03/17/24 18:54	500
Dibromofluoromethane	100		75 - 126					03/17/24 18:54	500
Toluene-d8 (Surr)	89		64 - 132					03/17/24 18:54	500

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Benzene</b>	<b>430000</b>		2000	1000	ug/L			03/18/24 12:08	2000
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	104		72 - 130					03/18/24 12:08	2000
Dibromofluoromethane	104		75 - 126					03/18/24 12:08	2000
Toluene-d8 (Surr)	99		64 - 132					03/18/24 12:08	2000

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acenaphthene</b>	<b>0.41</b>		0.20	0.097	ug/L		03/15/24 10:01	03/15/24 17:24	1
Acenaphthylene	ND		0.20	0.043	ug/L		03/15/24 10:01	03/15/24 17:24	1
<b>Anthracene</b>	<b>0.11</b>	<b>J</b>	0.20	0.046	ug/L		03/15/24 10:01	03/15/24 17:24	1
<b>Benzo[a]anthracene</b>	<b>0.044</b>	<b>J</b>	0.20	0.033	ug/L		03/15/24 10:01	03/15/24 17:24	1
Benzo[a]pyrene	ND		0.20	0.062	ug/L		03/15/24 10:01	03/15/24 17:24	1
Benzo[b]fluoranthene	ND		0.20	0.036	ug/L		03/15/24 10:01	03/15/24 17:24	1
Benzo[g,h,i]perylene	ND		0.20	0.026	ug/L		03/15/24 10:01	03/15/24 17:24	1
Benzo[k]fluoranthene	ND		0.20	0.060	ug/L		03/15/24 10:01	03/15/24 17:24	1
<b>Chrysene</b>	<b>0.058</b>	<b>J</b>	0.20	0.032	ug/L		03/15/24 10:01	03/15/24 17:24	1
Dibenz(a,h)anthracene	ND		0.20	0.047	ug/L		03/15/24 10:01	03/15/24 17:24	1
<b>Fluoranthene</b>	<b>0.036</b>	<b>J</b>	0.20	0.033	ug/L		03/15/24 10:01	03/15/24 17:24	1
<b>Fluorene</b>	<b>0.84</b>		0.20	0.087	ug/L		03/15/24 10:01	03/15/24 17:24	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.033	ug/L		03/15/24 10:01	03/15/24 17:24	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: P58-ROX-030824-DUP**

**Lab Sample ID: 400-252406-8**

Date Collected: 03/08/24 10:30

Matrix: Water

Date Received: 03/09/24 08:07

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	0.60		0.20	0.088	ug/L		03/15/24 10:01	03/15/24 17:24	1
Pyrene	0.097	J	0.20	0.038	ug/L		03/15/24 10:01	03/15/24 17:24	1
1-Methylnaphthalene	30		0.20	0.078	ug/L		03/15/24 10:01	03/15/24 17:24	1
2-Methylnaphthalene	17		0.20	0.064	ug/L		03/15/24 10:01	03/15/24 17:24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	44		18 - 147				03/15/24 10:01	03/15/24 17:24	1
2-Fluorobiphenyl	32		15 - 128				03/15/24 10:01	03/15/24 17:24	1
Nitrobenzene-d5	31		10 - 144				03/15/24 10:01	03/15/24 17:24	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	8.5	ug/L		03/15/24 10:01	03/15/24 20:22	1
Benzenethiol	ND		9.8	9.7	ug/L		03/15/24 10:01	03/15/24 20:22	1
Benzoic acid	ND		29	23	ug/L		03/15/24 10:01	03/15/24 20:22	1
Benzyl alcohol	ND		9.8	7.1	ug/L		03/15/24 10:01	03/15/24 20:22	1
Bis(2-chloroethoxy)methane	ND		9.8	4.5	ug/L		03/15/24 10:01	03/15/24 20:22	1
Bis(2-chloroethyl)ether	ND		9.8	3.8	ug/L		03/15/24 10:01	03/15/24 20:22	1
bis (2-chloroisopropyl) ether	ND		9.8	1.8	ug/L		03/15/24 10:01	03/15/24 20:22	1
Bis(2-ethylhexyl) phthalate	ND		9.8	8.7	ug/L		03/15/24 10:01	03/15/24 20:22	1
4-Bromophenyl phenyl ether	ND		9.8	8.4	ug/L		03/15/24 10:01	03/15/24 20:22	1
Butyl benzyl phthalate	ND		9.8	5.7	ug/L		03/15/24 10:01	03/15/24 20:22	1
4-Chloroaniline	ND		9.8	4.6	ug/L		03/15/24 10:01	03/15/24 20:22	1
4-Chloro-3-methylphenol	ND		9.8	5.2	ug/L		03/15/24 10:01	03/15/24 20:22	1
2-Chloronaphthalene	ND		9.8	3.7	ug/L		03/15/24 10:01	03/15/24 20:22	1
2-Chlorophenol	ND		9.8	4.0	ug/L		03/15/24 10:01	03/15/24 20:22	1
4-Chlorophenyl phenyl ether	ND		9.8	3.6	ug/L		03/15/24 10:01	03/15/24 20:22	1
Dibenz[a,h]acridine	ND		9.8	2.7	ug/L		03/15/24 10:01	03/15/24 20:22	1
Dibenzofuran	ND		9.8	3.9	ug/L		03/15/24 10:01	03/15/24 20:22	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/15/24 10:01	03/15/24 20:22	1
2,4-Dichlorophenol	ND		9.8	4.2	ug/L		03/15/24 10:01	03/15/24 20:22	1
Diethyl phthalate	ND		9.8	4.3	ug/L		03/15/24 10:01	03/15/24 20:22	1
2,4-Dimethylphenol	ND		9.8	5.1	ug/L		03/15/24 10:01	03/15/24 20:22	1
Dimethyl phthalate	ND		9.8	4.1	ug/L		03/15/24 10:01	03/15/24 20:22	1
Di-n-butyl phthalate	ND		9.8	4.5	ug/L		03/15/24 10:01	03/15/24 20:22	1
4,6-Dinitro-ortho-cresol	ND		9.8	9.8	ug/L		03/15/24 10:01	03/15/24 20:22	1
2,4-Dinitrophenol	ND		29	4.5	ug/L		03/15/24 10:01	03/15/24 20:22	1
2,4-Dinitrotoluene	ND		9.8	5.0	ug/L		03/15/24 10:01	03/15/24 20:22	1
2,6-Dinitrotoluene	ND		9.8	3.8	ug/L		03/15/24 10:01	03/15/24 20:22	1
Di-n-octyl phthalate	ND		9.8	5.9	ug/L		03/15/24 10:01	03/15/24 20:22	1
1,4-Dioxane	ND		9.8	4.2	ug/L		03/15/24 10:01	03/15/24 20:22	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	3.2	ug/L		03/15/24 10:01	03/15/24 20:22	1
Hexachlorobenzene	ND		9.8	9.5	ug/L		03/15/24 10:01	03/15/24 20:22	1
Hexachlorocyclopentadiene	ND		20	4.4	ug/L		03/15/24 10:01	03/15/24 20:22	1
Hexachloroethane	ND		9.8	5.1	ug/L		03/15/24 10:01	03/15/24 20:22	1
Indene	ND		9.8	3.5	ug/L		03/15/24 10:01	03/15/24 20:22	1
Isophorone	ND		9.8	5.1	ug/L		03/15/24 10:01	03/15/24 20:22	1
2-Methylphenol	ND		9.8	3.1	ug/L		03/15/24 10:01	03/15/24 20:22	1
3 & 4 Methylphenol	ND		20	4.5	ug/L		03/15/24 10:01	03/15/24 20:22	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: P58-ROX-030824-DUP**

**Lab Sample ID: 400-252406-8**

Date Collected: 03/08/24 10:30

Matrix: Water

Date Received: 03/09/24 08:07

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		9.8	4.9	ug/L		03/15/24 10:01	03/15/24 20:22	1
3-Nitroaniline	ND		9.8	4.6	ug/L		03/15/24 10:01	03/15/24 20:22	1
4-Nitroaniline	ND		9.8	4.0	ug/L		03/15/24 10:01	03/15/24 20:22	1
Nitrobenzene	ND		9.8	4.6	ug/L		03/15/24 10:01	03/15/24 20:22	1
2-Nitrophenol	ND		9.8	4.5	ug/L		03/15/24 10:01	03/15/24 20:22	1
4-Nitrophenol	ND		9.8	3.2	ug/L		03/15/24 10:01	03/15/24 20:22	1
N-Nitrosodimethylamine	ND		9.8	2.1	ug/L		03/15/24 10:01	03/15/24 20:22	1
N-Nitrosodi-n-propylamine	ND		9.8	2.4	ug/L		03/15/24 10:01	03/15/24 20:22	1
N-Nitrosodiphenylamine	ND		9.8	3.6	ug/L		03/15/24 10:01	03/15/24 20:22	1
Pentachlorophenol	ND		20	12	ug/L		03/15/24 10:01	03/15/24 20:22	1
<b>Phenol</b>	<b>220</b>		9.8	4.1	ug/L		03/15/24 10:01	03/15/24 20:22	1
Pyridine	ND	*- *1 UJ	9.8	9.8	ug/L		03/15/24 10:01	03/15/24 20:22	1
Quinoline	ND		9.8	2.3	ug/L		03/15/24 10:01	03/15/24 20:22	1
2,4,5-Trichlorophenol	ND		9.8	3.9	ug/L		03/15/24 10:01	03/15/24 20:22	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		03/15/24 10:01	03/15/24 20:22	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorobiphenyl	55		21 - 114				03/15/24 10:01	03/15/24 20:22	1
2-Fluorophenol	36		10 - 105				03/15/24 10:01	03/15/24 20:22	1
Nitrobenzene-d5	47		16 - 127				03/15/24 10:01	03/15/24 20:22	1
Phenol-d5	29		10 - 129				03/15/24 10:01	03/15/24 20:22	1
Terphenyl-d14	59		13 - 150				03/15/24 10:01	03/15/24 20:22	1
2,4,6-Tribromophenol	75		10 - 150				03/15/24 10:01	03/15/24 20:22	1

**Method: EPA 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	0.017	ug/L		03/14/24 07:46	03/14/24 19:02	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/14/24 07:46	03/14/24 19:02	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene	100		51 - 149				03/14/24 07:46	03/14/24 19:02	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: P93B-ROX-030824**

**Lab Sample ID: 400-252406-9**

Date Collected: 03/08/24 12:00

Matrix: Water

Date Received: 03/09/24 08:07

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND	UJ	130000	50000	ug/L			03/18/24 13:17	5000
Acrolein	ND	UJ	100000	17000	ug/L			03/18/24 13:17	5000
Acrylonitrile	ND	UJ	50000	14000	ug/L			03/18/24 13:17	5000
Bromobenzene	ND	UJ	5000	2700	ug/L			03/18/24 13:17	5000
Bromochloromethane	ND	UJ	5000	1100	ug/L			03/18/24 13:17	5000
Bromodichloromethane	ND	UJ	5000	2500	ug/L			03/18/24 13:17	5000
Bromoform	ND	UJ	25000	1300	ug/L			03/18/24 13:17	5000
Bromomethane	ND	UJ	5000	4900	ug/L			03/18/24 13:17	5000
2-Butanone (MEK)	ND	UJ	130000	13000	ug/L			03/18/24 13:17	5000
Carbon disulfide	ND	UJ	5000	2500	ug/L			03/18/24 13:17	5000
Carbon tetrachloride	ND	UJ	5000	950	ug/L			03/18/24 13:17	5000
Chlorobenzene	ND	UJ	5000	4500	ug/L			03/18/24 13:17	5000
Chloroethane	ND	UJ	5000	3800	ug/L			03/18/24 13:17	5000
2-Chloroethyl vinyl ether	ND	UJ	25000	10000	ug/L			03/18/24 13:17	5000
Chloroform	ND	UJ	5000	4500	ug/L			03/18/24 13:17	5000
1-Chlorohexane	ND	UJ	5000	1600	ug/L			03/18/24 13:17	5000
Chloromethane	ND	UJ	5000	4500	ug/L			03/18/24 13:17	5000
cis-1,2-Dichloroethene	ND	UJ	5000	1000	ug/L			03/18/24 13:17	5000
cis-1,3-Dichloropropene	ND	UJ	25000	2500	ug/L			03/18/24 13:17	5000
Dibromochloromethane	ND	UJ	5000	1200	ug/L			03/18/24 13:17	5000
1,2-Dichlorobenzene	ND	UJ	5000	2500	ug/L			03/18/24 13:17	5000
1,3-Dichlorobenzene	ND	UJ	5000	2700	ug/L			03/18/24 13:17	5000
1,4-Dichlorobenzene	ND	UJ	5000	3200	ug/L			03/18/24 13:17	5000
Dichlorodifluoromethane	ND	UJ	5000	4300	ug/L			03/18/24 13:17	5000
1,1-Dichloroethane	ND	UJ	5000	2500	ug/L			03/18/24 13:17	5000
1,2-Dichloroethane	ND	UJ	5000	950	ug/L			03/18/24 13:17	5000
1,1-Dichloroethene	ND	UJ	5000	2500	ug/L			03/18/24 13:17	5000
1,2-Dichloropropane	ND	UJ	5000	2500	ug/L			03/18/24 13:17	5000
1,3-Dichloropropane	ND	UJ	5000	2500	ug/L			03/18/24 13:17	5000
2,2-Dichloropropane	ND	UJ	5000	2500	ug/L			03/18/24 13:17	5000
1,1-Dichloropropene	ND	UJ	5000	2500	ug/L			03/18/24 13:17	5000
Ethylbenzene	ND	UJ	5000	2500	ug/L			03/18/24 13:17	5000
Ethyl methacrylate	ND	UJ	5000	3000	ug/L			03/18/24 13:17	5000
Hexachlorobutadiene	ND	UJ	25000	4500	ug/L			03/18/24 13:17	5000
2-Hexanone	ND	UJ	130000	7000	ug/L			03/18/24 13:17	5000
Isopropylbenzene	ND	UJ	5000	2700	ug/L			03/18/24 13:17	5000
Methylene bromide	ND	UJ	25000	1100	ug/L			03/18/24 13:17	5000
Methylene Chloride	ND	UJ	25000	15000	ug/L			03/18/24 13:17	5000
4-Methyl-2-pentanone (MIBK)	ND	UJ	130000	9000	ug/L			03/18/24 13:17	5000
Methyl tert-butyl ether	ND	UJ	5000	1100	ug/L			03/18/24 13:17	5000
m-Xylene & p-Xylene	ND	UJ	25000	3200	ug/L			03/18/24 13:17	5000
Naphthalene	ND	UJ	25000	15000	ug/L			03/18/24 13:17	5000
n-Butylbenzene	ND	UJ	5000	3800	ug/L			03/18/24 13:17	5000
N-Propylbenzene	ND	UJ	5000	3500	ug/L			03/18/24 13:17	5000
o-Chlorotoluene	ND	UJ	5000	2900	ug/L			03/18/24 13:17	5000
o-Xylene	ND	UJ	25000	3000	ug/L			03/18/24 13:17	5000
p-Chlorotoluene	ND	UJ	5000	2800	ug/L			03/18/24 13:17	5000
p-Isopropyltoluene	ND	UJ	5000	3600	ug/L			03/18/24 13:17	5000
sec-Butylbenzene	ND	UJ	5000	3500	ug/L			03/18/24 13:17	5000

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: P93B-ROX-030824**

**Lab Sample ID: 400-252406-9**

Date Collected: 03/08/24 12:00

Matrix: Water

Date Received: 03/09/24 08:07

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND	UJ	5000	5000	ug/L			03/18/24 13:17	5000
tert-Butylbenzene	ND	UJ	5000	3200	ug/L			03/18/24 13:17	5000
1,1,1,2-Tetrachloroethane	ND	UJ	5000	800	ug/L			03/18/24 13:17	5000
1,1,2,2-Tetrachloroethane	ND	UJ	5000	2500	ug/L			03/18/24 13:17	5000
Tetrachloroethene	ND	UJ	5000	4500	ug/L			03/18/24 13:17	5000
Toluene	ND	UJ	5000	4500	ug/L			03/18/24 13:17	5000
trans-1,2-Dichloroethene	ND	UJ	5000	2500	ug/L			03/18/24 13:17	5000
trans-1,3-Dichloropropene	ND	UJ	25000	1000	ug/L			03/18/24 13:17	5000
1,2,3-Trichlorobenzene	ND	UJ	5000	4500	ug/L			03/18/24 13:17	5000
1,2,4-Trichlorobenzene	ND	UJ	5000	4100	ug/L			03/18/24 13:17	5000
1,1,1-Trichloroethane	ND	UJ	5000	900	ug/L			03/18/24 13:17	5000
1,1,2-Trichloroethane	ND	UJ	25000	1100	ug/L			03/18/24 13:17	5000
Trichloroethene	ND	UJ	5000	750	ug/L			03/18/24 13:17	5000
Trichlorofluoromethane	ND	UJ	5000	2600	ug/L			03/18/24 13:17	5000
1,2,3-Trichloropropane	ND	UJ	25000	4200	ug/L			03/18/24 13:17	5000
1,2,4-Trimethylbenzene	ND	UJ	5000	4100	ug/L			03/18/24 13:17	5000
1,3,5-Trimethylbenzene	ND	UJ	5000	2800	ug/L			03/18/24 13:17	5000
Vinyl acetate	ND	UJ	130000	4700	ug/L			03/18/24 13:17	5000
Vinyl chloride	ND	UJ	5000	2500	ug/L			03/18/24 13:17	5000
Xylenes, Total	ND	UJ	50000	8000	ug/L			03/18/24 13:17	5000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	106		72 - 130		03/18/24 13:17	5000
Dibromofluoromethane	105		75 - 126		03/18/24 13:17	5000
Toluene-d8 (Surr)	101		64 - 132		03/18/24 13:17	5000

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Benzene</b>	<b>2500000</b>		10000	5000	ug/L			03/18/24 15:56	10000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	108		72 - 130		03/18/24 15:56	10000
Dibromofluoromethane	105		75 - 126		03/18/24 15:56	10000
Toluene-d8 (Surr)	101		64 - 132		03/18/24 15:56	10000

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.096	ug/L		03/15/24 10:01	03/15/24 17:45	1
Acenaphthylene	ND		0.19	0.043	ug/L		03/15/24 10:01	03/15/24 17:45	1
Anthracene	ND		0.19	0.046	ug/L		03/15/24 10:01	03/15/24 17:45	1
Benzo[a]anthracene	ND		0.19	0.033	ug/L		03/15/24 10:01	03/15/24 17:45	1
Benzo[a]pyrene	ND		0.19	0.062	ug/L		03/15/24 10:01	03/15/24 17:45	1
Benzo[b]fluoranthene	ND		0.19	0.036	ug/L		03/15/24 10:01	03/15/24 17:45	1
Benzo[g,h,i]perylene	ND		0.19	0.026	ug/L		03/15/24 10:01	03/15/24 17:45	1
Benzo[k]fluoranthene	ND		0.19	0.060	ug/L		03/15/24 10:01	03/15/24 17:45	1
Chrysene	ND		0.19	0.032	ug/L		03/15/24 10:01	03/15/24 17:45	1
Dibenz(a,h)anthracene	ND		0.19	0.047	ug/L		03/15/24 10:01	03/15/24 17:45	1
Fluoranthene	ND		0.19	0.033	ug/L		03/15/24 10:01	03/15/24 17:45	1
Fluorene	ND		0.19	0.086	ug/L		03/15/24 10:01	03/15/24 17:45	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.033	ug/L		03/15/24 10:01	03/15/24 17:45	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: P93B-ROX-030824**

**Lab Sample ID: 400-252406-9**

Date Collected: 03/08/24 12:00

Matrix: Water

Date Received: 03/09/24 08:07

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	ND		0.19	0.087	ug/L		03/15/24 10:01	03/15/24 17:45	1
Pyrene	ND		0.19	0.038	ug/L		03/15/24 10:01	03/15/24 17:45	1
<b>1-Methylnaphthalene</b>	<b>0.093</b>	<b>J *3 J</b>	0.19	0.078	ug/L		03/15/24 10:01	03/15/24 17:45	1
<b>2-Methylnaphthalene</b>	<b>0.067</b>	<b>J *3 J</b>	0.19	0.064	ug/L		03/15/24 10:01	03/15/24 17:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	47		18 - 147				03/15/24 10:01	03/15/24 17:45	1
2-Fluorobiphenyl	38		15 - 128				03/15/24 10:01	03/15/24 17:45	1
Nitrobenzene-d5	15	*3	10 - 144				03/15/24 10:01	03/15/24 17:45	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.7	8.4	ug/L		03/15/24 10:01	03/15/24 20:44	1
Benzenethiol	ND		9.7	9.6	ug/L		03/15/24 10:01	03/15/24 20:44	1
Benzoic acid	ND		29	23	ug/L		03/15/24 10:01	03/15/24 20:44	1
Benzyl alcohol	ND		9.7	7.1	ug/L		03/15/24 10:01	03/15/24 20:44	1
Bis(2-chloroethoxy)methane	ND		9.7	4.5	ug/L		03/15/24 10:01	03/15/24 20:44	1
Bis(2-chloroethyl)ether	ND		9.7	3.8	ug/L		03/15/24 10:01	03/15/24 20:44	1
bis (2-chloroisopropyl) ether	ND		9.7	1.7	ug/L		03/15/24 10:01	03/15/24 20:44	1
Bis(2-ethylhexyl) phthalate	ND		9.7	8.6	ug/L		03/15/24 10:01	03/15/24 20:44	1
4-Bromophenyl phenyl ether	ND		9.7	8.3	ug/L		03/15/24 10:01	03/15/24 20:44	1
Butyl benzyl phthalate	ND		9.7	5.6	ug/L		03/15/24 10:01	03/15/24 20:44	1
4-Chloroaniline	ND		9.7	4.6	ug/L		03/15/24 10:01	03/15/24 20:44	1
4-Chloro-3-methylphenol	ND		9.7	5.1	ug/L		03/15/24 10:01	03/15/24 20:44	1
2-Chloronaphthalene	ND		9.7	3.7	ug/L		03/15/24 10:01	03/15/24 20:44	1
2-Chlorophenol	ND		9.7	4.0	ug/L		03/15/24 10:01	03/15/24 20:44	1
4-Chlorophenyl phenyl ether	ND		9.7	3.6	ug/L		03/15/24 10:01	03/15/24 20:44	1
Dibenz[a,h]acridine	ND		9.7	2.7	ug/L		03/15/24 10:01	03/15/24 20:44	1
Dibenzofuran	ND		9.7	3.9	ug/L		03/15/24 10:01	03/15/24 20:44	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/15/24 10:01	03/15/24 20:44	1
2,4-Dichlorophenol	ND		9.7	4.2	ug/L		03/15/24 10:01	03/15/24 20:44	1
Diethyl phthalate	ND		9.7	4.3	ug/L		03/15/24 10:01	03/15/24 20:44	1
2,4-Dimethylphenol	ND		9.7	5.0	ug/L		03/15/24 10:01	03/15/24 20:44	1
Dimethyl phthalate	ND		9.7	4.1	ug/L		03/15/24 10:01	03/15/24 20:44	1
Di-n-butyl phthalate	ND		9.7	4.5	ug/L		03/15/24 10:01	03/15/24 20:44	1
4,6-Dinitro-ortho-cresol	ND		9.7	9.7	ug/L		03/15/24 10:01	03/15/24 20:44	1
2,4-Dinitrophenol	ND		29	4.5	ug/L		03/15/24 10:01	03/15/24 20:44	1
2,4-Dinitrotoluene	ND		9.7	4.9	ug/L		03/15/24 10:01	03/15/24 20:44	1
2,6-Dinitrotoluene	ND		9.7	3.8	ug/L		03/15/24 10:01	03/15/24 20:44	1
Di-n-octyl phthalate	ND		9.7	5.8	ug/L		03/15/24 10:01	03/15/24 20:44	1
1,4-Dioxane	ND		9.7	4.2	ug/L		03/15/24 10:01	03/15/24 20:44	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.7	3.2	ug/L		03/15/24 10:01	03/15/24 20:44	1
Hexachlorobenzene	ND		9.7	9.4	ug/L		03/15/24 10:01	03/15/24 20:44	1
Hexachlorocyclopentadiene	ND		19	4.4	ug/L		03/15/24 10:01	03/15/24 20:44	1
Hexachloroethane	ND		9.7	5.0	ug/L		03/15/24 10:01	03/15/24 20:44	1
Indene	ND		9.7	3.5	ug/L		03/15/24 10:01	03/15/24 20:44	1
Isophorone	ND		9.7	5.0	ug/L		03/15/24 10:01	03/15/24 20:44	1
2-Methylphenol	ND		9.7	3.1	ug/L		03/15/24 10:01	03/15/24 20:44	1
3 & 4 Methylphenol	ND		19	4.5	ug/L		03/15/24 10:01	03/15/24 20:44	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: P93B-ROX-030824**

**Lab Sample ID: 400-252406-9**

Date Collected: 03/08/24 12:00

Matrix: Water

Date Received: 03/09/24 08:07

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		9.7	4.9	ug/L		03/15/24 10:01	03/15/24 20:44	1
3-Nitroaniline	ND		9.7	4.6	ug/L		03/15/24 10:01	03/15/24 20:44	1
4-Nitroaniline	ND		9.7	4.0	ug/L		03/15/24 10:01	03/15/24 20:44	1
Nitrobenzene	ND		9.7	4.6	ug/L		03/15/24 10:01	03/15/24 20:44	1
2-Nitrophenol	ND		9.7	4.5	ug/L		03/15/24 10:01	03/15/24 20:44	1
4-Nitrophenol	ND		9.7	3.2	ug/L		03/15/24 10:01	03/15/24 20:44	1
N-Nitrosodimethylamine	ND		9.7	2.1	ug/L		03/15/24 10:01	03/15/24 20:44	1
N-Nitrosodi-n-propylamine	ND		9.7	2.4	ug/L		03/15/24 10:01	03/15/24 20:44	1
N-Nitrosodiphenylamine	ND		9.7	3.6	ug/L		03/15/24 10:01	03/15/24 20:44	1
Pentachlorophenol	ND		19	12	ug/L		03/15/24 10:01	03/15/24 20:44	1
<b>Phenol</b>	<b>120</b>		9.7	4.1	ug/L		03/15/24 10:01	03/15/24 20:44	1
Pyridine	ND	*- *1 UJ	9.7	9.7	ug/L		03/15/24 10:01	03/15/24 20:44	1
Quinoline	ND		9.7	2.3	ug/L		03/15/24 10:01	03/15/24 20:44	1
2,4,5-Trichlorophenol	ND		9.7	3.9	ug/L		03/15/24 10:01	03/15/24 20:44	1
2,4,6-Trichlorophenol	ND		9.7	3.4	ug/L		03/15/24 10:01	03/15/24 20:44	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorobiphenyl	52		21 - 114				03/15/24 10:01	03/15/24 20:44	1
2-Fluorophenol	36		10 - 105				03/15/24 10:01	03/15/24 20:44	1
Nitrobenzene-d5	47		16 - 127				03/15/24 10:01	03/15/24 20:44	1
Phenol-d5	28		10 - 129				03/15/24 10:01	03/15/24 20:44	1
Terphenyl-d14	54		13 - 150				03/15/24 10:01	03/15/24 20:44	1
2,4,6-Tribromophenol	68		10 - 150				03/15/24 10:01	03/15/24 20:44	1

**Method: EPA 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	0.017	ug/L		03/14/24 07:46	03/14/24 19:23	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/14/24 07:46	03/14/24 19:23	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene	103		51 - 149				03/14/24 07:46	03/14/24 19:23	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: MW7-ROX-030824**

