



**Jason Michelson**  
Operations Lead - Central

**Chevron Environmental Management Company**  
1500 Louisiana Street, #38086  
Houston, Texas 77002  
Work: 832-854-5601  
Cell: 281-660-8564  
jmichelson@chevron.com

May 23, 2023

Mr. Peter Campbell, Project Manager  
Alaska Department of Environmental Conservation / SPAR / CSP  
43335 Kalifornsky Beach Road, Suite 11  
Soldotna, AK 99669-8250

**Re:** Swanson River Unit, P&S Yard  
2020 Annual Report  
ADEC File Number: 2334.38.017  
ADEC Hazard ID Number: 452

Dear whom it concerns,

Please find enclosed for your files, copies of the following report.

- Swanson River Unit, P&S Yard – 2022 Annual Report

The submittal was prepared by Stantec on behalf of Chevron Environmental Management Company (CEMC).

Please do not hesitate to contact Craig Wilson (907 266-1128) and/or Tom Madsen (801 448-1351) with Stantec or myself at 832-854-5601 should you have any questions.

Respectfully,

*Jason Michelson*

Jason Michelson

Encl.



**Swanson River Unit, P&S Yard –  
2022 Annual Report**

Annual Groundwater and Wetland  
Monitoring Report for the P&S Yard,  
Swanson River Unit, Sterling, Alaska

May 14, 2023

Prepared for:

Chevron Environmental Management  
Company

Prepared by:

Stantec Consulting Services, Inc.  
725 West Fireweed Lane  
Anchorage, AK 99503

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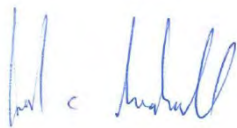


## SWANSON RIVER UNIT, P&S YARD – 2022 ANNUAL REPORT

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Prepared by

**John Marshall**



Reviewed by



**Craig Wilson**

Approved by



**Michael Stauthamer**



## Table of Contents

<b>ABBREVIATIONS .....</b>	<b>III</b>
<b>1.0 INTRODUCTION.....</b>	<b>1.1</b>
1.1 SITE LOCATION & OWNERSHIP .....	1.1
1.2 PROJECT BACKGROUND AND HISTORY .....	1.2
1.2.1 Initial Investigations.....	1.2
1.2.2 Past Remediation Activities.....	1.2
1.3 SITE GEOLOGY AND HYDROGEOLOGY.....	1.6
1.4 SITE CLEANUP LEVELS AND POTENTIAL APPLICATION TO CURRENT AND FUTURE WORK.....	1.6
1.4.1 Soil and Groundwater .....	1.6
1.4.2 Surface Water .....	1.7
<b>2.0 2022 REMEDIATION ACTIVITIES AND ANALYTICAL RESULTS .....</b>	<b>2.8</b>
2.1 AIR SPARGING SYSTEM OPERATION AND MONITORING .....	2.8
2.2 WETLAND SOIL SAMPLING .....	2.9
2.2.1 July Hand Sampling .....	2.9
2.3 GROUNDWATER SAMPLING .....	2.11
<b>3.0 DATA QUALITY REVIEW AND QUALIFICATION.....</b>	<b>3.13</b>
3.1 WATER QUALITY CONTROL SAMPLES .....	3.13
3.2 SOIL QUALITY CONTROL SAMPLES .....	3.13
<b>4.0 WASTE DISPOSAL .....</b>	<b>4.14</b>
<b>5.0 CONCLUSIONS AND RECOMMENDATIONS .....</b>	<b>5.15</b>
5.1 PREVIOUSLY REMEDIATED AREA.....	5.15
5.1.1 Groundwater and Surface Water Sampling .....	5.15
5.1.2 Air Sparge System .....	5.15
5.2 WETLANDS .....	5.16
5.2.1 Groundwater and Surface Water Sampling .....	5.16
5.2.2 Soil Sampling .....	5.16
5.2.3 Method Three Cleanup Levels .....	5.17
<b>6.0 REFERENCES.....</b>	<b>6.19</b>



**LIST OF TABLES**

- Table 1 Well Fluid Level Measurements
- Table 2 Groundwater Monitoring Wells Analytical Results – BTEX, TAH/TAqH
- Table 3 Groundwater Monitoring Wells Analytical Results – PAHs
- Table 4 Poned Surface Water and Forest Seep Sample Analytical Results
- Table 5 Groundwater Monitoring Wells Geochemical Parameter Analytical Results
- Table 6 Wetland Soil Sample Analytical Results
- Table 7 Groundwater Quality Assurance and Quality Control Sample Analytical Results

**LIST OF FIGURES**

- Figure 1 Site Location Map
- Figure 2 Site Features & Groundwater Sample Locations
- Figure 3 Wetland Soil Sampling Analysis
- Figure 4 June 2022 Groundwater Sample Exceedance Concentration Map
- Figure 5 September 2022 Groundwater Sample Exceedance Concentration Map
- Figure 6 June 2022 Groundwater Contour Map
- Figure 7 September 2022 Groundwater Contour Map
- Figure 8 Site Plan Showing Cross-Section Locators
- Figure 9 Cross-Section A-A'
- Figure 10 Cross-Section B-B'
- Figure 11 Total Xylene Isoconcentration Map – September 2021 & March 2022
- Figure 12 Ethylbenzene Isoconcentration Map – September 2021 & March 2022

**LIST OF CHARTS**

- Chart 1 Source Area Wells – Historical Ethylbenzene Trends
- Chart 2 Source Area Wells – Historical Xylene Trends
- Chart 3 W-1P Historical Xylene Trend

**LIST OF APPENDICES**

<b>APPENDIX A</b>	<b>ANALYTICAL LABORATORY REPORTS AND ADEC LABORATORY DATA REVIEW CHECKLISTS.....</b>	<b>A.1</b>
<b>APPENDIX B</b>	<b>WETLAND SOIL BORING LOGS.....</b>	<b>B.1</b>



## Abbreviations

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
AWQS	Alaska Water Quality Standard
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and total xylene
CEMC	Chevron Environmental Management Company
Coffman	Coffman Engineers
EM	electromagnetic
EPA	United States Environmental Protection Agency
FOC	Fraction of Organic Carbon
FSS	forest seep sample
GTS	groundwater treatment system
Hilcorp	Hilcorp Alaska, LLC
LOD	limit of detection
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MS	matrix spike
MSD	matrix spike duplicate
MTGW	migration to ground water
ND	non-detect
OBC	Order by Consent
OilRisk	OilRisk Consultants
P&S Yard	Pipe and Supply Yard, Swanson River Field, Sterling, Alaska
PAH	polycyclic aromatic hydrocarbon
PID	photoionization detector
PRA	Previously Remediated Area
PSW	ponded surface water
QA	quality assurance
QC	quality control
RL	reporting limit
RPD	relative percent difference
SRF	Swanson River Field
SVE	soil vapor extraction
TAH	total aromatic hydrocarbons
TAqH	total aqueous hydrocarbons



SWANSON RIVER UNIT, P&S YARD – 2022 ANNUAL REPORT

UOCC	Union Oil Company of California
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
Weston	Weston Solutions
µg/L	micrograms per liter





# SWANSON RIVER UNIT, P&S YARD – 2022 ANNUAL REPORT

## INTRODUCTION

### 1.0 INTRODUCTION

This *Swanson River Unit, P&S Yard 2022 Annual Report* was prepared by Stantec on behalf of Chevron Environmental Management Company (CEMC) to:

- Document on-site project activities during the reporting period (January through December 2022),
- Document compliance with Amendment Number 5 to the March 1991 Order by Consent (OBC) issued by the United States Fish and Wildlife Service (USFWS),
- Meet Alaska Department of Environmental Conservation (ADEC) requirements, and
- Provide information for an updated conceptual site model for the facility.

The results presented in this report are from the 2022 activities conducted pursuant to the approved *Work Plan for 2022 Activities at Swanson River Field Pipe and Supply Yard*, dated June 29, 2022 (Work Plan) (Stantec 2022). The objectives of the 2022 Work Plan are listed below:

1. Conduct groundwater and surface water sampling and monitoring in accordance with ADEC requirements, in support of Amendment 5, dated 25 March 1991, to the OBC for the Swanson River Oil Field issued by the USFWS on 06 August 1985 (USFWS 1991).
2. Conduct additional soil sampling in the wetlands area to determine the concentration of contaminants in the peat layer and to inform decisions involving future remediation of the wetlands area.
3. Continue operations and maintenance activities on the air sparge system located on site.
4. Remove surplus equipment and debris from the project site.
5. Evaluate data collected to date, identify remaining data gaps, and develop remedial alternatives and a recommended approach to progress the site to closure.

### 1.1 SITE LOCATION & OWNERSHIP

The Pipe and Supply Yard (P&S Yard) site is located within the Swanson River Field (SRF), an oil and gas production field within the boundaries of the Kenai National Wildlife Refuge approximately 50 miles southwest of Anchorage and 15 miles northeast of Kenai, Alaska (straight-line distance, see **Figure 1**). The P&S Yard site is located within the western half of Section 27 and within the eastern half of Section 28, Township 8 North, Range 9 West, Seward Meridian (United States Geological Survey [USGS] 1951).

Union Oil Company of California (UOCC), a wholly owned subsidiary of Chevron Corporation, is the former leaseholder and operator of the SRF (including the P&S Yard). In 2011, UOCC sold the SRF assets along with other Cook Inlet assets to Hilcorp Alaska, LLC (Hilcorp). However, UOCC retained contractual obligation to remediate xylene impacted soil and groundwater at the P&S Yard site until the agencies grant closure, or a statement of no further corrective action necessary is issued. The site is managed by CEMC on behalf of UOCC.



### 1.2 PROJECT BACKGROUND AND HISTORY

A xylene release was discovered in 1988 at the P&S Yard, originating from an aboveground 1,000-barrel storage tank located on the eastern side of Swanson River Road near the current location of the air sparge trailer (**Figure 2**). A 1990 aerial photograph locates the former xylene tank source area on the eastern side of Swanson River Road in the approximate location of the current air sparge trailer (OilRisk Consultants [OilRisk] 2010a). The contaminant groundwater plume extended from the tank downgradient to wetland seeps approximately 750 feet east of the tank site.

Soil and groundwater cleanup levels for benzene, toluene, ethylbenzene, and total xylenes (BTEX) were established in Amendment Number 5 of the 1991 USFWS OBC (USFWS 1991). For groundwater, the OBC requires remediation of contaminated groundwater until the groundwater from the seeps located at the terminus of the eastern drainage meets the OBC criteria listed in Section 1.4 of this report within a 90-percent confidence interval.

#### 1.2.1 Initial Investigations

The initial investigation of site conditions was conducted in July 1988, which involved screening shallow soils with a photoionization detector (PID) and Draeger chemical tubes, surface water sampling, and a geophysical survey using electromagnetic (EM) inductance and a proton precession magnetometer. Up to 110 milligrams per liter (mg/L) of xylenes were detected in the surface water samples. Additional investigations were conducted in September and October 1988 and July 1989. 525 soil and 30 groundwater samples were collected in 1988, with concentrations of xylenes of up to 2,100 milligrams per kilogram (mg/kg) in soil and 790 mg/L in groundwater (GeoEngineers Inc. 1998a).

#### 1.2.2 Past Remediation Activities

Several remedial technologies were utilized in the 1990s and are summarized in the 1998 Site Summary Report compiled by GeoEngineers Inc. for Unocal (GeoEngineers Inc. 1998a). Soil remediation activities are summarized in numerous remediation reports (Weston Solutions [Weston], Coffman Engineers [Coffman] and OilRisk 2011a; Weston, Coffman, and OilRisk 2011b; Weston and Coffman 2013; CEMC 2014a; CEMC 2015; AECOM 2016a). Concurrent with remediation activities, subsurface soil and groundwater investigations were completed to fill data gaps and to guide remediation efforts. These subsurface investigation results were summarized in three reports (CEMC 2013; CEMC 2014b; AECOM 2017b).

A groundwater interception trench system and groundwater treatment system (GTS) were installed initially in 1991 to intercept and treat impacted groundwater. The GTS consisted of a 160 foot long trench at a depth of 11 feet below ground surface (bgs) with 4" slotted pipe and rock backfill. A 3' diameter sump housed a 16 gallons per minute pump. The GTS system aeration trailer and leach field were upgraded in 2009. The interception trench system was decommissioned and removed by 2015 and the GTS was shut down in November 2016 but remains on site and could be re-started if needed in the future.



## SWANSON RIVER UNIT, P&S YARD – 2022 ANNUAL REPORT

### INTRODUCTION

A soil vapor extraction (SVE) system was installed in 1991 and operated intermittently until it was removed in 1995 due to lack of effectiveness.

4,300 cubic yards of soil were excavated and placed in vented biotreatment mounds in 1995, and an additional 2,300 cubic yards were excavated and placed in mounds in 1996. The excavated soil was mixed with nitrogen-rich fertilizer during placement in the mounds to enhance biodegradation of hydrocarbons. The treatment mounds were constructed with internal rows of slotted pipe fully enclosed within PVC liners. Vacuum and pressure hoses were connected from blowers to the internal piping network to circulate air through the piles.

An air sparge pilot test was installed in 1996, consisting of perforated HDPE pipe in a 240-foot-long trench installed perpendicular to the groundwater flow along the east end of P&S Yard. The air sparge system was reconfigured in 1998 for utilization in the vented biotreatment mounds (GeoEngineers 1998b).

To contain the contaminant plume and control groundwater inflow, a soil-bentonite slurry wall was installed around the perimeter of the P&S Yard site in 2002 (OilRisk 2003). A second slurry wall and sheet pile wall located adjacent to and just east of Swanson River Road were installed in 2005 and 2011 (PND Engineers, Inc. 2011) respectively (**Figure 2**). The sheet pile wall was installed through the 2005 slurry wall.

A complete description of the project background and the approach and methodology for developing the interim cleanup level for the site is provided in UOCC's Interim Soil Cleanup Level Analysis (OilRisk 2010b), the 2015 Remediation Work Plan (AECOM 2015a), and the Final Groundwater Monitoring Program work plan (AECOM 2015b).

Groundwater analytical results from direct-push wells installed in Swanson River Road during the 2013 subsurface investigation activities detected total xylene in groundwater samples at concentrations ranging from 0.026 mg/L to 99.7 mg/L. Ethylbenzene was detected in groundwater samples at concentrations ranging from 0.008 mg/L to 32.9 mg/L. Benzene was not detected above the laboratory reporting limits (RL) in the groundwater samples collected during the assessment (CEMC 2013).

Monitoring wells TW-1, TW-2, and TW-3 were installed in 2014 between Swanson River Road and the 2005 slurry/2011 sheet pile wall to more accurately delineate xylene-impacted soil and groundwater encountered in that area and described in the 2013 Subsurface Investigation Report (CEMC 2014b), and to evaluate alternatives for remediation of the Swanson River Road area. The 2014 investigation and total xylene analytical results from the soil borings drilled immediately east of Swanson River Road indicated that soil between 4.5 and 8.5 feet bgs (at SB 5 completed as TW-2 and SB-6 completed as TW-3) exceeds the interim soil cleanup level for total xylene (CEMC 2014b). Groundwater was encountered between 3 and 4 feet bgs in this area. Groundwater analytical results in 2014 from monitoring wells (TW-1, TW-2, and TW-3), located immediately east of the Swanson River Road, indicated that dissolved-phase total xylene concentrations ranged from 20.3 mg/L to 45.5 mg/L.

From 2010 through 2016 there was a remedial effort consisting of excavation, soil screening, landfarming, and backfilling of xylene-impacted soil from within the 2002 slurry wall (i.e., previously remediated area



## SWANSON RIVER UNIT, P&S YARD – 2022 ANNUAL REPORT

### INTRODUCTION

[PRA]). Landfarming technology was accomplished via excavating xylene-impacted soil down to the aquitard. Soil was stockpiled and mechanically screened utilizing a screening plant to remove rocks larger than  $\frac{3}{4}$  inches in diameter. Rocks exceeding  $\frac{3}{4}$  inches in diameter were later used as backfill at the bottom of the excavation above the aquitard. The screened material less than  $\frac{3}{4}$  inches was stockpiled and staged for landfarming. Landfarming operations were conducted daily in the summer months with weather permitting, utilizing a spader deployed from a farm tractor. After soil screening and laboratory sample analytical results indicated that landfarm soil did not exceed soil screening levels, remediated soil was backfilled into the excavation moving west to east. Active soil remediation consisting of excavating, excavation dewatering, soil screening, and landfarming was completed at the conclusion of the 2015 field season, with backfilling and final landfarm surface grading completed in 2016 (AECOM 2017c).

The 2005, 2013, and 2014 assessment activities identified xylene-impacted soil and groundwater along the eastern portion of Swanson River Road. Due to health and safety risks, logistical challenges of closing Swanson River Road, and engineering limitations, in-situ air sparging was selected as the most viable remedial technology. Data collected from a 1996 air sparge (AS) pilot test conducted at the site, along with the boring logs from the 2013 and 2014 subsurface investigations, indicated lithological conditions conducive to successful remediation of soil and groundwater by in-situ air sparging (GeoEngineers Inc. 1996; CEMC 2014a and 2014b). During meetings with ADEC, USFWS, and Bureau of Land Management in the late fall of 2014, it was agreed by all parties that air sparging was a viable remedial approach for this portion of the site.

An AS well network consisting of 14 AS wells (AS-1 through AS-14) was installed on the eastern shoulder of Swanson River Road in 2015 (**Figure 2**) to address xylene-impacted soil and groundwater remaining in an isolated pocket between the 2002 and 2005 slurry walls beneath Swanson River Road on the western end of the site (AECOM 2015c). The AS network was initially commissioned in November 2015 and was shut down on November 1, 2016, for rebound testing and in conjunction with the GTS shutdown.

A revised groundwater monitoring program was developed in response to a letter from ADEC dated July 2, 2015 (ADEC 2015) requesting a groundwater monitoring well network sufficient to assess the extent of the impacted groundwater plume and to monitor groundwater quality within and downgradient of the P&S Yard site. Twelve additional wells were installed in 2016 to meet this requirement. Six of the wells (TW-11 through TW-16) were installed on the eastern end of the site and in the wetland area during February 2016 when the wetland was frozen and could support a drill rig without causing damage to the wetland surface. The remaining six wells were installed within and around the PRA (TW-4R and TW-6 through TW-10) in June 2016 (shown in **Figure 2**). Four additional wells were also drilled and completed as air sparge system replacement wells in June 2016 (AS-2R, AS-6R, AS-10R, and AS-11R) to replace four AS wells (AS-2, AS-6, AS-10, and AS-11, respectively) that had lost their seals.

Three pairs of nested wells (TW-17 through TW-19) were installed on the western side of the site in June 2018 to monitor groundwater immediately downgradient of the AS system. 19 piezometers were installed in the wetlands area in July 2018 to delineate potentially impacted groundwater downgradient of the site.



## SWANSON RIVER UNIT, P&S YARD – 2022 ANNUAL REPORT

### INTRODUCTION

Nine monitoring wells were installed within the PRA between July 20 – July 22, 2020 to gain a better understanding of the hydrogeology of the area, the lateral delineation of xylene impacts around TW-7 and TW-6, and the attenuation of the residual xylene in the area.

The wells were completed with 2-inch nominal diameter schedule 40 PVC risers with 0.010-inch machine slotted screens. Wells TW-6D and TW-7D were constructed with shorter 2-foot screens while the remaining 7 wells were completed with a 10-foot screen. Filter packs were 12x20 Colorado silica sand and seals consisted of 3/8-inch bentonite chips.

Twenty-four soil borings were advanced in the wetland area to the east of the project site in November 2020 to collect soil samples (**Figure 3**). The resulting soil samples showed detectable concentrations of ethylbenzene and xylene. Detected ethylbenzene concentrations reached a maximum concentration of 98.2 mg/kg and detected xylene concentrations reached 829 mg/kg. Benzene was not detected above 0.775 mg/kg, and toluene concentrations were below detection limits. The wetland area was sampled again in 2021 and **Section 2.2** of this report details additional wetlands sampling conducted in 2022 to further determine the extent of the xylene contamination plume in the wetlands.

Biannual groundwater and wetland monitoring events have been conducted at the site since June 2016. The current analytical results indicate that:

- Xylene- and ethylbenzene-impacted groundwater in exceedance of ADEC groundwater cleanup standards and OBC cleanup levels is present in well TW-3, located between the 2002 slurry wall and the 2005 slurry/2011 sheet pile walls. Concentrations in well TW-2 were consistently below the COBC interim cleanup levels, but not the ADEC groundwater cleanup levels.
- Xylene- and ethylbenzene-impacted groundwater in exceedance of ADEC groundwater cleanup standards and OBC cleanup levels is present at PRA wells TW-8, TW-18D, TW-21, TW-24, and TW-25.
- Xylenes were detected in wetland locations groundwater wells W-1P and TW-13; stream sample locations W-1E, W-5, and W-6; and forest seep location FSS-1 (detected below the laboratory limit of quantization [LOQ]). Ethylbenzene was also detected in FSS-1 below the LOQ. Well TW-13 showed the highest concentration of xylenes at 0.0485 mg/L in June 2022 and 0.0507 mg/L in September 2022. TW-13 and FSS-1 are located on the downhill gradient inside the woodline just east of the slurry wall. None of the wetland water samples had concentrations higher than the ADEC groundwater cleanup standards.
- Soil samples taken from inside the wetlands in July 2022 showed xylene concentrations at all sampled points except BH-36, BH-38, BH-39, and BH-40, all of which were only able to be advanced by hand to a depth of around one foot due to cobbles underlying the drier soils upgradient of the wetland proper. Most samples with more than one depth interval show a trend towards lower concentrations lower in the soil column, towards the peat-silt interface. BH-30 and BH-31, however, showed the inverse pattern, with higher concentrations towards the peat-silt interface. The highest concentration was at BH-41-1-3 with 471 mg/kg total xylenes. BH-41 was located in what was assumed to be the center of the plume, just outside the wetland-forest transition zone approximately 50 feet south of groundwater compliance point W-1P.



## INTRODUCTION

- Ethylbenzene was detected above OBC cleanup levels in BH-41-1-3 and BH-41-3-5. Xylene concentrations were above OBC cleanup levels in all samples in which xylene was detected except in BH-30-1-3 and BH-33-5-6.

## 1.3 SITE GEOLOGY AND HYDROGEOLOGY

As noted earlier, numerous investigations and remediation activities have been implemented at the site since 1988. Soil and hydrogeologic conditions have been interpreted from these investigations and activities and are depicted on cross-sections (**Figures 8, 9, and 10**). In general, the soils around the P&S Yard are indicative of glacial and fluvio-glacial processes and consist of 2 to 3 feet of silty sand, or silt overlaying a predominantly sand-and-gravel aquifer. An aquitard consisting of silt, silty clay, and silty sand is present throughout the area, underlying the sand and gravel aquifer. The aquitard is located from approximately 2 feet bgs, in the vicinity of the wetland located east of the site, to 15 feet bgs at the western end of the site. The aquifer soils are interpreted to be primarily of glacio-fluvial origin, and the aquitard is composed of ground moraine or glaciolacustrine sediments (CH2M Hill 2008). The sand-and-gravel aquifer contains scattered cobbles and boulders, thin lenses of coarse sand and/or pea gravel (that may act as preferential flow pathways), and some fine-grained silt layers (CH2M Hill 2008). Groundwater flow is predominantly eastward across the site.

## 1.4 SITE CLEANUP LEVELS AND POTENTIAL APPLICATION TO CURRENT AND FUTURE WORK

### 1.4.1 Soil and Groundwater

To achieve the OBC (USFWS 1991) remediation requirements, several remedial technologies were implemented during the 1990s, including soil venting, air sparging, and aboveground bio-piles. However, remedial success using landfarming with an agricultural disk was found to be most effective at reducing xylene concentrations in soil to concentrations below 30 mg/kg (OilRisk 2010a).

Because of the desired expedited timeline for treating the soil, landfarming was not considered practical for achieving the OBC soil cleanup level of 1.5 mg/kg for total xylene. However, long-term monitoring results suggested that higher soil concentrations were protective of groundwater (OilRisk 2010b). Because previous work at the site indicated that soil concentrations below 30 mg/kg could be achieved via landfarming (OilRisk 1999), UOCC proposed development of an interim soil cleanup level that would result in leachate concentrations of total xylene below the established OBC groundwater cleanup level of 0.2 mg/L. A complete description of the approach and methodology for developing the interim cleanup level is provided in UOCC's Interim Soil Cleanup Level Analysis (OilRisk 2010b). Analytical results were reviewed for total xylene in both soil and liquid leachate, and the pairs of results were fitted to a log-log regression relationship. The lower 90-percent confidence interval of the mean, 24.7 mg/kg, was proposed as the interim soil cleanup level for total xylene (OilRisk 2010b). This 2010 interim cleanup value ensured that for a given volume of soil, the mean leachate concentration would be below the groundwater cleanup level of 0.2 mg/L, with a 90-percent confidence level. As discussed during a June 12, 2009, meeting between ADEC, USFWS, Bureau of Land Management, and UOCC, the interim soil cleanup level was



## SWANSON RIVER UNIT, P&S YARD – 2022 ANNUAL REPORT

### INTRODUCTION

applied to soils treated via landfarming (OilRisk 2010b). All ADEC- and stakeholder-approved P&S Yard remedial work plans developed between 2010 and 2014 have identified the total xylene concentration of 24.7 mg/kg as the interim cleanup level for soil.

The interim cleanup level for soil of 24.7 mg/kg was discussed in a meeting held in early November 2014 attended by representatives of Chevron, USFWS, Bureau of Land Management Alaska, and ADEC. It was agreed that previous risk assessments and the 2010 Interim Soil Cleanup Level Analysis that established the interim soil cleanup level would be reviewed, with considerations for burrowing terrestrial mammals included in the review (AECOM 2015a). In 2015, after soil excavation activities began, discussions between the stakeholders and ADEC concluded that a more conservative interim soil cleanup level of 9.3 mg/kg would be used when screening soils. The more conservative 9.3 mg/kg soil cleanup level was used in 2018 for the soil borings advanced in the PRA as the interim soil cleanup level.

#### 1.4.2 Surface Water

CEMC received a letter from ADEC dated November 10, 2016 (ADEC 2016) in reference to ADEC's review of the 2015 Remediation Report (AECOM 2016a). ADEC states in the letter that "now that the planned soil remediation work within the containment area has been completed, the residual contamination in the wetland, and its impact on the surface water, become ADEC's primary concern."

The ADEC letter states that the Alaska Water Quality Standard (AWQS) (18 AAC 70) applies to surface waters with the applicable standards of 10 micrograms per liter ( $\mu\text{g/L}$ ) for TAH and 15  $\mu\text{g/L}$  for TAqH (ADEC 2016). Additionally, the letter states that ADEC "may deem monitoring well WP-1 (W-1P) as the regulatory point of compliance for meeting the water quality standards." ADEC requested that in future reports and work plans, the TAH and TAqH AWQS should be referenced as the cleanup standard for all creek (surface water) sample locations, rather than the groundwater cleanup levels established in the OBC, and that surface water quality in the creek must meet the applicable 10- $\mu\text{g/L}$  and 15- $\mu\text{g/L}$  standards before ADEC could issue a cleanup complete decision for this site. ADEC advised CEMC to proceed with development of a work plan (for 2017) to both monitor and ultimately restore surface water quality in the creek. ADEC specified that the work plan must include a more rigorous sampling of the surface water by establishing additional sampling locations in the creek. TAqH sampling should be included for the downgradient wetland monitoring wells and creek samples, at least on an interim basis, in order to determine if TAqH concentrations exceed 15  $\mu\text{g/L}$  (ADEC 2016).

In August 2018, CEMC received a letter from ADEC dated August 2, 2018 (ADEC 2018) regarding the 2017 Annual Groundwater and Wetland Monitoring Report (AECOM 2018c). The letter corrected the cleanup level of wetland well W-1P as the AWQS for TAH and TAqH and stated that water leaving the treatment cell (i.e., PRA) must meet groundwater cleanup standards. Section 5.2.3 of this report includes a table comparing the OBC cleanup standards, interim soil cleanup levels, 18 AAC 75.340(e) method three calculations, 18 AAC 75 (ADEC 2021) groundwater cleanup standards, and 18 AAC 70 AWQS (ADEC 2020) that may apply at the P&S Yard site.



### 2.0 2022 REMEDIATION ACTIVITIES AND ANALYTICAL RESULTS

2022 remediation activities consisted of operating the air sparge system, soil sampling in the wetlands area, and soil and groundwater sampling in support of the OBC and ADEC requirements.

#### 2.1 AIR SPARGING SYSTEM OPERATION AND MONITORING

The air sparge system was shut down for the winter season on December 23, 2021. The air sparge system was restarted on June 9, 2022 and operated until October 20, 2022 when it was turned off again for the winter season. The system was turned off earlier in 2022 than in past years because heavy rains in the second half of the summer saturated soils above the air injection points, greatly reducing their air sparging effectiveness.

Starting in June, the team began evaluating the operational status of each air sparge well to maximize the system's overall effectiveness and determine future maintenance needs. On June 10<sup>th</sup> each air sparge well's operational air pressure and air flow conditions (i.e. psi and SCFM) were recorded by isolating each well through the control panel. In addition, the programmed sequence of air sparge well operation was verified to ensure air was not being delivered to adjacent injection points simultaneously, which could cause groundwater backup through adjacent monitoring wells (previously observed in TW-2). This information, coupled with previous measurements, helped to inform system adjustments made in July.

On July 6<sup>th</sup> air sparge wells 1, 2, & 3 were programmed out of operational rotation because there is no contamination on the north end of the system. Current operation measurements were again made on each well, like those made in June. These measurements indicated that wells 6, 7, 11, and 13 operate with low psi and very low air flow volumes and likely contribute little to system effectiveness. The other wells generally operate at modest psi levels (<8 psi) and low flow volumes (<6 SFCM). The air pressure to each well was increased by 3-5 psi, on average. The corresponding air flow subsequently increased by 5-8 SFCM in most wells. Each well head was evaluated to ensure there was no air sparge breakthrough where air preferentially flows to the surface vertically along the well casing, and not getting through the surrounding formation. During the same trip, Stantec staff conducted annual maintenance on the compressor which supplies air pressure to operate the system. Monthly system evaluations took place after these adjustments were made.

The air sparge system was checked again on August 31, 2022 and was found to be operating normally. On September 9 Stantec staff noticed air breakthrough to the ground surface around the well head of injection point AS-9, and reduced the pressure delivered at that well. On October 20<sup>th</sup> it was determined that air sparge breakthrough was occurring at wells 8, 9, 12, and 13, with wells 10 and 14 sparging at low levels, likely the result of the late summer elevated water table due to record late summer precipitation.

Monitoring wells TW-2, and TW-3 were sampled in all months except April and September. Sampling of monitoring well TW-1 was not scheduled in the 2022 work plan because xylenes have not been detected in the well since it was installed in May of 2018, indicating the majority of residual contamination can be





# SWANSON RIVER UNIT, P&S YARD – 2022 ANNUAL REPORT

## 2022 REMEDIATION ACTIVITIES AND ANALYTICAL RESULTS

assessed by sampling TW-2 and TW-3. Groundwater sampling results are discussed below in **Section 2.3** and the analytical laboratory data are included in **Appendix A**.

### 2.2 WETLAND SOIL SAMPLING

Wetland soil sampling was conducted between July 11 and 13 to augment previous wetland soil sampling (2020 and 2021) to determine the full extent of the contaminant plume. Most of the previous wetland soil sampling was conducted in late fall/early winter with direct-push drilling equipment. The intent was to conduct sampling under frozen conditions to minimize impacts to the wetland. However, navigating the sampling area under frozen conditions proved to be difficult and unsafe. Therefore, sampling activities in 2022 were conducted in the summer, when the water table was low, with a hand auger to mitigate safety risks associated with direct-push drilling.

#### 2.2.1 July Hand Sampling

A total of 29 wetland soil samples were collected using a hand auger between July 11 and 13, 2022 (**Figure 3**). The sample nomenclature starts with either the Fraction of Organic Carbon (*foc*) or Bore Hole (BH) designation, followed by the boring number, carried over from previous sampling events, then concluded with the depth interval sampled. For example, the 8<sup>th</sup> boring installed for FOC analysis where the sample was collected from 2-3ft below ground surface is FOC-8-2-3.

The following 7 samples were analyzed for Fraction of Organic Carbon (*foc*) by EPA method 9060:

Sample Identification	Sample Notes
FOC-8-2-3 and FOC-8-3-4	Peat/silt interface at 4.0 ft bgs
FOC-6-1-3 and FOC-6-3-4	Peat/silt interface at 4.0 ft bgs
FOC-7-0.5-2.5	Peat/silt interface at 2.5 ft bgs
FOC-5-0-1 and FOC-5-1-2.5	Peat/silt interface at 2.5 ft bgs

The following 21 samples were analyzed for BTEX by Environmental Protection Agency (EPA) method 8260D:

Sample Identification	Sample Notes
BH-30-1-3, BH-30-3-6, and BH-30-6-7	Refusal hit on cobble 7 ft bgs
BH-31-1-4 and BH-31-4-6	Refusal in silty gravel 6 ft bgs
BH-32-1-4 and BH-32-4-6	Refusal on cobble 6 ft bgs
BH-33-4-5 and BH-33-5-6	Peat/silt interface at 5.5 ft bgs
BH-34-1-2	Refusal on cobble 2 ft bgs
BH-35-1-3 and BH-35-3-5	Peat/silt interface 5 ft bgs
BH-36-0.5-1	Refusal on cobble at 1 ft bgs confirmed with several adjacent test borings
BH-37-1.5-4 and BH-37-5-7	Peat/silt interface 7 ft bgs
BH-38-1-1.5	Refusal on cobbles 1.5 ft bgs



## SWANSON RIVER UNIT, P&S YARD – 2022 ANNUAL REPORT

### 2022 REMEDIATION ACTIVITIES AND ANALYTICAL RESULTS

Sample Identification	Sample Notes
BH-39-0.5-1	Refusal on cobble 1 ft bgs
BH-40-0.5-1	Refusal on cobble 1 ft bgs
BH-41-1-3, BH-41-3-5, and BH-41-6.5-7	Peat/silt interface at 6.5 ft bgs

The 7 samples analyzed for *foc* in 2022 were added to the 6 samples analyzed in 2021 (**Table 6**). With both sampling events combined the mean *foc* is 20.5 ( $\pm 7.5$  95% Confidence Level).

The analytical data from the soil sampling in the wetlands area indicates detectable concentrations of ethylbenzene and xylene. Four wetland soil samples exceeded the 18 AAC 75, Table B.1 Migration to Groundwater Cleanup Level for ethylbenzene of 0.13 mg/kg: BH-41-1-3 (114 mg/kg), BH-41-3-5 (25.3 mg/kg), BH-41-6.5-7 (2.94 mg/kg), and BH-30-6-7 (1.29 mg/kg). The laboratory limit of detection (LOD) for ethylbenzene was above the Table B.1 cleanup level but below the OBC cleanup level in many of the samples in which it was not detected.

Xylene concentrations in most wetland soil samples, where detected, exceeded the 18 AAC 75, Table B.1 Migration to Groundwater Cleanup Level of 1.5 mg/kg. Xylene was not detected in the shallow upland locations where borings could only be advanced by hand auger to less than two feet due to the underlying cobble-dominated stratum (BH-36, BH-38, BH-39, and BH-40) just beneath the shallow surface moss/organic soil. Xylene was also not detected in BH-30-1-3 and BH-33-5-6, both within the wetland itself. Xylene was detected however at concentrations exceeding Table B.1 in the two deeper sample intervals for BH-30 (3-6 and 6-7), and the one shallower interval in BH-33 (4-5). In the case of BH-33, the deeper interval represents the underlying silt stratum beneath the layers of peat. For most borings the underlying silt stratum could not be sampled as it often co-occurs with coarse gravel and cobbles which prevent further boring advancement. The intent of sampling underlying silt was to determine if xylene could be present in this stratum.

The highest xylene concentration was detected at BH-41-1-3, with 471 mg/kg. BH-41 was purposefully located in what was assumed to be the center of the plume, just outside the wetland-forest transition zone approximately 50 feet south of groundwater compliance point W-1P. This location is known to have elevated levels of xylene in the peat layers and was chosen to evaluate the potential presence of xylene in the underlying silt stratum. Xylene was detected in the silt stratum, but at a concentration (10 mg/kg) an order of magnitude lower than the layers of peat. All benzene and toluene results were reported as non-detects (ND). Analytical results can be found in **Table 6**. Analytical laboratory reports are in **Appendix A**. Soil boring logs are presented in **Appendix B**. A USFWS special use permit was completed before field work began and carried by field staff during sampling activities. Soil borings were backfilled filled with bentonite chips if they didn't immediately collapse.

15 gallons of soil cuttings were generated from the sampling. They were placed in the 55-gallon drum with the soil cuttings from 2020 and 2021 wetlands work. The drum contains a total of 38 gallons of soil. The temporary piezometers installed in the wetlands to the east of the site in 2018 (PZ-1 through PZ-19) were problematic for sampling in accordance with ADEC protocols due to low recharge rates and were decommissioned by hand during the July wetlands soil sampling event.



### 2.3 GROUNDWATER SAMPLING

Groundwater monitoring was completed June 8-10 and September 7-9, 2022. Static groundwater level measurements are summarized in **Table 1** and sampling data are summarized in **Table 2** through **Table 6**, as follows:

- Table 1: Well fluid level measurements for groundwater monitoring wells located in the source area between 2002-2005 slurry walls, PRA inside of the 2002 slurry wall, upgradient and cross gradient area outside of the slurry walls, downgradient area outside of the slurry walls, and downgradient area in the wetland.
- Table 2: BTEX analytical results for groundwater monitoring wells located in the source area between 2002-2005 slurry walls, PRA inside of the 2002 slurry wall, upgradient and cross gradient area outside of the slurry walls, downgradient area outside of the slurry walls, and downgradient area in the wetland.
- Table 3: PAH analytical results for groundwater monitoring wells located in the downgradient area in the wetland.
- Table 4: BTEX and TAH analytical results for ponded surface water (PSW) and forest seep sample (FSS) locations.
- Table 5: Geochemical parameter analytical results for groundwater monitoring wells located in the upgradient and cross gradient area outside of the slurry walls, PRA inside of the 2002 slurry wall, downgradient area outside the slurry wall, and downgradient area in the wetland.

Samples were collected per the 2022 Work Plan, and analyzed for BTEX by EPA Method 8260C, TAH by EPA Method 602/624, TAqH by EPA Method 625M SIM (PAH) LV, alkalinity by SM21 2320B, sulfate by EPA Method SW9056A, nitrate/nitrite by SM 21 4500NO3-F, dissolved iron by EPA Method EP200.8, and methane by EPA Method RSK175. Dissolved oxygen, pH, specific conductance, and oxidation-reduction potential were measured on-site with a YSI Pro Plus water quality meter with flow-through cell. Analytical laboratory reports are in **Appendix A**. BTEX concentrations exceeding cleanup levels during the June and September monitoring events are shown on **Figure 4** and **Figure 5**, respectively. Groundwater contour maps showing the direction of flow as measured in July 2021 and September 2021 are shown on **Figure 6** and **Figure 7**, respectively. A cross-section along the groundwater flow direction between the AS system and the wetlands area is shown on **Figure 9**.

On the north end, within the air sparge area, TW-1 did not have a BTEX detection in the first quarter of monthly sampling, consistent with previous results, and therefore was not subsequently sampled in 2022 (**Table 2**). TW-2 total xylene concentrations were consistently below the OBC cleanup level of 0.20 mg/L. At TW-3, total xylene and ethylbenzene concentrations remain above OBC levels of 0.20 mg/L and 0.48 mg/L, respectively, consistent with results from 2021.

Within the PRA, xylene-impacted groundwater in exceedance of ADEC groundwater cleanup standards and OBC cleanup levels is present at PRA wells TW-18D and TW-21 in both June and September.



## SWANSON RIVER UNIT, P&S YARD – 2022 ANNUAL REPORT

### 2022 REMEDIATION ACTIVITIES AND ANALYTICAL RESULTS

Ethylbenzene exceedance (ADEC and OBC) is present in PRA wells TW-8, TW-21, and TW-24 in June and TW-21, TW-24, and TW-25 in September. This pattern of contamination is consistent with observations in 2021.

In the wetland, dissolved xylene concentrations in groundwater well W-1P have declined steadily since 2005 (**Chart 3**). In 2022 the temporary well point for W-1P was no longer visible on the surface. Therefore, seep water near the well point was collected for analyses. During the June sampling event the wetland surface was largely dry, except near the stream feature, so that is where the June sample was collected. During the September sampling event, the wetland surface had several inches of standing water over most of its area. The result was very low levels of petroleum detected in June and none in September, regardless of the analytical method. Nonetheless it stands to reason that concentrations of petroleum continue to decline.

The piezometers in the wetland area were scheduled to be removed in 2021 but due to wetland mobility issues the piezometers were decommissioned in July of 2022.

Wetland surface water sample locations W-6 and W-1E exceeded 18 AAC 70 cleanup levels for TAH (not TAqH) in June, under dry conditions, and neither TAH nor TAqH in September under wet conditions. However, the concentration of xylene in surface water sample locations W-6 and W-1E did not exceed the ADEC groundwater cleanup standard or the OBC cleanup level for xylene.



### 3.0 DATA QUALITY REVIEW AND QUALIFICATION

Quality control samples were collected as described in the 2022 Work Plan and amendments for the site to assess potential errors introduced during sample collection, handling, and analyses. As part of the field Quality Assurance / Quality Control (QA/QC) program, field duplicate samples, trip blanks, and extra sample volume for matrix spike/matrix spike duplicate (MS/MSD) procedures were collected.

Data validation was conducted in accordance with established ADEC procedures, outlined in ADEC Technical Memorandum dated March 2017, “*Data Quality Objectives, Checklists, Quality Assurance Requirements for Laboratory Data, and Sample Handling*”. The data validation checklists are included with the analytical data reports in **Appendix A**.

#### 3.1 WATER QUALITY CONTROL SAMPLES

Water trip blanks consisted of deionized water free of analytes. All analytical results for the water trip blanks analyzed as part of the sample sets for the 2022 assessment and monitoring activities were below the laboratory LOD, indicating no ambient contamination.

Relative percent differences (RPD) for sample and duplicate results for the groundwater samples were less than the guideline for aqueous samples of 30% for all samples.

#### 3.2 SOIL QUALITY CONTROL SAMPLES

Soil trip blanks consisted of media free of analytes. All analytical results for the soil trip blanks analyzed in were below the laboratory LOD indicating no ambient contamination.



## **4.0 WASTE DISPOSAL**

Purge water from all groundwater sampling events was filtered through the sand trap filter (Skim Pit) at Tank Setting 1-33 for processing by the facility wastewater treatment process stream. Personal protective equipment such as nitrile gloves and dedicated sampling tubing were disposed of with general solid waste via a solid waste dumpster staged near the Plant 10 offices.

Contaminated cuttings from soil sampling in the wetlands were containerized onsite in 55-gallon drums for removal offsite.



## 5.0 CONCLUSIONS AND RECOMMENDATIONS

### 5.1 PREVIOUSLY REMEDIATED AREA

A review of the analytical data indicates that the contamination within the PRA continues to attenuate and the air sparge system appears to be effective within the air sparge area when operating.

#### 5.1.1 Groundwater and Surface Water Sampling

Dissolved concentrations of xylenes in groundwater samples continued to exceed the OBC cleanup level in well TW-18D and TW-21, as described in Section 2.3. TW-18D has historically sampled above OBC levels for xylene but is naturally attenuating, decreasing from 1.2 mg/L in 2018 to 0.315 mg/L in 2021 and 0.441 mg/L in 2022 (**Table 2**). TW-21 was installed in 2020 near a buried boulder not moved during earlier landfarming activities. Remnant xylene contamination present in TW-21 may be associated with soil around the boulder. Additional monitoring of these wells in 2023 is recommended to further understand the nature and extent of xylene impacts and the attenuation of the residual xylene within the PRA. Also, additional soil borings near TW-21 may be warranted to determine the full extent of remaining xylene contaminated soil.

#### 5.1.2 Air Sparge System

Past analytical results indicate the air sparge system has been effective in reducing xylene levels in the air sparge area (**Charts 1 & 2**). Xylene levels at TW-1 have been significantly below cleanup levels since 2018, to the extent BTEX is no longer detected. TW-2 showed ethylbenzene concentration above the OBC level from February through May 2021, and total xylene concentration above the OBC level from February to July 2021 and November 2021. In 2022 TW-2 only exceeded the ethylbenzene ADEC level in January, and not the OBC level during any sampling event. The concentration of xylenes in TW-2 stayed below both ADEC and OBC levels in 2022. TW-3 continues to show ethylbenzene and total xylene concentrations above the ethylbenzene and total xylene OBC levels, indicating that there is still residual contamination to be attenuated. The annual shutdown-rebound concentration data shows that concentrations in TW-3 are responding to sparge remediation and are progressively decreasing over time. This pattern of contamination decline further indicates that remaining BTEX contamination that exceeds clean up levels is isolated to the south end of the air sparge system.

Our recommendations for the air sparge system include:

- Continued operation of the system, with an emphasis on the southern half of the system in the vicinity of TW-3,
- Review of the air sparge system programming, design, and operation to identify further potential system efficacy improvements,
- Sample for geochemical parameters within the air sparge system area to determine if the remediation process is sulfate limited.
- Re-habilitate old wells and install three new air sparge wells on the south end of the system.



### 5.2 WETLANDS

#### 5.2.1 Groundwater and Surface Water Sampling

Groundwater sampling in the wetland area within well W-1P could not be completed the same way it was in 2021 because of well casing damage, however, water was collected from nearby seep water (as it had been done in the past). It is still likely that the groundwater continues to show total xylene concentrations in exceedance of total xylene OBC levels. However, total xylene concentrations in groundwater well W-1P have declined steadily since 2005 (**Chart 3**). We recommend determining if this well is still relevant to monitoring groundwater, as it was originally intended to be temporary. If still relevant, then evaluation of the integrity of the well casing for WP-1 and potential replacement is needed.

Surface water sampling in the wetlands area shows TAH and TAqH levels in exceedance of 18 AAC 70.020, Alaska Water Quality Standards at sample locations W-1E and W-6. This pattern of surface water contamination directly downgradient of known contaminated soil (see Section 5.2.2) is consistent with previous observations.

#### 5.2.2 Soil Sampling

Soil sampling in 2022 augments sampling conducted in 2020 and 2021, completing the lateral delineation of xylene contamination within the wetlands. The highest concentrations of xylene are at the toe slope of the forest transition to the wetlands (e.g. BH-41) extending towards the stream feature. The xylene does extend up gradient from there, but the bulk of the plume extends downgradient approximately 200 feet, west of the stream feature.

Soil borings BH-33, BH-34, and BH-36 are near the southern downgradient boundary where the plume transitions to concentrations below the 18 AAC 75.341(c) Table B1 MTGW clean up level (1.5mg/kg). Xylene concentrations appear to quickly taper off east of the stream feature. Xylene contamination upslope into the wooded transition between the previously remediated area and the wetlands appears limited in area, although the number of borings is limited by access restrictions and cobble-heavy soil strata limits sample depths.

It also appears that xylene is suspended in the carbon-rich layers of peat in the wetland, and not the underlying organic free silt, nor in well drained upland soil. For example, xylene was sampled at three different depths in BH-41, which was purposely located within the highest concentration of contamination. The xylene concentration is highest in the most superficial peat layer (1.0-3.0bgs) relative to the deeper layer (3.0-5.0bgs). The deepest soil sampling in this boring, 6.5-7.0bgs, was in continuous gray/green silt. The level of xylene concentration in this silt is magnitudes lower than in the peat, and much of that xylene is potentially the result of cross contamination during the soil boring process (e.g. sample tooling must penetrate through contaminated peat layers to reach the underlying silt). These results suggest xylene contamination is limited in the underlying silt stratum and is generally higher in the more superficial layers of peat that tend to have more fibric organic components (e.g. less decomposed organics). The release of xylene to the wetland surface water is detected at only a couple locations, maybe even just seasonally, indicating that additional xylene migration in the wetlands is limited. It is probable that the xylene currently





## SWANSON RIVER UNIT, P&S YARD – 2022 ANNUAL REPORT

### CONCLUSIONS AND RECOMMENDATIONS

present in the wetlands is the result of the original release that has been largely under characterized until recent years. We do not recommend further soil borings in the wetlands.

#### 5.2.3 Method Three Cleanup Levels

It remains important to determine the most appropriate cleanup criteria for the wetlands to help guide future remediation decisions. ADEC's method three for developing site-specific alternative cleanup levels (8 AAC 75.340(e)) provides a viable alternate approach to establish appropriate cleanup criteria for the wetlands soil using the fraction of organic carbon (*foc*) soil content, among other site-specific variables.

ADEC guidance for method three (ADEC 2017) requires a sufficient number of site-specific soil samples to derive a 95% lower confidence level, with a minimum sample size of 8 samples from 4 locations (2 samples per locations). Four locations were established in 2021 upgradient from the contaminated area, resulting in six *foc* samples. Four more locations were established in 2022 to achieve a sufficient number of samples for determining *foc* of the site.

The results showed background *foc* concentrations ranging between 3.53% to 37.5%. All 8 sample locations combined for a total of 13 *foc* measurements to provide a mean *foc* of 20.47% and a 95% confidence level of  $\pm 7.49$ , or a lower 95% confidence level of 12.98% for method three calculations. These *foc* concentrations are over 1 to 2 orders of magnitude higher than the default value used for calculating cleanup concentrations related to migration to groundwater.

Inputting the site-specific information and *foc* into the ADEC method three calculation process results in site-specific cleanup levels for xylene of 1,900 mg/kg for migration to groundwater. This is significantly higher than the highest observed concentration of xylene in the wetlands soil.

The table on the following page shows a comparison between the OBC levels, the 2015 and 2018 interim soil cleanup levels, 18 AAC 75.340(e) method three calculation, 18 AAC 75 (ADEC 2021) groundwater cleanup standards, and 18 AAC 70 AWQS (ADEC 2020) that may apply at the P&S Yard site, including the wetlands.



# SWANSON RIVER UNIT, P&S YARD – 2022 ANNUAL REPORT

## CONCLUSIONS AND RECOMMENDATIONS

Contaminant of Concern (soil)	OBC Cleanup Level (mg/kg) <sup>a</sup>	Interim Soil Cleanup Level (mg/kg) <sup>b</sup>	Interim Soil Cleanup Level (mg/kg) <sup>c</sup>	18 AAC 75 Table B1 MTGW (mg/kg)	18 AAC 75.340(e) Method Three (mg/kg) <sup>d</sup>
Benzene	2.0	-	-	0.022	1900
Ethylbenzene	15.0	-	-	0.13	1900
Toluene	4.5	-	-	6.7	1900
Xylenes, Total	1.5	24.7	9.3	1.5	1900
Contaminant of Concern (Groundwater and Surface Water)	OBC Cleanup Level (mg/L) <sup>a</sup>	18 AAC 75.345 Table C (mg/L)	18 AAC 70 (mg/L)	18 AAC 75.340(e) Method Three (mg/L) <sup>d</sup>	-
Benzene	N/S	0.0046	-	7.3	-
Ethylbenzene	0.48	0.015	-	7.3	-
Toluene	0.50	1.1	-	7.3	-
Xylenes, Total	0.20	0.19	-	7.3	-
TAH	-	-	0.01		-
TAqH	-	-	0.015		-

Notes:

- <sup>a</sup> Per OBC (USFWS 1991), OBC cleanup levels applied to all areas of the P&S Yard and the east drainage.
  - <sup>b</sup> Interim soil cleanup level of 24.7 mg/kg was applied to soils treated by landfarming (OilRisk 2010a) from 2010 to 2014 (Weston Solutions, Coffman Engineers and OilRisk Consultants 2011a and 2011b; Weston Solutions and Coffman Engineers 2013; CEMC 2014a; and CEMC 2015).
  - <sup>c</sup> Interim soil cleanup level of 9.3 mg/kg is applied to soils treated by landfarming from 2015 onwards (AECOM 2016a).
  - <sup>d</sup> Under 40 inch, migration to groundwater/groundwater cleanup, commercial/industrial, GRO Aromatic, assuming lower 95% confidence level soil organic fraction of 12.98% based on empirical results reported in Section 2.2.1
- AAC Alaska Administrative Code  
 mg/kg milligrams per kilogram  
 mg/L milligrams per liter  
 MTGW migration to ground water  
 N/S not specified  
 OBC Order by Consent  
 TAH total aromatic hydrocarbons  
 TAqH total aqueous hydrocarbons  
 - not applicable



## SWANSON RIVER UNIT, P&S YARD – 2022 ANNUAL REPORT

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## 6.0 REFERENCES

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## SWANSON RIVER UNIT, P&S YARD – 2022 ANNUAL REPORT

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TABLES

## TABLES

<b>Table 1</b>	<b>Well Fluid Level Measurements</b>
<b>Table 2</b>	<b>Groundwater Monitoring Wells Analytical Results – BTEX, TAH/TAqH</b>
<b>Table 3</b>	<b>Groundwater Monitoring Wells Analytical Results – PAHs</b>
<b>Table 4</b>	<b>Ponded Surface Water and Forest Seep Sample Analytical Results</b>
<b>Table 5</b>	<b>Groundwater Monitoring Wells Geochemical Parameter Analytical Results</b>
<b>Table 6</b>	<b>Wetland Soil Sample Analytical Results</b>
<b>Table 7</b>	<b>Groundwater Quality Assurance and Quality Control Sample Analytical Results</b>



Table 1  
Well Fluid Level Measurements

Well ID	Date	Northing	Easting	TOC Elevation	DTW	GW Elevation
<b>Monitoring Wells</b>						
MW-1	7/24/2020	2468278.620	347453.610	152.680	6.53	146.15
	7/13/2021				6.13	146.55
	6/10/2022				5.50	147.18
TW-1	5/21/2020	2468146.020	1487553.150	155.68 <sup>a</sup>	NM	NM
	6/11/2020				NM	NM
	7/9/2020				NM	NM
	8/14/2020			152.780	4.65	148.13
	9/10/2020				4.47	148.31
	10/5/2020				4.33	148.45
	11/6/2020				4.81	147.97
	12/9/2020				5.65	147.13
	1/13/2021				5.69	147.09
	2/26/2021				5.82	146.96
	4/12/2021				4.09	148.69
	5/4/2021				2.81	149.97
	6/21/2021				3.88	148.90
	7/13/2021				4.53	148.25
	8/16/2021				4.52	148.26
	9/20/2021				4.71	148.07
	10/15/2021				4.35	148.43
	11/15/2021				4.33	148.45
	12/23/2021				6.26	146.52
	1/28/2022				6.51	146.27
2/24/2022	4.58	148.20				
TW-2	1/17/2020	2468047.320	1487532.820	154.820	8.08	146.74
	2/26/2020				8.68	146.14
	5/21/2020				5.70	149.12
	6/11/2020				5.70	149.12
	7/9/2020				NM	NM
	8/14/2020				6.74	148.08
	9/10/2020				6.52	148.30
	10/5/2020				6.41	148.41
	11/6/2020				6.88	147.94
	12/9/2020				7.48	147.34
	1/13/2021				7.74	147.08
	2/26/2021				7.91	146.91
	4/12/2021				6.11	148.71
	5/4/2021				4.83	149.99
	6/21/2021				5.90	148.92
	7/13/2021				6.65	148.17
	8/16/2021				6.59	148.23
	9/20/2021				6.76	148.06
	10/15/2021				4.74	150.08
	11/15/2021				5.40	149.42
12/23/2021	8.36	146.46				
1/28/2022	8.62	146.20				
2/24/2022	6.62	148.20				
5/4/2022	4.79	150.03				
6/7/2022	5.98	148.84				
7/6/2022	7.25	147.57				

Table 1  
Well Fluid Level Measurements

Well ID	Date	Northing	Easting	TOC Elevation	DTW	GW Elevation
	8/31/2022				NM	NM
	10/20/2022				4.81	150.01
TW-3	1/17/2020	2467958.920	1487515.050	155.240	8.62	146.62
	2/26/2020				8.95	146.29
	5/21/2020				5.92	149.32
	6/11/2020				6.13	149.11
	7/9/2020				NM	NM
	8/14/2020				7.15	148.09
	9/10/2020				6.98	148.26
	10/5/2020				6.82	148.42
	11/6/2020				7.31	147.93
	12/9/2020				7.82	147.42
	1/13/2021				8.21	147.03
	2/26/2021				8.38	146.86
	4/12/2021				10.57	144.67
	5/4/2021				5.26	149.98
	6/21/2021				6.32	148.92
	7/13/2021				7.08	148.16
	8/16/2021				7.02	148.22
	9/21/2021				7.25	147.99
	10/15/2021				6.81	148.43
	11/15/2021				6.80	148.44
	12/23/2021				6.66	148.58
	1/28/2022				9.04	146.20
	2/24/2022				7.13	148.11
	5/4/2022				5.23	150.01
6/7/2022	6.42	148.82				
7/6/2022	6.94	148.30				
8/31/2022	NM	NM				
10/20/2022	4.52	150.72				
TW-4R	7/25/2020	2468057.933	1488376.150	140.213	2.22	137.99
	10/7/2020				2.26	137.95
	7/15/2021				2.20	138.01
	9/23/2021				2.18	138.03
	6/8/2022				2.18	138.03
	9/7/2022				NM	NM
TW-5	7/24/2020	2468146.501	1488350.697	140.130	2.62	137.51
	10/7/2020				2.46	137.67
	7/15/2021				2.60	137.53
	9/23/2021				2.55	137.58
	6/8/2022				2.63	137.5
	9/7/2022				2.54	137.59
TW-6	7/23/2020	2468022.089	1487700.786	154.057	13.95	140.11
	10/7/2020				13.78	140.28
	7/12/2021				13.91	140.15
	9/21/2021				13.89	140.17
	6/9/2022				13.62	140.437
	9/8/2022				13.43	140.627

**Table 1**  
**Well Fluid Level Measurements**

Well ID	Date	Northing	Easting	TOC Elevation	DTW	GW Elevation
TW-6D	7/23/2020	2468034.507	1487709.129	154.403	14.27	140.13
	10/7/2020				14.15	140.25
	7/12/2021				14.28	140.12
	9/21/2021				14.25	140.15
	6/9/2022				14.00	140.403
	9/8/2022				13.89	140.513
TW-7	7/24/2020	2468059.440	1487924.056	151.352	11.27	140.08
	10/7/2020				11.13	140.22
	7/15/2021				11.26	140.09
	9/21/2021				11.23	140.12
	6/9/2022				10.98	140.37
	9/8/2022				10.83	140.52
TW-7D	7/24/2020	2468060.454	1487932.180	151.924	11.88	140.04
	10/8/2020				11.73	140.19
	7/15/2021				11.87	140.05
	9/21/2021				11.84	140.08
	6/9/2022				11.62	140.30
	9/8/2022				11.45	140.47
TW-8	7/24/2020	2468113.350	1488099.275	147.534	7.46	140.07
	10/8/2020				7.30	140.23
	7/13/2021				7.52	140.01
	9/21/2021				7.50	140.03
	6/8/2022				7.33	140.20
	9/8/2022				6.97	140.56
TW-12	7/27/2020	2468078.573	1488458.030	135.483	4.25	131.23
	10/5/2020				ABND <sup>b</sup>	
TW-13	7/25/2020	2468013.426	1488422.471	138.141	3.91	134.23
	10/7/2020				3.82	134.32
	7/15/2021				4.27	133.87
	9/23/2021				4.00	134.14
	6/8/2022				4.28	133.86
	9/7/2022				3.88	134.26
TW-15	7/15/2021	2467968.000	1488533.730	134.530	4.33	130.20
	9/22/2021				4.04	130.49
	6/8/2022				4.28	130.25
	9/7/2022				3.68	130.85
TW-16	7/15/2021	2467879.840	1488606.360	133.480	3.33	130.15
	9/22/2021				3.13	130.35
	6/8/2022				3.31	130.17
	9/7/2022				2.85	130.63



**Table 1**  
**Well Fluid Level Measurements**

Well ID	Date	Northing	Easting	TOC Elevation	DTW	GW Elevation
TW-17	7/23/2020	2468145.890	1487582.560	154.580	14.42	140.16
	10/8/2020				14.22	140.36
	7/13/2021				14.40	140.18
	9/20/2021				14.32	140.26
	6/10/2022				14.03	140.55
	9/9/2022				13.56	141.02
TW-18S	7/23/2020	2468041.960	1487598.770	154.300	14.25	140.05
	10/8/2020				13.96	140.34
	7/15/2021				14.11	140.19
	9/20/2021				14.05	140.25
	6/10/2022				13.76	140.54
	9/9/2022				13.3	141.00
TW-18D	7/24/2020	2468049.350	1487603.440	152.490	12.32	140.17
	10/8/2020				12.13	140.36
	7/15/2021				12.29	140.20
	9/20/2021				12.21	140.28
	6/10/2022				11.95	140.54
	9/8/2022				11.6	140.89
TW-19S	7/23/2020	2467953.080	1487548.680	153.900	13.76	140.14
	10/8/2020				13.57	140.33
	7/13/2021				13.72	140.18
	9/21/2021				13.69	140.21
	6/10/2022				13.37	140.53
	9/9/2022				12.93	140.97
TW-19D	7/24/2020	2467960.370	1487544.630	153.080	13.02	140.06
	10/8/2020				12.85	140.23
	7/13/2021				13.02	140.06
	9/21/2021				13.01	140.07
	6/10/2022				12.74	140.34
	9/9/2022				12.29	140.79
TW-20	7/21/2020	2468124.426	1487762.637	153.150	Dry	Dry
	10/8/2020				11.00	142.15
	7/12/2021				11.50	141.65
	9/20/2021				11.22	141.93
	6/9/2022				11.19	141.96
	9/8/2022				10.92	142.23
TW-21	7/23/2020	2467950.783	1487803.192	152.610	12.37	140.24
	10/5/2020				12.20	140.41
	7/12/2021				12.45	140.16
	9/21/2021				12.37	140.24
	6/10/2022				12.28	140.33
	9/8/2022				11.93	140.68
TW-22	7/23/2020	2468154.548	1487997.055	149.200	9.80	139.40
	10/8/2020				9.64	139.56
	7/13/2021				9.84	139.36
	9/21/2021				9.79	139.41
	6/8/2022				9.59	139.61
	9/8/2022				9.49	139.71