**Lab Sample ID: 400-252406-10**

Date Collected: 03/08/24 14:10

Matrix: Water

Date Received: 03/09/24 08:07

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND	UJ	13000	5000	ug/L			03/17/24 19:48	500
Acrolein	ND	UJ	10000	1700	ug/L			03/17/24 19:48	500
Acrylonitrile	ND	UJ	5000	1400	ug/L			03/17/24 19:48	500
Bromobenzene	ND	UJ	500	270	ug/L			03/17/24 19:48	500
Bromochloromethane	ND	UJ	500	110	ug/L			03/17/24 19:48	500
Bromodichloromethane	ND	UJ	500	250	ug/L			03/17/24 19:48	500
Bromoform	ND	UJ	2500	130	ug/L			03/17/24 19:48	500
Bromomethane	ND	UJ	500	490	ug/L			03/17/24 19:48	500
2-Butanone (MEK)	ND	UJ	13000	1300	ug/L			03/17/24 19:48	500
Carbon disulfide	ND	UJ	500	250	ug/L			03/17/24 19:48	500
Carbon tetrachloride	ND	UJ	500	95	ug/L			03/17/24 19:48	500
Chlorobenzene	ND	UJ	500	450	ug/L			03/17/24 19:48	500
Chloroethane	ND	UJ	500	380	ug/L			03/17/24 19:48	500
2-Chloroethyl vinyl ether	ND	UJ	2500	1000	ug/L			03/17/24 19:48	500
Chloroform	ND	UJ	500	450	ug/L			03/17/24 19:48	500
1-Chlorohexane	ND	UJ	500	160	ug/L			03/17/24 19:48	500
Chloromethane	ND	UJ	500	450	ug/L			03/17/24 19:48	500
cis-1,2-Dichloroethene	ND	UJ	500	100	ug/L			03/17/24 19:48	500
cis-1,3-Dichloropropene	ND	UJ	2500	250	ug/L			03/17/24 19:48	500
Dibromochloromethane	ND	UJ	500	120	ug/L			03/17/24 19:48	500
1,2-Dichlorobenzene	ND	UJ	500	250	ug/L			03/17/24 19:48	500
1,3-Dichlorobenzene	ND	UJ	500	270	ug/L			03/17/24 19:48	500
1,4-Dichlorobenzene	ND	UJ	500	320	ug/L			03/17/24 19:48	500
Dichlorodifluoromethane	ND	UJ	500	430	ug/L			03/17/24 19:48	500
1,1-Dichloroethane	ND	UJ	500	250	ug/L			03/17/24 19:48	500
1,2-Dichloroethane	ND	UJ	500	95	ug/L			03/17/24 19:48	500
1,1-Dichloroethene	ND	UJ	500	250	ug/L			03/17/24 19:48	500
1,2-Dichloropropane	ND	UJ	500	250	ug/L			03/17/24 19:48	500
1,3-Dichloropropane	ND	UJ	500	250	ug/L			03/17/24 19:48	500
2,2-Dichloropropane	ND	UJ	500	250	ug/L			03/17/24 19:48	500
1,1-Dichloropropene	ND	UJ	500	250	ug/L			03/17/24 19:48	500
Ethylbenzene	ND	UJ	500	250	ug/L			03/17/24 19:48	500
Ethyl methacrylate	ND	UJ	500	300	ug/L			03/17/24 19:48	500
Hexachlorobutadiene	ND	UJ	2500	450	ug/L			03/17/24 19:48	500
2-Hexanone	ND	UJ	13000	700	ug/L			03/17/24 19:48	500
Isopropylbenzene	ND	UJ	500	270	ug/L			03/17/24 19:48	500
Methylene bromide	ND	UJ	2500	110	ug/L			03/17/24 19:48	500
Methylene Chloride	ND	UJ	2500	1500	ug/L			03/17/24 19:48	500
4-Methyl-2-pentanone (MIBK)	ND	UJ	13000	900	ug/L			03/17/24 19:48	500
Methyl tert-butyl ether	ND	UJ	500	110	ug/L			03/17/24 19:48	500
m-Xylene & p-Xylene	ND	UJ	2500	320	ug/L			03/17/24 19:48	500
Naphthalene	ND	UJ	2500	1500	ug/L			03/17/24 19:48	500
n-Butylbenzene	ND	UJ	500	380	ug/L			03/17/24 19:48	500
N-Propylbenzene	ND	UJ	500	350	ug/L			03/17/24 19:48	500
o-Chlorotoluene	ND	UJ	500	290	ug/L			03/17/24 19:48	500
o-Xylene	ND	UJ	2500	300	ug/L			03/17/24 19:48	500
p-Chlorotoluene	ND	UJ	500	280	ug/L			03/17/24 19:48	500
p-Isopropyltoluene	ND	UJ	500	360	ug/L			03/17/24 19:48	500
sec-Butylbenzene	ND	UJ	500	350	ug/L			03/17/24 19:48	500

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: MW7-ROX-030824**

**Lab Sample ID: 400-252406-10**

Date Collected: 03/08/24 14:10

Matrix: Water

Date Received: 03/09/24 08:07

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND	UU	500	500	ug/L			03/17/24 19:48	500
tert-Butylbenzene	ND	UU	500	320	ug/L			03/17/24 19:48	500
1,1,1,2-Tetrachloroethane	ND	UU	500	80	ug/L			03/17/24 19:48	500
1,1,2,2-Tetrachloroethane	ND	UU	500	250	ug/L			03/17/24 19:48	500
Tetrachloroethene	ND	UU	500	450	ug/L			03/17/24 19:48	500
Toluene	ND	UU	500	450	ug/L			03/17/24 19:48	500
trans-1,2-Dichloroethene	ND	UU	500	250	ug/L			03/17/24 19:48	500
trans-1,3-Dichloropropene	ND	UU	2500	100	ug/L			03/17/24 19:48	500
1,2,3-Trichlorobenzene	ND	UU	500	450	ug/L			03/17/24 19:48	500
1,2,4-Trichlorobenzene	ND	UU	500	410	ug/L			03/17/24 19:48	500
1,1,1-Trichloroethane	ND	UU	500	90	ug/L			03/17/24 19:48	500
1,1,2-Trichloroethane	ND	UU	2500	110	ug/L			03/17/24 19:48	500
Trichloroethene	ND	UU	500	75	ug/L			03/17/24 19:48	500
Trichlorofluoromethane	ND	UU	500	260	ug/L			03/17/24 19:48	500
1,2,3-Trichloropropane	ND	UU	2500	420	ug/L			03/17/24 19:48	500
1,2,4-Trimethylbenzene	ND	UU	500	410	ug/L			03/17/24 19:48	500
1,3,5-Trimethylbenzene	ND	UU	500	280	ug/L			03/17/24 19:48	500
Vinyl acetate	ND	UU	13000	470	ug/L			03/17/24 19:48	500
Vinyl chloride	ND	UU	500	250	ug/L			03/17/24 19:48	500
Xylenes, Total	ND	UU	5000	800	ug/L			03/17/24 19:48	500

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		72 - 130		03/17/24 19:48	500
Dibromofluoromethane	100		75 - 126		03/17/24 19:48	500
Toluene-d8 (Surr)	89		64 - 132		03/17/24 19:48	500

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Benzene</b>	<b>510000</b>		2000	1000	ug/L			03/18/24 12:31	2000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107		72 - 130		03/18/24 12:31	2000
Dibromofluoromethane	105		75 - 126		03/18/24 12:31	2000
Toluene-d8 (Surr)	99		64 - 132		03/18/24 12:31	2000

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acenaphthene</b>	<b>0.14</b>	<b>J</b>	0.20	0.097	ug/L		03/15/24 10:01	03/15/24 18:05	1
Acenaphthylene	ND		0.20	0.043	ug/L		03/15/24 10:01	03/15/24 18:05	1
Anthracene	ND		0.20	0.046	ug/L		03/15/24 10:01	03/15/24 18:05	1
Benzo[a]anthracene	ND		0.20	0.033	ug/L		03/15/24 10:01	03/15/24 18:05	1
Benzo[a]pyrene	ND		0.20	0.063	ug/L		03/15/24 10:01	03/15/24 18:05	1
Benzo[b]fluoranthene	ND		0.20	0.036	ug/L		03/15/24 10:01	03/15/24 18:05	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		03/15/24 10:01	03/15/24 18:05	1
Benzo[k]fluoranthene	ND		0.20	0.061	ug/L		03/15/24 10:01	03/15/24 18:05	1
Chrysene	ND		0.20	0.032	ug/L		03/15/24 10:01	03/15/24 18:05	1
Dibenz(a,h)anthracene	ND		0.20	0.047	ug/L		03/15/24 10:01	03/15/24 18:05	1
Fluoranthene	ND		0.20	0.033	ug/L		03/15/24 10:01	03/15/24 18:05	1
<b>Fluorene</b>	<b>0.14</b>	<b>J</b>	0.20	0.087	ug/L		03/15/24 10:01	03/15/24 18:05	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.033	ug/L		03/15/24 10:01	03/15/24 18:05	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: MW7-ROX-030824**

**Lab Sample ID: 400-252406-10**

Date Collected: 03/08/24 14:10

Matrix: Water

Date Received: 03/09/24 08:07

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	0.30		0.20	0.088	ug/L		03/15/24 10:01	03/15/24 18:05	1
Pyrene	ND		0.20	0.038	ug/L		03/15/24 10:01	03/15/24 18:05	1
1-Methylnaphthalene	1.4		0.20	0.079	ug/L		03/15/24 10:01	03/15/24 18:05	1
2-Methylnaphthalene	1.5		0.20	0.065	ug/L		03/15/24 10:01	03/15/24 18:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	47		18 - 147				03/15/24 10:01	03/15/24 18:05	1
2-Fluorobiphenyl	35		15 - 128				03/15/24 10:01	03/15/24 18:05	1
Nitrobenzene-d5	26		10 - 144				03/15/24 10:01	03/15/24 18:05	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.8	8.5	ug/L		03/15/24 10:01	03/15/24 21:06	1
Benzenethiol	ND		9.8	9.7	ug/L		03/15/24 10:01	03/15/24 21:06	1
Benzoic acid	ND		29	24	ug/L		03/15/24 10:01	03/15/24 21:06	1
Benzyl alcohol	ND		9.8	7.2	ug/L		03/15/24 10:01	03/15/24 21:06	1
Bis(2-chloroethoxy)methane	ND		9.8	4.5	ug/L		03/15/24 10:01	03/15/24 21:06	1
Bis(2-chloroethyl)ether	ND		9.8	3.8	ug/L		03/15/24 10:01	03/15/24 21:06	1
bis (2-chloroisopropyl) ether	ND		9.8	1.8	ug/L		03/15/24 10:01	03/15/24 21:06	1
Bis(2-ethylhexyl) phthalate	ND		9.8	8.7	ug/L		03/15/24 10:01	03/15/24 21:06	1
4-Bromophenyl phenyl ether	ND		9.8	8.5	ug/L		03/15/24 10:01	03/15/24 21:06	1
Butyl benzyl phthalate	ND		9.8	5.7	ug/L		03/15/24 10:01	03/15/24 21:06	1
4-Chloroaniline	ND		9.8	4.6	ug/L		03/15/24 10:01	03/15/24 21:06	1
4-Chloro-3-methylphenol	ND		9.8	5.2	ug/L		03/15/24 10:01	03/15/24 21:06	1
2-Chloronaphthalene	ND		9.8	3.7	ug/L		03/15/24 10:01	03/15/24 21:06	1
2-Chlorophenol	ND		9.8	4.0	ug/L		03/15/24 10:01	03/15/24 21:06	1
4-Chlorophenyl phenyl ether	ND		9.8	3.6	ug/L		03/15/24 10:01	03/15/24 21:06	1
Dibenz[a,h]acridine	ND		9.8	2.8	ug/L		03/15/24 10:01	03/15/24 21:06	1
Dibenzofuran	ND		9.8	3.9	ug/L		03/15/24 10:01	03/15/24 21:06	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/15/24 10:01	03/15/24 21:06	1
2,4-Dichlorophenol	ND		9.8	4.2	ug/L		03/15/24 10:01	03/15/24 21:06	1
Diethyl phthalate	ND		9.8	4.3	ug/L		03/15/24 10:01	03/15/24 21:06	1
2,4-Dimethylphenol	ND		9.8	5.1	ug/L		03/15/24 10:01	03/15/24 21:06	1
Dimethyl phthalate	ND		9.8	4.1	ug/L		03/15/24 10:01	03/15/24 21:06	1
Di-n-butyl phthalate	ND		9.8	4.5	ug/L		03/15/24 10:01	03/15/24 21:06	1
4,6-Dinitro-ortho-cresol	ND		9.8	9.8	ug/L		03/15/24 10:01	03/15/24 21:06	1
2,4-Dinitrophenol	ND		29	4.5	ug/L		03/15/24 10:01	03/15/24 21:06	1
2,4-Dinitrotoluene	ND		9.8	5.0	ug/L		03/15/24 10:01	03/15/24 21:06	1
2,6-Dinitrotoluene	ND		9.8	3.8	ug/L		03/15/24 10:01	03/15/24 21:06	1
Di-n-octyl phthalate	ND		9.8	5.9	ug/L		03/15/24 10:01	03/15/24 21:06	1
1,4-Dioxane	ND		9.8	4.2	ug/L		03/15/24 10:01	03/15/24 21:06	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.8	3.2	ug/L		03/15/24 10:01	03/15/24 21:06	1
Hexachlorobenzene	ND		9.8	9.5	ug/L		03/15/24 10:01	03/15/24 21:06	1
Hexachlorocyclopentadiene	ND		20	4.4	ug/L		03/15/24 10:01	03/15/24 21:06	1
Hexachloroethane	ND		9.8	5.1	ug/L		03/15/24 10:01	03/15/24 21:06	1
Indene	ND		9.8	3.5	ug/L		03/15/24 10:01	03/15/24 21:06	1
Isophorone	ND		9.8	5.1	ug/L		03/15/24 10:01	03/15/24 21:06	1
2-Methylphenol	ND		9.8	3.1	ug/L		03/15/24 10:01	03/15/24 21:06	1
3 & 4 Methylphenol	ND		20	4.5	ug/L		03/15/24 10:01	03/15/24 21:06	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: MW7-ROX-030824**

**Lab Sample ID: 400-252406-10**

Date Collected: 03/08/24 14:10

Matrix: Water

Date Received: 03/09/24 08:07

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		9.8	4.9	ug/L		03/15/24 10:01	03/15/24 21:06	1
3-Nitroaniline	ND		9.8	4.6	ug/L		03/15/24 10:01	03/15/24 21:06	1
4-Nitroaniline	ND		9.8	4.0	ug/L		03/15/24 10:01	03/15/24 21:06	1
Nitrobenzene	ND		9.8	4.6	ug/L		03/15/24 10:01	03/15/24 21:06	1
2-Nitrophenol	ND		9.8	4.5	ug/L		03/15/24 10:01	03/15/24 21:06	1
4-Nitrophenol	ND		9.8	3.2	ug/L		03/15/24 10:01	03/15/24 21:06	1
N-Nitrosodimethylamine	ND		9.8	2.2	ug/L		03/15/24 10:01	03/15/24 21:06	1
N-Nitrosodi-n-propylamine	ND		9.8	2.5	ug/L		03/15/24 10:01	03/15/24 21:06	1
N-Nitrosodiphenylamine	ND		9.8	3.6	ug/L		03/15/24 10:01	03/15/24 21:06	1
Pentachlorophenol	ND		20	12	ug/L		03/15/24 10:01	03/15/24 21:06	1
<b>Phenol</b>	<b>50</b>		9.8	4.1	ug/L		03/15/24 10:01	03/15/24 21:06	1
Pyridine	ND	*- *1 UJ	9.8	9.8	ug/L		03/15/24 10:01	03/15/24 21:06	1
Quinoline	ND		9.8	2.4	ug/L		03/15/24 10:01	03/15/24 21:06	1
2,4,5-Trichlorophenol	ND		9.8	3.9	ug/L		03/15/24 10:01	03/15/24 21:06	1
2,4,6-Trichlorophenol	ND		9.8	3.4	ug/L		03/15/24 10:01	03/15/24 21:06	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorobiphenyl	46		21 - 114				03/15/24 10:01	03/15/24 21:06	1
2-Fluorophenol	38		10 - 105				03/15/24 10:01	03/15/24 21:06	1
Nitrobenzene-d5	39		16 - 127				03/15/24 10:01	03/15/24 21:06	1
Phenol-d5	28		10 - 129				03/15/24 10:01	03/15/24 21:06	1
Terphenyl-d14	56		13 - 150				03/15/24 10:01	03/15/24 21:06	1
2,4,6-Tribromophenol	59		10 - 150				03/15/24 10:01	03/15/24 21:06	1

**Method: EPA 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	0.018	ug/L		03/14/24 07:46	03/14/24 19:44	1
1,2-Dibromoethane	ND		0.021	0.016	ug/L		03/14/24 07:46	03/14/24 19:44	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene	77		51 - 149				03/14/24 07:46	03/14/24 19:44	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: MW7-ROX-030824-DUP**

**Lab Sample ID: 400-252406-11**

Date Collected: 03/08/24 14:10

Matrix: Water

Date Received: 03/09/24 08:07

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND	UU	13000	5000	ug/L			03/17/24 20:15	500
Acrolein	ND	UU	10000	1700	ug/L			03/17/24 20:15	500
Acrylonitrile	ND	UU	5000	1400	ug/L			03/17/24 20:15	500
Bromobenzene	ND	UU	500	270	ug/L			03/17/24 20:15	500
Bromochloromethane	ND	UU	500	110	ug/L			03/17/24 20:15	500
Bromodichloromethane	ND	UU	500	250	ug/L			03/17/24 20:15	500
Bromoform	ND	UU	2500	130	ug/L			03/17/24 20:15	500
Bromomethane	ND	UU	500	490	ug/L			03/17/24 20:15	500
2-Butanone (MEK)	ND	UU	13000	1300	ug/L			03/17/24 20:15	500
Carbon disulfide	ND	UU	500	250	ug/L			03/17/24 20:15	500
Carbon tetrachloride	ND	UU	500	95	ug/L			03/17/24 20:15	500
Chlorobenzene	ND	UU	500	450	ug/L			03/17/24 20:15	500
Chloroethane	ND	UU	500	380	ug/L			03/17/24 20:15	500
2-Chloroethyl vinyl ether	ND	UU	2500	1000	ug/L			03/17/24 20:15	500
Chloroform	ND	UU	500	450	ug/L			03/17/24 20:15	500
1-Chlorohexane	ND	UU	500	160	ug/L			03/17/24 20:15	500
Chloromethane	ND	UU	500	450	ug/L			03/17/24 20:15	500
cis-1,2-Dichloroethene	ND	UU	500	100	ug/L			03/17/24 20:15	500
cis-1,3-Dichloropropene	ND	UU	2500	250	ug/L			03/17/24 20:15	500
Dibromochloromethane	ND	UU	500	120	ug/L			03/17/24 20:15	500
1,2-Dichlorobenzene	ND	UU	500	250	ug/L			03/17/24 20:15	500
1,3-Dichlorobenzene	ND	UU	500	270	ug/L			03/17/24 20:15	500
1,4-Dichlorobenzene	ND	UU	500	320	ug/L			03/17/24 20:15	500
Dichlorodifluoromethane	ND	UU	500	430	ug/L			03/17/24 20:15	500
1,1-Dichloroethane	ND	UU	500	250	ug/L			03/17/24 20:15	500
1,2-Dichloroethane	ND	UU	500	95	ug/L			03/17/24 20:15	500
1,1-Dichloroethene	ND	UU	500	250	ug/L			03/17/24 20:15	500
1,2-Dichloropropane	ND	UU	500	250	ug/L			03/17/24 20:15	500
1,3-Dichloropropane	ND	UU	500	250	ug/L			03/17/24 20:15	500
2,2-Dichloropropane	ND	UU	500	250	ug/L			03/17/24 20:15	500
1,1-Dichloropropene	ND	UU	500	250	ug/L			03/17/24 20:15	500
Ethylbenzene	ND	UU	500	250	ug/L			03/17/24 20:15	500
Ethyl methacrylate	ND	UU	500	300	ug/L			03/17/24 20:15	500
Hexachlorobutadiene	ND	UU	2500	450	ug/L			03/17/24 20:15	500
2-Hexanone	ND	UU	13000	700	ug/L			03/17/24 20:15	500
Isopropylbenzene	ND	UU	500	270	ug/L			03/17/24 20:15	500
Methylene bromide	ND	UU	2500	110	ug/L			03/17/24 20:15	500
Methylene Chloride	ND	UU	2500	1500	ug/L			03/17/24 20:15	500
4-Methyl-2-pentanone (MIBK)	ND	UU	13000	900	ug/L			03/17/24 20:15	500
Methyl tert-butyl ether	ND	UU	500	110	ug/L			03/17/24 20:15	500
m-Xylene & p-Xylene	ND	UU	2500	320	ug/L			03/17/24 20:15	500
Naphthalene	ND	UU	2500	1500	ug/L			03/17/24 20:15	500
n-Butylbenzene	ND	UU	500	380	ug/L			03/17/24 20:15	500
N-Propylbenzene	ND	UU	500	350	ug/L			03/17/24 20:15	500
o-Chlorotoluene	ND	UU	500	290	ug/L			03/17/24 20:15	500
o-Xylene	ND	UU	2500	300	ug/L			03/17/24 20:15	500
p-Chlorotoluene	ND	UU	500	280	ug/L			03/17/24 20:15	500
p-Isopropyltoluene	ND	UU	500	360	ug/L			03/17/24 20:15	500
sec-Butylbenzene	ND	UU	500	350	ug/L			03/17/24 20:15	500

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: MW7-ROX-030824-DUP**

**Lab Sample ID: 400-252406-11**

Date Collected: 03/08/24 14:10

Matrix: Water

Date Received: 03/09/24 08:07

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND	UU	500	500	ug/L			03/17/24 20:15	500
tert-Butylbenzene	ND	UU	500	320	ug/L			03/17/24 20:15	500
1,1,1,2-Tetrachloroethane	ND	UU	500	80	ug/L			03/17/24 20:15	500
1,1,2,2-Tetrachloroethane	ND	UU	500	250	ug/L			03/17/24 20:15	500
Tetrachloroethene	ND	UU	500	450	ug/L			03/17/24 20:15	500
Toluene	ND	UU	500	450	ug/L			03/17/24 20:15	500
trans-1,2-Dichloroethene	ND	UU	500	250	ug/L			03/17/24 20:15	500
trans-1,3-Dichloropropene	ND	UU	2500	100	ug/L			03/17/24 20:15	500
1,2,3-Trichlorobenzene	ND	UU	500	450	ug/L			03/17/24 20:15	500
1,2,4-Trichlorobenzene	ND	UU	500	410	ug/L			03/17/24 20:15	500
1,1,1-Trichloroethane	ND	UU	500	90	ug/L			03/17/24 20:15	500
1,1,2-Trichloroethane	ND	UU	2500	110	ug/L			03/17/24 20:15	500
Trichloroethene	ND	UU	500	75	ug/L			03/17/24 20:15	500
Trichlorofluoromethane	ND	UU	500	260	ug/L			03/17/24 20:15	500
1,2,3-Trichloropropane	ND	UU	2500	420	ug/L			03/17/24 20:15	500
1,2,4-Trimethylbenzene	ND	UU	500	410	ug/L			03/17/24 20:15	500
1,3,5-Trimethylbenzene	ND	UU	500	280	ug/L			03/17/24 20:15	500
Vinyl acetate	ND	UU	13000	470	ug/L			03/17/24 20:15	500
Vinyl chloride	ND	UU	500	250	ug/L			03/17/24 20:15	500
Xylenes, Total	ND	UU	5000	800	ug/L			03/17/24 20:15	500

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		72 - 130		03/17/24 20:15	500
Dibromofluoromethane	98		75 - 126		03/17/24 20:15	500
Toluene-d8 (Surr)	89		64 - 132		03/17/24 20:15	500

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Benzene</b>	<b>490000</b>		2000	1000	ug/L			03/18/24 12:54	2000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	107		72 - 130		03/18/24 12:54	2000
Dibromofluoromethane	106		75 - 126		03/18/24 12:54	2000
Toluene-d8 (Surr)	99		64 - 132		03/18/24 12:54	2000

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Acenaphthene</b>	<b>0.22</b>		0.19	0.095	ug/L		03/15/24 10:01	03/15/24 18:26	1
Acenaphthylene	ND		0.19	0.042	ug/L		03/15/24 10:01	03/15/24 18:26	1
<b>Anthracene</b>	<b>0.048</b>	J	0.19	0.045	ug/L		03/15/24 10:01	03/15/24 18:26	1
Benzo[a]anthracene	ND		0.19	0.032	ug/L		03/15/24 10:01	03/15/24 18:26	1
Benzo[a]pyrene	ND		0.19	0.061	ug/L		03/15/24 10:01	03/15/24 18:26	1
Benzo[b]fluoranthene	ND		0.19	0.035	ug/L		03/15/24 10:01	03/15/24 18:26	1
Benzo[g,h,i]perylene	ND		0.19	0.026	ug/L		03/15/24 10:01	03/15/24 18:26	1
Benzo[k]fluoranthene	ND		0.19	0.059	ug/L		03/15/24 10:01	03/15/24 18:26	1
Chrysene	ND		0.19	0.032	ug/L		03/15/24 10:01	03/15/24 18:26	1
Dibenz(a,h)anthracene	ND		0.19	0.046	ug/L		03/15/24 10:01	03/15/24 18:26	1
Fluoranthene	ND		0.19	0.032	ug/L		03/15/24 10:01	03/15/24 18:26	1
<b>Fluorene</b>	<b>0.24</b>		0.19	0.085	ug/L		03/15/24 10:01	03/15/24 18:26	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.032	ug/L		03/15/24 10:01	03/15/24 18:26	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: MW7-ROX-030824-DUP**

**Lab Sample ID: 400-252406-11**

Date Collected: 03/08/24 14:10

Matrix: Water

Date Received: 03/09/24 08:07

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenanthrene	0.47		0.19	0.086	ug/L		03/15/24 10:01	03/15/24 18:26	1
Pyrene	0.038	J	0.19	0.037	ug/L		03/15/24 10:01	03/15/24 18:26	1
1-Methylnaphthalene	1.7		0.19	0.076	ug/L		03/15/24 10:01	03/15/24 18:26	1
2-Methylnaphthalene	1.8		0.19	0.063	ug/L		03/15/24 10:01	03/15/24 18:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	75		18 - 147				03/15/24 10:01	03/15/24 18:26	1
2-Fluorobiphenyl	51		15 - 128				03/15/24 10:01	03/15/24 18:26	1
Nitrobenzene-d5	31		10 - 144				03/15/24 10:01	03/15/24 18:26	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		9.6	8.3	ug/L		03/15/24 10:01	03/15/24 21:29	1
Benzenethiol	ND		9.6	9.5	ug/L		03/15/24 10:01	03/15/24 21:29	1
Benzoic acid	ND		29	23	ug/L		03/15/24 10:01	03/15/24 21:29	1
Benzyl alcohol	ND		9.6	7.0	ug/L		03/15/24 10:01	03/15/24 21:29	1
Bis(2-chloroethoxy)methane	ND		9.6	4.4	ug/L		03/15/24 10:01	03/15/24 21:29	1
Bis(2-chloroethyl)ether	ND		9.6	3.7	ug/L		03/15/24 10:01	03/15/24 21:29	1
bis (2-chloroisopropyl) ether	ND		9.6	1.7	ug/L		03/15/24 10:01	03/15/24 21:29	1
Bis(2-ethylhexyl) phthalate	ND		9.6	8.5	ug/L		03/15/24 10:01	03/15/24 21:29	1
4-Bromophenyl phenyl ether	ND		9.6	8.2	ug/L		03/15/24 10:01	03/15/24 21:29	1
Butyl benzyl phthalate	ND		9.6	5.5	ug/L		03/15/24 10:01	03/15/24 21:29	1
4-Chloroaniline	ND		9.6	4.5	ug/L		03/15/24 10:01	03/15/24 21:29	1
4-Chloro-3-methylphenol	ND		9.6	5.1	ug/L		03/15/24 10:01	03/15/24 21:29	1
2-Chloronaphthalene	ND		9.6	3.6	ug/L		03/15/24 10:01	03/15/24 21:29	1
2-Chlorophenol	ND		9.6	3.9	ug/L		03/15/24 10:01	03/15/24 21:29	1
4-Chlorophenyl phenyl ether	ND		9.6	3.5	ug/L		03/15/24 10:01	03/15/24 21:29	1
Dibenz[a,h]acridine	ND		9.6	2.7	ug/L		03/15/24 10:01	03/15/24 21:29	1
Dibenzofuran	ND		9.6	3.8	ug/L		03/15/24 10:01	03/15/24 21:29	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/15/24 10:01	03/15/24 21:29	1
2,4-Dichlorophenol	ND		9.6	4.1	ug/L		03/15/24 10:01	03/15/24 21:29	1
Diethyl phthalate	ND		9.6	4.2	ug/L		03/15/24 10:01	03/15/24 21:29	1
2,4-Dimethylphenol	ND		9.6	5.0	ug/L		03/15/24 10:01	03/15/24 21:29	1
Dimethyl phthalate	ND		9.6	4.0	ug/L		03/15/24 10:01	03/15/24 21:29	1
Di-n-butyl phthalate	ND		9.6	4.4	ug/L		03/15/24 10:01	03/15/24 21:29	1
4,6-Dinitro-ortho-cresol	ND		9.6	9.6	ug/L		03/15/24 10:01	03/15/24 21:29	1
2,4-Dinitrophenol	ND		29	4.4	ug/L		03/15/24 10:01	03/15/24 21:29	1
2,4-Dinitrotoluene	ND		9.6	4.9	ug/L		03/15/24 10:01	03/15/24 21:29	1
2,6-Dinitrotoluene	ND		9.6	3.7	ug/L		03/15/24 10:01	03/15/24 21:29	1
Di-n-octyl phthalate	ND		9.6	5.7	ug/L		03/15/24 10:01	03/15/24 21:29	1
1,4-Dioxane	ND		9.6	4.1	ug/L		03/15/24 10:01	03/15/24 21:29	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.6	3.2	ug/L		03/15/24 10:01	03/15/24 21:29	1
Hexachlorobenzene	ND		9.6	9.3	ug/L		03/15/24 10:01	03/15/24 21:29	1
Hexachlorocyclopentadiene	ND		19	4.3	ug/L		03/15/24 10:01	03/15/24 21:29	1
Hexachloroethane	ND		9.6	5.0	ug/L		03/15/24 10:01	03/15/24 21:29	1
Indene	ND		9.6	3.4	ug/L		03/15/24 10:01	03/15/24 21:29	1
Isophorone	ND		9.6	5.0	ug/L		03/15/24 10:01	03/15/24 21:29	1
2-Methylphenol	ND		9.6	3.1	ug/L		03/15/24 10:01	03/15/24 21:29	1
3 & 4 Methylphenol	ND		19	4.4	ug/L		03/15/24 10:01	03/15/24 21:29	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: MW7-ROX-030824-DUP**

**Lab Sample ID: 400-252406-11**

Date Collected: 03/08/24 14:10

Matrix: Water

Date Received: 03/09/24 08:07

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitroaniline	ND		9.6	4.8	ug/L		03/15/24 10:01	03/15/24 21:29	1
3-Nitroaniline	ND		9.6	4.5	ug/L		03/15/24 10:01	03/15/24 21:29	1
4-Nitroaniline	ND		9.6	3.9	ug/L		03/15/24 10:01	03/15/24 21:29	1
Nitrobenzene	ND		9.6	4.5	ug/L		03/15/24 10:01	03/15/24 21:29	1
2-Nitrophenol	ND		9.6	4.4	ug/L		03/15/24 10:01	03/15/24 21:29	1
4-Nitrophenol	ND		9.6	3.2	ug/L		03/15/24 10:01	03/15/24 21:29	1
N-Nitrosodimethylamine	ND		9.6	2.1	ug/L		03/15/24 10:01	03/15/24 21:29	1
N-Nitrosodi-n-propylamine	ND		9.6	2.4	ug/L		03/15/24 10:01	03/15/24 21:29	1
N-Nitrosodiphenylamine	ND		9.6	3.5	ug/L		03/15/24 10:01	03/15/24 21:29	1
Pentachlorophenol	ND		19	11	ug/L		03/15/24 10:01	03/15/24 21:29	1
<b>Phenol</b>	<b>52</b>		9.6	4.0	ug/L		03/15/24 10:01	03/15/24 21:29	1
Pyridine	ND	*- *1 UJ	9.6	9.6	ug/L		03/15/24 10:01	03/15/24 21:29	1
Quinoline	ND		9.6	2.3	ug/L		03/15/24 10:01	03/15/24 21:29	1
2,4,5-Trichlorophenol	ND		9.6	3.8	ug/L		03/15/24 10:01	03/15/24 21:29	1
2,4,6-Trichlorophenol	ND		9.6	3.3	ug/L		03/15/24 10:01	03/15/24 21:29	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
2-Fluorobiphenyl	59		21 - 114				03/15/24 10:01	03/15/24 21:29	1
2-Fluorophenol	39		10 - 105				03/15/24 10:01	03/15/24 21:29	1
Nitrobenzene-d5	49		16 - 127				03/15/24 10:01	03/15/24 21:29	1
Phenol-d5	29		10 - 129				03/15/24 10:01	03/15/24 21:29	1
Terphenyl-d14	74		13 - 150				03/15/24 10:01	03/15/24 21:29	1
2,4,6-Tribromophenol	74		10 - 150				03/15/24 10:01	03/15/24 21:29	1

**Method: EPA 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	0.017	ug/L		03/14/24 07:46	03/14/24 20:06	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/14/24 07:46	03/14/24 20:06	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene	73		51 - 149				03/14/24 07:46	03/14/24 20:06	1

# Definitions/Glossary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
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
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*1	LCS/LCSD RPD exceeds control limits.
*3	ISTD response or retention time outside acceptable limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### 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.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count



# Surrogate Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

## Method: 8260D - Volatile Organic Compounds by 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 (72-130)	DBFM (75-126)	TOL (64-132)
400-252406-1	TB-ROX-030824-8260-B	97	106	89
400-252406-3	MW25-ROX-030824-EB	98	107	90
400-252406-4	MW25-ROX-030824	99	102	92
400-252406-5	TB-ROX-030824-8260-A	98	111	88
400-252406-7	P58-ROX-030824	97	98	89
400-252406-7 - DL	P58-ROX-030824	107	106	100
400-252406-8	P58-ROX-030824-DUP	97	100	89
400-252406-8 - DL	P58-ROX-030824-DUP	104	104	99
400-252406-9	P93B-ROX-030824	106	105	101
400-252406-9 - DL	P93B-ROX-030824	108	105	101
400-252406-10	MW7-ROX-030824	98	100	89
400-252406-10 - DL	MW7-ROX-030824	107	105	99
400-252406-11	MW7-ROX-030824-DUP	99	98	89
400-252406-11 - DL	MW7-ROX-030824-DUP	107	106	99
LCS 400-664695/1002	Lab Control Sample	96	105	94
LCS 400-664711/1002	Lab Control Sample	96	105	93
LCS 400-664766/1002	Lab Control Sample	108	101	100
MB 400-664695/4	Method Blank	97	107	90
MB 400-664711/4	Method Blank	99	105	89
MB 400-664766/15	Method Blank	107	114	99

**Surrogate Legend**

- BFB = 4-Bromofluorobenzene
- DBFM = Dibromofluoromethane
- TOL = Toluene-d8 (Surr)

## Method: 8270E - 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 (21-114)	2FP (10-105)	NBZ (16-127)	PHL (10-129)	TPHL (13-150)	TBP (10-150)
400-252406-3	MW25-ROX-030824-EB	64	41	52	30	74	59
400-252406-4	MW25-ROX-030824	58	39	46	28	63	61
400-252406-7	P58-ROX-030824	59	40	53	32	60	76
400-252406-8	P58-ROX-030824-DUP	55	36	47	29	59	75
400-252406-9	P93B-ROX-030824	52	36	47	28	54	68
400-252406-10	MW7-ROX-030824	46	38	39	28	56	59
400-252406-11	MW7-ROX-030824-DUP	59	39	49	29	74	74
LCS 400-664601/2-A	Lab Control Sample	63	50	65	41	75	77
LCS 400-664601/4-A	Lab Control Sample	60	46	52	34	78	58
LCSD 400-664601/3-A	Lab Control Sample Dup	67	54	66	46	73	81
LCSD 400-664601/5-A	Lab Control Sample Dup	59	46	51	35	70	57
MB 400-664601/1-A	Method Blank	64	40	53	28	73	55

**Surrogate Legend**

- FBP = 2-Fluorobiphenyl
- 2FP = 2-Fluorophenol
- NBZ = Nitrobenzene-d5
- PHL = Phenol-d5
- TPHL = Terphenyl-d14

Eurofins Pensacola

# Surrogate Summary

Client: AECOM Technical Services Inc.  
 Project/Site: ROXANA MONTHLY GW  
 TBP = 2,4,6-Tribromophenol

Job ID: 400-252406-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TPHL (18-147)	FBP (15-128)	NBZ (10-144)
400-252406-3	MW25-ROX-030824-EB	82	58	43
400-252406-4	MW25-ROX-030824	52	45	34
400-252406-7	P58-ROX-030824	48	33	36
400-252406-8	P58-ROX-030824-DUP	44	32	31
400-252406-9	P93B-ROX-030824	47	38	15 *3
400-252406-10	MW7-ROX-030824	47	35	26
400-252406-11	MW7-ROX-030824-DUP	75	51	31
LCS 400-664601/2-A	Lab Control Sample	74	72	48
LCS 400-664601/3-A	Lab Control Sample Dup	73	71	48
MB 400-664601/1-A	Method Blank	51	36	26

#### 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

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB1
		(51-149)
400-252406-2	TB-ROX-030824-8011-B	138
400-252406-3	MW25-ROX-030824-EB	114
400-252406-4	MW25-ROX-030824	91
400-252406-6	TB-ROX-030824-8011-A	116
400-252406-7	P58-ROX-030824	82
400-252406-8	P58-ROX-030824-DUP	100
400-252406-9	P93B-ROX-030824	103
400-252406-10	MW7-ROX-030824	77
400-252406-11	MW7-ROX-030824-DUP	73
LCS 400-664441/2-A	Lab Control Sample	78 p
LCS 400-664441/3-A	Lab Control Sample Dup	83 p
MB 400-664441/1-A	Method Blank	90 p

#### Surrogate Legend

BFB = 4-Bromofluorobenzene

# Method Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET PEN
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET PEN
8270E SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	EET PEN
8011	EDB and DBCP in Water by Microextraction	EPA	EET PEN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET PEN
5030C	Purge and Trap	SW846	EET PEN
8011	Microextraction	SW846	EET 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:**

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001



# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: TB-ROX-030824-8260-B**

**Lab Sample ID: 400-252406-1**

Date Collected: 03/08/24 00:01

Matrix: Water

Date Received: 03/09/24 08:07

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	664695	03/16/24 21:25	KR	EET PEN

**Client Sample ID: TB-ROX-030824-8011-B**

**Lab Sample ID: 400-252406-2**

Date Collected: 03/08/24 00:01

Matrix: Water

Date Received: 03/09/24 08:07

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	8011			34.5 mL	35 mL	664441	03/14/24 07:46	PG	EET PEN
Total/NA	Analysis	8011		1			664510	03/14/24 16:54	PG	EET PEN

**Client Sample ID: MW25-ROX-030824-EB**

**Lab Sample ID: 400-252406-3**

Date Collected: 03/08/24 08:30

Matrix: Water

Date Received: 03/09/24 08:07

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	664695	03/16/24 21:51	KR	EET PEN
Total/NA	Prep	3510C			264.8 mL	1 mL	664601	03/15/24 10:01	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664636	03/15/24 19:15	S1B	EET PEN
Total/NA	Prep	3510C			264.8 mL	1 mL	664601	03/15/24 10:01	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	664638	03/15/24 16:22	TH	EET PEN
Total/NA	Prep	8011			35.5 mL	35 mL	664441	03/14/24 07:46	PG	EET PEN
Total/NA	Analysis	8011		1			664510	03/14/24 17:15	PG	EET PEN

**Client Sample ID: MW25-ROX-030824**

**Lab Sample ID: 400-252406-4**

Date Collected: 03/08/24 10:25

Matrix: Water

Date Received: 03/09/24 08:07

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	664695	03/16/24 22:18	KR	EET PEN
Total/NA	Prep	3510C			246 mL	1 mL	664601	03/15/24 10:01	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664636	03/15/24 19:37	S1B	EET PEN
Total/NA	Prep	3510C			246 mL	1 mL	664601	03/15/24 10:01	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	664638	03/15/24 16:43	TH	EET PEN
Total/NA	Prep	8011			36.1 mL	35 mL	664441	03/14/24 07:46	PG	EET PEN
Total/NA	Analysis	8011		1			664510	03/14/24 17:36	PG	EET PEN

**Client Sample ID: TB-ROX-030824-8260-A**

**Lab Sample ID: 400-252406-5**

Date Collected: 03/08/24 00:01

Matrix: Water

Date Received: 03/09/24 08:07

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	664711	03/17/24 18:00	KR	EET PEN

# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: TB-ROX-030824-8011-A**

**Lab Sample ID: 400-252406-6**

Date Collected: 03/08/24 00:01

Matrix: Water

Date Received: 03/09/24 08:07

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	664441	03/14/24 07:46	PG	EET PEN
Total/NA	Analysis	8011		1			664510	03/14/24 17:58	PG	EET PEN

**Client Sample ID: P58-ROX-030824**

**Lab Sample ID: 400-252406-7**

Date Collected: 03/08/24 10:30

Matrix: Water

Date Received: 03/09/24 08:07

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D	DL	2000	5 mL	5 mL	664766	03/18/24 11:46	BPO	EET PEN
Total/NA	Analysis	8260D		500	5 mL	5 mL	664711	03/17/24 18:27	KR	EET PEN
Total/NA	Prep	3510C			254.6 mL	1 mL	664601	03/15/24 10:01	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664636	03/15/24 20:00	S1B	EET PEN
Total/NA	Prep	3510C			254.6 mL	1 mL	664601	03/15/24 10:01	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	664638	03/15/24 17:03	TH	EET PEN
Total/NA	Prep	8011			36 mL	35 mL	664441	03/14/24 07:46	PG	EET PEN
Total/NA	Analysis	8011		1			664510	03/14/24 18:19	PG	EET PEN

**Client Sample ID: P58-ROX-030824-DUP**

**Lab Sample ID: 400-252406-8**

Date Collected: 03/08/24 10:30

Matrix: Water

Date Received: 03/09/24 08:07

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D	DL	2000	5 mL	5 mL	664766	03/18/24 12:08	BPO	EET PEN
Total/NA	Analysis	8260D		500	5 mL	5 mL	664711	03/17/24 18:54	KR	EET PEN
Total/NA	Prep	3510C			256.4 mL	1 mL	664601	03/15/24 10:01	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664636	03/15/24 20:22	S1B	EET PEN
Total/NA	Prep	3510C			256.4 mL	1 mL	664601	03/15/24 10:01	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	664638	03/15/24 17:24	TH	EET PEN
Total/NA	Prep	8011			35.4 mL	35 mL	664441	03/14/24 07:46	PG	EET PEN
Total/NA	Analysis	8011		1			664510	03/14/24 19:02	PG	EET PEN

**Client Sample ID: P93B-ROX-030824**

**Lab Sample ID: 400-252406-9**

Date Collected: 03/08/24 12:00

Matrix: Water

Date Received: 03/09/24 08:07

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		5000	5 mL	5 mL	664766	03/18/24 13:17	BPO	EET PEN
Total/NA	Analysis	8260D	DL	10000	5 mL	5 mL	664766	03/18/24 15:56	BPO	EET PEN
Total/NA	Prep	3510C			257.6 mL	1 mL	664601	03/15/24 10:01	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664636	03/15/24 20:44	S1B	EET PEN
Total/NA	Prep	3510C			257.6 mL	1 mL	664601	03/15/24 10:01	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	664638	03/15/24 17:45	TH	EET PEN
Total/NA	Prep	8011			35 mL	35 mL	664441	03/14/24 07:46	PG	EET PEN
Total/NA	Analysis	8011		1			664510	03/14/24 19:23	PG	EET PEN

# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: MW7-ROX-030824**

**Lab Sample ID: 400-252406-10**

Date Collected: 03/08/24 14:10

Matrix: Water

Date Received: 03/09/24 08:07

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D	DL	2000	5 mL	5 mL	664766	03/18/24 12:31	BPO	EET PEN
Total/NA	Analysis	8260D		500	5 mL	5 mL	664711	03/17/24 19:48	KR	EET PEN
Total/NA	Prep	3510C			254.4 mL	1 mL	664601	03/15/24 10:01	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664636	03/15/24 21:06	S1B	EET PEN
Total/NA	Prep	3510C			254.4 mL	1 mL	664601	03/15/24 10:01	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	664638	03/15/24 18:05	TH	EET PEN
Total/NA	Prep	8011			33.7 mL	35 mL	664441	03/14/24 07:46	PG	EET PEN
Total/NA	Analysis	8011		1			664510	03/14/24 19:44	PG	EET PEN

**Client Sample ID: MW7-ROX-030824-DUP**

**Lab Sample ID: 400-252406-11**

Date Collected: 03/08/24 14:10

Matrix: Water

Date Received: 03/09/24 08:07

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D	DL	2000	5 mL	5 mL	664766	03/18/24 12:54	BPO	EET PEN
Total/NA	Analysis	8260D		500	5 mL	5 mL	664711	03/17/24 20:15	KR	EET PEN
Total/NA	Prep	3510C			261.6 mL	1 mL	664601	03/15/24 10:01	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664636	03/15/24 21:29	S1B	EET PEN
Total/NA	Prep	3510C			261.6 mL	1 mL	664601	03/15/24 10:01	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	664638	03/15/24 18:26	TH	EET PEN
Total/NA	Prep	8011			35 mL	35 mL	664441	03/14/24 07:46	PG	EET PEN
Total/NA	Analysis	8011		1			664510	03/14/24 20:06	PG	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-664441/1-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	664441	03/14/24 07:46	PG	EET PEN
Total/NA	Analysis	8011		1			664510	03/14/24 15:07	PG	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-664601/1-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	3510C			250 mL	1 mL	664601	03/15/24 10:01	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664636	03/15/24 15:31	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	664601	03/15/24 10:01	STC	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	664638	03/15/24 15:20	TH	EET PEN

# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-664695/4**

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	8260D		1	5 mL	5 mL	664695	03/16/24 11:58	KR	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-664711/4**

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	8260D		1	5 mL	5 mL	664711	03/17/24 10:22	KR	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-664766/15**

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	8260D		1	5 mL	5 mL	664766	03/18/24 11:00	BPO	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-664441/2-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	664441	03/14/24 07:46	PG	EET PEN
Total/NA	Analysis	8011		1			664510	03/14/24 15:29	PG	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-664601/2-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	3510C			250 mL	1 mL	664601	03/15/24 10:01	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664636	03/15/24 15:53	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	664601	03/15/24 10:01	STC	EET PEN
Total/NA	Analysis	8270E SIM		20	0.4 mL	0.4 mL	664638	03/15/24 15:40	TH	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-664601/4-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	3510C			250 mL	1 mL	664601	03/15/24 10:01	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664636	03/15/24 16:38	S1B	EET PEN



# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-664695/1002**

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	8260D		1	5 mL	5 mL	664695	03/16/24 10:20	KR	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-664711/1002**

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	8260D		1	5 mL	5 mL	664711	03/17/24 08:47	KR	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-664766/1002**

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	8260D		1	5 mL	5 mL	664766	03/18/24 09:49	BPO	EET PEN

**Client Sample ID: Lab Control Sample Dup**

**Lab Sample ID: LCSD 400-664441/3-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	664441	03/14/24 07:46	PG	EET PEN
Total/NA	Analysis	8011		1			664510	03/14/24 15:50	PG	EET PEN

**Client Sample ID: Lab Control Sample Dup**

**Lab Sample ID: LCSD 400-664601/3-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	3510C			250 mL	1 mL	664601	03/15/24 10:01	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664636	03/15/24 16:16	S1B	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	664601	03/15/24 10:01	STC	EET PEN
Total/NA	Analysis	8270E SIM		20	0.4 mL	0.4 mL	664638	03/15/24 16:01	TH	EET PEN

**Client Sample ID: Lab Control Sample Dup**

**Lab Sample ID: LCSD 400-664601/5-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	3510C			250 mL	1 mL	664601	03/15/24 10:01	STC	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664636	03/15/24 17:00	S1B	EET PEN

**Laboratory References:**

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001

# QC Association Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

## GC/MS VOA

### Analysis Batch: 664695

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252406-1	TB-ROX-030824-8260-B	Total/NA	Water	8260D	
400-252406-3	MW25-ROX-030824-EB	Total/NA	Water	8260D	
400-252406-4	MW25-ROX-030824	Total/NA	Water	8260D	
MB 400-664695/4	Method Blank	Total/NA	Water	8260D	
LCS 400-664695/1002	Lab Control Sample	Total/NA	Water	8260D	

### Analysis Batch: 664711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252406-5	TB-ROX-030824-8260-A	Total/NA	Water	8260D	
400-252406-7	P58-ROX-030824	Total/NA	Water	8260D	
400-252406-8	P58-ROX-030824-DUP	Total/NA	Water	8260D	
400-252406-10	MW7-ROX-030824	Total/NA	Water	8260D	
400-252406-11	MW7-ROX-030824-DUP	Total/NA	Water	8260D	
MB 400-664711/4	Method Blank	Total/NA	Water	8260D	
LCS 400-664711/1002	Lab Control Sample	Total/NA	Water	8260D	

### Analysis Batch: 664766

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252406-7 - DL	P58-ROX-030824	Total/NA	Water	8260D	
400-252406-8 - DL	P58-ROX-030824-DUP	Total/NA	Water	8260D	
400-252406-9	P93B-ROX-030824	Total/NA	Water	8260D	
400-252406-9 - DL	P93B-ROX-030824	Total/NA	Water	8260D	
400-252406-10 - DL	MW7-ROX-030824	Total/NA	Water	8260D	
400-252406-11 - DL	MW7-ROX-030824-DUP	Total/NA	Water	8260D	
MB 400-664766/15	Method Blank	Total/NA	Water	8260D	
LCS 400-664766/1002	Lab Control Sample	Total/NA	Water	8260D	

## GC/MS Semi VOA

### Prep Batch: 664601

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252406-3	MW25-ROX-030824-EB	Total/NA	Water	3510C	
400-252406-4	MW25-ROX-030824	Total/NA	Water	3510C	
400-252406-7	P58-ROX-030824	Total/NA	Water	3510C	
400-252406-8	P58-ROX-030824-DUP	Total/NA	Water	3510C	
400-252406-9	P93B-ROX-030824	Total/NA	Water	3510C	
400-252406-10	MW7-ROX-030824	Total/NA	Water	3510C	
400-252406-11	MW7-ROX-030824-DUP	Total/NA	Water	3510C	
MB 400-664601/1-A	Method Blank	Total/NA	Water	3510C	
LCS 400-664601/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 400-664601/4-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 400-664601/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
LCSD 400-664601/5-A	Lab Control Sample Dup	Total/NA	Water	3510C	

### Analysis Batch: 664636

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252406-3	MW25-ROX-030824-EB	Total/NA	Water	8270E	664601
400-252406-4	MW25-ROX-030824	Total/NA	Water	8270E	664601
400-252406-7	P58-ROX-030824	Total/NA	Water	8270E	664601
400-252406-8	P58-ROX-030824-DUP	Total/NA	Water	8270E	664601
400-252406-9	P93B-ROX-030824	Total/NA	Water	8270E	664601

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# QC Association Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

## GC/MS Semi VOA (Continued)

### Analysis Batch: 664636 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252406-10	MW7-ROX-030824	Total/NA	Water	8270E	664601
400-252406-11	MW7-ROX-030824-DUP	Total/NA	Water	8270E	664601
MB 400-664601/1-A	Method Blank	Total/NA	Water	8270E	664601
LCS 400-664601/2-A	Lab Control Sample	Total/NA	Water	8270E	664601
LCS 400-664601/4-A	Lab Control Sample	Total/NA	Water	8270E	664601
LCSD 400-664601/3-A	Lab Control Sample Dup	Total/NA	Water	8270E	664601
LCSD 400-664601/5-A	Lab Control Sample Dup	Total/NA	Water	8270E	664601

### Analysis Batch: 664638

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252406-3	MW25-ROX-030824-EB	Total/NA	Water	8270E SIM	664601
400-252406-4	MW25-ROX-030824	Total/NA	Water	8270E SIM	664601
400-252406-7	P58-ROX-030824	Total/NA	Water	8270E SIM	664601
400-252406-8	P58-ROX-030824-DUP	Total/NA	Water	8270E SIM	664601
400-252406-9	P93B-ROX-030824	Total/NA	Water	8270E SIM	664601
400-252406-10	MW7-ROX-030824	Total/NA	Water	8270E SIM	664601
400-252406-11	MW7-ROX-030824-DUP	Total/NA	Water	8270E SIM	664601
MB 400-664601/1-A	Method Blank	Total/NA	Water	8270E SIM	664601
LCS 400-664601/2-A	Lab Control Sample	Total/NA	Water	8270E SIM	664601
LCSD 400-664601/3-A	Lab Control Sample Dup	Total/NA	Water	8270E SIM	664601

## GC Semi VOA

### Prep Batch: 664441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252406-2	TB-ROX-030824-8011-B	Total/NA	Water	8011	
400-252406-3	MW25-ROX-030824-EB	Total/NA	Water	8011	
400-252406-4	MW25-ROX-030824	Total/NA	Water	8011	
400-252406-6	TB-ROX-030824-8011-A	Total/NA	Water	8011	
400-252406-7	P58-ROX-030824	Total/NA	Water	8011	
400-252406-8	P58-ROX-030824-DUP	Total/NA	Water	8011	
400-252406-9	P93B-ROX-030824	Total/NA	Water	8011	
400-252406-10	MW7-ROX-030824	Total/NA	Water	8011	
400-252406-11	MW7-ROX-030824-DUP	Total/NA	Water	8011	
MB 400-664441/1-A	Method Blank	Total/NA	Water	8011	
LCS 400-664441/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 400-664441/3-A	Lab Control Sample Dup	Total/NA	Water	8011	

### Analysis Batch: 664510

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252406-2	TB-ROX-030824-8011-B	Total/NA	Water	8011	664441
400-252406-3	MW25-ROX-030824-EB	Total/NA	Water	8011	664441
400-252406-4	MW25-ROX-030824	Total/NA	Water	8011	664441
400-252406-6	TB-ROX-030824-8011-A	Total/NA	Water	8011	664441
400-252406-7	P58-ROX-030824	Total/NA	Water	8011	664441
400-252406-8	P58-ROX-030824-DUP	Total/NA	Water	8011	664441
400-252406-9	P93B-ROX-030824	Total/NA	Water	8011	664441
400-252406-10	MW7-ROX-030824	Total/NA	Water	8011	664441
400-252406-11	MW7-ROX-030824-DUP	Total/NA	Water	8011	664441
MB 400-664441/1-A	Method Blank	Total/NA	Water	8011	664441
LCS 400-664441/2-A	Lab Control Sample	Total/NA	Water	8011	664441

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# QC Association Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

## GC Semi VOA (Continued)

### Analysis Batch: 664510 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 400-664441/3-A	Lab Control Sample Dup	Total/NA	Water	8011	664441

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 400-664695/4

Matrix: Water

Analysis Batch: 664695

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			03/16/24 11:58	1
Acrolein	ND		20	3.3	ug/L			03/16/24 11:58	1
Acrylonitrile	ND		10	2.8	ug/L			03/16/24 11:58	1
Benzene	ND		1.0	0.50	ug/L			03/16/24 11:58	1
Bromobenzene	ND		1.0	0.54	ug/L			03/16/24 11:58	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/16/24 11:58	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/16/24 11:58	1
Bromoform	ND		5.0	0.25	ug/L			03/16/24 11:58	1
Bromomethane	ND		1.0	0.98	ug/L			03/16/24 11:58	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/16/24 11:58	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/16/24 11:58	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/16/24 11:58	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/16/24 11:58	1
Chloroethane	ND		1.0	0.76	ug/L			03/16/24 11:58	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/16/24 11:58	1
Chloroform	ND		1.0	0.90	ug/L			03/16/24 11:58	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/16/24 11:58	1
Chloromethane	ND		1.0	0.90	ug/L			03/16/24 11:58	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/16/24 11:58	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/16/24 11:58	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/16/24 11:58	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/16/24 11:58	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/16/24 11:58	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/16/24 11:58	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/16/24 11:58	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/16/24 11:58	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/16/24 11:58	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/16/24 11:58	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/16/24 11:58	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/16/24 11:58	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/16/24 11:58	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/16/24 11:58	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/16/24 11:58	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/16/24 11:58	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/16/24 11:58	1
2-Hexanone	ND		25	1.4	ug/L			03/16/24 11:58	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/16/24 11:58	1
Methylene bromide	ND		5.0	0.22	ug/L			03/16/24 11:58	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/16/24 11:58	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/16/24 11:58	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/16/24 11:58	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/16/24 11:58	1
Naphthalene	ND		5.0	3.0	ug/L			03/16/24 11:58	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/16/24 11:58	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/16/24 11:58	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/16/24 11:58	1
o-Xylene	ND		5.0	0.60	ug/L			03/16/24 11:58	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/16/24 11:58	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-664695/4