Table 1  
Well Fluid Level Measurements

Well ID	Date	Northing	Easting	TOC Elevation	DTW	GW Elevation
TW-23	7/24/2020	2467996.120	1487964.551	150.450	9.56	140.89
	10/7/2020				9.48	140.97
	7/13/2021				9.49	140.96
	9/21/2021				9.52	140.93
	6/9/2022				9.49	140.96
	9/8/2022				9.51	140.94
TW-24	7/25/2020	2468142.788	1488193.364	145.950	6.46	139.49
	10/8/2020				6.54	139.41
	7/13/2021				6.45	139.50
	9/20/2021				6.40	139.55
	6/8/2022				6.15	139.80
	9/8/2022				6.01	139.94
TW-25	7/23/2020	2468015.349	1488097.939	147.570	8.19	139.38
	10/8/2020				8.05	139.52
	7/13/2021				8.21	139.36
	9/21/2021				8.21	139.36
	6/9/2022				8.02	139.55
	9/8/2022				7.96	139.61
TW-26	7/24/2020	2468084.721	1488264.233	144.220	4.85	139.37
	10/8/2020				4.77	139.45
	7/13/2021				4.84	139.38
	9/20/2021				4.82	139.40
	6/8/2022				4.69	139.53
	9/7/2022				4.65	139.57
W-1P	7/26/2020	2468028.708	1488490.646	132.520	1.66	130.86
	10/7/2020				1.25	131.27
	7/15/2021				0.72	131.80
	9/22/2021				0.50	132.02
	6/9/2022				NM	NM
	9/7/2022				NM	NM

Notes:

- a TW-1 was discovered to have a PVC casing obstruction on 11/13/2019. Top of Casing Elevation was modified to remove PVC casing obstruction on 7/22/2020.
  - b TW-12 was discovered to be irreparably damaged on 10/5/2020, and abandoned on 11/18/2020.
- ABND Abandoned  
DTW Depth to Water  
GW Groundwater  
NM Not Measured  
TOC Top of Casing















Table 2  
Groundwater Monitoring Wells  
Analytical Results - BTEX, TAqH/TAH

Sample Identification	Date Collected	TAqH <sup>a</sup> mg/L	TAH <sup>b</sup> mg/L	Benzene mg/L	Ethylbenzene mg/L	Toluene mg/L	Xylene, Total mg/L	1-Methylnaphthalene mg/L	2-Methylnaphthalene mg/L	Acenaphthene mg/L	Acenaphthylene mg/L	Anthracene mg/L	Benzo(a)anthracene mg/L*	Benzo(a)pyrene mg/L*	Benzo(g,h,i)perylene mg/L*	Benzofluoranthene mg/L*	Chrysene mg/L	Dibenz(a,h)anthracene mg/L*	Fluoranthene mg/L	Fluorene mg/L	Indeno(1,2,3-cd)pyrene mg/L*	Naphthalene mg/L	Phenanthrene mg/L	Pyrene mg/L	Alkalinity mg/L	Sulfate mg/L	Nitrate Nitrite as N mg/L	Dissolved Iron mg/L	Total Iron mg/L	pH Units	Specific Conductance umhos/cm	Methane mg/L	
OBC Groundwater Cleanup Level <sup>c</sup>		N/A	N/A	N/S	0.48	0.50	0.20	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	
18 AAC 75.345, Table C Cleanup Level		N/A	N/A	0.0046	0.015	1.1	0.19	0.011	0.036	0.53	0.26	0.043	0.0003	0.00025	0.00026	0.0008	0.002	0.00025	0.26	0.29	0.00019	0.0017	0.17	0.12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
18 AAC 70.020, Alaska Water Quality Standard		0.015	0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
<b>Upgradient and Crossgradient Wells Outside of the Slurry Walls</b>																																	
<b>MW-1</b>																																	
MW-1-052318-WA	5/23/2018	-	-	<0.001	<0.001	<0.001	<0.003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	160	1.5	<0.15 JM-	40	-	6.4 JH	330	3.7	
MW-1-071418-WA	7/14/2018	-	-	<0.003	<0.003	<0.002	<0.003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	150	1.3	<0.15	56	-	6.0 JH	360	3.4	
MW-1-092018-WA	9/20/2018	-	-	<0.003 JM-	<0.003 JS-	<0.002 JM-	<0.003 JS-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	120	6.5	<0.15	6.8	-	6.1 JH	280	0.31	
MW-1	8/1/2019	-	-	<0.000250	<0.000500	<0.000500	<0.00150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MW-1	10/8/2019	-	-	<0.000250	<0.000500	<0.000500	<0.00150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MW-1	7/24/2020	-	-	<0.000200	<0.000500	<0.000500	<0.00150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	161	0.845	<0.100	56.6	-	6.34	352	1.2	
MW-1	7/13/2021	-	-	<0.000200	<0.000500	<0.000500	<0.00150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	161	0.845	<0.100	56.6	-	6.34	352	1.2	
MW-1	8/10/2023	-	-	<0.000200	<0.000500	<0.000500	<0.00150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>MW-3</b>																																	
MW-3-052318-WA	5/23/2018	-	-	<0.001	<0.001	<0.001	<0.003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3-071318-WA	7/13/2018	-	-	<0.003	<0.003	<0.002	<0.003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3-092018-WA	9/20/2018	-	-	<0.003	<0.003 JS-	<0.002	<0.003 JS-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	8/1/2019	-	-	<0.000250	<0.000500	<0.000500	<0.00150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	10/8/2019	-	-	<0.000250	<0.000500	<0.000500	<0.00150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>TW-9</b>																																	
TW-9-051918-WA	5/19/2018	-	-	<0.001	<0.001	<0.001	<0.003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TW-9-071318-WA	7/13/2018	-	-	<0.003	<0.003	<0.002	<0.003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TW-9-092018-WA	9/20/2018	-	-	<0.003	<0.003 JS-	<0.002	<0.003 JS-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TW-9	8/1/2019	-	-	<0.000250	<0.000500	<0.000500	<0.00150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TW-9	10/8/2019	-	-	<0.000250	<0.000500	<0.000500	<0.00150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>TW-10</b>																																	
TW-10-052318-WA	5/23/2018	-	-	<0.001	<0.001	<0.001	<0.003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TW-10-071318-WA	7/13/2018	-	-	<0.003	<0.003	<0.002	<0.003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>MW-141</b>																																	
MW-141-052318-WA	5/23/2018	-	-	<0.001	<0.001	<0.001	<0.003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Downgradient Wells Outside of the Slurry Wall</b>																																	
<b>TW-11</b>																																	
TW-11-071218-WA	7/12/2018	-	-	<0.003	<0.003	<0.002	<0.003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TW-11-091918-WA	9/19/2018	-	-	<0.003	<0.003 JS-	<0.002	<0.003 JS-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TW-11	8/2/2019	-	-	<0.000250	<0.000500	<0.000500	<0.00150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TW-11	10/10/2019	-	-	<0.000250	<0.000500	<0.000500	<0.00150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 2  
Groundwater Monitoring Wells  
Analytical Results - BTEX, TAqH/TAH

Sample Identification	Date Collected	TAqH <sup>a</sup> mg/L	TAH <sup>b</sup> mg/L	Benzene mg/L	Ethylbenzene mg/L	Toluene mg/L	Xylene, Total mg/L	1-Methylnaphthalene mg/L	2-Methylnaphthalene mg/L	Acenaphthene mg/L	Acenaphthylene mg/L	Anthracene mg/L	Benzo(a)anthracene mg/L	Benzo(a)pyrene mg/L	Benzo(g,h,i)perylene mg/L	Benzofluoranthene mg/L	Chrysene mg/L	Dibenz(a,h)anthracene mg/L	Fluoranthene mg/L	Fluorene mg/L	Indeno(1,2,3-cd)pyrene mg/L	Naphthalene mg/L	Phenanthrene mg/L	Pyrene mg/L	Alkalinity mg/L	Sulfate mg/L	Nitrate Nitrite as N mg/L	Dissolved Iron mg/L	Total Iron mg/L	pH pH Units	Specific Conductance umhos/cm	Methane mg/L		
OBC Groundwater Cleanup Level <sup>c</sup>		N/A	N/A	N/S	0.48	0.50	0.20	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
18 AAC 75.345, Table C Cleanup Level <sup>d</sup>		N/A	N/A	0.0046	0.015	1.1	0.19	0.011	0.036	0.53	0.26	0.043	0.0003	0.00025	0.00026	0.0008	0.002	0.00025	0.26	0.29	0.00019	0.0017	0.17	0.12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
18 AAC 70.020, Alaska Water Quality Standard		0.015	0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
<b>TW-12</b>																																		
TW-12-052018-WA	5/20/2018	-	-	<0.001	<0.001	<0.001	0.029	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	120	<1.2	<0.15	45	-	6.3 JH	310	1.3		
TW-12-071218-WA	7/12/2018	-	-	<0.003	<0.003	<0.002	0.042	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	120	<1.2	<0.15	33	-	6.2 JH	250	1.1		
TW-12-091918-WA	9/19/2018	-	-	<0.003	<0.003 JS-	<0.002	0.081 JS-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	93	<1.2	<0.15	26	-	6.3 JH	220	1.1		
TW-12	8/1/2019	-	-	<0.000250	<0.000500	0.000709 J	0.0315	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	81.0	1.16	0.0868 J	20.700	-	-	-	-		
TW-12	10/10/2019	-	-	0.000280 J	<0.000500	0.000800 J	0.0849	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	108	1.68	0.0830 J	20.900	-	6.5	232	-		
TW-12	7/27/2020	-	-	0.000149 J	<0.000500	<0.000500	0.0151	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	110	0.0900 J	0.0760 J	30.700	-	6.51	161	0.604		
<b>TW-13</b>																																		
TW-13-052118-WA	5/21/2018	-	-	<0.001	0.13	<0.001	0.57	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TW-13-071218-WA	7/12/2018	-	-	<0.003	0.044	<0.002	0.38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TW-13-092018-WA	9/20/2018	-	-	<0.003 E	<0.003 JS-	<0.002	0.19 JS-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TW-13	8/1/2019	-	-	<0.000250	<0.000500	<0.000500	0.0755	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TW-13	10/9/2019	-	-	0.000200 J	<0.000500	<0.000500	0.140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TW-13	7/25/2020	-	-	<0.000200	<0.000500	<0.000500	0.129	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TW-13	10/7/2020	-	-	<0.000200	<0.000500	<0.000500	0.118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TW-13	7/15/2021	-	-	<0.000200	<0.000500	<0.000500	0.0948	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TW-13	9/23/2021	-	-	<0.000200	<0.000500	<0.000500	0.0546	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TW-13	6/9/2022	-	-	<0.000200	<0.000500	<0.000500	0.0485	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TW-13	9/7/2022	-	-	<0.000200	<0.000500	<0.000500	0.0507	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Downgradient Wells in the Wetland</b>																																		
<b>TW-14</b>																																		
TW-14-052018-WA	5/20/2018	-	-	<0.001	<0.001	<0.001	<0.003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100	<1.2	<0.15	9.7	10	7.0 JH	240	2.4		
TW-14-071218-WA	7/12/2018	-	-	<0.003	<0.003	<0.002	<0.003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	110	<1.2	<0.15	3	4.3	7.2 JH	260	1.9		
TW-14-091918-WA	9/19/2018	-	-	<0.003	<0.003 JS-	<0.002	<0.003 JS-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	99	<1.2	<0.15	13	17	6.5 JH	230	3.4		
TW-14	8/2/2019	-	-	<0.000250	<0.000500	<0.000500	<0.00150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	112	<0.100	<0.100	10.500	8.910	-	-	-		
TW-14	10/10/2019	-	-	<0.000250	<0.000500	<0.000500	<0.00150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	109	<0.100	<0.100	10.100	8.070	7.0	242	-		
<b>TW-15</b>																																		
TW-15-052118-WA	5/21/2018	<0.003	<0.003	<0.003	<0.003	<0.002	<0.003	<0.00097	<0.00039	<0.00039	<0.00097	<0.015	<0.000019	<0.000019	<0.000049	<0.000049	<0.00058	<0.000019	<0.0029	<0.0019	<0.000049	<0.00039	<0.00097	<0.0019	150	<1.2	<0.15	13	14	5.8 JH	300	2.1		
TW-15-071218-WA	7/12/2018	<0.003	<0.003	<0.003	<0.003	<0.002	<0.003	<0.0010	<0.00042	<0.00042	<0.0010	<0.016	<0.000021	<0.000021	<0.000052	<0.000052	<0.00062	<0.000021	<0.0031	<0.0021	<0.000052	<0.00042	<0.0010	<0.0021	150	<1.2	<0.15	13	13	6.5 JH	330	2.8		
TW-15-091918-WA	9/19/2018	<0.003	<0.003	<0.003	<0.003	<0.002	<0.003	<0.0010	<0.00040	<0.00040	<0.0010	<0.015	<0.000020	<0.000020	<0.000051	<0.000051	<0.00061	<0.000020	<0.0030	<0.0020	<0.000051	<0.00040	<0.0010	<0.0020	180	1.4 B	<0.15	12	13	6.4 JH	440	1.6		
TW-15	8/2/2019	-	-	<0.000250	<0.000500	<0.000500	<0.00150	<0.000236	<0.000236	<0.000236	<0.000236	<0.000236	<0.000236	<0.0000945	<0.000236	<0.000236	<0.000236	<0.000236	<0.000236	<0.000236	<0.000236	<0.0000471	<0.000236	<0.000236	131	0.781	<0.100	11.400	12.300	-	-	-		
TW-15	10/10/2019	-	-	<0.000250	<0.000500	<0.000500	0.000970 J	<0.000236	<0.000236	<0.000236	<0.000236	<0.000236	<0.000236	<0.0000945	<0.000236	<0.000236	<0.000236	<0.000236	<0.000236	<0.000236	<0.000236	<0.0000471	<0.000236	<0.000236	134	0.784	0.237	13.600	12.200	6.8	272	-		
TW-15	7/15/2021	-	-	<0.000200	<0.000500	<0.000500	<0.00150	<0.000236	<0.000236	<0.000236	<0.000236	<0.000236	<0.000236	<0.0000945	<0.000236	<0.000236	<0.000236	<0.000236	<0.000236	<0.000236	<0.000236	<0.0000471	<0.000236	<0.000236	131	0.781	<0.100	11.400	12.300	-	-	-		
TW-15	9/22/2021	-	-	<0.000200	<0.000500	<0.000500	<0.00150	<0.000236	<0.000236	<0.000236	<0.000236	<0.000236	<0.000236	<0.0000945	<0.000236	<0.000236	<0.000236	<0.000236	<0.000236	<0.000236	<0.000236	<0.0000471	<0.000236	<0.000236	134	0.784	0.237	13.600	12.200	6.8	272	-		
TW-15 DUP 1 (Field Duplicate)	6/8/2022	-	-	<0.000200	<0.000500	<0.000500	<0.00150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TW-15	6/8/2022	-	-	<0.000200	<0.000500	<0.000500	<0.00150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TW-15	9/7/2022	-	-	<0.000200	<0.000500	<0.000500	<0.00150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 2  
Groundwater Monitoring Wells  
Analytical Results - BTEX, TAQ/H/TAH

Sample Identification	Date Collected	TAQH <sup>a</sup> mg/L	TAH <sup>b</sup> mg/L	Benzene mg/L	Ethylbenzene mg/L	Toluene mg/L	Xylene, Total mg/L	1-Methylnaphthalene mg/L	2-Methylnaphthalene mg/L	Acenaphthene mg/L	Acenaphthylene mg/L	Anthracene mg/L	Benzo(a)anthracene mg/L	Benzo(a)pyrene mg/L	Benzo(g,h,i)perylene mg/L	Benzofluoranthene mg/L	Chrysene mg/L	Dibenz(a,h)anthracene mg/L	Fluoranthene mg/L	Fluorene mg/L	Indeno(1,2,3-cd)pyrene mg/L	Naphthalene mg/L	Phenanthrene mg/L	Pyrene mg/L	Alkalinity mg/L	Sulfate mg/L	Nitrate mg/L	Nitrite as N mg/L	Dissolved Iron mg/L	Total Iron mg/L	pH Units	Specific Conductance umhos/cm	Methane mg/L			
<b>OBC Groundwater Cleanup Level<sup>c</sup></b>		N/A	N/A	N/S	0.48	0.50	0.20	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
<b>18 AAC 75.345, Table C Cleanup Level<sup>d</sup></b>		N/A	N/A	0.0046	0.015	1.1	0.19	0.011	0.036	0.53	0.26	0.043	0.0093	0.00025	0.00026	0.0008	0.002	0.00025	0.26	0.29	0.00019	0.0017	0.17	0.12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
<b>18 AAC 70.020, Alaska Water Quality Standard</b>		0.015	0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
<b>TW-16</b>																																				
TW-16-052018-WA	5/20/2018	<0.003	<0.003	<0.003	<0.003	<0.002	<0.003	<0.0011	<0.00042	<0.00042	<0.0011	<0.016	<0.000021	<0.000021	<0.000053	<0.000053	<0.00064	<0.000021	<0.0032	<0.0021	<0.000053	<0.00042	<0.0011	<0.0021	120	<1.2	<0.15	0.39	0.51	7.6 JH	260	2.8				
TW-16-071218-WA	7/12/2018	<0.003	<0.003	<0.003	<0.003	<0.002	<0.003	<0.00095	<0.00038	<0.00038	<0.00095	<0.014	<0.000019	<0.000019	<0.000047	<0.000047	<0.00057	<0.000019	<0.0028	<0.0019	<0.000047	<0.00038	<0.00095	<0.0019	130	<1.2	<0.15 JM-	0.3	0.45	7.7 JH	280	2.3				
TW-16-091918-WA	9/19/2018	<0.003	<0.003	<0.003	<0.003	<0.002	<0.003	<0.00098	<0.00039	<0.00039	<0.00098	<0.015	<0.000020	<0.000020	<0.000049	<0.000049	<0.00059	<0.000020	<0.0029	<0.0020	<0.000049	<0.00039	<0.00098	<0.0020	150	<1.2	<0.15	0.35	0.43	7.7 JH	340	-				
TW-16	8/2/2019	-	-	<0.000250	<0.000500	<0.000500	<0.00150	<0.0000256	<0.0000256	<0.0000256	<0.0000256	<0.0000256	<0.0000256	<0.0000103	<0.0000256	<0.0000256	<0.0000256	<0.0000103	<0.0000256	<0.0000256	<0.0000256	<0.0000510	<0.0000256	<0.0000256	135	<0.100	<0.100	0.424	0.384	-	-	-				
TW-16	10/10/2019	-	-	<0.000250	<0.000500	<0.000500	<0.00150	<0.0000236	<0.0000236	<0.0000236	<0.0000236	<0.0000236	<0.0000236	<0.00000945	<0.0000236	<0.0000236	<0.0000236	<0.00000945	<0.0000236	<0.0000236	<0.0000236	<0.0000471	<0.0000236	<0.0000236	138	<0.100	0.166 J	0.421	0.438	7.9	271	-				
TW-16	7/15/2021	-	-	<0.000200	<0.000500	<0.000500	<0.00150	<0.0000256	<0.0000256	<0.0000256	<0.0000256	<0.0000256	<0.0000256	<0.0000103	<0.0000256	<0.0000256	<0.0000256	<0.0000103	<0.0000256	<0.0000256	<0.0000256	<0.0000510	<0.0000256	<0.0000256	135	<0.100	<0.100	0.424	0.384	-	-	-				
TW-16	9/22/2021	-	-	<0.000200	<0.000500	<0.000500	<0.00150	<0.0000236	<0.0000236	<0.0000236	<0.0000236	<0.0000236	<0.0000236	<0.00000945	<0.0000236	<0.0000236	<0.0000236	<0.00000945	<0.0000236	<0.0000236	<0.0000236	<0.0000471	<0.0000236	<0.0000236	138	<0.100	0.166 J	0.421	0.438	7.9	271	-				
TW-16	6/8/2022	-	-	<0.000200	<0.000500	<0.000500	<0.00150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
TW-16	9/7/2022	-	-	<0.000200	<0.000500	<0.000500	<0.00150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
<b>W-1P</b>																																				
W-1P-052118-WA	5/21/2018	0.27	0.27	<0.003	0.007	<0.002	0.45	<0.00097	<0.00039	<0.00039	<0.00097	<0.014	<0.000019	<0.000019	<0.000048	<0.000048	<0.00058	<0.000019	<0.0029	<0.0019	<0.000048	<0.00039	<0.00097	<0.0019	120	<1.2	<0.15	10	-	5.9 JH	250	2.6 JT				
W-1P-071218-WA	7/12/2018	0.32	0.32	<0.003	0.0035	<0.002	0.38	<0.00098	<0.00039	<0.00039	<0.00098	<0.015	<0.000020	<0.000020	<0.000049	<0.000049	<0.00059	<0.000020	<0.0029	<0.0020	<0.000049	<0.00039	<0.00098	<0.0020	140	<1.2	<0.15	11	-	6.6 JH	290	2.6				
W-1P-091918-WA	9/19/2018	0.24	0.24	<0.003	<0.003	<0.002	0.22	<0.00098	<0.00039	<0.00039	<0.00098	<0.015	<0.000020	<0.000020	<0.000049	<0.000049	<0.00059	<0.000020	<0.0029	<0.0020	<0.000049	<0.00039	<0.00098	<0.0020	180	1.7 B	<0.15	9.1	-	6.8 JH	370	2.3				
W-1P	8/1/2019	0.22	0.22	0.000260 J	0.000586 J	<0.000500	0.22	<0.0000252	<0.0000252	<0.0000252	<0.0000252	<0.0000252	<0.0000101	<0.0000252	<0.0000252	<0.0000252	<0.0000252	<0.0000101	<0.0000252	<0.0000252	<0.0000252	<0.0000505	<0.0000252	<0.0000252	120	1.38	<0.100	5.370	-	-	-	-				
W-1P	10/10/2019	0.15	0.14	<0.000250	<0.000500	<0.000500	0.142	<0.0000240	<0.0000240	<0.0000240	<0.0000240	<0.0000240	<0.00000960	<0.0000240	<0.0000240	<0.0000240	<0.0000240	<0.00000960	<0.0000240	<0.0000240	<0.0000240	<0.0000481	<0.0000240	<0.0000240	132	0.941	<0.100	5.640	-	6.8	274	-				
W-1P	7/28/2020	0.16	0.16	0.000130 J	0.000383 J	0.000339 J	0.158	<0.0000265	<0.0000265	<0.0000265	<0.0000265	<0.0000265	<0.0000265	<0.0000106	<0.0000265	<0.0000265	<0.0000265	<0.0000106	<0.0000265	<0.0000265	<0.0000265	<0.0000530	<0.0000265	<0.0000265	142	0.174 J	<0.100	11.000	-	6.52	252	1.37				
W-1P	10/17/2020	0.34	0.34	<0.000400	<0.000950	<0.000950	0.331	<0.0000265	<0.0000265	<0.0000265	<0.0000265	<0.0000265	<0.0000265	<0.0000106	<0.0000265	<0.0000265	<0.0000265	<0.0000106	<0.0000265	<0.0000265	<0.0000265	<0.0000530	<0.0000265	<0.0000265	144	0.0980 J	0.0528 J	14.3	-	6.3	348	-				
W-1P	7/15/2021	0.31	0.31	0.000250 J	0.000576 J	<0.000500	0.304	<0.0000265	<0.0000265	<0.0000265	<0.0000265	<0.0000265	<0.0000265	<0.0000106	<0.0000265	<0.0000265	<0.0000265	<0.0000106	<0.0000265	<0.0000265	<0.0000265	<0.0000530	<0.0000265	<0.0000265	142	0.174 J	<0.100	11.000	-	6.52	252	1.37				
W-1P	9/22/2021	0.40	0.40	0.000420	0.000490 J	<0.000500	0.397	<0.0000265	<0.0000265	<0.0000265	<0.0000265	<0.0000265	<0.0000265	<0.0000106	<0.0000265	<0.0000265	<0.0000265	<0.0000106	<0.0000265	<0.0000265	<0.0000265	<0.0000530	<0.0000265	<0.0000265	144	0.0980 J	0.0528 J	14.3	-	6.3	348	-				
W-1P	6/8/2022	-	-	U 0.200 DUP U 0.200	J 0.500 DUP U 0.500	U 0.500 DUP U 0.500	6.66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
W-1P	9/7/2022	-	-	U 0.200 DUP U 0.200	J 0.500 DUP U 0.500	U 0.500 DUP U 0.500	<1.50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
<b>Downgradient Surface Water Samples in the Wetland</b>																																				
<b>W-1</b>																																				
W-1	7/18/2021	0.003	0.003	<0.000200	<0.000500	<0.000500	0.00194 J	<0.0011	<0.00042	<0.00042	<0.0011	<0.016	<0.000021	<0.000021	<0.000053	<0.000053	<0.00064	<0.000021	<0.0032	<0.0021	<0.000053	<0.00042	<0.0011	<0.0021	120	<1.2	<0.15	0.39	0.51	7.6 JH	260	2.8				
W-1	9/22/2021	0.004	0.003	<0.000200	<0.000500	<0.000500	0.00215 J	<0.00095	<0.00038	<0.00038	<0.00095	<0.014	<0.000019	<0.000019	<0.000047	<0.000047	<0.00057	<0.000019	<0.0028	<0.0019	<0.000047	<0.00038	<0.00095	<0.0019	130	<1.2	<0.15 JM-	0.3	0.45	7.7 JH	280	2.3				
W-1	9/7/2023	-	-	<0.000200	<0.000500	<0.000500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
<b>W-1E</b>																																				
W-1E	7/18/2021	0.021	0.021	<0.000200	<0.000500	<0.000500	0.0192	<0.0011	<0.00042	<0.00042	<0.0011	<0.016	<0.000021	<0.000021	<0.000053	<0.000053	&																			

Table 2  
Groundwater Monitoring Wells  
Analytical Results - BTEX, TAqH/TAH

Notes:

a	TAqH was calculated by summing the results or 2x the detection limits for non-detect results for benzene, toluene, ethylbenzene, and total xylene, and polycyclic aromatic hydrocarbons per ADEC Guideline for Data Reporting, Data Averaging and Treatment of Non-Detect Values (ADEC 2012).
b	TAH was calculated by summing the results or 2x the detection limits for non-detect results for benzene, toluene, ethylbenzene, and total xylene values per ADEC Guideline for Data Reporting, Data Averaging, and Treatment of Non-Detect Values (ADEC 2012).
c	OBC groundwater cleanup levels only applied to remediation areas (i.e. source area wells and landfarm area wells inside the slurry wall)
<	Sample result was not detected above the associated value. For samples collected in 2018, the reported value is the LOQ. For samples collected after 2018, the reported value is the LOD.
-	Not analyzed
AAC	Alaska Administrative Code
LOD	Limit of Detection
LOQ	Limit of Quantitation
mg/L	milligrams per liter
N/A	Not applicable
N/S	None specified
OBC	Order-by-Consent
TAH	Total Aromatic Hydrocarbons
TAqH	Total Aqueous Hydrocarbons
	Blue highlight indicates results exceed OBC cleanup levels.
	Yellow highlight indicates results exceed 18 AAC 75 cleanup levels.
	Green highlight indicates results exceed 18 AAC 70 cleanup levels.

Qualifiers:

+/-	When attached to a qualifier, result is potentially biased high (+) or biased low (-).
E	The method detection limit (MDL) and reporting limit are above the cleanup level. Sample was diluted prior to analysis due to the high target analyte concentrations
J	The quantitation is an estimation
JD	The relative percent difference between the primary and duplicate samples was outside of criteria (i.e. >30%)
JH	Sample was not analyzed within the specified holding time.
JM	A matrix spike and/or matrix spike duplicate recovery or relative percent difference was outside of criteria.
JR	Volatile samples were analyzed with significant headspace (>6mm) in the sample container.
JRC	Sample concentration exceeds the instrument calibration range.
JS	A surrogate spike recovery was outside of acceptance criteria
JT	The sample was frozen when received at the laboratory or the cooler temp exceeded 6°C

Table 3  
Groundwater Monitoring Wells  
Analytical Results - PAHs

Sample Identification	Sample Delivery Group	Date Collected	1-Methylnaphthalene mg/L	2-Methylnaphthalene mg/L	Acenaphthene mg/L	Acenaphthylene mg/L	Anthracene mg/L	Benzo(a)anthracene mg/L	Benzo(a)pyrene mg/L	Benzo(g,h,i)-perylene mg/L	Benzofluoranthene mg/L	Chrysene mg/L	Dibenz(a,h)-anthracene mg/L	Fluoranthene mg/L	Fluorene mg/L	Indeno(1,2,3-cd)pyrene mg/L	Naphthalene mg/L	Phenanthrene mg/L	Pyrene mg/L
<b>18 AAC 75.345, Table C Cleanup Level</b>			0.011	0.036	0.53	0.26	0.043	0.0003	0.00025	0.00026	0.0008	0.002	0.00025	0.26	0.29	0.00019	0.0017	0.17	0.12
<b>Downgradient Wells in the Wetland</b>																			
<b>TW-15</b>																			
TW-15-052118-WA	580-77539	5/21/2018	<0.00097	<0.00039	<0.00039	<0.00097	<0.015	<0.000019*	<0.000019*	<0.000049*	<0.000049*	<0.00058	<0.000019*	<0.0029	<0.0019	<0.000049*	<0.00039	<0.00097	<0.0019
TW-15-071218-WA	580-78825	7/11/2018	<0.0010	<0.00042	<0.00042	<0.0010	<0.016	<0.000021*	<0.000021*	<0.000052*	<0.000052*	<0.00062	<0.000021*	<0.0031	<0.0021	<0.000052*	<0.00042	<0.0010	<0.0021
TW-15-091918-WA	580-80587	9/19/2018	<0.0010	<0.00040	<0.00040	<0.0010	<0.015	<0.000020*	<0.000020*	<0.000051*	<0.000051*	<0.00061	<0.000020*	<0.0030	<0.0020	<0.000051*	<0.00040	<0.0010	<0.0020
TW-15	1194337	8/2/2019	<0.0000236	<0.0000236	<0.0000236	<0.0000236	<0.0000236	<0.0000236	<0.0000236	<0.0000236	<0.0000236	<0.0000236	<0.00000945	<0.0000236	<0.0000236	<0.0000236	<0.0000471	<0.0000236	<0.0000236
TW-15	1196115	10/10/2019	<0.0000236	<0.0000236	<0.0000236	<0.0000236	<0.0000236	<0.0000236	<0.00000945	<0.0000236	<0.0000236	<0.0000236	<0.00000945	<0.0000236	<0.0000236	<0.0000236	<0.0000471	<0.0000236	<0.0000236
<b>TW-16</b>																			
TW-16-052018-WA	580-77539 / 580-7745	5/20/2018	<0.0011	<0.00042	<0.00042	<0.0011	<0.016	<0.000021*	<0.000021*	<0.000053*	<0.000053*	<0.00064	<0.000021*	<0.0032	<0.0021	<0.000053*	<0.00042	<0.0011	<0.0021
TW-16-071218-WA	580-78825	7/11/2018	<0.00095	<0.00038	<0.00038	<0.00095	<0.014	<0.000019*	<0.000019*	<0.000047*	<0.000047*	<0.00057	<0.000019*	<0.0028	<0.0019	<0.000047*	<0.00038	<0.00095	<0.0019
TW-16-091918-WA	580-80587	9/19/2018	<0.00098	<0.00039	<0.00039	<0.00098	<0.015	<0.000020*	<0.000020*	<0.000049*	<0.000049*	<0.00059	<0.000020*	<0.0029	<0.0020	<0.000049*	<0.00039	<0.00098	<0.0020
TW-16	1194337	8/2/2019	<0.0000256	<0.0000256	<0.0000256	<0.0000256	<0.0000256	<0.0000256	<0.0000103	<0.0000256	<0.0000256	<0.0000256	<0.0000103	<0.0000256	<0.0000256	<0.0000256	<0.0000510	<0.0000256	<0.0000256
TW-16	1196115	10/10/2019	<0.0000236	<0.0000236	<0.0000236	<0.0000236	<0.0000236	<0.0000236	<0.00000945	<0.0000236	<0.0000236	<0.0000236	<0.00000945	<0.0000236	<0.0000236	<0.0000236	<0.0000471	<0.0000236	<0.0000236
<b>W-1</b>																			
W-1	1214361	7/16/2021	-	-	<0.0000240	<0.0000240	<0.0000240	<0.0000240	<0.00000960	<0.0000240	<0.0000240	<0.0000240	<0.00000960	<0.0000240	<0.0000240	<0.0000240	<0.0000481	<0.0000240	<0.0000240
W-1	1216338	9/22/2021	-	-	<0.0000625	<0.0000625	<0.0000625	<0.0000625	<0.0000250	<0.0000625	<0.0000625	<0.0000625	<0.0000250	<0.0000625	<0.0000625	<0.0000625	<0.000125	0.0000443 J	<0.0000625
W-1	1225515	9/7/2022	-	-	<0.0000236	<0.0000236	<0.0000236	<0.0000236	<0.00000945	<0.0000236	<0.0000236	<0.0000236	<0.00000945	<0.0000236	<0.0000236	<0.0000236	<0.0000471	<0.0000236	<0.0000236
<b>W-1E</b>																			
W-1E	1194337	8/2/2019	<0.0000252	<0.0000252	<0.0000252	<0.0000252	<0.0000252	<0.0000252	<0.0000101	<0.0000252	<0.0000252	<0.0000252	<0.0000101	<0.0000252	<0.0000252	<0.0000252	<0.0000505	<0.0000252	<0.0000252
W-1E	1196115	10/10/2019	<0.0000236	<0.0000236	<0.0000236	<0.0000236	<0.0000236	<0.0000236	<0.00000945	<0.0000236	<0.0000236	<0.0000236	<0.00000945	<0.0000236	<0.0000236	<0.0000236	<0.0000471	<0.0000236	<0.0000236
W-1E	1214361	7/16/2021	-	-	<0.0000240	<0.0000240	<0.0000240	<0.0000240	<0.00000960	<0.0000240	<0.0000240	<0.0000240	<0.00000960	<0.0000240	<0.0000240	<0.0000240	<0.0000481	<0.0000240	<0.0000240
W-1E	1216338	9/22/2021	-	-	<0.0000240	<0.0000240	<0.0000240	0.0000161 J	<0.00000960	<0.0000240	<0.0000240	<0.0000150 J	<0.00000960	<0.0000177 J	<0.0000240	<0.0000240	<0.0000481	0.0000318 J	0.0000167 J
W-1E	1222993	6/9/2022	-	-	<0.0000232	<0.0000232	<0.0000232	<0.0000232	<0.00000925	<0.0000232	<0.0000232	<0.0000232	<0.00000925	<0.0000232	<0.0000232	<0.0000232	<0.0000463	<0.0000463	<0.0000232
W-1E	1225515	9/7/2022	-	-	<0.0000240	<0.0000240	<0.0000240	<0.0000240	<0.00000960	<0.0000240	<0.0000240	<0.0000240	<0.00000960	<0.0000240	<0.0000240	<0.0000240	<0.0000481	<0.0000481	<0.0000240
<b>W-1P</b>																			
W-1P-052118-WA	580-77539	5/21/2018	<0.00097	<0.00039	<0.00039	<0.00097	<0.014	<0.000019*	<0.000019*	<0.000048*	<0.000048*	<0.00058	<0.000019*	<0.0029	<0.0019	<0.000048*	<0.00039	<0.00097	<0.0019
W-1P-071218-WA	580-78825	7/12/2018	<0.00098	<0.00039	<0.00039	<0.00098	<0.015	<0.000020*	<0.000020*	<0.000049*	<0.000049*	<0.00059	<0.000020*	<0.0029	<0.0020	<0.000049*	<0.00039	<0.00098	<0.0020
W-1P-091918-WA	580-80587	9/19/2018	<0.00098	<0.00039	<0.00039	<0.00098	<0.015	<0.000020*	<0.000020*	<0.000049*	<0.000049*	<0.00059	<0.000020*	<0.0029	<0.0020	<0.000049*	<0.00039	<0.00098	<0.0020
W-1P	1194337	8/1/2019	<0.0000252	<0.0000252	<0.0000252	<0.0000252	<0.0000252	<0.0000101	<0.0000252	<0.0000252	<0.0000252	<0.0000252	<0.0000101	<0.0000252	<0.0000252	<0.0000252	<0.0000505	<0.0000252	<0.0000252
W-1P	1196115	10/10/2019	<0.0000240	<0.0000240	<0.0000240	<0.0000240	<0.0000240	<0.00000960	<0.0000240	<0.0000240	<0.0000240	<0.0000240	<0.00000960	<0.0000240	<0.0000240	<0.0000240	<0.0000481	<0.0000240	<0.0000240
W-1P	1205598	10/7/2020	<0.0000265	<0.0000265	<0.0000265	<0.0000265	<0.0000265	<0.0000106	<0.0000265	<0.0000265	<0.0000265	<0.0000265	<0.0000106	<0.0000265	<0.0000265	<0.0000265	<0.0000530	<0.0000265	<0.0000265
W-1P	1214361	7/15/2021	-	-	<0.0000255	<0.0000255	<0.0000255	<0.0000102	<0.0000255	<0.0000255	<0.0000255	<0.0000255	<0.0000102	<0.0000255	<0.0000255	<0.0000255	0.0000701 J	<0.0000255	<0.0000255
W-1P	1216338	9/22/2021	-	-	<0.0000240	<0.0000240	<0.0000240	<0.0000240	<0.00000960	<0.0000240	<0.0000240	<0.0000240	<0.00000960	<0.0000240	<0.0000240	<0.0000240	0.0000528 J	0.0000242 J	<0.0000240
W-1P	1222993	6/9/2022	-	-	<0.0000232	<0.0000232	<0.0000232	<0.0000232	<0.00000925	<0.0000232	<0.0000232	<0.0000232	<0.00000925	<0.0000232	<0.0000232	<0.0000232	<0.0000463	<0.0000463	<0.0000232
W-1P	1225515	9/7/2022	-	-	<0.0000255	<0.0000255	<0.0000255	<0.0000102	<0.0000255	<0.0000255	<0.0000255	<0.0000255	<0.0000102	<0.0000255	<0.0000255	<0.0000255	<0.0000510	<0.0000510	<0.0000255
<b>W-3</b>																			
W-3	1222993	6/9/2022	-	-	<0.0000232	<0.0000232	<0.0000232	<0.0000232	<0.00000925	<0.0000232	<0.0000232	<0.0000232	<0.00000925	<0.0000232	<0.0000232	<0.0000232	<0.0000463	<0.0000463	<0.0000232
<b>W-3A</b>																			
W-3A	1214361	7/16/2021	-	-	<0.0000236	<0.0000236	<0.0000236	<0.0000236	<0.00000945	<0.0000236	<0.0000236	<0.0000236	<0.00000945	<0.0000236	<0.0000236	<0.0000236	0.0000458 J	0.0000157 J	<0.0000236
W-3A	1216338	9/22/2021	-	-	<0.0000625	<0.0000625	<0.0000625	<0.0000625	<0.0000250	<0.0000625	<0.0000625	<0.0000625	<0.0000250	<0.0000625	<0.0000625	<0.0000625	<0.000125	0.0000567 J	<0.0000625
W-3A	1225515	9/7/2022	-	-	<0.0240	<0.0240	<0.0240	<0.0240	<0.00960	<0.0240	<0.0240	<0.0240	<0.00960	<0.0240	<0.0240	<0.0240	<0.0481	<0.0481	<0.0240
<b>W-5</b>																			
W-5	1214361	7/16/2021	-	-	<0.0000236	<0.0000236	<0.0000236	<0.0000236	<0.00000945	<0.0000236	<0.0000236	<0.0000236	<0.00000945	<0.0000236	<0.0000236	<0.0000236	<0.0000471	<0.0000236	<0.0000236
W-5	1216338	9/22/2021	-	-	<0.0000236	<0.0000236	<0.0000236	<0.0000236	<0.00000945	<0.0000236	<0.0000236	<0.0000236	<0.00000945	<0.0000236	<0.0000236	<0.0000236	<0.0000471	0.0000235 J	<0.0000236
W-5	1222993	6/9/2022	-	-	<0.0000240	<0.0000240	<0.0000240	<0.0000240	<0.00000960	<0.0000240	<0.0000240	<0.0000240	<0.00000960	<0.0000240	<0.0000240	<0.0000240	<0.0000481	<0.0000481	<0.0000240
W-5	1225515	9/7/2022	-	-	<0.0000236	<0.0000236	<0.0000236	<0.0000236	<0										

Table 3  
Groundwater Monitoring Wells  
Analytical Results - PAHs

Notes:

- < Sample result was not detected above the associated value. For samples collected in 2018, the reported value is the LOQ. For samples collected after 2018, the reported value is the LOD.
- \* The reported value is the method detection limit rather than the LOQ.
- AAC Alaska Administrative Code
- J The quantitation is an estimation
- LOD Limit of Detection (1/2 of LOQ)
- LOQ Limit of Quantitation
- mg/L milligrams per liter

**Table 4**  
**Ponded Surface Water and Forest Seep Sample Analytical Results**

Sample Identification	Sample Delivery Group	Date Collected	TAH <sup>a</sup> mg/L	Benzene mg/L	Ethylbenzene mg/L	Toluene mg/L	Xylene, Total mg/L
<b>18 AAC 75.345, Table C Cleanup Level</b>			N/A	0.0046	0.015	1.1	0.19
<b>18 AAC 70.020, Alaska Water Quality Standard</b>			0.01	N/A	N/A	N/A	N/A
<b>PSW-1</b>							
PSW-1-052318-WA	580-77554	5/23/2018	<0.003	<0.001	<0.001	<0.001	<0.003
PSW-1-071318-WA	580-78923	7/13/2018	<0.004	<0.003	<0.003	<0.002	<0.003
PSW-1-091818-WA	580-80587	9/18/2018	<0.004	<0.003 JS-	<0.003 JS-	<0.002 JS-	<0.003 JS-
PSW-1	1194337	8/1/2019	0.003	<0.000250	0.000480 J	<0.000500	0.00120 J
PSW-1	1203707	7/25/2020	<0.005	<0.000200	<0.000500	<0.000500	<0.00150
PSW-1	1205598	10/7/2020	<0.005	<0.000200	<0.000500	<0.000500	<0.00150
PSW-1	1214361	7/16/2021	<0.005	<0.000200	<0.000500	<0.000500	<0.00150
PSW-1	1216338	9/22/2021	<0.005	<0.000200	<0.000500	<0.000500	<0.00150
PSW-1	1222993	6/9/2022	-	<0.000200	<0.000500	<0.000500	<0.00150
PSW-1	1225515	9/7/2022	-	<0.000200	<0.000500	<0.000500	<0.00150
<b>PSW-2</b>							
PSW-2-052318-WA	580-77554	5/23/2018	<0.003	<0.001	<0.001	<0.001	<0.003
PSW-2-071318-WA	580-78923	7/13/2018	<0.004	<0.003	<0.003	<0.002	<0.003
PSW-2-091818-WA	580-80587	9/18/2018	<0.004 JS-	<0.003 JS-	<0.003 JS-	<0.002 JS-	<0.003 JS-
PSW-2	1194337	8/1/2019	<0.006	<0.000250	<0.000500	<0.000500	<0.00150
PSW-2	1203707	7/24/2020	<0.005	<0.000200	<0.000500	<0.000500	<0.00150
PSW-2	1205598	10/7/2020	<0.005	<0.000200	<0.000500	<0.000500	<0.00150
PSW-2	1214361	7/16/2021	<0.005	<0.000200	<0.000500	<0.000500	<0.00150
PSW-2	1216338	9/22/2021	<0.005	<0.000200	<0.000500	<0.000500	<0.00150
PSW-2	1222993	6/9/2022	-	<0.000200	<0.000500	<0.000500	<0.00150
PSW-2	1225515	9/7/2022	-	<0.000200	<0.000500	<0.000500	<0.00150
<b>FSS-1</b>							
FSS-1-052118-WA	580-77539	5/21/2018	<0.003	<0.001	<0.001	<0.001	<0.003
FSS-1-071318-WA	580-78923	7/13/2018	<0.004	<0.003	<0.003	<0.002	<0.003
FSS-1-091818-WA	580-80587	9/18/2018	<0.004	<0.003 JS-	<0.003 JS-	<0.002 JS-	<0.003 JS-
FSS-1	1203709	7/27/2020	0.003	<0.000200	0.000541 J	0.000311 J	0.00164 J
FSS-1	1205598	10/7/2020	<0.005	<0.000200	<0.000500	<0.000500	<0.00150
FSS-1	1214361	7/16/2021	0.007	<0.000200	0.00176	<0.000500	0.00397
FSS-1	1216338	9/22/2021	0.005	<0.000200	0.00106	<0.000500	0.00209 J
FSS-1	1222993	6/9/2022	-	<0.000200	0.000900 J	<0.000500	0.00209 J
FSS-1 DUP 2	1225515	9/7/2022	-	<0.000200	<0.000500	<0.000500	<0.00150
FSS-1	1225515	9/7/2022	-	<0.000200	<0.000500	<0.000500	<0.00150
<b>FSS-2</b>							
FSS-2-052118-WA	580-77539	5/21/2018	<0.003	<0.001	<0.001	<0.001	<0.003
FSS-2-071318-WA	580-78923	7/13/2018	<0.004	<0.003	<0.003	<0.002	<0.003
FSS-2-091818-WA	580-80587	9/18/2018	0.007 JS-	<0.003 JS-	<0.003 JS-	<0.002 JS-	0.0043 JS-
FSS-2	1203709	7/27/2020	0.004	<0.000200	0.000647 J	0.000384 J	0.00284 J
FSS-2	1205598	10/7/2020	<0.005	<0.000200	<0.000500	<0.000500	<0.00150
FSS-2	1214361	7/16/2021	<0.005	<0.000200	<0.000500	<0.000500	<0.00150
FSS-2	1216338	9/22/2021	0.003	<0.000200	<0.000500	<0.000500	0.00105 J
FSS-2	1222993	6/9/2022	-	<0.000200	<0.000500	<0.000500	<0.00150
FSS-2	1225515	9/7/2022	-	<0.000200	<0.000500	<0.000500	<0.00150
<b>FSS-3</b>							
FSS-3-092118-WA	580-80633	9/21/2018	<0.004	<0.003	<0.003	<0.002	<0.003

**Notes:**

- a TAH was calculated by summing the results or 2x the detection limits for non-detect results for benzene, toluene, ethylbenzene, and total xylene values per ADEC Guideline for Data Reporting, Data Averaging, and Treatment of Non-Detect Values (ADEC 2012).
- < Sample result was not detected above the associated value. For samples collected in 2018, the reported value is the LOQ. For samples collected after 2018, the reported value is the LOD.
- AAC Alaska Administrative Code
- LOD Limit of Detection
- LOQ Limit of Quantitation
- mg/L milligrams per liter
- N/A not applicable
- TAH Total Aromatic Hydrocarbons

**Qualifiers:**

- +/- When attached to a qualifier, result is potentially biased high (+) or biased low (-).
- J The quantitation is an estimation
- JS A surrogate spike recovery was outside of acceptance criteria



Table 5  
Groundwater Monitoring Wells  
Geochemical Parameter Analytical Results

Sample Identification	Sample Delivery Group	Date Collected	Alkalinity mg/L	Sulfate mg/L	Nitrate Nitrite as N mg/L	Dissolved Iron mg/L	Total Iron mg/L	Methane mg/L	pH pH Units <sup>a</sup>	Specific Conductance umhos/cm <sup>a</sup>	Dissolved Oxygen mg/L <sup>a</sup>	ORP mV <sup>a</sup>
<b>Upgradient and Crossgradient Wells Outside of the Slurry Walls</b>												
<b>MW-1</b>												
MW-1-052318-WA	580-77554	5/23/2018	160	1.5	<0.15 JM-	40	-	3.7	6.4 JH	330	1.23	16.7
MW-1-071418-WA	580-78923	7/14/2018	150	1.3	<0.15	56	-	3.4	6.0 JH	360	0.9	-8.7
MW-1-092018-WA	580-80587	9/20/2018	120	6.5	<0.15	6.8	-	0.31	6.1 JH	280	0.51	54
MW-1	1194337	8/1/2019	123	2.60	0.140 J	31.6	-	-	6.24	341	1.64	37.7
MW-1	1196115	10/8/2019	-	-	-	-	-	-	6.69	194	1.58	57.1
MW-1	1203707	7/24/2020	161	0.845	<0.100	56.6	-	1.2	6.34	352	1.01	-8.9
MW-1	1214361	7/13/2021	135	1.83	<0.100	29.7	-	1040	6.15	354	0.41	-183
MW-1	1222993	6/10/2022	131	0.39	0.0740 J	-	-	-	6.35	295	0.09	-36.3
<b>Landfarm Area Wells Inside of the 2002 Slurry Wall</b>												
<b>TW-4R</b>												
TW-4R-071318-WA	580-78923	7/13/2018	200	3.1	<0.15	24	-	1.3	6.4 JH	450	0.59	26.1
TW-4R-091818-WA	580-80561	9/18/2018	220	3.8	<0.15	24	-	1.3	6.4 JH	420	0.57	60.2
TW-4R-091818-WA	580-80587	9/18/2018	-	-	-	-	-	-	-	-	-	-
TW-4R	1194679	8/12/2019	220	1.46	0.155 J	29.9	-	-	6.14	452	0.62	38.9
TW-4R	1196115	10/9/2019	243	4.15	0.141 J	38.0	-	-	7.89	309	0.26	-22.3
TW-4R	1203707	7/25/2020	224	3.14	0.0622 J	30.8	-	0.763	6.40	472	0.56	-23.2
TW-4R	1205598	10/7/2020	248	5.1	0.121 J	40.6	-	0.664	6.39	602	1.38	26
TW-4R	1216338	9/23/2021	274	2.62	0.0502 J	44.9	-	0.926	6.37	658	0.26	-207.1
TW-4R	1205598034	10/7/2020	247	5.34	0.0946 J	42.2	-	0.841	-	-	-	-
TW-4R	1225515	9/7/2022	238	3.62	0.194 J	-	-	1380	6.23	612	1.26	27
<b>Downgradient Wells Outside of the Slurry Wall</b>												
<b>TW-12</b>												
TW-12-052018-WA	580-77451	5/20/2018	120	<1.2	<0.15	45	-	1.3	6.3 JH	310	1.14	-19.8
TW-12-071218-WA	580-78825	7/12/2018	120	<1.2	<0.15	33	-	1.1	6.2 JH	250	1.18	69.2
TW-12-091918-WA	580-80587	9/19/2018	93	<1.2	<0.15	26	-	1.1	6.3 JH	220	0.49	-20.2
TW-12	1194337	8/1/2019	81.0	1.16	0.0868 J	20.7	-	-	6.44	217	1.82	12.2
TW-12	1196115	10/10/2019	108	1.68	0.0830 J	20.9	-	-	8.23	151	0.35	-398
TW-12	1203709	7/27/2020	110	0.0900 J	0.0760 J	30.7	-	0.604	6.51	161	1.29	-21.6
<b>TW-13</b>												
TW-13	1205598	10/7/2020	200	0.139 J	0.103 J	51.8	-	1.75	6.31	498	1.11	71.9
TW-13	1216338	9/23/2021	220	0.0910 J	0.0922 J	55	-	2.09	6.06	647	0.37	-183.8
TW-13	1225515	9/7/2022	192	<0.100	0.172 J	-	-	1810	6.63	503	0.32	2.3
<b>Downgradient Wells in the Wetland</b>												
<b>TW-14</b>												
TW-14-052018-WA	580-77451	5/20/2018	100	<1.2	<0.15	9.7	10	2.4	7 JH	240	2.33	-50.9
TW-14-071218-WA	580-78825	7/12/2018	110	<1.2	<0.15	3	4.3	1.9	7.2 JH	260	1.08	111.2
TW-14-091918-WA	580-80587	9/19/2018	99	<1.2	<0.15	13	17	3.4	6.5 JH	230	1.38	40.7
TW-14	1194337	8/2/2019	112	<0.100	<0.100	10.5	8.910	-	6.15	251	2.19	49.2
TW-14	1196115	10/10/2019	109	<0.100	<0.100	10.1	8.070	-	7.00	242	0.66	-93.0
<b>TW-15</b>												
TW-15-052118-WA	580-77539	5/21/2018	150	<1.2	<0.15	13	14	2.1	5.8 JH	300	1.11	5.2
TW-15-071218-WA	580-78825	7/11/2018	150	<1.2	<0.15	13	13	2.8	6.5 JH	330	1.22	59.2
TW-15-091918-WA	580-80587	9/19/2018	180	1.4 B	<0.15	12	13	1.6	6.4 JH	440	0.84	23.9
TW-15	1194337	8/2/2019	131	0.761	<0.100	11.4	12.300	-	6.42	272	0.72	51.9
TW-15	1196115	10/10/2019	134	0.784	0.237	13.6	12.200	-	6.80	272	0.19	428
<b>TW-16</b>												
TW-16-052018-WA	580-77451	5/20/2018	120	<1.2	<0.15	0.39	0.51	2.8	7.6 JH	260	7.46	-81.4
TW-805-052018-WA	580-77451	5/20/2018	-	-	-	-	0.49	-	-	-	-	-
TW-16-071118-WA	580-78825	7/11/2018	130	<1.2	<0.15 JM-	0.3	0.45	2.3	7.7 JH	280	1.39	101.8
TW-805-071118-WA	580-78825	7/11/2018	-	-	-	-	0.44	-	-	-	-	-

**Table 5**  
**Groundwater Monitoring Wells**  
**Geochemical Parameter Analytical Results**

Sample Identification	Sample Delivery Group	Date Collected	Alkalinity mg/L	Sulfate mg/L	Nitrate Nitrite as N mg/L	Dissolved Iron mg/L	Total Iron mg/L	Methane mg/L	pH pH Units <sup>a</sup>	Specific Conductance umhos/cm <sup>a</sup>	Dissolved Oxygen mg/L <sup>a</sup>	ORP mV <sup>a</sup>
TW-16-091918-WA	580-80587	9/19/2018	150	<1.2	<0.15	0.350	0.43	2.0	7.7 JH	340	0.92	81.1
TW-16	1194337	8/2/2019	135	<0.100	<0.100	0.424	0.384	-	7.67	251	1.46	30.1
TW-16	1196115	10/10/2019	138	<0.100	0.166 J	0.421	0.438	-	7.90	271	9.22	-368
<b>W-1P</b>												
W-1P-052118-WA	580-77539	5/21/2018	120	<1.2	<0.15	10	-	2.6 JT	5.9 JH	250	1.13	7.7
W-804-052118-WA	580-77539	5/21/2018	120	<1.2	<0.15	9.8	-	2.7 JT	6 JH	250		
W-1P-071218-WA	580-78825	7/12/2018	140	<1.2	<0.15	11	-	2.6	6.6 JH	290	0.82	30.2
W-804-071218-WA	580-78825	7/12/2018	140	<1.2	<0.15	8.5	-	2	6.5 JH	300		
W-1P-091918-WA	580-80587	9/19/2018	180	1.7 B	<0.15	9.1	-	2.3	6.8 JH	370	0.82	-26.3
W-1P	1194337	8/1/2019	120	1.38	<0.100	5.37	-	-	6.34	274	0.69	32.9
W-1P	1196115	10/10/2019	132	0.941	<0.100	5.64	-	-	6.80	274	0.36	-430
W-1P	1203709	7/26/2020	142	0.174 J	<0.100	11.0	-	1.37	6.52	252	0.82	85.2
W-1P	1205598	10/7/2020	144	0.0980 J	0.0528 J	14.3	-	1.62	6.32	348	1.82	85.4
W-1P	1216338	9/22/2021	159	0.142 J	<0.100	13.2	-	1.93	6.28	383	0.19	-193
W-1P	1225515	9/7/2022	11.9	0.0910 J	0.0550 J	-	-	8	-	-	-	-
<b>Air Sparge System Monitoring Wells</b>												
<b>TW-2</b>												
TW-2	1222071	5/4/2022	42.9	3.68	0.243	-	-	-	6.8	66	1.58	131.4
<b>TW-3</b>												
TW-3	1222071	5/4/2022	39.8	0.6	<0.100	-	-	-	6.9	64	2.26	67.7

**Notes:**

- a For samples collected after 2018, dissolved oxygen, pH, specific conductance, and ORP was measured on-site with a YSI 556 water quality meter with flow-through cell.
- < Sample result was not detected above the associated value. For samples collected in 2018, the reported value is the LOQ. For samples collected after 2018, the reported value is the LOD.
- Not sampled
- ORP oxidation reduction potential
- mg/L milligrams per liter
- mV millivolts
- umhos/cm micromhos/centimeter

**Qualifiers:**

- +/- When attached to a qualifier, result is potentially biased high (+) or biased low (-).
- Not analyzed
- B Analyte was detected in the method blank, trip blank or both, and the sample result did not exceed the blank concentration by a factor of 5 or more.
- J The quantitation is an estimation
- JH Sample was not analyzed within the specified holding time.
- JM A matrix spike and/or matrix spike duplicate recovery or relative percent difference was outside of criteria.
- JT The sample was frozen when received at the laboratory or the cooler temp exceeded 6°C

Table 6  
Wetland Soil Sample Analytical Results

Sample Identification	Sample Delivery Group	Date Collected	Benzene mg/kg	Ethylbenzene mg/kg	Toluene mg/kg	Xylene, Total mg/kg	Fraction of Organic Carbon %
<b>18 AAC 75, Table B.1 Migration to Groundwater Cleanup Level</b>			<b>0.022</b>	<b>0.13</b>	<b>6.7</b>	<b>1.5</b>	<b>N/A</b>
SRU20-BH2-2-3	1206339	11/18/2020	<0.0425	0.115 J	<0.0850	48.7	-
SRU20-BH3-4-5	1206339	11/17/2020	<0.0336	<0.0675	<0.0675	1.22	-
SRU20-BH3-4-5	1206339	11/17/2020	<0.0314	<0.0630	0.0630 U	1.01	-
SRU20-BH3-7-8	1206339	11/17/2020	<0.0427	<0.0855	<0.0855	16.3	-
SRU20-BH4-5-6	1206339	11/17/2020	<0.00795	0.0136 J	<0.0159	0.139	-
SRU20-BH6-3-4	1206339	11/18/2020	<0.0264	1.69	<0.0530	19.5	-
SRU20-BH7-2-3	1206339	11/17/2020	<0.140	0.193 J	<0.279	57.6	-
SRU20-BH8-7-8	1206339	11/17/2020	<0.107	18.7	<0.213	87.3	-
SRU20-BH11-2-3	1206339	11/17/2020	<0.0368	98.2	<0.0735	332	-
SRU20-BH12-6-7	1206339	11/17/2020	<0.0585	0.508	<0.117	51.4	-
SRU20-BH12-6-7	1206339	11/17/2020	<0.056	0.136 J	0.113 U	51.4	-
SRU20-BH13-5-6	1206339	11/18/2020	<0.0119	1.72	<0.0238	6.35	-
SRU20-BH14-3-4	1206339	11/17/2020	0.0329 J	64.9	<0.0710	226	-
SRU20-BH15-3-4	1206339	11/17/2020	<0.0915	71.8	<0.183	307	-
SRU20-BH15-3-4	1206339	11/17/2020	<0.0865	73	0.174 U	298	-
SRU20-BH15-6-7	1206339	11/17/2020	<0.0238	26	<0.0475	71.9	-
SRU20-BH16-5-6	1206339	11/17/2020	<0.0710	0.0915 J	<0.142	45.5	-
SRU20-BH16-7-8	1206339	11/17/2020	<0.0109	0.0702	<0.0217	22.1	-
SRU20-BH17-2-3	1206339	11/18/2020	<0.0109	27.5	<0.0219	55.5	-
SRU20-BH18-3-4	1206339	11/17/2020	0.0932	6.61	<0.0800	17	-
SRU20-BH18-5-6	1206339	11/17/2020	<0.0755	8.13	<0.151	26.4	-
SRU20-BH19-3-4	1206339	11/17/2020	<0.184	1.86	<0.369	191	-
SRU20-BH19-6-7	1206339	11/17/2020	<0.0520	32.7	<0.104	99.2	-
SRU20-BH20-4-5	1206339	11/17/2020	<0.580	86.9	<1.165	421	-
SRU20-BH20-6-7	1206339	11/17/2020	<0.455	48.9	<0.910	161	-
SRU20-BH21-2-3	1206339	11/17/2020	<0.0116	0.26	<0.0232	1.01	-
SRU20-BH23-2-3	1206339	11/17/2020	<0.535	1.200 J	<1.075	829	-
SRU20-BH23-7-8	1206339	11/17/2020	<0.287	27.2	<0.575	97.2	-
SRU20-BH24-4-5	1206339	11/17/2020	<0.775	<1.550	<1.550	357	-
SRU20-BH24-7-8	1206339	11/17/2020	<0.263	51.6	<0.525	188	-
SRU20-BH25-4-5	1206339	11/18/2020	<0.174	<0.347	<0.347	42.8	-
SRU20-BH26-4-5	1206339	11/18/2020	<0.434	<0.870	<0.870	123	-