Matrix: Water

Analysis Batch: 664695

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			03/16/24 11:58	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/16/24 11:58	1
Styrene	ND		1.0	1.0	ug/L			03/16/24 11:58	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/16/24 11:58	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/16/24 11:58	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/16/24 11:58	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/16/24 11:58	1
Toluene	ND		1.0	0.90	ug/L			03/16/24 11:58	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/16/24 11:58	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/16/24 11:58	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/16/24 11:58	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/16/24 11:58	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/16/24 11:58	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/16/24 11:58	1
Trichloroethene	ND		1.0	0.15	ug/L			03/16/24 11:58	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/16/24 11:58	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/16/24 11:58	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/16/24 11:58	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/16/24 11:58	1
Vinyl acetate	ND		25	0.93	ug/L			03/16/24 11:58	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/16/24 11:58	1
Xylenes, Total	ND		10	1.6	ug/L			03/16/24 11:58	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene	97		72 - 130		03/16/24 11:58	1
Dibromofluoromethane	107		75 - 126		03/16/24 11:58	1
Toluene-d8 (Surr)	90		64 - 132		03/16/24 11:58	1

Lab Sample ID: LCS 400-664695/1002

Matrix: Water

Analysis Batch: 664695

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acrolein	500	495		ug/L		99	38 - 160
Acrylonitrile	500	547		ug/L		109	64 - 142
Benzene	50.0	55.2		ug/L		110	70 - 130
Bromobenzene	50.0	52.4		ug/L		105	70 - 132
Bromochloromethane	50.0	58.9		ug/L		118	70 - 130
Bromodichloromethane	50.0	62.5		ug/L		125	67 - 133
Bromoform	50.0	49.8		ug/L		100	57 - 140
Bromomethane	50.0	56.2		ug/L		112	10 - 160
2-Butanone (MEK)	200	201		ug/L		101	61 - 145
Carbon disulfide	50.0	35.0		ug/L		70	61 - 137
Carbon tetrachloride	50.0	60.4		ug/L		121	61 - 137
Chlorobenzene	50.0	55.3		ug/L		111	70 - 130
Chloroethane	50.0	55.2		ug/L		110	55 - 141
2-Chloroethyl vinyl ether	50.0	50.4		ug/L		101	10 - 160

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 400-664695/1002

Matrix: Water

Analysis Batch: 664695

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec Limits
	Added	Result	Qualifier				
Chloroform	50.0	61.7		ug/L		123	69 - 130
1-Chlorohexane	50.0	58.9		ug/L		118	69 - 130
Chloromethane	50.0	48.1		ug/L		96	58 - 137
cis-1,2-Dichloroethene	50.0	59.8		ug/L		120	68 - 130
cis-1,3-Dichloropropene	50.0	57.6		ug/L		115	69 - 132
Dibromochloromethane	50.0	56.0		ug/L		112	67 - 135
1,2-Dichlorobenzene	50.0	54.9		ug/L		110	67 - 130
1,3-Dichlorobenzene	50.0	55.7		ug/L		111	70 - 130
1,4-Dichlorobenzene	50.0	55.3		ug/L		111	70 - 130
Dichlorodifluoromethane	50.0	49.6		ug/L		99	41 - 146
1,1-Dichloroethane	50.0	56.3		ug/L		113	70 - 130
1,2-Dichloroethane	50.0	61.2		ug/L		122	69 - 130
1,1-Dichloroethene	50.0	47.9		ug/L		96	63 - 134
1,2-Dichloropropane	50.0	60.7		ug/L		121	70 - 130
1,3-Dichloropropane	50.0	52.1		ug/L		104	70 - 130
2,2-Dichloropropane	50.0	54.2		ug/L		108	52 - 135
1,1-Dichloropropene	50.0	54.9		ug/L		110	70 - 130
Ethylbenzene	50.0	54.9		ug/L		110	70 - 130
Ethyl methacrylate	50.0	48.8		ug/L		98	68 - 130
Hexachlorobutadiene	50.0	73.3	*+	ug/L		147	53 - 140
2-Hexanone	200	201		ug/L		100	65 - 137
Isopropylbenzene	50.0	60.0		ug/L		120	70 - 130
Methylene bromide	50.0	57.0		ug/L		114	70 - 130
Methylene Chloride	50.0	59.4		ug/L		119	66 - 135
4-Methyl-2-pentanone (MIBK)	200	215		ug/L		108	69 - 138
Methyl tert-butyl ether	50.0	52.0		ug/L		104	66 - 130
m-Xylene & p-Xylene	50.0	57.0		ug/L		114	70 - 130
Naphthalene	50.0	48.0		ug/L		96	47 - 149
n-Butylbenzene	50.0	58.7		ug/L		117	67 - 130
N-Propylbenzene	50.0	54.3		ug/L		109	70 - 130
o-Chlorotoluene	50.0	53.7		ug/L		107	70 - 130
o-Xylene	50.0	56.0		ug/L		112	70 - 130
p-Chlorotoluene	50.0	55.7		ug/L		111	70 - 130
p-Isopropyltoluene	50.0	57.3		ug/L		115	65 - 130
sec-Butylbenzene	50.0	57.3		ug/L		115	66 - 130
Styrene	50.0	57.2		ug/L		114	70 - 130
tert-Butylbenzene	50.0	57.5		ug/L		115	64 - 139
1,1,1,2-Tetrachloroethane	50.0	57.8		ug/L		116	67 - 131
1,1,2,2-Tetrachloroethane	50.0	45.2		ug/L		90	70 - 131
Tetrachloroethene	50.0	55.6		ug/L		111	65 - 130
Toluene	50.0	50.8		ug/L		102	70 - 130
trans-1,2-Dichloroethene	50.0	51.4		ug/L		103	70 - 130
trans-1,3-Dichloropropene	50.0	51.5		ug/L		103	63 - 130
1,2,3-Trichlorobenzene	50.0	58.1		ug/L		116	60 - 138
1,2,4-Trichlorobenzene	50.0	60.8		ug/L		122	60 - 140
1,1,1-Trichloroethane	50.0	59.5		ug/L		119	68 - 130
1,1,2-Trichloroethane	50.0	53.0		ug/L		106	70 - 130
Trichloroethene	50.0	59.2		ug/L		118	70 - 130
Trichlorofluoromethane	50.0	58.3		ug/L		117	65 - 138

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID:** LCS 400-664695/1002  
**Matrix:** Water  
**Analysis Batch:** 664695

**Client Sample ID:** Lab Control Sample  
**Prep Type:** Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	50.0	48.1		ug/L		96	70 - 130
1,2,4-Trimethylbenzene	50.0	54.7		ug/L		109	70 - 130
1,3,5-Trimethylbenzene	50.0	54.4		ug/L		109	69 - 130
Vinyl acetate	100	103		ug/L		103	26 - 160
Vinyl chloride	50.0	52.5		ug/L		105	59 - 136
Xylenes, Total	100	113		ug/L		113	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	96		72 - 130
Dibromofluoromethane	105		75 - 126
Toluene-d8 (Surr)	94		64 - 132

**Lab Sample ID:** MB 400-664711/4  
**Matrix:** Water  
**Analysis Batch:** 664711

**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			03/17/24 10:22	1
Acrolein	ND		20	3.3	ug/L			03/17/24 10:22	1
Acrylonitrile	ND		10	2.8	ug/L			03/17/24 10:22	1
Benzene	ND		1.0	0.50	ug/L			03/17/24 10:22	1
Bromobenzene	ND		1.0	0.54	ug/L			03/17/24 10:22	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/17/24 10:22	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/17/24 10:22	1
Bromoform	ND		5.0	0.25	ug/L			03/17/24 10:22	1
Bromomethane	ND		1.0	0.98	ug/L			03/17/24 10:22	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/17/24 10:22	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/17/24 10:22	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/17/24 10:22	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/17/24 10:22	1
Chloroethane	ND		1.0	0.76	ug/L			03/17/24 10:22	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/17/24 10:22	1
Chloroform	ND		1.0	0.90	ug/L			03/17/24 10:22	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/17/24 10:22	1
Chloromethane	ND		1.0	0.90	ug/L			03/17/24 10:22	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/17/24 10:22	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/17/24 10:22	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/17/24 10:22	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/17/24 10:22	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/17/24 10:22	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/17/24 10:22	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/17/24 10:22	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/17/24 10:22	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/17/24 10:22	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/17/24 10:22	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/17/24 10:22	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/17/24 10:22	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/17/24 10:22	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-664711/4

Matrix: Water

Analysis Batch: 664711

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/17/24 10:22	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/17/24 10:22	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/17/24 10:22	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/17/24 10:22	1
2-Hexanone	ND		25	1.4	ug/L			03/17/24 10:22	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/17/24 10:22	1
Methylene bromide	ND		5.0	0.22	ug/L			03/17/24 10:22	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/17/24 10:22	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/17/24 10:22	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/17/24 10:22	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/17/24 10:22	1
Naphthalene	ND		5.0	3.0	ug/L			03/17/24 10:22	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/17/24 10:22	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/17/24 10:22	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/17/24 10:22	1
o-Xylene	ND		5.0	0.60	ug/L			03/17/24 10:22	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/17/24 10:22	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/17/24 10:22	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/17/24 10:22	1
Styrene	ND		1.0	1.0	ug/L			03/17/24 10:22	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/17/24 10:22	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/17/24 10:22	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/17/24 10:22	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/17/24 10:22	1
Toluene	ND		1.0	0.90	ug/L			03/17/24 10:22	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/17/24 10:22	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/17/24 10:22	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/17/24 10:22	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/17/24 10:22	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/17/24 10:22	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/17/24 10:22	1
Trichloroethene	ND		1.0	0.15	ug/L			03/17/24 10:22	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/17/24 10:22	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/17/24 10:22	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/17/24 10:22	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/17/24 10:22	1
Vinyl acetate	ND		25	0.93	ug/L			03/17/24 10:22	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/17/24 10:22	1
Xylenes, Total	ND		10	1.6	ug/L			03/17/24 10:22	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene	99		72 - 130		03/17/24 10:22	1
Dibromofluoromethane	105		75 - 126		03/17/24 10:22	1
Toluene-d8 (Surr)	89		64 - 132		03/17/24 10:22	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 400-664711/1002

Matrix: Water

Analysis Batch: 664711

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	200	187		ug/L		93	43 - 160
Acrolein	500	482		ug/L		96	38 - 160
Acrylonitrile	500	523		ug/L		105	64 - 142
Benzene	50.0	54.1		ug/L		108	70 - 130
Bromobenzene	50.0	50.0		ug/L		100	70 - 132
Bromochloromethane	50.0	57.0		ug/L		114	70 - 130
Bromodichloromethane	50.0	60.5		ug/L		121	67 - 133
Bromoform	50.0	46.0		ug/L		92	57 - 140
Bromomethane	50.0	63.1		ug/L		126	10 - 160
2-Butanone (MEK)	200	189		ug/L		95	61 - 145
Carbon disulfide	50.0	33.5		ug/L		67	61 - 137
Carbon tetrachloride	50.0	58.7		ug/L		117	61 - 137
Chlorobenzene	50.0	52.8		ug/L		106	70 - 130
Chloroethane	50.0	56.6		ug/L		113	55 - 141
2-Chloroethyl vinyl ether	50.0	50.5		ug/L		101	10 - 160
Chloroform	50.0	60.6		ug/L		121	69 - 130
1-Chlorohexane	50.0	56.1		ug/L		112	69 - 130
Chloromethane	50.0	49.3		ug/L		99	58 - 137
cis-1,2-Dichloroethene	50.0	57.7		ug/L		115	68 - 130
cis-1,3-Dichloropropene	50.0	56.4		ug/L		113	69 - 132
Dibromochloromethane	50.0	51.2		ug/L		102	67 - 135
1,2-Dichlorobenzene	50.0	51.8		ug/L		104	67 - 130
1,3-Dichlorobenzene	50.0	53.3		ug/L		107	70 - 130
1,4-Dichlorobenzene	50.0	52.2		ug/L		104	70 - 130
Dichlorodifluoromethane	50.0	50.1		ug/L		100	41 - 146
1,1-Dichloroethane	50.0	55.9		ug/L		112	70 - 130
1,2-Dichloroethane	50.0	58.7		ug/L		117	69 - 130
1,1-Dichloroethene	50.0	46.1		ug/L		92	63 - 134
1,2-Dichloropropane	50.0	59.5		ug/L		119	70 - 130
1,3-Dichloropropane	50.0	47.9		ug/L		96	70 - 130
2,2-Dichloropropane	50.0	52.8		ug/L		106	52 - 135
1,1-Dichloropropene	50.0	52.7		ug/L		105	70 - 130
Ethylbenzene	50.0	52.5		ug/L		105	70 - 130
Ethyl methacrylate	50.0	45.2		ug/L		90	68 - 130
Hexachlorobutadiene	50.0	69.2		ug/L		138	53 - 140
2-Hexanone	200	181		ug/L		90	65 - 137
Isopropylbenzene	50.0	56.9		ug/L		114	70 - 130
Methylene bromide	50.0	55.3		ug/L		111	70 - 130
Methylene Chloride	50.0	60.9		ug/L		122	66 - 135
4-Methyl-2-pentanone (MIBK)	200	200		ug/L		100	69 - 138
Methyl tert-butyl ether	50.0	50.8		ug/L		102	66 - 130
m-Xylene & p-Xylene	50.0	53.6		ug/L		107	70 - 130
Naphthalene	50.0	43.1		ug/L		86	47 - 149
n-Butylbenzene	50.0	56.0		ug/L		112	67 - 130
N-Propylbenzene	50.0	50.9		ug/L		102	70 - 130
o-Chlorotoluene	50.0	50.6		ug/L		101	70 - 130
o-Xylene	50.0	53.1		ug/L		106	70 - 130
p-Chlorotoluene	50.0	53.0		ug/L		106	70 - 130

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-664711/1002**  
**Matrix: Water**  
**Analysis Batch: 664711**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
p-Isopropyltoluene	50.0	54.9		ug/L		110	65 - 130
sec-Butylbenzene	50.0	54.2		ug/L		108	66 - 130
Styrene	50.0	54.2		ug/L		108	70 - 130
tert-Butylbenzene	50.0	54.9		ug/L		110	64 - 139
1,1,1,2-Tetrachloroethane	50.0	54.5		ug/L		109	67 - 131
1,1,2,2-Tetrachloroethane	50.0	41.7		ug/L		83	70 - 131
Tetrachloroethene	50.0	51.6		ug/L		103	65 - 130
Toluene	50.0	48.4		ug/L		97	70 - 130
trans-1,2-Dichloroethene	50.0	50.7		ug/L		101	70 - 130
trans-1,3-Dichloropropene	50.0	48.2		ug/L		96	63 - 130
1,2,3-Trichlorobenzene	50.0	53.7		ug/L		107	60 - 138
1,2,4-Trichlorobenzene	50.0	56.9		ug/L		114	60 - 140
1,1,1-Trichloroethane	50.0	58.0		ug/L		116	68 - 130
1,1,2-Trichloroethane	50.0	47.7		ug/L		95	70 - 130
Trichloroethene	50.0	57.2		ug/L		114	70 - 130
Trichlorofluoromethane	50.0	59.6		ug/L		119	65 - 138
1,2,3-Trichloropropane	50.0	43.6		ug/L		87	70 - 130
1,2,4-Trimethylbenzene	50.0	51.4		ug/L		103	70 - 130
1,3,5-Trimethylbenzene	50.0	51.7		ug/L		103	69 - 130
Vinyl acetate	100	106		ug/L		106	26 - 160
Vinyl chloride	50.0	53.6		ug/L		107	59 - 136
Xylenes, Total	100	107		ug/L		107	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	96		72 - 130
Dibromofluoromethane	105		75 - 126
Toluene-d8 (Surr)	93		64 - 132

**Lab Sample ID: MB 400-664766/15**  
**Matrix: Water**  
**Analysis Batch: 664766**

**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			03/18/24 11:00	1
Acrolein	ND		20	3.3	ug/L			03/18/24 11:00	1
Acrylonitrile	ND		10	2.8	ug/L			03/18/24 11:00	1
Benzene	ND		1.0	0.50	ug/L			03/18/24 11:00	1
Bromobenzene	ND		1.0	0.54	ug/L			03/18/24 11:00	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/18/24 11:00	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/18/24 11:00	1
Bromoform	ND		5.0	0.25	ug/L			03/18/24 11:00	1
Bromomethane	ND		1.0	0.98	ug/L			03/18/24 11:00	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/18/24 11:00	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/18/24 11:00	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/18/24 11:00	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/18/24 11:00	1
Chloroethane	ND		1.0	0.76	ug/L			03/18/24 11:00	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/18/24 11:00	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: MB 400-664766/15**

**Client Sample ID: Method Blank**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 664766**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chloroform	ND		1.0	0.90	ug/L			03/18/24 11:00	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/18/24 11:00	1
Chloromethane	ND		1.0	0.90	ug/L			03/18/24 11:00	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/18/24 11:00	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/18/24 11:00	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/18/24 11:00	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/18/24 11:00	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/18/24 11:00	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/18/24 11:00	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/18/24 11:00	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/18/24 11:00	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/18/24 11:00	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/18/24 11:00	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/18/24 11:00	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/18/24 11:00	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/18/24 11:00	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/18/24 11:00	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/18/24 11:00	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/18/24 11:00	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/18/24 11:00	1
2-Hexanone	ND		25	1.4	ug/L			03/18/24 11:00	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/18/24 11:00	1
Methylene bromide	ND		5.0	0.22	ug/L			03/18/24 11:00	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/18/24 11:00	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/18/24 11:00	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/18/24 11:00	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/18/24 11:00	1
Naphthalene	ND		5.0	3.0	ug/L			03/18/24 11:00	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/18/24 11:00	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/18/24 11:00	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/18/24 11:00	1
o-Xylene	ND		5.0	0.60	ug/L			03/18/24 11:00	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/18/24 11:00	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/18/24 11:00	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/18/24 11:00	1
Styrene	ND		1.0	1.0	ug/L			03/18/24 11:00	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/18/24 11:00	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/18/24 11:00	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/18/24 11:00	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/18/24 11:00	1
Toluene	ND		1.0	0.90	ug/L			03/18/24 11:00	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/18/24 11:00	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/18/24 11:00	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/18/24 11:00	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/18/24 11:00	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/18/24 11:00	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/18/24 11:00	1
Trichloroethene	ND		1.0	0.15	ug/L			03/18/24 11:00	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/18/24 11:00	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-664766/15

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 664766

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/18/24 11:00	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/18/24 11:00	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/18/24 11:00	1
Vinyl acetate	ND		25	0.93	ug/L			03/18/24 11:00	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/18/24 11:00	1
Xylenes, Total	ND		10	1.6	ug/L			03/18/24 11:00	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene	107		72 - 130		03/18/24 11:00	1
Dibromofluoromethane	114		75 - 126		03/18/24 11:00	1
Toluene-d8 (Surr)	99		64 - 132		03/18/24 11:00	1

Lab Sample ID: LCS 400-664766/1002

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 664766

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Acetone	200	124		ug/L		62	43 - 160
Acrolein	500	512		ug/L		102	38 - 160
Acrylonitrile	500	533		ug/L		107	64 - 142
Benzene	50.0	50.3		ug/L		101	70 - 130
Bromobenzene	50.0	54.8		ug/L		110	70 - 132
Bromochloromethane	50.0	51.9		ug/L		104	70 - 130
Bromodichloromethane	50.0	57.2		ug/L		114	67 - 133
Bromoform	50.0	57.5		ug/L		115	57 - 140
Bromomethane	50.0	34.8		ug/L		70	10 - 160
2-Butanone (MEK)	200	144		ug/L		72	61 - 145
Carbon disulfide	50.0	31.0		ug/L		62	61 - 137
Carbon tetrachloride	50.0	49.1		ug/L		98	61 - 137
Chlorobenzene	50.0	52.6		ug/L		105	70 - 130
Chloroethane	50.0	47.5		ug/L		95	55 - 141
2-Chloroethyl vinyl ether	50.0	66.7		ug/L		133	10 - 160
Chloroform	50.0	54.4		ug/L		109	69 - 130
1-Chlorohexane	50.0	51.3		ug/L		103	69 - 130
Chloromethane	50.0	35.3		ug/L		71	58 - 137
cis-1,2-Dichloroethene	50.0	52.4		ug/L		105	68 - 130
cis-1,3-Dichloropropene	50.0	57.2		ug/L		114	69 - 132
Dibromochloromethane	50.0	59.2		ug/L		118	67 - 135
1,2-Dichlorobenzene	50.0	54.7		ug/L		109	67 - 130
1,3-Dichlorobenzene	50.0	54.7		ug/L		109	70 - 130
1,4-Dichlorobenzene	50.0	54.4		ug/L		109	70 - 130
Dichlorodifluoromethane	50.0	31.8		ug/L		64	41 - 146
1,1-Dichloroethane	50.0	51.6		ug/L		103	70 - 130
1,2-Dichloroethane	50.0	57.6		ug/L		115	69 - 130
1,1-Dichloroethene	50.0	43.3		ug/L		87	63 - 134
1,2-Dichloropropane	50.0	55.7		ug/L		111	70 - 130
1,3-Dichloropropane	50.0	60.8		ug/L		122	70 - 130
2,2-Dichloropropane	50.0	44.0		ug/L		88	52 - 135

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 400-664766/1002

Matrix: Water

Analysis Batch: 664766

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
1,1-Dichloropropene	50.0	48.7		ug/L		97	70 - 130
Ethylbenzene	50.0	53.1		ug/L		106	70 - 130
Ethyl methacrylate	50.0	57.5		ug/L		115	68 - 130
Hexachlorobutadiene	50.0	54.1		ug/L		108	53 - 140
2-Hexanone	200	171		ug/L		86	65 - 137
Isopropylbenzene	50.0	52.3		ug/L		105	70 - 130
Methylene bromide	50.0	55.1		ug/L		110	70 - 130
Methylene Chloride	50.0	53.1		ug/L		106	66 - 135
4-Methyl-2-pentanone (MIBK)	200	209		ug/L		104	69 - 138
Methyl tert-butyl ether	50.0	54.0		ug/L		108	66 - 130
m-Xylene & p-Xylene	50.0	52.4		ug/L		105	70 - 130
Naphthalene	50.0	52.0		ug/L		104	47 - 149
n-Butylbenzene	50.0	59.8		ug/L		120	67 - 130
N-Propylbenzene	50.0	55.8		ug/L		112	70 - 130
o-Chlorotoluene	50.0	56.3		ug/L		113	70 - 130
o-Xylene	50.0	53.8		ug/L		108	70 - 130
p-Chlorotoluene	50.0	57.2		ug/L		114	70 - 130
p-Isopropyltoluene	50.0	55.7		ug/L		111	65 - 130
sec-Butylbenzene	50.0	55.1		ug/L		110	66 - 130
Styrene	50.0	56.3		ug/L		113	70 - 130
tert-Butylbenzene	50.0	55.5		ug/L		111	64 - 139
1,1,1,2-Tetrachloroethane	50.0	54.5		ug/L		109	67 - 131
1,1,2,2-Tetrachloroethane	50.0	59.9		ug/L		120	70 - 131
Tetrachloroethene	50.0	48.4		ug/L		97	65 - 130
Toluene	50.0	50.3		ug/L		101	70 - 130
trans-1,2-Dichloroethene	50.0	45.6		ug/L		91	70 - 130
trans-1,3-Dichloropropene	50.0	59.8		ug/L		120	63 - 130
1,2,3-Trichlorobenzene	50.0	51.2		ug/L		102	60 - 138
1,2,4-Trichlorobenzene	50.0	50.4		ug/L		101	60 - 140
1,1,1-Trichloroethane	50.0	49.5		ug/L		99	68 - 130
1,1,2-Trichloroethane	50.0	60.9		ug/L		122	70 - 130
Trichloroethene	50.0	48.7		ug/L		97	70 - 130
Trichlorofluoromethane	50.0	41.6		ug/L		83	65 - 138
1,2,3-Trichloropropane	50.0	58.0		ug/L		116	70 - 130
1,2,4-Trimethylbenzene	50.0	56.5		ug/L		113	70 - 130
1,3,5-Trimethylbenzene	50.0	55.2		ug/L		110	69 - 130
Vinyl acetate	100	113		ug/L		113	26 - 160
Vinyl chloride	50.0	38.7		ug/L		77	59 - 136
Xylenes, Total	100	106		ug/L		106	70 - 130

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	108		72 - 130
Dibromofluoromethane	101		75 - 126
Toluene-d8 (Surr)	100		64 - 132



# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 400-664601/1-A**  
**Matrix: Water**  
**Analysis Batch: 664636**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 664601**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aniline	ND		10	8.7	ug/L		03/15/24 10:01	03/15/24 15:31	1
Benzenethiol	ND		10	9.9	ug/L		03/15/24 10:01	03/15/24 15:31	1
Benzoic acid	ND		30	24	ug/L		03/15/24 10:01	03/15/24 15:31	1
Benzyl alcohol	ND		10	7.3	ug/L		03/15/24 10:01	03/15/24 15:31	1
Bis(2-chloroethoxy)methane	ND		10	4.6	ug/L		03/15/24 10:01	03/15/24 15:31	1
Bis(2-chloroethyl)ether	ND		10	3.9	ug/L		03/15/24 10:01	03/15/24 15:31	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		03/15/24 10:01	03/15/24 15:31	1
Bis(2-ethylhexyl) phthalate	ND		10	8.9	ug/L		03/15/24 10:01	03/15/24 15:31	1
4-Bromophenyl phenyl ether	ND		10	8.6	ug/L		03/15/24 10:01	03/15/24 15:31	1
Butyl benzyl phthalate	ND		10	5.8	ug/L		03/15/24 10:01	03/15/24 15:31	1
4-Chloroaniline	ND		10	4.7	ug/L		03/15/24 10:01	03/15/24 15:31	1
4-Chloro-3-methylphenol	ND		10	5.3	ug/L		03/15/24 10:01	03/15/24 15:31	1
2-Chloronaphthalene	ND		10	3.8	ug/L		03/15/24 10:01	03/15/24 15:31	1
2-Chlorophenol	ND		10	4.1	ug/L		03/15/24 10:01	03/15/24 15:31	1
4-Chlorophenyl phenyl ether	ND		10	3.7	ug/L		03/15/24 10:01	03/15/24 15:31	1
Dibenz[a,h]acridine	ND		10	2.8	ug/L		03/15/24 10:01	03/15/24 15:31	1
Dibenzofuran	ND		10	4.0	ug/L		03/15/24 10:01	03/15/24 15:31	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/15/24 10:01	03/15/24 15:31	1
2,4-Dichlorophenol	ND		10	4.3	ug/L		03/15/24 10:01	03/15/24 15:31	1
Diethyl phthalate	ND		10	4.4	ug/L		03/15/24 10:01	03/15/24 15:31	1
2,4-Dimethylphenol	ND		10	5.2	ug/L		03/15/24 10:01	03/15/24 15:31	1
Dimethyl phthalate	ND		10	4.2	ug/L		03/15/24 10:01	03/15/24 15:31	1
Di-n-butyl phthalate	ND		10	4.6	ug/L		03/15/24 10:01	03/15/24 15:31	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		03/15/24 10:01	03/15/24 15:31	1
2,4-Dinitrophenol	ND		30	4.6	ug/L		03/15/24 10:01	03/15/24 15:31	1
2,4-Dinitrotoluene	ND		10	5.1	ug/L		03/15/24 10:01	03/15/24 15:31	1
2,6-Dinitrotoluene	ND		10	3.9	ug/L		03/15/24 10:01	03/15/24 15:31	1
Di-n-octyl phthalate	ND		10	6.0	ug/L		03/15/24 10:01	03/15/24 15:31	1
1,4-Dioxane	ND		10	4.3	ug/L		03/15/24 10:01	03/15/24 15:31	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.3	ug/L		03/15/24 10:01	03/15/24 15:31	1
Hexachlorobenzene	ND		10	9.7	ug/L		03/15/24 10:01	03/15/24 15:31	1
Hexachlorocyclopentadiene	ND		20	4.5	ug/L		03/15/24 10:01	03/15/24 15:31	1
Hexachloroethane	ND		10	5.2	ug/L		03/15/24 10:01	03/15/24 15:31	1
Indene	ND		10	3.6	ug/L		03/15/24 10:01	03/15/24 15:31	1
Isophorone	ND		10	5.2	ug/L		03/15/24 10:01	03/15/24 15:31	1
2-Methylphenol	ND		10	3.2	ug/L		03/15/24 10:01	03/15/24 15:31	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		03/15/24 10:01	03/15/24 15:31	1
2-Nitroaniline	ND		10	5.0	ug/L		03/15/24 10:01	03/15/24 15:31	1
3-Nitroaniline	ND		10	4.7	ug/L		03/15/24 10:01	03/15/24 15:31	1
4-Nitroaniline	ND		10	4.1	ug/L		03/15/24 10:01	03/15/24 15:31	1
Nitrobenzene	ND		10	4.7	ug/L		03/15/24 10:01	03/15/24 15:31	1
2-Nitrophenol	ND		10	4.6	ug/L		03/15/24 10:01	03/15/24 15:31	1
4-Nitrophenol	ND		10	3.3	ug/L		03/15/24 10:01	03/15/24 15:31	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		03/15/24 10:01	03/15/24 15:31	1
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		03/15/24 10:01	03/15/24 15:31	1
N-Nitrosodiphenylamine	ND		10	3.7	ug/L		03/15/24 10:01	03/15/24 15:31	1
Pentachlorophenol	ND		20	12	ug/L		03/15/24 10:01	03/15/24 15:31	1
Phenol	ND		10	4.2	ug/L		03/15/24 10:01	03/15/24 15:31	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 400-664601/1-A

Matrix: Water

Analysis Batch: 664636

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 664601

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Pyridine	ND		10	10	ug/L		03/15/24 10:01	03/15/24 15:31	1
Quinoline	ND		10	2.4	ug/L		03/15/24 10:01	03/15/24 15:31	1
2,4,5-Trichlorophenol	ND		10	4.0	ug/L		03/15/24 10:01	03/15/24 15:31	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		03/15/24 10:01	03/15/24 15:31	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2-Fluorobiphenyl	64		21 - 114	03/15/24 10:01	03/15/24 15:31	1
2-Fluorophenol	40		10 - 105	03/15/24 10:01	03/15/24 15:31	1
Nitrobenzene-d5	53		16 - 127	03/15/24 10:01	03/15/24 15:31	1
Phenol-d5	28		10 - 129	03/15/24 10:01	03/15/24 15:31	1
Terphenyl-d14	73		13 - 150	03/15/24 10:01	03/15/24 15:31	1
2,4,6-Tribromophenol	55		10 - 150	03/15/24 10:01	03/15/24 15:31	1

Lab Sample ID: LCS 400-664601/2-A

Matrix: Water

Analysis Batch: 664636

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 664601

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Aniline	120	47.6		ug/L		40	10 - 127
Benzoic acid	492	182		ug/L		37	19 - 126
Benzyl alcohol	120	67.7		ug/L		56	17 - 109
Bis(2-chloroethoxy)methane	120	73.1		ug/L		61	24 - 125
Bis(2-chloroethyl)ether	120	68.7		ug/L		57	10 - 121
bis (2-chloroisopropyl) ether	120	77.3		ug/L		64	14 - 123
Bis(2-ethylhexyl) phthalate	120	91.6		ug/L		76	16 - 150
4-Bromophenyl phenyl ether	120	87.1		ug/L		73	17 - 150
Butyl benzyl phthalate	120	85.2		ug/L		71	21 - 150
4-Chloroaniline	120	61.8		ug/L		52	10 - 124
4-Chloro-3-methylphenol	120	82.4		ug/L		69	37 - 131
2-Chloronaphthalene	120	77.6		ug/L		65	24 - 132
2-Chlorophenol	120	74.7		ug/L		62	27 - 124
4-Chlorophenyl phenyl ether	120	81.7		ug/L		68	27 - 147
Dibenz[a,h]acridine	120	101		ug/L		84	40 - 140
Dibenzofuran	120	79.6		ug/L		66	30 - 135
3,3'-Dichlorobenzidine	160	126		ug/L		79	10 - 150
2,4-Dichlorophenol	120	77.5		ug/L		65	33 - 132
Diethyl phthalate	120	87.8		ug/L		73	37 - 145
2,4-Dimethylphenol	120	84.1		ug/L		70	38 - 132
Dimethyl phthalate	120	87.5		ug/L		73	32 - 137
Di-n-butyl phthalate	120	89.3		ug/L		74	27 - 150
4,6-Dinitro-ortho-cresol	240	201		ug/L		84	14 - 150
2,4-Dinitrophenol	240	254		ug/L		106	15 - 150
2,4-Dinitrotoluene	120	83.6		ug/L		70	35 - 136
2,6-Dinitrotoluene	120	80.6		ug/L		67	29 - 140
Di-n-octyl phthalate	120	80.7		ug/L		67	26 - 150
1,4-Dioxane	120	48.0		ug/L		40	10 - 87
1,2-Diphenylhydrazine (as Azobenzene)	120	80.2		ug/L		67	23 - 138
Hexachlorobenzene	120	91.1		ug/L		76	10 - 150

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-664601/2-A

Matrix: Water

Analysis Batch: 664636

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 664601

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Hexachlorocyclopentadiene	120	81.9		ug/L		68	10 - 124
Hexachloroethane	120	75.9		ug/L		63	10 - 127
Indene	120	79.1		ug/L		66	18 - 150
Isophorone	120	79.8		ug/L		67	28 - 127
2-Methylphenol	120	75.7		ug/L		63	34 - 124
3 & 4 Methylphenol	120	71.2		ug/L		59	32 - 122
2-Nitroaniline	120	77.3		ug/L		64	24 - 139
3-Nitroaniline	120	63.2		ug/L		53	10 - 128
4-Nitroaniline	120	76.8		ug/L		64	28 - 118
Nitrobenzene	120	70.4		ug/L		59	29 - 120
2-Nitrophenol	120	75.6		ug/L		63	25 - 148
4-Nitrophenol	240	131		ug/L		55	12 - 129
N-Nitrosodimethylamine	120	46.0		ug/L		38	10 - 115
N-Nitrosodi-n-propylamine	120	82.2		ug/L		69	24 - 142
N-Nitrosodiphenylamine	119	87.1		ug/L		73	29 - 138
Pentachlorophenol	240	182		ug/L		76	19 - 150
Phenol	120	50.2		ug/L		42	11 - 95
Pyridine	240	36.4		ug/L		15	10 - 82
Quinoline	120	87.0		ug/L		73	40 - 140
2,4,5-Trichlorophenol	120	80.7		ug/L		67	30 - 144
2,4,6-Trichlorophenol	120	81.5		ug/L		68	27 - 147

Surrogate	LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	63		21 - 114
2-Fluorophenol	50		10 - 105
Nitrobenzene-d5	65		16 - 127
Phenol-d5	41		10 - 129
Terphenyl-d14	75		13 - 150
2,4,6-Tribromophenol	77		10 - 150

Lab Sample ID: LCS 400-664601/4-A

Matrix: Water

Analysis Batch: 664636

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 664601

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Benzenethiol	120	74.8		ug/L		62	10 - 140

Surrogate	LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	60		21 - 114
2-Fluorophenol	46		10 - 105
Nitrobenzene-d5	52		16 - 127
Phenol-d5	34		10 - 129
Terphenyl-d14	78		13 - 150
2,4,6-Tribromophenol	58		10 - 150

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-664601/3-A

Matrix: Water

Analysis Batch: 664636

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 664601

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD
									Limit
Aniline	120	42.3		ug/L		35	10 - 127	12	40
Benzoic acid	492	223		ug/L		45	19 - 126	20	40
Benzyl alcohol	120	73.5		ug/L		61	17 - 109	8	40
Bis(2-chloroethoxy)methane	120	72.7		ug/L		61	24 - 125	1	40
Bis(2-chloroethyl)ether	120	62.3		ug/L		52	10 - 121	10	40
bis (2-chloroisopropyl) ether	120	78.5		ug/L		65	14 - 123	1	40
Bis(2-ethylhexyl) phthalate	120	92.4		ug/L		77	16 - 150	1	40
4-Bromophenyl phenyl ether	120	91.4		ug/L		76	17 - 150	5	40
Butyl benzyl phthalate	120	85.4		ug/L		71	21 - 150	0	40
4-Chloroaniline	120	62.9		ug/L		52	10 - 124	2	40
4-Chloro-3-methylphenol	120	82.7		ug/L		69	37 - 131	0	40
2-Chloronaphthalene	120	84.4		ug/L		70	24 - 132	8	40
2-Chlorophenol	120	79.5		ug/L		66	27 - 124	6	40
4-Chlorophenyl phenyl ether	120	88.7		ug/L		74	27 - 147	8	40
Dibenz[a,h]acridine	120	102		ug/L		86	40 - 140	2	40
Dibenzofuran	120	86.9		ug/L		72	30 - 135	9	40
3,3'-Dichlorobenzidine	160	128		ug/L		80	10 - 150	2	40
2,4-Dichlorophenol	120	80.2		ug/L		67	33 - 132	3	40
Diethyl phthalate	120	90.3		ug/L		75	37 - 145	3	40
2,4-Dimethylphenol	120	84.5		ug/L		70	38 - 132	0	40
Dimethyl phthalate	120	90.5		ug/L		75	32 - 137	3	40
Di-n-butyl phthalate	120	88.4		ug/L		74	27 - 150	1	40
4,6-Dinitro-ortho-cresol	240	217		ug/L		90	14 - 150	8	40
2,4-Dinitrophenol	240	300		ug/L		125	15 - 150	16	40
2,4-Dinitrotoluene	120	88.6		ug/L		74	35 - 136	6	40
2,6-Dinitrotoluene	120	83.6		ug/L		70	29 - 140	4	40
Di-n-octyl phthalate	120	84.1		ug/L		70	26 - 150	4	40
1,4-Dioxane	120	48.2		ug/L		40	10 - 87	0	40
1,2-Diphenylhydrazine (as Azobenzene)	120	83.8		ug/L		70	23 - 138	4	40
Hexachlorobenzene	120	94.9		ug/L		79	10 - 150	4	40
Hexachlorocyclopentadiene	120	95.8		ug/L		80	10 - 124	16	40
Hexachloroethane	120	78.0		ug/L		65	10 - 127	3	40
Indene	120	83.3		ug/L		69	18 - 150	5	40
Isophorone	120	76.7		ug/L		64	28 - 127	4	40
2-Methylphenol	120	79.4		ug/L		66	34 - 124	5	40
3 & 4 Methylphenol	120	77.3		ug/L		64	32 - 122	8	40
2-Nitroaniline	120	82.9		ug/L		69	24 - 139	7	40
3-Nitroaniline	120	69.0		ug/L		58	10 - 128	9	40
4-Nitroaniline	120	83.8		ug/L		70	28 - 118	9	40
Nitrobenzene	120	71.0		ug/L		59	29 - 120	1	40
2-Nitrophenol	120	79.5		ug/L		66	25 - 148	5	40
4-Nitrophenol	240	150		ug/L		62	12 - 129	13	40
N-Nitrosodimethylamine	120	46.5		ug/L		39	10 - 115	1	40
N-Nitrosodi-n-propylamine	120	84.3		ug/L		70	24 - 142	3	40
N-Nitrosodiphenylamine	119	90.2		ug/L		76	29 - 138	4	40
Pentachlorophenol	240	193		ug/L		80	19 - 150	6	40
Phenol	120	55.9		ug/L		47	11 - 95	11	40
Pyridine	240	15.6	*- *1	ug/L		7	10 - 82	80	40

Eurofins Pensacola

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID:** LCSD 400-664601/3-A  
**Matrix:** Water  
**Analysis Batch:** 664636

**Client Sample ID:** Lab Control Sample Dup  
**Prep Type:** Total/NA  
**Prep Batch:** 664601

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Quinoline	120	75.0		ug/L		63	40 - 140	15		40
2,4,5-Trichlorophenol	120	87.9		ug/L		73	30 - 144	9		40
2,4,6-Trichlorophenol	120	89.3		ug/L		74	27 - 147	9		40

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	67		21 - 114
2-Fluorophenol	54		10 - 105
Nitrobenzene-d5	66		16 - 127
Phenol-d5	46		10 - 129
Terphenyl-d14	73		13 - 150
2,4,6-Tribromophenol	81		10 - 150

**Lab Sample ID:** LCSD 400-664601/5-A  
**Matrix:** Water  
**Analysis Batch:** 664636

**Client Sample ID:** Lab Control Sample Dup  
**Prep Type:** Total/NA  
**Prep Batch:** 664601

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Benzenethiol	120	78.1		ug/L		65	10 - 140	4		40

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	59		21 - 114
2-Fluorophenol	46		10 - 105
Nitrobenzene-d5	51		16 - 127
Phenol-d5	35		10 - 129
Terphenyl-d14	70		13 - 150
2,4,6-Tribromophenol	57		10 - 150

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

**Lab Sample ID:** MB 400-664601/1-A  
**Matrix:** Water  
**Analysis Batch:** 664638

**Client Sample ID:** Method Blank  
**Prep Type:** Total/NA  
**Prep Batch:** 664601

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acenaphthene	ND		0.20	0.099	ug/L		03/15/24 10:01	03/15/24 15:20	1
Acenaphthylene	ND		0.20	0.044	ug/L		03/15/24 10:01	03/15/24 15:20	1
Anthracene	ND		0.20	0.047	ug/L		03/15/24 10:01	03/15/24 15:20	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		03/15/24 10:01	03/15/24 15:20	1
Benzo[a]pyrene	ND		0.20	0.064	ug/L		03/15/24 10:01	03/15/24 15:20	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		03/15/24 10:01	03/15/24 15:20	1
Benzo[g,h,i]perylene	ND		0.20	0.027	ug/L		03/15/24 10:01	03/15/24 15:20	1
Benzo[k]fluoranthene	ND		0.20	0.062	ug/L		03/15/24 10:01	03/15/24 15:20	1
Chrysene	ND		0.20	0.033	ug/L		03/15/24 10:01	03/15/24 15:20	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		03/15/24 10:01	03/15/24 15:20	1
Fluoranthene	ND		0.20	0.034	ug/L		03/15/24 10:01	03/15/24 15:20	1
Fluorene	ND		0.20	0.089	ug/L		03/15/24 10:01	03/15/24 15:20	1
Indeno[1,2,3-cd]pyrene	ND		0.20	0.034	ug/L		03/15/24 10:01	03/15/24 15:20	1
Phenanthrene	ND		0.20	0.090	ug/L		03/15/24 10:01	03/15/24 15:20	1

Eurofins Pensacola

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: MB 400-664601/1-A**  
**Matrix: Water**  
**Analysis Batch: 664638**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 664601**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Pyrene	ND		0.20	0.039	ug/L		03/15/24 10:01	03/15/24 15:20	1
1-Methylnaphthalene	ND		0.20	0.080	ug/L		03/15/24 10:01	03/15/24 15:20	1
2-Methylnaphthalene	ND		0.20	0.066	ug/L		03/15/24 10:01	03/15/24 15:20	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Terphenyl-d14	51		18 - 147	03/15/24 10:01	03/15/24 15:20	1
2-Fluorobiphenyl	36		15 - 128	03/15/24 10:01	03/15/24 15:20	1
Nitrobenzene-d5	26		10 - 144	03/15/24 10:01	03/15/24 15:20	1

**Lab Sample ID: LCS 400-664601/2-A**  
**Matrix: Water**  
**Analysis Batch: 664638**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 664601**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Acenaphthene	120	95.4		ug/L		80	10 - 140
Acenaphthylene	120	96.9		ug/L		81	10 - 140
Anthracene	120	101		ug/L		84	19 - 140
Benzo[a]anthracene	120	105		ug/L		87	25 - 140
Benzo[a]pyrene	120	97.9		ug/L		82	24 - 140
Benzo[b]fluoranthene	120	98.9		ug/L		82	34 - 140
Benzo[g,h,i]perylene	120	94.6		ug/L		79	13 - 140
Benzo[k]fluoranthene	120	101		ug/L		84	21 - 140
Chrysene	120	103		ug/L		85	28 - 140
Dibenz(a,h)anthracene	120	91.4		ug/L		76	10 - 140
Fluoranthene	120	101		ug/L		85	18 - 140
Fluorene	120	104		ug/L		86	16 - 140
Indeno[1,2,3-cd]pyrene	120	93.7		ug/L		78	10 - 140
Phenanthrene	120	98.9		ug/L		82	22 - 140
Pyrene	120	94.3		ug/L		79	38 - 140
1-Methylnaphthalene	120	84.1		ug/L		70	10 - 140
2-Methylnaphthalene	120	84.2		ug/L		70	10 - 140

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
Terphenyl-d14	74		18 - 147
2-Fluorobiphenyl	72		15 - 128
Nitrobenzene-d5	48		10 - 144

**Lab Sample ID: LCSD 400-664601/3-A**  
**Matrix: Water**  
**Analysis Batch: 664638**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 664601**

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec Limits	RPD	Limit
		Result	Qualifier						
Acenaphthene	120	94.9		ug/L		79	10 - 140	1	40
Acenaphthylene	120	97.1		ug/L		81	10 - 140	0	40
Anthracene	120	97.1		ug/L		81	19 - 140	4	40
Benzo[a]anthracene	120	103		ug/L		86	25 - 140	2	40
Benzo[a]pyrene	120	97.6		ug/L		81	24 - 140	0	40
Benzo[b]fluoranthene	120	97.7		ug/L		81	34 - 140	1	40

Eurofins Pensacola

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID: LCSD 400-664601/3-A**  
**Matrix: Water**  
**Analysis Batch: 664638**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 664601**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Benzo[g,h,i]perylene	120	97.2		ug/L		81	13 - 140	3		40
Benzo[k]fluoranthene	120	102		ug/L		85	21 - 140	1		40
Chrysene	120	101		ug/L		84	28 - 140	2		40
Dibenz(a,h)anthracene	120	93.0		ug/L		77	10 - 140	2		40
Fluoranthene	120	97.9		ug/L		82	18 - 140	4		40
Fluorene	120	104		ug/L		86	16 - 140	0		40
Indeno[1,2,3-cd]pyrene	120	96.6		ug/L		81	10 - 140	3		40
Phenanthrene	120	95.0		ug/L		79	22 - 140	4		40
Pyrene	120	93.1		ug/L		78	38 - 140	1		40
1-Methylnaphthalene	120	83.5		ug/L		70	10 - 140	1		40
2-Methylnaphthalene	120	84.7		ug/L		71	10 - 140	1		40

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
Terphenyl-d14	73		18 - 147
2-Fluorobiphenyl	71		15 - 128
Nitrobenzene-d5	48		10 - 144

## Method: 8011 - EDB and DBCP in Water by Microextraction

**Lab Sample ID: MB 400-664441/1-A**  
**Matrix: Water**  
**Analysis Batch: 664510**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 664441**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2-Dibromo-3-Chloropropane	ND		0.030	0.017	ug/L		03/14/24 07:46	03/14/24 15:07	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/14/24 07:46	03/14/24 15:07	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene	90	p	51 - 149	03/14/24 07:46	03/14/24 15:07	1

**Lab Sample ID: LCS 400-664441/2-A**  
**Matrix: Water**  
**Analysis Batch: 664510**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 664441**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
1,2-Dibromo-3-Chloropropane	0.101	0.115		ug/L		114	60 - 140			
1,2-Dibromoethane	0.100	0.0964		ug/L		96	60 - 140			

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	78	p	51 - 149

**Lab Sample ID: LCSD 400-664441/3-A**  
**Matrix: Water**  
**Analysis Batch: 664510**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 664441**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
1,2-Dibromo-3-Chloropropane	0.101	0.106		ug/L		105	60 - 140	9		30
1,2-Dibromoethane	0.100	0.0844		ug/L		84	60 - 140	13		30

Eurofins Pensacola



# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252406-1

## Method: 8011 - EDB and DBCP in Water by Microextraction (Continued)

Lab Sample ID: LCSD 400-664441/3-A

Matrix: Water

Analysis Batch: 664510

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 664441

<u>Surrogate</u>	<u>LCSD</u> <u>%Recovery</u>	<u>LCSD</u> <u>Qualifier</u>	<u>Limits</u>
4-Bromofluorobenzene	83	p	51 - 149

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LAB (LOCATION) 400-252406 COC



Shell Oil Products US Chain Of Custody Record

AECOM

Please Check Appropriate Box:

- S/GW FDG
- PIPELINE
- RETAIL
- CHEMICALS
- CONSULTANT
- LUBES
- TRANSPORTATION
- OTHER - ENV. SERVICES

Print Bill To Contact Name: Melissa Remiger

Planlet Site or Project ID: 25278

DATE: 3/8/2024

PAGE: 1 of 2

PO #

USPC/00114/R/02

GSAP Project ID

CHECK IF NO INCIDENT # APPLIES

DATE: 3/8/2024

PAGE: 1 of 2

SAMPLING COMPANY: AECOM

ADDRESS: 100 N. Broadway, 20th Floor, ST. LOUIS, MO 63102, USA

PROJECT CONTACT (Hardcopy or PDF Report to): Melissa Remiger, Mary Massa, Brett Howell

TELEPHONE: 314-429-0100 FAX: 314-429-0462

TURNAROUND TIME (CALENDAR DAYS):  5 DAYS  2 DAYS  3 DAYS

RESULTS NEEDED ON WEEKEND

LA - RIWQCB REPORT FORMAT

DELIVERABLES:  LEVEL 1  LEVEL 2  LEVEL 3  LEVEL 4

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

Other notes: Please include "J" values on Reports. Please provide sample receipt upon login. Please send EQUIS EDDs to EDDSubmissions@aecomshell.com; Vlad.Virjan@aecom.com

Container PID Readings or Laboratory Notes:

TEMPERATURE ON RECEIPT °C: 1.1°C

Container PID Readings or Laboratory Notes:

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CUSTODY SEALS: 1599650 ; 1599651

Version: 27 Sep 23



LAB (LOCATION)



# Shell Oil Products US Chain Of Custody Record

AECOM

ACCUTEST ( )  
 CALSCIENCE ( )  
 TESTAMERICA (TestAmerica Pensacola; 3355 McLemore Dr. Pensacola, FL 32514 (850-474-1001))  
 Other ( )

SGW FDG  
 PIPELINE  
 CHEMICALS  
 CONSULTANT  
 OTHER\_ENV. SERVICES

RETAIL  
 LUBES

Print Bill To Contact Name: Melissa Remiger  
 PlanNet Site or Project ID: 26278  
 GSAP Project ID: USPC/00114/R/02  
 DATE: 3/8/2024  
 PAGE: 2 of 2

AECOM Project / Task Number: Roxana Monthly GW 60721927 - 3.1.2  
 AECOM Other ID: melissa.remiger@aecom.com  
 STATE: IL  
 AECOM Project / Task Number: USPC/00114/R/02  
 SITE ADDRESS: Street and City: 900 South Central Ave; ROXANA  
 PHONE NO.: 314-802-1207  
 EDI DELIVERABLE TO (Name, Company, Office Location): Melissa Remiger - please see special instructions  
 EMAIL: melissa.remiger@aecom.com

SAMPLER NAME(S) (Print): T. Jones, T. Jenkins  
 BILL TO CONTACT E-MAIL: melissa.remiger@aecom.com  
 TELEPHONE: 314-429-0100 FAX: 314-429-0462  
 TURNAROUND TIME (CALENDAR DAYS):  5 DAYS  3 DAYS  2 DAYS  
 STANDARD (14 DAY)  24 HOURS  WEEKEND

LA - RWQCB REPORT FORMAT  
 LEVEL 1  LEVEL 2  LEVEL 3  LEVEL 4  
 OTHER (SPECIFY) EDD  
 COOLER #1: COOLER #2: COOLER #3:

**SPECIAL INSTRUCTIONS OR NOTES :**  
 Email reports to: melissa.remiger@aecom.com; melissa.mass@aecom.com; brett.howell@aecom.com  
 \* Please include "J" values on Reports.  
 \* Please provide sample receipt upon login.  
 \* Please send EQUIS EDDs to EDDSubmissions@aecomshell.com; Vlad.Virjan@aecom.com

SHELL CONTRACT RATE APPLIES  
 STATE REIMBURSEMENT RATE APPLIES  
 EDD NOT NEEDED  
 RECEIPT VERIFICATION REQUESTED  
 PROVIDE LEDD DISK

LAB USE ONLY	Field Sample Identification		SAMPLING		PRESERVATIVE			NO. OF CONT.	
	DATE	TIME	DATE	TIME	HCL	HNO3	H2SO4		NONE
	TB-ROX-030824-8260-A	0000	3/8/2024	0000	Water	2			2
	TB-ROX-030824-8011-A	0000	3/8/2024	0000	Water	2			2
	P58-ROX-030824	1030	3/8/2024	1030	Water	6		2	8
	P58-ROX-030824-DUP	1030	3/8/2024	1030	Water	6		2	8
	P93B-ROX-030824	1200	3/8/2024	1200	Water	6		2	8
	MW7-ROX-030824	1410	3/8/2024	1410	Water	6		2	8
	MW7-ROX-030824-DUP	1410	3/8/2024	1410	Water	6		2	8

VOC 8260: X  
 8011 EDB + DBCP: X  
 SVOC 8270: X  
 PAH 8270 SIMS: X

REQUESTED ANALYSIS: 60721927 - 3.1.2  
 TEMPERATURE ON RECEIPT C°:  
 CONTAINER PID READINGS OR LABORATORY NOTES:  
 FIELD NOTES:

RECEIVED BY: (Signature) TONY JONES  
 RECEIVED BY: (Signature) SEE PAGE 1  
 RECEIVED BY: (Signature)

Date: 3/8/2024 Time: 1600  
 Date: 3/9/24 Time: 807  
 Date:

CUSTODY SEALS: SEE PAGE 1

Version: 27Sep23



## Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-252406-1

**Login Number: 252406**

**List Number: 1**

**Creator: Perez, Trina M**

**List Source: Eurofins Pensacola**

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	1599850; 1599851
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	1.1°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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (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 MONTHLY GW

Job ID: 400-252406-1

### Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-24
Kansas	NELAP	E-10253	10-31-24
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-24
North Carolina (WW/SW)	State	314	12-31-24
Oklahoma	NELAP	9810	08-31-24
Pennsylvania	NELAP	68-00467	01-31-25
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-24
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	P330-21-00056	05-17-24
USDA	US Federal Programs	FLGNV23001	01-08-26
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-24



# Roxana Groundwater Monthly – February/March 2024 Data Review

Laboratory SDG: 400-252669-1-Rev.1

Data Reviewer: Andrei Niculau

Peer Reviewer: Cheyana Cokley

Date Reviewed: 04/03/2024

Guidance: USEPA National Functional Guidelines for Organic Superfund Methods Data Review 2020

Sample Identification	Sample Identification
TB-ROX-031124-8260	MW4-ROX-031124
TB-ROX-031124-8011	--

## 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 benzo[g,h,i]perylene and indeno[1,2,3-cd]pyrene were detected in the method blank. SVOC and VOCs LCS/LCSD recoveries, and/or LCS/LCSD RPDs, were outside evaluation criteria. The continuing calibration verifications (CCV) for multiple analytes were outside evaluation criteria, biased low. These issues are addressed further in the appropriate sections of this data review. The laboratory report was revised on March 25, 2024, to include missing ICVs for method 8270E.

Three of 70 (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?*

Yes

Blank ID	Parameter	Analyte	Concentration /Amount
MB 400-664773/1-A	PAHs	Benzo[g,h,i]perylene	0.0315 µg/L
MB 400-664773/1-A	PAHs	Indeno[1,2,3-cd]pyrene	0.0422 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.

## 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 400-665051/1002	VOCs	Hexachlorobutadiene	141	N/A	53-140
LCS/LCSD 400-664773/2-A/3-A	SVOCs	Aniline	19/43	79	10-127/40
LCS/LCSD 400-664773/2-A/3-A	SVOCs	Pyridine	9/20	78	10-82/40
LCS/LCSD 400-664773/2-A/3-A	SVOCs	Quinoline	47/96	67	40-140/40

Analytical data that required qualification based on LCS/LCSD data are included in the table below. Analytical data reported as non-detect and associated with LCS/LCSD recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. Analytical data associated with LCS/LCSD RPD alone outside evaluation criteria did not require qualification.

Sample ID	Parameter	Analyte	Qualification
MW4-ROX-031124	SVOCs	Pyridine	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?*

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 (CCV) for several analytes were outside evaluation criteria, biased low. Analytes are qualified as summarized in the following table.

Sample ID	Parameter	Analyte	Qualification
MW4-ROX-031124	SVOC	1,4-Dioxane	UJ
MW4-ROX-031124	SVOC	N-Nitrosodimethylamine	UJ
MW4-ROX-031124	SVOC	Aniline	UJ
MW4-ROX-031124	SVOC	3-Nitroaniline	UJ



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Melissa Remiger  
AECOM Technical Services Inc.  
100 N. Broadway  
20th Floor  
St. Louis, Missouri 63102

Generated 3/20/2024 6:58:30 PM

## JOB DESCRIPTION

ROXANA MONTHLY GW

## JOB NUMBER

400-252669-1

Reviewed 04/03/2024  
AN

# Eurofins Pensacola

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

## Authorization



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Authorized for release by  
Leah Klingensmith, Senior Project Manager  
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(615)301-5038



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# Case Narrative

Client: AECOM Technical Services Inc.  
Project: ROXANA MONTHLY GW

Job ID: 400-252669-1

Job ID: 400-252669-1

Eurofins Pensacola

## Job Narrative 400-252669-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

### Receipt

The samples were received on 3/13/2024 9:58 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.0°C.

### GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) associated with batch 400-665051 recovered above the upper control limit for Hexachlorobutadiene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8260D: The laboratory control sample (LCS) for analytical batch 400-665051 recovered outside control limits for the following analyte: Hexachlorobutadiene. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method 8260D: 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-031124-8260 (400-252669-1) and MW4-ROX-031124 (400-252669-3). The requested target analyte list includes 2-chloroethyl vinyl ether, Acrolein and Acrylonitrile, which are acid-labile compounds that degrade in an acidic medium.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

### GC/MS Semi VOA

Method 8270E: The laboratory control sample (LCS) for preparation batch 400-664773 and analytical batch 400-664918 recovered outside control limits for the following analyte(s): Pyridine. Pyridine has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results have been reported and qualified

Method 8270E: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 400-664773 and analytical batch 400-664918 recovered outside control limits for the following analytes: Aniline, Pyridine and Quinoline.

Method 8270E: The continuing calibration verification (CCV) associated with batch 400-664918 recovered above the upper control limit for 2,4,5-Trichlorophenol, 4-Chlorophenyl phenyl ether, Hexachlorobenzene, 2,4-Dinitrotoluene, Hexachlorocyclopentadiene, Dibenzofuran, 4-Bromophenyl phenyl ether and 2-Nitrophenol. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8270E: The continuing calibration verification (CCV) associated with batch 400-664918 recovered outside acceptance criteria, low biased, for 1,4-Dioxane, 3-Nitroaniline, Aniline and N-Nitrosodimethylamine. A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analyte(s), the data are reported.

Method 8270E\_SIM: The method blank for preparation batch 400-664773 and analytical batch 400-664936 contained Benzo[g,h,i]perylene and Indeno[1,2,3-cd]pyrene above the method detection limit. This target analyte concentration was less than the reporting limit (RL) in the method blank; 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.

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# Case Narrative

Client: AECOM Technical Services Inc.  
Project: ROXANA MONTHLY GW

Job ID: 400-252669-1

**Job ID: 400-252669-1 (Continued)**

**Eurofins Pensacola**

## GC Semi VOA

Method 8011: The continuing calibration verification (CCV) associated with batch 400-664647 recovered above the upper control limit for 1,2-Dibromo-3-Chloropropane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCV 400-664628/18-A).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

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# Sample Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252669-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
400-252669-1	TB-ROX-031124-8260	Water	03/11/24 12:00	03/13/24 09:58
400-252669-2	TB-ROX-031124-8011	Water	03/11/24 12:00	03/13/24 09:58
400-252669-3	MW4-ROX-031124	Water	03/11/24 10:05	03/13/24 09:58

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# Detection Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252669-1

**Client Sample ID: TB-ROX-031124-8260**

**Lab Sample ID: 400-252669-1**

No Detections.

**Client Sample ID: TB-ROX-031124-8011**

**Lab Sample ID: 400-252669-2**

No Detections.

**Client Sample ID: MW4-ROX-031124**

**Lab Sample ID: 400-252669-3**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	7.8		1.0	0.50	ug/L	1		8260D	Total/NA
Methyl tert-butyl ether	1.1		1.0	0.22	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252669-1

**Client Sample ID: TB-ROX-031124-8260**

**Lab Sample ID: 400-252669-1**

Date Collected: 03/11/24 12:00

Matrix: Water

Date Received: 03/13/24 09:58

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/20/24 15:47	1
Acrolein	ND		20	3.3	ug/L			03/20/24 15:47	1
Acrylonitrile	ND		10	2.8	ug/L			03/20/24 15:47	1
Benzene	ND		1.0	0.50	ug/L			03/20/24 15:47	1
Bromobenzene	ND		1.0	0.54	ug/L			03/20/24 15:47	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/20/24 15:47	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/20/24 15:47	1
Bromoform	ND		5.0	0.25	ug/L			03/20/24 15:47	1
Bromomethane	ND		1.0	0.98	ug/L			03/20/24 15:47	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/20/24 15:47	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/20/24 15:47	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/20/24 15:47	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/20/24 15:47	1
Chloroethane	ND		1.0	0.76	ug/L			03/20/24 15:47	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/20/24 15:47	1
Chloroform	ND		1.0	0.90	ug/L			03/20/24 15:47	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/20/24 15:47	1
Chloromethane	ND		1.0	0.90	ug/L			03/20/24 15:47	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/20/24 15:47	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/20/24 15:47	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/20/24 15:47	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/20/24 15:47	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/20/24 15:47	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/20/24 15:47	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/20/24 15:47	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/20/24 15:47	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/20/24 15:47	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/20/24 15:47	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/20/24 15:47	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/20/24 15:47	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/20/24 15:47	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/20/24 15:47	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/20/24 15:47	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/20/24 15:47	1
Hexachlorobutadiene	ND	*+	5.0	0.90	ug/L			03/20/24 15:47	1
2-Hexanone	ND		25	1.4	ug/L			03/20/24 15:47	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/20/24 15:47	1
Methylene bromide	ND		5.0	0.22	ug/L			03/20/24 15:47	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/20/24 15:47	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/20/24 15:47	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/20/24 15:47	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/20/24 15:47	1
Naphthalene	ND		5.0	3.0	ug/L			03/20/24 15:47	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/20/24 15:47	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/20/24 15:47	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/20/24 15:47	1
o-Xylene	ND		5.0	0.60	ug/L			03/20/24 15:47	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/20/24 15:47	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/20/24 15:47	1

Eurofins Pensacola

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252669-1

**Client Sample ID: TB-ROX-031124-8260**

**Lab Sample ID: 400-252669-1**

Date Collected: 03/11/24 12:00

Matrix: Water

Date Received: 03/13/24 09:58

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/20/24 15:47	1
Styrene	ND		1.0	1.0	ug/L			03/20/24 15:47	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/20/24 15:47	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/20/24 15:47	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/20/24 15:47	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/20/24 15:47	1
Toluene	ND		1.0	0.90	ug/L			03/20/24 15:47	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/20/24 15:47	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/20/24 15:47	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/20/24 15:47	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/20/24 15:47	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/20/24 15:47	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/20/24 15:47	1
Trichloroethene	ND		1.0	0.15	ug/L			03/20/24 15:47	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/20/24 15:47	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/20/24 15:47	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/20/24 15:47	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/20/24 15:47	1
Vinyl acetate	ND		25	0.93	ug/L			03/20/24 15:47	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/20/24 15:47	1
Xylenes, Total	ND		10	1.6	ug/L			03/20/24 15:47	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
4-Bromofluorobenzene	103		72 - 130					03/20/24 15:47	1
Dibromofluoromethane	105		75 - 126					03/20/24 15:47	1
Toluene-d8 (Surr)	96		64 - 132					03/20/24 15:47	1

# Client Sample Results

Client: AECOM Technical Services Inc.  
 Project/Site: ROXANA MONTHLY GW

Job ID: 400-252669-1

**Client Sample ID: TB-ROX-031124-8011**

**Lab Sample ID: 400-252669-2**

Date Collected: 03/11/24 12:00

Matrix: Water

Date Received: 03/13/24 09:58

**Method: EPA 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	0.017	ug/L		03/15/24 12:23	03/15/24 17:02	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/15/24 12:23	03/15/24 17:02	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	95		51 - 149				03/15/24 12:23	03/15/24 17:02	1

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15

# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252669-1

**Client Sample ID: MW4-ROX-031124**

**Lab Sample ID: 400-252669-3**

Date Collected: 03/11/24 10:05

Matrix: Water

Date Received: 03/13/24 09:58

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	ND		25	10	ug/L			03/20/24 13:04	1
Acrolein	ND		20	3.3	ug/L			03/20/24 13:04	1
Acrylonitrile	ND		10	2.8	ug/L			03/20/24 13:04	1
<b>Benzene</b>	<b>7.8</b>		1.0	0.50	ug/L			03/20/24 13:04	1
Bromobenzene	ND		1.0	0.54	ug/L			03/20/24 13:04	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/20/24 13:04	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/20/24 13:04	1
Bromoform	ND		5.0	0.25	ug/L			03/20/24 13:04	1
Bromomethane	ND		1.0	0.98	ug/L			03/20/24 13:04	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/20/24 13:04	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/20/24 13:04	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/20/24 13:04	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/20/24 13:04	1
Chloroethane	ND		1.0	0.76	ug/L			03/20/24 13:04	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/20/24 13:04	1
Chloroform	ND		1.0	0.90	ug/L			03/20/24 13:04	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/20/24 13:04	1
Chloromethane	ND		1.0	0.90	ug/L			03/20/24 13:04	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/20/24 13:04	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/20/24 13:04	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/20/24 13:04	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/20/24 13:04	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/20/24 13:04	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/20/24 13:04	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/20/24 13:04	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/20/24 13:04	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/20/24 13:04	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/20/24 13:04	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/20/24 13:04	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/20/24 13:04	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/20/24 13:04	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/20/24 13:04	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/20/24 13:04	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/20/24 13:04	1
Hexachlorobutadiene	ND	+	5.0	0.90	ug/L			03/20/24 13:04	1
2-Hexanone	ND		25	1.4	ug/L			03/20/24 13:04	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/20/24 13:04	1
Methylene bromide	ND		5.0	0.22	ug/L			03/20/24 13:04	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/20/24 13:04	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/20/24 13:04	1
<b>Methyl tert-butyl ether</b>	<b>1.1</b>		1.0	0.22	ug/L			03/20/24 13:04	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/20/24 13:04	1
Naphthalene	ND		5.0	3.0	ug/L			03/20/24 13:04	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/20/24 13:04	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/20/24 13:04	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/20/24 13:04	1
o-Xylene	ND		5.0	0.60	ug/L			03/20/24 13:04	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/20/24 13:04	1
p-Isopropyltoluene	ND		1.0	0.71	ug/L			03/20/24 13:04	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252669-1

**Client Sample ID: MW4-ROX-031124**

**Lab Sample ID: 400-252669-3**

Date Collected: 03/11/24 10:05

Matrix: Water

Date Received: 03/13/24 09:58

**Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/20/24 13:04	1
Styrene	ND		1.0	1.0	ug/L			03/20/24 13:04	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/20/24 13:04	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/20/24 13:04	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/20/24 13:04	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/20/24 13:04	1
Toluene	ND		1.0	0.90	ug/L			03/20/24 13:04	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/20/24 13:04	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/20/24 13:04	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/20/24 13:04	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/20/24 13:04	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/20/24 13:04	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/20/24 13:04	1
Trichloroethene	ND		1.0	0.15	ug/L			03/20/24 13:04	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/20/24 13:04	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/20/24 13:04	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/20/24 13:04	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/20/24 13:04	1
Vinyl acetate	ND		25	0.93	ug/L			03/20/24 13:04	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/20/24 13:04	1
Xylenes, Total	ND		10	1.6	ug/L			03/20/24 13:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		72 - 130					03/20/24 13:04	1
Dibromofluoromethane	102		75 - 126					03/20/24 13:04	1
Toluene-d8 (Surr)	98		64 - 132					03/20/24 13:04	1

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.19	0.094	ug/L		03/18/24 10:16	03/19/24 13:15	1
Acenaphthylene	ND		0.19	0.042	ug/L		03/18/24 10:16	03/19/24 13:15	1
Anthracene	ND		0.19	0.045	ug/L		03/18/24 10:16	03/19/24 13:15	1
Benzo[a]anthracene	ND		0.19	0.032	ug/L		03/18/24 10:16	03/19/24 13:15	1
Benzo[a]pyrene	ND		0.19	0.061	ug/L		03/18/24 10:16	03/19/24 13:15	1
Benzo[b]fluoranthene	ND		0.19	0.035	ug/L		03/18/24 10:16	03/19/24 13:15	1
Benzo[g,h,i]perylene	ND		0.19	0.026	ug/L		03/18/24 10:16	03/19/24 13:15	1
Benzo[k]fluoranthene	ND		0.19	0.059	ug/L		03/18/24 10:16	03/19/24 13:15	1
Chrysene	ND		0.19	0.031	ug/L		03/18/24 10:16	03/19/24 13:15	1
Dibenz(a,h)anthracene	ND		0.19	0.046	ug/L		03/18/24 10:16	03/19/24 13:15	1
Fluoranthene	ND		0.19	0.032	ug/L		03/18/24 10:16	03/19/24 13:15	1
Fluorene	ND		0.19	0.084	ug/L		03/18/24 10:16	03/19/24 13:15	1
Indeno[1,2,3-cd]pyrene	ND		0.19	0.032	ug/L		03/18/24 10:16	03/19/24 13:15	1
Phenanthrene	ND		0.19	0.085	ug/L		03/18/24 10:16	03/19/24 13:15	1
Pyrene	ND		0.19	0.037	ug/L		03/18/24 10:16	03/19/24 13:15	1
1-Methylnaphthalene	ND		0.19	0.076	ug/L		03/18/24 10:16	03/19/24 13:15	1
2-Methylnaphthalene	ND		0.19	0.063	ug/L		03/18/24 10:16	03/19/24 13:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Terphenyl-d14	72		18 - 147				03/18/24 10:16	03/19/24 13:15	1
2-Fluorobiphenyl	44		15 - 128				03/18/24 10:16	03/19/24 13:15	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252669-1

**Client Sample ID: MW4-ROX-031124**

**Lab Sample ID: 400-252669-3**

Date Collected: 03/11/24 10:05

Matrix: Water

Date Received: 03/13/24 09:58

**Method: SW846 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)**

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Nitrobenzene-d5	44		10 - 144	03/18/24 10:16	03/19/24 13:15	1

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND	*1 UJ	9.5	8.3	ug/L		03/18/24 10:16	03/19/24 12:08	1
Benzenethiol	ND		9.5	9.4	ug/L		03/18/24 10:16	03/19/24 12:08	1
Benzoic acid	ND		28	23	ug/L		03/18/24 10:16	03/19/24 12:08	1
Benzyl alcohol	ND		9.5	6.9	ug/L		03/18/24 10:16	03/19/24 12:08	1
Bis(2-chloroethoxy)methane	ND		9.5	4.4	ug/L		03/18/24 10:16	03/19/24 12:08	1
Bis(2-chloroethyl)ether	ND		9.5	3.7	ug/L		03/18/24 10:16	03/19/24 12:08	1
bis (2-chloroisopropyl) ether	ND		9.5	1.7	ug/L		03/18/24 10:16	03/19/24 12:08	1
Bis(2-ethylhexyl) phthalate	ND		9.5	8.4	ug/L		03/18/24 10:16	03/19/24 12:08	1
4-Bromophenyl phenyl ether	ND		9.5	8.2	ug/L		03/18/24 10:16	03/19/24 12:08	1
Butyl benzyl phthalate	ND		9.5	5.5	ug/L		03/18/24 10:16	03/19/24 12:08	1
4-Chloroaniline	ND		9.5	4.5	ug/L		03/18/24 10:16	03/19/24 12:08	1
4-Chloro-3-methylphenol	ND		9.5	5.0	ug/L		03/18/24 10:16	03/19/24 12:08	1
2-Chloronaphthalene	ND		9.5	3.6	ug/L		03/18/24 10:16	03/19/24 12:08	1
2-Chlorophenol	ND		9.5	3.9	ug/L		03/18/24 10:16	03/19/24 12:08	1
4-Chlorophenyl phenyl ether	ND		9.5	3.5	ug/L		03/18/24 10:16	03/19/24 12:08	1
Dibenz[a,h]acridine	ND		9.5	2.7	ug/L		03/18/24 10:16	03/19/24 12:08	1
Dibenzofuran	ND		9.5	3.8	ug/L		03/18/24 10:16	03/19/24 12:08	1
3,3'-Dichlorobenzidine	ND		10	10	ug/L		03/18/24 10:16	03/19/24 12:08	1
2,4-Dichlorophenol	ND		9.5	4.1	ug/L		03/18/24 10:16	03/19/24 12:08	1
Diethyl phthalate	ND		9.5	4.2	ug/L		03/18/24 10:16	03/19/24 12:08	1
2,4-Dimethylphenol	ND		9.5	4.9	ug/L		03/18/24 10:16	03/19/24 12:08	1
Dimethyl phthalate	ND		9.5	4.0	ug/L		03/18/24 10:16	03/19/24 12:08	1
Di-n-butyl phthalate	ND		9.5	4.4	ug/L		03/18/24 10:16	03/19/24 12:08	1
4,6-Dinitro-ortho-cresol	ND		9.5	9.5	ug/L		03/18/24 10:16	03/19/24 12:08	1
2,4-Dinitrophenol	ND		28	4.4	ug/L		03/18/24 10:16	03/19/24 12:08	1
2,4-Dinitrotoluene	ND		9.5	4.8	ug/L		03/18/24 10:16	03/19/24 12:08	1
2,6-Dinitrotoluene	ND		9.5	3.7	ug/L		03/18/24 10:16	03/19/24 12:08	1
Di-n-octyl phthalate	ND		9.5	5.7	ug/L		03/18/24 10:16	03/19/24 12:08	1
1,4-Dioxane	ND	UJ	9.5	4.1	ug/L		03/18/24 10:16	03/19/24 12:08	1
1,2-Diphenylhydrazine (as Azobenzene)	ND		9.5	3.1	ug/L		03/18/24 10:16	03/19/24 12:08	1
Hexachlorobenzene	ND		9.5	9.2	ug/L		03/18/24 10:16	03/19/24 12:08	1
Hexachlorocyclopentadiene	ND		19	4.3	ug/L		03/18/24 10:16	03/19/24 12:08	1
Hexachloroethane	ND		9.5	4.9	ug/L		03/18/24 10:16	03/19/24 12:08	1
Indene	ND		9.5	3.4	ug/L		03/18/24 10:16	03/19/24 12:08	1
Isophorone	ND		9.5	4.9	ug/L		03/18/24 10:16	03/19/24 12:08	1
2-Methylphenol	ND		9.5	3.0	ug/L		03/18/24 10:16	03/19/24 12:08	1
3 & 4 Methylphenol	ND		19	4.4	ug/L		03/18/24 10:16	03/19/24 12:08	1
2-Nitroaniline	ND		9.5	4.7	ug/L		03/18/24 10:16	03/19/24 12:08	1
3-Nitroaniline	ND	UJ	9.5	4.5	ug/L		03/18/24 10:16	03/19/24 12:08	1
4-Nitroaniline	ND		9.5	3.9	ug/L		03/18/24 10:16	03/19/24 12:08	1
Nitrobenzene	ND		9.5	4.5	ug/L		03/18/24 10:16	03/19/24 12:08	1
2-Nitrophenol	ND		9.5	4.4	ug/L		03/18/24 10:16	03/19/24 12:08	1
4-Nitrophenol	ND		9.5	3.1	ug/L		03/18/24 10:16	03/19/24 12:08	1
N-Nitrosodimethylamine	ND	UJ	9.5	2.1	ug/L		03/18/24 10:16	03/19/24 12:08	1

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# Client Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252669-1

**Client Sample ID: MW4-ROX-031124**

**Lab Sample ID: 400-252669-3**

Date Collected: 03/11/24 10:05

Matrix: Water

Date Received: 03/13/24 09:58

**Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodi-n-propylamine	ND		9.5	2.4	ug/L		03/18/24 10:16	03/19/24 12:08	1
N-Nitrosodiphenylamine	ND		9.5	3.5	ug/L		03/18/24 10:16	03/19/24 12:08	1
Pentachlorophenol	ND		19	11	ug/L		03/18/24 10:16	03/19/24 12:08	1
Phenol	ND		9.5	4.0	ug/L		03/18/24 10:16	03/19/24 12:08	1
Pyridine	ND	*- *1 UJ	9.5	9.5	ug/L		03/18/24 10:16	03/19/24 12:08	1
Quinoline	ND	*1	9.5	2.3	ug/L		03/18/24 10:16	03/19/24 12:08	1
2,4,5-Trichlorophenol	ND		9.5	3.8	ug/L		03/18/24 10:16	03/19/24 12:08	1
2,4,6-Trichlorophenol	ND		9.5	3.3	ug/L		03/18/24 10:16	03/19/24 12:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	71		21 - 114	03/18/24 10:16	03/19/24 12:08	1
2-Fluorophenol	41		10 - 105	03/18/24 10:16	03/19/24 12:08	1
Nitrobenzene-d5	51		16 - 127	03/18/24 10:16	03/19/24 12:08	1
Phenol-d5	32		10 - 129	03/18/24 10:16	03/19/24 12:08	1
Terphenyl-d14	102		13 - 150	03/18/24 10:16	03/19/24 12:08	1
2,4,6-Tribromophenol	112		10 - 150	03/18/24 10:16	03/19/24 12:08	1

**Method: EPA 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	0.017	ug/L		03/15/24 12:23	03/15/24 17:24	1
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/15/24 12:23	03/15/24 17:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	80		51 - 149	03/15/24 12:23	03/15/24 17:24	1

# Definitions/Glossary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252669-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.

### GC/MS Semi VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*1	LCS/LCSD RPD exceeds control 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
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

# Surrogate Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252669-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (72-130)	DBFM (75-126)	TOL (64-132)
400-252669-1	TB-ROX-031124-8260	103	105	96
400-252669-3	MW4-ROX-031124	102	102	98
LCS 400-665051/1002	Lab Control Sample	97	105	97
MB 400-665051/4	Method Blank	101	105	96

**Surrogate Legend**

BFB = 4-Bromofluorobenzene  
DBFM = Dibromofluoromethane  
TOL = Toluene-d8 (Surr)

## Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (21-114)	2FP (10-105)	NBZ (16-127)	PHL (10-129)	TPHL (13-150)	TBP (10-150)
400-252669-3	MW4-ROX-031124	71	41	51	32	102	112
LCS 400-664773/2-A	Lab Control Sample	76	55	65	44	98	127
LCS 400-664773/4-A	Lab Control Sample	83	57	65	45	104	116
LCSD 400-664773/3-A	Lab Control Sample Dup	77	56	63	48	98	126
LCSD 400-664773/5-A	Lab Control Sample Dup	79	52	61	42	107	119
MB 400-664773/1-A	Method Blank	70	47	60	36	104	116

**Surrogate Legend**

FBP = 2-Fluorobiphenyl  
2FP = 2-Fluorophenol  
NBZ = Nitrobenzene-d5  
PHL = Phenol-d5  
TPHL = Terphenyl-d14  
TBP = 2,4,6-Tribromophenol

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		TPHL (18-147)	FBP (15-128)	NBZ (10-144)
400-252669-3	MW4-ROX-031124	72	44	44
LCS 400-664773/2-A	Lab Control Sample	84	64	45
LCSD 400-664773/3-A	Lab Control Sample Dup	81	63	45
MB 400-664773/1-A	Method Blank	72	42	41

**Surrogate Legend**

TPHL = Terphenyl-d14  
FBP = 2-Fluorobiphenyl  
NBZ = Nitrobenzene-d5

# Surrogate Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252669-1

## 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	BFB1 (51-149)
400-252669-2	TB-ROX-031124-8011	95
400-252669-3	MW4-ROX-031124	80
LCS 400-664628/2-A	Lab Control Sample	95
LCSD 400-664628/3-A	Lab Control Sample Dup	78
MB 400-664628/1-A	Method Blank	111

#### 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 MONTHLY GW

Job ID: 400-252669-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET PEN
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET PEN
8270E SIM	Semivolatile Organic Compounds (GC/MS SIM)	SW846	EET PEN
8011	EDB and DBCP in Water by Microextraction	EPA	EET PEN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET PEN
5030C	Purge and Trap	SW846	EET PEN
8011	Microextraction	SW846	EET 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:**

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001



# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252669-1

**Client Sample ID: TB-ROX-031124-8260**

**Lab Sample ID: 400-252669-1**

Date Collected: 03/11/24 12:00

Matrix: Water

Date Received: 03/13/24 09:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	665051	03/20/24 15:47	CH	EET PEN

**Client Sample ID: TB-ROX-031124-8011**

**Lab Sample ID: 400-252669-2**

Date Collected: 03/11/24 12:00

Matrix: Water

Date Received: 03/13/24 09:58

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	664628	03/15/24 12:23	PG	EET PEN
Total/NA	Analysis	8011		1			664647	03/15/24 17:02	PG	EET PEN

**Client Sample ID: MW4-ROX-031124**

**Lab Sample ID: 400-252669-3**

Date Collected: 03/11/24 10:05

Matrix: Water

Date Received: 03/13/24 09:58

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260D		1	5 mL	5 mL	665051	03/20/24 13:04	CH	EET PEN
Total/NA	Prep	3510C			263.6 mL	1 mL	664773	03/18/24 10:16	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664918	03/19/24 12:08	VC1	EET PEN
Total/NA	Prep	3510C			263.6 mL	1 mL	664773	03/18/24 10:16	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	664936	03/19/24 13:15	TH	EET PEN
Total/NA	Prep	8011			35.6 mL	35 mL	664628	03/15/24 12:23	PG	EET PEN
Total/NA	Analysis	8011		1			664647	03/15/24 17:24	PG	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-664628/1-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	664628	03/15/24 12:23	PG	EET PEN
Total/NA	Analysis	8011		1			664647	03/15/24 15:59	PG	EET PEN

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-664773/1-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	3510C			250 mL	1 mL	664773	03/18/24 10:14	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664918	03/19/24 09:59	VC1	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	664773	03/18/24 10:14	BAW	EET PEN
Total/NA	Analysis	8270E SIM		1	0.4 mL	0.4 mL	664936	03/19/24 12:14	TH	EET PEN

# Lab Chronicle

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252669-1

**Client Sample ID: Method Blank**

**Lab Sample ID: MB 400-665051/4**

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	8260D		1	5 mL	5 mL	665051	03/20/24 10:22	CH	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-664628/2-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	664628	03/15/24 12:23	PG	EET PEN
Total/NA	Analysis	8011		1			664647	03/15/24 16:20	PG	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-664773/2-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	3510C			250 mL	1 mL	664773	03/18/24 10:14	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664918	03/19/24 10:25	VC1	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	664773	03/18/24 10:14	BAW	EET PEN
Total/NA	Analysis	8270E SIM		20	0.4 mL	0.4 mL	664936	03/19/24 12:34	TH	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-664773/4-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	3510C			250 mL	1 mL	664773	03/18/24 10:14	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664918	03/19/24 11:16	VC1	EET PEN

**Client Sample ID: Lab Control Sample**

**Lab Sample ID: LCS 400-665051/1002**

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	8260D		1	5 mL	5 mL	665051	03/20/24 09:17	CH	EET PEN

**Client Sample ID: Lab Control Sample Dup**

**Lab Sample ID: LCSD 400-664628/3-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	664628	03/15/24 12:23	PG	EET PEN
Total/NA	Analysis	8011		1			664647	03/15/24 16:41	PG	EET PEN



# Lab Chronicle

Client: AECOM Technical Services Inc.  
 Project/Site: ROXANA MONTHLY GW

Job ID: 400-252669-1

**Client Sample ID: Lab Control Sample Dup**

**Lab Sample ID: LCSD 400-664773/3-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	3510C			250 mL	1 mL	664773	03/18/24 10:14	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664918	03/19/24 10:50	VC1	EET PEN
Total/NA	Prep	3510C			250 mL	1 mL	664773	03/18/24 10:14	BAW	EET PEN
Total/NA	Analysis	8270E SIM		20	0.4 mL	0.4 mL	664936	03/19/24 12:55	TH	EET PEN

**Client Sample ID: Lab Control Sample Dup**

**Lab Sample ID: LCSD 400-664773/5-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	3510C			250 mL	1 mL	664773	03/18/24 10:14	BAW	EET PEN
Total/NA	Analysis	8270E		1	0.4 mL	0.4 mL	664918	03/19/24 11:42	VC1	EET PEN

**Laboratory References:**

EET PEN = Eurofins Pensacola, 3355 McLemore Drive, Pensacola, FL 32514, TEL (850)474-1001



# QC Association Summary

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252669-1

## GC/MS VOA

### Analysis Batch: 665051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252669-1	TB-ROX-031124-8260	Total/NA	Water	8260D	
400-252669-3	MW4-ROX-031124	Total/NA	Water	8260D	
MB 400-665051/4	Method Blank	Total/NA	Water	8260D	
LCS 400-665051/1002	Lab Control Sample	Total/NA	Water	8260D	