Table 6  
Wetland Soil Sample Analytical Results

Sample Identification	Sample Delivery Group	Date Collected	Benzene mg/kg	Ethylbenzene mg/kg	Toluene mg/kg	Xylene, Total mg/kg	Fraction of Organic Carbon %
<b>18 AAC 75, Table B.1 Migration to Groundwater Cleanup Level</b>			<b>0.022</b>	<b>0.13</b>	<b>6.7</b>	<b>1.5</b>	<b>N/A</b>
SRU20-BH27-3-4	1206339	11/18/2020	<0.159	0.515 J	<0.317	204	-
SRU20-BH27-6-7	1206339	11/18/2020	<0.310	<0.620	<0.620	51.9	-
SRU20-BH27-6-7	1206339	11/18/2020	<0.249	<0.499	0.499 U	42	-
SRU20-BH28-5-6	1206339	11/18/2020	<0.590	<1.180	<1.180	199	-
SRU20-BH29-4-5	1206339	11/18/2020	<0.111	<0.222	<0.222	<0.665	-
SRU20-BH29-7-8	1206339	11/18/2020	<0.0474	<0.0945	<0.0945	<0.284	-
BH-1 (1.5-1.8)	1216333	9/24/2021	<0.0230	<0.0460	<0.0460	<0.138	-
BH-5 (1.7-2.0)	1216333	9/24/2021	<0.0264	<0.0525	<0.0525	<0.158	-
BH-9 (1.7-2.0)	1216333	9/24/2021	<0.0505	<0.101	<0.101	1.390	-
BH-10 (2.0-2.3)	1216333	9/24/2021	<0.0478	<0.0955	<0.0955	3.34	-
BH-17A (2.0-2.3)	1216333	9/24/2021	<0.0109	1.9	<0.0218	8.34	-
BH-22 (1.7-2.0)	1216333	9/24/2021	<0.0187	<0.0374	<0.0374	0.104 J	-
BH-30-1-3	1223987	7/12/2022	<0.142	<0.284	<0.284	0.634 J	-
BH-30-3-6	1223987	7/12/2022	<0.0845	<0.169	<0.169	5.96	-
BH-30-6-7	1223987	7/12/2022	<0.0570	1.29	<0.114	27.6	-
BH-31-1-4	1223987	7/12/2022	<0.118	<0.236	<0.236	13.7	-
BH-31-4-6	1223987	7/12/2022	<0.0358	<0.0715	<0.0715	32.3	-
BH-32-1-4	1223987	7/12/2022	<0.0910	<0.182	<0.182	20.5	-
BH-32-4-6	1223987	7/12/2022	<0.0430	<0.0860	<0.0860	3.39	-
BH-33-4-5	1223987	7/12/2022	<0.0413	<0.0825	<0.0825	1.96	-
BH-33-5-6	1223987	7/12/2022	<0.0199	<0.0398	<0.0398	0.135 J	-
BH-34-1-2	1223987	7/12/2022	<0.154	<0.307	<0.307	2.8	-
BH-35-1-3	1223987	7/12/2022	<0.115	<0.229	<0.229	14.2	-
BH-35-3-5	1223987	7/12/2022	<0.0325	<0.0650	<0.0650	8.1	-
BH-36-0.5-1	1223987	7/12/2022	<0.126	<0.251	<0.251	<0.755	-
BH-37-1.5-4	1223987	7/13/2022	<0.0730	<0.147	<0.147	10.7	-
BH-37-5-7	1223987	7/13/2022	<0.0396	<0.0790	<0.0790	2.66	-
BH-38-1-1.5	1223987	7/13/2022	<0.0865	<0.174	<0.174	<0.520	-
BH-39-0.5-1	1223987	7/13/2022	<0.0805	<0.161	<0.161	<0.482	-
BH-40-0.5-1	1223987	7/13/2022	<0.0840	<0.169	<0.169	<0.505	-
BH-41-1-3	1223987	7/13/2022	<1.365	114	<2.730	471	-

Table 6  
Wetland Soil Sample Analytical Results

Sample Identification	Sample Delivery Group	Date Collected	Benzene mg/kg	Ethylbenzene mg/kg	Toluene mg/kg	Xylene, Total mg/kg	Fraction of Organic Carbon %
<b>18 AAC 75, Table B.1 Migration to Groundwater Cleanup Level</b>			<b>0.022</b>	<b>0.13</b>	<b>6.7</b>	<b>1.5</b>	<b>N/A</b>
BH-41-3-5	1223987	7/13/2022	<0.391	25.3	<0.780	215	-
BH-41-6.5-7	1223987	7/13/2022	<0.0127	2.94	<0.0254	10	-
<b>Organic Carbon Borings</b>							
FOC-1-0.0-1.0	1217609	11/18/2021	-	-	-	-	32.3
FOC-2-0.5-1.5	1217609	11/18/2021	-	-	-	-	7.28
FOC-2-5.0-6.0	1217609	11/18/2021	-	-	-	-	4.15
FOC-3-7.0-8.0	1217609	11/18/2021	-	-	-	-	6.22
FOC-4-1.0-2.0	1217609	11/18/2021	-	-	-	-	25.7
FOC-4-8.0-9.0	1217609	11/18/2021	-	-	-	-	13.4
FOC-5-0-1	1223987	7/11/2022	-	-	-	-	23.9
FOC-5-1-2.5	1223987	7/11/2022	-	-	-	-	35.4
FOC-6-1-3	1223987	7/11/2022	-	-	-	-	33.2
FOC-6-3-4	1223987	7/11/2022	-	-	-	-	23.5
FOC-7-0.5-2.5	1223987	7/11/2022	-	-	-	-	37.5
FOC-8-2-3	1223987	7/11/2022	-	-	-	-	20
FOC-8-3-4	1223987	7/11/2022	-	-	-	-	3.53

Notes:

- Analyte not analyzed by lab.
- < Sample result was not detected above the LOD.
- BH Borehole
- FOC Fraction of Organic Carbon
- LOD Limit of Detection
- mg/kg milligrams per kilogram
- Yellow highlight indicates results exceed 18 AAC 75, Table B.1 Migration to Groundwater Cleanup Levels
- Orange highlight indicates that the reported LOD is greater than the 18 AAC 75, Table B.1 Migration to Groundwater Cleanup Levels

Qualifiers:

- J The quantitation is an estimation

Table 7  
Groundwater Quality Assurance and Quality Control Sample Analytical Results

Sample Identification	Sample Delivery Group	Date Collected	TAqH mg/L <sup>a</sup>	TAH mg/L <sup>b</sup>	Benzene mg/L	Ethylbenzene mg/L	Toluene mg/L	Xylene, Total mg/L	Benzene mg/kg	Ethylbenzene mg/kg	Toluene mg/kg	Xylene, Total mg/kg	1-Methyl-naphthalene mg/L	2-Methyl-naphthalene mg/L	Acenaphthene mg/L
OBC Groundwater Cleanup Level <sup>c</sup>			N/A	N/A	N/S	0.48	0.50	0.20	2	4.5	15	1.5	N/S	N/S	N/S
18 AAC 75.341, Table B1 Cleanup Level, Migration-to-Groundwater			N/A	N/A	N/A	N/A	N/A	N/A	0.022	0.13	6.7	1.5	N/A	N/A	N/A
18 AAC 75.345, Table C Cleanup Level			N/A	N/A	0.0046	0.015	1.1	0.19	N/A	N/A	N/A	N/A	0.011	0.036	0.53
18 AAC 70, Alaska Water Quality Standard Cleanup Level			0.015	0.01	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Trip Blanks</b>															
TRIP BLANK	1220384	1/28/2022	-	-	<0.200	<0.500	<0.500	<1.50	-	-	-	-	-	-	-
TB-022422	1220773	2/24/2022	-	-	<0.200	<0.500	<0.500	<1.50	-	-	-	-	-	-	-
TB-032122	1221170	3/21/2022	-	-	<0.200	<0.500	<0.500	<1.50	-	-	-	-	-	-	-
TRIP BLANK	1222071	5/4/2022	-	-	<0.200	<0.500	<0.500	<1.50	-	-	-	-	-	-	-
TRIP BLANK	1222994	6/7/2022	-	-	<0.200	<0.500	<0.500	<1.50	-	-	-	-	-	-	-
TRIP BLANK	1222993	6/8/2022	-	-	<0.200	<0.500	<0.500	<1.50	-	-	-	-	-	-	-
TRIP BLANK	1223748	7/6/2022	-	-	<0.200	<0.500	<0.500	<1.50	-	-	-	-	-	-	-
TRIP BLANK	1225273	8/31/2022	-	-	<0.200	<0.500	<0.500	<1.50	-	-	-	-	-	-	-
TRIP BLANK 1	1225515	9/7/2022	-	-	<0.200	<0.500	<0.500	<1.50	-	-	-	-	-	-	-
TRIP BLANK 2	1225515	9/7/2022	-	-	<0.200	<0.500	<0.500	<1.50	-	-	-	-	-	-	-
<b>Duplicate Samples</b>															
TW-15	1222993	6/8/2022	-	-	<0.0002	<0.0005	<0.0005	<0.0015	-	-	-	-	-	-	-
DUP-01			-	-	<0.0002	<0.0005	<0.0005	<0.0015	-	-	-	-	-	-	-
RPD (%)			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
W-6	1222993	6/9/2022	-	-	<0.0002	<0.0005	<0.0005	-	-	-	-	-	-	-	<0.0232
DUP-02			-	-	<0.0002	<0.0005	<0.0005	-	-	-	-	-	-	-	<0.0227
RPD (%)			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
W-7	1225515	9/7/2022	-	-	<0.0002	<0.0005	<0.0005	-	-	-	-	-	-	-	<0.0240
DUP-01			-	-	<0.0002	<0.0005	<0.0005	-	-	-	-	-	-	-	<0.0240
RPD (%)			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TW-18S	1225515	9/7/2022	-	-	<0.0002	<0.0005	<0.0005	0.00202 J	-	-	-	-	-	-	-
Dup-04			-	-	<0.0002	<0.0005	<0.0005	0.00194 J	-	-	-	-	-	-	-
RPD (%)			N/A	N/A	N/A	N/A	N/A	4.04%	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TW-21	1222993	6/10/2022	-	-	<0.004	1.71	<0.01	4.62	-	-	-	-	-	-	-
Dup-04			-	-	<0.004	1.67	<0.01	4.76	-	-	-	-	-	-	-
RPD (%)			N/A	N/A	N/A	2.37%	N/A	2.99%	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TW-23	1222993	6/9/2022	-	-	<0.0002	<0.0005	<0.0005	<0.0015	-	-	-	-	-	-	-
Dup-03			-	-	<0.0002	<0.0005	<0.0005	<0.0015	-	-	-	-	-	-	-
RPD (%)			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TW-25	1225515	9/8/2022	-	-	0.000266 J	0.0228	<0.01	0.111	-	-	-	-	-	-	-
Dup-03			-	-	0.000254 J	0.0213	<0.01	0.104	-	-	-	-	-	-	-
RPD (%)			N/A	N/A	4.62%	6.80%	N/A	6.51%	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BH31-4-6	1223987	7/12/2022	-	-	-	-	-	<0.0358	<0.0715	<0.0715	32	-	-	-	
Dup-02			-	-	-	-	-	-	<0.0440	<0.0880	<0.0880	35	-	-	-
RPD (%)			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.96%	N/A	N/A	N/A	
BH37-5-7	1223987	7/13/2022	-	-	-	-	-	<0.0396	<0.0790	<0.0790	2.66	-	-	-	
Dup-03			-	-	-	-	-	-	<0.0471	<0.0940	<0.0940	3.95	-	-	-
RPD (%)			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	39.03%	N/A	N/A	N/A	
BH41-6.5-7	1223987	7/13/2022	-	-	-	-	-	<0.0127	2.94	<0.0254	10	-	-	-	
Dup-04			-	-	-	-	-	-	<0.675	69.4	<1.350	324	-	-	-
RPD (%)			N/A	N/A	N/A	N/A	N/A	N/A	183.74%	N/A	188.02%	N/A	N/A	N/A	
FSS-1	1216338	9/22/2021	-	-	<0.0002	<0.0005	<0.0005	<0.0015	-	-	-	-	-	-	
DUP-02			-	-	<0.0002	<0.0005	<0.0005	<0.0015	-	-	-	-	-	-	
RPD (%)			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 7  
Groundwater Quality Assurance and Quality Control Sample Analytical Results

Sample Identification	Sample Delivery Group	Date Collected	Acenaphthylene mg/L	Anthracene mg/L	Benzo(a)-anthracene mg/L	Benzo(a)-pyrene mg/L	Benzo(b)-fluoranthene mg/L	Benzo(g,h,i)-perylene mg/L	Benzo(k)-fluoranthene mg/L	Chrysene mg/L	Dibenz(a,h)-anthracene mg/L	Fluoranthene mg/L	Fluorene mg/L	Indeno(1,2,3-cd)pyrene mg/L
OBC Groundwater Cleanup Level <sup>a</sup>			N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
18 AAC 75.341, Table B1 Cleanup Level, Migration-to-Groundwater			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18 AAC 75.345, Table C Cleanup Level			0.26	0.043	0.0003	0.00025	0.0025	0.00026	0.0008	0.002	0.00025	0.26	0.29	0.00019
18 AAC 70, Alaska Water Quality Standard Cleanup Level			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Trip Blanks</b>														
TRIP BLANK	1220384	1/28/2022	-	-	-	-	-	-	-	-	-	-	-	-
TB-022422	1220773	2/24/2022	-	-	-	-	-	-	-	-	-	-	-	-
TB-032122	1221170	3/21/2022	-	-	-	-	-	-	-	-	-	-	-	-
TRIP BLANK	1222071	5/4/2022	-	-	-	-	-	-	-	-	-	-	-	-
TRIP BLANK	1222994	6/7/2022	-	-	-	-	-	-	-	-	-	-	-	-
TRIP BLANK	1222993	6/8/2022	-	-	-	-	-	-	-	-	-	-	-	-
TRIP BLANK	1223748	7/6/2022	-	-	-	-	-	-	-	-	-	-	-	-
TRIP BLANK	1225273	8/31/2022	-	-	-	-	-	-	-	-	-	-	-	-
TRIP BLANK 1	1225515	9/7/2022	-	-	-	-	-	-	-	-	-	-	-	-
TRIP BLANK 2	1225515	9/7/2022	-	-	-	-	-	-	-	-	-	-	-	-
<b>Duplicate Samples</b>														
TW-15	1222993	6/8/2022	-	-	-	-	-	-	-	-	-	-	-	-
DUP-01			-	-	-	-	-	-	-	-	-	-	-	-
RPD (%)			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
W-6	1222993	6/9/2022	<0.0232	<0.0232	<0.0232	<0.00925	<0.0232	<0.0232	<0.0232	<0.0232	<0.00925	<0.0232	<0.0232	<0.0232
DUP-02			<0.0227	<0.0227	<0.0227	<0.00910	<0.0227	<0.0227	<0.0227	<0.0227	<0.0227	<0.00910	<0.0227	<0.0227
RPD (%)			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
W-7	1225515	9/7/2022	<0.0240	<0.0240	<0.0240	<0.00960	<0.0240	<0.0240	<0.0240	<0.0240	<0.00960	<0.0240	0.0159 J	<0.0240
DUP-01			<0.0240	<0.0240	<0.0240	<0.00960	<0.0240	<0.0240	<0.0240	<0.0240	<0.0240	<0.00960	<0.0240	<0.0240
RPD (%)			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TW-18S	1225515	9/7/2022	-	-	-	-	-	-	-	-	-	-	-	-
Dup-04			-	-	-	-	-	-	-	-	-	-	-	-
RPD (%)			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TW-21	1222993	6/10/2022	-	-	-	-	-	-	-	-	-	-	-	-
Dup-04			-	-	-	-	-	-	-	-	-	-	-	-
RPD (%)			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TW-23	1222993	6/9/2022	-	-	-	-	-	-	-	-	-	-	-	-
Dup-03			-	-	-	-	-	-	-	-	-	-	-	-
RPD (%)			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TW-25	1225515	9/8/2022	-	-	-	-	-	-	-	-	-	-	-	-
Dup-03			-	-	-	-	-	-	-	-	-	-	-	-
RPD (%)			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BH31-4-6	1223987	7/12/2022	-	-	-	-	-	-	-	-	-	-	-	-
Dup-02			-	-	-	-	-	-	-	-	-	-	-	-
RPD (%)			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BH37-5-7	1223987	7/13/2022	-	-	-	-	-	-	-	-	-	-	-	-
Dup-03			-	-	-	-	-	-	-	-	-	-	-	-
RPD (%)			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BH41-6.5-7	1223987	7/13/2022	-	-	-	-	-	-	-	-	-	-	-	-
Dup-04			-	-	-	-	-	-	-	-	-	-	-	-
RPD (%)			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
FSS-1	1216338	9/22/2021	-	-	-	-	-	-	-	-	-	-	-	-
DUP-02			-	-	-	-	-	-	-	-	-	-	-	-
RPD (%)			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 7  
Groundwater Quality Assurance and Quality Control Sample Analytical Results

Sample Identification	Sample Delivery Group	Date Collected	Naphthalene mg/L	Phenanthrene mg/L	Pyrene mg/L	Alkalinity mg/L	Sulfate mg/L	Nitrate Nitrite as N mg/L	Dissolved Iron mg/L	Total Iron mg/L	Methane mg/L	pH Units	Specific Conductance umhos/cm
OBC Groundwater Cleanup Level <sup>a</sup>			N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
18 AAC 75.341, Table B1 Cleanup Level, Migration-to-Groundwater			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18 AAC 75.345, Table C Cleanup Level			0.0017	0.17	0.12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18 AAC 70, Alaska Water Quality Standard Cleanup Level			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Trip Blanks</b>													
TRIP BLANK	1220384	1/28/2022	-	-	-	-	-	-	-	-	-	-	-
TB-022422	1220773	2/24/2022	-	-	-	-	-	-	-	-	-	-	-
TB-032122	1221170	3/21/2022	-	-	-	-	-	-	-	-	-	-	-
TRIP BLANK	1222071	5/4/2022	-	-	-	-	-	-	-	-	-	-	-
TRIP BLANK	1222994	6/7/2022	-	-	-	-	-	-	-	-	-	-	-
TRIP BLANK	1222993	6/8/2022	-	-	-	-	-	-	-	-	-	-	-
TRIP BLANK	1223748	7/6/2022	-	-	-	-	-	-	-	-	-	-	-
TRIP BLANK	1225273	8/31/2022	-	-	-	-	-	-	-	-	-	-	-
TRIP BLANK 1	1225515	9/7/2022	-	-	-	-	-	-	-	-	-	-	-
TRIP BLANK 2	1225515	9/7/2022	-	-	-	-	-	-	-	-	-	-	-
<b>Duplicate Samples</b>													
TW-15	1222993	6/8/2022	-	-	-	-	-	-	-	-	-	-	-
DUP-01			-	-	-	-	-	-	-	-	-	-	-
RPD (%)			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
W-6	1222993	6/9/2022	<0.0463	<0.0463	<0.0232	-	-	-	-	-	-	-	-
DUP-02			<0.0454	<0.0454	<0.0227	-	-	-	-	-	-	-	-
RPD (%)			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
W-7	1225515	9/7/2022	0.0320 J	0.0385 J	<0.0240	-	-	-	-	-	-	-	-
DUP-01			<0.0481	0.0301 J	<0.0240	-	-	-	-	-	-	-	-
RPD (%)			N/A	24.5%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
TW-18S	1225515	9/7/2022	-	-	-	-	-	-	-	-	-	-	-
Dup-04			-	-	-	-	-	-	-	-	-	-	-
RPD (%)			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TW-21	1222993	6/10/2022	-	-	-	-	-	-	-	-	-	-	-
Dup-04			-	-	-	-	-	-	-	-	-	-	-
RPD (%)			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
TW-23	1222993	6/9/2022	-	-	-	-	-	-	-	-	-	-	-
Dup-03			-	-	-	-	-	-	-	-	-	-	-
RPD (%)			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
TW-25	1225515	9/8/2022	-	-	-	-	-	-	-	-	-	-	-
Dup-03			-	-	-	-	-	-	-	-	-	-	-
RPD (%)			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
BH31-4-6	1223987	7/12/2022	-	-	-	-	-	-	-	-	-	-	-
Dup-02			-	-	-	-	-	-	-	-	-	-	-
RPD (%)			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
BH37-5-7	1223987	7/13/2022	-	-	-	-	-	-	-	-	-	-	-
Dup-03			-	-	-	-	-	-	-	-	-	-	-
RPD (%)			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
BH41-6.5-7	1223987	7/13/2022	-	-	-	-	-	-	-	-	-	-	-
Dup-04			-	-	-	-	-	-	-	-	-	-	-
RPD (%)			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
FSS-1	1216338	9/22/2021	-	-	-	-	-	-	-	-	-	-	-
DUP-02			-	-	-	-	-	-	-	-	-	-	-
RPD (%)			N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	



Notes:

- a OBC groundwater cleanup levels only applied to remediation areas (i.e. source area wells and landfarm area wells inside the slurry wall)
- < Sample result was not detected above the associated value. For samples collected in 2018, the reported value is the LOQ. For samples collected after 2018, the reported value is the LOD.
- Not Analyzed
- AAC Alaska Administrative Code
- OBC Order by Consent
- RPD Relative Percent Difference
- N/A Not Applicable
- N/S Not Specified
- Value RPD is greater than 30% for water and 50% for soil.
- Value exceeds the relevant cleanup level

Qualifiers:

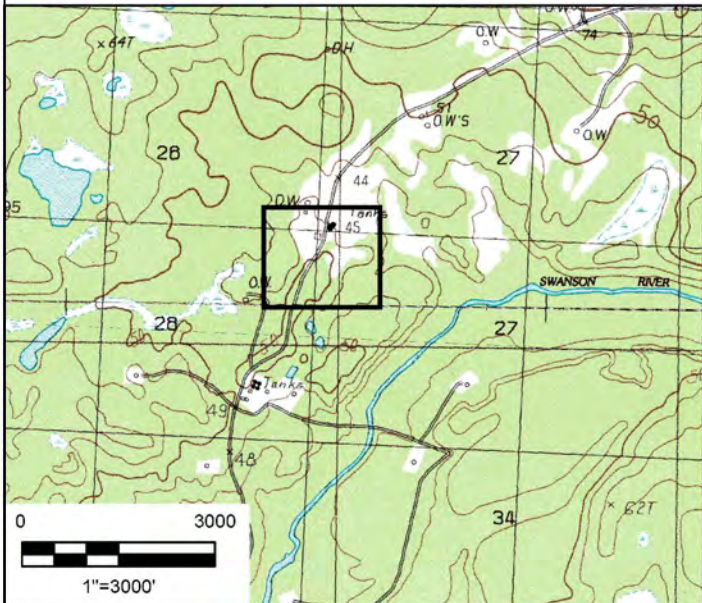
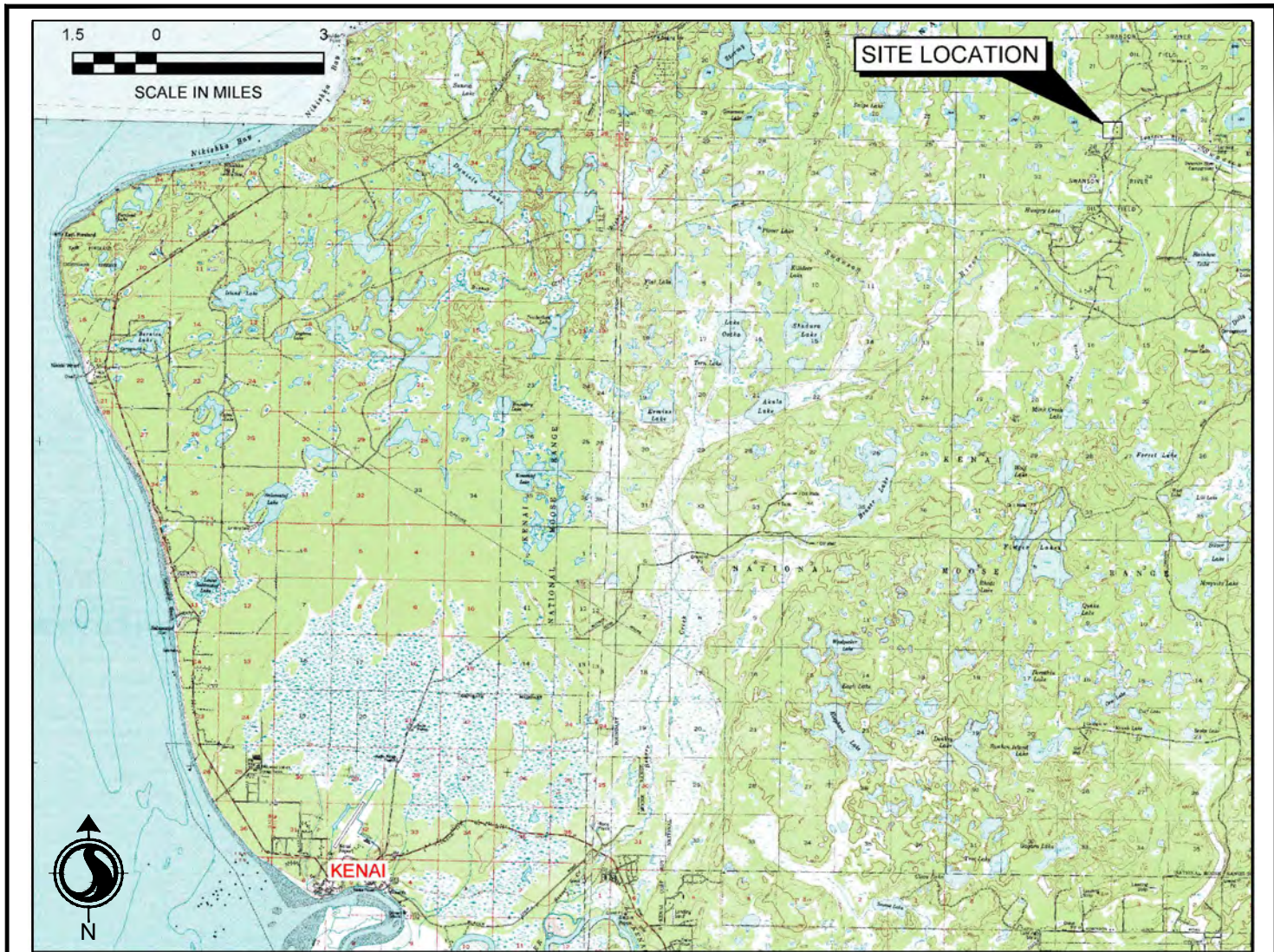
- J The quantitation is an estimation.


FIGURES

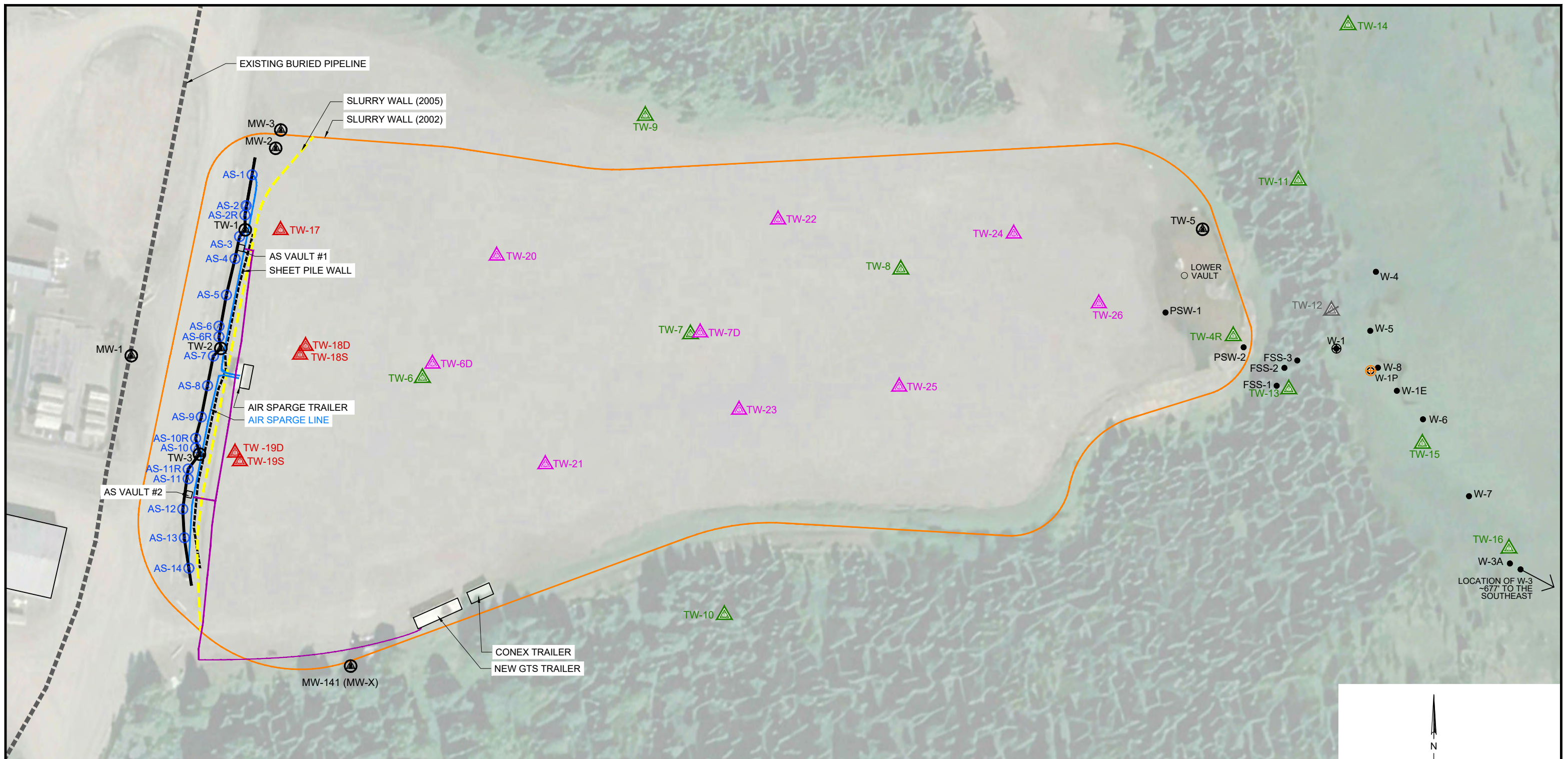
## FIGURES

- Figure 1**      **Site Location Map**
- Figure 2**      **Site Features & Groundwater Sample Locations**
- Figure 3**      **Wetland Soil Sampling Analysis**
- Figure 4**      **June 2022 Groundwater Sample Exceedance Concentration Map**
- Figure 5**      **September 2022 Groundwater Sample Exceedance Concentration Map**
- Figure 6**      **June 2022 Groundwater Contour Map**
- Figure 7**      **September 2022 Groundwater Contour Map**
- Figure 8**      **Site Plan Showing Cross-Section Locators**
- Figure 9**      **Cross-Section A-A'**
- Figure 10**     **Cross-Section B-B'**
- Figure 11**     **Total Xylene Isoconcentration Map – September 2021 & March 2022**
- Figure 12**     **Ethylbenzene Isoconcentration Map – September 2021 & March 2022**



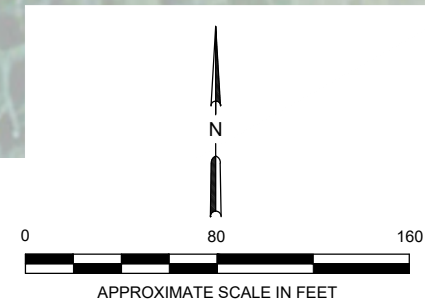


	FOR: CHEVRON ENVIRONMENTAL MANAGEMENT AND REAL ESTATE COMPANY P&S YARD, SWANSON RIVER FIELD STERLING, ALASKA		SITE LOCATION MAP		FIGURE:  <b>1</b>
	JOB NUMBER: 203721236	DRAWN BY: JO	CHECKED BY: JM	APPROVED BY: TM	DATE: 01/30/23



**LEGEND**

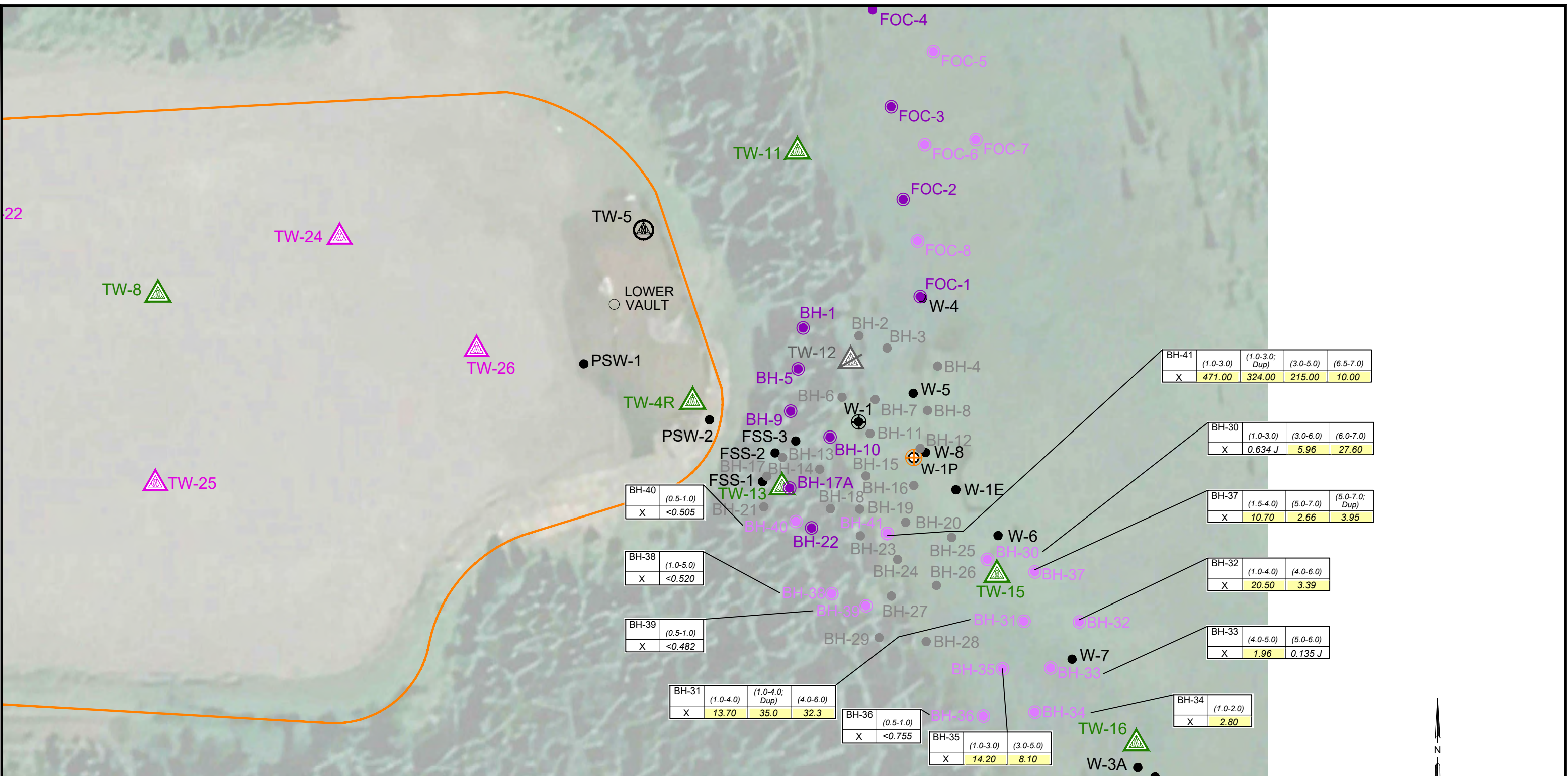
- |       |  |         |                                     |
|-------|--|---------|-------------------------------------|
| MW-1  | EXISTING MONITORING WELL               | —       | SLURRY WALL (2002)                  |
| TW-3  | TEMPORARY WELL (2014)                  | - - -   | SLURRY WALL (2005)                  |
| TW-7  | TEMPORARY WELL (2016)                  | — — — — | SHEET PILE WALL                     |
| TW-17 | TEMPORARY WELL (2018)                  | — — — — | AIR SPARGE LINE                     |
| TW-6D | TEMPORARY WELL (2020)                  | — — — — | AIR SPARGE TRENCH WATER RETURN LINE |
| TW-12 | ABANDONED TEMPORARY WELL               | — — — — | EXISTING BURIED PIPELINE            |
| W-4   | SURFACE WATER SAMPLE LOCATION          |         |                                     |
| W-1P  | GROUNDWATER WELL COMPLIANCE POINT      |         |                                     |
| W-1   | HISTORIC SURFACE WATER SAMPLE LOCATION |         |                                     |
| AS-13 | AIR SPARGE WELL                        |         |                                     |



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	FOR: CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY P&S YARD, SWANSON RIVER FIELD STERLING, ALASKA		SITE FEATURES & GROUNDWATER SAMPLE LOCATIONS		FIGURE: <b>2</b>
	JOB NUMBER: 203721236	DRAWN BY: JO	CHECKED BY: JM	APPROVED BY: TM	DATE: 01/30/23



**LEGEND**

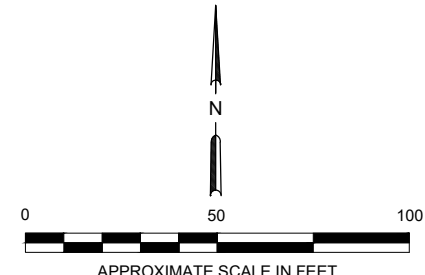
- TW-3 (circle with cross) TEMPORARY WELL (2014)
- TW-7 (triangle with cross) TEMPORARY WELL (2016)
- TW-17 (triangle with cross) TEMPORARY WELL (2018)
- TW-6D (triangle with cross) TEMPORARY WELL (2020)
- TW-12 (triangle with cross) ABANDONED TEMPORARY WELL
- W-4 (circle) SURFACE WATER SAMPLE LOCATION
- BH-2 (circle) WETLAND SOIL SAMPLE LOCATION (2020)
- BH-1 (circle) WETLAND SOIL SAMPLE LOCATION (2021)
- W-1P (circle with cross) GROUNDWATER WELL COMPLIANCE POINT
- W-1 (circle with cross) HISTORIC SURFACE WATER SAMPLE LOCATION
- BH-30 (circle) WETLAND SOIL SAMPLE LOCATION (2021)

**NOTES**

- ANALYSIS FOR TOTAL XYLENE BY METHOD 8260D
- ALL TOTAL XYLENE CONCENTRATIONS IN MILLIGRAMS PER KILOGRAM (mg/kg)
- ABBREVIATIONS:  
 (3-4): REPRESENTS SAMPLE COLLECTION DEPTH IN FEET BELOW GROUND SURFACE, 3-4 FEET  
 \*: DESIGNATED DUPLICATE SAMPLE  
 X: TOTAL XYLENES  
 TOC: TOTAL ORGANIC COMPOUND (%)  
 <: INDICATES THE ANALYTE WAS NOT DETECTED ABOVE THE LIMIT OF DETECTION  
 J: THE QUANTITATION IS AN ESTIMATE

YELLOW HIGHLIGHT INDICATES RESULTS EXCEED 18 AAC 75, TABLE B.1 MIGRATION TO GROUNDWATER CLEANUP LEVELS.

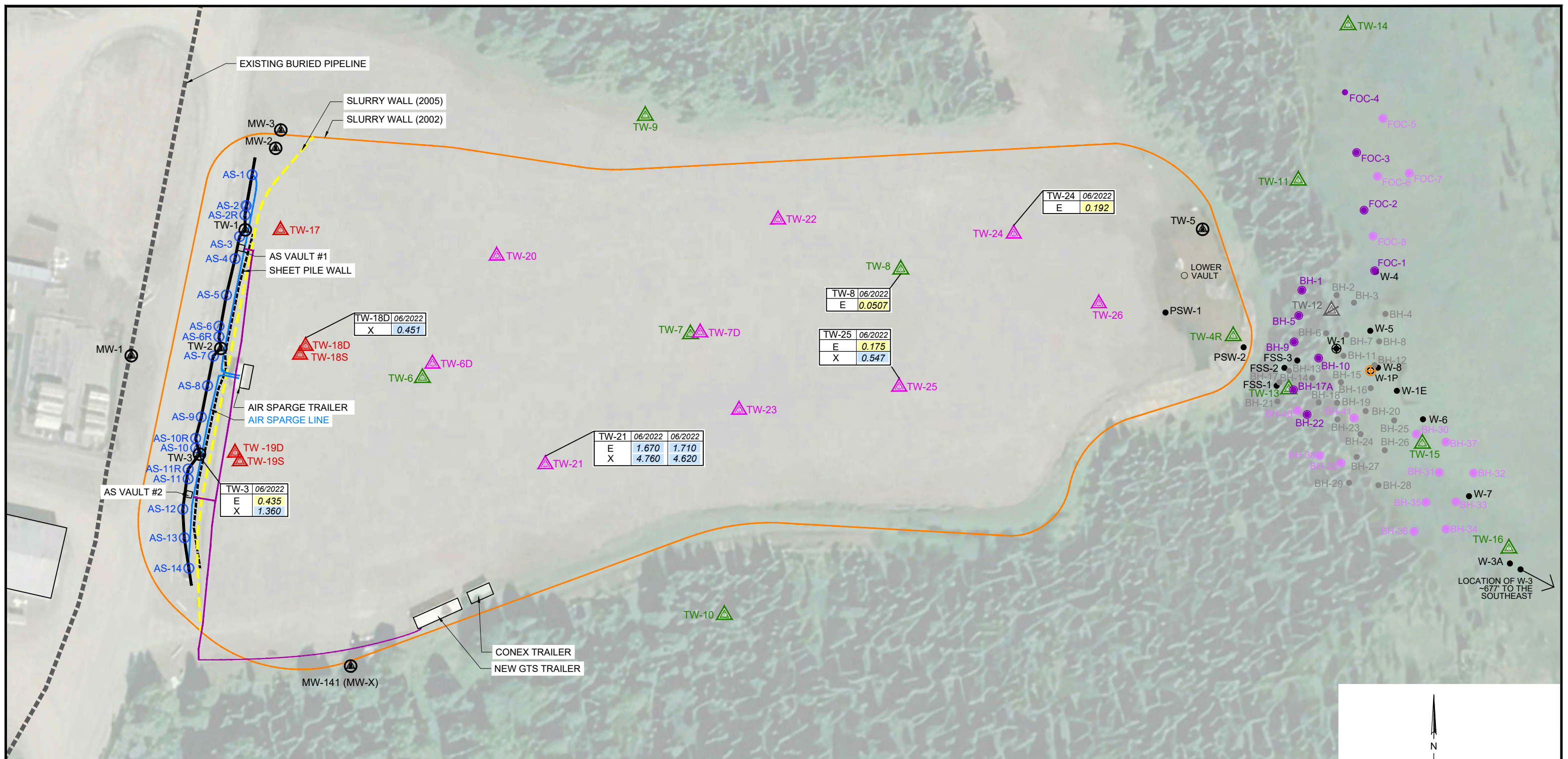
LOCATION OF W-3 ~677' TO THE SOUTHEAST



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IMAGERY REFERENCE:  
GOOGLE EARTH IMAGE, JULY 2018

	FOR: CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY P&S YARD, SWANSON RIVER FIELD STERLING, ALASKA		WETLAND SOIL SAMPLING ANALYSIS		FIGURE: <b>3</b>
	JOB NUMBER: 203721236	DRAWN BY: JO	CHECKED BY: JM	APPROVED BY: TM	DATE: 01/30/23



**LEGEND**

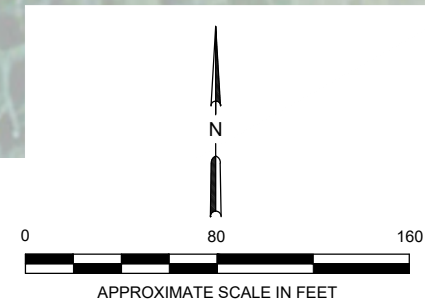
- EXISTING MONITORING WELL
- TEMPORARY WELL (2014)
- TEMPORARY WELL (2016)
- TEMPORARY WELL (2018)
- TEMPORARY WELL (2020)
- SURFACE WATER SAMPLE LOCATION
- WETLAND SOIL SAMPLE LOCATION (2020)
- WETLAND SOIL SAMPLE LOCATION (2021)
- GROUNDWATER WELL COMPLIANCE POINT
- HISTORIC SURFACE WATER SAMPLE LOCATION
- AIR SPARGE WELL
- WETLAND SOIL SAMPLE LOCATION (2022)

**NOTES**

1. ONLY CLEANUP LEVEL EXCEEDANCE CONCENTRATIONS ARE SHOWN
2. ANALYSIS FOR BTEX BY METHOD 8260D
3. ALL BTEX CONCENTRATIONS IN MILLIGRAMS PER LITER (mg/L)
4. ABBREVIATIONS:  
 E: ETHYLBENZENE  
 X: TOTAL XYLENES  
 TAqH: TOTAL AQUEOUS HYDROCARBONS  
 TAH: TOTAL AROMATIC HYDROCARBONS

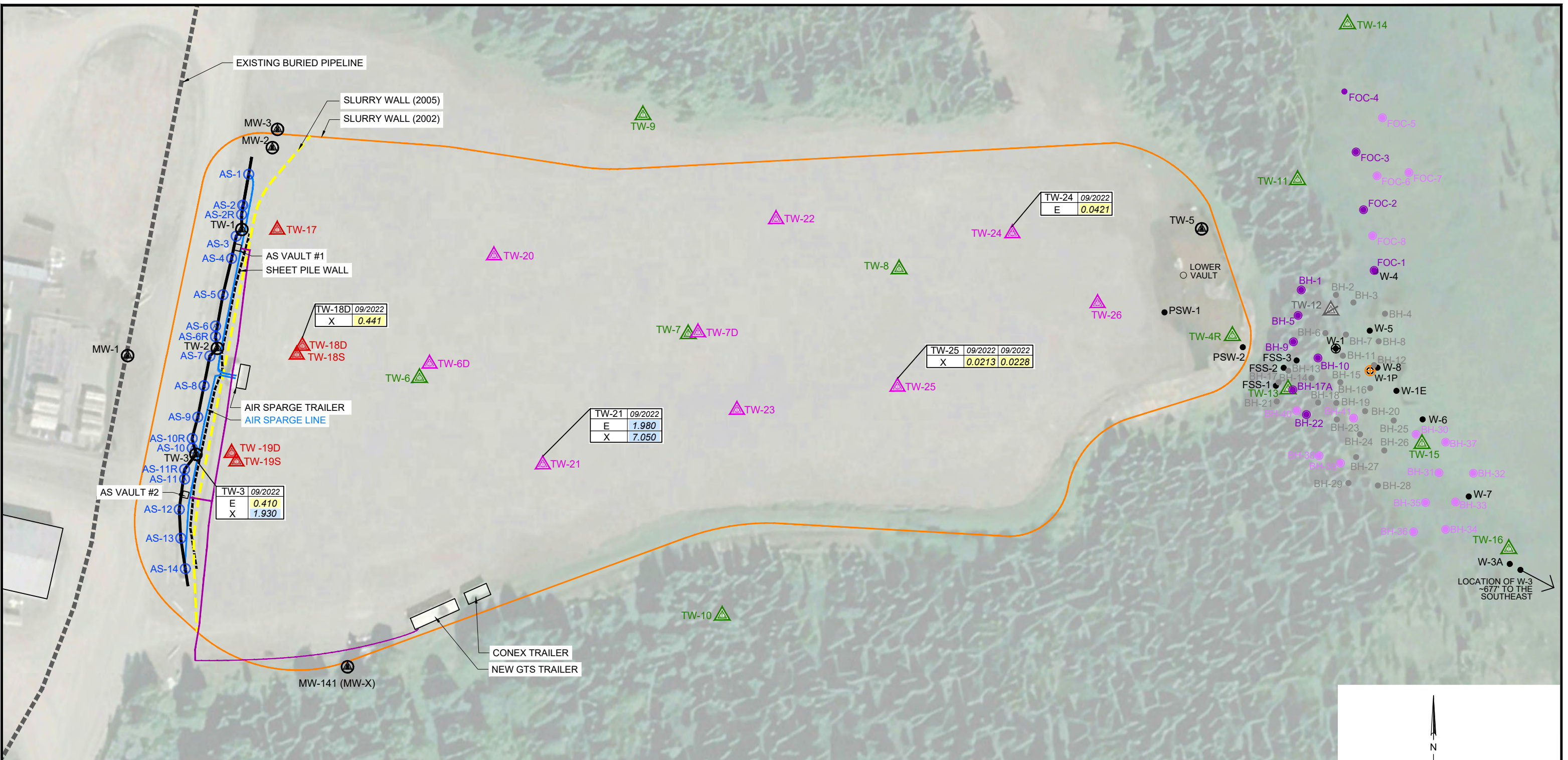
- BLUE HIGHLIGHT INDICATES RESULTS EXCEED OBC (ORDER-BY-CONSENT) CLEANUP LEVELS.
- YELLOW HIGHLIGHT INDICATES RESULTS EXCEED 18 AAC 75 CLEANUP LEVELS.
- GREEN HIGHLIGHT INDICATES RESULTS EXCEED 18 AAC 70 CLEANUP LEVELS.

IMAGERY REFERENCE:  
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	FOR: CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY P&S YARD, SWANSON RIVER FIELD STERLING, ALASKA		JUNE 2022 GROUNDWATER SAMPLE EXCEEDANCE CONCENTRATIONS MAP		FIGURE: <b>4</b>
	JOB NUMBER: 203721236	DRAWN BY: JO	CHECKED BY: JM	APPROVED BY: AB	DATE: 01/30/23



**LEGEND**

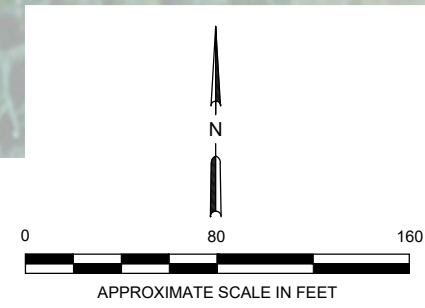
- EXISTING MONITORING WELL
- TEMPORARY WELL (2014)
- TEMPORARY WELL (2016)
- TEMPORARY WELL (2018)
- TEMPORARY WELL (2020)
- SURFACE WATER SAMPLE LOCATION
- WETLAND SOIL SAMPLE LOCATION (2020)
- WETLAND SOIL SAMPLE LOCATION (2021)
- GROUNDWATER WELL COMPLIANCE POINT
- HISTORIC SURFACE WATER SAMPLE LOCATION
- AIR SPARGE WELL
- WETLAND SOIL SAMPLE LOCATION (2022)

**NOTES**

1. ONLY CLEANUP LEVEL EXCEEDANCE CONCENTRATIONS ARE SHOWN
2. ANALYSIS FOR BTEX BY METHOD 8260D
3. ALL BEX CONCENTRATIONS IN MILLIGRAMS PER LITER (mg/L)
4. ABBREVIATIONS:  
 E: ETHYLBENZENE  
 X: TOTAL XYLENES  
 TAqH: TOTAL AQUEOUS HYDROCARBONS  
 TAH: TOTAL AROMATIC HYDROCARBONS

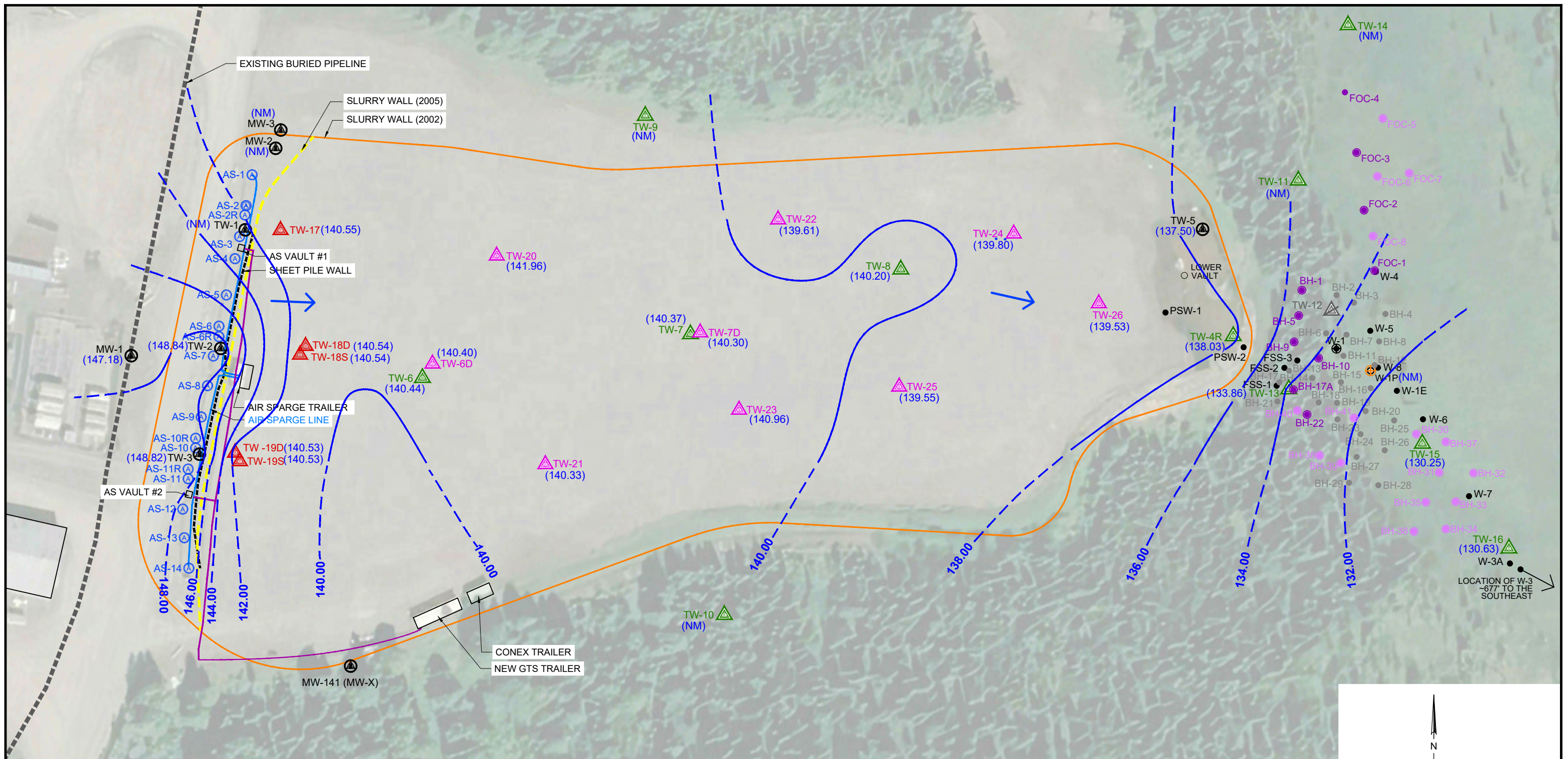
- BLUE HIGHLIGHT INDICATES RESULTS EXCEED OBC (ORDER-BY-CONSENT) CLEANUP LEVELS.
- YELLOW HIGHLIGHT INDICATES RESULTS EXCEED 18 AAC 75 CLEANUP LEVELS.
- GREEN HIGHLIGHT INDICATES RESULTS EXCEED 18 AAC 70 CLEANUP LEVELS.

IMAGERY REFERENCE:  
GOOGLE EARTH IMAGE, JULY 2018



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	FOR: CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY P&S YARD, SWANSON RIVER FIELD STERLING, ALASKA		SEPTEMBER 2022 GROUNDWATER SAMPLE EXCEEDANCE CONCENTRATIONS MAP		FIGURE: <b>5</b>
	JOB NUMBER: 203721236	DRAWN BY: JO	CHECKED BY: EF	APPROVED BY: AB	DATE: 01/30/23



**LEGEND**

- MW-1 ● EXISTING MONITORING WELL
- TW-3 ● TEMPORARY WELL (2014)
- TW-7 ▲ TEMPORARY WELL (2016)
- TW-17 ▲ TEMPORARY WELL (2018)
- TW-6D ▲ TEMPORARY WELL (2020)
- TW-12 ▲ ABANDONED TEMPORARY WELL
- W-4 ● SURFACE WATER SAMPLE LOCATION
- BH-2 ● WETLAND SOIL SAMPLE LOCATION (2020)
- BH-1 ● WETLAND SOIL SAMPLE LOCATION (2021)
- W-1P ● GROUNDWATER WELL COMPLIANCE POINT
- W-1 ● HISTORIC SURFACE WATER SAMPLE LOCATION
- AS-13 ● AIR SPARGE WELL
- BH-30 ● WETLAND SOIL SAMPLE LOCATION (2022)

- INFERRED GROUNDWATER FLOW DIRECTION
- (147.84) GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- (NM) NOT MEASURED
- GROUNDWATER ELEVATION CONTOUR (FEET ABOVE MEAN SEAS LEVEL); DASHED WHERE INFERRED

**NOTES**

GROUNDWATER ELEVATION DATA WERE COLLECTED BETWEEN JUNE 7, 2022 AND JUNE 10, 2022.

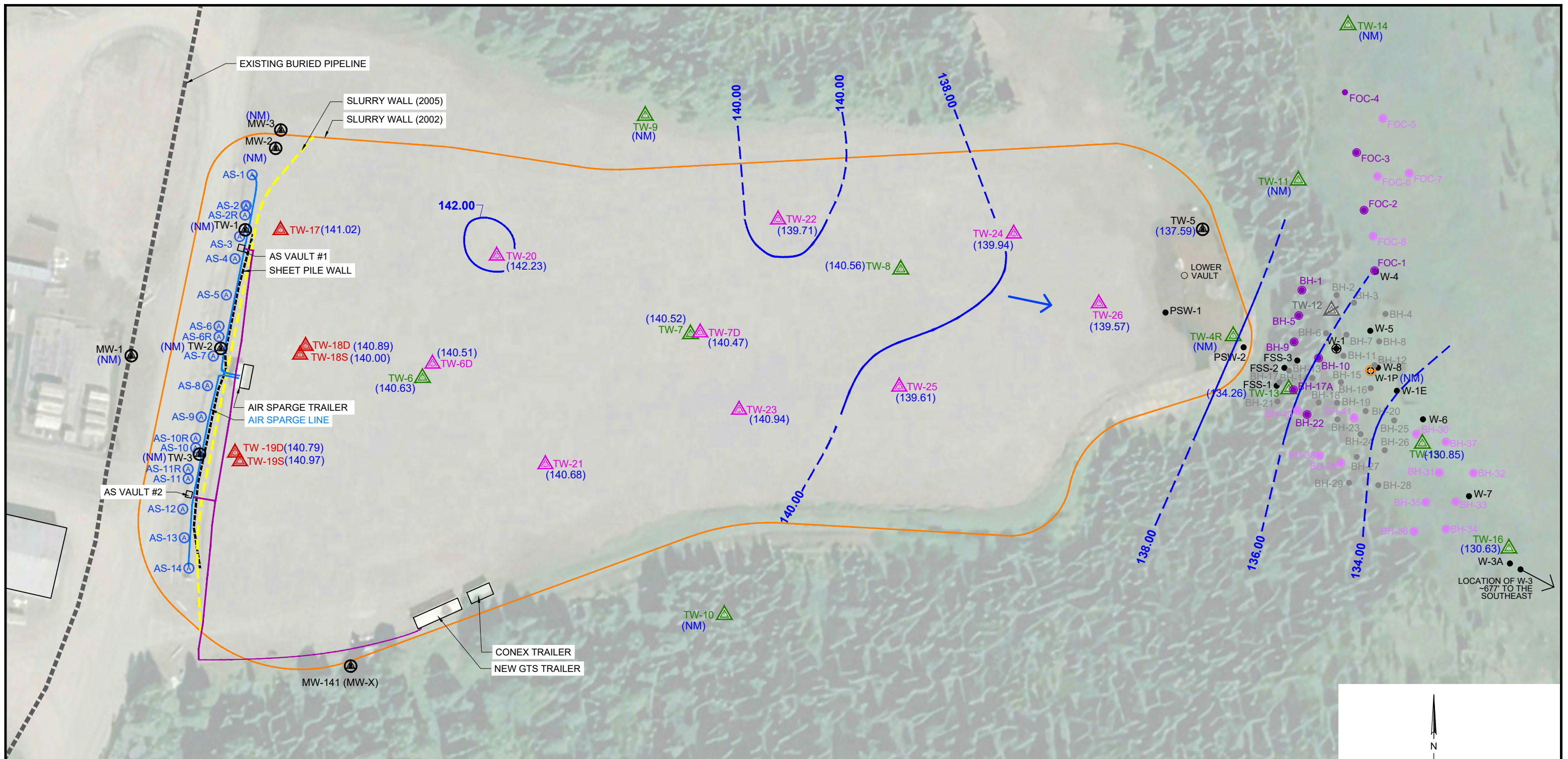
GROUNDWATER CONTOURS WERE CREATED USING SURFER VERSION 20.0

IMAGERY REFERENCE:  
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	FOR: CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY P&S YARD, SWANSON RIVER FIELD STERLING, ALASKA		JUNE 2022 GROUNDWATER CONTOUR MAP		FIGURE: <b>6</b>
	JOB NUMBER: 203721236	DRAWN BY: JO	CHECKED BY: JM	APPROVED BY: TM	DATE: 01/30/23





**LEGEND**

- MW-1 ● EXISTING MONITORING WELL
- TW-3 ● TEMPORARY WELL (2014)
- TW-7 ▲ TEMPORARY WELL (2016)
- TW-17 ▲ TEMPORARY WELL (2018)
- TW-6D ▲ TEMPORARY WELL (2020)
- TW-12 ▲ ABANDONED TEMPORARY WELL
- W-4 ● SURFACE WATER SAMPLE LOCATION
- BH-2 ● WETLAND SOIL SAMPLE LOCATION (2020)
- BH-1 ● WETLAND SOIL SAMPLE LOCATION (2021)
- W-1P ● GROUNDWATER WELL COMPLIANCE POINT
- W-1 ● HISTORIC SURFACE WATER SAMPLE LOCATION
- AS-13 ● AIR SPARGE WELL
- BH-30 ● WETLAND SOIL SAMPLE LOCATION (2022)

- ➔ INFERRED GROUNDWATER FLOW DIRECTION
- (137.59) GROUNDWATER ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- (NM) NOT MEASURED
- GROUNDWATER ELEVATION CONTOUR (FEET ABOVE MEAN SEAS LEVEL); DASHED WHERE INFERRED

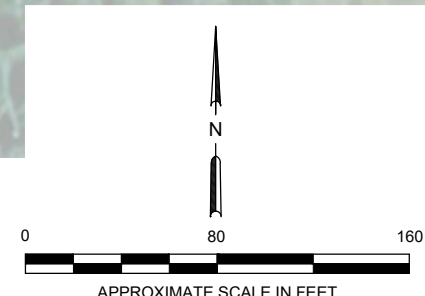
**NOTES**

GROUNDWATER ELEVATION DATA WERE COLLECTED BETWEEN SEPTEMBER 7, 2022 AND SEPTEMBER 9, 2022

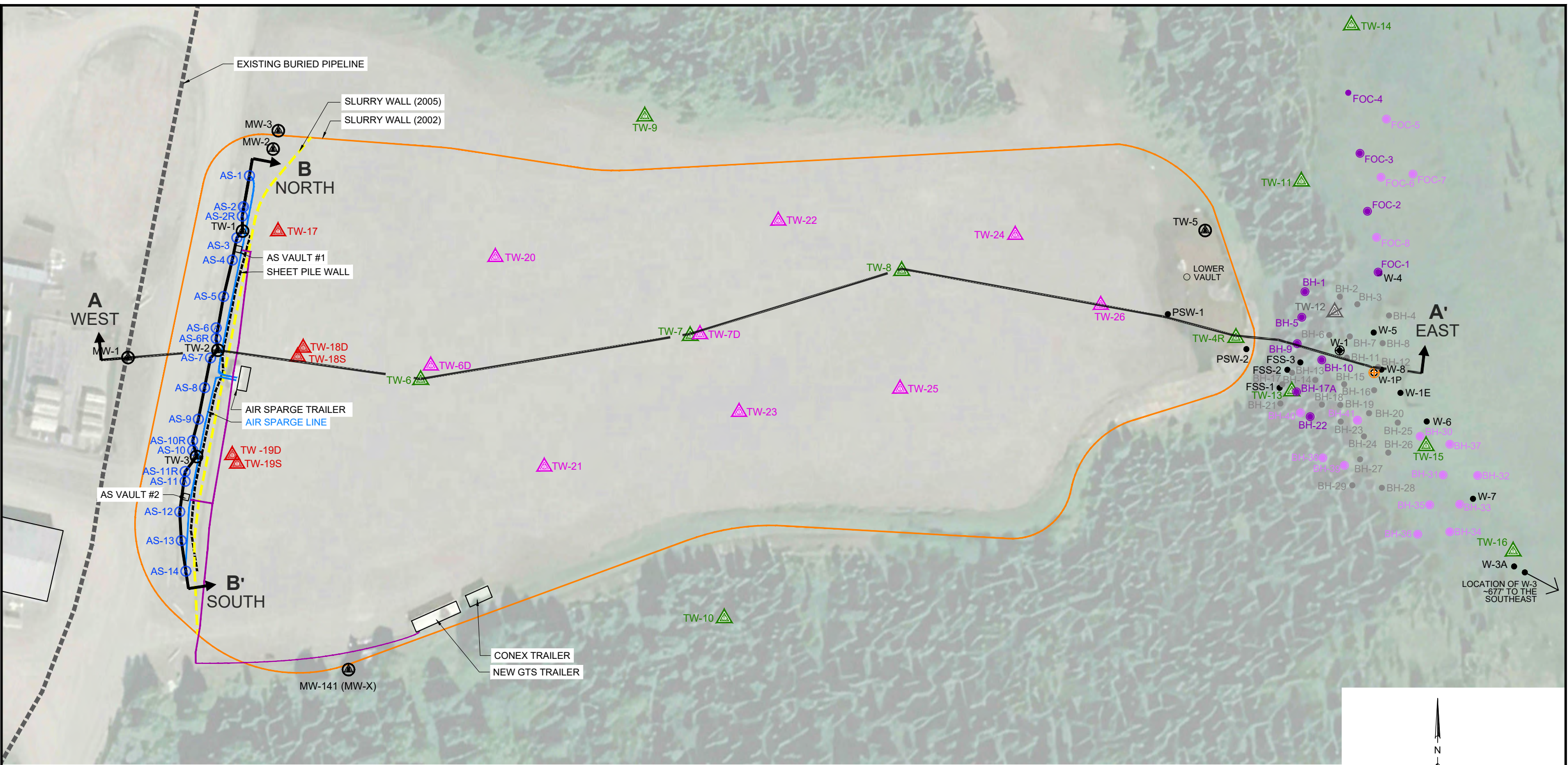
GROUNDWATER CONTOURS WERE CREATED USING SURFER VERSION 20.0

IMAGERY REFERENCE:  
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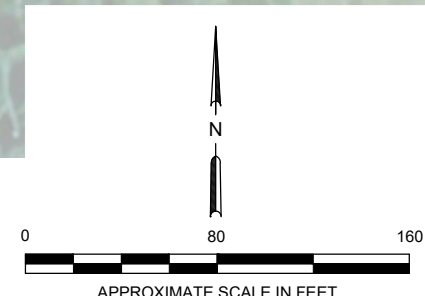


	FOR: CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY P&S YARD, SWANSON RIVER FIELD STERLING, ALASKA		SEPTEMBER 2022 GROUNDWATER CONTOUR MAP		FIGURE: <b>7</b>
	JOB NUMBER: 203721236	DRAWN BY: JO	CHECKED BY: JM	APPROVED BY: TM	DATE: 01/30/23



**LEGEND**

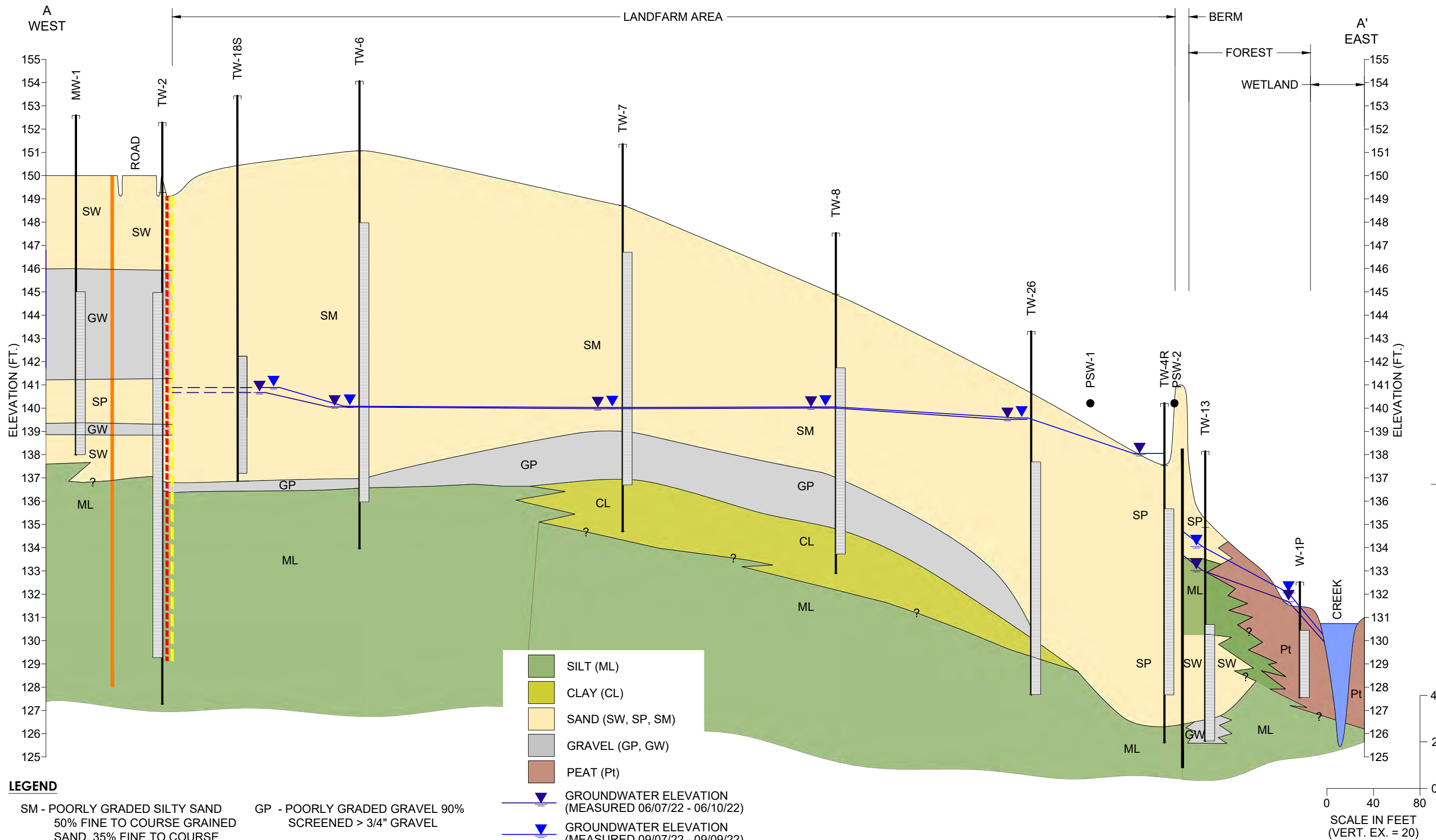
MW-1	EXISTING MONITORING WELL
TW-3	TEMPORARY WELL (2014)
TW-7	TEMPORARY WELL (2016)
TW-17	TEMPORARY WELL (2018)
TW-6D	TEMPORARY WELL (2020)
TW-12	ABANDONED TEMPORARY WELL
W-4	SURFACE WATER SAMPLE LOCATION
BH-2	WETLAND SOIL SAMPLE LOCATION (2020)
BH-1	WETLAND SOIL SAMPLE LOCATION (2021)
W-1P	GROUNDWATER WELL COMPLIANCE POINT
W-1	HISTORIC SURFACE WATER SAMPLE LOCATION
AS-13	AIR SPARGE WELL
BH-30	WETLAND SOIL SAMPLE LOCATION (2022)



IMAGERY REFERENCE:  
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	FOR: CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY P&S YARD, SWANSON RIVER FIELD STERLING, ALASKA		SITE PLAN SHOWING CROSS SECTION LOCATORS		FIGURE: <b>8</b>
	JOB NUMBER: 203721236	DRAWN BY: JO	CHECKED BY: JM	APPROVED BY: TM	DATE: 01/30/23



**LEGEND**

SM - POORLY GRADED SILTY SAND  
50% FINE TO COURSE GRAINED SAND, 35% FINE TO COURSE GRAINED GRAVEL, 15% SILT

SP - POORLY GRADED SAND WITH GRAVEL SILTY SAND  
60% FINE TO COURSE GRAINED SAND, 35% FINE TO COURSE GRAINED GRAVEL, TRACE SILT

ML - AQUITARD MATERIAL SANDY SILT

Pt - PEAT

GP - POORLY GRADED GRAVEL 90% SCREENED > 3/4" GRAVEL

CL - CLAY

GROUNDWATER ELEVATION (MEASURED 06/07/22 - 06/10/22)

GROUNDWATER ELEVATION (MEASURED 09/07/22 - 09/09/22)

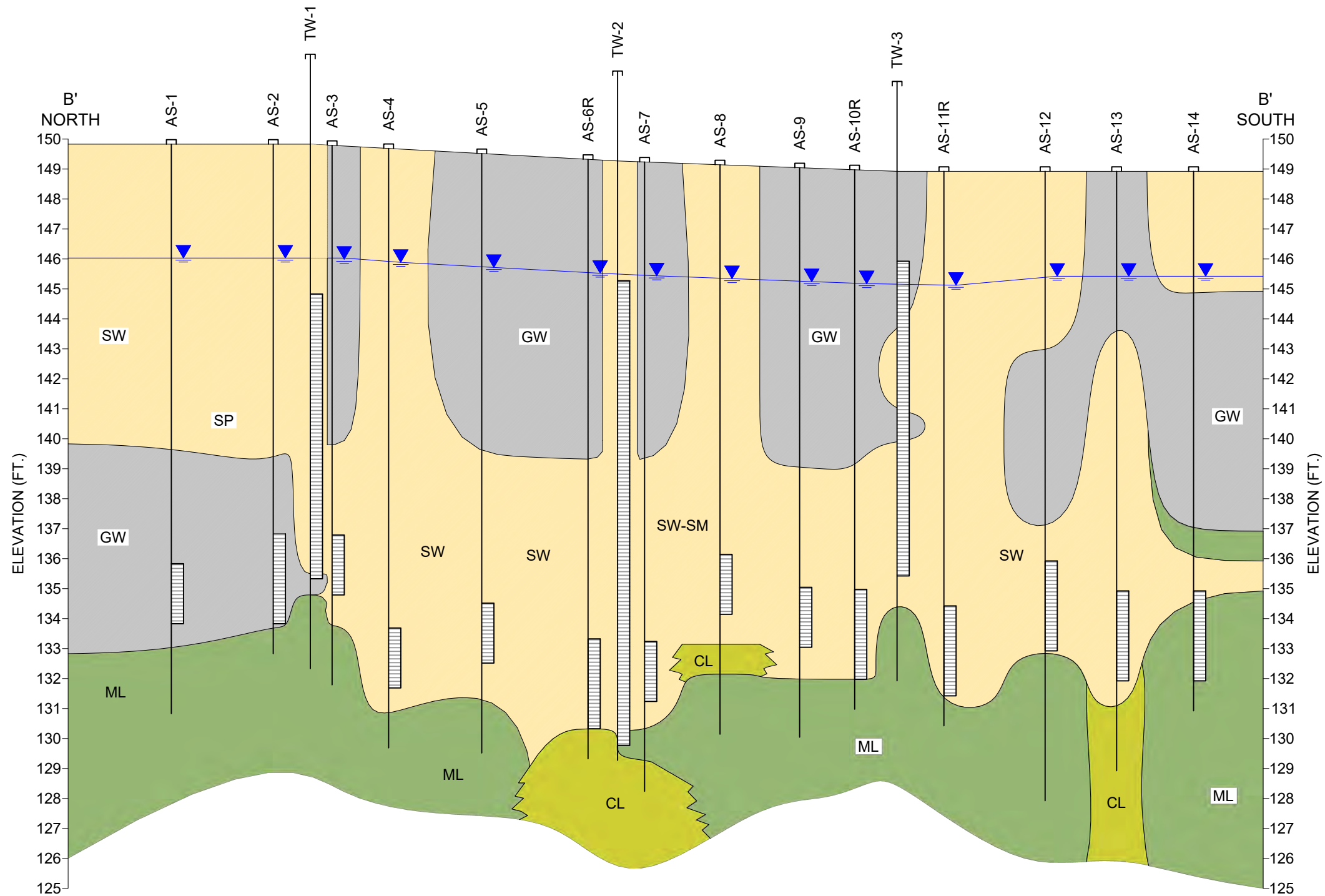
WELL SCREEN INTERVAL

SLURRY WALL (2002)

SLURRY WALL (2005)

SHEET PILE WALL

	FOR: CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY P&S YARD, SWANSON RIVER FIELD STERLING, ALASKA		2023 CROSS-SECTION A-A'		FIGURE: <b>9</b>
	JOB NUMBER: 203721236	DRAWN BY: JO	CHECKED BY: JM	APPROVED BY: TM	DATE: 01/30/23



**LEGEND**

SM - POORLY GRADED SILTY SAND  
50% FINE TO COURSE GRAINED SAND, 35% FINE TO COURSE GRAINED GRAVEL, 15% SILT

SP - POORLY GRADED SAND WITH GRAVEL SILTY SAND  
60% FINE TO COURSE GRAINED SAND, 35% FINE TO COURSE GRAINED GRAVEL, TRACE SILT

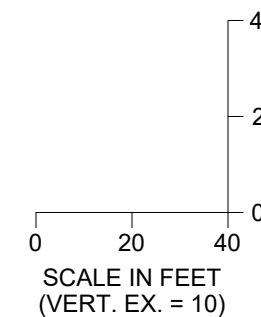
GP - POORLY GRADED GRAVEL 90% SCREENED > 3/4" GRAVEL

CL - CLAY

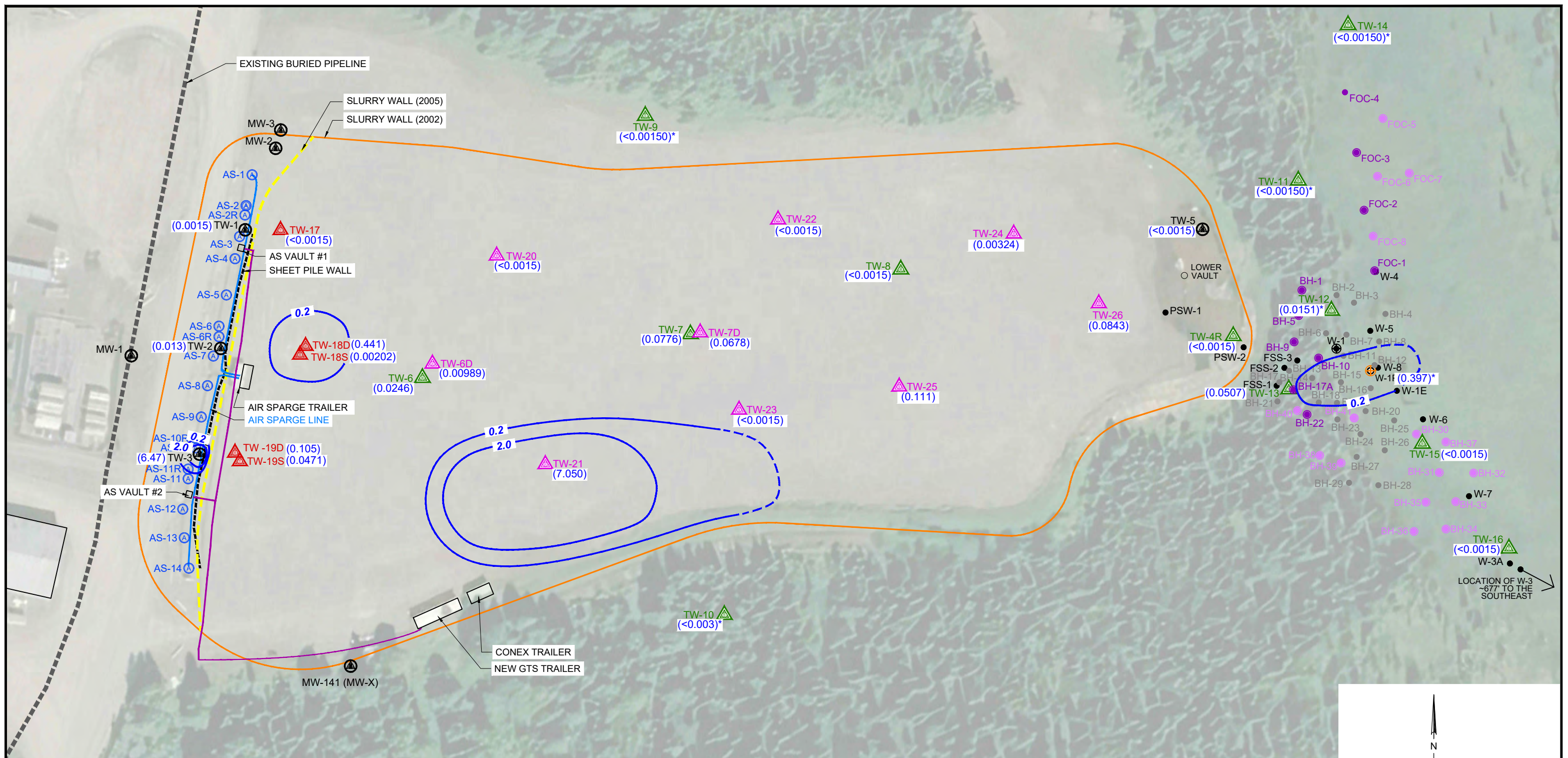
ML - AQUITARD MATERIAL SANDY SILT

Pt - PEAT

- SILT (ML)
- CLAY (CL)
- SAND (SW, SP, SM)
- GRAVEL (GP, GW)
- GROUNDWATER ELEVATION (MEASURED 06/08/15 - 06/13/15)
- WELL SCREEN INTERVAL



	FOR: CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY P&S YARD, SWANSON RIVER FIELD STERLING, ALASKA		2023 CROSS-SECTION B-B'		FIGURE: <span style="font-size: 24pt; font-weight: bold;">10</span>
	JOB NUMBER: 203721236	DRAWN BY: JO	CHECKED BY: JM	APPROVED BY: TM	DATE: 01/30/23

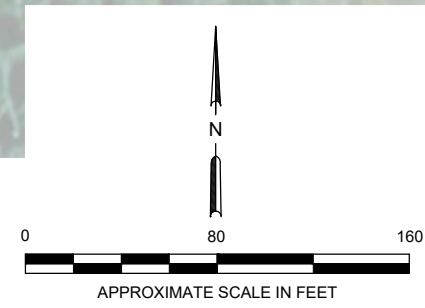


**LEGEND**

- EXISTING MONITORING WELL
- TEMPORARY WELL (2014)
- TEMPORARY WELL (2016)
- TEMPORARY WELL (2018)
- TEMPORARY WELL (2020)
- SURFACE WATER SAMPLE LOCATION
- WETLAND SOIL SAMPLE LOCATION (2020)
- WETLAND SOIL SAMPLE LOCATION (2021)
- GROUNDWATER WELL COMPLIANCE POINT
- HISTORIC SURFACE WATER SAMPLE LOCATION
- AIR SPARGE WELL
- WETLAND SOIL SAMPLE LOCATION (2022)

- TOTAL XYLENE CONCENTRATION (mg/L)
- PRE 2022 DATA USED
- XYLENE CONTOUR, OBC GROUNDWATER CLEANUP LEVEL, 0.2 & 2.0 mg/L (DASHED WHERE INFERRERD)
- MILLIGRAMS PER LITER

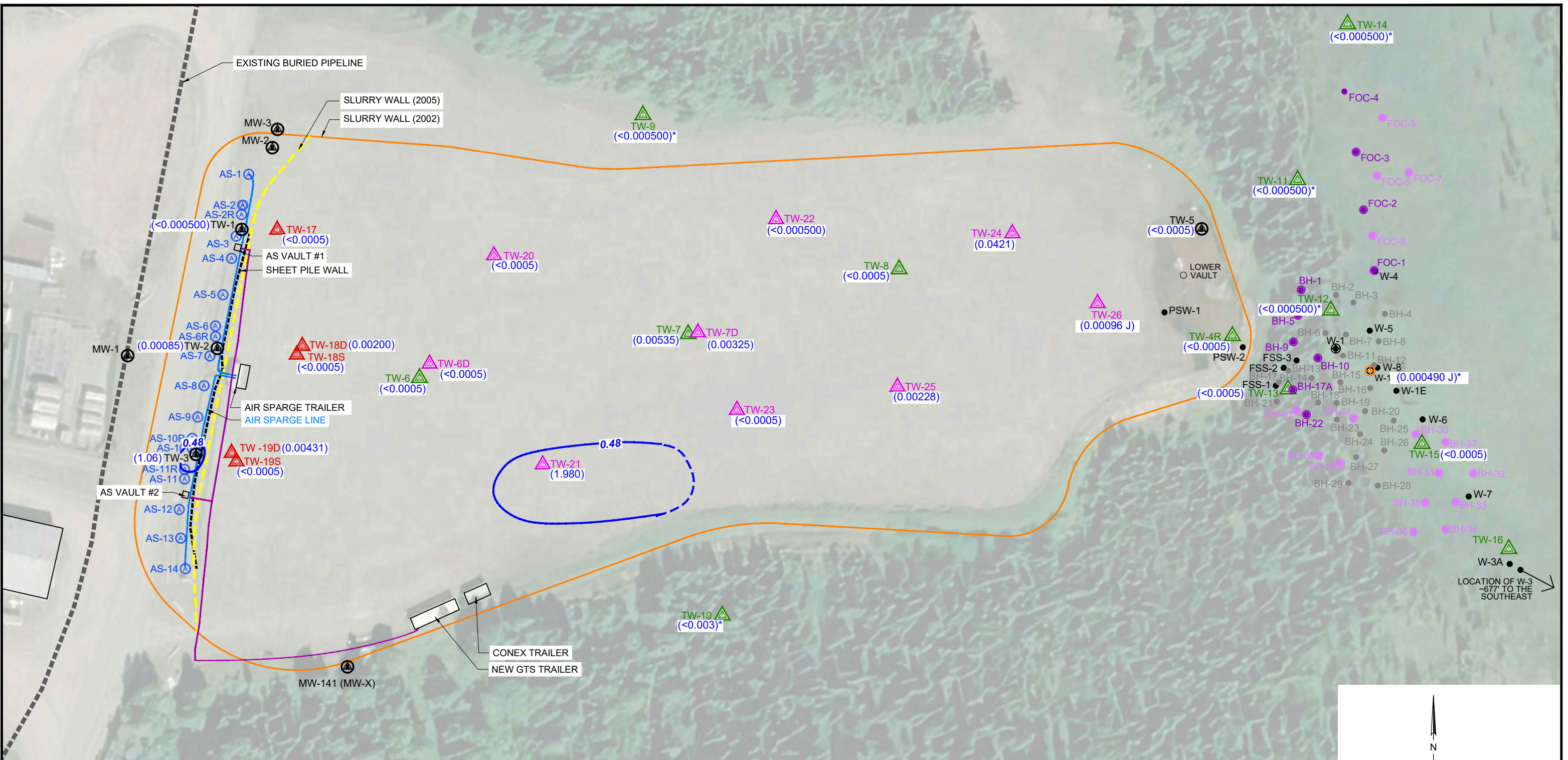
WELLS TW-1, TW-2, & TW3 WERE SAMPLED IN MARCH 2022, ALL OTHERS WERE SAMPLED IN SEPTEMBER 2022 UNLESS OTHERWISE NOTED.



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	FOR: CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY P&S YARD, SWANSON RIVER FIELD STERLING, ALASKA		TOTAL XYLENE ISOCONCENTRATION MAP - MARCH 2022 & SEPTEMBER 2022		FIGURE:  <b>11</b>
	JOB NUMBER: 203721236	DRAWN BY: JO	CHECKED BY: JM	APPROVED BY: AB	DATE: 01/30/23



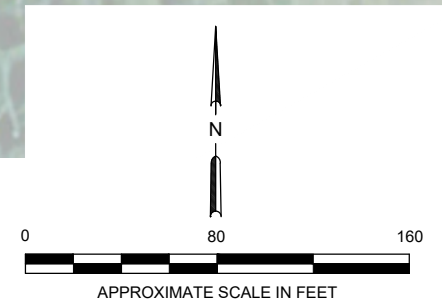
**LEGEND**

- EXISTING MONITORING WELL
- TEMPORARY WELL (2014)
- TEMPORARY WELL (2016)
- TEMPORARY WELL (2018)
- TEMPORARY WELL (2020)
- SURFACE WATER SAMPLE LOCATION
- WETLAND SOIL SAMPLE LOCATION (2020)
- WETLAND SOIL SAMPLE LOCATION (2021)
- GROUNDWATER WELL COMPLIANCE POINT
- HISTORIC SURFACE WATER SAMPLE LOCATION
- AIR SPARGE WELL
- WETLAND SOIL SAMPLE LOCATION (2022)

- (0.00535) ETHYLBENZENE CONCENTRATION (mg/L)
- J ESTIMATED VALUE
- \* PRE 2022 DATA USED
- ETHYLBENZENE CONTOUR, OBC GROUNDWATER CLEANUP LEVEL, 0.48 mg/L (DASHED WHERE INFERRED)
- mg/L MILLIGRAMS PER LITER

WELLS TW-1, TW-2, & TW3 WERE SAMPLED IN MARCH 2022, ALL OTHERS WERE SAMPLED IN SEPTEMBER 2022 UNLESS OTHERWISE NOTED.

IMAGERY REFERENCE:  
GOOGLE EARTH IMAGE, JULY 2018



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	FOR: CHEVRON ENVIRONMENTAL MANAGEMENT COMPANY P&S YARD, SWANSON RIVER FIELD STERLING, ALASKA		ETHYLBENZENE ISOCONCENTRATION MAP - MARCH 2022 & SEPTEMBER 2022		FIGURE:  <b>12</b>
	JOB NUMBER: 203721236	DRAWN BY: JO	CHECKED BY: JM	APPROVED BY: AB	DATE: 01/30/23

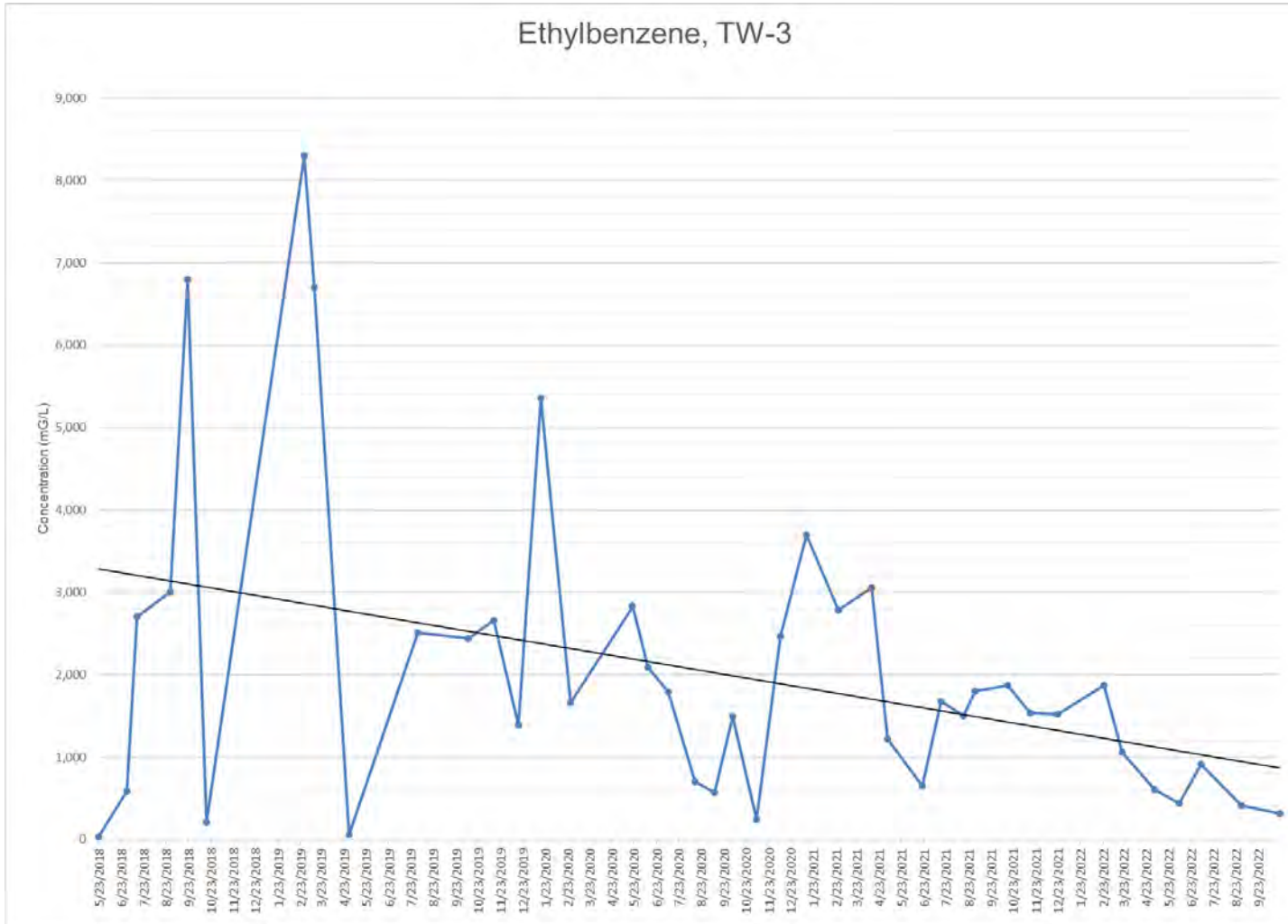
## CHARTS



# SWANSON RIVER UNIT, P&S YARD – 2022 ANNUAL REPORT

## CHARTS

### Chart 1 Source Area Wells – Historical Ethylbenzene Trends

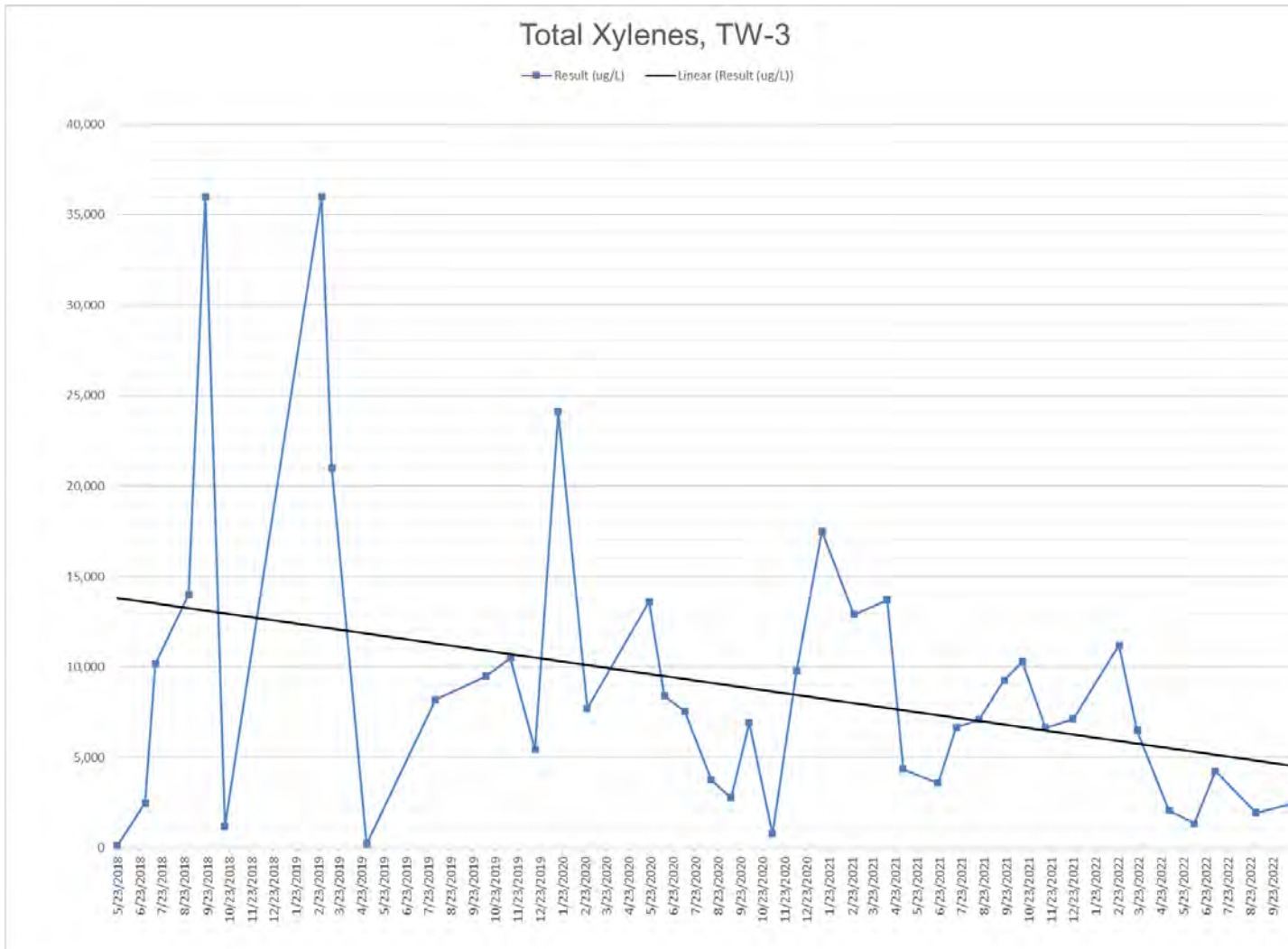




# SWANSON RIVER UNIT, P&S YARD – 2022 ANNUAL REPORT

## CHARTS

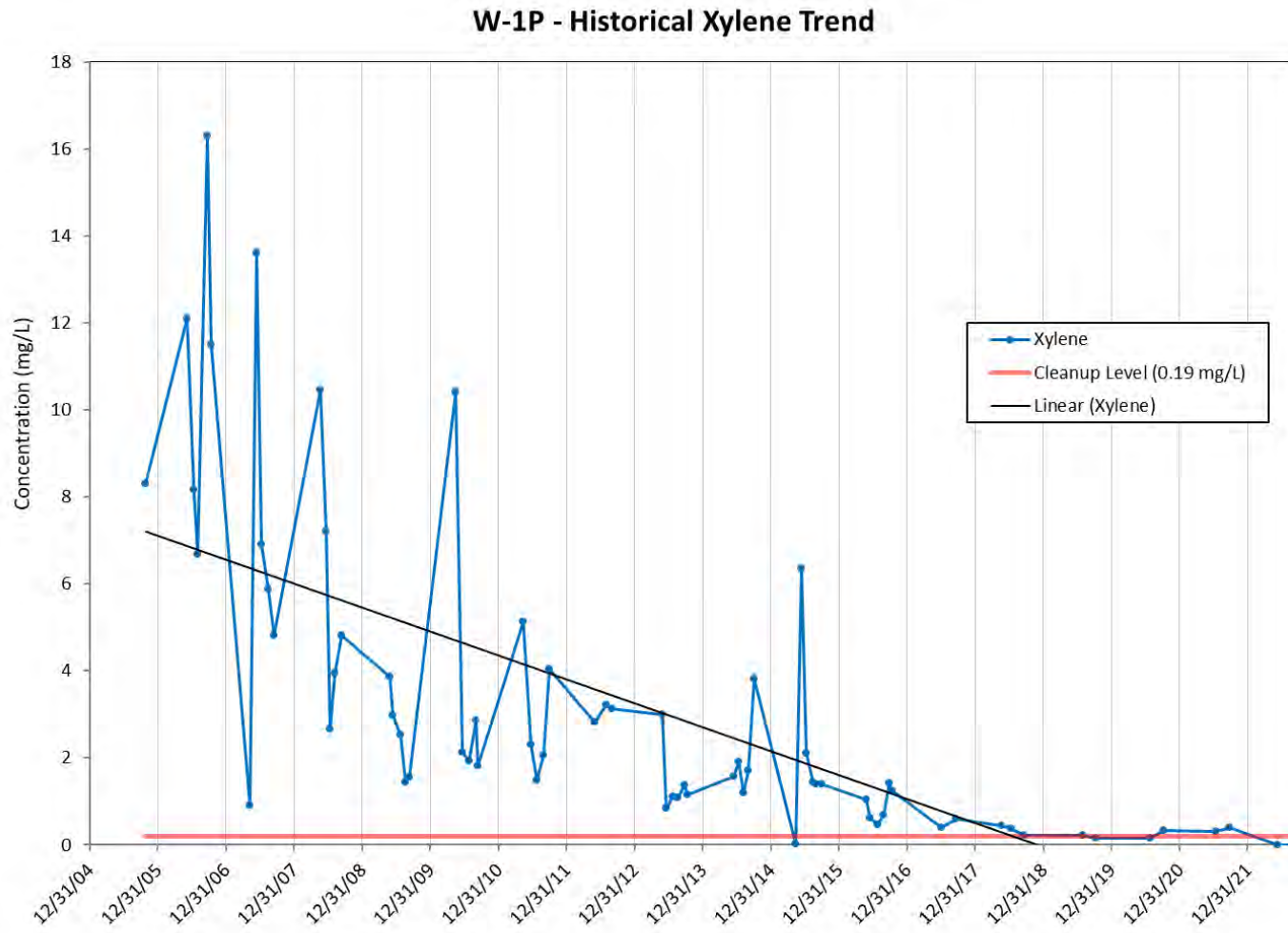
### Chart 2 Source Area Wells – Historical Xylene Trends



SWANSON RIVER UNIT, P&S YARD – 2022 ANNUAL REPORT

CHARTS

Chart 3 W-1P Historical Xylene Trend



**SWANSON RIVER UNIT, P&S YARD – 2022 ANNUAL REPORT**

Appendix A ANALYTICAL LABORATORY REPORTS AND ADEC LABORATORY DATA REVIEW CHECKLISTS

Appendix A **ANALYTICAL LABORATORY REPORTS AND ADEC LABORATORY DATA REVIEW CHECKLISTS**





## Laboratory Report of Analysis

To: Stantec Consulting Services Inc.  
725 East Fireweed Lane, #200  
Anchorage, AK 99503  
(907)266-1148

Report Number: **1220384**

Client Project: **203721236 SRU**

Dear Douglas Quist,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of ten years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Justin at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,  
SGS North America Inc.

---

Justin Nelson  
Project Manager  
Justin.Nelson@sgs.com

Date

## Case Narrative

SGS Client: **Stantec Consulting Services Inc.**

SGS Project: **1220384**

Project Name/Site: **203721236 SRU**

Project Contact: **Douglas Quist**

Refer to sample receipt form for information on sample condition.

### **LB for HBN 1830842 [TCLP/11612 (1653672) LB**

8260D - VOC surrogate recovery for 1,2-dichloroethane-d4 does not meet QC criteria. All analytes in the sample are less than the LOQ.

\*QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to associated field samples.

Print Date: 02/07/2022 4:02:51PM

## Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. The results apply to the samples as received. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the context or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry & Microbiology) & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020B, 7470A, 7471B, 8015C, 8021B, 8082A, 8260D, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). SGS is only certified for the analytes listed on our Drinking Water Certification (DW methods: 200.8, 2130B, 2320B, 2510B, 300.0, 4500-CN-C,E, 4500-H-B, 4500-NO3-F, 4500-P-E and 524.2) and only those analytes will be reported to the State of Alaska for compliance. Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
B	Indicates the analyte is found in a blank associated with the sample.
CCV/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Analytical Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
RPD	Relative Percent Difference
TNTC	Too Numerous To Count
U	Indicates the analyte was analyzed for but not detected.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content. All DRO/RRO analyses are integrated per SOP.

### Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
TW-1	1220384001	01/28/2022	01/31/2022	Water (Surface, Eff., Ground)
TW-2	1220384002	01/28/2022	01/31/2022	Water (Surface, Eff., Ground)
TW-3	1220384003	01/28/2022	01/31/2022	Water (Surface, Eff., Ground)
Trip Blank	1220384004	01/28/2022	01/31/2022	Water (Surface, Eff., Ground)

<u>Method</u>	<u>Method Description</u>
SW8260D	Volatile Organic Compounds (W)

Print Date: 02/07/2022 4:02:55PM

### Detectable Results Summary

Client Sample ID: **TW-2**  
 Lab Sample ID: 1220384002

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Ethylbenzene	50.8	ug/L
o-Xylene	24.8	ug/L
P & M -Xylene	107	ug/L
Xylenes (total)	132	ug/L

Client Sample ID: **TW-3**  
 Lab Sample ID: 1220384003

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Ethylbenzene	1430	ug/L
o-Xylene	166	ug/L
P & M -Xylene	6470	ug/L
Xylenes (total)	6630	ug/L





**Results of TW-1**

Client Sample ID: **TW-1**  
Client Project ID: **203721236 SRU**  
Lab Sample ID: 1220384001  
Lab Project ID: 1220384

Collection Date: 01/28/22 14:00  
Received Date: 01/31/22 14:42  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.200 U	0.400	0.120	ug/L	1		02/03/22 17:32
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		02/03/22 17:32
o-Xylene	0.500 U	1.00	0.310	ug/L	1		02/03/22 17:32
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		02/03/22 17:32
Toluene	0.500 U	1.00	0.310	ug/L	1		02/03/22 17:32
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		02/03/22 17:32
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	114	81-118		%	1		02/03/22 17:32
4-Bromofluorobenzene (surr)	88.3	85-114		%	1		02/03/22 17:32
Toluene-d8 (surr)	99.1	89-112		%	1		02/03/22 17:32

**Batch Information**

Analytical Batch: VMS21474  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 02/03/22 17:32  
Container ID: 1220384001-A

Prep Batch: VXX38347  
Prep Method: SW5030B  
Prep Date/Time: 02/03/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of TW-2**

Client Sample ID: **TW-2**  
Client Project ID: **203721236 SRU**  
Lab Sample ID: 1220384002  
Lab Project ID: 1220384

Collection Date: 01/28/22 14:45  
Received Date: 01/31/22 14:42  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		02/03/22 17:47
Ethylbenzene	50.8	1.00	0.310	ug/L	1		02/03/22 17:47
o-Xylene	24.8	1.00	0.310	ug/L	1		02/03/22 17:47
P & M -Xylene	107	2.00	0.620	ug/L	1		02/03/22 17:47
Toluene	0.500 U	1.00	0.310	ug/L	1		02/03/22 17:47
Xylenes (total)	132	3.00	1.00	ug/L	1		02/03/22 17:47
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	110	81-118		%	1		02/03/22 17:47
4-Bromofluorobenzene (surr)	90.9	85-114		%	1		02/03/22 17:47
Toluene-d8 (surr)	100	89-112		%	1		02/03/22 17:47

**Batch Information**

Analytical Batch: VMS21474  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 02/03/22 17:47  
Container ID: 1220384002-A

Prep Batch: VXX38347  
Prep Method: SW5030B  
Prep Date/Time: 02/03/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of TW-3**

Client Sample ID: **TW-3**  
Client Project ID: **203721236 SRU**  
Lab Sample ID: 1220384003  
Lab Project ID: 1220384

Collection Date: 01/28/22 15:20  
Received Date: 01/31/22 14:42  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	4.00 U	8.00	2.40	ug/L	20		02/03/22 18:16
Ethylbenzene	1430	20.0	6.20	ug/L	20		02/03/22 18:16
o-Xylene	166	20.0	6.20	ug/L	20		02/03/22 18:16
P & M -Xylene	6470	40.0	12.4	ug/L	20		02/03/22 18:16
Toluene	10.0 U	20.0	6.20	ug/L	20		02/03/22 18:16
Xylenes (total)	6630	60.0	20.0	ug/L	20		02/03/22 18:16
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	111	81-118		%	20		02/03/22 18:16
4-Bromofluorobenzene (surr)	88.2	85-114		%	20		02/03/22 18:16
Toluene-d8 (surr)	99.6	89-112		%	20		02/03/22 18:16

**Batch Information**

Analytical Batch: VMS21474  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 02/03/22 18:16  
Container ID: 1220384003-A

Prep Batch: VXX38347  
Prep Method: SW5030B  
Prep Date/Time: 02/03/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



### Results of Trip Blank

Client Sample ID: **Trip Blank**  
 Client Project ID: **203721236 SRU**  
 Lab Sample ID: 1220384004  
 Lab Project ID: 1220384

Collection Date: 01/28/22 12:00  
 Received Date: 01/31/22 14:42  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.200 U	0.400	0.120	ug/L	1		02/03/22 16:19
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		02/03/22 16:19
o-Xylene	0.500 U	1.00	0.310	ug/L	1		02/03/22 16:19
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		02/03/22 16:19
Toluene	0.500 U	1.00	0.310	ug/L	1		02/03/22 16:19
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		02/03/22 16:19
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	110	81-118		%	1		02/03/22 16:19
4-Bromofluorobenzene (surr)	89.7	85-114		%	1		02/03/22 16:19
Toluene-d8 (surr)	98.8	89-112		%	1		02/03/22 16:19

### Batch Information

Analytical Batch: VMS21474  
 Analytical Method: SW8260D  
 Analyst: JMG  
 Analytical Date/Time: 02/03/22 16:19  
 Container ID: 1220384004-A

Prep Batch: VXX38347  
 Prep Method: SW5030B  
 Prep Date/Time: 02/03/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



### Method Blank

Blank ID: MB for HBN 1830903 [VXX/38347]  
Blank Lab ID: 1653919

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1220384001, 1220384002, 1220384003, 1220384004

### Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	114	81-118		%
4-Bromofluorobenzene (surr)	88.4	85-114		%
Toluene-d8 (surr)	99	89-112		%

### Batch Information

Analytical Batch: VMS21474  
Analytical Method: SW8260D  
Instrument: VPA 780/5975 GC/MS  
Analyst: JMG  
Analytical Date/Time: 2/3/2022 1:46:00PM

Prep Batch: VXX38347  
Prep Method: SW5030B  
Prep Date/Time: 2/3/2022 6:00:00AM  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 02/07/2022 4:03:00PM



### Leaching Blank

Blank ID: LB for HBN 1830841 [TCLP/11611]  
Blank Lab ID: 1653671

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1220384001, 1220384002, 1220384003, 1220384004

### Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	10.0U	20.0	6.00	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	118	81-118		%
4-Bromofluorobenzene (surr)	87.7	85-114		%
Toluene-d8 (surr)	98.4	89-112		%

### Batch Information

Analytical Batch: VMS21474  
Analytical Method: SW8260D  
Instrument: VPA 780/5975 GC/MS  
Analyst: JMG  
Analytical Date/Time: 2/3/2022 7:44:00PM

Prep Batch: VXX38347  
Prep Method: SW5030B  
Prep Date/Time: 2/3/2022 6:00:00AM  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 02/07/2022 4:03:00PM



### Leaching Blank

Blank ID: LB for HBN 1830842 [TCLP/11612]  
Blank Lab ID: 1653672

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1220384001, 1220384002, 1220384003, 1220384004

### Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	10.0U	20.0	6.00	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	120*	81-118		%
4-Bromofluorobenzene (surr)	86.3	85-114		%
Toluene-d8 (surr)	99.3	89-112		%

### Batch Information

Analytical Batch: VMS21474  
Analytical Method: SW8260D  
Instrument: VPA 780/5975 GC/MS  
Analyst: JMG  
Analytical Date/Time: 2/3/2022 7:59:00PM

Prep Batch: VXX38347  
Prep Method: SW5030B  
Prep Date/Time: 2/3/2022 6:00:00AM  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 02/07/2022 4:03:00PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1220384 [VXX38347]  
 Blank Spike Lab ID: 1653920  
 Date Analyzed: 02/03/2022 14:01

Spike Duplicate ID: LCSD for HBN 1220384 [VXX38347]  
 Spike Duplicate Lab ID: 1653921  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1220384001, 1220384002, 1220384003, 1220384004

### Results by SW8260D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	30	29.7	99	30	30.0	100	( 79-120 )	0.98	(< 20 )
Ethylbenzene	30	31.1	104	30	31.2	104	( 79-121 )	0.11	(< 20 )
o-Xylene	30	30.8	103	30	30.8	103	( 78-122 )	0.06	(< 20 )
P & M -Xylene	60	61.6	103	60	62.0	103	( 80-121 )	0.62	(< 20 )
Toluene	30	28.1	94	30	28.1	94	( 80-121 )	0.22	(< 20 )
Xylenes (total)	90	92.5	103	90	92.8	103	( 79-121 )	0.40	(< 20 )
<b>Surrogates</b>									
1,2-Dichloroethane-D4 (surr)	30		112	30		109	( 81-118 )	2.10	
4-Bromofluorobenzene (surr)	30		89	30		89	( 85-114 )	0.17	
Toluene-d8 (surr)	30		99	30		99	( 89-112 )	0.12	

### Batch Information

Analytical Batch: VMS21474  
 Analytical Method: SW8260D  
 Instrument: VPA 780/5975 GC/MS  
 Analyst: JMG

Prep Batch: VXX38347  
 Prep Method: SW5030B  
 Prep Date/Time: 02/03/2022 06:00  
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 02/07/2022 4:03:03PM







e-Sample Receipt Form

SGS Workorder #:

1220384



1 2 2 0 3 8 4

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
<b>Chain of Custody / Temperature Requirements</b>	<input checked="" type="checkbox"/> Yes	Exemption permitted if sampler hand carries/delivers.
Were Custody Seals intact? Note # & location	<input type="checkbox"/> N/A	Absent
COC accompanied samples?	<input checked="" type="checkbox"/> Yes	
DOD: Were samples received in COC corresponding coolers?	<input type="checkbox"/> N/A	
<input type="checkbox"/> N/A **Exemption permitted if chilled & collected <8 hours ago, or for samples where chilling is not required		
Temperature blank compliant* (i.e., 0-6 °C after CF)?	<input checked="" type="checkbox"/> Yes	Cooler ID: 1 @ 2.0 °C Therm. ID: D58
	<input type="checkbox"/>	Cooler ID: @ °C Therm. ID:
	<input type="checkbox"/>	Cooler ID: @ °C Therm. ID:
	<input type="checkbox"/>	Cooler ID: @ °C Therm. ID:
	<input type="checkbox"/>	Cooler ID: @ °C Therm. ID:
If samples received without a temperature blank, the "cooler temperature" will be documented instead & "COOLER TEMP" will be noted to the right. "ambient" or "chilled" will be noted if neither is available.		
*If >6°C, were samples collected <8 hours ago?	<input type="checkbox"/> N/A	
If <0°C, were sample containers ice free?	<input type="checkbox"/> N/A	
Note: Identify containers received at non-compliant temperature . Use form FS-0029 if more space is needed.		
<b>Holding Time / Documentation / Sample Condition Requirements</b>		Note: Refer to form F-083 "Sample Guide" for specific holding times.
Were samples received within holding time?	<input checked="" type="checkbox"/> Yes	
Do samples match COC** (i.e., sample IDs, dates/times collected)?	<input checked="" type="checkbox"/> Yes	
**Note: If times differ <1hr, record details & login per COC.		
***Note: If sample information on containers differs from COC, SGS will default to COC information		
Were analytical requests clear? (i.e., method is specified for analyses with multiple option for analysis (Ex: BTEX, Metals)	<input checked="" type="checkbox"/> Yes	
Were proper containers (type/mass/volume/preservative***) used?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> N/A ***Exemption permitted for metals (e.g, 200.8/6020B).
<b>Volatile / LL-Hg Requirements</b>		
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?	<input checked="" type="checkbox"/> Yes	
Were all water VOA vials free of headspace (i.e., bubbles ≤ 6mm)?	<input checked="" type="checkbox"/> Yes	
Were all soil VOAs field extracted with MeOH+BFB?	<input type="checkbox"/> N/A	
<b>Note to Client:</b> Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.		
Additional notes (if applicable):		



## Sample Containers and Preservatives

<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1220384001-A	HCL to pH < 2	OK			
1220384001-B	HCL to pH < 2	OK			
1220384001-C	HCL to pH < 2	OK			
1220384002-A	HCL to pH < 2	OK			
1220384002-B	HCL to pH < 2	OK			
1220384002-C	HCL to pH < 2	OK			
1220384003-A	HCL to pH < 2	OK			
1220384003-B	HCL to pH < 2	OK			
1220384003-C	HCL to pH < 2	OK			
1220384004-A	HCL to pH < 2	OK			
1220384004-B	HCL to pH < 2	OK			
1220384004-C	HCL to pH < 2	OK			

### Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.

BU - The container was received with headspace greater than 6mm.

DM - The container was received damaged.

FR - The container was received frozen and not usable for Bacteria or BOD analyses.

IC - The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.

NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.

PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

QN - Insufficient sample quantity provided.



## Laboratory Report of Analysis

To: Stantec Consulting Services Inc.  
725 East Fireweed Lane, #200  
Anchorage, AK 99503  
(907)266-1148

Report Number: **1220773**

Client Project: **Swanson River Unit**

Dear Douglas Quist,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of ten years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Justin at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,  
SGS North America Inc.

---

Justin Nelson  
Project Manager  
Justin.Nelson@sgs.com

Date

## Case Narrative

SGS Client: **Stantec Consulting Services Inc.**

SGS Project: **1220773**

Project Name/Site: **Swanson River Unit**

Project Contact: **Douglas Quist**

Refer to sample receipt form for information on sample condition.

\*QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to associated field samples.

Print Date: 03/08/2022 8:54:43AM

## Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. The results apply to the samples as received. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the context or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry (Provisionally Certified as of 2/15/2022 for 200.8 Metals) & Microbiology) & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020B, 7470A, 7471B, 8015C, 8021B, 8082A, 8260D, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). SGS is only certified for the analytes listed on our Drinking Water Certification (DW methods: 200.8, 2130B, 2320B, 2510B, 300.0, 4500-CN-C,E, 4500-H-B, 4500-NO3-F, 4500-P-E and 524.2) and only those analytes will be reported to the State of Alaska for compliance. Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
B	Indicates the analyte is found in a blank associated with the sample.
CCV/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Analytical Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
RPD	Relative Percent Difference
TNTC	Too Numerous To Count
U	Indicates the analyte was analyzed for but not detected.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content. All DRO/RRO analyses are integrated per SOP.

### Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
TW - 1	1220773001	02/24/2022	02/25/2022	Water (Surface, Eff., Ground)
TW - 2	1220773002	02/24/2022	02/25/2022	Water (Surface, Eff., Ground)
TW - 3	1220773003	02/24/2022	02/25/2022	Water (Surface, Eff., Ground)
TB-022422	1220773004	02/24/2022	02/25/2022	Water (Surface, Eff., Ground)

<u>Method</u>	<u>Method Description</u>
SW8260D	Volatile Organic Compounds (W)

### Detectable Results Summary

Client Sample ID: **TW - 2**  
 Lab Sample ID: 1220773002  
**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
o-Xylene	0.760J	ug/L

Client Sample ID: **TW - 3**  
 Lab Sample ID: 1220773003  
**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Ethylbenzene	1870	ug/L
o-Xylene	983	ug/L
P & M -Xylene	10200	ug/L
Xylenes (total)	11200	ug/L





Results of TW - 1

Client Sample ID: TW - 1  
Client Project ID: Swanson River Unit  
Lab Sample ID: 1220773001  
Lab Project ID: 1220773

Collection Date: 02/24/22 13:54  
Received Date: 02/25/22 09:27  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		03/04/22 14:23
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		03/04/22 14:23
o-Xylene	0.500 U	1.00	0.310	ug/L	1		03/04/22 14:23
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		03/04/22 14:23
Toluene	0.500 U	1.00	0.310	ug/L	1		03/04/22 14:23
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		03/04/22 14:23
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	103	81-118		%	1		03/04/22 14:23
4-Bromofluorobenzene (surr)	100	85-114		%	1		03/04/22 14:23
Toluene-d8 (surr)	100	89-112		%	1		03/04/22 14:23

Batch Information

Analytical Batch: VMS21505  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 03/04/22 14:23  
Container ID: 1220773001-A

Prep Batch: VXX38395  
Prep Method: SW5030B  
Prep Date/Time: 03/04/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of TW - 2

Client Sample ID: TW - 2  
Client Project ID: Swanson River Unit  
Lab Sample ID: 1220773002  
Lab Project ID: 1220773

Collection Date: 02/24/22 14:39  
Received Date: 02/25/22 09:27  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		03/04/22 17:05
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		03/04/22 17:05
o-Xylene	0.760 J	1.00	0.310	ug/L	1		03/04/22 17:05
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		03/04/22 17:05
Toluene	0.500 U	1.00	0.310	ug/L	1		03/04/22 17:05
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		03/04/22 17:05

Surrogates

1,2-Dichloroethane-D4 (surr)	103	81-118		%	1		03/04/22 17:05
4-Bromofluorobenzene (surr)	98.9	85-114		%	1		03/04/22 17:05
Toluene-d8 (surr)	100	89-112		%	1		03/04/22 17:05

Batch Information

Analytical Batch: VMS21505  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 03/04/22 17:05  
Container ID: 1220773002-A

Prep Batch: VXX38395  
Prep Method: SW5030B  
Prep Date/Time: 03/04/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of TW - 3

Client Sample ID: TW - 3  
Client Project ID: Swanson River Unit  
Lab Sample ID: 1220773003  
Lab Project ID: 1220773

Collection Date: 02/24/22 15:23  
Received Date: 02/25/22 09:27  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	2.00 U	4.00	1.20	ug/L	10		03/04/22 17:20
Ethylbenzene	1870	10.0	3.10	ug/L	10		03/04/22 17:20
o-Xylene	983	50.0	15.5	ug/L	50		03/04/22 16:51
P & M -Xylene	10200	100	31.0	ug/L	50		03/04/22 16:51
Toluene	5.00 U	10.0	3.10	ug/L	10		03/04/22 17:20
Xylenes (total)	11200	150	50.0	ug/L	50		03/04/22 16:51

Surrogates

1,2-Dichloroethane-D4 (surr)	102	81-118		%	10		03/04/22 17:20
4-Bromofluorobenzene (surr)	98.9	85-114		%	10		03/04/22 17:20
Toluene-d8 (surr)	102	89-112		%	10		03/04/22 17:20

Batch Information

Analytical Batch: VMS21505  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 03/04/22 16:51  
Container ID: 1220773003-A

Prep Batch: VXX38395  
Prep Method: SW5030B  
Prep Date/Time: 03/04/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Analytical Batch: VMS21505  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 03/04/22 17:20  
Container ID: 1220773003-A

Prep Batch: VXX38395  
Prep Method: SW5030B  
Prep Date/Time: 03/04/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of **TB-022422**

Client Sample ID: **TB-022422**  
Client Project ID: **Swanson River Unit**  
Lab Sample ID: 1220773004  
Lab Project ID: 1220773

Collection Date: 02/24/22 10:00  
Received Date: 02/25/22 09:27  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		03/04/22 13:23
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		03/04/22 13:23
o-Xylene	0.500 U	1.00	0.310	ug/L	1		03/04/22 13:23
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		03/04/22 13:23
Toluene	0.500 U	1.00	0.310	ug/L	1		03/04/22 13:23
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		03/04/22 13:23
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	102	81-118		%	1		03/04/22 13:23
4-Bromofluorobenzene (surr)	102	85-114		%	1		03/04/22 13:23
Toluene-d8 (surr)	100	89-112		%	1		03/04/22 13:23

**Batch Information**

Analytical Batch: VMS21505  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 03/04/22 13:23  
Container ID: 1220773004-A

Prep Batch: VXX38395  
Prep Method: SW5030B  
Prep Date/Time: 03/04/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

## Method Blank

Blank ID: MB for HBN 1831935 [VXX/38395]  
 Blank Lab ID: 1656185

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
 1220773001, 1220773002, 1220773003, 1220773004

## Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	105	81-118		%
4-Bromofluorobenzene (surr)	101	85-114		%
Toluene-d8 (surr)	100	89-112		%

## Batch Information

Analytical Batch: VMS21505  
 Analytical Method: SW8260D  
 Instrument: Agilent 7890-75MS  
 Analyst: JMG  
 Analytical Date/Time: 3/4/2022 10:22:00AM

Prep Batch: VXX38395  
 Prep Method: SW5030B  
 Prep Date/Time: 3/4/2022 6:00:00AM  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL

Print Date: 03/08/2022 8:54:50AM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1220773 [VXX38395]  
 Blank Spike Lab ID: 1656186  
 Date Analyzed: 03/04/2022 10:37

Spike Duplicate ID: LCSD for HBN 1220773 [VXX38395]  
 Spike Duplicate Lab ID: 1656187  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1220773001, 1220773002, 1220773003, 1220773004

### Results by SW8260D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	30	29.6	99	30	30.8	103	( 79-120 )	3.80	(< 20 )
Ethylbenzene	30	31.0	103	30	31.3	104	( 79-121 )	0.78	(< 20 )
o-Xylene	30	30.9	103	30	31.2	104	( 78-122 )	0.99	(< 20 )
P & M -Xylene	60	62.1	104	60	62.9	105	( 80-121 )	1.20	(< 20 )
Toluene	30	30.7	102	30	30.7	102	( 80-121 )	0.08	(< 20 )
Xylenes (total)	90	93.0	103	90	94.1	105	( 79-121 )	1.10	(< 20 )
<b>Surrogates</b>									
1,2-Dichloroethane-D4 (surr)	30		100	30		100	( 81-118 )	0.42	
4-Bromofluorobenzene (surr)	30		100	30		100	( 85-114 )	0.31	
Toluene-d8 (surr)	30		101	30		100	( 89-112 )	0.47	

### Batch Information

Analytical Batch: VMS21505  
 Analytical Method: SW8260D  
 Instrument: Agilent 7890-75MS  
 Analyst: JMG

Prep Batch: VXX38395  
 Prep Method: SW5030B  
 Prep Date/Time: 03/04/2022 06:00  
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 03/08/2022 8:54:52AM



SGS North America Inc. CHAIN OF CUSTODY RECORD

1220773



**CLIENT:** Stantec

**CONTACT:** Craig Wilson **PHONE #:** 907 240 3752

**PROJECT NAME:** Swanson River Unit **PROJECT/PWSID/PERMIT#:** Swanson River P+S Yard

**REPORTS TO:** **E-MAIL:** craig.wilson@stantec.com

**INVOICE TO:** **Profile #:** P#36242724 **QUOTE #:** **P.O. #:** 203721236

**Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.** Page 1 of 1

**Section 3** Preservative

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/MATRIX CODE	# CONTAINERS	Comp Grab MI (Multi-incremental)	Analysis*										REMARKS/LOC ID				
							HCl														
(1AC)	TW-1	2-24-22	13:54	W	3	G	X														
(2AC)	TW-2	2-24-22	14:39	W	3	G	X														
(3AC)	TW-3	2-24-22	15:23	W	3	G	X														
(4AC)	TB_022422	2-24-22	10:00	W	-	-	X														

**NOTE:** \*The following analyses require specific method and/or compound list: BTEX, Metals, PFAS

**Section 4** DOD Project? Yes (No) **Data Deliverable Requirements:**

**Relinquished By:** (1) Austin Badger **Date:** 2-25-22 **Time:** 9:27 **Received By:** [Signature]

**Relinquished By:** (2) **Date:** **Time:** **Received By:**

**Relinquished By:** (3) **Date:** **Time:** **Received By:**

**Relinquished By:** (4) **Date:** 2/25/22 **Time:** 9:27 **Received For Laboratory By:** [Signature] CJS

**Cooler ID:** **Requested Turnaround Time and/or Special Instructions:**

**Temp Blank °C:** 3.4 DS8 **or Ambient [ ]** **Chain of Custody Seal: (Circle)** INTACT BROKEN **ABSENT**

**Delivery Method:** Hand Delivery / Commerical Delivery [ ]

http://www.sgs.com/terms-and-conditions



e-Sample Receipt Form

SGS Workorder #:

1220773

1220773

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
<b>Chain of Custody / Temperature Requirements</b>	<input checked="" type="checkbox"/> Yes	Exemption permitted if sampler hand carries/delivers.
Were Custody Seals intact? Note # & location	<input type="checkbox"/> N/A	Absent
COC accompanied samples?	<input checked="" type="checkbox"/> Yes	
DOD: Were samples received in COC corresponding coolers?	<input type="checkbox"/> N/A	
<input type="checkbox"/> N/A **Exemption permitted if chilled & collected <8 hours ago, or for samples where chilling is not required		
Temperature blank compliant* (i.e., 0-6 °C after CF)?	<input checked="" type="checkbox"/> Yes	Cooler ID: 1 @ 3.4 °C Therm. ID: D58
	<input type="checkbox"/>	Cooler ID: @ °C Therm. ID:
	<input type="checkbox"/>	Cooler ID: @ °C Therm. ID:
	<input type="checkbox"/>	Cooler ID: @ °C Therm. ID:
	<input type="checkbox"/>	Cooler ID: @ °C Therm. ID:
	<input type="checkbox"/>	Cooler ID: @ °C Therm. ID:
If samples received without a temperature blank, the "cooler temperature" will be documented instead & "COOLER TEMP" will be noted to the right. "ambient" or "chilled" will be noted if neither is available.		
*If >6°C, were samples collected <8 hours ago?	<input type="checkbox"/> N/A	
If <0°C, were sample containers ice free?	<input type="checkbox"/> N/A	
Note: Identify containers received at non-compliant temperature . Use form FS-0029 if more space is needed.		
<b>Holding Time / Documentation / Sample Condition Requirements</b>		Note: Refer to form F-083 "Sample Guide" for specific holding times.
Were samples received within holding time?	<input checked="" type="checkbox"/> Yes	
Do samples match COC** (i.e., sample IDs, dates/times collected)?	<input checked="" type="checkbox"/> Yes	
**Note: If times differ <1hr, record details & login per COC.		
***Note: If sample information on containers differs from COC, SGS will default to COC information		
Were analytical requests clear? (i.e., method is specified for analyses with multiple option for analysis (Ex: BTEX, Metals)	<input checked="" type="checkbox"/> Yes	
Were proper containers (type/mass/volume/preservative***) used?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> N/A ***Exemption permitted for metals (e.g,200.8/6020B).
<b>Volatile / LL-Hg Requirements</b>		
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?	<input checked="" type="checkbox"/> Yes	
Were all water VOA vials free of headspace (i.e., bubbles ≤ 6mm)?	<input checked="" type="checkbox"/> Yes	
Were all soil VOAs field extracted with MeOH+BFB?	<input type="checkbox"/> N/A	
<b>Note to Client:</b> Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.		
Additional notes (if applicable):		





## Sample Containers and Preservatives

<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1220773001-A	HCL to pH < 2	OK			
1220773001-B	HCL to pH < 2	OK			
1220773001-C	HCL to pH < 2	OK			
1220773002-A	HCL to pH < 2	OK			
1220773002-B	HCL to pH < 2	OK			
1220773002-C	HCL to pH < 2	OK			
1220773003-A	HCL to pH < 2	OK			
1220773003-B	HCL to pH < 2	OK			
1220773003-C	HCL to pH < 2	OK			
1220773004-A	HCL to pH < 2	OK			
1220773004-B	HCL to pH < 2	OK			
1220773004-C	HCL to pH < 2	OK			

### Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.

BU - The container was received with headspace greater than 6mm.

DM - The container was received damaged.

FR - The container was received frozen and not usable for Bacteria or BOD analyses.

IC - The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.

NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.

PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

QN - Insufficient sample quantity provided.



## Laboratory Report of Analysis

To: Stantec Consulting Services Inc.  
725 East Fireweed Lane, #200  
Anchorage, AK 99503  
(907)266-1148

Report Number: **1221170**

Client Project: **Swanson River Unit**

Dear Douglas Quist,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of ten years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Justin at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,  
SGS North America Inc.

---

Justin Nelson  
Project Manager  
Justin.Nelson@sgs.com

Date

## Case Narrative

SGS Client: **Stantec Consulting Services Inc.**

SGS Project: **1221170**

Project Name/Site: **Swanson River Unit**

Project Contact: **Douglas Quist**

Refer to sample receipt form for information on sample condition.

\*QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to associated field samples.

Print Date: 04/04/2022 8:30:47AM

## Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. The results apply to the samples as received. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the context or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry & Microbiology) & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020B, 7470A, 7471B, 8015C, 8021B, 8082A, 8260D, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). SGS is only certified for the analytes listed on our Drinking Water Certification (DW methods: 200.8, 2130B, 2320B, 2510B, 300.0, 4500-CN-C,E, 4500-H-B, 4500-NO3-F, 4500-P-E and 524.2) and only those analytes will be reported to the State of Alaska for compliance. Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
B	Indicates the analyte is found in a blank associated with the sample.
CCV/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Analytical Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
RPD	Relative Percent Difference
TNTC	Too Numerous To Count
U	Indicates the analyte was analyzed for but not detected.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content. All DRO/RRO analyses are integrated per SOP.

### Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
TW-1	1221170001	03/21/2022	03/23/2022	Water (Surface, Eff., Ground)
TW-2	1221170002	03/21/2022	03/23/2022	Water (Surface, Eff., Ground)
TW-3	1221170003	03/21/2022	03/23/2022	Water (Surface, Eff., Ground)
TB-032122	1221170004	03/21/2022	03/23/2022	Water (Surface, Eff., Ground)

<u>Method</u>	<u>Method Description</u>
SW8260D	Volatile Organic Compounds (W)

### Detectable Results Summary

Client Sample ID: **TW-2**  
 Lab Sample ID: 1221170002  
**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Ethylbenzene	0.850J	ug/L
o-Xylene	9.02	ug/L
P & M -Xylene	3.93	ug/L
Xylenes (total)	13.0	ug/L

Client Sample ID: **TW-3**  
 Lab Sample ID: 1221170003  
**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Ethylbenzene	1060	ug/L
o-Xylene	459	ug/L
P & M -Xylene	6010	ug/L
Xylenes (total)	6470	ug/L



**Results of TW-1**

Client Sample ID: **TW-1**  
Client Project ID: **Swanson River Unit**  
Lab Sample ID: 1221170001  
Lab Project ID: 1221170

Collection Date: 03/21/22 12:55  
Received Date: 03/23/22 10:02  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		03/30/22 17:18
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		03/30/22 17:18
o-Xylene	0.500 U	1.00	0.310	ug/L	1		03/30/22 17:18
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		03/30/22 17:18
Toluene	0.500 U	1.00	0.310	ug/L	1		03/30/22 17:18
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		03/30/22 17:18
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	93.2	81-118		%	1		03/30/22 17:18
4-Bromofluorobenzene (surr)	102	85-114		%	1		03/30/22 17:18
Toluene-d8 (surr)	102	89-112		%	1		03/30/22 17:18

**Batch Information**

Analytical Batch: VMS21543  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 03/30/22 17:18  
Container ID: 1221170001-A

Prep Batch: VXX38461  
Prep Method: SW5030B  
Prep Date/Time: 03/30/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of TW-2

Client Sample ID: TW-2
Client Project ID: Swanson River Unit
Lab Sample ID: 1221170002
Lab Project ID: 1221170

Collection Date: 03/21/22 13:21
Received Date: 03/23/22 10:02
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, Xylenes (total).

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include 1,2-Dichloroethane-D4 (surr), 4-Bromofluorobenzene (surr), Toluene-d8 (surr).

Batch Information

Analytical Batch: VMS21543
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 03/30/22 17:33
Container ID: 1221170002-A

Prep Batch: VXX38461
Prep Method: SW5030B
Prep Date/Time: 03/30/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL





Results of TW-3

Client Sample ID: TW-3
Client Project ID: Swanson River Unit
Lab Sample ID: 1221170003
Lab Project ID: 1221170

Collection Date: 03/21/22 14:02
Received Date: 03/23/22 10:02
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, and Xylenes (total).

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include 1,2-Dichloroethane-D4 (surr), 4-Bromofluorobenzene (surr), and Toluene-d8 (surr).

Batch Information

Analytical Batch: VMS21543
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 03/30/22 19:32
Container ID: 1221170003-A

Prep Batch: VXX38461
Prep Method: SW5030B
Prep Date/Time: 03/30/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VMS21543
Analytical Method: SW8260D
Analyst: S.S
Analytical Date/Time: 03/30/22 19:47
Container ID: 1221170003-A

Prep Batch: VXX38461
Prep Method: SW5030B
Prep Date/Time: 03/30/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL



Results of **TB-032122**

Client Sample ID: **TB-032122**  
Client Project ID: **Swanson River Unit**  
Lab Sample ID: 1221170004  
Lab Project ID: 1221170

Collection Date: 03/21/22 12:55  
Received Date: 03/23/22 10:02  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		03/30/22 16:49
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		03/30/22 16:49
o-Xylene	0.500 U	1.00	0.310	ug/L	1		03/30/22 16:49
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		03/30/22 16:49
Toluene	0.500 U	1.00	0.310	ug/L	1		03/30/22 16:49
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		03/30/22 16:49
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	92.4	81-118		%	1		03/30/22 16:49
4-Bromofluorobenzene (surr)	103	85-114		%	1		03/30/22 16:49
Toluene-d8 (surr)	99.7	89-112		%	1		03/30/22 16:49

**Batch Information**

Analytical Batch: VMS21543  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 03/30/22 16:49  
Container ID: 1221170004-A

Prep Batch: VXX38461  
Prep Method: SW5030B  
Prep Date/Time: 03/30/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

## Method Blank

Blank ID: MB for HBN 1833537 [VXX/38461]  
 Blank Lab ID: 1658676

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
 1221170001, 1221170002, 1221170003, 1221170004

## Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	95	81-118		%
4-Bromofluorobenzene (surr)	102	85-114		%
Toluene-d8 (surr)	100	89-112		%

## Batch Information

Analytical Batch: VMS21543  
 Analytical Method: SW8260D  
 Instrument: Agilent 7890-75MS  
 Analyst: S.S  
 Analytical Date/Time: 3/30/2022 2:46:00PM

Prep Batch: VXX38461  
 Prep Method: SW5030B  
 Prep Date/Time: 3/30/2022 6:00:00AM  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL

Print Date: 04/04/2022 8:30:54AM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1221170 [VXX38461]  
 Blank Spike Lab ID: 1658677  
 Date Analyzed: 03/30/2022 15:01

Spike Duplicate ID: LCSD for HBN 1221170 [VXX38461]  
 Spike Duplicate Lab ID: 1658678  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1221170001, 1221170002, 1221170003, 1221170004

### Results by SW8260D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	30	29.8	99	30	30.0	100	( 79-120 )	0.40	(< 20 )
Ethylbenzene	30	30.9	103	30	31.0	103	( 79-121 )	0.32	(< 20 )
o-Xylene	30	30.8	103	30	30.8	103	( 78-122 )	0.26	(< 20 )
P & M -Xylene	60	62.4	104	60	62.6	104	( 80-121 )	0.30	(< 20 )
Toluene	30	30.2	101	30	30.2	101	( 80-121 )	0.03	(< 20 )
Xylenes (total)	90	93.1	103	90	93.4	104	( 79-121 )	0.29	(< 20 )
<b>Surrogates</b>									
1,2-Dichloroethane-D4 (surr)	30		94	30		94	( 81-118 )	0.21	
4-Bromofluorobenzene (surr)	30		101	30		101	( 85-114 )	0.40	
Toluene-d8 (surr)	30		101	30		102	( 89-112 )	0.39	

### Batch Information

Analytical Batch: VMS21543  
 Analytical Method: SW8260D  
 Instrument: Agilent 7890-75MS  
 Analyst: S.S

Prep Batch: VXX38461  
 Prep Method: SW5030B  
 Prep Date/Time: 03/30/2022 06:00  
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 04/04/2022 8:30:57AM



SGS North America Inc.  
CHAIN OF CUSTODY RECORD

# 362427CPM

www.us.sgs.com

<b>CLIENT:</b> <i>Stantec</i>					<b>Instructions: Sections 1 - 5 must be filled out.</b> <b>Omissions may delay the onset of analysis.</b>					Page <u>1</u> of <u>1</u>																																																																																																							
<b>CONTACT:</b> <i>Roxanne Russell</i> <b>PHONE #:</b> <i>907-250-3115</i>					Section 3		Preservative																																																																																																										
<b>PROJECT NAME:</b> <i>Swanson River</i> <b>PROJECT/PWSID/PERMIT#:</b>					# C O N T A I N E R S	Comp Grab MI (Multi-incremental)	Analysis*			NOTE: *The following analyses require specific method and/or compound list: BTEX, Metals, PFAS																																																																																																							
<b>REPORTS TO:</b> <i>Craig Wilson</i> <b>E-MAIL:</b>							BTEX B260D	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <b>1221170</b> </div>																																																																																																									
<b>INVOICE TO:</b> <b>QUOTE #:</b>																																																																																																																	
<b>P.O. #:</b>								REMARKS/LOC ID																																																																																																									
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:10%;">RESERVED for lab use</th> <th style="width:15%;">SAMPLE IDENTIFICATION</th> <th style="width:10%;">DATE mm/dd/yy</th> <th style="width:10%;">TIME HH:MM</th> <th style="width:10%;">MATRIX/MATRIX CODE</th> <th style="width:5%;">#</th> <th style="width:5%;">Comp Grab MI</th> <th style="width:5%;">BTEX</th> <th style="width:5%;">B260D</th> <th style="width:5%;"> </th> <th style="width:5%;"> </th> <th style="width:5%;"> </th> <th style="width:5%;"> </th> <th style="width:5%;"> </th> <th style="width:5%;"> </th> <th style="width:5%;"> </th> <th style="width:5%;"> </th> <th style="width:5%;"> </th> <th style="width:5%;"> </th> <th style="width:5%;"> </th> </tr> </thead> <tbody> <tr> <td style="text-align: center;"><del>1AC</del></td> <td>TW-1</td> <td>3-21-22</td> <td>12:55</td> <td>W</td> <td>3</td> <td>G</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;"><del>2AC</del></td> <td>TW-2</td> <td>3-21-22</td> <td>13:21</td> <td>W</td> <td>3</td> <td>G</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;"><del>3AC</del></td> <td>TW-3</td> <td>3-21-22</td> <td>14:02</td> <td>W</td> <td>3</td> <td>G</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;"><del>4AC</del></td> <td>TB-032122</td> <td>3-21-22</td> <td>-</td> <td>W</td> <td>-</td> <td>-</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>										RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/MATRIX CODE	#	Comp Grab MI	BTEX	B260D												<del>1AC</del>	TW-1	3-21-22	12:55	W	3	G	X														<del>2AC</del>	TW-2	3-21-22	13:21	W	3	G	X														<del>3AC</del>	TW-3	3-21-22	14:02	W	3	G	X														<del>4AC</del>	TB-032122	3-21-22	-	W	-	-	X													
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<b>Relinquished By: (1)</b> <i>Austi Badger</i> <b>Date:</b> <i>3/23/22</i> <b>Time:</b> <i>10:02</i> <b>Received By:</b>					Section 4		<b>DOD Project? Yes (No)</b>			<b>Data Deliverable Requirements:</b>																																																																																																							
					<b>Relinquished By: (2)</b> <b>Date:</b> <b>Time:</b> <b>Received By:</b>					<b>Cooler ID:</b>		<b>Requested Turnaround Time and/or Special Instructions:</b> <i>Standard</i>																																																																																																					
										<b>Relinquished By: (3)</b> <b>Date:</b> <b>Time:</b> <b>Received By:</b>					<b>Temp Blank °C:</b> <i>3.1°C DG2</i>			<b>Chain of Custody Seal: (Circle)</b> INTACT    BROKEN <b>ABSENT</b>																																																																																															
					<b>Relinquished By: (4)</b> <b>Date:</b> <i>3/23/22</i> <b>Time:</b> <i>10:02</i> <b>Received For Laboratory By:</b> <i>Carson</i>										<b>Delivery Method:</b> Hand Delivery <input checked="" type="checkbox"/> Commercial Delivery <input type="checkbox"/>																																																																																																		



e-Sample Receipt Form

SGS Workorder #:

1221170

1221170

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
<b>Chain of Custody / Temperature Requirements</b>		<b>Yes</b> Exemption permitted if sampler hand carries/delivers.
Were Custody Seals intact? Note # & location	N/A	absent
COC accompanied samples?	Yes	
DOD: Were samples received in COC corresponding coolers?	N/A	
<input type="checkbox"/> N/A **Exemption permitted if chilled & collected <8 hours ago, or for samples where chilling is not required		
Temperature blank compliant* (i.e., 0-6 °C after CF)?	Yes	Cooler ID: 1 @ 3.1 °C Therm. ID: D62
		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
		Cooler ID: @ °C Therm. ID:
If samples received without a temperature blank, the "cooler temperature" will be documented instead & "COOLER TEMP" will be noted to the right. "ambient" or "chilled" will be noted if neither is available.		
*If >6°C, were samples collected <8 hours ago?		
	N/A	
If <0°C, were sample containers ice free?		
	N/A	
Note: Identify containers received at non-compliant temperature . Use form FS-0029 if more space is needed.		
<b>Holding Time / Documentation / Sample Condition Requirements</b>		Note: Refer to form F-083 "Sample Guide" for specific holding times.
Were samples received within holding time?	Yes	
Do samples match COC** (i.e., sample IDs, dates/times collected)?	Yes	
**Note: If times differ <1hr, record details & login per COC.		
***Note: If sample information on containers differs from COC, SGS will default to COC information		
Were analytical requests clear? (i.e., method is specified for analyses with multiple option for analysis (Ex: BTEX, Metals)	Yes	
<input type="checkbox"/> N/A ***Exemption permitted for metals (e.g.200.8/6020A).		
Were proper containers (type/mass/volume/preservative***)used?	Yes	
<b>Volatile / LL-Hg Requirements</b>		
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?	Yes	
Were all water VOA vials free of headspace (i.e., bubbles ≤ 6mm)?	Yes	
Were all soil VOAs field extracted with MeOH+BFB?	N/A	
<b>Note to Client:</b> Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.		
Additional notes (if applicable):		



## Sample Containers and Preservatives

<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1221170001-A	HCL to pH < 2	OK			
1221170001-B	HCL to pH < 2	OK			
1221170001-C	HCL to pH < 2	OK			
1221170002-A	HCL to pH < 2	OK			
1221170002-B	HCL to pH < 2	OK			
1221170002-C	HCL to pH < 2	OK			
1221170003-A	HCL to pH < 2	OK			
1221170003-B	HCL to pH < 2	OK			
1221170003-C	HCL to pH < 2	OK			
1221170004-A	HCL to pH < 2	OK			
1221170004-B	HCL to pH < 2	OK			
1221170004-C	HCL to pH < 2	OK			

### Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.

BU - The container was received with headspace greater than 6mm.

DM - The container was received damaged.

FR - The container was received frozen and not usable for Bacteria or BOD analyses.

IC - The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.

NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.

PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

QN - Insufficient sample quantity provided.



## Laboratory Report of Analysis

To: Stantec Consulting Services Inc.  
725 East Fireweed Lane, #200  
Anchorage, AK 99503  
(907)266-1148

Report Number: **1222071**

Client Project: **SRU 203321236**

Dear Douglas Quist,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of ten years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Justin at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,  
SGS North America Inc.

---

Justin Nelson  
Project Manager  
Justin.Nelson@sgs.com

Date



## Case Narrative

SGS Client: **Stantec Consulting Services Inc.**

SGS Project: **1222071**

Project Name/Site: **SRU 203321236**

Project Contact: **Douglas Quist**

Refer to sample receipt form for information on sample condition.

**1222077001DUP (1662828) DUP**

2540C - Total Dissolved Solids - Sample duplicate RPD was outside of acceptance limits. Refer to LCS/LCSD RPD for batch precision.

**1222069001MS (1664703) MS**

4500NO<sub>3</sub>-F - Nitrate/Nitrite - MS recovery for total nitrate/nitrite is outside of QC criteria. Refer to LCS for accuracy requirements.

**1222069001MSD (1664704) MSD**

4500NO<sub>3</sub>-F - Nitrate/Nitrite - MSD recovery for total nitrate/nitrite is outside of QC criteria. Refer to LCS for accuracy requirements.

**1222120008MS (1664705) MS**

4500NO<sub>3</sub>-F - Nitrate/Nitrite - MS recovery for total nitrate/nitrite is outside of QC criteria. Refer to LCS for accuracy requirements.

**1222120008MSD (1664706) MSD**

4500NO<sub>3</sub>-F - Nitrate/Nitrite - MSD recovery for total nitrate/nitrite is outside of QC criteria. Refer to LCS for accuracy requirements.

\*QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to associated field samples.

Print Date: 05/23/2022 11:26:16AM

## Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. The results apply to the samples as received. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the context or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry & Microbiology) & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020B, 7470A, 7471B, 8015C, 8021B, 8082A, 8260D, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). SGS is only certified for the analytes listed on our Drinking Water Certification (DW methods: 200.8, 2130B, 2320B, 2510B, 300.0, 4500-CN-C,E, 4500-H-B, 4500-NO3-F, 4500-P-E and 524.2) and only those analytes will be reported to the State of Alaska for compliance. Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
B	Indicates the analyte is found in a blank associated with the sample.
CCV/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Analytical Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
RPD	Relative Percent Difference
TNTC	Too Numerous To Count
U	Indicates the analyte was analyzed for but not detected.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content. All DRO/RRO analyses are integrated per SOP.

### Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
TW-2	1222071001	05/04/2022	05/05/2022	Water (Surface, Eff., Ground)
TW-3	1222071002	05/04/2022	05/05/2022	Water (Surface, Eff., Ground)
TW-2	1222071003	05/04/2022	05/05/2022	Water (Surface, Eff., Ground)
TW-3	1222071004	05/04/2022	05/05/2022	Water (Surface, Eff., Ground)
Trip Blank	1222071005	05/04/2022	05/05/2022	Water (Surface, Eff., Ground)

<u>Method</u>	<u>Method Description</u>
SM21 2320B	Alkalinity as CaCO3 QC
SM21 4500-C02 B	Carbon Dioxide
EPA 300.0	Ion Chromatographic Analysis (W)
EP200.8	Metals in Drinking Water by ICP-MS DISSO
EP200.8	Metals in Water by 200.8 ICP-MS
SM21 4500NO3-F	Nitrate/Nitrite Flow injection Pres.
SM21 4500-H B	pH Analysis for Carbon Dioxide
SM23 4500S D	Sulfide by Colorimetric
SM21 2540C	Total Dissolved Solids SM18 2540C
SW8260D	Volatile Organic Compounds (W)

Print Date: 05/23/2022 11:26:19AM



### Detectable Results Summary

Client Sample ID: **TW-2**  
 Lab Sample ID: 1222071001

**Metals by ICP/MS**

**Volatile GC/MS**

**Waters Department**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Iron	569	ug/L
Manganese	3510	ug/L
Ethylbenzene	2.50	ug/L
o-Xylene	2.70	ug/L
P & M -Xylene	5.88	ug/L
Xylenes (total)	8.58	ug/L
Alkalinity	42.9	mg/L
Carbon Dioxide	16.0	mg/L
HCO3 Alkalinity	42.9	mg/L
Sulfate	3.68	mg/L
Total Dissolved Solids	75.0	mg/L
Total Nitrate/Nitrite-N	0.243	mg/L

Client Sample ID: **TW-3**  
 Lab Sample ID: 1222071002

**Metals by ICP/MS**

**Volatile GC/MS**

**Waters Department**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Iron	4660	ug/L
Manganese	2720	ug/L
Ethylbenzene	603	ug/L
o-Xylene	39.2	ug/L
P & M -Xylene	2020	ug/L
Xylenes (total)	2060	ug/L
Alkalinity	39.8	mg/L
Carbon Dioxide	11.0	mg/L
HCO3 Alkalinity	39.8	mg/L
Sulfate	0.600	mg/L
Total Dissolved Solids	202	mg/L

Client Sample ID: **TW-2**  
 Lab Sample ID: 1222071003

**Dissolved Metals by ICP/MS**

Client Sample ID: **TW-3**

Lab Sample ID: 1222071004

**Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Iron	669	ug/L
Iron	4340	ug/L

Print Date: 05/23/2022 11:26:21AM



Results of TW-2

Client Sample ID: TW-2  
Client Project ID: SRU 203321236  
Lab Sample ID: 1222071001  
Lab Project ID: 1222071

Collection Date: 05/04/22 13:58  
Received Date: 05/05/22 09:05  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
pH	6.8	0.100	0.100	pH units	1		05/09/22 16:59

Batch Information

Analytical Batch: WTI5854  
Analytical Method: SM21 4500-H B  
Analyst: DMM  
Analytical Date/Time: 05/09/22 16:59  
Container ID: 1222071001-A

## Results of TW-2

Client Sample ID: **TW-2**  
 Client Project ID: **SRU 203321236**  
 Lab Sample ID: 1222071001  
 Lab Project ID: 1222071

Collection Date: 05/04/22 13:58  
 Received Date: 05/05/22 09:05  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

## Results by Metals by ICP/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Iron	569	250	78.0	ug/L	1		05/19/22 17:15
Manganese	3510	10.0	3.50	ug/L	10		05/20/22 12:05

## Batch Information

Analytical Batch: MMS11560  
 Analytical Method: EP200.8  
 Analyst: DSD  
 Analytical Date/Time: 05/20/22 12:05  
 Container ID: 1222071001-D

Prep Batch: MXX35115  
 Prep Method: E200.2  
 Prep Date/Time: 05/19/22 09:07  
 Prep Initial Wt./Vol.: 20 mL  
 Prep Extract Vol: 50 mL

Analytical Batch: MMS11558  
 Analytical Method: EP200.8  
 Analyst: DSD  
 Analytical Date/Time: 05/19/22 17:15  
 Container ID: 1222071001-D

Prep Batch: MXX35115  
 Prep Method: E200.2  
 Prep Date/Time: 05/19/22 09:07  
 Prep Initial Wt./Vol.: 20 mL  
 Prep Extract Vol: 50 mL

## Results of TW-2

Client Sample ID: **TW-2**  
 Client Project ID: **SRU 203321236**  
 Lab Sample ID: 1222071001  
 Lab Project ID: 1222071

Collection Date: 05/04/22 13:58  
 Received Date: 05/05/22 09:05  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

## Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.200 U	0.400	0.120	ug/L	1		05/17/22 19:16
Ethylbenzene	2.50	1.00	0.310	ug/L	1		05/17/22 19:16
o-Xylene	2.70	1.00	0.310	ug/L	1		05/17/22 19:16
P & M -Xylene	5.88	2.00	0.620	ug/L	1		05/17/22 19:16
Toluene	0.500 U	1.00	0.310	ug/L	1		05/17/22 19:16
Xylenes (total)	8.58	3.00	1.00	ug/L	1		05/17/22 19:16
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	95.8	81-118		%	1		05/17/22 19:16
4-Bromofluorobenzene (surr)	109	85-114		%	1		05/17/22 19:16
Toluene-d8 (surr)	101	89-112		%	1		05/17/22 19:16

## Batch Information

Analytical Batch: VMS21618  
 Analytical Method: SW8260D  
 Analyst: JMG  
 Analytical Date/Time: 05/17/22 19:16  
 Container ID: 1222071001-E

Prep Batch: VXX38575  
 Prep Method: SW5030B  
 Prep Date/Time: 05/17/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



Results of TW-2

Client Sample ID: TW-2
Client Project ID: SRU 203321236
Lab Sample ID: 1222071001
Lab Project ID: 1222071

Collection Date: 05/04/22 13:58
Received Date: 05/05/22 09:05
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Waters Department

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row 1: Sulfate, 3.68, 0.200, 0.0500, mg/L, 1, 05/11/22 03:06

Batch Information

Analytical Batch: WIC6308
Analytical Method: EPA 300.0
Analyst: NRZ
Analytical Date/Time: 05/11/22 03:06
Container ID: 1222071001-A
Prep Batch: WXX14197
Prep Method: METHOD
Prep Date/Time: 05/10/22 11:30
Prep Initial Wt./Vol.: 10 mL
Prep Extract Vol: 10 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows: Alkalinity (42.9), CO3 Alkalinity (5.00 U), HCO3 Alkalinity (42.9), OH Alkalinity (5.00 U)

Batch Information

Analytical Batch: WTI5853
Analytical Method: SM21 2320B
Analyst: DMM
Analytical Date/Time: 05/09/22 16:59
Container ID: 1222071001-A

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row 1: Total Dissolved Solids, 75.0, 10.0, 3.10, mg/L, 1, 05/05/22 20:24

Batch Information

Analytical Batch: STS7255
Analytical Method: SM21 2540C
Analyst: NRZ
Analytical Date/Time: 05/05/22 20:24
Container ID: 1222071001-A

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row 1: Carbon Dioxide, 16.0, 5.00, 1.50, mg/L, 1, 05/19/22 15:41





Results of TW-2

Client Sample ID: TW-2
Client Project ID: SRU 203321236
Lab Sample ID: 1222071001
Lab Project ID: 1222071

Collection Date: 05/04/22 13:58
Received Date: 05/05/22 09:05
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Waters Department

Batch Information

Analytical Batch: WTI5858
Analytical Method: SM21 4500-C02 B
Analyst: DMM
Analytical Date/Time: 05/19/22 15:41
Container ID: 1222071001-A

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row 1: Total Nitrate/Nitrite-N, 0.243, 0.200, 0.0500, mg/L, 2, 05/19/22 12:14

Batch Information

Analytical Batch: WFI2989
Analytical Method: SM21 4500NO3-F
Analyst: EBH
Analytical Date/Time: 05/19/22 12:14
Container ID: 1222071001-B

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row 1: Sulfide, 0.0500 U, 0.100, 0.0310, mg/L, 1, 05/11/22 13:05

Batch Information

Analytical Batch: WAT11868
Analytical Method: SM23 4500S D
Analyst: DMM
Analytical Date/Time: 05/11/22 13:05
Container ID: 1222071001-C



Results of TW-3

Client Sample ID: TW-3  
Client Project ID: SRU 203321236  
Lab Sample ID: 1222071002  
Lab Project ID: 1222071

Collection Date: 05/04/22 14:55  
Received Date: 05/05/22 09:05  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
pH	6.9		0.100	0.100	pH units	1		05/09/22 17:12

Batch Information

Analytical Batch: WTI5854  
Analytical Method: SM21 4500-H B  
Analyst: DMM  
Analytical Date/Time: 05/09/22 17:12  
Container ID: 1222071002-A



Results of TW-3

Client Sample ID: TW-3
Client Project ID: SRU 203321236
Lab Sample ID: 1222071002
Lab Project ID: 1222071

Collection Date: 05/04/22 14:55
Received Date: 05/05/22 09:05
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Metals by ICP/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows for Iron and Manganese.

Batch Information

Analytical Batch: MMS11560
Analytical Method: EP200.8
Analyst: DSD
Analytical Date/Time: 05/20/22 12:07
Container ID: 1222071002-D

Prep Batch: MXX35115
Prep Method: E200.2
Prep Date/Time: 05/19/22 09:07
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL

Analytical Batch: MMS11558
Analytical Method: EP200.8
Analyst: DSD
Analytical Date/Time: 05/19/22 17:18
Container ID: 1222071002-D

Prep Batch: MXX35115
Prep Method: E200.2
Prep Date/Time: 05/19/22 09:07
Prep Initial Wt./Vol.: 20 mL
Prep Extract Vol: 50 mL



Results of TW-3

Client Sample ID: TW-3
Client Project ID: SRU 203321236
Lab Sample ID: 1222071002
Lab Project ID: 1222071

Collection Date: 05/04/22 14:55
Received Date: 05/05/22 09:05
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, Xylenes (total), and Surrogates (1,2-Dichloroethane-D4, 4-Bromofluorobenzene, Toluene-d8).

Batch Information

Analytical Batch: VMS21618
Analytical Method: SW8260D
Analyst: JMG
Analytical Date/Time: 05/17/22 19:30
Container ID: 1222071002-E

Prep Batch: VXX38575
Prep Method: SW5030B
Prep Date/Time: 05/17/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL



Results of TW-3

Client Sample ID: TW-3
Client Project ID: SRU 203321236
Lab Sample ID: 1222071002
Lab Project ID: 1222071

Collection Date: 05/04/22 14:55
Received Date: 05/05/22 09:05
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Waters Department

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row 1: Sulfate, 0.600, 0.200, 0.0500, mg/L, 1, 05/11/22 03:25

Batch Information

Analytical Batch: WIC6308
Analytical Method: EPA 300.0
Analyst: NRZ
Analytical Date/Time: 05/11/22 03:25
Container ID: 1222071002-A
Prep Batch: WXX14197
Prep Method: METHOD
Prep Date/Time: 05/10/22 11:30
Prep Initial Wt./Vol.: 10 mL
Prep Extract Vol: 10 mL

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows: Alkalinity (39.8), CO3 Alkalinity (5.00 U), HCO3 Alkalinity (39.8), OH Alkalinity (5.00 U)

Batch Information

Analytical Batch: WTI5853
Analytical Method: SM21 2320B
Analyst: DMM
Analytical Date/Time: 05/09/22 17:12
Container ID: 1222071002-A

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row 1: Total Dissolved Solids, 202, 10.0, 3.10, mg/L, 1, 05/05/22 20:24

Batch Information

Analytical Batch: STS7255
Analytical Method: SM21 2540C
Analyst: NRZ
Analytical Date/Time: 05/05/22 20:24
Container ID: 1222071002-A

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row 1: Carbon Dioxide, 11.0, 5.00, 1.50, mg/L, 1, 05/19/22 15:41



Results of TW-3

Client Sample ID: TW-3
Client Project ID: SRU 203321236
Lab Sample ID: 1222071002
Lab Project ID: 1222071

Collection Date: 05/04/22 14:55
Received Date: 05/05/22 09:05
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Waters Department

Batch Information

Analytical Batch: WTI5858
Analytical Method: SM21 4500-C02 B
Analyst: DMM
Analytical Date/Time: 05/19/22 15:41
Container ID: 1222071002-A

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row 1: Total Nitrate/Nitrite-N, 0.100 U, 0.200, 0.0500, mg/L, 2, 05/19/22 12:15

Batch Information

Analytical Batch: WFI2989
Analytical Method: SM21 4500NO3-F
Analyst: EBH
Analytical Date/Time: 05/19/22 12:15
Container ID: 1222071002-B

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Row 1: Sulfide, 0.0500 U, 0.100, 0.0310, mg/L, 1, 05/11/22 13:05

Batch Information

Analytical Batch: WAT11868
Analytical Method: SM23 4500S D
Analyst: DMM
Analytical Date/Time: 05/11/22 13:05
Container ID: 1222071002-C



Results of TW-2

Client Sample ID: TW-2  
Client Project ID: SRU 203321236  
Lab Sample ID: 1222071003  
Lab Project ID: 1222071

Collection Date: 05/04/22 13:58  
Received Date: 05/05/22 09:05  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by Dissolved Metals by ICP/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Iron	669	250	78.0	ug/L	1		05/19/22 17:21

Batch Information

Analytical Batch: MMS11558  
Analytical Method: EP200.8  
Analyst: DSD  
Analytical Date/Time: 05/19/22 17:21  
Container ID: 1222071003-A

Prep Batch: MX35115  
Prep Method: E200.2  
Prep Date/Time: 05/19/22 09:07  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

## Results of TW-3

Client Sample ID: **TW-3**  
 Client Project ID: **SRU 203321236**  
 Lab Sample ID: 1222071004  
 Lab Project ID: 1222071

Collection Date: 05/04/22 14:55  
 Received Date: 05/05/22 09:05  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

## Results by Dissolved Metals by ICP/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Iron	4340	250	78.0	ug/L	1		05/19/22 17:23

## Batch Information

Analytical Batch: MMS11558  
 Analytical Method: EP200.8  
 Analyst: DSD  
 Analytical Date/Time: 05/19/22 17:23  
 Container ID: 1222071004-A

Prep Batch: MXX35115  
 Prep Method: E200.2  
 Prep Date/Time: 05/19/22 09:07  
 Prep Initial Wt./Vol.: 20 mL  
 Prep Extract Vol: 50 mL



## Results of Trip Blank

Client Sample ID: **Trip Blank**  
 Client Project ID: **SRU 203321236**  
 Lab Sample ID: 1222071005  
 Lab Project ID: 1222071

Collection Date: 05/04/22 13:58  
 Received Date: 05/05/22 09:05  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

## Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.200 U	0.400	0.120	ug/L	1		05/17/22 16:03
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		05/17/22 16:03
o-Xylene	0.500 U	1.00	0.310	ug/L	1		05/17/22 16:03
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		05/17/22 16:03
Toluene	0.500 U	1.00	0.310	ug/L	1		05/17/22 16:03
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		05/17/22 16:03
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	99.2	81-118		%	1		05/17/22 16:03
4-Bromofluorobenzene (surr)	108	85-114		%	1		05/17/22 16:03
Toluene-d8 (surr)	99.6	89-112		%	1		05/17/22 16:03

## Batch Information

Analytical Batch: VMS21618  
 Analytical Method: SW8260D  
 Analyst: JMG  
 Analytical Date/Time: 05/17/22 16:03  
 Container ID: 1222071005-A

Prep Batch: VXX38575  
 Prep Method: SW5030B  
 Prep Date/Time: 05/17/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



### Method Blank

Blank ID: MB for HBN 1836327 [MXX/35115]  
Blank Lab ID: 1664389

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1222071001, 1222071002, 1222071003, 1222071004

### Results by EP200.8

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Iron	125U	250	78.0	ug/L
Manganese	0.500U	1.00	0.350	ug/L

### Batch Information

Analytical Batch: MMS11558  
Analytical Method: EP200.8  
Instrument: P7 Agilent 7800  
Analyst: DSD  
Analytical Date/Time: 5/19/2022 4:45:50PM

Prep Batch: MXX35115  
Prep Method: E200.2  
Prep Date/Time: 5/19/2022 9:07:48AM  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Print Date: 05/23/2022 11:26:25AM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1222071 [MXX35115]

Blank Spike Lab ID: 1664390

Date Analyzed: 05/19/2022 16:48

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1222071001, 1222071002, 1222071003, 1222071004

## Results by EP200.8

Parameter	Blank Spike (ug/L)			CL
	Spike	Result	Rec (%)	
Iron	5000	5100	102	( 85-115 )
Manganese	500	498	100	( 85-115 )

## Batch Information

Analytical Batch: **MMS11558**

Analytical Method: **EP200.8**

Instrument: **P7 Agilent 7800**

Analyst: **DSD**

Prep Batch: **MXX35115**

Prep Method: **E200.2**

Prep Date/Time: **05/19/2022 09:07**

Spike Init Wt./Vol.: 5000 ug/L Extract Vol: 50 mL

Dupe Init Wt./Vol.: Extract Vol:

## Matrix Spike Summary

Original Sample ID: 1664378  
 MS Sample ID: 1664392 MS  
 MSD Sample ID:

Analysis Date: 05/19/2022 16:53  
 Analysis Date: 05/19/2022 16:56  
 Analysis Date:  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1222071001, 1222071002, 1222071003, 1222071004

## Results by EP200.8

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Iron	115J	5000	5160	101				70-130		
Manganese	43.9	500	540	99				70-130		

## Batch Information

Analytical Batch: MMS11558  
 Analytical Method: EP200.8  
 Instrument: P7 Agilent 7800  
 Analyst: DSD  
 Analytical Date/Time: 5/19/2022 4:56:00PM

Prep Batch: MXX35115  
 Prep Method: DW Digest for Metals on ICP-MS  
 Prep Date/Time: 5/19/2022 9:07:48AM  
 Prep Initial Wt./Vol.: 20.00mL  
 Prep Extract Vol: 50.00mL

Print Date: 05/23/2022 11:26:28AM



### Matrix Spike Summary

Original Sample ID: 1664379  
MS Sample ID: 1664393 MS  
MSD Sample ID:

Analysis Date: 05/19/2022 17:04  
Analysis Date: 05/19/2022 17:07  
Analysis Date:  
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1222071001, 1222071002, 1222071003, 1222071004

### Results by EP200.8

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Iron	952	5000	5970	100				70-130		
Manganese	67.9	500	560	98				70-130		

### Batch Information

Analytical Batch: MMS11558  
Analytical Method: EP200.8  
Instrument: P7 Agilent 7800  
Analyst: DSD  
Analytical Date/Time: 5/19/2022 5:07:00PM

Prep Batch: MXX35115  
Prep Method: DW Digest for Metals on ICP-MS  
Prep Date/Time: 5/19/2022 9:07:48AM  
Prep Initial Wt./Vol.: 20.00mL  
Prep Extract Vol: 50.00mL

Print Date: 05/23/2022 11:26:28AM

## Method Blank

Blank ID: MB for HBN 1835797 [STS/7255]

Blank Lab ID: 1662825

QC for Samples:

1222071001, 1222071002

Matrix: Water (Surface, Eff., Ground)

## Results by SM21 2540C

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Total Dissolved Solids	7.00J	10.0	3.10	mg/L

## Batch Information

Analytical Batch: STS7255

Analytical Method: SM21 2540C

Instrument:

Analyst: NRZ

Analytical Date/Time: 5/5/2022 8:24:56PM

Print Date: 05/23/2022 11:26:29AM



### Duplicate Sample Summary

Original Sample ID: 1222077001

Duplicate Sample ID: 1662828

QC for Samples:

1222071001, 1222071002

Analysis Date: 05/05/2022 20:24

Matrix: Drinking Water

### Results by SM21 2540C

<u>NAME</u>	<u>Original</u>	<u>Duplicate</u>	<u>Units</u>	<u>RPD (%)</u>	<u>RPD CL</u>
Total Dissolved Solids	150	173	mg/L	14.20*	(< 5 )

### Batch Information

Analytical Batch: STS7255

Analytical Method: SM21 2540C

Instrument:

Analyst: NRZ

Print Date: 05/23/2022 11:26:30AM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1222071 [STS7255]  
 Blank Spike Lab ID: 1662826  
 Date Analyzed: 05/05/2022 20:24

Spike Duplicate ID: LCSD for HBN 1222071 [STS7255]  
 Spike Duplicate Lab ID: 1662827  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1222071001, 1222071002

### Results by SM21 2540C

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Dissolved Solids	333	312	94	333	310	93	( 75-125 )	0.64	(< 5 )

### Batch Information

Analytical Batch: **STS7255**  
 Analytical Method: **SM21 2540C**  
 Instrument:  
 Analyst: **NRZ**

Print Date: 05/23/2022 11:26:31AM





### Method Blank

Blank ID: MB for HBN 1836311 [VXX/38575]  
Blank Lab ID: 1664299

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1222071001, 1222071002, 1222071005

### Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	102	81-118		%
4-Bromofluorobenzene (surr)	107	85-114		%
Toluene-d8 (surr)	99.9	89-112		%

### Batch Information

Analytical Batch: VMS21618  
Analytical Method: SW8260D  
Instrument: Agilent 7890-75MS  
Analyst: JMG  
Analytical Date/Time: 5/17/2022 1:39:00PM

Prep Batch: VXX38575  
Prep Method: SW5030B  
Prep Date/Time: 5/17/2022 6:00:00AM  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 05/23/2022 11:26:34AM



### Leaching Blank

Blank ID: LB for HBN 1836287 [TCLP/11774]  
Blank Lab ID: 1664190

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1222071001, 1222071002, 1222071005

### Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	10.0U	20.0	6.00	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	101	81-118		%
4-Bromofluorobenzene (surr)	107	85-114		%
Toluene-d8 (surr)	99.5	89-112		%

### Batch Information

Analytical Batch: VMS21618  
Analytical Method: SW8260D  
Instrument: Agilent 7890-75MS  
Analyst: JMG  
Analytical Date/Time: 5/17/2022 8:30:00PM

Prep Batch: VXX38575  
Prep Method: SW5030B  
Prep Date/Time: 5/17/2022 6:00:00AM  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 05/23/2022 11:26:34AM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1222071 [VXX38575]  
 Blank Spike Lab ID: 1664300  
 Date Analyzed: 05/17/2022 13:54

Spike Duplicate ID: LCSD for HBN 1222071 [VXX38575]  
 Spike Duplicate Lab ID: 1664301  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1222071001, 1222071002, 1222071005

### Results by SW8260D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	30	30.4	101	30	30.0	100	( 79-120 )	1.40	(< 20 )
Ethylbenzene	30	30.3	101	30	29.9	100	( 79-121 )	1.40	(< 20 )
o-Xylene	30	30.2	101	30	30.0	100	( 78-122 )	0.67	(< 20 )
P & M -Xylene	60	59.9	100	60	59.4	99	( 80-121 )	0.75	(< 20 )
Toluene	30	30.4	101	30	29.9	100	( 80-121 )	1.50	(< 20 )
Xylenes (total)	90	90.1	100	90	89.4	99	( 79-121 )	0.72	(< 20 )
<b>Surrogates</b>									
1,2-Dichloroethane-D4 (surr)	30		98	30		96	( 81-118 )	1.90	
4-Bromofluorobenzene (surr)	30		100	30		101	( 85-114 )	0.99	
Toluene-d8 (surr)	30		99	30		100	( 89-112 )	0.54	

### Batch Information

Analytical Batch: VMS21618  
 Analytical Method: SW8260D  
 Instrument: Agilent 7890-75MS  
 Analyst: JMG

Prep Batch: VXX38575  
 Prep Method: SW5030B  
 Prep Date/Time: 05/17/2022 06:00  
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 05/23/2022 11:26:36AM



**Method Blank**

Blank ID: MB for HBN 1836040 [WAT/11868]  
Blank Lab ID: 1663450

Matrix: Drinking Water

QC for Samples:  
1222071001, 1222071002

**Results by SM23 4500S D**

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Sulfide	0.0500U	0.100	0.0310	mg/L

**Batch Information**

Analytical Batch: WAT11868  
Analytical Method: SM23 4500S D  
Instrument:  
Analyst: DMM  
Analytical Date/Time: 5/11/2022 1:05:04PM

Print Date: 05/23/2022 11:26:39AM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1222071 [WAT11868]

Blank Spike Lab ID: 1663451

Date Analyzed: 05/11/2022 13:05

Matrix: Drinking Water

QC for Samples: 1222071001, 1222071002

## Results by SM23 4500S D

Parameter	Blank Spike (mg/L)			CL ( 75-125 )
	Spike	Result	Rec (%)	
Sulfide	0.499	0.520	104	

## Batch Information

Analytical Batch: WAT11868

Analytical Method: SM23 4500S D

Instrument:

Analyst: DMM

Print Date: 05/23/2022 11:26:41AM



### Matrix Spike Summary

Original Sample ID: 1222071001  
MS Sample ID: 1663453 MS  
MSD Sample ID: 1663454 MSD

Analysis Date: 05/11/2022 13:05  
Analysis Date: 05/11/2022 13:05  
Analysis Date: 05/11/2022 13:05  
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1222071001, 1222071002

### Results by SM23 4500S D

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Sulfide	0.0500U	0.499	.46	92	0.499	0.470	94	75-125	2.20	(< 25 )

### Batch Information

Analytical Batch: WAT11868  
Analytical Method: SM23 4500S D  
Instrument:  
Analyst: DMM  
Analytical Date/Time: 5/11/2022 1:05:04PM

Print Date: 05/23/2022 11:26:42AM



### Method Blank

Blank ID: MB for HBN 1836364 (WFI/2989)

Blank Lab ID: 1664718

QC for Samples:

Matrix: Water (Surface, Eff., Ground)

### Results by SM21 4500NO3-F

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Nitrate-N	0.100U	0.200	0.0500	mg/L
Nitrite-N	0.100U	0.200	0.0500	mg/L
Total Nitrate/Nitrite-N	0.100U	0.200	0.0500	mg/L

### Batch Information

Analytical Batch: WFI2989

Analytical Method: SM21 4500NO3-F

Instrument: Astoria segmented flow

Analyst: EBH

Analytical Date/Time: 5/19/2022 1:18:48PM

Print Date: 05/23/2022 11:26:43AM



### Method Blank

Blank ID: MB for HBN 1836364 (WFI/2989)

Blank Lab ID: 1664724

QC for Samples:

1222071001, 1222071002

Matrix: Water (Surface, Eff., Ground)

### Results by SM21 4500NO3-F

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Nitrate-N	0.100U	0.200	0.0500	mg/L
Nitrite-N	0.106J	0.200	0.0500	mg/L
Total Nitrate/Nitrite-N	0.100U	0.200	0.0500	mg/L

### Batch Information

Analytical Batch: WFI2989

Analytical Method: SM21 4500NO3-F

Instrument: Astoria segmented flow

Analyst: EBH

Analytical Date/Time: 5/19/2022 12:33:19PM

Print Date: 05/23/2022 11:26:43AM



## Method Blank

Blank ID: MB for HBN 1836364 (WFI/2989)

Blank Lab ID: 1664730

QC for Samples:

1222071001, 1222071002

Matrix: Water (Surface, Eff., Ground)

## Results by SM21 4500NO3-F

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Nitrate-N	0.100U	0.200	0.0500	mg/L
Nitrite-N	0.100U	0.200	0.0500	mg/L
Total Nitrate/Nitrite-N	0.100U	0.200	0.0500	mg/L

## Batch Information

Analytical Batch: WFI2989

Analytical Method: SM21 4500NO3-F

Instrument: Astoria segmented flow

Analyst: EBH

Analytical Date/Time: 5/19/2022 11:47:49AM

Print Date: 05/23/2022 11:26:43AM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1222071 [WFI2989]  
Blank Spike Lab ID: 1664720  
Date Analyzed: 05/19/2022 13:17

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

### Results by SM21 4500NO3-F

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Nitrate-N	2.5	2.59	104	( 70-130 )
Nitrite-N	2.5	2.56	102	( 90-110 )
Total Nitrate/Nitrite-N	5	5.15	103	( 90-110 )

### Batch Information

Analytical Batch: **WFI2989**  
Analytical Method: **SM21 4500NO3-F**  
Instrument: **Astoria segmented flow**  
Analyst: **EBH**

Print Date: 05/23/2022 11:26:46AM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1222071 [WFI2989]  
Blank Spike Lab ID: 1664726  
Date Analyzed: 05/19/2022 12:31

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1222071001, 1222071002

### Results by SM21 4500NO3-F

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Nitrate-N	2.5	2.61	104	( 70-130 )
Nitrite-N	2.5	2.60	104	( 90-110 )
Total Nitrate/Nitrite-N	5	5.20	104	( 90-110 )

### Batch Information

Analytical Batch: **WFI2989**  
Analytical Method: **SM21 4500NO3-F**  
Instrument: **Astoria segmented flow**  
Analyst: **EBH**

Print Date: 05/23/2022 11:26:46AM

**Blank Spike Summary**

Blank Spike ID: LCS for HBN 1222071 [WFI2989]  
 Blank Spike Lab ID: 1664732  
 Date Analyzed: 05/19/2022 11:46

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1222071001, 1222071002

**Results by SM21 4500NO3-F**

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Nitrate-N	2.5	2.49	100	( 70-130 )
Nitrite-N	2.5	2.52	101	( 90-110 )
Total Nitrate/Nitrite-N	5	5.01	100	( 90-110 )

**Batch Information**

Analytical Batch: **WFI2989**  
 Analytical Method: **SM21 4500NO3-F**  
 Instrument: **Astoria segmented flow**  
 Analyst: **EBH**

Print Date: 05/23/2022 11:26:46AM



### Matrix Spike Summary

Original Sample ID: 1222069001  
MS Sample ID: 1664703 MS  
MSD Sample ID: 1664704 MSD

Analysis Date: 05/19/2022 11:51  
Analysis Date: 05/19/2022 11:53  
Analysis Date: 05/19/2022 11:54  
Matrix: Drinking Water

QC for Samples: 1222071001, 1222071002

### Results by SM21 4500NO3-F

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Nitrate/Nitrite-N	0.763	5.00	6.44	114 *	5.00	6.40	113 *	90-110	0.70	(< 25 )

### Batch Information

Analytical Batch: WFI2989  
Analytical Method: SM21 4500NO3-F  
Instrument: Astoria segmented flow  
Analyst: EBH  
Analytical Date/Time: 5/19/2022 11:53:00AM

Print Date: 05/23/2022 11:26:47AM



### Matrix Spike Summary

Original Sample ID: 1222120008  
MS Sample ID: 1664705 MS  
MSD Sample ID: 1664706 MSD

Analysis Date: 05/19/2022 12:36  
Analysis Date: 05/19/2022 12:38  
Analysis Date: 05/19/2022 12:40  
Matrix: Drinking Water

QC for Samples: 1222071001, 1222071002

### Results by SM21 4500NO3-F

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Nitrate/Nitrite-N	0.200U	5.00	5.62	112 *	5.00	5.64	113 *	90-110	0.35	(< 25 )

### Batch Information

Analytical Batch: WFI2989  
Analytical Method: SM21 4500NO3-F  
Instrument: Astoria segmented flow  
Analyst: EBH  
Analytical Date/Time: 5/19/2022 12:38:00PM

Print Date: 05/23/2022 11:26:47AM

## Matrix Spike Summary

Original Sample ID: 1222386003  
 MS Sample ID: 1664709 MS  
 MSD Sample ID: 1664710 MSD

Analysis Date: 05/19/2022 11:05  
 Analysis Date: 05/19/2022 11:07  
 Analysis Date: 05/19/2022 11:09  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples:

## Results by SM21 4500NO3-F

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Nitrate-N	2.76	2.50	5.11	94	2.50	5.17	96	70-130	1.10	(< 25 )
Nitrite-N	0.200U	2.50	2.74	110	2.50	2.75	110	90-110	0.12	(< 25 )

## Batch Information

Analytical Batch: WFI2989  
 Analytical Method: SM21 4500NO3-F  
 Instrument: Astoria segmented flow  
 Analyst: EBH  
 Analytical Date/Time: 5/19/2022 11:07:34AM

Print Date: 05/23/2022 11:26:47AM

## Method Blank

Blank ID: MB for HBN 1836008 [WTI/5853]

Blank Lab ID: 1663360

QC for Samples:

1222071001, 1222071002

Matrix: Water (Surface, Eff., Ground)

## Results by SM21 2320B

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Alkalinity	2.96J	10.0	2.50	mg/L

## Batch Information

Analytical Batch: WTI5853

Analytical Method: SM21 2320B

Instrument: Titration

Analyst: DMM

Analytical Date/Time: 5/9/2022 4:30:15PM

Print Date: 05/23/2022 11:26:49AM





### Duplicate Sample Summary

Original Sample ID: 1222071001

Duplicate Sample ID: 1663358

QC for Samples:

1222071001, 1222071002

Analysis Date: 05/09/2022 17:05

Matrix: Water (Surface, Eff., Ground)

### Results by SM21 2320B

<u>NAME</u>	<u>Original</u>	<u>Duplicate</u>	<u>Units</u>	<u>RPD (%)</u>	<u>RPD CL</u>
Alkalinity	42.9	42.7	mg/L	0.58	(< 25 )

### Batch Information

Analytical Batch: WT15853

Analytical Method: SM21 2320B

Instrument: Titration

Analyst: DMM

Print Date: 05/23/2022 11:26:50AM

## Duplicate Sample Summary

Original Sample ID: 1222071002

Duplicate Sample ID: 1663359

QC for Samples:

1222071002

Analysis Date: 05/09/2022 17:19

Matrix: Water (Surface, Eff., Ground)

## Results by SM21 2320B

<u>NAME</u>	<u>Original</u>	<u>Duplicate</u>	<u>Units</u>	<u>RPD (%)</u>	<u>RPD CL</u>
Alkalinity	39.8	40.0	mg/L	0.55	(< 25 )

## Batch Information

Analytical Batch: WT15853

Analytical Method: SM21 2320B

Instrument: Titration

Analyst: DMM

Print Date: 05/23/2022 11:26:50AM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1222071 [WTI5853]  
Blank Spike Lab ID: 1663361  
Date Analyzed: 05/09/2022 16:15

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1222071001, 1222071002

## Results by SM21 2320B

Parameter	Blank Spike (mg/L)			CL ( 85-115 )
	Spike	Result	Rec (%)	
Alkalinity	250	234	94	

## Batch Information

Analytical Batch: **WTI5853**  
Analytical Method: **SM21 2320B**  
Instrument: **Titration**  
Analyst: **DMM**

Print Date: 05/23/2022 11:26:51AM



### Duplicate Sample Summary

Original Sample ID: 1222071001

Duplicate Sample ID: 1663367

QC for Samples:

1222071001, 1222071002

Analysis Date: 05/09/2022 17:05

Matrix: Water (Surface, Eff., Ground)

### Results by SM21 4500-H B

<u>NAME</u>	<u>Original</u>	<u>Duplicate</u>	<u>Units</u>	<u>RPD (%)</u>	<u>RPD CL</u>
pH	6.8	6.80	pH units	0.00	(< 5 )

### Batch Information

Analytical Batch: WT15854

Analytical Method: SM21 4500-H B

Instrument: Titration

Analyst: DMM

Print Date: 05/23/2022 11:26:55AM



### Duplicate Sample Summary

Original Sample ID: 1222071002

Duplicate Sample ID: 1663368

QC for Samples:

1222071001, 1222071002

Analysis Date: 05/09/2022 17:19

Matrix: Water (Surface, Eff., Ground)

### Results by SM21 4500-H B

<u>NAME</u>	<u>Original</u>	<u>Duplicate</u>	<u>Units</u>	<u>RPD (%)</u>	<u>RPD CL</u>
pH	6.9	6.90	pH units	0.00	(< 5 )

### Batch Information

Analytical Batch: WT15854

Analytical Method: SM21 4500-H B

Instrument: Titration

Analyst: DMM

Print Date: 05/23/2022 11:26:55AM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1222071 [WTI5854]

Blank Spike Lab ID: 1663364

Date Analyzed: 05/09/2022 15:53

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1222071001, 1222071002

## Results by SM21 4500-H B

Parameter	Blank Spike (pH units)			CL ( 99-101 )
	Spike	Result	Rec (%)	
pH	6.98	6.99	100	

## Batch Information

Analytical Batch: **WTI5854**

Analytical Method: **SM21 4500-H B**

Instrument: **Titration**

Analyst: **DMM**

Print Date: 05/23/2022 11:26:56AM



### Method Blank

Blank ID: MB for HBN 1836056 [WXX/14197]  
Blank Lab ID: 1663495

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1222071001, 1222071002

### Results by EPA 300.0

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Sulfate	0.100U	0.200	0.0500	mg/L

### Batch Information

Analytical Batch: WIC6308  
Analytical Method: EPA 300.0  
Instrument: 930 Metrohm compact IC flex  
Analyst: NRZ  
Analytical Date/Time: 5/10/2022 1:09:57PM

Prep Batch: WXX14197  
Prep Method: METHOD  
Prep Date/Time: 5/10/2022 11:30:00AM  
Prep Initial Wt./Vol.: 10 mL  
Prep Extract Vol: 10 mL

Print Date: 05/23/2022 11:27:03AM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1222071 [WXX14197]

Blank Spike Lab ID: 1663496

Date Analyzed: 05/10/2022 13:28

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1222071001, 1222071002

## Results by EPA 300.0

Parameter	Blank Spike (mg/L)			CL ( 90-110 )
	Spike	Result	Rec (%)	
Sulfate	5	4.72	94	

## Batch Information

Analytical Batch: **WIC6308**

Analytical Method: **EPA 300.0**

Instrument: **930 Metrohm compact IC flex**

Analyst: **NRZ**

Prep Batch: **WXX14197**

Prep Method: **METHOD**

Prep Date/Time: **05/10/2022 11:30**

Spike Init Wt./Vol.: 5 mg/L Extract Vol: 10 mL

Dupe Init Wt./Vol.: Extract Vol:





### Matrix Spike Summary

Original Sample ID: 1663483  
MS Sample ID: 1663498 MS  
MSD Sample ID:

Analysis Date: 05/10/2022 14:44  
Analysis Date: 05/10/2022 15:03  
Analysis Date:  
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1222071001, 1222071002

### Results by EPA 300.0

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Sulfate	2.82	5.00	7.52	94				90-110		

### Batch Information

Analytical Batch: WIC6308  
Analytical Method: EPA 300.0  
Instrument: 930 Metrohm compact IC flex  
Analyst: NRZ  
Analytical Date/Time: 5/10/2022 3:03:55PM

Prep Batch: WXX14197  
Prep Method: EPA 300.0 Extraction Waters/Liquids  
Prep Date/Time: 5/10/2022 11:30:00AM  
Prep Initial Wt./Vol.: 10.00mL  
Prep Extract Vol: 10.00mL

Print Date: 05/23/2022 11:27:06AM



Profile #36242794

CLIENT: <u>Stantec</u>				Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.				Page <u>1</u> of <u>1</u>								
CONTACT: <u>Craig Wilson</u>		PHONE #: <u>907-240-3752</u>		Section 3		Preservative										
PROJECT NAME: <u>SRU</u>		PROJECT/PWSID/PERMIT#: <u>2022021236</u>		CONTAINERS	Comp Grab MI (Multi-incremental)	Analysis*						NOTE: *The following analyses require specific method and/or compound list: BTEX, Metals, PFAS				
REPORTS TO: <u>Craig Wilson</u>		E-MAIL: <u>Profile #: Craig.Wilson@stantec.com</u>				H <sub>2</sub> SO <sub>4</sub> , HNO <sub>3</sub> , H <sub>2</sub> O <sub>2</sub> , HCl										
INVOICE TO: <u>Stantec</u>		QUOTE #: _____				4500-CO <sub>2</sub> , 4500-Ni/As, 4500-Sulfate, 200.8, 200.8 (Filtered), 200.8 Dissolved Fe, 8260 BTEX										
		P.O. #: _____														
Section 2	RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/MATRIX CODE	#	Comp	Grab	MI	REMARKS/LOC ID						
	<del>①AG 3A</del>	TLW-2	5/4/22	1358	W	8	G			X	X	X	X	X	X	
	<del>②AG 4A</del>	TLW-3	5/4/22	1455	W	8	G			X	X	X	X	X	X	
	③AC	Trip Blank	5/4/22	1200	W	3	G							X		
Section 5	Relinquished By: (1)	Date	Time	Received By:	Section 4		DOD Project? Yes <input type="radio"/> No <input checked="" type="radio"/>		Data Deliverable Requirements:							
	Relinquished By: (2)	Date	Time	Received By:	Cooler ID:		Requested Turnaround Time and/or Special Instructions:									
	Relinquished By: (3)	Date	Time	Received By:	Standard											
	Relinquished By: (4)	Date	Time	Received For Laboratory By:	Temp Blank °C: <u>-2.1 D62</u>		Chain of Custody Seal: (Circle)		INTACT BROKEN <input checked="" type="radio"/> ABSENT							
						Delivery Method: Hand Delivery <input checked="" type="checkbox"/> Commercial Delivery [ ]										



SGS Workorder #:

1222071

1222071

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
-----------------	--------------------------	------------------------

**Chain of Custody / Temperature Requirements**

*Note: Temperature and COC seal information is found on the chain of custody form*

DOD only: Did all sample coolers have a corresponding COC?	N/A
If <0°C, were sample containers ice free?	Yes
Note containers received with ice:	

Identify any containers received at non-compliant temperature:  
  
(Use form FS-0029 if more space is needed)

**Holding Time / Documentation / Sample Condition Requirement**

*Note: Refer to form F-083 "Sample Guide" for specific holding times and sample containers.*

Were samples received within analytical holding time?	Yes
Do sample labels match COC? Record discrepancies.	Yes

**Note:** If information on containers differs from COC, default to COC information for login. If times differ <1hr, record details & login per COC.