## GC/MS Semi VOA

### Prep Batch: 664773

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252669-3	MW4-ROX-031124	Total/NA	Water	3510C	
MB 400-664773/1-A	Method Blank	Total/NA	Water	3510C	
LCS 400-664773/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCS 400-664773/4-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 400-664773/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	
LCSD 400-664773/5-A	Lab Control Sample Dup	Total/NA	Water	3510C	

### Analysis Batch: 664918

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252669-3	MW4-ROX-031124	Total/NA	Water	8270E	664773
MB 400-664773/1-A	Method Blank	Total/NA	Water	8270E	664773
LCS 400-664773/2-A	Lab Control Sample	Total/NA	Water	8270E	664773
LCS 400-664773/4-A	Lab Control Sample	Total/NA	Water	8270E	664773
LCSD 400-664773/3-A	Lab Control Sample Dup	Total/NA	Water	8270E	664773
LCSD 400-664773/5-A	Lab Control Sample Dup	Total/NA	Water	8270E	664773

### Analysis Batch: 664936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252669-3	MW4-ROX-031124	Total/NA	Water	8270E SIM	664773
MB 400-664773/1-A	Method Blank	Total/NA	Water	8270E SIM	664773
LCS 400-664773/2-A	Lab Control Sample	Total/NA	Water	8270E SIM	664773
LCSD 400-664773/3-A	Lab Control Sample Dup	Total/NA	Water	8270E SIM	664773

## GC Semi VOA

### Prep Batch: 664628

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252669-2	TB-ROX-031124-8011	Total/NA	Water	8011	
400-252669-3	MW4-ROX-031124	Total/NA	Water	8011	
MB 400-664628/1-A	Method Blank	Total/NA	Water	8011	
LCS 400-664628/2-A	Lab Control Sample	Total/NA	Water	8011	
LCSD 400-664628/3-A	Lab Control Sample Dup	Total/NA	Water	8011	

### Analysis Batch: 664647

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
400-252669-2	TB-ROX-031124-8011	Total/NA	Water	8011	664628
400-252669-3	MW4-ROX-031124	Total/NA	Water	8011	664628
MB 400-664628/1-A	Method Blank	Total/NA	Water	8011	664628
LCS 400-664628/2-A	Lab Control Sample	Total/NA	Water	8011	664628
LCSD 400-664628/3-A	Lab Control Sample Dup	Total/NA	Water	8011	664628

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252669-1

## Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 400-665051/4

Matrix: Water

Analysis Batch: 665051

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			03/20/24 10:22	1
Acrolein	ND		20	3.3	ug/L			03/20/24 10:22	1
Acrylonitrile	ND		10	2.8	ug/L			03/20/24 10:22	1
Benzene	ND		1.0	0.50	ug/L			03/20/24 10:22	1
Bromobenzene	ND		1.0	0.54	ug/L			03/20/24 10:22	1
Bromochloromethane	ND		1.0	0.21	ug/L			03/20/24 10:22	1
Bromodichloromethane	ND		1.0	0.50	ug/L			03/20/24 10:22	1
Bromoform	ND		5.0	0.25	ug/L			03/20/24 10:22	1
Bromomethane	ND		1.0	0.98	ug/L			03/20/24 10:22	1
2-Butanone (MEK)	ND		25	2.6	ug/L			03/20/24 10:22	1
Carbon disulfide	ND		1.0	0.50	ug/L			03/20/24 10:22	1
Carbon tetrachloride	ND		1.0	0.19	ug/L			03/20/24 10:22	1
Chlorobenzene	ND		1.0	0.90	ug/L			03/20/24 10:22	1
Chloroethane	ND		1.0	0.76	ug/L			03/20/24 10:22	1
2-Chloroethyl vinyl ether	ND		5.0	2.0	ug/L			03/20/24 10:22	1
Chloroform	ND		1.0	0.90	ug/L			03/20/24 10:22	1
1-Chlorohexane	ND		1.0	0.32	ug/L			03/20/24 10:22	1
Chloromethane	ND		1.0	0.90	ug/L			03/20/24 10:22	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			03/20/24 10:22	1
cis-1,3-Dichloropropene	ND		5.0	0.50	ug/L			03/20/24 10:22	1
Dibromochloromethane	ND		1.0	0.24	ug/L			03/20/24 10:22	1
1,2-Dichlorobenzene	ND		1.0	0.50	ug/L			03/20/24 10:22	1
1,3-Dichlorobenzene	ND		1.0	0.54	ug/L			03/20/24 10:22	1
1,4-Dichlorobenzene	ND		1.0	0.64	ug/L			03/20/24 10:22	1
Dichlorodifluoromethane	ND		1.0	0.85	ug/L			03/20/24 10:22	1
1,1-Dichloroethane	ND		1.0	0.50	ug/L			03/20/24 10:22	1
1,2-Dichloroethane	ND		1.0	0.19	ug/L			03/20/24 10:22	1
1,1-Dichloroethene	ND		1.0	0.50	ug/L			03/20/24 10:22	1
1,2-Dichloropropane	ND		1.0	0.50	ug/L			03/20/24 10:22	1
1,3-Dichloropropane	ND		1.0	0.50	ug/L			03/20/24 10:22	1
2,2-Dichloropropane	ND		1.0	0.50	ug/L			03/20/24 10:22	1
1,1-Dichloropropene	ND		1.0	0.50	ug/L			03/20/24 10:22	1
Ethylbenzene	ND		1.0	0.50	ug/L			03/20/24 10:22	1
Ethyl methacrylate	ND		1.0	0.60	ug/L			03/20/24 10:22	1
Hexachlorobutadiene	ND		5.0	0.90	ug/L			03/20/24 10:22	1
2-Hexanone	ND		25	1.4	ug/L			03/20/24 10:22	1
Isopropylbenzene	ND		1.0	0.53	ug/L			03/20/24 10:22	1
Methylene bromide	ND		5.0	0.22	ug/L			03/20/24 10:22	1
Methylene Chloride	ND		5.0	3.0	ug/L			03/20/24 10:22	1
4-Methyl-2-pentanone (MIBK)	ND		25	1.8	ug/L			03/20/24 10:22	1
Methyl tert-butyl ether	ND		1.0	0.22	ug/L			03/20/24 10:22	1
m-Xylene & p-Xylene	ND		5.0	0.63	ug/L			03/20/24 10:22	1
Naphthalene	ND		5.0	3.0	ug/L			03/20/24 10:22	1
n-Butylbenzene	ND		1.0	0.76	ug/L			03/20/24 10:22	1
N-Propylbenzene	ND		1.0	0.69	ug/L			03/20/24 10:22	1
o-Chlorotoluene	ND		1.0	0.57	ug/L			03/20/24 10:22	1
o-Xylene	ND		5.0	0.60	ug/L			03/20/24 10:22	1
p-Chlorotoluene	ND		1.0	0.56	ug/L			03/20/24 10:22	1

Eurofins Pensacola

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252669-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 400-665051/4

Matrix: Water

Analysis Batch: 665051

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			03/20/24 10:22	1
sec-Butylbenzene	ND		1.0	0.70	ug/L			03/20/24 10:22	1
Styrene	ND		1.0	1.0	ug/L			03/20/24 10:22	1
tert-Butylbenzene	ND		1.0	0.63	ug/L			03/20/24 10:22	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.16	ug/L			03/20/24 10:22	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.50	ug/L			03/20/24 10:22	1
Tetrachloroethene	ND		1.0	0.90	ug/L			03/20/24 10:22	1
Toluene	ND		1.0	0.90	ug/L			03/20/24 10:22	1
trans-1,2-Dichloroethene	ND		1.0	0.50	ug/L			03/20/24 10:22	1
trans-1,3-Dichloropropene	ND		5.0	0.20	ug/L			03/20/24 10:22	1
1,2,3-Trichlorobenzene	ND		1.0	0.90	ug/L			03/20/24 10:22	1
1,2,4-Trichlorobenzene	ND		1.0	0.82	ug/L			03/20/24 10:22	1
1,1,1-Trichloroethane	ND		1.0	0.18	ug/L			03/20/24 10:22	1
1,1,2-Trichloroethane	ND		5.0	0.21	ug/L			03/20/24 10:22	1
Trichloroethene	ND		1.0	0.15	ug/L			03/20/24 10:22	1
Trichlorofluoromethane	ND		1.0	0.52	ug/L			03/20/24 10:22	1
1,2,3-Trichloropropane	ND		5.0	0.84	ug/L			03/20/24 10:22	1
1,2,4-Trimethylbenzene	ND		1.0	0.82	ug/L			03/20/24 10:22	1
1,3,5-Trimethylbenzene	ND		1.0	0.56	ug/L			03/20/24 10:22	1
Vinyl acetate	ND		25	0.93	ug/L			03/20/24 10:22	1
Vinyl chloride	ND		1.0	0.50	ug/L			03/20/24 10:22	1
Xylenes, Total	ND		10	1.6	ug/L			03/20/24 10:22	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene	101		72 - 130		03/20/24 10:22	1
Dibromofluoromethane	105		75 - 126		03/20/24 10:22	1
Toluene-d8 (Surr)	96		64 - 132		03/20/24 10:22	1

Lab Sample ID: LCS 400-665051/1002

Matrix: Water

Analysis Batch: 665051

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acrolein	500	421		ug/L		84	38 - 160
Acrylonitrile	500	468		ug/L		94	64 - 142
Benzene	50.0	48.0		ug/L		96	70 - 130
Bromobenzene	50.0	50.3		ug/L		101	70 - 132
Bromochloromethane	50.0	50.1		ug/L		100	70 - 130
Bromodichloromethane	50.0	54.5		ug/L		109	67 - 133
Bromoform	50.0	47.1		ug/L		94	57 - 140
Bromomethane	50.0	42.3		ug/L		85	10 - 160
2-Butanone (MEK)	200	175		ug/L		87	61 - 145
Carbon disulfide	50.0	33.3		ug/L		67	61 - 137
Carbon tetrachloride	50.0	53.2		ug/L		106	61 - 137
Chlorobenzene	50.0	51.3		ug/L		103	70 - 130
Chloroethane	50.0	47.8		ug/L		96	55 - 141
2-Chloroethyl vinyl ether	50.0	40.4		ug/L		81	10 - 160

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252669-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

**Lab Sample ID: LCS 400-665051/1002**

**Matrix: Water**

**Analysis Batch: 665051**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec Limits
	Added	Result	Qualifier				
Chloroform	50.0	53.2		ug/L		106	69 - 130
1-Chlorohexane	50.0	57.7		ug/L		115	69 - 130
Chloromethane	50.0	40.9		ug/L		82	58 - 137
cis-1,2-Dichloroethene	50.0	53.1		ug/L		106	68 - 130
cis-1,3-Dichloropropene	50.0	50.1		ug/L		100	69 - 132
Dibromochloromethane	50.0	52.5		ug/L		105	67 - 135
1,2-Dichlorobenzene	50.0	51.9		ug/L		104	67 - 130
1,3-Dichlorobenzene	50.0	53.6		ug/L		107	70 - 130
1,4-Dichlorobenzene	50.0	52.5		ug/L		105	70 - 130
Dichlorodifluoromethane	50.0	44.8		ug/L		90	41 - 146
1,1-Dichloroethane	50.0	49.3		ug/L		99	70 - 130
1,2-Dichloroethane	50.0	55.3		ug/L		111	69 - 130
1,1-Dichloroethene	50.0	41.5		ug/L		83	63 - 134
1,2-Dichloropropane	50.0	52.1		ug/L		104	70 - 130
1,3-Dichloropropane	50.0	48.1		ug/L		96	70 - 130
2,2-Dichloropropane	50.0	47.6		ug/L		95	52 - 135
1,1-Dichloropropene	50.0	48.4		ug/L		97	70 - 130
Ethylbenzene	50.0	52.1		ug/L		104	70 - 130
Ethyl methacrylate	50.0	46.1		ug/L		92	68 - 130
Hexachlorobutadiene	50.0	70.3	*+	ug/L		141	53 - 140
2-Hexanone	200	196		ug/L		98	65 - 137
Isopropylbenzene	50.0	55.9		ug/L		112	70 - 130
Methylene bromide	50.0	49.1		ug/L		98	70 - 130
Methylene Chloride	50.0	54.1		ug/L		108	66 - 135
4-Methyl-2-pentanone (MIBK)	200	190		ug/L		95	69 - 138
Methyl tert-butyl ether	50.0	44.0		ug/L		88	66 - 130
m-Xylene & p-Xylene	50.0	54.3		ug/L		109	70 - 130
Naphthalene	50.0	45.4		ug/L		91	47 - 149
n-Butylbenzene	50.0	55.9		ug/L		112	67 - 130
N-Propylbenzene	50.0	51.6		ug/L		103	70 - 130
o-Chlorotoluene	50.0	52.2		ug/L		104	70 - 130
o-Xylene	50.0	53.5		ug/L		107	70 - 130
p-Chlorotoluene	50.0	53.1		ug/L		106	70 - 130
p-Isopropyltoluene	50.0	55.0		ug/L		110	65 - 130
sec-Butylbenzene	50.0	54.8		ug/L		110	66 - 130
Styrene	50.0	54.1		ug/L		108	70 - 130
tert-Butylbenzene	50.0	55.1		ug/L		110	64 - 139
1,1,1,2-Tetrachloroethane	50.0	53.1		ug/L		106	67 - 131
1,1,2,2-Tetrachloroethane	50.0	43.2		ug/L		86	70 - 131
Tetrachloroethene	50.0	51.2		ug/L		102	65 - 130
Toluene	50.0	47.1		ug/L		94	70 - 130
trans-1,2-Dichloroethene	50.0	44.8		ug/L		90	70 - 130
trans-1,3-Dichloropropene	50.0	48.3		ug/L		97	63 - 130
1,2,3-Trichlorobenzene	50.0	55.1		ug/L		110	60 - 138
1,2,4-Trichlorobenzene	50.0	57.4		ug/L		115	60 - 140
1,1,1-Trichloroethane	50.0	52.3		ug/L		105	68 - 130
1,1,2-Trichloroethane	50.0	48.1		ug/L		96	70 - 130
Trichloroethene	50.0	50.9		ug/L		102	70 - 130
Trichlorofluoromethane	50.0	48.7		ug/L		97	65 - 138

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252669-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 400-665051/1002

Matrix: Water

Analysis Batch: 665051

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichloropropane	50.0	45.3		ug/L		91	70 - 130
1,2,4-Trimethylbenzene	50.0	52.7		ug/L		105	70 - 130
1,3,5-Trimethylbenzene	50.0	53.1		ug/L		106	69 - 130
Vinyl acetate	100	80.0		ug/L		80	26 - 160
Vinyl chloride	50.0	47.8		ug/L		96	59 - 136
Xylenes, Total	100	108		ug/L		108	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	97		72 - 130
Dibromofluoromethane	105		75 - 126
Toluene-d8 (Surr)	97		64 - 132

## Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 400-664773/1-A

Matrix: Water

Analysis Batch: 664918

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 664773

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aniline	ND		10	8.7	ug/L		03/18/24 10:14	03/19/24 09:59	1
Benzenethiol	ND		10	9.9	ug/L		03/18/24 10:14	03/19/24 09:59	1
Benzoic acid	ND		30	24	ug/L		03/18/24 10:14	03/19/24 09:59	1
Benzyl alcohol	ND		10	7.3	ug/L		03/18/24 10:14	03/19/24 09:59	1
Bis(2-chloroethoxy)methane	ND		10	4.6	ug/L		03/18/24 10:14	03/19/24 09:59	1
Bis(2-chloroethyl)ether	ND		10	3.9	ug/L		03/18/24 10:14	03/19/24 09:59	1
bis (2-chloroisopropyl) ether	ND		10	1.8	ug/L		03/18/24 10:14	03/19/24 09:59	1
Bis(2-ethylhexyl) phthalate	ND		10	8.9	ug/L		03/18/24 10:14	03/19/24 09:59	1
4-Bromophenyl phenyl ether	ND		10	8.6	ug/L		03/18/24 10:14	03/19/24 09:59	1
Butyl benzyl phthalate	ND		10	5.8	ug/L		03/18/24 10:14	03/19/24 09:59	1
4-Chloroaniline	ND		10	4.7	ug/L		03/18/24 10:14	03/19/24 09:59	1
4-Chloro-3-methylphenol	ND		10	5.3	ug/L		03/18/24 10:14	03/19/24 09:59	1
2-Chloronaphthalene	ND		10	3.8	ug/L		03/18/24 10:14	03/19/24 09:59	1
2-Chlorophenol	ND		10	4.1	ug/L		03/18/24 10:14	03/19/24 09:59	1
4-Chlorophenyl phenyl ether	ND		10	3.7	ug/L		03/18/24 10:14	03/19/24 09:59	1
Dibenz[a,h]acridine	ND		10	2.8	ug/L		03/18/24 10:14	03/19/24 09:59	1
Dibenzofuran	ND		10	4.0	ug/L		03/18/24 10:14	03/19/24 09:59	1
3,3'-Dichlorobenzidine	ND		11	11	ug/L		03/18/24 10:14	03/19/24 09:59	1
2,4-Dichlorophenol	ND		10	4.3	ug/L		03/18/24 10:14	03/19/24 09:59	1
Diethyl phthalate	ND		10	4.4	ug/L		03/18/24 10:14	03/19/24 09:59	1
2,4-Dimethylphenol	ND		10	5.2	ug/L		03/18/24 10:14	03/19/24 09:59	1
Dimethyl phthalate	ND		10	4.2	ug/L		03/18/24 10:14	03/19/24 09:59	1
Di-n-butyl phthalate	ND		10	4.6	ug/L		03/18/24 10:14	03/19/24 09:59	1
4,6-Dinitro-ortho-cresol	ND		10	10	ug/L		03/18/24 10:14	03/19/24 09:59	1
2,4-Dinitrophenol	ND		30	4.6	ug/L		03/18/24 10:14	03/19/24 09:59	1
2,4-Dinitrotoluene	ND		10	5.1	ug/L		03/18/24 10:14	03/19/24 09:59	1
2,6-Dinitrotoluene	ND		10	3.9	ug/L		03/18/24 10:14	03/19/24 09:59	1
Di-n-octyl phthalate	ND		10	6.0	ug/L		03/18/24 10:14	03/19/24 09:59	1
1,4-Dioxane	ND		10	4.3	ug/L		03/18/24 10:14	03/19/24 09:59	1

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252669-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 400-664773/1-A**  
**Matrix: Water**  
**Analysis Batch: 664918**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 664773**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2-Diphenylhydrazine (as Azobenzene)	ND		10	3.3	ug/L		03/18/24 10:14	03/19/24 09:59	1
Hexachlorobenzene	ND		10	9.7	ug/L		03/18/24 10:14	03/19/24 09:59	1
Hexachlorocyclopentadiene	ND		20	4.5	ug/L		03/18/24 10:14	03/19/24 09:59	1
Hexachloroethane	ND		10	5.2	ug/L		03/18/24 10:14	03/19/24 09:59	1
Indene	ND		10	3.6	ug/L		03/18/24 10:14	03/19/24 09:59	1
Isophorone	ND		10	5.2	ug/L		03/18/24 10:14	03/19/24 09:59	1
2-Methylphenol	ND		10	3.2	ug/L		03/18/24 10:14	03/19/24 09:59	1
3 & 4 Methylphenol	ND		20	4.6	ug/L		03/18/24 10:14	03/19/24 09:59	1
2-Nitroaniline	ND		10	5.0	ug/L		03/18/24 10:14	03/19/24 09:59	1
3-Nitroaniline	ND		10	4.7	ug/L		03/18/24 10:14	03/19/24 09:59	1
4-Nitroaniline	ND		10	4.1	ug/L		03/18/24 10:14	03/19/24 09:59	1
Nitrobenzene	ND		10	4.7	ug/L		03/18/24 10:14	03/19/24 09:59	1
2-Nitrophenol	ND		10	4.6	ug/L		03/18/24 10:14	03/19/24 09:59	1
4-Nitrophenol	ND		10	3.3	ug/L		03/18/24 10:14	03/19/24 09:59	1
N-Nitrosodimethylamine	ND		10	2.2	ug/L		03/18/24 10:14	03/19/24 09:59	1
N-Nitrosodi-n-propylamine	ND		10	2.5	ug/L		03/18/24 10:14	03/19/24 09:59	1
N-Nitrosodiphenylamine	ND		10	3.7	ug/L		03/18/24 10:14	03/19/24 09:59	1
Pentachlorophenol	ND		20	12	ug/L		03/18/24 10:14	03/19/24 09:59	1
Phenol	ND		10	4.2	ug/L		03/18/24 10:14	03/19/24 09:59	1
Pyridine	ND		10	10	ug/L		03/18/24 10:14	03/19/24 09:59	1
Quinoline	ND		10	2.4	ug/L		03/18/24 10:14	03/19/24 09:59	1
2,4,5-Trichlorophenol	ND		10	4.0	ug/L		03/18/24 10:14	03/19/24 09:59	1
2,4,6-Trichlorophenol	ND		10	3.5	ug/L		03/18/24 10:14	03/19/24 09:59	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2-Fluorobiphenyl	70		21 - 114	03/18/24 10:14	03/19/24 09:59	1
2-Fluorophenol	47		10 - 105	03/18/24 10:14	03/19/24 09:59	1
Nitrobenzene-d5	60		16 - 127	03/18/24 10:14	03/19/24 09:59	1
Phenol-d5	36		10 - 129	03/18/24 10:14	03/19/24 09:59	1
Terphenyl-d14	104		13 - 150	03/18/24 10:14	03/19/24 09:59	1
2,4,6-Tribromophenol	116		10 - 150	03/18/24 10:14	03/19/24 09:59	1

**Lab Sample ID: LCS 400-664773/2-A**  
**Matrix: Water**  
**Analysis Batch: 664918**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 664773**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzoic acid	492	239		ug/L		49	19 - 126
Benzyl alcohol	120	71.8		ug/L		60	17 - 109
Bis(2-chloroethoxy)methane	120	77.2		ug/L		64	24 - 125
Bis(2-chloroethyl)ether	120	66.8		ug/L		56	10 - 121
bis (2-chloroisopropyl) ether	120	57.0		ug/L		47	14 - 123
Bis(2-ethylhexyl) phthalate	120	91.8		ug/L		76	16 - 150
4-Bromophenyl phenyl ether	120	103		ug/L		86	17 - 150
Butyl benzyl phthalate	120	93.9		ug/L		78	21 - 150
4-Chloroaniline	120	63.2		ug/L		53	10 - 124
4-Chloro-3-methylphenol	120	88.6		ug/L		74	37 - 131

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# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252669-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 400-664773/2-A

Matrix: Water

Analysis Batch: 664918

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 664773

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2-Chloronaphthalene	120	82.2		ug/L		68	24 - 132
2-Chlorophenol	120	81.0		ug/L		67	27 - 124
4-Chlorophenyl phenyl ether	120	97.3		ug/L		81	27 - 147
Dibenz[a,h]acridine	120	116		ug/L		97	40 - 140
Dibenzofuran	120	90.6		ug/L		76	30 - 135
3,3'-Dichlorobenzidine	160	138		ug/L		86	10 - 150
2,4-Dichlorophenol	120	87.1		ug/L		73	33 - 132
Diethyl phthalate	120	104		ug/L		87	37 - 145
2,4-Dimethylphenol	120	91.9		ug/L		77	38 - 132
Dimethyl phthalate	120	98.9		ug/L		82	32 - 137
Di-n-butyl phthalate	120	101		ug/L		84	27 - 150
4,6-Dinitro-ortho-cresol	240	239		ug/L		100	14 - 150
2,4-Dinitrophenol	240	237		ug/L		99	15 - 150
2,4-Dinitrotoluene	120	116		ug/L		97	35 - 136
2,6-Dinitrotoluene	120	103		ug/L		86	29 - 140
Di-n-octyl phthalate	120	94.1		ug/L		78	26 - 150
1,4-Dioxane	120	42.7		ug/L		36	10 - 87
1,2-Diphenylhydrazine (as Azobenzene)	120	74.8		ug/L		62	23 - 138
Hexachlorobenzene	120	112		ug/L		93	10 - 150
Hexachlorocyclopentadiene	120	60.6		ug/L		50	10 - 124
Hexachloroethane	120	52.2		ug/L		43	10 - 127
Indene	120	74.1		ug/L		62	18 - 150
Isophorone	120	74.6		ug/L		62	28 - 127
2-Methylphenol	120	78.6		ug/L		66	34 - 124
3 & 4 Methylphenol	120	73.7		ug/L		61	32 - 122
2-Nitroaniline	120	79.1		ug/L		66	24 - 139
3-Nitroaniline	120	66.3		ug/L		55	10 - 128
4-Nitroaniline	120	88.6		ug/L		74	28 - 118
Nitrobenzene	120	70.8		ug/L		59	29 - 120
2-Nitrophenol	120	83.8		ug/L		70	25 - 148
4-Nitrophenol	240	176		ug/L		73	12 - 129
N-Nitrosodimethylamine	120	47.1		ug/L		39	10 - 115
N-Nitrosodi-n-propylamine	120	74.6		ug/L		62	24 - 142
N-Nitrosodiphenylamine	119	92.4		ug/L		78	29 - 138
Pentachlorophenol	240	251		ug/L		105	19 - 150
Phenol	120	51.5		ug/L		43	11 - 95
Pyridine	240	21.3	*	ug/L		9	10 - 82
Quinoline	120	56.9		ug/L		47	40 - 140
2,4,5-Trichlorophenol	120	107		ug/L		89	30 - 144
2,4,6-Trichlorophenol	120	106		ug/L		88	27 - 147

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	76		21 - 114
2-Fluorophenol	55		10 - 105
Nitrobenzene-d5	65		16 - 127
Phenol-d5	44		10 - 129
Terphenyl-d14	98		13 - 150

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252669-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 400-664773/2-A**  
**Matrix: Water**  
**Analysis Batch: 664918**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 664773**

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2,4,6-Tribromophenol	127		10 - 150

**Lab Sample ID: LCS 400-664773/4-A**  
**Matrix: Water**  
**Analysis Batch: 664918**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 664773**

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Benzenethiol	120	99.4		ug/L		83	10 - 140

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	83		21 - 114
2-Fluorophenol	57		10 - 105
Nitrobenzene-d5	65		16 - 127
Phenol-d5	45		10 - 129
Terphenyl-d14	104		13 - 150
2,4,6-Tribromophenol	116		10 - 150

**Lab Sample ID: LCSD 400-664773/3-A**  
**Matrix: Water**  
**Analysis Batch: 664918**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 664773**

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec Limits	RPD	
		Result	Qualifier					RPD	Limit
Aniline	120	52.0	*1	ug/L		43	10 - 127	79	40
Benzoic acid	492	246		ug/L		50	19 - 126	3	40
Benzyl alcohol	120	76.2		ug/L		63	17 - 109	6	40
Bis(2-chloroethoxy)methane	120	81.4		ug/L		68	24 - 125	5	40
Bis(2-chloroethyl)ether	120	76.4		ug/L		64	10 - 121	14	40
bis (2-chloroisopropyl) ether	120	60.6		ug/L		50	14 - 123	6	40
Bis(2-ethylhexyl) phthalate	120	94.4		ug/L		79	16 - 150	3	40
4-Bromophenyl phenyl ether	120	116		ug/L		97	17 - 150	12	40
Butyl benzyl phthalate	120	99.7		ug/L		83	21 - 150	6	40
4-Chloroaniline	120	71.6		ug/L		60	10 - 124	13	40
4-Chloro-3-methylphenol	120	94.6		ug/L		79	37 - 131	7	40
2-Chloronaphthalene	120	87.9		ug/L		73	24 - 132	7	40
2-Chlorophenol	120	88.7		ug/L		74	27 - 124	9	40
4-Chlorophenyl phenyl ether	120	110		ug/L		92	27 - 147	12	40
Dibenz[a,h]acridine	120	130		ug/L		109	40 - 140	12	40
Dibenzofuran	120	102		ug/L		85	30 - 135	12	40
3,3'-Dichlorobenzidine	160	153		ug/L		96	10 - 150	10	40
2,4-Dichlorophenol	120	91.5		ug/L		76	33 - 132	5	40
Diethyl phthalate	120	107		ug/L		89	37 - 145	3	40
2,4-Dimethylphenol	120	96.8		ug/L		81	38 - 132	5	40
Dimethyl phthalate	120	105		ug/L		88	32 - 137	6	40
Di-n-butyl phthalate	120	110		ug/L		92	27 - 150	9	40
4,6-Dinitro-ortho-cresol	240	256		ug/L		107	14 - 150	7	40
2,4-Dinitrophenol	240	261		ug/L		109	15 - 150	10	40
2,4-Dinitrotoluene	120	121		ug/L		101	35 - 136	4	40
2,6-Dinitrotoluene	120	109		ug/L		91	29 - 140	5	40