Were analytical requests clear? <i>(i.e. method is specified for analyses with multiple option for method (Eg, BTEX 8021 vs 8260, Metals 6020 vs 200.8)</i>	Yes
--	-----

Were proper containers (type/mass/volume/preservative)used? Note: Exemption for metals analysis by 200.8/6020 in water.	Yes
--	-----

**Volatile Analysis Requirements (VOC, GRO, LL-Hg, etc.)**

Were all soil VOAs received with a corresponding % solids container?	N/A
Were Trip Blanks (e.g., VOAs, LL-Hg) in cooler with samples?	Yes
Were all water VOA vials free of headspace (e.g., bubbles ≤ 6mm)?	Yes
Were all soil VOAs field extracted with Methanol+BFB?	N/A

**Note to Client:** Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.

**Additional notes (if applicable):**



## Sample Containers and Preservatives

<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1222071001-A	No Preservative Required	OK			
1222071001-B	H2SO4 to pH < 2	OK			
1222071001-C	Zn Acetate,NaOH to pH > 9	OK			
1222071001-D	HNO3 to pH < 2	OK			
1222071001-E	HCL to pH < 2	OK			
1222071001-F	HCL to pH < 2	OK			
1222071001-G	HCL to pH < 2	OK			
1222071002-A	No Preservative Required	OK			
1222071002-B	H2SO4 to pH < 2	OK			
1222071002-C	Zn Acetate,NaOH to pH > 9	OK			
1222071002-D	HNO3 to pH < 2	OK			
1222071002-E	HCL to pH < 2	OK			
1222071002-F	HCL to pH < 2	OK			
1222071002-G	HCL to pH < 2	OK			
1222071003-A	HNO3 to pH < 2	OK			
1222071004-A	HNO3 to pH < 2	OK			
1222071005-A	HCL to pH < 2	OK			
1222071005-B	HCL to pH < 2	OK			
1222071005-C	HCL to pH < 2	OK			

### Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.

BU - The container was received with headspace greater than 6mm.

DM - The container was received damaged.

FR - The container was received frozen and not usable for Bacteria or BOD analyses.

IC - The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.

NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.

PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

QN - Insufficient sample quantity provided.



## Laboratory Report of Analysis

To: Stantec Consulting Services Inc.  
725 East Fireweed Lane, #200  
Anchorage, AK 99503  
(907)266-1148

Report Number: **1222993**

Client Project: **203721236 SRU-COBC**

Dear Douglas Quist,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of ten years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Justin at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,  
SGS North America Inc.

---

Justin Nelson  
Project Manager  
Justin.Nelson@sgs.com

Date

### Case Narrative

SGS Client: **Stantec Consulting Services Inc.**  
SGS Project: **1222993**  
Project Name/Site: **203721236 SRU-COBC**  
Project Contact: **Douglas Quist**

Refer to sample receipt form for information on sample condition.

**TW-26(1222993007BMS) (1222993008) BMS**

8260D - BMS recoveries for P&M - xylene and xylenes (total) do not meet QC criteria. Refer to LCS for accuracy requirements.

**TW-26(1222993007BMSD) (1222993009) BMSD**

8260D - BMSD recoveries for P&M - xylene and xylenes (total) do not meet QC criteria. Refer to LCS for accuracy requirements.

**W-7 (1222993014) PS**

8270D SIM - PAH surrogate recoveries for 2-methylnaphthalene-d10 and fluoranthene-d10 do not meet QC criteria.

**W-6 (1222993015) PS**

8270D SIM - PAH surrogate recovery for fluoranthene-d10 does not meet QC criteria.

**TW-25(1222993024BMS) (1222993025) BMS**

8260D - BMS recoveries for several analytes do not meet QC criteria. Refer to LCS for accuracy requirements.

**TW-25(1222993024BMSD) (1222993026) BMSD**

8260D - BMSD recoveries for several analytes do not meet QC criteria. Refer to LCS for accuracy requirements.

**TW-6D (1222993032) PS**

8260D - Surrogate recovery for 4-bromofluorobenzene does not meet QC criteria. There are no analytes associated with this surrogate being reported.

**TW-18S (1222993037) PS**

8260D - Surrogate recovery for 4-bromofluorobenzene does not meet QC criteria. There are no analytes associated with this surrogate being reported.

**Trip Blank (1222993043) TB**

8260D - Surrogate recovery for 4-bromofluorobenzene does not meet QC criteria. There are no analytes associated with this surrogate being reported.

**1222908001MS (1668847) MS**

4500NO3-F - Nitrate/Nitrite - MS recovery for total nitrate/nitrite is outside of QC criteria. Refer to LCS for accuracy requirements.

**1222908001MSD (1668848) MSD**

4500NO3-F - Nitrate/Nitrite - MSD recovery for total nitrate/nitrite is outside of QC criteria. Refer to LCS for accuracy requirements.

**1222970006(1670263MS) (1670264) MS**

300.0 - Anions - MS recoveries for multiple analytes are outside of QC criteria. Refer to LCS for accuracy requirements.

RSK 175 Methane was analyzed by SGS of Orlando, FL.

### Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. The results apply to the samples as received. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the context or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 DW Chemistry (Provisionally Certified as of 05/31/2022 for Nitrate as N by SM 4500NO3-F) & Microbiology & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020B, 7470A, 7471B, 8015C, 8021B, 8082A, 8260D, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). SGS is only certified for the analytes listed on our Drinking Water Certification (DW methods: 200.8, 2130B, 2320B, 2510B, 300.0, 4500-CN-C,E, 4500-H-B, 4500-NO3-F, 4500-P-E and 524.2) and only those analytes will be reported to the State of Alaska for compliance. Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
B	Indicates the analyte is found in a blank associated with the sample.
CCV/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Analytical Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
RPD	Relative Percent Difference
TNTC	Too Numerous To Count
U	Indicates the analyte was analyzed for but not detected.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content. All DRO/RRO analyses are integrated per SOP.



### Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
TW-16	1222993001	06/08/2022	06/13/2022	Water (Surface, Eff., Ground)
TW-15	1222993002	06/08/2022	06/13/2022	Water (Surface, Eff., Ground)
Duplicate 1	1222993003	06/08/2022	06/13/2022	Water (Surface, Eff., Ground)
TW-13	1222993004	06/08/2022	06/13/2022	Water (Surface, Eff., Ground)
TW-4R	1222993005	06/08/2022	06/13/2022	Water (Surface, Eff., Ground)
TW-5	1222993006	06/08/2022	06/13/2022	Water (Surface, Eff., Ground)
TW-26	1222993007	06/08/2022	06/13/2022	Water (Surface, Eff., Ground)
TW-26(1222993007BMS)	1222993008	06/08/2022	06/13/2022	Water (Surface, Eff., Ground)
TW-26(1222993007BMSD)	1222993009	06/08/2022	06/13/2022	Water (Surface, Eff., Ground)
TW-24	1222993010	06/08/2022	06/13/2022	Water (Surface, Eff., Ground)
TW-22	1222993011	06/08/2022	06/13/2022	Water (Surface, Eff., Ground)
TW-8	1222993012	06/08/2022	06/13/2022	Water (Surface, Eff., Ground)
W-3	1222993013	06/09/2022	06/13/2022	Water (Surface, Eff., Ground)
W-7	1222993014	06/09/2022	06/13/2022	Water (Surface, Eff., Ground)
W-6	1222993015	06/09/2022	06/13/2022	Water (Surface, Eff., Ground)
Duplicate 2	1222993016	06/09/2022	06/13/2022	Water (Surface, Eff., Ground)
W-1E	1222993017	06/09/2022	06/13/2022	Water (Surface, Eff., Ground)
W-1P	1222993018	06/09/2022	06/13/2022	Water (Surface, Eff., Ground)
W-5	1222993019	06/09/2022	06/13/2022	Water (Surface, Eff., Ground)
FSS-1	1222993020	06/09/2022	06/13/2022	Water (Surface, Eff., Ground)
FSS-2	1222993021	06/09/2022	06/13/2022	Water (Surface, Eff., Ground)
PSW-2	1222993022	06/09/2022	06/13/2022	Water (Surface, Eff., Ground)
PSW-1	1222993023	06/09/2022	06/13/2022	Water (Surface, Eff., Ground)
TW-25	1222993024	06/09/2022	06/13/2022	Water (Surface, Eff., Ground)
TW-25(1222993024BMS)	1222993025	06/09/2022	06/13/2022	Water (Surface, Eff., Ground)
TW-25(1222993024BMSD)	1222993026	06/09/2022	06/13/2022	Water (Surface, Eff., Ground)
TW-23	1222993027	06/09/2022	06/13/2022	Water (Surface, Eff., Ground)
Duplicate 3	1222993028	06/09/2022	06/13/2022	Water (Surface, Eff., Ground)
TW-7D	1222993029	06/09/2022	06/13/2022	Water (Surface, Eff., Ground)
TW-7	1222993030	06/09/2022	06/13/2022	Water (Surface, Eff., Ground)
TW-20	1222993031	06/09/2022	06/13/2022	Water (Surface, Eff., Ground)
TW-6D	1222993032	06/09/2022	06/13/2022	Water (Surface, Eff., Ground)
TW-6	1222993033	06/09/2022	06/13/2022	Water (Surface, Eff., Ground)
TW-21	1222993034	06/10/2022	06/13/2022	Water (Surface, Eff., Ground)
Duplicate 4	1222993035	06/10/2022	06/13/2022	Water (Surface, Eff., Ground)
TW-17	1222993036	06/10/2022	06/13/2022	Water (Surface, Eff., Ground)
TW-18S	1222993037	06/10/2022	06/13/2022	Water (Surface, Eff., Ground)
TW-18D	1222993038	06/10/2022	06/13/2022	Water (Surface, Eff., Ground)
TW-19S	1222993039	06/10/2022	06/13/2022	Water (Surface, Eff., Ground)

Print Date: 06/29/2022 5:14:27PM



### Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
TW-19D	1222993040	06/10/2022	06/13/2022	Water (Surface, Eff., Ground)
MW-1	1222993041	06/10/2022	06/13/2022	Water (Surface, Eff., Ground)
MW-1	1222993042	06/10/2022	06/13/2022	Water (Surface, Eff., Ground)
Trip Blank	1222993043	06/08/2022	06/13/2022	Water (Surface, Eff., Ground)

<u>Method</u>	<u>Method Description</u>
EPA 602/624	602 Aromatics by 624 (W)
EPA 625M SIM (PAH) LV	625 PAH SIM GC/MS Low Volume
SM21 2320B	Alkalinity as CaCO3 QC
SW9056A	Ion Chromatographic Analysis Water
EP200.8	Metals in Drinking Water by ICP-MS DISSO
EP200.8	Metals in Water by 200.8 ICP-MS
SM21 4500NO3-F	Nitrate/Nitrite Flow injection Pres.
SW8260D	Volatile Organic Compounds (W)

Print Date: 06/29/2022 5:14:27PM



### Detectable Results Summary

Client Sample ID: **Duplicate 1**

Lab Sample ID: 1222993003

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
P & M -Xylene	0.626J	ug/L

Client Sample ID: **TW-13**

Lab Sample ID: 1222993004

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
P & M -Xylene	48.5	ug/L
Xylenes (total)	48.5	ug/L

Client Sample ID: **TW-26**

Lab Sample ID: 1222993007

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	0.284J	ug/L
Ethylbenzene	1.81	ug/L
P & M -Xylene	44.8	ug/L
Xylenes (total)	44.8	ug/L

Client Sample ID: **TW-24**

Lab Sample ID: 1222993010

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	0.216J	ug/L
Ethylbenzene	192	ug/L
P & M -Xylene	60.3	ug/L
Xylenes (total)	60.3	ug/L

Client Sample ID: **TW-8**

Lab Sample ID: 1222993012

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	0.572	ug/L
Ethylbenzene	50.7	ug/L
o-Xylene	0.928J	ug/L
P & M -Xylene	41.0	ug/L
Xylenes (total)	42.0	ug/L

Client Sample ID: **W-6**

Lab Sample ID: 1222993015

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
P & M -Xylene	16.4	ug/L

Client Sample ID: **Duplicate 2**

Lab Sample ID: 1222993016

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
P & M -Xylene	17.9	ug/L

Client Sample ID: **W-1E**

Lab Sample ID: 1222993017

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
o-Xylene	0.331J	ug/L
P & M -Xylene	19.2	ug/L

Client Sample ID: **W-1P**

Lab Sample ID: 1222993018

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
P & M -Xylene	7.47	ug/L
P & M -Xylene	6.66	ug/L
Xylenes (total)	6.66	ug/L

Print Date: 06/29/2022 5:14:28PM

SGS North America Inc.

200 West Potter Drive, Anchorage, AK 99518  
t 907.562.2343 f 907.561.5301 www.us.sgs.com

Member of SGS Group



### Detectable Results Summary

Client Sample ID: **W-5**  
Lab Sample ID: 1222993019

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
P & M -Xylene	8.12	ug/L
Toluene	0.366J	ug/L

Client Sample ID: **FSS-1**  
Lab Sample ID: 1222993020

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Ethylbenzene	0.900J	ug/L
o-Xylene	1.04	ug/L
P & M -Xylene	1.86J	ug/L
Xylenes (total)	2.90J	ug/L

Client Sample ID: **FSS-2**  
Lab Sample ID: 1222993021

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
P & M -Xylene	0.728J	ug/L

Client Sample ID: **TW-25**  
Lab Sample ID: 1222993024

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	0.386J	ug/L
Ethylbenzene	175	ug/L
o-Xylene	214	ug/L
P & M -Xylene	333	ug/L
Xylenes (total)	547	ug/L

Client Sample ID: **TW-7D**  
Lab Sample ID: 1222993029

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	0.208J	ug/L
Ethylbenzene	12.1	ug/L
P & M -Xylene	74.2	ug/L
Xylenes (total)	74.2	ug/L

Client Sample ID: **TW-7**  
Lab Sample ID: 1222993030

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	0.253J	ug/L
Ethylbenzene	9.86	ug/L
o-Xylene	0.563J	ug/L
P & M -Xylene	115	ug/L
Xylenes (total)	116	ug/L

Client Sample ID: **TW-6D**  
Lab Sample ID: 1222993032

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
P & M -Xylene	1.98J	ug/L
Xylenes (total)	1.98J	ug/L

Client Sample ID: **TW-6**  
Lab Sample ID: 1222993033

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	0.305J	ug/L
Ethylbenzene	2.48	ug/L
P & M -Xylene	50.8	ug/L
Xylenes (total)	50.8	ug/L

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### Detectable Results Summary

Client Sample ID: **TW-21**  
Lab Sample ID: 1222993034

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Ethylbenzene	1710	ug/L
o-Xylene	745	ug/L
P & M -Xylene	3870	ug/L
Xylenes (total)	4620	ug/L

Client Sample ID: **Duplicate 4**  
Lab Sample ID: 1222993035

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Ethylbenzene	1670	ug/L
o-Xylene	795	ug/L
P & M -Xylene	3970	ug/L
Xylenes (total)	4760	ug/L

Client Sample ID: **TW-18S**  
Lab Sample ID: 1222993037

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
P & M -Xylene	5.25	ug/L
Xylenes (total)	5.25	ug/L

Client Sample ID: **TW-18D**  
Lab Sample ID: 1222993038

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	0.283J	ug/L
Ethylbenzene	4.16	ug/L
o-Xylene	0.919J	ug/L
P & M -Xylene	450	ug/L
Xylenes (total)	451	ug/L

Client Sample ID: **TW-19S**  
Lab Sample ID: 1222993039

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
P & M -Xylene	2.42	ug/L
Xylenes (total)	2.42J	ug/L

Client Sample ID: **TW-19D**  
Lab Sample ID: 1222993040

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Ethylbenzene	2.36	ug/L
o-Xylene	0.370J	ug/L
P & M -Xylene	77.3	ug/L
Xylenes (total)	77.7	ug/L

Client Sample ID: **MW-1**  
Lab Sample ID: 1222993041

**Metals by ICP/MS  
Waters Department**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Iron	50900	ug/L
Alkalinity	131	mg/L
Sulfate	0.390	mg/L
Total Nitrate/Nitrite-N	0.0740J	mg/L

Client Sample ID: **MW-1**  
Lab Sample ID: 1222993042

**Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Iron	30100	ug/L

Print Date: 06/29/2022 5:14:28PM

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### Results of TW-16

Client Sample ID: **TW-16**  
 Client Project ID: **203721236 SRU-COBC**  
 Lab Sample ID: 1222993001  
 Lab Project ID: 1222993

Collection Date: 06/08/22 10:59  
 Received Date: 06/13/22 11:08  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		06/15/22 16:09
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		06/15/22 16:09
o-Xylene	0.500 U	1.00	0.310	ug/L	1		06/15/22 16:09
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		06/15/22 16:09
Toluene	0.500 U	1.00	0.310	ug/L	1		06/15/22 16:09
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		06/15/22 16:09

### Surrogates

1,2-Dichloroethane-D4 (surr)	98.5	81-118		%	1		06/15/22 16:09
4-Bromofluorobenzene (surr)	101	85-114		%	1		06/15/22 16:09
Toluene-d8 (surr)	99	89-112		%	1		06/15/22 16:09

### Batch Information

Analytical Batch: VMS21696  
 Analytical Method: SW8260D  
 Analyst: JMG  
 Analytical Date/Time: 06/15/22 16:09  
 Container ID: 1222993001-A

Prep Batch: VXX38701  
 Prep Method: SW5030B  
 Prep Date/Time: 06/15/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



**Results of TW-15**

Client Sample ID: **TW-15**  
Client Project ID: **203721236 SRU-COBC**  
Lab Sample ID: 1222993002  
Lab Project ID: 1222993

Collection Date: 06/08/22 11:28  
Received Date: 06/13/22 11:08  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		06/15/22 16:24
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		06/15/22 16:24
o-Xylene	0.500 U	1.00	0.310	ug/L	1		06/15/22 16:24
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		06/15/22 16:24
Toluene	0.500 U	1.00	0.310	ug/L	1		06/15/22 16:24
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		06/15/22 16:24
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	99.1	81-118		%	1		06/15/22 16:24
4-Bromofluorobenzene (surr)	102	85-114		%	1		06/15/22 16:24
Toluene-d8 (surr)	99.1	89-112		%	1		06/15/22 16:24

**Batch Information**

Analytical Batch: VMS21696  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 06/15/22 16:24  
Container ID: 1222993002-A

Prep Batch: VXX38701  
Prep Method: SW5030B  
Prep Date/Time: 06/15/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



### Results of Duplicate 1

Client Sample ID: **Duplicate 1**  
 Client Project ID: **203721236 SRU-COBC**  
 Lab Sample ID: 1222993003  
 Lab Project ID: 1222993

Collection Date: 06/08/22 11:31  
 Received Date: 06/13/22 11:08  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		06/16/22 20:48
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		06/16/22 20:48
o-Xylene	0.500 U	1.00	0.310	ug/L	1		06/16/22 20:48
P & M -Xylene	0.626 J	2.00	0.620	ug/L	1		06/16/22 20:48
Toluene	0.500 U	1.00	0.310	ug/L	1		06/16/22 20:48
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		06/16/22 20:48
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	100	81-118		%	1		06/16/22 20:48
4-Bromofluorobenzene (surr)	103	85-114		%	1		06/16/22 20:48
Toluene-d8 (surr)	96.1	89-112		%	1		06/16/22 20:48

### Batch Information

Analytical Batch: VMS21700  
 Analytical Method: SW8260D  
 Analyst: JMG  
 Analytical Date/Time: 06/16/22 20:48  
 Container ID: 1222993003-A

Prep Batch: VXX38706  
 Prep Method: SW5030B  
 Prep Date/Time: 06/16/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



**Results of TW-13**

Client Sample ID: **TW-13**  
Client Project ID: **203721236 SRU-COBC**  
Lab Sample ID: 1222993004  
Lab Project ID: 1222993

Collection Date: 06/08/22 12:06  
Received Date: 06/13/22 11:08  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		06/16/22 22:03
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		06/16/22 22:03
o-Xylene	0.500 U	1.00	0.310	ug/L	1		06/16/22 22:03
P & M -Xylene	48.5	2.00	0.620	ug/L	1		06/16/22 22:03
Toluene	0.500 U	1.00	0.310	ug/L	1		06/16/22 22:03
Xylenes (total)	48.5	3.00	1.00	ug/L	1		06/16/22 22:03
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	101	81-118		%	1		06/16/22 22:03
4-Bromofluorobenzene (surr)	103	85-114		%	1		06/16/22 22:03
Toluene-d8 (surr)	96.2	89-112		%	1		06/16/22 22:03

**Batch Information**

Analytical Batch: VMS21700  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 06/16/22 22:03  
Container ID: 1222993004-A

Prep Batch: VXX38706  
Prep Method: SW5030B  
Prep Date/Time: 06/16/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL





**Results of TW-4R**

Client Sample ID: **TW-4R**  
Client Project ID: **203721236 SRU-COBC**  
Lab Sample ID: 1222993005  
Lab Project ID: 1222993

Collection Date: 06/08/22 13:10  
Received Date: 06/13/22 11:08  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		06/16/22 18:33
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		06/16/22 18:33
o-Xylene	0.500 U	1.00	0.310	ug/L	1		06/16/22 18:33
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		06/16/22 18:33
Toluene	0.500 U	1.00	0.310	ug/L	1		06/16/22 18:33
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		06/16/22 18:33
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	100	81-118		%	1		06/16/22 18:33
4-Bromofluorobenzene (surr)	101	85-114		%	1		06/16/22 18:33
Toluene-d8 (surr)	97.2	89-112		%	1		06/16/22 18:33

**Batch Information**

Analytical Batch: VMS21700  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 06/16/22 18:33  
Container ID: 1222993005-A

Prep Batch: VXX38706  
Prep Method: SW5030B  
Prep Date/Time: 06/16/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



### Results of TW-5

Client Sample ID: **TW-5**  
 Client Project ID: **203721236 SRU-COBC**  
 Lab Sample ID: 1222993006  
 Lab Project ID: 1222993

Collection Date: 06/08/22 13:47  
 Received Date: 06/13/22 11:08  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		06/16/22 18:48
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		06/16/22 18:48
o-Xylene	0.500 U	1.00	0.310	ug/L	1		06/16/22 18:48
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		06/16/22 18:48
Toluene	0.500 U	1.00	0.310	ug/L	1		06/16/22 18:48
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		06/16/22 18:48

### Surrogates

1,2-Dichloroethane-D4 (surr)	99.3	81-118		%	1		06/16/22 18:48
4-Bromofluorobenzene (surr)	100	85-114		%	1		06/16/22 18:48
Toluene-d8 (surr)	98.7	89-112		%	1		06/16/22 18:48

### Batch Information

Analytical Batch: VMS21700  
 Analytical Method: SW8260D  
 Analyst: JMG  
 Analytical Date/Time: 06/16/22 18:48  
 Container ID: 1222993006-A

Prep Batch: VXX38706  
 Prep Method: SW5030B  
 Prep Date/Time: 06/16/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



Results of TW-26

Client Sample ID: TW-26
Client Project ID: 203721236 SRU-COBC
Lab Sample ID: 1222993007
Lab Project ID: 1222993

Collection Date: 06/08/22 14:23
Received Date: 06/13/22 11:08
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, and Xylenes (total).

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include 1,2-Dichloroethane-D4 (surr), 4-Bromofluorobenzene (surr), and Toluene-d8 (surr).

Batch Information

Analytical Batch: VMS21700
Analytical Method: SW8260D
Analyst: JMG
Analytical Date/Time: 06/16/22 21:18
Container ID: 1222993007-A

Prep Batch: VXX38706
Prep Method: SW5030B
Prep Date/Time: 06/16/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL



Results of TW-24

Client Sample ID: TW-24
Client Project ID: 203721236 SRU-COBC
Lab Sample ID: 1222993010
Lab Project ID: 1222993

Collection Date: 06/08/22 14:58
Received Date: 06/13/22 11:08
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, and Xylenes (total).

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include 1,2-Dichloroethane-D4 (surr), 4-Bromofluorobenzene (surr), and Toluene-d8 (surr).

Batch Information

Analytical Batch: VMS21700
Analytical Method: SW8260D
Analyst: JMG
Analytical Date/Time: 06/16/22 22:18
Container ID: 1222993010-A

Prep Batch: VXX38706
Prep Method: SW5030B
Prep Date/Time: 06/16/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VMS21700
Analytical Method: SW8260D
Analyst: JMG
Analytical Date/Time: 06/16/22 22:33
Container ID: 1222993010-A

Prep Batch: VXX38706
Prep Method: SW5030B
Prep Date/Time: 06/16/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL



Results of TW-22

Client Sample ID: TW-22
Client Project ID: 203721236 SRU-COBC
Lab Sample ID: 1222993011
Lab Project ID: 1222993

Collection Date: 06/08/22 16:09
Received Date: 06/13/22 11:08
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, Xylenes (total), and Surrogates (1,2-Dichloroethane-D4, 4-Bromofluorobenzene, Toluene-d8).

Batch Information

Analytical Batch: VMS21700
Analytical Method: SW8260D
Analyst: JMG
Analytical Date/Time: 06/16/22 19:03
Container ID: 1222993011-A

Prep Batch: VXX38706
Prep Method: SW5030B
Prep Date/Time: 06/16/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL



**Results of TW-8**

Client Sample ID: **TW-8**  
Client Project ID: **203721236 SRU-COBC**  
Lab Sample ID: 1222993012  
Lab Project ID: 1222993

Collection Date: 06/08/22 17:44  
Received Date: 06/13/22 11:08  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.572	0.400	0.120	ug/L	1		06/16/22 21:03
Ethylbenzene	50.7	1.00	0.310	ug/L	1		06/16/22 21:03
o-Xylene	0.928 J	1.00	0.310	ug/L	1		06/16/22 21:03
P & M -Xylene	41.0	2.00	0.620	ug/L	1		06/16/22 21:03
Toluene	0.500 U	1.00	0.310	ug/L	1		06/16/22 21:03
Xylenes (total)	42.0	3.00	1.00	ug/L	1		06/16/22 21:03

**Surrogates**

1,2-Dichloroethane-D4 (surr)	98.7	81-118		%	1		06/16/22 21:03
4-Bromofluorobenzene (surr)	101	85-114		%	1		06/16/22 21:03
Toluene-d8 (surr)	97.7	89-112		%	1		06/16/22 21:03

**Batch Information**

Analytical Batch: VMS21700  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 06/16/22 21:03  
Container ID: 1222993012-A

Prep Batch: VXX38706  
Prep Method: SW5030B  
Prep Date/Time: 06/16/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of W-3

Client Sample ID: W-3
Client Project ID: 203721236 SRU-COBC
Lab Sample ID: 1222993013
Lab Project ID: 1222993

Collection Date: 06/09/22 10:21
Received Date: 06/13/22 11:08
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Polynuclear Aromatics GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various polynuclear aromatic hydrocarbons and their surrogate compounds with associated quality and detection data.

Batch Information

Analytical Batch: XMS13196
Analytical Method: EPA 625M SIM (PAH) LV
Analyst: NRB
Analytical Date/Time: 06/23/22 13:15
Container ID: 1222993013-D

Prep Batch: XXX46426
Prep Method: SW3535A
Prep Date/Time: 06/16/22 16:43
Prep Initial Wt./Vol.: 270 mL
Prep Extract Vol: 1 mL

## Results of W-3

Client Sample ID: **W-3**  
 Client Project ID: **203721236 SRU-COBC**  
 Lab Sample ID: 1222993013  
 Lab Project ID: 1222993

Collection Date: 06/09/22 10:21  
 Received Date: 06/13/22 11:08  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

## Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		06/15/22 17:53
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		06/15/22 17:53
o-Xylene	0.500 U	1.00	0.310	ug/L	1		06/15/22 17:53
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		06/15/22 17:53
Toluene	0.500 U	1.00	0.310	ug/L	1		06/15/22 17:53
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	97.2	81-118		%	1		06/15/22 17:53
4-Bromofluorobenzene (surr)	101	85-114		%	1		06/15/22 17:53
Toluene-d8 (surr)	98.9	89-112		%	1		06/15/22 17:53

## Batch Information

Analytical Batch: VMS21696  
 Analytical Method: EPA 602/624  
 Analyst: JMG  
 Analytical Date/Time: 06/15/22 17:53  
 Container ID: 1222993013-A

Prep Batch: VXX38701  
 Prep Method: SW5030B  
 Prep Date/Time: 06/15/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL





Results of W-7

Client Sample ID: W-7
Client Project ID: 203721236 SRU-COBC
Lab Sample ID: 1222993014
Lab Project ID: 1222993

Collection Date: 06/09/22 10:40
Received Date: 06/13/22 11:08
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Polynuclear Aromatics GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various polynuclear aromatic hydrocarbons and their detection results.

Batch Information

Analytical Batch: XMS13196
Analytical Method: EPA 625M SIM (PAH) LV
Analyst: NRB
Analytical Date/Time: 06/23/22 13:35
Container ID: 1222993014-D

Prep Batch: XXX46426
Prep Method: SW3535A
Prep Date/Time: 06/16/22 16:43
Prep Initial Wt./Vol.: 255 mL
Prep Extract Vol: 1 mL



Results of **W-7**

Client Sample ID: **W-7**  
Client Project ID: **203721236 SRU-COBC**  
Lab Sample ID: 1222993014  
Lab Project ID: 1222993

Collection Date: 06/09/22 10:40  
Received Date: 06/13/22 11:08  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		06/15/22 18:09
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		06/15/22 18:09
o-Xylene	0.500 U	1.00	0.310	ug/L	1		06/15/22 18:09
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		06/15/22 18:09
Toluene	0.500 U	1.00	0.310	ug/L	1		06/15/22 18:09
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	94.7	81-118		%	1		06/15/22 18:09
4-Bromofluorobenzene (surr)	113	85-114		%	1		06/15/22 18:09
Toluene-d8 (surr)	98.4	89-112		%	1		06/15/22 18:09

**Batch Information**

Analytical Batch: VMS21696  
Analytical Method: EPA 602/624  
Analyst: JMG  
Analytical Date/Time: 06/15/22 18:09  
Container ID: 1222993014-A

Prep Batch: VXX38701  
Prep Method: SW5030B  
Prep Date/Time: 06/15/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of W-6

Client Sample ID: W-6
Client Project ID: 203721236 SRU-COBC
Lab Sample ID: 1222993015
Lab Project ID: 1222993

Collection Date: 06/09/22 10:54
Received Date: 06/13/22 11:08
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Polynuclear Aromatics GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various polynuclear aromatic hydrocarbons and their detection results.

Batch Information

Analytical Batch: XMS13197
Analytical Method: EPA 625M SIM (PAH) LV
Analyst: NRB
Analytical Date/Time: 06/24/22 08:44
Container ID: 1222993015-D

Prep Batch: XXX46426
Prep Method: SW3535A
Prep Date/Time: 06/16/22 16:43
Prep Initial Wt./Vol.: 270 mL
Prep Extract Vol: 1 mL



Results of **W-6**

Client Sample ID: **W-6**  
Client Project ID: **203721236 SRU-COBC**  
Lab Sample ID: 1222993015  
Lab Project ID: 1222993

Collection Date: 06/09/22 10:54  
Received Date: 06/13/22 11:08  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		06/15/22 18:24
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		06/15/22 18:24
o-Xylene	0.500 U	1.00	0.310	ug/L	1		06/15/22 18:24
P & M -Xylene	16.4	2.00	0.620	ug/L	1		06/15/22 18:24
Toluene	0.500 U	1.00	0.310	ug/L	1		06/15/22 18:24
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	95.5	81-118		%	1		06/15/22 18:24
4-Bromofluorobenzene (surr)	102	85-114		%	1		06/15/22 18:24
Toluene-d8 (surr)	98.6	89-112		%	1		06/15/22 18:24

**Batch Information**

Analytical Batch: VMS21696  
Analytical Method: EPA 602/624  
Analyst: JMG  
Analytical Date/Time: 06/15/22 18:24  
Container ID: 1222993015-A

Prep Batch: VXX38701  
Prep Method: SW5030B  
Prep Date/Time: 06/15/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of Duplicate 2**

Client Sample ID: **Duplicate 2**  
Client Project ID: **203721236 SRU-COBC**  
Lab Sample ID: 1222993016  
Lab Project ID: 1222993

Collection Date: 06/09/22 10:57  
Received Date: 06/13/22 11:08  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Polynuclear Aromatics GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Acenaphthene	0.0227 U	0.0455	0.0136	ug/L	1		06/23/22 14:16
Acenaphthylene	0.0227 U	0.0455	0.0136	ug/L	1		06/23/22 14:16
Anthracene	0.0227 U	0.0455	0.0136	ug/L	1		06/23/22 14:16
Benzo(a)Anthracene	0.0227 U	0.0455	0.0136	ug/L	1		06/23/22 14:16
Benzo[a]pyrene	0.00910 U	0.0182	0.00564	ug/L	1		06/23/22 14:16
Benzo[b]Fluoranthene	0.0227 U	0.0455	0.0136	ug/L	1		06/23/22 14:16
Benzo[g,h,i]perylene	0.0227 U	0.0455	0.0136	ug/L	1		06/23/22 14:16
Benzo[k]fluoranthene	0.0227 U	0.0455	0.0136	ug/L	1		06/23/22 14:16
Chrysene	0.0227 U	0.0455	0.0136	ug/L	1		06/23/22 14:16
Dibenzo[a,h]anthracene	0.00910 U	0.0182	0.00564	ug/L	1		06/23/22 14:16
Fluoranthene	0.0227 U	0.0455	0.0136	ug/L	1		06/23/22 14:16
Fluorene	0.0227 U	0.0455	0.0136	ug/L	1		06/23/22 14:16
Indeno[1,2,3-c,d] pyrene	0.0227 U	0.0455	0.0136	ug/L	1		06/23/22 14:16
Naphthalene	0.0454 U	0.0909	0.0282	ug/L	1		06/23/22 14:16
Phenanthrene	0.0454 U	0.0909	0.0282	ug/L	1		06/23/22 14:16
Pyrene	0.0227 U	0.0455	0.0136	ug/L	1		06/23/22 14:16
<b>Surrogates</b>							
2-Methylnaphthalene-d10 (surr)	50.4	42-86		%	1		06/23/22 14:16
Fluoranthene-d10 (surr)	56.8	50-97		%	1		06/23/22 14:16

**Batch Information**

Analytical Batch: XMS13196  
Analytical Method: EPA 625M SIM (PAH) LV  
Analyst: NRB  
Analytical Date/Time: 06/23/22 14:16  
Container ID: 1222993016-D

Prep Batch: XXX46426  
Prep Method: SW3535A  
Prep Date/Time: 06/16/22 16:43  
Prep Initial Wt./Vol.: 275 mL  
Prep Extract Vol: 1 mL



### Results of Duplicate 2

Client Sample ID: **Duplicate 2**  
 Client Project ID: **203721236 SRU-COBC**  
 Lab Sample ID: 1222993016  
 Lab Project ID: 1222993

Collection Date: 06/09/22 10:57  
 Received Date: 06/13/22 11:08  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		06/15/22 18:39
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		06/15/22 18:39
o-Xylene	0.500 U	1.00	0.310	ug/L	1		06/15/22 18:39
P & M -Xylene	17.9	2.00	0.620	ug/L	1		06/15/22 18:39
Toluene	0.500 U	1.00	0.310	ug/L	1		06/15/22 18:39
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	94.4	81-118		%	1		06/15/22 18:39
4-Bromofluorobenzene (surr)	103	85-114		%	1		06/15/22 18:39
Toluene-d8 (surr)	98.5	89-112		%	1		06/15/22 18:39

### Batch Information

Analytical Batch: VMS21696  
 Analytical Method: EPA 602/624  
 Analyst: JMG  
 Analytical Date/Time: 06/15/22 18:39  
 Container ID: 1222993016-A

Prep Batch: VXX38701  
 Prep Method: SW5030B  
 Prep Date/Time: 06/15/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



Results of W-1E

Client Sample ID: W-1E
Client Project ID: 203721236 SRU-COBC
Lab Sample ID: 1222993017
Lab Project ID: 1222993

Collection Date: 06/09/22 11:17
Received Date: 06/13/22 11:08
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Polynuclear Aromatics GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various polynuclear aromatic hydrocarbons and their surrogate compounds with associated quality and detection data.

Batch Information

Analytical Batch: XMS13196
Analytical Method: EPA 625M SIM (PAH) LV
Analyst: NRB
Analytical Date/Time: 06/23/22 14:37
Container ID: 1222993017-D

Prep Batch: XXX46426
Prep Method: SW3535A
Prep Date/Time: 06/16/22 16:43
Prep Initial Wt./Vol.: 270 mL
Prep Extract Vol: 1 mL



**Results of W-1E**

Client Sample ID: **W-1E**  
Client Project ID: **203721236 SRU-COBC**  
Lab Sample ID: 1222993017  
Lab Project ID: 1222993

Collection Date: 06/09/22 11:17  
Received Date: 06/13/22 11:08  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		06/15/22 17:38
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		06/15/22 17:38
o-Xylene	0.331 J	1.00	0.310	ug/L	1		06/15/22 17:38
P & M -Xylene	19.2	2.00	0.620	ug/L	1		06/15/22 17:38
Toluene	0.500 U	1.00	0.310	ug/L	1		06/15/22 17:38
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	98.2	81-118		%	1		06/15/22 17:38
4-Bromofluorobenzene (surr)	102	85-114		%	1		06/15/22 17:38
Toluene-d8 (surr)	98.2	89-112		%	1		06/15/22 17:38

**Batch Information**

Analytical Batch: VMS21696  
Analytical Method: EPA 602/624  
Analyst: JMG  
Analytical Date/Time: 06/15/22 17:38  
Container ID: 1222993017-A

Prep Batch: VXX38701  
Prep Method: SW5030B  
Prep Date/Time: 06/15/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL





**Results of W-1P**

Client Sample ID: **W-1P**  
Client Project ID: **203721236 SRU-COBC**  
Lab Sample ID: 1222993018  
Lab Project ID: 1222993

Collection Date: 06/09/22 11:24  
Received Date: 06/13/22 11:08  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Polynuclear Aromatics GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Acenaphthene	0.0232 U	0.0463	0.0139	ug/L	1		06/24/22 09:04
Acenaphthylene	0.0232 U	0.0463	0.0139	ug/L	1		06/24/22 09:04
Anthracene	0.0232 U	0.0463	0.0139	ug/L	1		06/24/22 09:04
Benzo(a)Anthracene	0.0232 U	0.0463	0.0139	ug/L	1		06/24/22 09:04
Benzo[a]pyrene	0.00925 U	0.0185	0.00574	ug/L	1		06/24/22 09:04
Benzo[b]Fluoranthene	0.0232 U	0.0463	0.0139	ug/L	1		06/24/22 09:04
Benzo[g,h,i]perylene	0.0232 U	0.0463	0.0139	ug/L	1		06/24/22 09:04
Benzo[k]fluoranthene	0.0232 U	0.0463	0.0139	ug/L	1		06/24/22 09:04
Chrysene	0.0232 U	0.0463	0.0139	ug/L	1		06/24/22 09:04
Dibenzo[a,h]anthracene	0.00925 U	0.0185	0.00574	ug/L	1		06/24/22 09:04
Fluoranthene	0.0232 U	0.0463	0.0139	ug/L	1		06/24/22 09:04
Fluorene	0.0232 U	0.0463	0.0139	ug/L	1		06/24/22 09:04
Indeno[1,2,3-c,d] pyrene	0.0232 U	0.0463	0.0139	ug/L	1		06/24/22 09:04
Naphthalene	0.0463 U	0.0926	0.0287	ug/L	1		06/24/22 09:04
Phenanthrene	0.0463 U	0.0926	0.0287	ug/L	1		06/24/22 09:04
Pyrene	0.0232 U	0.0463	0.0139	ug/L	1		06/24/22 09:04
<b>Surrogates</b>							
2-Methylnaphthalene-d10 (surr)	47	42-86		%	1		06/24/22 09:04
Fluoranthene-d10 (surr)	51.9	50-97		%	1		06/24/22 09:04

**Batch Information**

Analytical Batch: XMS13197  
Analytical Method: EPA 625M SIM (PAH) LV  
Analyst: NRB  
Analytical Date/Time: 06/24/22 09:04  
Container ID: 1222993018-G

Prep Batch: XXX46426  
Prep Method: SW3535A  
Prep Date/Time: 06/16/22 16:43  
Prep Initial Wt./Vol.: 270 mL  
Prep Extract Vol: 1 mL



### Results of W-1P

Client Sample ID: **W-1P**  
 Client Project ID: **203721236 SRU-COBC**  
 Lab Sample ID: 1222993018  
 Lab Project ID: 1222993

Collection Date: 06/09/22 11:24  
 Received Date: 06/13/22 11:08  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		06/21/22 20:52
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		06/21/22 20:52
o-Xylene	0.500 U	1.00	0.310	ug/L	1		06/21/22 20:52
P & M -Xylene	7.47	2.00	0.620	ug/L	1		06/21/22 20:52
Toluene	0.500 U	1.00	0.310	ug/L	1		06/21/22 20:52

### Surrogates

1,2-Dichloroethane-D4 (surr)	99.7	81-118		%	1		06/21/22 20:52
4-Bromofluorobenzene (surr)	99.6	85-114		%	1		06/21/22 20:52
Toluene-d8 (surr)	101	89-112		%	1		06/21/22 20:52

### Batch Information

Analytical Batch: VMS21717  
 Analytical Method: EPA 602/624  
 Analyst: JMG  
 Analytical Date/Time: 06/21/22 20:52  
 Container ID: 1222993018-D

Prep Batch: VXX38731  
 Prep Method: SW5030B  
 Prep Date/Time: 06/21/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		06/15/22 18:54
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		06/15/22 18:54
o-Xylene	0.500 U	1.00	0.310	ug/L	1		06/15/22 18:54
P & M -Xylene	6.66	2.00	0.620	ug/L	1		06/15/22 18:54
Toluene	0.500 U	1.00	0.310	ug/L	1		06/15/22 18:54
Xylenes (total)	6.66	3.00	1.00	ug/L	1		06/15/22 18:54

### Surrogates

1,2-Dichloroethane-D4 (surr)	99.4	81-118		%	1		06/15/22 18:54
4-Bromofluorobenzene (surr)	100	85-114		%	1		06/15/22 18:54
Toluene-d8 (surr)	98.8	89-112		%	1		06/15/22 18:54

### Batch Information

Analytical Batch: VMS21696  
 Analytical Method: SW8260D  
 Analyst: JMG  
 Analytical Date/Time: 06/15/22 18:54  
 Container ID: 1222993018-A

Prep Batch: VXX38701  
 Prep Method: SW5030B  
 Prep Date/Time: 06/15/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL

Print Date: 06/29/2022 5:14:30PM

J flagging is activated



Results of W-5

Client Sample ID: W-5
Client Project ID: 203721236 SRU-COBC
Lab Sample ID: 1222993019
Lab Project ID: 1222993

Collection Date: 06/09/22 12:10
Received Date: 06/13/22 11:08
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Polynuclear Aromatics GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various polynuclear aromatic hydrocarbons and their surrogate compounds with associated quality and detection data.

Batch Information

Analytical Batch: XMS13196
Analytical Method: EPA 625M SIM (PAH) LV
Analyst: NRB
Analytical Date/Time: 06/23/22 15:18
Container ID: 1222993019-D

Prep Batch: XXX46426
Prep Method: SW3535A
Prep Date/Time: 06/16/22 16:43
Prep Initial Wt./Vol.: 260 mL
Prep Extract Vol: 1 mL



Results of **W-5**

Client Sample ID: **W-5**  
Client Project ID: **203721236 SRU-COBC**  
Lab Sample ID: 1222993019  
Lab Project ID: 1222993

Collection Date: 06/09/22 12:10  
Received Date: 06/13/22 11:08  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		06/15/22 15:54
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		06/15/22 15:54
o-Xylene	0.500 U	1.00	0.310	ug/L	1		06/15/22 15:54
P & M -Xylene	8.12	2.00	0.620	ug/L	1		06/15/22 15:54
Toluene	0.366 J	1.00	0.310	ug/L	1		06/15/22 15:54

**Surrogates**

1,2-Dichloroethane-D4 (surr)	99.2	81-118		%	1		06/15/22 15:54
4-Bromofluorobenzene (surr)	101	85-114		%	1		06/15/22 15:54
Toluene-d8 (surr)	99.6	89-112		%	1		06/15/22 15:54

**Batch Information**

Analytical Batch: VMS21696  
Analytical Method: EPA 602/624  
Analyst: JMG  
Analytical Date/Time: 06/15/22 15:54  
Container ID: 1222993019-A

Prep Batch: VXX38701  
Prep Method: SW5030B  
Prep Date/Time: 06/15/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of FSS-1**

Client Sample ID: **FSS-1**  
Client Project ID: **203721236 SRU-COBC**  
Lab Sample ID: 1222993020  
Lab Project ID: 1222993

Collection Date: 06/09/22 12:20  
Received Date: 06/13/22 11:08  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		06/16/22 19:18
Ethylbenzene	0.900 J	1.00	0.310	ug/L	1		06/16/22 19:18
o-Xylene	1.04	1.00	0.310	ug/L	1		06/16/22 19:18
P & M -Xylene	1.86 J	2.00	0.620	ug/L	1		06/16/22 19:18
Toluene	0.500 U	1.00	0.310	ug/L	1		06/16/22 19:18
Xylenes (total)	2.90 J	3.00	1.00	ug/L	1		06/16/22 19:18

**Surrogates**

1,2-Dichloroethane-D4 (surr)	98.9	81-118		%	1		06/16/22 19:18
4-Bromofluorobenzene (surr)	102	85-114		%	1		06/16/22 19:18
Toluene-d8 (surr)	96.7	89-112		%	1		06/16/22 19:18

**Batch Information**

Analytical Batch: VMS21700  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 06/16/22 19:18  
Container ID: 1222993020-A

Prep Batch: VXX38706  
Prep Method: SW5030B  
Prep Date/Time: 06/16/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of FSS-2**

Client Sample ID: **FSS-2**  
Client Project ID: **203721236 SRU-COBC**  
Lab Sample ID: 1222993021  
Lab Project ID: 1222993

Collection Date: 06/09/22 12:31  
Received Date: 06/13/22 11:08  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		06/16/22 19:33
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		06/16/22 19:33
o-Xylene	0.500 U	1.00	0.310	ug/L	1		06/16/22 19:33
P & M -Xylene	0.728 J	2.00	0.620	ug/L	1		06/16/22 19:33
Toluene	0.500 U	1.00	0.310	ug/L	1		06/16/22 19:33
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		06/16/22 19:33
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	99.2	81-118		%	1		06/16/22 19:33
4-Bromofluorobenzene (surr)	102	85-114		%	1		06/16/22 19:33
Toluene-d8 (surr)	97.5	89-112		%	1		06/16/22 19:33

**Batch Information**

Analytical Batch: VMS21700  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 06/16/22 19:33  
Container ID: 1222993021-A

Prep Batch: VXX38706  
Prep Method: SW5030B  
Prep Date/Time: 06/16/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



### Results of PSW-2

Client Sample ID: **PSW-2**  
 Client Project ID: **203721236 SRU-COBC**  
 Lab Sample ID: 1222993022  
 Lab Project ID: 1222993

Collection Date: 06/09/22 12:39  
 Received Date: 06/13/22 11:08  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		06/16/22 19:48
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		06/16/22 19:48
o-Xylene	0.500 U	1.00	0.310	ug/L	1		06/16/22 19:48
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		06/16/22 19:48
Toluene	0.500 U	1.00	0.310	ug/L	1		06/16/22 19:48
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		06/16/22 19:48
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	99.7	81-118		%	1		06/16/22 19:48
4-Bromofluorobenzene (surr)	101	85-114		%	1		06/16/22 19:48
Toluene-d8 (surr)	96.4	89-112		%	1		06/16/22 19:48

### Batch Information

Analytical Batch: VMS21700  
 Analytical Method: SW8260D  
 Analyst: JMG  
 Analytical Date/Time: 06/16/22 19:48  
 Container ID: 1222993022-A

Prep Batch: VXX38706  
 Prep Method: SW5030B  
 Prep Date/Time: 06/16/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



### Results of PSW-1

Client Sample ID: **PSW-1**  
 Client Project ID: **203721236 SRU-COBC**  
 Lab Sample ID: 1222993023  
 Lab Project ID: 1222993

Collection Date: 06/09/22 12:45  
 Received Date: 06/13/22 11:08  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		06/16/22 20:03
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		06/16/22 20:03
o-Xylene	0.500 U	1.00	0.310	ug/L	1		06/16/22 20:03
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		06/16/22 20:03
Toluene	0.500 U	1.00	0.310	ug/L	1		06/16/22 20:03
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		06/16/22 20:03
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	99.5	81-118		%	1		06/16/22 20:03
4-Bromofluorobenzene (surr)	101	85-114		%	1		06/16/22 20:03
Toluene-d8 (surr)	97.2	89-112		%	1		06/16/22 20:03

### Batch Information

Analytical Batch: VMS21700  
 Analytical Method: SW8260D  
 Analyst: JMG  
 Analytical Date/Time: 06/16/22 20:03  
 Container ID: 1222993023-A

Prep Batch: VXX38706  
 Prep Method: SW5030B  
 Prep Date/Time: 06/16/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL





**Results of TW-25**

Client Sample ID: **TW-25**  
Client Project ID: **203721236 SRU-COBC**  
Lab Sample ID: 1222993024  
Lab Project ID: 1222993

Collection Date: 06/09/22 14:06  
Received Date: 06/13/22 11:08  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.386 J	0.400	0.120	ug/L	1		06/17/22 23:22
Ethylbenzene	175	2.00	0.620	ug/L	2		06/21/22 20:06
o-Xylene	214	2.00	0.620	ug/L	2		06/21/22 20:06
P & M -Xylene	333	4.00	1.24	ug/L	2		06/21/22 20:06
Toluene	1.00 U	2.00	0.620	ug/L	2		06/21/22 20:06
Xylenes (total)	547	6.00	2.00	ug/L	2		06/21/22 20:06

**Surrogates**

1,2-Dichloroethane-D4 (surr)	102	81-118		%	1		06/17/22 23:22
4-Bromofluorobenzene (surr)	92.6	85-114		%	1		06/17/22 23:22
Toluene-d8 (surr)	102	89-112		%	2		06/21/22 20:06

**Batch Information**

Analytical Batch: VMS21717  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 06/21/22 20:06  
Container ID: 1222993024-B

Prep Batch: VXX38731  
Prep Method: SW5030B  
Prep Date/Time: 06/21/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Analytical Batch: VMS21708  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 06/17/22 23:22  
Container ID: 1222993024-A

Prep Batch: VXX38716  
Prep Method: SW5030B  
Prep Date/Time: 06/17/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of TW-23**

Client Sample ID: **TW-23**  
Client Project ID: **203721236 SRU-COBC**  
Lab Sample ID: 1222993027  
Lab Project ID: 1222993

Collection Date: 06/09/22 15:00  
Received Date: 06/13/22 11:08  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		06/16/22 20:18
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		06/16/22 20:18
o-Xylene	0.500 U	1.00	0.310	ug/L	1		06/16/22 20:18
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		06/16/22 20:18
Toluene	0.500 U	1.00	0.310	ug/L	1		06/16/22 20:18
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		06/16/22 20:18
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	100	81-118		%	1		06/16/22 20:18
4-Bromofluorobenzene (surr)	102	85-114		%	1		06/16/22 20:18
Toluene-d8 (surr)	97.6	89-112		%	1		06/16/22 20:18

**Batch Information**

Analytical Batch: VMS21700  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 06/16/22 20:18  
Container ID: 1222993027-A

Prep Batch: VXX38706  
Prep Method: SW5030B  
Prep Date/Time: 06/16/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



### Results of Duplicate 3

Client Sample ID: **Duplicate 3**  
 Client Project ID: **203721236 SRU-COBC**  
 Lab Sample ID: 1222993028  
 Lab Project ID: 1222993

Collection Date: 06/09/22 15:03  
 Received Date: 06/13/22 11:08  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		06/16/22 20:33
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		06/16/22 20:33
o-Xylene	0.500 U	1.00	0.310	ug/L	1		06/16/22 20:33
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		06/16/22 20:33
Toluene	0.500 U	1.00	0.310	ug/L	1		06/16/22 20:33
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		06/16/22 20:33
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	99.8	81-118		%	1		06/16/22 20:33
4-Bromofluorobenzene (surr)	101	85-114		%	1		06/16/22 20:33
Toluene-d8 (surr)	96.9	89-112		%	1		06/16/22 20:33

### Batch Information

Analytical Batch: VMS21700  
 Analytical Method: SW8260D  
 Analyst: JMG  
 Analytical Date/Time: 06/16/22 20:33  
 Container ID: 1222993028-A

Prep Batch: VXX38706  
 Prep Method: SW5030B  
 Prep Date/Time: 06/16/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



Results of TW-7D

Client Sample ID: TW-7D
Client Project ID: 203721236 SRU-COBC
Lab Sample ID: 1222993029
Lab Project ID: 1222993

Collection Date: 06/09/22 15:28
Received Date: 06/13/22 11:08
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, and Xylenes (total).

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include 1,2-Dichloroethane-D4 (surr), 4-Bromofluorobenzene (surr), and Toluene-d8 (surr).

Batch Information

Analytical Batch: VMS21700
Analytical Method: SW8260D
Analyst: JMG
Analytical Date/Time: 06/16/22 21:33
Container ID: 1222993029-A

Prep Batch: VXX38706
Prep Method: SW5030B
Prep Date/Time: 06/16/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL



Results of TW-7

Client Sample ID: TW-7
Client Project ID: 203721236 SRU-COBC
Lab Sample ID: 1222993030
Lab Project ID: 1222993

Collection Date: 06/09/22 15:53
Received Date: 06/13/22 11:08
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, and Xylenes (total).

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include 1,2-Dichloroethane-D4 (surr), 4-Bromofluorobenzene (surr), and Toluene-d8 (surr).

Batch Information

Analytical Batch: VMS21700
Analytical Method: SW8260D
Analyst: JMG
Analytical Date/Time: 06/16/22 21:48
Container ID: 1222993030-A

Prep Batch: VXX38706
Prep Method: SW5030B
Prep Date/Time: 06/16/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL



**Results of TW-20**

Client Sample ID: **TW-20**  
Client Project ID: **203721236 SRU-COBC**  
Lab Sample ID: 1222993031  
Lab Project ID: 1222993

Collection Date: 06/09/22 16:29  
Received Date: 06/13/22 11:08  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		06/17/22 20:52
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		06/17/22 20:52
o-Xylene	0.500 U	1.00	0.310	ug/L	1		06/17/22 20:52
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		06/17/22 20:52
Toluene	0.500 U	1.00	0.310	ug/L	1		06/17/22 20:52
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		06/17/22 20:52

**Surrogates**

1,2-Dichloroethane-D4 (surr)	108	81-118		%	1		06/17/22 20:52
4-Bromofluorobenzene (surr)	105	85-114		%	1		06/17/22 20:52
Toluene-d8 (surr)	95.3	89-112		%	1		06/17/22 20:52

**Batch Information**

Analytical Batch: VMS21708  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 06/17/22 20:52  
Container ID: 1222993031-A

Prep Batch: VXX38716  
Prep Method: SW5030B  
Prep Date/Time: 06/17/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of TW-6D**

Client Sample ID: **TW-6D**  
Client Project ID: **203721236 SRU-COBC**  
Lab Sample ID: 1222993032  
Lab Project ID: 1222993

Collection Date: 06/09/22 17:03  
Received Date: 06/13/22 11:08  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		06/17/22 22:07
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		06/17/22 22:07
o-Xylene	0.500 U	1.00	0.310	ug/L	1		06/17/22 22:07
P & M -Xylene	1.98 J	2.00	0.620	ug/L	1		06/17/22 22:07
Toluene	0.500 U	1.00	0.310	ug/L	1		06/17/22 22:07
Xylenes (total)	1.98 J	3.00	1.00	ug/L	1		06/17/22 22:07

**Surrogates**

1,2-Dichloroethane-D4 (surr)	104		81-118	%	1		06/17/22 22:07
4-Bromofluorobenzene (surr)	117	*	85-114	%	1		06/17/22 22:07
Toluene-d8 (surr)	90.9		89-112	%	1		06/17/22 22:07

**Batch Information**

Analytical Batch: VMS21708  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 06/17/22 22:07  
Container ID: 1222993032-A

Prep Batch: VXX38716  
Prep Method: SW5030B  
Prep Date/Time: 06/17/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of TW-6**

Client Sample ID: **TW-6**  
Client Project ID: **203721236 SRU-COBC**  
Lab Sample ID: 1222993033  
Lab Project ID: 1222993

Collection Date: 06/09/22 17:39  
Received Date: 06/13/22 11:08  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.305 J	0.400	0.120	ug/L	1		06/17/22 22:37
Ethylbenzene	2.48	1.00	0.310	ug/L	1		06/17/22 22:37
o-Xylene	0.500 U	1.00	0.310	ug/L	1		06/17/22 22:37
P & M -Xylene	50.8	2.00	0.620	ug/L	1		06/17/22 22:37
Toluene	0.500 U	1.00	0.310	ug/L	1		06/17/22 22:37
Xylenes (total)	50.8	3.00	1.00	ug/L	1		06/17/22 22:37
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	105	81-118		%	1		06/17/22 22:37
4-Bromofluorobenzene (surr)	107	85-114		%	1		06/17/22 22:37
Toluene-d8 (surr)	95	89-112		%	1		06/17/22 22:37

**Batch Information**

Analytical Batch: VMS21708  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 06/17/22 22:37  
Container ID: 1222993033-A

Prep Batch: VXX38716  
Prep Method: SW5030B  
Prep Date/Time: 06/17/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL





Results of TW-21

Client Sample ID: TW-21
Client Project ID: 203721236 SRU-COBC
Lab Sample ID: 1222993034
Lab Project ID: 1222993

Collection Date: 06/10/22 09:30
Received Date: 06/13/22 11:08
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, Xylenes (total).

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include 1,2-Dichloroethane-D4 (surr), 4-Bromofluorobenzene (surr), Toluene-d8 (surr).

Batch Information

Analytical Batch: VMS21717
Analytical Method: SW8260D
Analyst: JMG
Analytical Date/Time: 06/21/22 20:21
Container ID: 1222993034-B

Prep Batch: VXX38731
Prep Method: SW5030B
Prep Date/Time: 06/21/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VMS21708
Analytical Method: SW8260D
Analyst: JMG
Analytical Date/Time: 06/17/22 23:52
Container ID: 1222993034-A

Prep Batch: VXX38716
Prep Method: SW5030B
Prep Date/Time: 06/17/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL



### Results of Duplicate 4

Client Sample ID: **Duplicate 4**  
 Client Project ID: **203721236 SRU-COBC**  
 Lab Sample ID: 1222993035  
 Lab Project ID: 1222993

Collection Date: 06/10/22 09:33  
 Received Date: 06/13/22 11:08  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	4.00 U	8.00	2.40	ug/L	20		06/21/22 20:37
Ethylbenzene	1670	20.0	6.20	ug/L	20		06/21/22 20:37
o-Xylene	795	20.0	6.20	ug/L	20		06/21/22 20:37
P & M -Xylene	3970	40.0	12.4	ug/L	20		06/21/22 20:37
Toluene	10.0 U	20.0	6.20	ug/L	20		06/21/22 20:37
Xylenes (total)	4760	60.0	20.0	ug/L	20		06/21/22 20:37
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	98.7	81-118		%	20		06/21/22 20:37
4-Bromofluorobenzene (surr)	99.4	85-114		%	20		06/21/22 20:37
Toluene-d8 (surr)	102	89-112		%	20		06/21/22 20:37

### Batch Information

Analytical Batch: VMS21717  
 Analytical Method: SW8260D  
 Analyst: JMG  
 Analytical Date/Time: 06/21/22 20:37  
 Container ID: 1222993035-B

Prep Batch: VXX38731  
 Prep Method: SW5030B  
 Prep Date/Time: 06/21/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



### Results of TW-17

Client Sample ID: **TW-17**  
 Client Project ID: **203721236 SRU-COBC**  
 Lab Sample ID: 1222993036  
 Lab Project ID: 1222993

Collection Date: 06/10/22 10:03  
 Received Date: 06/13/22 11:08  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		06/17/22 21:07
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		06/20/22 21:56
o-Xylene	0.500 U	1.00	0.310	ug/L	1		06/20/22 21:56
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		06/20/22 21:56
Toluene	0.500 U	1.00	0.310	ug/L	1		06/20/22 21:56
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		06/20/22 21:56

### Surrogates

1,2-Dichloroethane-D4 (surr)	109	81-118		%	1		06/17/22 21:07
4-Bromofluorobenzene (surr)	110	85-114		%	1		06/17/22 21:07
Toluene-d8 (surr)	101	89-112		%	1		06/20/22 21:56

### Batch Information

Analytical Batch: VMS21708  
 Analytical Method: SW8260D  
 Analyst: JMG  
 Analytical Date/Time: 06/17/22 21:07  
 Container ID: 1222993036-A

Prep Batch: VXX38716  
 Prep Method: SW5030B  
 Prep Date/Time: 06/17/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL

Analytical Batch: VMS21713  
 Analytical Method: SW8260D  
 Analyst: JMG  
 Analytical Date/Time: 06/20/22 21:56  
 Container ID: 1222993036-B

Prep Batch: VXX38723  
 Prep Method: SW5030B  
 Prep Date/Time: 06/20/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



**Results of TW-18S**

Client Sample ID: **TW-18S**  
Client Project ID: **203721236 SRU-COBC**  
Lab Sample ID: 1222993037  
Lab Project ID: 1222993

Collection Date: 06/10/22 10:53  
Received Date: 06/13/22 11:08  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		06/20/22 22:11
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		06/20/22 22:11
o-Xylene	0.500 U	1.00	0.310	ug/L	1		06/20/22 22:11
P & M -Xylene	5.25	2.00	0.620	ug/L	1		06/20/22 22:11
Toluene	0.500 U	1.00	0.310	ug/L	1		06/20/22 22:11
Xylenes (total)	5.25	3.00	1.00	ug/L	1		06/20/22 22:11
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	107	81-118		%	1		06/20/22 22:11
4-Bromofluorobenzene (surr)	101	85-114		%	1		06/20/22 22:11
Toluene-d8 (surr)	101	89-112		%	1		06/20/22 22:11

**Batch Information**

Analytical Batch: VMS21713  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 06/20/22 22:11  
Container ID: 1222993037-B

Prep Batch: VXX38723  
Prep Method: SW5030B  
Prep Date/Time: 06/20/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



### Results of TW-18D

Client Sample ID: **TW-18D**  
 Client Project ID: **203721236 SRU-COBC**  
 Lab Sample ID: 1222993038  
 Lab Project ID: 1222993

Collection Date: 06/10/22 11:38  
 Received Date: 06/13/22 11:08  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.283 J	0.800	0.240	ug/L	2		06/17/22 23:37
Ethylbenzene	4.16	2.00	0.620	ug/L	2		06/17/22 23:37
o-Xylene	0.919 J	2.00	0.620	ug/L	2		06/17/22 23:37
P & M -Xylene	450	4.00	1.24	ug/L	2		06/17/22 23:37
Toluene	1.00 U	2.00	0.620	ug/L	2		06/17/22 23:37
Xylenes (total)	451	6.00	2.00	ug/L	2		06/17/22 23:37

### Surrogates

1,2-Dichloroethane-D4 (surr)	99.7	81-118		%	2		06/17/22 23:37
4-Bromofluorobenzene (surr)	107	85-114		%	2		06/17/22 23:37
Toluene-d8 (surr)	96.9	89-112		%	2		06/17/22 23:37

### Batch Information

Analytical Batch: VMS21708  
 Analytical Method: SW8260D  
 Analyst: JMG  
 Analytical Date/Time: 06/17/22 23:37  
 Container ID: 1222993038-A

Prep Batch: VXX38716  
 Prep Method: SW5030B  
 Prep Date/Time: 06/17/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



Results of TW-19S

Client Sample ID: TW-19S
Client Project ID: 203721236 SRU-COBC
Lab Sample ID: 1222993039
Lab Project ID: 1222993

Collection Date: 06/10/22 12:13
Received Date: 06/13/22 11:08
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, and Xylenes (total).

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include 1,2-Dichloroethane-D4 (surr), 4-Bromofluorobenzene (surr), and Toluene-d8 (surr).

Batch Information

Analytical Batch: VMS21708
Analytical Method: SW8260D
Analyst: JMG
Analytical Date/Time: 06/17/22 22:22
Container ID: 1222993039-A

Prep Batch: VXX38716
Prep Method: SW5030B
Prep Date/Time: 06/17/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VMS21713
Analytical Method: SW8260D
Analyst: JMG
Analytical Date/Time: 06/20/22 22:26
Container ID: 1222993039-B

Prep Batch: VXX38723
Prep Method: SW5030B
Prep Date/Time: 06/20/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL



Results of TW-19D

Client Sample ID: TW-19D
Client Project ID: 203721236 SRU-COBC
Lab Sample ID: 1222993040
Lab Project ID: 1222993

Collection Date: 06/10/22 12:46
Received Date: 06/13/22 11:08
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, Xylenes (total), and Surrogates (1,2-Dichloroethane-D4, 4-Bromofluorobenzene, Toluene-d8).

Batch Information

Analytical Batch: VMS21708
Analytical Method: SW8260D
Analyst: JMG
Analytical Date/Time: 06/17/22 23:07
Container ID: 1222993040-A

Prep Batch: VXX38716
Prep Method: SW5030B
Prep Date/Time: 06/17/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL



**Results of MW-1**

Client Sample ID: **MW-1**  
Client Project ID: **203721236 SRU-COBC**  
Lab Sample ID: 1222993041  
Lab Project ID: 1222993

Collection Date: 06/10/22 13:19  
Received Date: 06/13/22 11:08  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Metals by ICP/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Iron	50900	1250	390	ug/L	5		06/23/22 16:25

**Batch Information**

Analytical Batch: MMS11589  
Analytical Method: EP200.8  
Analyst: AKA  
Analytical Date/Time: 06/23/22 16:25  
Container ID: 1222993041-F

Prep Batch: MXX35186  
Prep Method: E200.2  
Prep Date/Time: 06/22/22 13:52  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL





### Results of MW-1

Client Sample ID: **MW-1**  
 Client Project ID: **203721236 SRU-COBC**  
 Lab Sample ID: 1222993041  
 Lab Project ID: 1222993

Collection Date: 06/10/22 13:19  
 Received Date: 06/13/22 11:08  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		06/17/22 21:22
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		06/20/22 22:41
o-Xylene	0.500 U	1.00	0.310	ug/L	1		06/20/22 22:41
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		06/20/22 22:41
Toluene	0.500 U	1.00	0.310	ug/L	1		06/20/22 22:41
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		06/20/22 22:41

### Surrogates

1,2-Dichloroethane-D4 (surr)	113	81-118		%	1		06/17/22 21:22
4-Bromofluorobenzene (surr)	95.3	85-114		%	1		06/17/22 21:22
Toluene-d8 (surr)	102	89-112		%	1		06/20/22 22:41

### Batch Information

Analytical Batch: VMS21708  
 Analytical Method: SW8260D  
 Analyst: JMG  
 Analytical Date/Time: 06/17/22 21:22  
 Container ID: 1222993041-A

Prep Batch: VXX38716  
 Prep Method: SW5030B  
 Prep Date/Time: 06/17/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL

Analytical Batch: VMS21713  
 Analytical Method: SW8260D  
 Analyst: JMG  
 Analytical Date/Time: 06/20/22 22:41  
 Container ID: 1222993041-B

Prep Batch: VXX38723  
 Prep Method: SW5030B  
 Prep Date/Time: 06/20/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



**Results of MW-1**

Client Sample ID: **MW-1**  
Client Project ID: **203721236 SRU-COBC**  
Lab Sample ID: 1222993041  
Lab Project ID: 1222993

Collection Date: 06/10/22 13:19  
Received Date: 06/13/22 11:08  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Waters Department**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Alkalinity	131	10.0	2.50	mg/L	1		06/20/22 12:15

**Batch Information**

Analytical Batch: WTI5880  
Analytical Method: SM21 2320B  
Analyst: DMM  
Analytical Date/Time: 06/20/22 12:15  
Container ID: 1222993041-G

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Nitrate/Nitrite-N	0.0740 J	0.200	0.0500	mg/L	2		06/20/22 12:45

**Batch Information**

Analytical Batch: WFI2993  
Analytical Method: SM21 4500NO3-F  
Analyst: EBH  
Analytical Date/Time: 06/20/22 12:45  
Container ID: 1222993041-D

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Sulfate	0.390	0.200	0.0500	mg/L	1		06/28/22 02:06

**Batch Information**

Analytical Batch: WIC6329	Prep Batch: WXX14258
Analytical Method: SW9056A	Prep Method: METHOD
Analyst: NRZ	Prep Date/Time: 06/24/22 12:30
Analytical Date/Time: 06/28/22 02:06	Prep Initial Wt./Vol.: 10 mL
Container ID: 1222993041-E	Prep Extract Vol: 10 mL



**Results of MW-1**

Client Sample ID: **MW-1**  
Client Project ID: **203721236 SRU-COBC**  
Lab Sample ID: 1222993042  
Lab Project ID: 1222993

Collection Date: 06/10/22 13:19  
Received Date: 06/13/22 11:08  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Iron	30100	250	78.0	ug/L	1		06/23/22 14:06

**Batch Information**

Analytical Batch: MMS11589  
Analytical Method: EP200.8  
Analyst: AKA  
Analytical Date/Time: 06/23/22 14:06  
Container ID: 1222993042-A

Prep Batch: MXX35186  
Prep Method: E200.2  
Prep Date/Time: 06/22/22 13:52  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL



**Results of Trip Blank**

Client Sample ID: **Trip Blank**  
Client Project ID: **203721236 SRU-COBC**  
Lab Sample ID: 1222993043  
Lab Project ID: 1222993

Collection Date: 06/08/22 10:59  
Received Date: 06/13/22 11:08  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		06/17/22 18:52
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		06/17/22 18:52
o-Xylene	0.500 U	1.00	0.310	ug/L	1		06/17/22 18:52
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		06/17/22 18:52
Toluene	0.500 U	1.00	0.310	ug/L	1		06/17/22 18:52
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		06/17/22 18:52
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	102		81-118	%	1		06/17/22 18:52
4-Bromofluorobenzene (surr)	73.3 *		85-114	%	1		06/17/22 18:52
Toluene-d8 (surr)	96.1		89-112	%	1		06/17/22 18:52

**Batch Information**

Analytical Batch: VMS21708  
Analytical Method: SW8260D  
Analyst: JMG  
Analytical Date/Time: 06/17/22 18:52  
Container ID: 1222993043-A

Prep Batch: VXX38716  
Prep Method: SW5030B  
Prep Date/Time: 06/17/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Method Blank**

Blank ID: MB for HBN 1838366 [MXX/35186]  
Blank Lab ID: 1669277

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1222993041, 1222993042

**Results by EP200.8**

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Iron	125U	250	78.0	ug/L

**Batch Information**

Analytical Batch: MMS11589  
Analytical Method: EP200.8  
Instrument: P7 Agilent 7800  
Analyst: AKA  
Analytical Date/Time: 6/23/2022 12:55:36PM

Prep Batch: MXX35186  
Prep Method: E200.2  
Prep Date/Time: 6/22/2022 1:52:06PM  
Prep Initial Wt./Vol.: 20 mL  
Prep Extract Vol: 50 mL

Print Date: 06/29/2022 5:14:33PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1222993 [MXX35186]  
Blank Spike Lab ID: 1669278  
Date Analyzed: 06/23/2022 12:58

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1222993041, 1222993042

### Results by EP200.8

Parameter	Blank Spike (ug/L)			CL
	Spike	Result	Rec (%)	
Iron	5000	5220	104	( 85-115 )

### Batch Information

Analytical Batch: **MMS11589**  
Analytical Method: **EP200.8**  
Instrument: **P7 Agilent 7800**  
Analyst: **AKA**

Prep Batch: **MXX35186**  
Prep Method: **E200.2**  
Prep Date/Time: **06/22/2022 13:52**  
Spike Init Wt./Vol.: 5000 ug/L Extract Vol: 50 mL  
Dupe Init Wt./Vol.: Extract Vol:

Print Date: 06/29/2022 5:14:35PM



### Matrix Spike Summary

Original Sample ID: 1669285  
MS Sample ID: 1669286 MS  
MSD Sample ID:

Analysis Date: 06/23/2022 13:03  
Analysis Date: 06/23/2022 13:06  
Analysis Date:  
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1222993041, 1222993042

### Results by EP200.8

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Iron	125U	5000	5160	103				70-130		

### Batch Information

Analytical Batch: MMS11589  
Analytical Method: EP200.8  
Instrument: P7 Agilent 7800  
Analyst: AKA  
Analytical Date/Time: 6/23/2022 1:06:23PM

Prep Batch: MX35186  
Prep Method: DW Digest for Metals on ICP-MS  
Prep Date/Time: 6/22/2022 1:52:06PM  
Prep Initial Wt./Vol.: 20.00mL  
Prep Extract Vol: 50.00mL

Print Date: 06/29/2022 5:14:37PM



### Method Blank

Blank ID: MB for HBN 1837947 [VXX/38701]  
Blank Lab ID: 1668252

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

1222993001, 1222993002, 1222993013, 1222993014, 1222993015, 1222993016, 1222993017, 1222993018, 1222993019

### Results by EPA 602/624

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	96.9	81-118		%
4-Bromofluorobenzene (surr)	102	85-114		%
Toluene-d8 (surr)	99.9	89-112		%

### Batch Information

Analytical Batch: VMS21696  
Analytical Method: EPA 602/624  
Instrument: Agilent 7890-75MS  
Analyst: JMG  
Analytical Date/Time: 6/15/2022 12:00:00PM

Prep Batch: VXX38701  
Prep Method: SW5030B  
Prep Date/Time: 6/15/2022 6:00:00AM  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 06/29/2022 5:14:38PM





### Blank Spike Summary

Blank Spike ID: LCS for HBN 1222993 [VXX38701]  
 Blank Spike Lab ID: 1668253  
 Date Analyzed: 06/15/2022 12:15

Spike Duplicate ID: LCSD for HBN 1222993  
 [VXX38701]  
 Spike Duplicate Lab ID: 1668254  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1222993001, 1222993002, 1222993013, 1222993014, 1222993015, 1222993016, 1222993017,  
 1222993018, 1222993019

### Results by EPA 602/624

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	30	29.0	97	30	28.5	95	( 79-120 )	1.60	(< 20 )
Ethylbenzene	30	28.8	96	30	28.7	96	( 79-121 )	0.34	(< 20 )
o-Xylene	30	28.8	96	30	28.4	95	( 78-122 )	1.40	(< 20 )
P & M -Xylene	60	57.4	96	60	56.6	94	( 80-121 )	1.40	(< 20 )
Toluene	30	28.3	94	30	27.9	93	( 80-121 )	1.20	(< 20 )
Xylenes (total)	90	86.2	96	90	85.0	94	( 79-121 )	1.40	(< 20 )
<b>Surrogates</b>									
1,2-Dichloroethane-D4 (surr)	30		96	30		95	( 81-118 )	0.45	
4-Bromofluorobenzene (surr)	30		100	30		101	( 85-114 )	0.50	
Toluene-d8 (surr)	30		100	30		99	( 89-112 )	0.91	

### Batch Information

Analytical Batch: VMS21696  
 Analytical Method: EPA 602/624  
 Instrument: Agilent 7890-75MS  
 Analyst: JMG

Prep Batch: VXX38701  
 Prep Method: SW5030B  
 Prep Date/Time: 06/15/2022 06:00  
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 06/29/2022 5:14:40PM



**Method Blank**

Blank ID: MB for HBN 1837947 [VXX/38701]  
Blank Lab ID: 1668252

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

1222993001, 1222993002, 1222993013, 1222993014, 1222993015, 1222993016, 1222993017, 1222993018, 1222993019

**Results by SW8260D**

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	96.9	81-118		%
4-Bromofluorobenzene (surr)	102	85-114		%
Toluene-d8 (surr)	99.9	89-112		%

**Batch Information**

Analytical Batch: VMS21696  
Analytical Method: SW8260D  
Instrument: Agilent 7890-75MS  
Analyst: JMG  
Analytical Date/Time: 6/15/2022 12:00:00PM

Prep Batch: VXX38701  
Prep Method: SW5030B  
Prep Date/Time: 6/15/2022 6:00:00AM  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 06/29/2022 5:14:42PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1222993 [VXX38701]  
 Blank Spike Lab ID: 1668253  
 Date Analyzed: 06/15/2022 12:15

Spike Duplicate ID: LCSD for HBN 1222993 [VXX38701]  
 Spike Duplicate Lab ID: 1668254  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1222993001, 1222993002, 1222993013, 1222993014, 1222993015, 1222993016, 1222993017, 1222993018, 1222993019

### Results by SW8260D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	30	29.0	97	30	28.5	95	( 79-120 )	1.60	(< 20 )
Ethylbenzene	30	28.8	96	30	28.7	96	( 79-121 )	0.34	(< 20 )
o-Xylene	30	28.8	96	30	28.4	95	( 78-122 )	1.40	(< 20 )
P & M -Xylene	60	57.4	96	60	56.6	94	( 80-121 )	1.40	(< 20 )
Toluene	30	28.3	94	30	27.9	93	( 80-121 )	1.20	(< 20 )
Xylenes (total)	90	86.2	96	90	85.0	94	( 79-121 )	1.40	(< 20 )
<b>Surrogates</b>									
1,2-Dichloroethane-D4 (surr)	30		96	30		95	( 81-118 )	0.45	
4-Bromofluorobenzene (surr)	30		100	30		101	( 85-114 )	0.50	
Toluene-d8 (surr)	30		100	30		99	( 89-112 )	0.91	

### Batch Information

Analytical Batch: VMS21696  
 Analytical Method: SW8260D  
 Instrument: Agilent 7890-75MS  
 Analyst: JMG

Prep Batch: VXX38701  
 Prep Method: SW5030B  
 Prep Date/Time: 06/15/2022 06:00  
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 06/29/2022 5:14:45PM



### Method Blank

Blank ID: MB for HBN 1837999 [VXX/38706]  
Blank Lab ID: 1668438

Matrix: Water (Surface, Eff., Ground)

#### QC for Samples:

1222993003, 1222993004, 1222993005, 1222993006, 1222993007, 1222993010, 1222993011, 1222993012, 1222993020, 1222993021, 1222993022, 1222993023, 1222993027, 1222993028, 1222993029, 1222993030

### Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	98.3	81-118		%
4-Bromofluorobenzene (surr)	103	85-114		%
Toluene-d8 (surr)	99	89-112		%

### Batch Information

Analytical Batch: VMS21700  
Analytical Method: SW8260D  
Instrument: Agilent 7890-75MS  
Analyst: JMG  
Analytical Date/Time: 6/16/2022 2:45:00PM

Prep Batch: VXX38706  
Prep Method: SW5030B  
Prep Date/Time: 6/16/2022 6:00:00AM  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 06/29/2022 5:14:46PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1222993 [VXX38706]  
 Blank Spike Lab ID: 1668439  
 Date Analyzed: 06/16/2022 15:00

Spike Duplicate ID: LCSD for HBN 1222993 [VXX38706]  
 Spike Duplicate Lab ID: 1668440  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1222993003, 1222993004, 1222993005, 1222993006, 1222993007, 1222993010, 1222993011, 1222993012, 1222993020, 1222993021, 1222993022, 1222993023, 1222993027, 1222993028, 1222993029, 1222993030

### Results by SW8260D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	30	29.5	98	30	28.9	96	( 79-120 )	2.00	(< 20 )
Ethylbenzene	30	28.4	95	30	28.7	96	( 79-121 )	1.20	(< 20 )
o-Xylene	30	28.4	95	30	28.3	94	( 78-122 )	0.41	(< 20 )
P & M -Xylene	60	56.6	94	60	56.8	95	( 80-121 )	0.45	(< 20 )
Toluene	30	27.7	93	30	28.1	94	( 80-121 )	1.10	(< 20 )
Xylenes (total)	90	85.0	94	90	85.1	95	( 79-121 )	0.16	(< 20 )
<b>Surrogates</b>									
1,2-Dichloroethane-D4 (surr)	30		97	30		95	( 81-118 )	1.30	
4-Bromofluorobenzene (surr)	30		99	30		99	( 85-114 )	0.35	
Toluene-d8 (surr)	30		99	30		100	( 89-112 )	0.76	

### Batch Information

Analytical Batch: VMS21700  
 Analytical Method: SW8260D  
 Instrument: Agilent 7890-75MS  
 Analyst: JMG

Prep Batch: VXX38706  
 Prep Method: SW5030B  
 Prep Date/Time: 06/16/2022 06:00  
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 06/29/2022 5:14:49PM



### Billable Matrix Spike Summary

Original Sample ID: 1222993007  
 MS Sample ID: 1222993008 BMS  
 MSD Sample ID: 1222993009 BMSD

Analysis Date: 06/16/2022 21:18  
 Analysis Date: 06/16/2022 15:48  
 Analysis Date: 06/16/2022 16:03  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples:

### Results by SW8260D

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	0.284J	30.0	29.7	98	30.0	29.8	98	79-120	0.27	(< 20 )
Ethylbenzene	1.81	30.0	30.7	96	30.0	30.5	96	79-121	0.82	(< 20 )
o-Xylene	0.500U	30.0	29.7	99	30.0	29.5	99	78-122	0.39	(< 20 )
P & M -Xylene	44.8	60.0	84	65 *	60.0	84.0	65 *	80-121	0.02	(< 20 )
Toluene	0.500U	30.0	29	97	30.0	28.9	96	80-121	0.30	(< 20 )
Xylenes (total)	44.8	90.0	114	77 *	90.0	114	76 *	79-121	0.11	(< 20 )
<b>Surrogates</b>										
1,2-Dichloroethane-D4 (surr)		30.0	28.7	96	30.0	28.8	96	81-118	0.45	
4-Bromofluorobenzene (surr)		30.0	30	100	30.0	29.6	99	85-114	1.30	
Toluene-d8 (surr)		30.0	30.1	100	30.0	30.0	100	89-112	0.55	

### Batch Information

Analytical Batch: VMS21700  
 Analytical Method: SW8260D  
 Instrument: Agilent 7890-75MS  
 Analyst: JMG  
 Analytical Date/Time: 6/16/2022 3:48:00PM

Prep Batch: VXX38706  
 Prep Method: Volatiles Extraction 8240/8260  
 Prep Date/Time: 6/16/2022 6:00:00AM  
 Prep Initial Wt./Vol.: 5.00mL  
 Prep Extract Vol: 5.00mL

Print Date: 06/29/2022 5:14:50PM

## Method Blank

Blank ID: MB for HBN 1838142 [VXX/38716]  
 Blank Lab ID: 1668746

Matrix: Water (Surface, Eff., Ground)

### QC for Samples:

1222993024, 1222993031, 1222993032, 1222993033, 1222993034, 1222993035, 1222993036, 1222993037, 1222993038,  
 1222993039, 1222993040, 1222993041, 1222993043

## Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	109	81-118		%
4-Bromofluorobenzene (surr)	103	85-114		%
Toluene-d8 (surr)	97.5	89-112		%

## Batch Information

Analytical Batch: VMS21708  
 Analytical Method: SW8260D  
 Instrument: Agilent 7890-75MS  
 Analyst: JMG  
 Analytical Date/Time: 6/17/2022 4:09:00PM

Prep Batch: VXX38716  
 Prep Method: SW5030B  
 Prep Date/Time: 6/17/2022 6:00:00AM  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1222993 [VXX38716]  
 Blank Spike Lab ID: 1668747  
 Date Analyzed: 06/17/2022 16:24

Spike Duplicate ID: LCSD for HBN 1222993  
 [VXX38716]  
 Spike Duplicate Lab ID: 1668748  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1222993024, 1222993031, 1222993032, 1222993033, 1222993034, 1222993035, 1222993036,  
 1222993037, 1222993038, 1222993039, 1222993040, 1222993041, 1222993043

### Results by SW8260D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	30	28.9	96	30	28.1	94	( 79-120 )	2.70	(< 20 )
Ethylbenzene	30	28.8	96	30	28.0	94	( 79-121 )	2.70	(< 20 )
o-Xylene	30	29.0	97	30	28.0	93	( 78-122 )	3.50	(< 20 )
P & M -Xylene	60	58.3	97	60	56.3	94	( 80-121 )	3.40	(< 20 )
Toluene	30	26.7	89	30	25.7	86	( 80-121 )	3.70	(< 20 )
Xylenes (total)	90	87.3	97	90	84.3	94	( 79-121 )	3.40	(< 20 )
<b>Surrogates</b>									
1,2-Dichloroethane-D4 (surr)	30		101	30		99	( 81-118 )	2.00	
4-Bromofluorobenzene (surr)	30		100	30		96	( 85-114 )	4.40	
Toluene-d8 (surr)	30		97	30		96	( 89-112 )	0.98	

### Batch Information

Analytical Batch: VMS21708  
 Analytical Method: SW8260D  
 Instrument: Agilent 7890-75MS  
 Analyst: JMG

Prep Batch: VXX38716  
 Prep Method: SW5030B  
 Prep Date/Time: 06/17/2022 06:00  
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 06/29/2022 5:14:53PM





### Billable Matrix Spike Summary

Original Sample ID: 1222993024  
MS Sample ID: 1222993025 BMS  
MSD Sample ID: 1222993026 BMSD

Analysis Date: 06/17/2022 23:22  
Analysis Date: 06/17/2022 17:37  
Analysis Date: 06/17/2022 17:52  
Matrix: Water (Surface, Eff., Ground)

QC for Samples:

### Results by SW8260D

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	0.386J	30.0	30.1	99	30.0	31.0	102	79-120	3.10	(< 20 )
<b>Surrogates</b>										
1,2-Dichloroethane-D4 (surr)		30.0	29.6	99	30.0	29.6	99	81-118	0.29	
4-Bromofluorobenzene (surr)		30.0	28.3	94	30.0	29.9	100	85-114	5.60	

### Batch Information

Analytical Batch: VMS21708  
Analytical Method: SW8260D  
Instrument: Agilent 7890-75MS  
Analyst: JMG  
Analytical Date/Time: 6/17/2022 5:37:00PM

Prep Batch: VXX38716  
Prep Method: Volatiles Extraction 8240/8260  
Prep Date/Time: 6/17/2022 6:00:00AM  
Prep Initial Wt./Vol.: 5.00mL  
Prep Extract Vol: 5.00mL

Print Date: 06/29/2022 5:14:55PM

## Method Blank

Blank ID: MB for HBN 1838234 [VXX/38723]  
 Blank Lab ID: 1669049

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
 1222993036, 1222993037, 1222993039, 1222993041

## Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	99.3	81-118		%
4-Bromofluorobenzene (surr)	106	85-114		%
Toluene-d8 (surr)	102	89-112		%

## Batch Information

Analytical Batch: VMS21713  
 Analytical Method: SW8260D  
 Instrument: Agilent 7890-75MS  
 Analyst: JMG  
 Analytical Date/Time: 6/20/2022 7:56:00PM

Prep Batch: VXX38723  
 Prep Method: SW5030B  
 Prep Date/Time: 6/20/2022 6:00:00AM  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL

Print Date: 06/29/2022 5:14:56PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1222993 [VXX38723]  
 Blank Spike Lab ID: 1669050  
 Date Analyzed: 06/20/2022 20:11

Spike Duplicate ID: LCSD for HBN 1222993 [VXX38723]  
 Spike Duplicate Lab ID: 1669051  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1222993036, 1222993037, 1222993039, 1222993041

### Results by SW8260D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	30	30.6	102	30	30.6	102	( 79-120 )	0.07	(< 20 )
Ethylbenzene	30	31.1	104	30	31.6	105	( 79-121 )	1.70	(< 20 )
o-Xylene	30	30.8	103	30	31.4	105	( 78-122 )	1.80	(< 20 )
P & M -Xylene	60	62.7	105	60	63.6	106	( 80-121 )	1.40	(< 20 )
Toluene	30	30.4	101	30	31.3	104	( 80-121 )	2.70	(< 20 )
Xylenes (total)	90	93.6	104	90	95.0	106	( 79-121 )	1.50	(< 20 )
<b>Surrogates</b>									
1,2-Dichloroethane-D4 (surr)	30		97	30		94	( 81-118 )	2.60	
4-Bromofluorobenzene (surr)	30		100	30		100	( 85-114 )	0.01	
Toluene-d8 (surr)	30		102	30		103	( 89-112 )	0.90	

### Batch Information

Analytical Batch: VMS21713  
 Analytical Method: SW8260D  
 Instrument: Agilent 7890-75MS  
 Analyst: JMG

Prep Batch: VXX38723  
 Prep Method: SW5030B  
 Prep Date/Time: 06/20/2022 06:00  
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL



### Method Blank

Blank ID: MB for HBN 1838346 [VXX/38731]  
Blank Lab ID: 1669218

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1222993018, 1222993024, 1222993034, 1222993035

### Results by EPA 602/624

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	101	81-118		%
4-Bromofluorobenzene (surr)	101	85-114		%
Toluene-d8 (surr)	100	89-112		%

### Batch Information

Analytical Batch: VMS21717  
Analytical Method: EPA 602/624  
Instrument: Agilent 7890-75MS  
Analyst: JMG  
Analytical Date/Time: 6/21/2022 3:07:00PM

Prep Batch: VXX38731  
Prep Method: SW5030B  
Prep Date/Time: 6/21/2022 6:00:00AM  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 06/29/2022 5:15:00PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1222993 [VXX38731]  
 Blank Spike Lab ID: 1669219  
 Date Analyzed: 06/21/2022 15:22

Spike Duplicate ID: LCSD for HBN 1222993  
 [VXX38731]  
 Spike Duplicate Lab ID: 1669220  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1222993018, 1222993024, 1222993034, 1222993035

### Results by EPA 602/624

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	30	28.4	95	30	28.3	95	( 79-120 )	0.36	(< 20 )
Ethylbenzene	30	29.1	97	30	28.9	96	( 79-121 )	0.59	(< 20 )
o-Xylene	30	29.1	97	30	28.5	95	( 78-122 )	2.10	(< 20 )
P & M -Xylene	60	59.2	99	60	58.2	97	( 80-121 )	1.70	(< 20 )
Toluene	30	28.6	96	30	28.6	95	( 80-121 )	0.31	(< 20 )
Xylenes (total)	90	88.3	98	90	86.7	96	( 79-121 )	1.80	(< 20 )
<b>Surrogates</b>									
1,2-Dichloroethane-D4 (surr)	30		93	30		95	( 81-118 )	1.40	
4-Bromofluorobenzene (surr)	30		100	30		99	( 85-114 )	1.10	
Toluene-d8 (surr)	30		102	30		103	( 89-112 )	0.93	

### Batch Information

Analytical Batch: VMS21717  
 Analytical Method: EPA 602/624  
 Instrument: Agilent 7890-75MS  
 Analyst: JMG

Prep Batch: VXX38731  
 Prep Method: SW5030B  
 Prep Date/Time: 06/21/2022 06:00  
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 06/29/2022 5:15:01PM



**Method Blank**

Blank ID: MB for HBN 1838346 [VXX/38731]  
Blank Lab ID: 1669218

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1222993018, 1222993024, 1222993034, 1222993035

**Results by SW8260D**

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	101	81-118		%
4-Bromofluorobenzene (surr)	101	85-114		%
Toluene-d8 (surr)	100	89-112		%

**Batch Information**

Analytical Batch: VMS21717  
Analytical Method: SW8260D  
Instrument: Agilent 7890-75MS  
Analyst: JMG  
Analytical Date/Time: 6/21/2022 3:07:00PM

Prep Batch: VXX38731  
Prep Method: SW5030B  
Prep Date/Time: 6/21/2022 6:00:00AM  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 06/29/2022 5:15:04PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1222993 [VXX38731]  
 Blank Spike Lab ID: 1669219  
 Date Analyzed: 06/21/2022 15:22

Spike Duplicate ID: LCSD for HBN 1222993  
 [VXX38731]  
 Spike Duplicate Lab ID: 1669220  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1222993018, 1222993024, 1222993034, 1222993035

### Results by SW8260D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	30	28.4	95	30	28.3	95	( 79-120 )	0.36	(< 20 )
Ethylbenzene	30	29.1	97	30	28.9	96	( 79-121 )	0.59	(< 20 )
o-Xylene	30	29.1	97	30	28.5	95	( 78-122 )	2.10	(< 20 )
P & M -Xylene	60	59.2	99	60	58.2	97	( 80-121 )	1.70	(< 20 )
Toluene	30	28.6	96	30	28.6	95	( 80-121 )	0.31	(< 20 )
Xylenes (total)	90	88.3	98	90	86.7	96	( 79-121 )	1.80	(< 20 )
<b>Surrogates</b>									
1,2-Dichloroethane-D4 (surr)	30		93	30		95	( 81-118 )	1.40	
4-Bromofluorobenzene (surr)	30		100	30		99	( 85-114 )	1.10	
Toluene-d8 (surr)	30		102	30		103	( 89-112 )	0.93	

### Batch Information

Analytical Batch: VMS21717  
 Analytical Method: SW8260D  
 Instrument: Agilent 7890-75MS  
 Analyst: JMG

Prep Batch: VXX38731  
 Prep Method: SW5030B  
 Prep Date/Time: 06/21/2022 06:00  
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 06/29/2022 5:15:07PM



### Billable Matrix Spike Summary

Original Sample ID: 1222993024  
 MS Sample ID: 1222993025 BMS  
 MSD Sample ID: 1222993026 BMSD

Analysis Date: 06/21/2022 20:06  
 Analysis Date: 06/21/2022 18:05  
 Analysis Date: 06/21/2022 18:20  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples:

### Results by SW8260D

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Ethylbenzene	175	30.0	108	-224 *	30.0	111	-213 *	79-121	2.80	(< 20 )
o-Xylene	214	30.0	128	-289 *	30.0	131	-277 *	78-122	2.70	(< 20 )
P & M -Xylene	333	60.0	208	-208 *	60.0	214	-198 *	80-121	2.80	(< 20 )
Toluene	1.00U	30.0	29.5	98	30.0	29.9	100	80-121	1.30	(< 20 )
Xylenes (total)	547	90.0	335	-235 *	90.0	345	-224 *	79-121	2.80	(< 20 )
<b>Surrogates</b>										
Toluene-d8 (surr)		30.0	31	103	30.0	31.0	103	89-112	0.00	

### Batch Information

Analytical Batch: VMS21717  
 Analytical Method: SW8260D  
 Instrument: Agilent 7890-75MS  
 Analyst: JMG  
 Analytical Date/Time: 6/21/2022 6:05:00PM

Prep Batch: VXX38731  
 Prep Method: Volatiles Extraction 8240/8260  
 Prep Date/Time: 6/21/2022 6:00:00AM  
 Prep Initial Wt./Vol.: 5.00mL  
 Prep Extract Vol: 5.00mL

Print Date: 06/29/2022 5:15:08PM



## Method Blank

Blank ID: MB for HBN 1838180 (WFI/2993)

Blank Lab ID: 1668874

QC for Samples:

Matrix: Water (Surface, Eff., Ground)

## Results by SM21 4500NO3-F

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Nitrate-N	0.100U	0.200	0.0500	mg/L
Nitrite-N	0.100U	0.200	0.0500	mg/L
Total Nitrate/Nitrite-N	0.100U	0.200	0.0500	mg/L

## Batch Information

Analytical Batch: WFI2993

Analytical Method: SM21 4500NO3-F

Instrument: Astoria segmented flow

Analyst: EBH

Analytical Date/Time: 6/20/2022 1:44:36PM

Print Date: 06/29/2022 5:15:09PM



### Method Blank

Blank ID: MB for HBN 1838180 (WFI/2993)

Blank Lab ID: 1668880

QC for Samples:

1222993041

Matrix: Water (Surface, Eff., Ground)

### Results by SM21 4500NO3-F

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Nitrate-N	0.100U	0.200	0.0500	mg/L
Nitrite-N	0.100U	0.200	0.0500	mg/L
Total Nitrate/Nitrite-N	0.100U	0.200	0.0500	mg/L

### Batch Information

Analytical Batch: WFI2993

Analytical Method: SM21 4500NO3-F

Instrument: Astoria segmented flow

Analyst: EBH

Analytical Date/Time: 6/20/2022 12:59:06PM

Print Date: 06/29/2022 5:15:09PM



**Method Blank**

Blank ID: MB for HBN 1838180 (WFI/2993)  
Blank Lab ID: 1668886

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1222993041

**Results by SM21 4500NO3-F**

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Nitrate-N	0.100U	0.200	0.0500	mg/L
Nitrite-N	0.100U	0.200	0.0500	mg/L
Total Nitrate/Nitrite-N	0.100U	0.200	0.0500	mg/L

**Batch Information**

Analytical Batch: WFI2993  
Analytical Method: SM21 4500NO3-F  
Instrument: Astoria segmented flow  
Analyst: EBH  
Analytical Date/Time: 6/20/2022 12:13:36PM

Print Date: 06/29/2022 5:15:09PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1222993 [WFI2993]  
Blank Spike Lab ID: 1668876  
Date Analyzed: 06/20/2022 13:42

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

### Results by SM21 4500NO3-F

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Nitrate-N	2.5	2.25	90	( 70-130 )
Nitrite-N	2.5	2.62	105	( 90-110 )
Total Nitrate/Nitrite-N	5	4.88	98	( 90-110 )

### Batch Information

Analytical Batch: **WFI2993**  
Analytical Method: **SM21 4500NO3-F**  
Instrument: **Astoria segmented flow**  
Analyst: **EBH**

Print Date: 06/29/2022 5:15:12PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1222993 [WFI2993]

Blank Spike Lab ID: 1668882

Date Analyzed: 06/20/2022 12:57

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1222993041

### Results by SM21 4500NO3-F

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Nitrate-N	2.5	2.30	92	( 70-130 )
Nitrite-N	2.5	2.54	102	( 90-110 )
Total Nitrate/Nitrite-N	5	4.84	97	( 90-110 )

### Batch Information

Analytical Batch: **WFI2993**

Analytical Method: **SM21 4500NO3-F**

Instrument: **Astoria segmented flow**

Analyst: **EBH**

Print Date: 06/29/2022 5:15:12PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1222993 [WFI2993]

Blank Spike Lab ID: 1668888

Date Analyzed: 06/20/2022 12:11

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1222993041

### Results by SM21 4500NO3-F

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Nitrate-N	2.5	2.63	105	( 70-130 )
Nitrite-N	2.5	2.65	106	( 90-110 )
Total Nitrate/Nitrite-N	5	5.28	106	( 90-110 )

### Batch Information

Analytical Batch: **WFI2993**

Analytical Method: **SM21 4500NO3-F**

Instrument: **Astoria segmented flow**

Analyst: **EBH**

Print Date: 06/29/2022 5:15:12PM

## Matrix Spike Summary

Original Sample ID: 1222908001  
 MS Sample ID: 1668847 MS  
 MSD Sample ID: 1668848 MSD

Analysis Date: 06/20/2022 11:31  
 Analysis Date: 06/20/2022 11:33  
 Analysis Date: 06/20/2022 11:35  
 Matrix: Drinking Water

QC for Samples:

## Results by SM21 4500NO3-F

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Nitrate/Nitrite-N	0.100U	5.00	5.69	114 *	5.00	5.86	117 *	90-110	3.00	(< 25 )

## Batch Information

Analytical Batch: WFI2993  
 Analytical Method: SM21 4500NO3-F  
 Instrument: Astoria segmented flow  
 Analyst: EBH  
 Analytical Date/Time: 6/20/2022 11:33:00AM



### Matrix Spike Summary

Original Sample ID: 1222959001  
MS Sample ID: 1668849 MS  
MSD Sample ID: 1668850 MSD

Analysis Date: 06/20/2022 12:17  
Analysis Date: 06/20/2022 12:18  
Analysis Date: 06/20/2022 12:20  
Matrix: Drinking Water

QC for Samples: 1222993041

### Results by SM21 4500NO3-F

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Nitrate/Nitrite-N	3.33	5.00	8.44	102	5.00	8.18	97	90-110	3.10	(< 25 )

### Batch Information

Analytical Batch: WFI2993  
Analytical Method: SM21 4500NO3-F  
Instrument: Astoria segmented flow  
Analyst: EBH  
Analytical Date/Time: 6/20/2022 12:18:00PM

Print Date: 06/29/2022 5:15:13PM





### Matrix Spike Summary

Original Sample ID: 1223052001  
MS Sample ID: 1668851 MS  
MSD Sample ID: 1668852 MSD

Analysis Date: 06/20/2022 13:02  
Analysis Date: 06/20/2022 13:04  
Analysis Date: 06/20/2022 13:06  
Matrix: Drinking Water

QC for Samples: 1222993041

### Results by SM21 4500NO3-F

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Nitrate/Nitrite-N	0.200U	5.00	5.49	110	5.00	5.34	107	90-110	2.80	(< 25 )

### Batch Information

Analytical Batch: WFI2993  
Analytical Method: SM21 4500NO3-F  
Instrument: Astoria segmented flow  
Analyst: EBH  
Analytical Date/Time: 6/20/2022 1:04:00PM

Print Date: 06/29/2022 5:15:13PM

## Method Blank

Blank ID: MB for HBN 1838174 [WTI/5880]

Blank Lab ID: 1668818

QC for Samples:  
1222993041

Matrix: Water (Surface, Eff., Ground)

## Results by SM21 2320B

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Alkalinity	2.50J	10.0	2.50	mg/L

## Batch Information

Analytical Batch: WTI5880

Analytical Method: SM21 2320B

Instrument: Titration

Analyst: DMM

Analytical Date/Time: 6/20/2022 10:34:26AM

Print Date: 06/29/2022 5:15:15PM



### Duplicate Sample Summary

Original Sample ID: 1222879001

Duplicate Sample ID: 1668821

QC for Samples:

1222993041

Analysis Date: 06/20/2022 11:24

Matrix: Drinking Water

### Results by SM21 2320B

<u>NAME</u>	<u>Original</u>	<u>Duplicate</u>	<u>Units</u>	<u>RPD (%)</u>	<u>RPD CL</u>
Alkalinity	98.9	99.0	mg/L	0.10	(< 25 )

### Batch Information

Analytical Batch: WT15880

Analytical Method: SM21 2320B

Instrument: Titration

Analyst: DMM

Print Date: 06/29/2022 5:15:16PM



### Duplicate Sample Summary

Original Sample ID: 1223126001

Duplicate Sample ID: 1668822

QC for Samples:

1222993041

Analysis Date: 06/20/2022 13:30

Matrix: Drinking Water

### Results by SM21 2320B

<u>NAME</u>	<u>Original</u>	<u>Duplicate</u>	<u>Units</u>	<u>RPD (%)</u>	<u>RPD CL</u>
Alkalinity	40.0	39.7	mg/L	0.55	(< 25 )

### Batch Information

Analytical Batch: WT15880

Analytical Method: SM21 2320B

Instrument: Titration

Analyst: DMM

Print Date: 06/29/2022 5:15:16PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1222993 [WTI5880]

Blank Spike Lab ID: 1668819

Date Analyzed: 06/20/2022 10:43

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1222993041

### Results by SM21 2320B

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Alkalinity	250	233	93	( 85-115 )

### Batch Information

Analytical Batch: **WTI5880**

Analytical Method: **SM21 2320B**

Instrument: **Titration**

Analyst: **DMM**

Print Date: 06/29/2022 5:15:17PM



**Method Blank**

Blank ID: MB for HBN 1838923 [WXX/14258]  
Blank Lab ID: 1670260

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1222993041

**Results by SW9056A**

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Sulfate	0.100U	0.200	0.0500	mg/L

**Batch Information**

Analytical Batch: WIC6329  
Analytical Method: SW9056A  
Instrument: 930 Metrohm compact IC flex  
Analyst: NRZ  
Analytical Date/Time: 6/27/2022 2:04:36PM

Prep Batch: WXX14258  
Prep Method: METHOD  
Prep Date/Time: 6/24/2022 12:30:00PM  
Prep Initial Wt./Vol.: 10 mL  
Prep Extract Vol: 10 mL

Print Date: 06/29/2022 5:15:19PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1222993 [WXX14258]  
Blank Spike Lab ID: 1670261  
Date Analyzed: 06/27/2022 14:23

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1222993041

### Results by SW9056A

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Sulfate	5	4.86	97	( 90-110 )

### Batch Information

Analytical Batch: **WIC6329**  
Analytical Method: **SW9056A**  
Instrument: **930 Metrohm compact IC flex**  
Analyst: **NRZ**

Prep Batch: **WXX14258**  
Prep Method: **METHOD**  
Prep Date/Time: **06/24/2022 12:30**  
Spike Init Wt./Vol.: 5 mg/L Extract Vol: 10 mL  
Dupe Init Wt./Vol.: Extract Vol:

Print Date: 06/29/2022 5:15:21PM



### Matrix Spike Summary

Original Sample ID: 1670263  
MS Sample ID: 1670264 MS  
MSD Sample ID:

Analysis Date: 06/27/2022 21:40  
Analysis Date: 06/27/2022 21:59  
Analysis Date:  
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1222993041

### Results by SW9056A

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Sulfate	96.7	5.00	97.1	7 *				90-110		

### Batch Information

Analytical Batch: WIC6329  
Analytical Method: SW9056A  
Instrument: 930 Metrohm compact IC flex  
Analyst: NRZ  
Analytical Date/Time: 6/27/2022 9:59:40PM

Prep Batch: WXX14258  
Prep Method: EPA 300.0 Extraction Waters/Liquids  
Prep Date/Time: 6/24/2022 12:30:00PM  
Prep Initial Wt./Vol.: 10.00mL  
Prep Extract Vol: 10.00mL

Print Date: 06/29/2022 5:15:23PM





### Method Blank

Blank ID: MB for HBN 1837972 [XXX/46426]  
Blank Lab ID: 1668302

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

1222993013, 1222993014, 1222993015, 1222993016, 1222993017, 1222993018, 1222993019

### Results by EPA 625M SIM (PAH) LV

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Acenaphthene	0.0250U	0.0500	0.0150	ug/L
Acenaphthylene	0.0250U	0.0500	0.0150	ug/L
Anthracene	0.0250U	0.0500	0.0150	ug/L
Benzo(a)Anthracene	0.0250U	0.0500	0.0150	ug/L
Benzo[a]pyrene	0.0100U	0.0200	0.00620	ug/L
Benzo[b]Fluoranthene	0.0250U	0.0500	0.0150	ug/L
Benzo[g,h,i]perylene	0.0250U	0.0500	0.0150	ug/L
Benzo[k]fluoranthene	0.0250U	0.0500	0.0150	ug/L
Chrysene	0.0250U	0.0500	0.0150	ug/L
Dibenzo[a,h]anthracene	0.0100U	0.0200	0.00620	ug/L
Fluoranthene	0.0250U	0.0500	0.0150	ug/L
Fluorene	0.0250U	0.0500	0.0150	ug/L
Indeno[1,2,3-c,d] pyrene	0.0250U	0.0500	0.0150	ug/L
Naphthalene	0.0500U	0.100	0.0310	ug/L
Phenanthrene	0.0500U	0.100	0.0310	ug/L
Pyrene	0.0250U	0.0500	0.0150	ug/L
<b>Surrogates</b>				
2-Methylnaphthalene-d10 (surr)	64.5	42-86		%
Fluoranthene-d10 (surr)	77.7	50-97		%

### Batch Information

Analytical Batch: XMS13196  
Analytical Method: EPA 625M SIM (PAH) LV  
Instrument: Agilent GC 7890B/5977A SWA  
Analyst: NRB  
Analytical Date/Time: 6/23/2022 9:49:00AM

Prep Batch: XXX46426  
Prep Method: SW3535A  
Prep Date/Time: 6/16/2022 4:43:28PM  
Prep Initial Wt./Vol.: 250 mL  
Prep Extract Vol: 1 mL

Print Date: 06/29/2022 5:15:24PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1222993 [XXX46426]  
 Blank Spike Lab ID: 1668303  
 Date Analyzed: 06/23/2022 10:10

Spike Duplicate ID: LCSD for HBN 1222993  
 [XXX46426]  
 Spike Duplicate Lab ID: 1668304  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1222993013, 1222993014, 1222993015, 1222993016, 1222993017, 1222993018, 1222993019

### Results by EPA 625M SIM (PAH) LV

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Acenaphthene	2	1.47	74	2	1.47	73	( 48-114 )	0.19	(< 20 )
Acenaphthylene	2	1.49	75	2	1.53	77	( 35-121 )	2.70	(< 20 )
Anthracene	2	1.48	74	2	1.45	72	( 53-119 )	2.50	(< 20 )
Benzo(a)Anthracene	2	1.54	77	2	1.41	71	( 59-120 )	8.30	(< 20 )
Benzo[a]pyrene	2	1.47	74	2	1.38	69	( 53-120 )	6.40	(< 20 )
Benzo[b]Fluoranthene	2	1.56	78	2	1.40	70	( 53-126 )	11.30	(< 20 )
Benzo[g,h,i]perylene	2	1.60	80	2	1.56	78	( 44-128 )	2.80	(< 20 )
Benzo[k]fluoranthene	2	1.66	83	2	1.61	80	( 54-125 )	3.20	(< 20 )
Chrysene	2	1.68	84	2	1.56	78	( 57-120 )	7.10	(< 20 )
Dibenzo[a,h]anthracene	2	1.55	78	2	1.51	75	( 44-131 )	2.90	(< 20 )
Fluoranthene	2	1.66	83	2	1.56	78	( 58-120 )	6.40	(< 20 )
Fluorene	2	1.56	78	2	1.54	77	( 50-118 )	1.40	(< 20 )
Indeno[1,2,3-c,d] pyrene	2	1.56	78	2	1.49	75	( 48-130 )	4.60	(< 20 )
Naphthalene	2	1.49	75	2	1.48	74	( 43-114 )	0.43	(< 20 )
Phenanthrene	2	1.67	83	2	1.58	79	( 53-115 )	5.10	(< 20 )
Pyrene	2	1.66	83	2	1.57	79	( 53-121 )	5.70	(< 20 )
<b>Surrogates</b>									
2-Methylnaphthalene-d10 (surr)	2		61	2		63	( 42-86 )	1.80	
Fluoranthene-d10 (surr)	2		73	2		70	( 50-97 )	4.30	

### Batch Information

Analytical Batch: XMS13196  
 Analytical Method: EPA 625M SIM (PAH) LV  
 Instrument: Agilent GC 7890B/5977A SWA  
 Analyst: NRB

Prep Batch: XXX46426  
 Prep Method: SW3535A  
 Prep Date/Time: 06/16/2022 16:43  
 Spike Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL  
 Dupe Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL

Print Date: 06/29/2022 5:15:26PM



Profile #302427 gm

CLIENT: <b>Stantec</b>					Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.					Page <u>1</u> of <u>4</u>					
CONTACT: <b>Craig Wilson</b>			PHONE #: <b>907-240-3752</b>		Section 3		Preservative								
PROJECT NAME: <b>SRU-COBC</b>			PROJECT/PWSID/PERMIT#: <b>203721236</b>		# C O N T A I N E R S		Analysis*					NOTE: *The following analyses require specific method and/or compound list: BTEx, Metals, PFAS			
REPORTS TO: <b>Craig Wilson</b>			E-MAIL: <b>Profile #: craig.wilson@stantec.com</b>				Comp Grab MI (Multi-incremental)		BTEx						
INVOICE #0: <b>Stantec</b>			QUOTE #:						BTEx						
RESERVED for lab use	SAMPLE IDENTIFICATION		DATE mm/dd/yy	TIME HH:MM	MATRIX/MATRIX CODE								REMARKS/LOC ID		
① A-C	TW-16		6/8/22	1059	W	3	G	XX							
② A-C	TW-15		6/8/22	1128	W	3	G	XX							
③ A-C	Duplicate 1		6/8/22	1131	W	3	G	XX							
④ A-C	TW-13		6/8/22	1206	W	3	G	XX							
⑤ A-C	TW-4R		6/8/22	1310	W	3	G	XX							
⑥ A-C	TW-5		6/8/22	1347	W	3	G	XX							
⑦ A-C	TW-26		6/8/22	1423	W	9	G	XX	⑧ A-C	⑨ A-C			MS/MSD		
⑩ A-C	TW-24		6/8/22	1458	W	3	G	XX							
⑪ A-C	TW-22		6/8/22	1609	W	3	G	XX							
⑫ A-C	TW-8		6/8/22	1744	W	3	G	XX							
Relinquished By: (1) <i>[Signature]</i>			Date: <b>6/13/22</b>	Time: <b>1030</b>	Received By: <i>[Signature]</i>		Section 4 DOD Project? Yes <input type="radio"/> No <input checked="" type="radio"/>		Data Deliverable Requirements:						
Relinquished By: (2)			Date:	Time:	Received By:		Cooler ID:		Requested Turnaround Time and/or Special Instructions:						
Relinquished By: (3)			Date:	Time:	Received By:		Standard								
Relinquished By: (4) <i>[Signature]</i>			Date: <b>6/13/22</b>	Time: <b>11:08</b>	Received For Laboratory By: <i>[Signature]</i> <b>CS</b>		Temp Blank °C: <b>15.6 023</b> <b>214.5 023</b> or Ambient [ ]		Chain of Custody Seal: (Circle) INTACT BROKEN <b>ABSENT</b>						
Delivery Method: Hand Delivery <input checked="" type="checkbox"/> Commercial Delivery [ ]															



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CHAIN OF CUSTODY RECORD

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CLIENT: <u>Stantec</u>					<b>Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.</b>					Page <u>2</u> of <u>4</u>					
CONTACT: _____ PHONE #: _____					Section 3		Preservative								
PROJECT NAME: <u>SRU-COBC</u>					# CONTAINERS		Analysis*					NOTE: *The following analyses require specific method and/or compound list: BTEX, Metals, PFAS			
REPORTS TO: _____ E-MAIL: _____							Comp Grab MI (Multi-incremental)		HCl HCl / / / / / / / / / /						
INVOICE TO: _____ QUOTE #: _____									8260 D BTEX 624-TAH 625-M SIM TAH		Analysis*				
P.O. #: _____							REMARKS/LOC ID				Analysis*				
RESERVED for lab use	SAMPLE IDENTIFICATION		DATE mm/dd/yy	TIME HH:MM	MATRIX/MATRIX CODE	#			CONTAINERS	Comp	Grab	MI	(Multi-incremental)	REMARKS/LOC ID	
(13) A-E	W-3		6/9/22	1021	W	5	6								
(14) A-F	W-7		6/9/22	1040	W	5	6								
(15) A-E	W-6		6/9/22	1054	W	5	6								
(16) A-E	Duplicate 2		6/9/22	1057	W	5	6								
(17) A-F	W-1E		6/9/22	1117	W	5	6								
(18) A-H	W-1P		6/9/22	1124	W	8	6	X	X	X	X				
(19) A-E	W-5		6/9/22	1210	W	5	6	X	X	X	X				
(20) A-L	FSS-1		6/9/22	1220	W	3	6	X	X	X	X				
(21) A-L	FSS-2		6/9/22	1231	W	3	6	X	X	X	X				
(22) A-L	PSW-2		6/9/22	1239	W	3	6	X	X	X	X				
Relinquished By: (1)			Date	Time	Received By:			Section 4		DOD Project? Yes No		Data Deliverable Requirements:			
Relinquished By: (2)			Date	Time	Received By:			Cooler ID:		Requested Turnaround Time and/or Special Instructions:					
Relinquished By: (3)			Date	Time	Received By:			Temp Blank °C: 1) 5.6 020 2) 4.5 1223		Chain of Custody Seal: (Circle) INTACT BROKEN <b>ABSENT</b>					
Relinquished By: (4)			Date	Time	Received For Laboratory By:			or Ambient [ ]		Delivery Method: Hand Delivery <input checked="" type="checkbox"/> Commercial Delivery [ ]					
			6/12/22	11:08	<i>[Signature]</i>										

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SGS North America Inc. CHAIN OF CUSTODY RECORD

www.us.sgs.com

CLIENT: Stantec

CONTACT: \_\_\_\_\_ PHONE #: \_\_\_\_\_

PROJECT NAME: SRU-CORC PROJECT/PWSID/PERMIT#: \_\_\_\_\_

REPORTS TO: \_\_\_\_\_ E-MAIL: \_\_\_\_\_

INVOICE TO: \_\_\_\_\_ QUOTE #: \_\_\_\_\_ P.O. #: \_\_\_\_\_

Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.