Eurofins Pensacola

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252669-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCSD 400-664773/3-A**  
**Matrix: Water**  
**Analysis Batch: 664918**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 664773**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Di-n-octyl phthalate	120	96.4		ug/L		80	26 - 150	2	40	
1,4-Dioxane	120	48.5		ug/L		40	10 - 87	13	40	
1,2-Diphenylhydrazine (as Azobenzene)	120	84.1		ug/L		70	23 - 138	12	40	
Hexachlorobenzene	120	123		ug/L		103	10 - 150	10	40	
Hexachlorocyclopentadiene	120	65.6		ug/L		55	10 - 124	8	40	
Hexachloroethane	120	52.8		ug/L		44	10 - 127	1	40	
Indene	120	82.3		ug/L		69	18 - 150	11	40	
Isophorone	120	76.5		ug/L		64	28 - 127	2	40	
2-Methylphenol	120	84.7		ug/L		71	34 - 124	7	40	
3 & 4 Methylphenol	120	81.9		ug/L		68	32 - 122	11	40	
2-Nitroaniline	120	84.6		ug/L		71	24 - 139	7	40	
3-Nitroaniline	120	76.4		ug/L		64	10 - 128	14	40	
4-Nitroaniline	120	103		ug/L		86	28 - 118	15	40	
Nitrobenzene	120	75.2		ug/L		63	29 - 120	6	40	
2-Nitrophenol	120	90.9		ug/L		76	25 - 148	8	40	
4-Nitrophenol	240	186		ug/L		78	12 - 129	5	40	
N-Nitrosodimethylamine	120	52.1		ug/L		43	10 - 115	10	40	
N-Nitrosodi-n-propylamine	120	79.8		ug/L		66	24 - 142	7	40	
N-Nitrosodiphenylamine	119	104		ug/L		87	29 - 138	12	40	
Pentachlorophenol	240	272		ug/L		113	19 - 150	8	40	
Phenol	120	58.1		ug/L		48	11 - 95	12	40	
Pyridine	240	48.7	*1	ug/L		20	10 - 82	78	40	
Quinoline	120	115	*1	ug/L		96	40 - 140	67	40	
2,4,5-Trichlorophenol	120	116		ug/L		97	30 - 144	8	40	
2,4,6-Trichlorophenol	120	112		ug/L		93	27 - 147	6	40	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	77		21 - 114
2-Fluorophenol	56		10 - 105
Nitrobenzene-d5	63		16 - 127
Phenol-d5	48		10 - 129
Terphenyl-d14	98		13 - 150
2,4,6-Tribromophenol	126		10 - 150

**Lab Sample ID: LCSD 400-664773/5-A**  
**Matrix: Water**  
**Analysis Batch: 664918**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 664773**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec		RPD	Limit
							Limits	RPD		
Benzenethiol	120	92.2		ug/L		77	10 - 140	8	40	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	79		21 - 114
2-Fluorophenol	52		10 - 105
Nitrobenzene-d5	61		16 - 127
Phenol-d5	42		10 - 129
Terphenyl-d14	107		13 - 150

Eurofins Pensacola

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252669-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 400-664773/5-A  
Matrix: Water  
Analysis Batch: 664918

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 664773

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2,4,6-Tribromophenol	119		10 - 150

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM)

Lab Sample ID: MB 400-664773/1-A  
Matrix: Water  
Analysis Batch: 664936

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 664773

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acenaphthene	ND		0.20	0.099	ug/L		03/18/24 10:14	03/19/24 12:14	1
Acenaphthylene	ND		0.20	0.044	ug/L		03/18/24 10:14	03/19/24 12:14	1
Anthracene	ND		0.20	0.047	ug/L		03/18/24 10:14	03/19/24 12:14	1
Benzo[a]anthracene	ND		0.20	0.034	ug/L		03/18/24 10:14	03/19/24 12:14	1
Benzo[a]pyrene	ND		0.20	0.064	ug/L		03/18/24 10:14	03/19/24 12:14	1
Benzo[b]fluoranthene	ND		0.20	0.037	ug/L		03/18/24 10:14	03/19/24 12:14	1
Benzo[g,h,i]perylene	0.0315	J	0.20	0.027	ug/L		03/18/24 10:14	03/19/24 12:14	1
Benzo[k]fluoranthene	ND		0.20	0.062	ug/L		03/18/24 10:14	03/19/24 12:14	1
Chrysene	ND		0.20	0.033	ug/L		03/18/24 10:14	03/19/24 12:14	1
Dibenz(a,h)anthracene	ND		0.20	0.048	ug/L		03/18/24 10:14	03/19/24 12:14	1
Fluoranthene	ND		0.20	0.034	ug/L		03/18/24 10:14	03/19/24 12:14	1
Fluorene	ND		0.20	0.089	ug/L		03/18/24 10:14	03/19/24 12:14	1
Indeno[1,2,3-cd]pyrene	0.0422	J	0.20	0.034	ug/L		03/18/24 10:14	03/19/24 12:14	1
Phenanthrene	ND		0.20	0.090	ug/L		03/18/24 10:14	03/19/24 12:14	1
Pyrene	ND		0.20	0.039	ug/L		03/18/24 10:14	03/19/24 12:14	1
1-Methylnaphthalene	ND		0.20	0.080	ug/L		03/18/24 10:14	03/19/24 12:14	1
2-Methylnaphthalene	ND		0.20	0.066	ug/L		03/18/24 10:14	03/19/24 12:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Terphenyl-d14	72		18 - 147	03/18/24 10:14	03/19/24 12:14	1
2-Fluorobiphenyl	42		15 - 128	03/18/24 10:14	03/19/24 12:14	1
Nitrobenzene-d5	41		10 - 144	03/18/24 10:14	03/19/24 12:14	1

Lab Sample ID: LCS 400-664773/2-A  
Matrix: Water  
Analysis Batch: 664936

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 664773

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acenaphthene	120	90.3		ug/L		75	10 - 140
Acenaphthylene	120	94.3		ug/L		79	10 - 140
Anthracene	120	104		ug/L		87	19 - 140
Benzo[a]anthracene	120	111		ug/L		92	25 - 140
Benzo[a]pyrene	120	101		ug/L		84	24 - 140
Benzo[b]fluoranthene	120	104		ug/L		86	34 - 140
Benzo[g,h,i]perylene	120	99.6		ug/L		83	13 - 140
Benzo[k]fluoranthene	120	103		ug/L		86	21 - 140
Chrysene	120	107		ug/L		89	28 - 140
Dibenz(a,h)anthracene	120	98.6		ug/L		82	10 - 140
Fluoranthene	120	118		ug/L		98	18 - 140

Eurofins Pensacola

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252669-1

## Method: 8270E SIM - Semivolatile Organic Compounds (GC/MS SIM) (Continued)

**Lab Sample ID:** LCS 400-664773/2-A  
**Matrix:** Water  
**Analysis Batch:** 664936

**Client Sample ID:** Lab Control Sample  
**Prep Type:** Total/NA  
**Prep Batch:** 664773

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Fluorene	120	103		ug/L		86	16 - 140
Indeno[1,2,3-cd]pyrene	120	101		ug/L		84	10 - 140
Phenanthrene	120	101		ug/L		85	22 - 140
Pyrene	120	109		ug/L		91	38 - 140
1-Methylnaphthalene	120	61.6		ug/L		51	10 - 140
2-Methylnaphthalene	120	61.4		ug/L		51	10 - 140

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
Terphenyl-d14	84		18 - 147
2-Fluorobiphenyl	64		15 - 128
Nitrobenzene-d5	45		10 - 144

**Lab Sample ID:** LCSD 400-664773/3-A  
**Matrix:** Water  
**Analysis Batch:** 664936

**Client Sample ID:** Lab Control Sample Dup  
**Prep Type:** Total/NA  
**Prep Batch:** 664773

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	%Rec Limits	RPD	Limit
		Result	Qualifier						
Acenaphthene	120	94.7		ug/L		79	10 - 140	5	40
Acenaphthylene	120	96.8		ug/L		81	10 - 140	3	40
Anthracene	120	105		ug/L		87	19 - 140	0	40
Benzo[a]anthracene	120	111		ug/L		93	25 - 140	1	40
Benzo[a]pyrene	120	101		ug/L		84	24 - 140	0	40
Benzo[b]fluoranthene	120	95.5		ug/L		80	34 - 140	8	40
Benzo[g,h,i]perylene	120	98.8		ug/L		82	13 - 140	1	40
Benzo[k]fluoranthene	120	108		ug/L		90	21 - 140	5	40
Chrysene	120	106		ug/L		88	28 - 140	1	40
Dibenz(a,h)anthracene	120	96.3		ug/L		80	10 - 140	2	40
Fluoranthene	120	117		ug/L		98	18 - 140	0	40
Fluorene	120	107		ug/L		89	16 - 140	3	40
Indeno[1,2,3-cd]pyrene	120	99.0		ug/L		82	10 - 140	2	40
Phenanthrene	120	103		ug/L		86	22 - 140	2	40
Pyrene	120	109		ug/L		91	38 - 140	0	40
1-Methylnaphthalene	120	64.6		ug/L		54	10 - 140	5	40
2-Methylnaphthalene	120	63.6		ug/L		53	10 - 140	4	40

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
Terphenyl-d14	81		18 - 147
2-Fluorobiphenyl	63		15 - 128
Nitrobenzene-d5	45		10 - 144

## Method: 8011 - EDB and DBCP in Water by Microextraction

**Lab Sample ID:** MB 400-664628/1-A  
**Matrix:** Water  
**Analysis Batch:** 664647

**Client Sample ID:** Method Blank  
**Prep Type:** Total/NA  
**Prep Batch:** 664628

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2-Dibromo-3-Chloropropane	ND		0.030	0.017	ug/L		03/15/24 12:23	03/15/24 15:59	1

Eurofins Pensacola

# QC Sample Results

Client: AECOM Technical Services Inc.  
Project/Site: ROXANA MONTHLY GW

Job ID: 400-252669-1

## Method: 8011 - EDB and DBCP in Water by Microextraction (Continued)

**Lab Sample ID: MB 400-664628/1-A**

**Matrix: Water**

**Analysis Batch: 664647**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 664628**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromoethane	ND		0.020	0.015	ug/L		03/15/24 12:23	03/15/24 15:59	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	111		51 - 149				03/15/24 12:23	03/15/24 15:59	1

**Lab Sample ID: LCS 400-664628/2-A**

**Matrix: Water**

**Analysis Batch: 664647**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

**Prep Batch: 664628**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dibromo-3-Chloropropane	0.101	0.106		ug/L		106	60 - 140
1,2-Dibromoethane	0.100	0.0926		ug/L		92	60 - 140
Surrogate	%Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene	95		51 - 149				

**Lab Sample ID: LCSD 400-664628/3-A**

**Matrix: Water**

**Analysis Batch: 664647**

**Client Sample ID: Lab Control Sample Dup**

**Prep Type: Total/NA**

**Prep Batch: 664628**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit
1,2-Dibromo-3-Chloropropane	0.101	0.107		ug/L		107	60 - 140	1	30
1,2-Dibromoethane	0.100	0.0939		ug/L		94	60 - 140	1	30
Surrogate	%Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene	78		51 - 149						



LAB (LOCATION)



Shell Oil Products US Chain Of Custody Record

AECOM

- ACCOUNT ( )
- CALCISCENCE ( )
- TESTAMERICA (TestAmerica Pensacola, Pensacola, FL 32514 (850-474-1001))
- Other ( )

- Please Check Appropriate Box:**
- SGW FDG
  - PIPELINE
  - RETAIL
  - CHEMICALS
  - CONSULTANT
  - LUBES
  - TRANSPORTATION
  - OTHER ENV. SERVICES

Print Bill To Contact Name: **Melissa Remiger** PlanNet Site or Project ID: **25278**

DATE: **3/11/2024**

PAGE: **1** of **1**

PO # **60721927 - 3.1.2** GSAP Project ID **USPC/00114/R/02**

SAMPLING COMPANY: **AECOM**

ADDRESS: **100 N. Broadway, 20th Floor, ST. LOUIS, MO 63102, USA**

PROJECT CONTACT (Hardcopy or PDF Report to): **Melissa Remiger, Mary Massa, Brett Howell**

TELEPHONE: **314-429-0100** FAX: **314-429-0462** Bill To Contact E-MAIL: **melissa.remiger@aecom.com**

SITE ADDRESS: Street and City **900 South Central Ave, ROXANA** State **IL**

EDF DELIVERABLE TO (Name, Company, Office Location): **Melissa Remiger - please see special instructions** PHONE NO.: **314-802-1207**

SAMPLER NAME(S) (Print): **M. Massa, T. Jenkins**

E-MAIL: **melissa.remiger@aecom.com**

AECOM Other ID: **60721927 - 3.1.2**

AECOM Project / Task Number: **Roxana Monthly GW**

TURNAROUND TIME (CALENDAR DAYS):  5 DAYS  3 DAYS  2 DAYS  24 HOURS  WEEKEND

LA - RWQCB REPORT FORMAT

DELIVERABLES:  LEVEL 1  LEVEL 2  LEVEL 3  OTHER (SPECIFY) **EDD**

TEMPERATURE ON RECEIPT °C: **0.0528** Cooler #1: Cooler #2: Cooler #3:

REQUESTED ANALYSIS **60721927 - 3.1.2**

TEMPERATURE ON RECEIPT °C: **0.0528**

Container PID Readings or Laboratory Notes:

**SPECIAL INSTRUCTIONS OR NOTES :**

Email reports to: **melissa.remiger@aecom.com**; **mary.massa@aecom.com**; **brett.howell@aecom.com**

Please include "J" values on Reports.

Please provide sample receipt upon login.

Please send EQUIS EDDs to **EDDSubmissions@aecomshell.com**; **Vlad.Virjan@aecom.com**

FIELD NOTES:

LAB USE ONLY

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE			NO. OF CONT.
		DATE	TIME		HCL	HNO3	H2SO4	
	TB-ROX-031124-8260	3/11/2024	0000	Water	2			2
	TB-ROX-031124-8011	3/11/2024	0000	Water	2			2
	MW4-ROX-031124	3/11/2024	1005	Water	6		2	8
	VOC 8260							X
	8011 EDB + DBCP							X
	SVOC 8270							X
	PAH 8270 SIMS							X

RECEIVED BY: (Signature) **MARY MASSA** 3/11/24

FEDEX: 6339 6600 0717

RECEIVED BY: (Signature) **LB**

RELINQUISHED BY: (Signature)

DATE: **3/11/2024** TIME: **1600**

DATE: **3/13/24** TIME: **9:58**

Version: 27Sep23

CUSTODY SEALS: 1599853, 1599852

3/20/2024





## Login Sample Receipt Checklist

Client: AECOM Technical Services Inc.

Job Number: 400-252669-1

**Login Number: 252669**

**List Number: 1**

**Creator: Roberts, Alexis J**

**List Source: Eurofins Pensacola**

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
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 IR8
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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (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 MONTHLY GW

Job ID: 400-252669-1

### Laboratory: Eurofins Pensacola

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alabama	State	40150	06-30-24
ANAB	ISO/IEC 17025	L2471	02-22-26
Arkansas DEQ	State	88-00689	08-01-24
California	State	2510	06-30-24
Florida	NELAP	E81010	06-30-24
Georgia	State	E81010(FL)	06-30-24
Illinois	NELAP	200041	10-09-24
Kansas	NELAP	E-10253	10-31-24
Kentucky (UST)	State	53	06-30-24
Louisiana (All)	NELAP	30976	06-30-24
Louisiana (DW)	State	LA017	12-31-24
North Carolina (WW/SW)	State	314	12-31-24
Oklahoma	NELAP	9810	08-31-24
Pennsylvania	NELAP	68-00467	01-31-25
South Carolina	State	96026	06-30-24
Tennessee	State	TN02907	06-30-24
Texas	NELAP	T104704286	09-30-24
US Fish & Wildlife	US Federal Programs	A22340	06-30-24
USDA	US Federal Programs	P330-21-00056	05-17-24
USDA	US Federal Programs	FLGNV23001	01-08-26
Virginia	NELAP	460166	06-14-24
West Virginia DEP	State	136	03-31-24

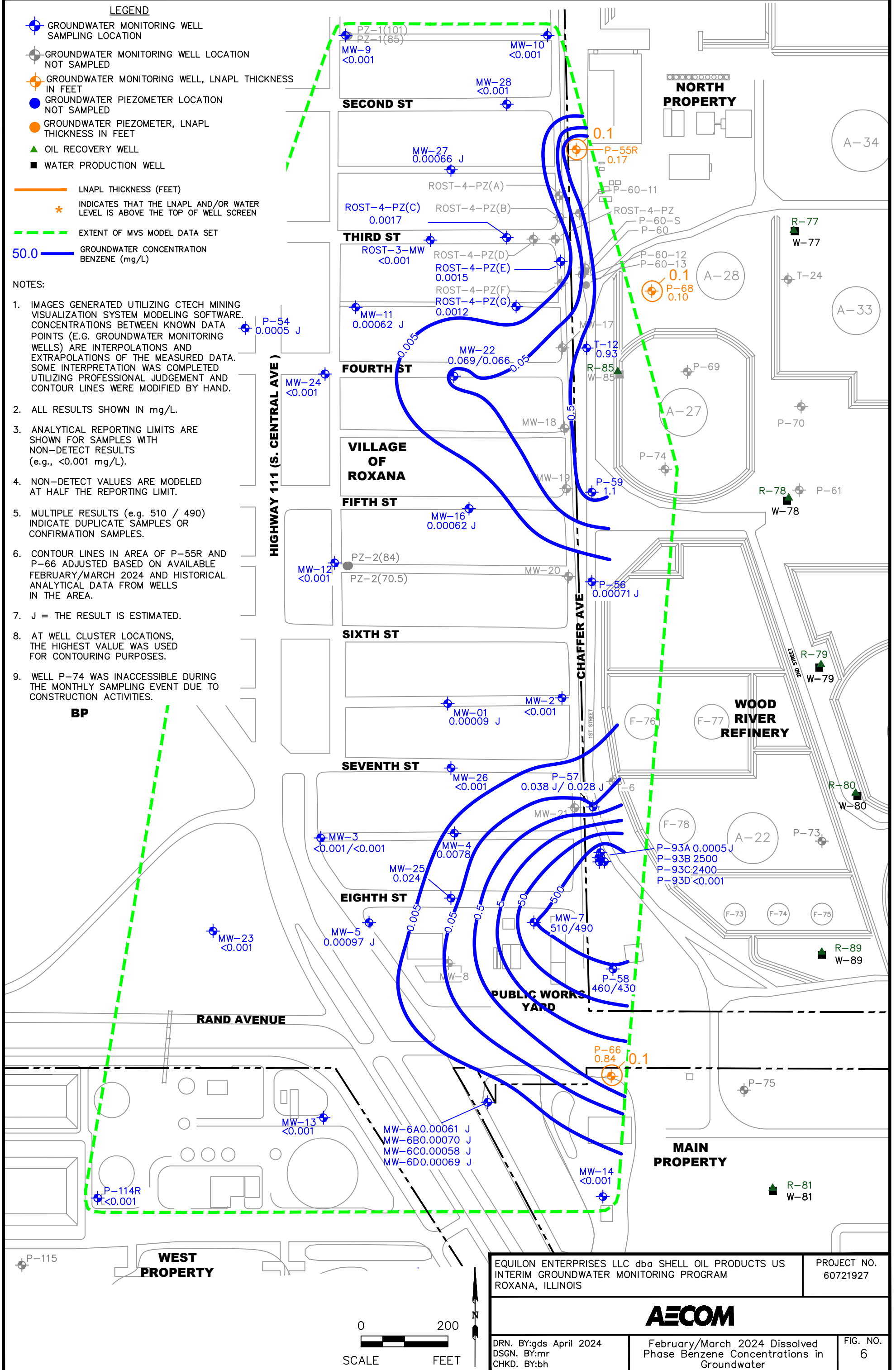


**LEGEND**

- 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
- OIL RECOVERY WELL
- WATER PRODUCTION WELL
- LNAPL THICKNESS (FEET)
- INDICATES THAT THE LNAPL AND/OR WATER LEVEL IS ABOVE THE TOP OF WELL SCREEN
- EXTENT OF MVS MODEL DATA SET
- 50.0 GROUNDWATER CONCENTRATION BENZENE (mg/L)

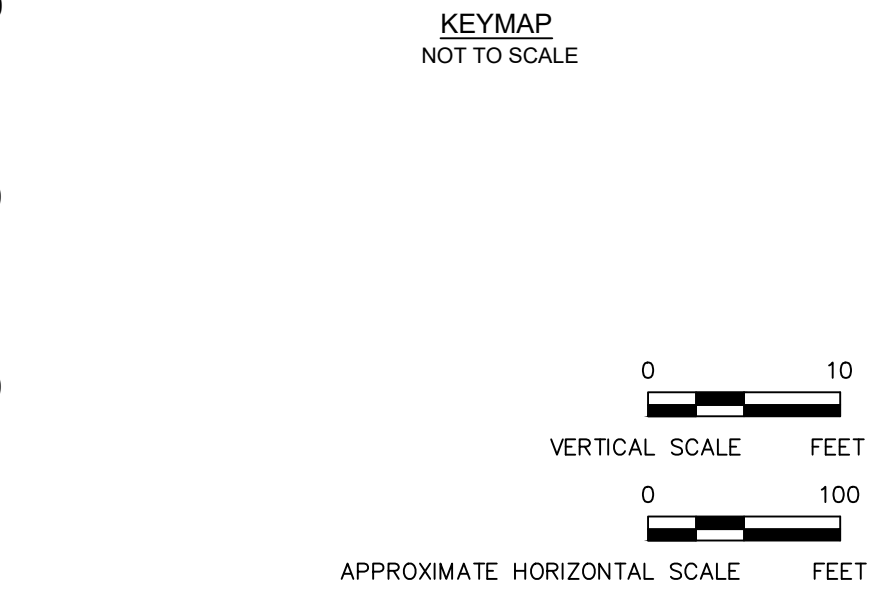
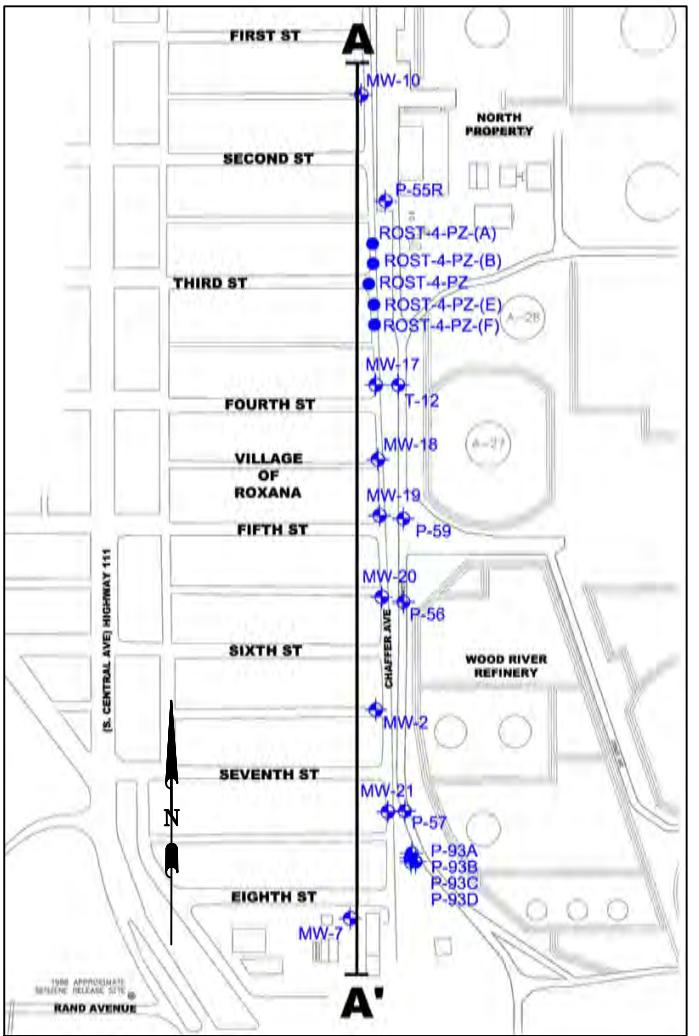
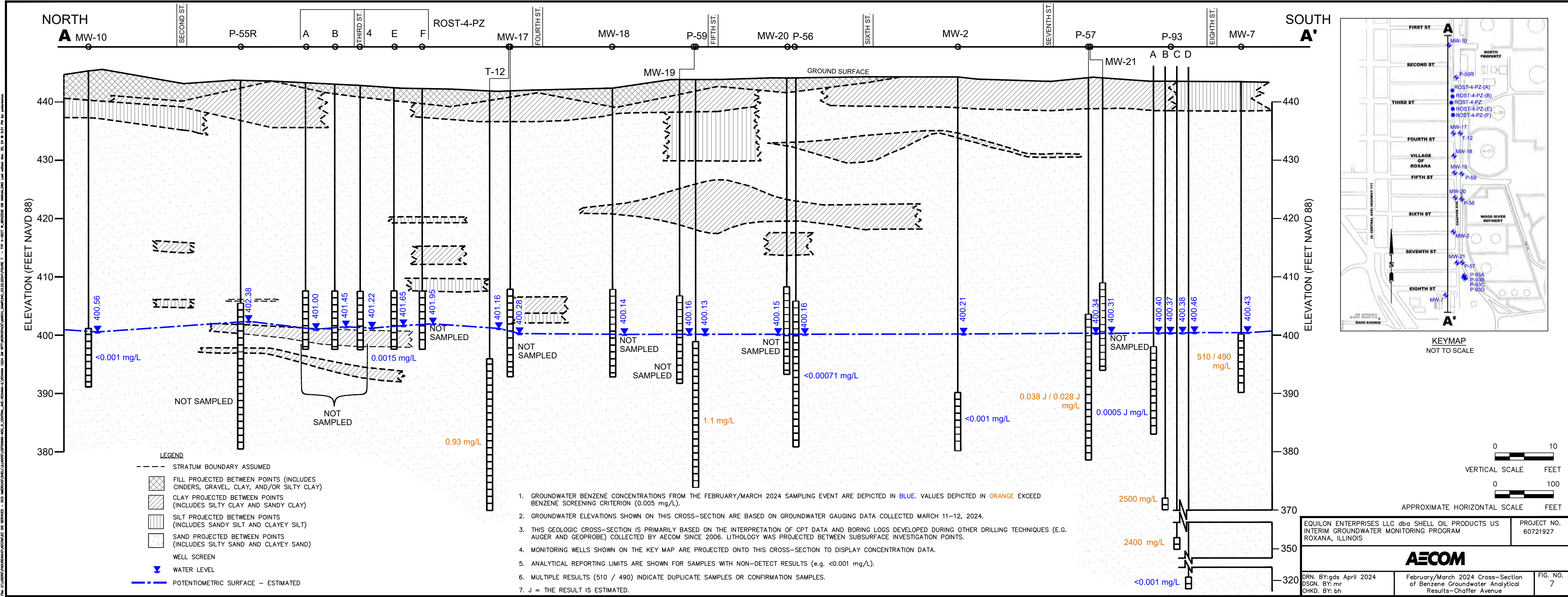
**NOTES:**

1. IMAGES GENERATED UTILIZING CTECH MINING 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. 510 / 490) INDICATE DUPLICATE SAMPLES OR CONFIRMATION SAMPLES.
6. CONTOUR LINES IN AREA OF P-55R AND P-66 ADJUSTED BASED ON AVAILABLE FEBRUARY/MARCH 2024 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.
9. WELL P-74 WAS INACCESSIBLE DURING THE MONTHLY SAMPLING EVENT DUE TO CONSTRUCTION ACTIVITIES.



EQUILON ENTERPRISES LLC dba SHELL OIL PRODUCTS US INTERIM GROUNDWATER MONITORING PROGRAM ROXANA, ILLINOIS	PROJECT NO. 60721927
DRN. BY: gds April 2024 DSGN. BY: mr CHKD. BY: bh	February/March 2024 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. 60721927
<b>AECOM</b>		
DRN. BY: gds April 2024 DSGN. BY: mr CHKD. BY: bh	February/March 2024 Cross-Section of Benzene Groundwater Analytical Results-Chaffer Avenue	FIG. NO. 7

Mary Massa, PG  
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