Page 3 of 4

Section 3 Preservative

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/MATRIX CODE	CONTAINER	Comp Grab MI (Multi-incremental)	Analysis*										REMARKS/LOC ID					
							MI	MI	MI	MI	MI	MI	MI	MI	MI	MI		MI				
(23) A-C	PSW-1	6/9/22	1245	W	3	G	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
(24) A-C	TW-25	6/9/22	1406	W	9	G	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	(25) A-C (26) A-C MS/MSD
(27) A-C	TW-23	6/9/22	1500	W	3	G	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
(28) A-C	Duplicate 3	6/9/22	1503	W	3	G	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
(29) A-C	TW-7D	6/9/22	1528	W	3	G	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
(30) A-C	TW-7	6/9/22	1553	W	3	G	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
(31) A-C	TW-2D	6/9/22	1629	W	3	G	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
(32) A-C	TW-6D	6/9/22	1703	W	3	G	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
(33) A-C	TW-6	6/9/22	1739	W	3	G	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
(34) A-C	TW-21	6/10/22	0930	W	3	G	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

NOTE: \*The following analyses require specific method and/or compound list: BTEX, Metals, PFAS

Section 4 DOD Project? Yes No Data Deliverable Requirements: \_\_\_\_\_

Cooler ID: \_\_\_\_\_

Requested Turnaround Time and/or Special Instructions: \_\_\_\_\_

Temp Blank 05.6 D23 0274.5 D27 Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT

Delivery Method: Hand Delivery  Commercial Delivery [ ]

Relinquished By: (1) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_ Received By: \_\_\_\_\_

Relinquished By: (2) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_ Received By: \_\_\_\_\_

Relinquished By: (3) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_ Received By: \_\_\_\_\_

Relinquished By: (4) \_\_\_\_\_ Date 6/13/22 Time 11:08 Received For Laboratory By: [Signature]

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SGS North America Inc.  
CHAIN OF CUSTODY RECORD

www.us.sgs.com

CLIENT: <b>Stantec</b>					<b>Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.</b>					Page <u>4</u> of <u>4</u>					
CONTACT: _____ PHONE #: _____					Section 3		Preservative								
PROJECT NAME: <b>SRU-CORC</b>					# C O N T A I N E R S		Analysis* <i>HCl H2SO4 - HNO3 HNO3 - HCl</i>					NOTE: *The following analyses require specific method and/or compound list: BTEX, Metals, PFAS			
PROJECT PWSID/ PERMIT#: _____							Comp Grab MI (Multi-incremental)		<i>8260 D BTEX 4500 Nitrate/nitrite 9056A Sulfate 200.8 Dissolved Fe (Cold Filtered) 200.8 Total Fe 2320 Alkalinity RSK 175 Methane</i>						
REPORTS TO: _____ E-MAIL: _____									Profile #: _____						
INVOICE TO: _____									QUOTE #: _____ P.O. #: _____						
Section 2	RESERVED for lab use	SAMPLE IDENTIFICATION		DATE mm/dd/yy	TIME HH:MM	MATRIX/MATRIX CODE					REMARKS/LOC ID				
	35 A-L	Duplicate 4		6/10/22	0933	W	3	G	<del>X</del>						
	36 A-C	TW-17		6/10/22	1003	W	3	G	<del>X</del>						
	37 A-C	TW-18S		6/10/22	1053	W	3	G	<del>X</del>						
	38 A-C	TW-18D		6/10/22	1138	W	3	G	<del>X</del>						
	39 A-C	TW-19S		6/10/22	1213	W	3	G	<del>X</del>						
	40 A-C	TW-19D		6/10/22	1246	W	3	G	<del>X</del>						
	41 A-X J	MW-1		6/10/22	1319	W	11	G	<del>X</del>		42 A				
Section 5	Relinquished By: (1)			Date	Time	Received By:		Section 4 DOD Project? Yes No		Data Deliverable Requirements:					
	Relinquished By: (2)			Date	Time	Received By:		Cooler ID: _____		Requested Turnaround Time and/or Special Instructions:					
	Relinquished By: (3)			Date	Time	Received By:		Temp Blank °C: <i>1) 5.6 P23 2) 4.5 D23</i>		Chain of Custody Seal: (Circle)					
	Relinquished By: (4)			Date	Time	Received For Laboratory By:		or Ambient [ ]		INTACT BROKEN <b>ABSENT</b>					
								Delivery Method: Hand Delivery <input checked="" type="checkbox"/> Commercial Delivery [ ]							

<http://www.sgs.com/terms-and-conditions>



SGS Workorder #:

1222993

1222993

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
-----------------	--------------------------	------------------------

<b>Chain of Custody / Temperature Requirements</b>	Note: Temperature and COC seal information is found on the chain of custody form	
--	--	--

DOD only: Did all sample coolers have a corresponding COC?	N/A	
If <0°C, were sample containers ice free?	N/A	
Note containers received with ice:		
Identify any containers received at non-compliant temperature:  (Use form FS-0029 if more space is needed)		

<b>Holding Time / Documentation / Sample Condition Requirement</b>	Note: Refer to form F-083 "Sample Guide" for specific holding times and sample containers.	
--	--	--

Were samples received within analytical holding time?	Yes	
Do sample labels match COC? Record discrepancies.	Yes	
<b>Note:</b> If information on containers differs from COC, default to COC information for login. If times differ <1hr, record details & login per COC.		
Were analytical requests clear? <i>(i.e. method is specified for analyses with multiple option for method (Eg, BTEX 8021 vs 8260, Metals 6020 vs 200.8)</i>	Yes	
Were proper containers (type/mass/volume/preservative) used? Note: Exemption for metals analysis by 200.8/6020 in water.	Yes	

<b>Volatile Analysis Requirements (VOC, GRO, LL-Hg, etc.)</b>		
---	--	--

Were all soil VOAs received with a corresponding % solids container?	N/A	
Were Trip Blanks (e.g., VOAs, LL-Hg) in cooler with samples?	Yes	
Were all water VOA vials free of headspace (e.g., bubbles ≤ 6mm)?	Yes	
Were all soil VOAs field extracted with Methanol+BFB?	N/A	

**Note to Client:** Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.

**Additional notes (if applicable):**



## Sample Containers and Preservatives

<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1222993001-A	HCL to pH < 2	OK	1222993015-D	No Preservative Required	OK
1222993001-B	HCL to pH < 2	OK	1222993015-E	No Preservative Required	OK
1222993001-C	HCL to pH < 2	OK	1222993016-A	HCL to pH < 2	OK
1222993002-A	HCL to pH < 2	OK	1222993016-B	HCL to pH < 2	OK
1222993002-B	HCL to pH < 2	OK	1222993016-C	HCL to pH < 2	OK
1222993002-C	HCL to pH < 2	OK	1222993016-D	No Preservative Required	OK
1222993003-A	HCL to pH < 2	OK	1222993016-E	No Preservative Required	OK
1222993003-B	HCL to pH < 2	OK	1222993017-A	HCL to pH < 2	OK
1222993003-C	HCL to pH < 2	OK	1222993017-B	HCL to pH < 2	OK
1222993004-A	HCL to pH < 2	OK	1222993017-C	HCL to pH < 2	OK
1222993004-B	HCL to pH < 2	OK	1222993017-D	No Preservative Required	OK
1222993004-C	HCL to pH < 2	OK	1222993017-E	No Preservative Required	OK
1222993005-A	HCL to pH < 2	OK	1222993018-A	HCL to pH < 2	OK
1222993005-B	HCL to pH < 2	OK	1222993018-B	HCL to pH < 2	OK
1222993005-C	HCL to pH < 2	OK	1222993018-C	HCL to pH < 2	OK
1222993006-A	HCL to pH < 2	OK	1222993018-D	HCL to pH < 2	OK
1222993006-B	HCL to pH < 2	OK	1222993018-E	HCL to pH < 2	OK
1222993006-C	HCL to pH < 2	OK	1222993018-F	HCL to pH < 2	OK
1222993007-A	HCL to pH < 2	OK	1222993018-G	No Preservative Required	OK
1222993007-B	HCL to pH < 2	OK	1222993018-H	No Preservative Required	OK
1222993007-C	HCL to pH < 2	OK	1222993019-A	HCL to pH < 2	OK
1222993008-A	HCL to pH < 2	OK	1222993019-B	HCL to pH < 2	OK
1222993008-B	HCL to pH < 2	OK	1222993019-C	HCL to pH < 2	OK
1222993008-C	HCL to pH < 2	OK	1222993019-D	No Preservative Required	OK
1222993009-A	HCL to pH < 2	OK	1222993019-E	No Preservative Required	OK
1222993009-B	HCL to pH < 2	OK	1222993020-A	HCL to pH < 2	OK
1222993009-C	HCL to pH < 2	OK	1222993020-B	HCL to pH < 2	OK
1222993010-A	HCL to pH < 2	OK	1222993020-C	HCL to pH < 2	OK
1222993010-B	HCL to pH < 2	OK	1222993021-A	HCL to pH < 2	OK
1222993010-C	HCL to pH < 2	OK	1222993021-B	HCL to pH < 2	OK
1222993011-A	HCL to pH < 2	OK	1222993021-C	HCL to pH < 2	OK
1222993011-B	HCL to pH < 2	OK	1222993022-A	HCL to pH < 2	OK
1222993011-C	HCL to pH < 2	OK	1222993022-B	HCL to pH < 2	OK
1222993012-A	HCL to pH < 2	OK	1222993022-C	HCL to pH < 2	OK
1222993012-B	HCL to pH < 2	OK	1222993023-A	HCL to pH < 2	OK
1222993012-C	HCL to pH < 2	OK	1222993023-B	HCL to pH < 2	OK
1222993013-A	HCL to pH < 2	OK	1222993023-C	HCL to pH < 2	OK
1222993013-B	HCL to pH < 2	OK	1222993024-A	HCL to pH < 2	OK
1222993013-C	HCL to pH < 2	OK	1222993024-B	HCL to pH < 2	OK
1222993013-D	No Preservative Required	OK	1222993024-C	HCL to pH < 2	OK
1222993013-E	No Preservative Required	OK	1222993025-A	HCL to pH < 2	OK
1222993014-A	HCL to pH < 2	OK	1222993025-B	HCL to pH < 2	OK
1222993014-B	HCL to pH < 2	OK	1222993025-C	HCL to pH < 2	OK
1222993014-C	HCL to pH < 2	OK	1222993026-A	HCL to pH < 2	OK
1222993014-D	No Preservative Required	OK	1222993026-B	HCL to pH < 2	OK
1222993014-E	No Preservative Required	OK	1222993026-C	HCL to pH < 2	OK
1222993015-A	HCL to pH < 2	OK	1222993027-A	HCL to pH < 2	OK
1222993015-B	HCL to pH < 2	OK	1222993027-B	HCL to pH < 2	OK
1222993015-C	HCL to pH < 2	OK	1222993027-C	HCL to pH < 2	OK



<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1222993028-A	HCL to pH < 2	OK			
1222993028-B	HCL to pH < 2	OK			
1222993028-C	HCL to pH < 2	OK			
1222993029-A	HCL to pH < 2	OK			
1222993029-B	HCL to pH < 2	OK			
1222993029-C	HCL to pH < 2	OK			
1222993030-A	HCL to pH < 2	OK			
1222993030-B	HCL to pH < 2	OK			
1222993030-C	HCL to pH < 2	OK			
1222993031-A	HCL to pH < 2	OK			
1222993031-B	HCL to pH < 2	OK			
1222993031-C	HCL to pH < 2	OK			
1222993032-A	HCL to pH < 2	OK			
1222993032-B	HCL to pH < 2	OK			
1222993032-C	HCL to pH < 2	OK			
1222993033-A	HCL to pH < 2	OK			
1222993033-B	HCL to pH < 2	OK			
1222993033-C	HCL to pH < 2	OK			
1222993034-A	HCL to pH < 2	OK			
1222993034-B	HCL to pH < 2	OK			
1222993034-C	HCL to pH < 2	OK			
1222993035-A	HCL to pH < 2	OK			
1222993035-B	HCL to pH < 2	OK			
1222993035-C	HCL to pH < 2	OK			
1222993036-A	HCL to pH < 2	OK			
1222993036-B	HCL to pH < 2	OK			
1222993036-C	HCL to pH < 2	OK			
1222993037-A	HCL to pH < 2	OK			
1222993037-B	HCL to pH < 2	OK			
1222993037-C	HCL to pH < 2	OK			
1222993038-A	HCL to pH < 2	OK			
1222993038-B	HCL to pH < 2	OK			
1222993038-C	HCL to pH < 2	OK			
1222993039-A	HCL to pH < 2	OK			
1222993039-B	HCL to pH < 2	OK			
1222993039-C	HCL to pH < 2	OK			
1222993040-A	HCL to pH < 2	OK			
1222993040-B	HCL to pH < 2	OK			
1222993040-C	HCL to pH < 2	OK			
1222993041-A	HCL to pH < 2	OK			
1222993041-B	HCL to pH < 2	OK			
1222993041-C	HCL to pH < 2	OK			
1222993041-D	H2SO4 to pH < 2	OK			
1222993041-E	No Preservative Required	OK			
1222993041-F	HNO3 to pH < 2	OK			
1222993041-G	No Preservative Required	OK			
1222993041-H	HCL to pH < 2	OK			
1222993041-I	HCL to pH < 2	OK			
1222993041-J	HCL to pH < 2	OK			
1222993042-A	HNO3 to pH < 2	OK			
1222993043-A	HCL to pH < 2	OK			
1222993043-B	HCL to pH < 2	OK			
1222993043-C	HCL to pH < 2	OK			
1222993043-D	HCL to pH < 2	OK			
1222993043-E	HCL to pH < 2	OK			
1222993043-F	HCL to pH < 2	OK			

Container Id

Preservative

Container  
Condition

Container Id

Preservative

Container  
Condition

#### Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.

BU - The container was received with headspace greater than 6mm.

DM - The container was received damaged.

FR - The container was received frozen and not usable for Bacteria or BOD analyses.

IC - The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.

NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.

PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

QN - Insufficient sample quantity provided.

The results set forth herein are provided by SGS North America Inc.

*e-Hardcopy 2.0*  
*Automated Report*

## Technical Report for

SGS North America, Inc

1222993

SGS Job Number: FA96537

Sampling Dates: 06/08/22 - 06/10/22



Report to:

SGS North America, Inc  
200 W Potter Dr  
Anchorage, AK 99518  
julie.shumway@sgs.com

ATTN: Julie Shumway

Total number of pages in report: **20**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer  
Technical Director

Client Service contact: Andrea Colby 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), NC(573), NJ(FL002), NY(12022), SC(96038001)  
DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177),  
AL, AK, AR, CT, IA, KY, MA, MI, MS, ND, NH, NV, OK, OR, IL, UT, VT, WA, WI, WV

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Test results relate only to samples analyzed.

# Table of Contents

-1-

<b>Section 1: Sample Summary</b> .....	<b>3</b>
<b>Section 2: Case Narrative/Conformance Summary</b> .....	<b>4</b>
<b>Section 3: Summary of Hits</b> .....	<b>5</b>
<b>Section 4: Sample Results</b> .....	<b>6</b>
<b>4.1: FA96537-1: MW-1</b> .....	7
<b>4.2: FA96537-2: TRIP BLANK</b> .....	8
<b>Section 5: Misc. Forms</b> .....	<b>9</b>
<b>5.1: Chain of Custody</b> .....	10
<b>5.2: QC Evaluation: DOD QSM5.x Limits</b> .....	12
<b>Section 6: GC Volatiles - QC Data Summaries</b> .....	<b>13</b>
<b>6.1: Method Blank Summary</b> .....	14
<b>6.2: Blank Spike/Blank Spike Duplicate Summary</b> .....	16
<b>6.3: Matrix Spike Summary</b> .....	18
<b>6.4: Duplicate Summary</b> .....	20



## Sample Summary

SGS North America, Inc  
1222993

Job No: FA96537

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
FA96537-1	06/10/22	13:19	06/16/22	AQ	Water	MW-1
FA96537-2	06/08/22	10:59	06/16/22	AQ	Trip Blank Water	TRIP BLANK

## SAMPLE DELIVERY GROUP CASE NARRATIVE

**Client:** SGS North America, Inc

**Job No:** FA96537

**Site:** 1222993

**Report Date:** 6/21/2022 5:55:29 PM

On 06/16/2022, 1 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc - Orlando. at a maximum corrected temperature of 5 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FA96537 was assigned to the project.

Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section. Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

### GC Volatiles By Method RSKSOP-147/175

**Matrix:** AQ **Batch ID:** G1R329

Sample(s) FA96537-2MS were used as the QC samples indicated.

**Matrix:** AQ **Batch ID:** G1R330

Sample(s) FA96525-1DUP, FA96642-18MS were used as the QC samples indicated.

SGS North America Inc. - Orlando certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted. Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria. SGS North America Inc.- Orlando is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety.

Narrative prepared by:

\_\_\_\_\_  
Kim Benham, Client Services (*Signature on File*)

## Summary of Hits

**Job Number:** FA96537  
**Account:** SGS North America, Inc  
**Project:** 1222993  
**Collected:** 06/08/22 thru 06/10/22



Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
<b>FA96537-1</b>	<b>MW-1</b>					
Methane		3940	5.0	2.5	ug/l	RSKSOP-147/175
<b>FA96537-2</b>	<b>TRIP BLANK</b>					
Methane		0.31 J	0.50	0.25	ug/l	RSKSOP-147/175

Sample Results

---

Report of Analysis

---



# Report of Analysis

<b>Client Sample ID:</b> MW-1	
<b>Lab Sample ID:</b> FA96537-1	<b>Date Sampled:</b> 06/10/22
<b>Matrix:</b> AQ - Water	<b>Date Received:</b> 06/16/22
<b>Method:</b> RSKSOP-147/175	<b>Percent Solids:</b> n/a
<b>Project:</b> 1222993	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1R8859.D	10	06/20/22 12:52	TD	n/a	n/a	G1R330
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	500 ul	20 Deg. C
Run #2				

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
74-82-8	Methane	3940	5.0	2.5	1.6	ug/l	

U = Not detected      LOD = Limit of Detection      J = Indicates an estimated value  
 LOQ = Limit of Quantitation      DL = Detection Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

4.1  
4

# Report of Analysis

<b>Client Sample ID:</b>	TRIP BLANK	<b>Date Sampled:</b>	06/08/22
<b>Lab Sample ID:</b>	FA96537-2	<b>Date Received:</b>	06/16/22
<b>Matrix:</b>	AQ - Trip Blank Water	<b>Percent Solids:</b>	n/a
<b>Method:</b>	RSKSOP-147/175		
<b>Project:</b>	1222993		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1R8840.D	1	06/17/22 16:00	TD	n/a	n/a	G1R329
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	500 ul	20 Deg. C
Run #2				

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
74-82-8	Methane	0.31	0.50	0.25	0.16	ug/l	J

U = Not detected      LOD = Limit of Detection      J = Indicates an estimated value  
 LOQ = Limit of Quantitation      DL = Detection Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5.x Limits

SGS North America Inc.  
CHAIN OF CUSTODY RECORD



Locations Nationwide  
Alaska Florida  
New Jersey Colorado  
Texas North Carolina  
Virginia Louisiana  
www.us.sgs.com

CLIENT: SGS North America Inc. - Alaska Division				SGS Reference: <b>SGS Orlando, FL</b>				Page 1 of 1			
CONTACT: Julie Shumway		PHONE NO: (907) 562-2343		Additional Comments: All soils report out in dry weight unless							
PROJECT NAME: 1222993		PWSID#: _____		CONTAINER	#	Preservative Used:	HCl	MS	MSD	SGS lab #	Location ID
REPORTS TO: Julie Shumway		E-MAIL: Julie.Shumway@sgs.com									
INVOICE TO: SGS - Alaska		QUOTE #: _____									
env.alaska.accounting@sgs.com		P.O. #: 1222993									
RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HHMM	MATRIX/MATRIX CODE							
1	MW-1	06/10/2022	13:19:00	Water	3	X				1222993041	
2	Trip Blank	06/08/2022	10:59:00	Water	3	X				1222993043	
Relinquished By: (1)		Date	Time	Received By:	DOD Project?		YES		Data Deliverable Requirements:		
<i>J. Shumway</i>		6/15/2010		<i>Paul Mui</i>	6/16/22		Report to DL (J Flags)?		SGS EDD + EFWEDD EQUiS for Stantec		
Relinquished By: (2)		Date	Time	Received By:	Cooler ID:		Requested Turnaround Time and-or Special Instructions:				
Relinquished By: (3)		Date	Time	Received By:	Temp Blank °C: 4.6		Chain of Custody Seal: (Circle)				
Relinquished By: (4)		Date	Time	Received For Laboratory By:	or Ambient [ ]		INTACT BROKEN ABSENT				

[X] 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301  
 [ ] 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

[http://www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm)

INITIAL ASSESSMENT *DM*

LABEL VERIFICATION *DM*

F088\_COC\_REF\_LAB\_20190411

FA96537: Chain of Custody

Page 1 of 2

5.1  
5

## SGS Sample Receipt Summary

Job Number: FA96537

Client: SGS ALASKA

Project: 1222993

Date / Time Received: 6/16/2022 3:00:00 PM

Delivery Method: FEDEX

Airbill #'s: 1483 4802 3814

Therm ID: IR 1;

Therm CF: 0.4;

# of Coolers: 1

Cooler Temps (Raw Measured) °C: Cooler 1: (4.6);

Cooler Temps (Corrected) °C: Cooler 1: (5.0);

**Cooler Information**

Y or N

- |                             |                                     |                          |
|-----------------------------|-------------------------------------|--------------------------|
| 1. Custody Seals Present    | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Custody Seals Intact     | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Temp criteria achieved   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 4. Cooler temp verification | <u>IR Gun</u>                       |                          |
| 5. Cooler media             | <u>Ice (Bag)</u>                    |                          |

**Trip Blank Information**

Y or N

N/A

- |                                |                          |                          |                                     |
|--------------------------------|--------------------------|--------------------------|-------------------------------------|
| 1. Trip Blank present / cooler | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Trip Blank listed on COC    | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|                                | <u>W or S</u>            |                          | <u>N/A</u>                          |
| 3. Type Of TB Received         | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**Sample Information**

Y or N

N/A

- |   |                                     |                                     |                                     |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Sample labels present on bottles                 | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 2. Samples preserved properly                       | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 3. Sufficient volume/containers recvd for analysis: | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 4. Condition of sample                              | <u>Intact</u>                       |                                     |                                     |
| 5. Sample recvd within HT                           | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 6. Dates/Times/IDs on COC match Sample Label        | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |                                     |
| 7. VOCs have headspace                              | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 8. Bottles received for unspecified tests           | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                                     |
| 9. Compositing instructions clear                   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 10. Voa Soil Kits/Jars received past 48hrs?         | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 11. % Solids Jar received?                          | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 12. Residual Chlorine Present?                      | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |

**Misc. Information**

Number of Encores: 25-Gram \_\_\_\_\_ 5-Gram \_\_\_\_\_  
 Test Strip Lot #: pH 0-3 230315  
 Residual Chlorine Test Strip Lot #: \_\_\_\_\_

Number of 5035 Field Kits: \_\_\_\_\_  
 pH 10-12 219813A

Number of Lab Filtered Metals: \_\_\_\_\_  
 Other: (Specify) \_\_\_\_\_

Comments

SM001  
Rev. Date 05/24/17

Technician: SAMUELM

Date: 6/16/2022 3:00:00 PM

Reviewer: \_\_\_\_\_

Date: \_\_\_\_\_

FA96537: Chain of Custody

Page 2 of 2

5.1  
5

# QC Evaluation: DOD QSM5.x Limits

**Job Number:** FA96537  
**Account:** SGS North America, Inc  
**Project:** 1222993  
**Collected:** 06/08/22 thru 06/10/22

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
<b>G1R329</b> RSKSOP-147/175							
G1R329-BS	74-82-8	Methane	BSP	REC	106	%	73-125
G1R329-BSD	74-82-8	Methane	BSD	REC	106	%	73-125
G1R329-BSD	74-82-8	Methane	BSD	RPD	0	%	30
FA96537-2MS	74-82-8	Methane	MS	REC	118	%	73-125
<b>G1R330</b> RSKSOP-147/175							
G1R330-BS	74-82-8	Methane	BSP	REC	115	%	73-125
G1R330-BSD	74-82-8	Methane	BSD	REC	109	%	73-125
G1R330-BSD	74-82-8	Methane	BSD	RPD	5	%	30
FA96642-18MS*	74-82-8	Methane	MS	REC	119	%	73-125
FA96525-1DUP*	74-82-8	Methane	DUP	RPD	18	%	30

\* Sample used for QC is not from job FA96537

5.2  
5

## GC Volatiles

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## QC Data Summaries

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Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

# Method Blank Summary

**Job Number:** FA96537  
**Account:** SGS/SAK North America, Inc  
**Project:** 1222993

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
G1R329-MB	1R8823.D	1	06/17/22	TD	n/a	n/a	G1R329

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA96537-2

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	0.50	0.16	ug/l	

6.1.1  
6



# Method Blank Summary

**Job Number:** FA96537  
**Account:** SGS/SAK North America, Inc  
**Project:** 1222993

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
G1R330-MB	1R8855.D	1	06/20/22	TD	n/a	n/a	G1R330

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA96537-1

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	0.50	0.16	ug/l	

6.12  
6

# Blank Spike/Blank Spike Duplicate Summary

**Job Number:** FA96537  
**Account:** SGS/SAK North America, Inc  
**Project:** 1222993

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
G1R329-BS	1R8820.D	1	06/17/22	TD	n/a	n/a	G1R329
G1R329-BSD	1R8821.D	1	06/17/22	TD	n/a	n/a	G1R329

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA96537-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
74-82-8	Methane	108	115	106	115	106	0	62-139/30

\* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary

**Job Number:** FA96537  
**Account:** SGS/SAKA SGS North America, Inc  
**Project:** 1222993

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
G1R330-BS	1R8852.D	1	06/20/22	TD	n/a	n/a	G1R330
G1R330-BSD	1R8853.D	1	06/20/22	TD	n/a	n/a	G1R330

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA96537-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
74-82-8	Methane	108	124	115	118	109	5	62-139/30

\* = Outside of Control Limits.

# Matrix Spike Summary

**Job Number:** FA96537  
**Account:** SGS/SAK North America, Inc  
**Project:** 1222993

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA96537-2MS	1R8847.D	1	06/17/22	TD	n/a	n/a	G1R329
FA96537-2	1R8840.D	1	06/17/22	TD	n/a	n/a	G1R329

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA96537-2

CAS No.	Compound	FA96537-2 ug/l	Spike Q	ug/l	MS ug/l	MS %	Limits
74-82-8	Methane	0.31	J	108	128	118	62-139

\* = Outside of Control Limits.

# Matrix Spike Summary

**Job Number:** FA96537  
**Account:** SGS/SAK North America, Inc  
**Project:** 1222993

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA96642-18MS	1R8881.D	1	06/20/22	TD	n/a	n/a	G1R330
FA96642-18	1R8866.D	1	06/20/22	TD	n/a	n/a	G1R330

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA96537-1

CAS No.	Compound	FA96642-18 ug/l	Spike Q ug/l	MS ug/l	MS %	Limits
74-82-8	Methane	1.1	108	130	119	62-139

\* = Outside of Control Limits.

# Duplicate Summary

**Job Number:** FA96537  
**Account:** SGS/SAK North America, Inc  
**Project:** 1222993

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA96525-1DUP	1R8860.D	1	06/20/22	TD	n/a	n/a	G1R330
FA96525-1	1R8857.D	1	06/20/22	TD	n/a	n/a	G1R330

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA96537-1

CAS No.	Compound	FA96525-1 ug/l	DUP Q ug/l	Q RPD	Limits
74-82-8	Methane	1330	1110	18	30

\* = Outside of Control Limits.



## Laboratory Report of Analysis

To: Stantec Consulting Services Inc.  
725 East Fireweed Lane, #200  
Anchorage, AK 99503  
(907)266-1148

Report Number: **1222994**

Client Project: **SRU**

Dear Douglas Quist,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of ten years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Justin at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,  
SGS North America Inc.

---

Justin Nelson  
Project Manager  
Justin.Nelson@sgs.com

Date

### Case Narrative

SGS Client: **Stantec Consulting Services Inc.**  
SGS Project: **1222994**  
Project Name/Site: **SRU**  
Project Contact: **Douglas Quist**

Refer to sample receipt form for information on sample condition.

**TW-3 (1222994002) PS**

8260D - Surrogate recovery for 4-bromofluorobenzene does not meet QC criteria. There are no analytes associated with this surrogate being reported.

**LCS for HBN 1838204 [VXX/38720 (1668974) LCS**

8260D - LCS recovery for chloroethane does not meet QC criteria. This analyte was not detected above the LOQ in the associated samples.

**LCSD for HBN 1838204 [VXX/3872 (1668975) LCSD**

8260D - LCSD RPD for chloroethane does not meet QC criteria. This analyte was not detected above the LOQ in the associated samples.

\*QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to associated field samples.

Print Date: 06/21/2022 6:20:57PM



## Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. The results apply to the samples as received. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

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SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 DW Chemistry (Provisionally Certified as of 05/31/2022 for Fluoride by EPA 300.0 and Nitrate as N by SM 4500NO3-F) & Microbiology & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020B, 7470A, 7471B, 8015C, 8021B, 8082A, 8260D, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). SGS is only certified for the analytes listed on our Drinking Water Certification (DW methods: 200.8, 2130B, 2320B, 2510B, 300.0, 4500-CN-C,E, 4500-H-B, 4500-NO3-F, 4500-P-E and 524.2) and only those analytes will be reported to the State of Alaska for compliance. Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
B	Indicates the analyte is found in a blank associated with the sample.
CCV/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Analytical Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
RPD	Relative Percent Difference
TNTC	Too Numerous To Count
U	Indicates the analyte was analyzed for but not detected.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content. All DRO/RRO analyses are integrated per SOP.

### Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
TW-2	1222994001	06/07/2022	06/13/2022	Water (Surface, Eff., Ground)
TW-3	1222994002	06/07/2022	06/13/2022	Water (Surface, Eff., Ground)
Trip Blank	1222994003	06/07/2022	06/13/2022	Water (Surface, Eff., Ground)

<u>Method</u>	<u>Method Description</u>
SW8260D	Volatile Organic Compounds (W)

Print Date: 06/21/2022 6:21:00PM

### Detectable Results Summary

Client Sample ID: **TW-3**  
Lab Sample ID: 1222994002

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Ethylbenzene	435	ug/L
o-Xylene	4.87J	ug/L
P & M -Xylene	1350	ug/L
Xylenes (total)	1360	ug/L

Print Date: 06/21/2022 6:21:01PM



### Results of TW-2

Client Sample ID: **TW-2**  
 Client Project ID: **SRU**  
 Lab Sample ID: 1222994001  
 Lab Project ID: 1222994

Collection Date: 06/07/22 15:45  
 Received Date: 06/13/22 11:06  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.200 U	0.400	0.120	ug/L	1		06/20/22 23:39
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		06/20/22 23:39
o-Xylene	0.500 U	1.00	0.310	ug/L	1		06/20/22 23:39
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		06/20/22 23:39
Toluene	0.500 U	1.00	0.310	ug/L	1		06/20/22 23:39
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		06/20/22 23:39
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	91.8	81-118		%	1		06/20/22 23:39
4-Bromofluorobenzene (surr)	104	85-114		%	1		06/20/22 23:39
Toluene-d8 (surr)	98.1	89-112		%	1		06/20/22 23:39

### Batch Information

Analytical Batch: VMS21711  
 Analytical Method: SW8260D  
 Analyst: JMG  
 Analytical Date/Time: 06/20/22 23:39  
 Container ID: 1222994001-B

Prep Batch: VXX38720  
 Prep Method: SW5030B  
 Prep Date/Time: 06/20/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



### Results of TW-3

Client Sample ID: **TW-3**  
 Client Project ID: **SRU**  
 Lab Sample ID: 1222994002  
 Lab Project ID: 1222994

Collection Date: 06/07/22 16:14  
 Received Date: 06/13/22 11:06  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	1.00 U	2.00	0.600	ug/L	5		06/21/22 01:07
Ethylbenzene	435	5.00	1.55	ug/L	5		06/21/22 01:07
o-Xylene	4.87 J	5.00	1.55	ug/L	5		06/21/22 01:07
P & M -Xylene	1350	10.0	3.10	ug/L	5		06/21/22 01:07
Toluene	2.50 U	5.00	1.55	ug/L	5		06/21/22 01:07
Xylenes (total)	1360	15.0	5.00	ug/L	5		06/21/22 01:07
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	96.4	81-118		%	5		06/21/22 01:07
4-Bromofluorobenzene (surr)	102	85-114		%	5		06/21/22 01:07
Toluene-d8 (surr)	102	89-112		%	5		06/21/22 01:07

### Batch Information

Analytical Batch: VMS21711  
 Analytical Method: SW8260D  
 Analyst: JMG  
 Analytical Date/Time: 06/21/22 01:07  
 Container ID: 1222994002-B

Prep Batch: VXX38720  
 Prep Method: SW5030B  
 Prep Date/Time: 06/20/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



### Results of Trip Blank

Client Sample ID: **Trip Blank**  
 Client Project ID: **SRU**  
 Lab Sample ID: 1222994003  
 Lab Project ID: 1222994

Collection Date: 06/07/22 12:00  
 Received Date: 06/13/22 11:06  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.200 U	0.400	0.120	ug/L	1		06/17/22 19:07
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		06/17/22 19:07
o-Xylene	0.500 U	1.00	0.310	ug/L	1		06/17/22 19:07
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		06/17/22 19:07
Toluene	0.500 U	1.00	0.310	ug/L	1		06/17/22 19:07
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		06/17/22 19:07
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	107	81-118		%	1		06/17/22 19:07
4-Bromofluorobenzene (surr)	102	85-114		%	1		06/17/22 19:07
Toluene-d8 (surr)	96.9	89-112		%	1		06/17/22 19:07

### Batch Information

Analytical Batch: VMS21708  
 Analytical Method: SW8260D  
 Analyst: JMG  
 Analytical Date/Time: 06/17/22 19:07  
 Container ID: 1222994003-A

Prep Batch: VXX38716  
 Prep Method: SW5030B  
 Prep Date/Time: 06/17/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL

## Method Blank

Blank ID: MB for HBN 1838142 [VXX/38716]

Blank Lab ID: 1668746

QC for Samples:

1222994001, 1222994003

Matrix: Water (Surface, Eff., Ground)

## Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	109	81-118		%
4-Bromofluorobenzene (surr)	103	85-114		%
Toluene-d8 (surr)	97.5	89-112		%

## Batch Information

Analytical Batch: VMS21708  
 Analytical Method: SW8260D  
 Instrument: Agilent 7890-75MS  
 Analyst: JMG  
 Analytical Date/Time: 6/17/2022 4:09:00PM

Prep Batch: VXX38716  
 Prep Method: SW5030B  
 Prep Date/Time: 6/17/2022 6:00:00AM  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL

Print Date: 06/21/2022 6:21:03PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1222994 [VXX38716]  
 Blank Spike Lab ID: 1668747  
 Date Analyzed: 06/17/2022 16:24

Spike Duplicate ID: LCSD for HBN 1222994 [VXX38716]  
 Spike Duplicate Lab ID: 1668748  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1222994001, 1222994003

## Results by SW8260D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	30	28.9	96	30	28.1	94	( 79-120 )	2.70	(< 20 )
Ethylbenzene	30	28.8	96	30	28.0	94	( 79-121 )	2.70	(< 20 )
o-Xylene	30	29.0	97	30	28.0	93	( 78-122 )	3.50	(< 20 )
P & M -Xylene	60	58.3	97	60	56.3	94	( 80-121 )	3.40	(< 20 )
Toluene	30	26.7	89	30	25.7	86	( 80-121 )	3.70	(< 20 )
Xylenes (total)	90	87.3	97	90	84.3	94	( 79-121 )	3.40	(< 20 )
<b>Surrogates</b>									
1,2-Dichloroethane-D4 (surr)	30		101	30		99	( 81-118 )	2.00	
4-Bromofluorobenzene (surr)	30		100	30		96	( 85-114 )	4.40	
Toluene-d8 (surr)	30		97	30		96	( 89-112 )	0.98	

## Batch Information

Analytical Batch: **VMS21708**  
 Analytical Method: **SW8260D**  
 Instrument: **Agilent 7890-75MS**  
 Analyst: **JMG**

Prep Batch: **VXX38716**  
 Prep Method: **SW5030B**  
 Prep Date/Time: **06/17/2022 06:00**  
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL



## Method Blank

Blank ID: MB for HBN 1838204 [VXX/38720]

Blank Lab ID: 1668973

QC for Samples:

1222994001, 1222994002

Matrix: Water (Surface, Eff., Ground)

## Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	95.8	81-118		%
4-Bromofluorobenzene (surr)	103	85-114		%
Toluene-d8 (surr)	97.4	89-112		%

## Batch Information

Analytical Batch: VMS21711  
 Analytical Method: SW8260D  
 Instrument: VPA 780/5975 GC/MS  
 Analyst: JMG  
 Analytical Date/Time: 6/20/2022 5:56:00PM

Prep Batch: VXX38720  
 Prep Method: SW5030B  
 Prep Date/Time: 6/20/2022 6:00:00AM  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL

Print Date: 06/21/2022 6:21:07PM



### Anti-Foam Blank

Blank ID: AFB for HBN 1838204 [VXX/38720]  
Blank Lab ID: 1668976

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1222994001, 1222994002

### Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L

### Batch Information

Analytical Batch: VMS21711  
Analytical Method: SW8260D  
Instrument: VPA 780/5975 GC/MS  
Analyst: JMG  
Analytical Date/Time: 6/20/2022 10:41:00PM

Prep Batch: VXX38720  
Prep Method: SW5030B  
Prep Date/Time: 6/20/2022 6:00:00AM  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 06/21/2022 6:21:07PM



### Leaching Blank

Blank ID: LB for HBN 1837842 [TCLP/11804]  
Blank Lab ID: 1668024

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1222994001, 1222994002

### Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	10.0U	20.0	6.00	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	101	81-118		%
4-Bromofluorobenzene (surr)	103	85-114		%
Toluene-d8 (surr)	98.4	89-112		%

### Batch Information

Analytical Batch: VMS21711  
Analytical Method: SW8260D  
Instrument: VPA 780/5975 GC/MS  
Analyst: JMG  
Analytical Date/Time: 6/21/2022 2:05:00AM

Prep Batch: VXX38720  
Prep Method: SW5030B  
Prep Date/Time: 6/20/2022 6:00:00AM  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 06/21/2022 6:21:07PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1222994 [VXX38720]  
 Blank Spike Lab ID: 1668974  
 Date Analyzed: 06/20/2022 18:10

Spike Duplicate ID: LCSD for HBN 1222994 [VXX38720]  
 Spike Duplicate Lab ID: 1668975  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1222994001, 1222994002

## Results by SW8260D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	30	32.1	107	30	30.9	103	( 79-120 )	4.00	(< 20 )
Ethylbenzene	30	31.9	106	30	30.8	103	( 79-121 )	3.30	(< 20 )
o-Xylene	30	32.8	109	30	32.0	107	( 78-122 )	2.70	(< 20 )
P & M -Xylene	60	66.5	111	60	64.9	108	( 80-121 )	2.50	(< 20 )
Toluene	30	32.7	109	30	31.7	106	( 80-121 )	3.20	(< 20 )
Xylenes (total)	90	99.3	110	90	96.8	108	( 79-121 )	2.50	(< 20 )
<b>Surrogates</b>									
1,2-Dichloroethane-D4 (surr)	30		97	30		96	( 81-118 )	0.51	
4-Bromofluorobenzene (surr)	30		100	30		101	( 85-114 )	0.98	
Toluene-d8 (surr)	30		102	30		102	( 89-112 )	0.53	

## Batch Information

Analytical Batch: VMS21711  
 Analytical Method: SW8260D  
 Instrument: VPA 780/5975 GC/MS  
 Analyst: JMG

Prep Batch: VXX38720  
 Prep Method: SW5030B  
 Prep Date/Time: 06/20/2022 06:00  
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL



Profile # 302427 *JM*

CLIENT: <i>Stantec</i>				Instructions: Sections 1 - 5 must be filled out Omissions may delay the onset of analysis.				Page <u>1</u> of <u>1</u>	
CONTACT: <i>Craig Wilson</i>		PHONE #: <i>907-240-3752</i>		Section 3		Preservative			
PROJECT NAME: <i>SRU</i>		PROJECT/PWSID/PERMIT#: <i>203721236</i>		# C O N T A I N E R S	Analysis*		NOTE: *The following analyses require specific method and/or compound list: BTEX, Metals, PFAS		
REPORTS TO: <i>Craig Wilson</i>		E-MAIL: <i>Profile #: Craig.Wilson@stantec.com</i>			Comp Grab MI (Multi-incremental)				
INVOICE TO: <i>Stantec</i>		QUOTE #:			P.O. #:				
RESERVED for lab use		SAMPLE IDENTIFICATION			DATE mm/dd/yy			TIME HH:MM	
MATHIX/MATRIX CODE		MATRIX CODE		REMARKS/LOC ID					
① AC Plw-2		6/7/22		1545		W 3 6			
② AC Plw-3		6/7/22		1614		W 3 6			
③ AC Trip Blank		6/7/22		1200		W 3 6			
Relinquished By: (1) <i>[Signature]</i>		Date: <i>6/13/22</i>		Time: <i>0900</i>		Received By: <i>[Signature]</i>			
Relinquished By: (2)		Date		Time		Received By:			
Relinquished By: (3)		Date		Time		Received By:			
Relinquished By: (4) <i>[Signature]</i>		Date: <i>6/13/22</i>		Time: <i>11:06</i>		Received For Laboratory By: <i>[Signature]</i>			
Section 4				DOD Project? Yes <input type="radio"/> No <input checked="" type="radio"/>		Data Deliverable Requirements:			
Cooler ID:				Requested Turnaround Time and/or Special Instructions: <i>Standard</i>					
Temp Blank °C: <i>3.0 1223</i>				Chain of Custody Seal: (Circle)		INTACT <input type="checkbox"/> BROKEN <input type="checkbox"/> <b>ABSENT</b> <input checked="" type="checkbox"/>			
or Ambient [ ]				Delivery Method: Hand Delivery <input checked="" type="checkbox"/> Commercial Delivery [ ]					



SGS Workorder #:

1222994

1222994

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
-----------------	--------------------------	------------------------

**Chain of Custody / Temperature Requirements**

*Note: Temperature and COC seal information is found on the chain of custody form*

DOD only: Did all sample coolers have a corresponding COC?

If <0°C, were sample containers ice free?

Note containers received with ice:

Identify any containers received at non-compliant temperature:

*(Use form FS-0029 if more space is needed)*

**Holding Time / Documentation / Sample Condition Requirement**

*Note: Refer to form F-083 "Sample Guide" for specific holding times and sample containers.*

Were samples received within analytical holding time?

Do sample labels match COC? Record discrepancies.

**Note:** If information on containers differs from COC, default to COC information for login. If times differ <1hr, record details & login per COC.

Were analytical requests clear?

*(i.e. method is specified for analyses with multiple option for method (Eg, BTEX 8021 vs 8260, Metals 6020 vs 200.8)*

Were proper containers (type/mass/volume/preservative)used?

Note: Exemption for metals analysis by 200.8/6020 in water.

**Volatile Analysis Requirements (VOC, GRO, LL-Hg, etc.)**

Were all soil VOAs received with a corresponding % solids container?

Were Trip Blanks (e.g., VOAs, LL-Hg) in cooler with samples?

Were all water VOA vials free of headspace (e.g., bubbles ≤ 6mm)?

Were all soil VOAs field extracted with Methanol+BFB?

**Note to Client:** Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.

**Additional notes (if applicable):**



## Sample Containers and Preservatives

<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1222994001-A	HCL to pH < 2	OK			
1222994001-B	HCL to pH < 2	OK			
1222994001-C	HCL to pH < 2	OK			
1222994002-A	HCL to pH < 2	OK			
1222994002-B	HCL to pH < 2	OK			
1222994002-C	HCL to pH < 2	OK			
1222994003-A	HCL to pH < 2	OK			
1222994003-B	HCL to pH < 2	OK			
1222994003-C	HCL to pH < 2	OK			

### Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.

BU - The container was received with headspace greater than 6mm.

DM - The container was received damaged.

FR - The container was received frozen and not usable for Bacteria or BOD analyses.

IC - The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.

NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.

PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

QN - Insufficient sample quantity provided.



## Laboratory Report of Analysis

To: Stantec Consulting Services Inc.  
725 East Fireweed Lane, #200  
Anchorage, AK 99503  
(907)266-1148

Report Number: **1223748**

Client Project: **Swanson River Unit**

Dear Douglas Quist,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of ten years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Justin at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,  
SGS North America Inc.

---

Justin Nelson  
Project Manager  
Justin.Nelson@sgs.com

Date



## Case Narrative

SGS Client: **Stantec Consulting Services Inc.**

SGS Project: **1223748**

Project Name/Site: **Swanson River Unit**

Project Contact: **Douglas Quist**

Refer to sample receipt form for information on sample condition.

\*QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to associated field samples.

Print Date: 07/18/2022 11:17:47AM

### Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. The results apply to the samples as received. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the context or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 DW Chemistry (Provisionally Certified as of 05/31/2022 for Nitrate as N by SM 4500NO3-F) & Microbiology & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020B, 7470A, 7471B, 8015C, 8021B, 8082A, 8260D, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). SGS is only certified for the analytes listed on our Drinking Water Certification (DW methods: 200.8, 2130B, 2320B, 2510B, 300.0, 4500-CN-C,E, 4500-H-B, 4500-NO3-F, 4500-P-E and 524.2) and only those analytes will be reported to the State of Alaska for compliance. Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
B	Indicates the analyte is found in a blank associated with the sample.
CCV/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Analytical Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
RPD	Relative Percent Difference
TNTC	Too Numerous To Count
U	Indicates the analyte was analyzed for but not detected.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content. All DRO/RRO analyses are integrated per SOP.

### Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
TW-2	1223748001	07/06/2022	07/07/2022	Water (Surface, Eff., Ground)
TW-3	1223748002	07/06/2022	07/07/2022	Water (Surface, Eff., Ground)
Trip Blank	1223748003	07/06/2022	07/07/2022	Water (Surface, Eff., Ground)

<u>Method</u>	<u>Method Description</u>
SW8260D	Volatile Organic Compounds (W)

Print Date: 07/18/2022 11:17:50AM

### Detectable Results Summary

Client Sample ID: **TW-2**  
 Lab Sample ID: 1223748001

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Ethylbenzene	4.98	ug/L
o-Xylene	1.69	ug/L
P & M -Xylene	23.6	ug/L
Xylenes (total)	25.3	ug/L

Client Sample ID: **TW-3**  
 Lab Sample ID: 1223748002

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Ethylbenzene	910	ug/L
o-Xylene	89.3	ug/L
P & M -Xylene	4150	ug/L
Xylenes (total)	4240	ug/L

Print Date: 07/18/2022 11:17:52AM



Results of TW-2

Client Sample ID: TW-2
Client Project ID: Swanson River Unit
Lab Sample ID: 1223748001
Lab Project ID: 1223748

Collection Date: 07/06/22 13:49
Received Date: 07/07/22 16:53
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, and Xylenes (total).

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include 1,2-Dichloroethane-D4 (surr), 4-Bromofluorobenzene (surr), and Toluene-d8 (surr).

Batch Information

Analytical Batch: VMS21790
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 07/14/22 05:30
Container ID: 1223748001-A

Prep Batch: VXX38868
Prep Method: SW5030B
Prep Date/Time: 07/13/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VMS21793
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 07/14/22 19:10
Container ID: 1223748001-B

Prep Batch: VXX38873
Prep Method: SW5030B
Prep Date/Time: 07/14/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL



### Results of TW-3

Client Sample ID: **TW-3**  
 Client Project ID: **Swanson River Unit**  
 Lab Sample ID: 1223748002  
 Lab Project ID: 1223748

Collection Date: 07/06/22 14:54  
 Received Date: 07/07/22 16:53  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	5.00 U	10.0	3.00	ug/L	25		07/14/22 19:55
Ethylbenzene	910	25.0	7.75	ug/L	25		07/14/22 19:55
o-Xylene	89.3	25.0	7.75	ug/L	25		07/14/22 19:55
P & M -Xylene	4150	50.0	15.5	ug/L	25		07/14/22 19:55
Toluene	12.5 U	25.0	7.75	ug/L	25		07/14/22 19:55
Xylenes (total)	4240	75.0	25.0	ug/L	25		07/14/22 19:55
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	114	81-118		%	25		07/14/22 19:55
4-Bromofluorobenzene (surr)	103	85-114		%	25		07/14/22 19:55
Toluene-d8 (surr)	94.6	89-112		%	25		07/14/22 19:55

### Batch Information

Analytical Batch: VMS21793  
 Analytical Method: SW8260D  
 Analyst: AZL  
 Analytical Date/Time: 07/14/22 19:55  
 Container ID: 1223748002-B

Prep Batch: VXX38873  
 Prep Method: SW5030B  
 Prep Date/Time: 07/14/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



### Results of Trip Blank

Client Sample ID: **Trip Blank**  
 Client Project ID: **Swanson River Unit**  
 Lab Sample ID: 1223748003  
 Lab Project ID: 1223748

Collection Date: 07/06/22 13:49  
 Received Date: 07/07/22 16:53  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		07/14/22 02:16
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		07/14/22 02:16
o-Xylene	0.500 U	1.00	0.310	ug/L	1		07/14/22 02:16
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		07/14/22 02:16
Toluene	0.500 U	1.00	0.310	ug/L	1		07/14/22 02:16
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		07/14/22 02:16

### Surrogates

1,2-Dichloroethane-D4 (surr)	113	81-118		%	1		07/14/22 02:16
4-Bromofluorobenzene (surr)	104	85-114		%	1		07/14/22 02:16
Toluene-d8 (surr)	93.5	89-112		%	1		07/14/22 02:16

### Batch Information

Analytical Batch: VMS21790  
 Analytical Method: SW8260D  
 Analyst: AZL  
 Analytical Date/Time: 07/14/22 02:16  
 Container ID: 1223748003-A

Prep Batch: VXX38868  
 Prep Method: SW5030B  
 Prep Date/Time: 07/13/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL

## Method Blank

Blank ID: MB for HBN 1839923 [VXX/38868]  
 Blank Lab ID: 1673466

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
 1223748001, 1223748003

## Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	115	81-118		%
4-Bromofluorobenzene (surr)	103	85-114		%
Toluene-d8 (surr)	95.1	89-112		%

## Batch Information

Analytical Batch: VMS21790  
 Analytical Method: SW8260D  
 Instrument: Agilent 7890-75MS  
 Analyst: AZL  
 Analytical Date/Time: 7/13/2022 11:18:00PM

Prep Batch: VXX38868  
 Prep Method: SW5030B  
 Prep Date/Time: 7/13/2022 6:00:00AM  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL

Print Date: 07/18/2022 11:17:55AM





### Blank Spike Summary

Blank Spike ID: LCS for HBN 1223748 [VXX38868]  
 Blank Spike Lab ID: 1673467  
 Date Analyzed: 07/13/2022 23:33

Spike Duplicate ID: LCSD for HBN 1223748 [VXX38868]  
 Spike Duplicate Lab ID: 1673468  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1223748001, 1223748003

### Results by SW8260D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	30	30.3	101	30	31.3	104	( 79-120 )	3.10	(< 20 )
Ethylbenzene	30	29.3	98	30	30.0	100	( 79-121 )	2.30	(< 20 )
o-Xylene	30	29.1	97	30	30.0	100	( 78-122 )	3.00	(< 20 )
P & M -Xylene	60	59.0	98	60	61.3	102	( 80-121 )	3.80	(< 20 )
Toluene	30	27.9	93	30	28.7	96	( 80-121 )	2.90	(< 20 )
Xylenes (total)	90	88.1	98	90	91.3	101	( 79-121 )	3.50	(< 20 )
<b>Surrogates</b>									
1,2-Dichloroethane-D4 (surr)	30		107	30		103	( 81-118 )	3.50	
4-Bromofluorobenzene (surr)	30		102	30		104	( 85-114 )	1.40	
Toluene-d8 (surr)	30		94	30		95	( 89-112 )	0.25	

### Batch Information

Analytical Batch: VMS21790  
 Analytical Method: SW8260D  
 Instrument: Agilent 7890-75MS  
 Analyst: AZL

Prep Batch: VXX38868  
 Prep Method: SW5030B  
 Prep Date/Time: 07/13/2022 06:00  
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 07/18/2022 11:17:57AM



### Method Blank

Blank ID: MB for HBN 1839969 [VXX/38873]  
Blank Lab ID: 1673667

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1223748001, 1223748002

### Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	109	81-118		%
4-Bromofluorobenzene (surr)	104	85-114		%
Toluene-d8 (surr)	94.8	89-112		%

### Batch Information

Analytical Batch: VMS21793  
Analytical Method: SW8260D  
Instrument: Agilent 7890-75MS  
Analyst: AZL  
Analytical Date/Time: 7/14/2022 4:26:00PM

Prep Batch: VXX38873  
Prep Method: SW5030B  
Prep Date/Time: 7/14/2022 6:00:00AM  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 07/18/2022 11:17:59AM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1223748 [VXX38873]  
 Blank Spike Lab ID: 1673668  
 Date Analyzed: 07/14/2022 17:11

Spike Duplicate ID: LCSD for HBN 1223748 [VXX38873]  
 Spike Duplicate Lab ID: 1673669  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1223748001, 1223748002

### Results by SW8260D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	30	30.1	100	30	29.1	97	( 79-120 )	3.40	(< 20 )
Ethylbenzene	30	30.2	101	30	28.7	96	( 79-121 )	5.10	(< 20 )
o-Xylene	30	29.9	100	30	28.6	95	( 78-122 )	4.70	(< 20 )
P & M -Xylene	60	60.9	102	60	58.1	97	( 80-121 )	4.80	(< 20 )
Toluene	30	29.2	98	30	27.8	93	( 80-121 )	5.00	(< 20 )
Xylenes (total)	90	90.9	101	90	86.6	96	( 79-121 )	4.80	(< 20 )
<b>Surrogates</b>									
1,2-Dichloroethane-D4 (surr)	30		101	30		101	( 81-118 )	0.16	
4-Bromofluorobenzene (surr)	30		104	30		103	( 85-114 )	0.67	
Toluene-d8 (surr)	30		96	30		96	( 89-112 )	0.66	

### Batch Information

Analytical Batch: VMS21793  
 Analytical Method: SW8260D  
 Instrument: Agilent 7890-75MS  
 Analyst: AZL

Prep Batch: VXX38873  
 Prep Method: SW5030B  
 Prep Date/Time: 07/14/2022 06:00  
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 07/18/2022 11:18:02AM



SGS North America Inc.  
CHAIN OF CUSTODY RECORD

1223748



Profile # 362427 QM

CLIENT: <b>Stantec</b>					Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.					Page <u>1</u> of <u>1</u>	
CONTACT: <b>John Marshall</b>					PHONE #: <b>907-266-1108</b>					Section 3 Preservative	
PROJECT NAME: <b>Swanson River Inst</b>					PROJECT/PWSID/PERMIT#: <b>203721236</b>					# CONTAINERS Analysis* NOTE: *The following analyses require specific method and/or compound list: BTEX; Metals, PFAS	
REPORTS TO: <b>Craig Wilson</b>					E-MAIL: <b>Profile #: Craig.Wilson@stantec.com</b>						
INVOICE TO: <b>Stantec</b>					QUOTE #: _____						
					P.O. #: _____						
Section 2	RESERVED for lab use	SAMPLE IDENTIFICATION		DATE mm/dd/yy	TIME HH:MM	MATRIX/MATRIX CODE	#	Comp Grab MI (Multi-incremental)			REMARKS/LOC ID
	① AC	TW-2		07/06/22	1349		3	X			Masked "II"
	② AC	TW-3		07/06/22	1454		3	X			Masked "III"
	③ AC	Trip Blank		07/06/22	-		3	X			Unlabeled
Section 5	Relinquished By: (1) <b>[Signature]</b>			Date <b>7/5/22</b>	Time <b>1630</b>	Received By:			Section 4	DOD Project? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Data Deliverable Requirements:
Section 5	Relinquished By: (2)			Date	Time	Received By:			Cooler ID:		
Section 5	Relinquished By: (3)			Date	Time	Received By:			Requested Turnaround Time and/or Special Instructions: <b>Standard *8260 QM</b>		
Section 5	Relinquished By: (4)			Date <b>7/7/22</b>	Time <b>16:53</b>	Received For Laboratory By: <b>[Signature]</b>			Temp Blank °C: <b>5.9</b>	Chain of Custody Seal: (Circle) INTACT <input type="checkbox"/> BROKEN <input type="checkbox"/> <b>ABSENT</b> <input checked="" type="checkbox"/>	
										Delivery Method: Hand Delivery [ ] Commerical Delivery [ ]	



SGS Workorder #:

1223748

1223748

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
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<b>Chain of Custody / Temperature Requirements</b>	<i>Note: Temperature and COC seal information is found on the chain of custody form</i>	
--	---	--

DOD only: Did all sample coolers have a corresponding COC?	N/A	
If <0°C, were sample containers ice free?	N/A	
Note containers received with ice:		
Identify any containers received at non-compliant temperature:  <i>(Use form FS-0029 if more space is needed)</i>		

<b>Holding Time / Documentation / Sample Condition Requirement</b>	<i>Note: Refer to form F-083 "Sample Guide" for specific holding times and sample containers.</i>	
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Were samples received within analytical holding time?	Yes	
Do sample labels match COC? Record discrepancies.	Yes	
<i>Note: If information on containers differs from COC, default to COC information for login. If times differ &lt;1hr, record details &amp; login per COC.</i>		
Were analytical requests clear? <i>(i.e. method is specified for analyses with multiple option for method (Eg, BTEX 8021 vs 8260, Metals 6020 vs 200.8)</i>	Yes	
Were proper containers (type/mass/volume/preservative)used? Note: Exemption for metals analysis by 200.8/6020 in water.	Yes	

<b>Volatile Analysis Requirements (VOC, GRO, LL-Hg, etc.)</b>		
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Were all soil VOAs received with a corresponding % solids container?	N/A	
Were Trip Blanks (e.g., VOAs, LL-Hg) in cooler with samples?	Yes	
Were all water VOA vials free of headspace (e.g., bubbles ≤ 6mm)?	Yes	
Were all soil VOAs field extracted with Methanol+BFB?	N/A	

**Note to Client:** Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.

<b>Additional notes (if applicable):</b>
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## Sample Containers and Preservatives

<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1223748001-A	HCL to pH < 2	OK			
1223748001-B	HCL to pH < 2	OK			
1223748001-C	HCL to pH < 2	OK			
1223748002-A	HCL to pH < 2	OK			
1223748002-B	HCL to pH < 2	OK			
1223748002-C	HCL to pH < 2	OK			
1223748003-A	HCL to pH < 2	OK			
1223748003-B	HCL to pH < 2	OK			
1223748003-C	HCL to pH < 2	OK			

### Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.

BU - The container was received with headspace greater than 6mm.

DM - The container was received damaged.

FR - The container was received frozen and not usable for Bacteria or BOD analyses.

IC - The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.

NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.

PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

QN - Insufficient sample quantity provided.



## Laboratory Report of Analysis

To: Stantec Consulting Services Inc.  
725 East Fireweed Lane Suite 200  
Anchorage, AK 99503  
(907)248-8883

Report Number: **1223987**

Client Project: **Swanson River**

Dear John Marshall,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of ten years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Justin at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,  
SGS North America Inc.

---

Justin Nelson  
Project Manager  
Justin.Nelson@sgs.com

Date

## Case Narrative

SGS Client: **Stantec Consulting Services Inc.**

SGS Project: **1223987**

Project Name/Site: **Swanson River**

Project Contact: **John Marshall**

Refer to sample receipt form for information on sample condition.

**1224029001A(1674512MS) (1674525) MS**

9060A - Total Organic Carbon - MS recovery is outside of QC criteria. Refer to LCS for accuracy requirements.

**LCS for HBN 1840221 [VXX/38907 (1674810) LCS**

8260D - LCS recovery for Trichlorofluoromethane does not meet QC criteria. This analyte is not being reported above the LOQ in the associated samples.

**1224060007(1674811MS) (1674812) MS**

8260D - MS recoveries for Trichlorofluoromethane and 1,2,3-Trichlorobenzene do not meet QC criteria. These analytes were not detected above the LOQ in the associated PS.

8260D - MS surrogate recovery for 4-Bromofluorobenzene does not meet QC criteria. This sample was analyzed three times as PS/MS/MSD, results confirm.

**1224060007(1674811MSD) (1674813) MSD**

8260D - MSD recoveries for Trichlorofluoromethane and 1,2,3-Trichlorobenzene do not meet QC criteria. These analytes were not detected above the LOQ in the associated PS.

8260D - MSD surrogate recovery for 4-Bromofluorobenzene does not meet QC criteria. This sample was analyzed three times as PS/MS/MSD, results confirm.

\*QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to associated field samples.

Print Date: 07/26/2022 3:49:55PM



### Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. The results apply to the samples as received. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the context or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 DW Chemistry (Provisionally Certified as of 05/31/2022 for Nitrate as N by SM 4500NO3-F) & Microbiology & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020B, 7470A, 7471B, 8015C, 8021B, 8082A, 8260D, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). SGS is only certified for the analytes listed on our Drinking Water Certification (DW methods: 200.8, 2130B, 2320B, 2510B, 300.0, 4500-CN-C,E, 4500-H-B, 4500-NO3-F, 4500-P-E and 524.2) and only those analytes will be reported to the State of Alaska for compliance. Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
B	Indicates the analyte is found in a blank associated with the sample.
CCV/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Analytical Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
RPD	Relative Percent Difference
TNTC	Too Numerous To Count
U	Indicates the analyte was analyzed for but not detected.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content. All DRO/RRO analyses are integrated per SOP.



### Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
FOC-8-2-3	1223987001	07/11/2022	07/14/2022	Soil/Solid (dry weight)
FOC-8-3-4	1223987002	07/11/2022	07/14/2022	Soil/Solid (dry weight)
FOC-6-1-3	1223987003	07/11/2022	07/14/2022	Soil/Solid (dry weight)
FOC-6-3-4	1223987004	07/11/2022	07/14/2022	Soil/Solid (dry weight)
FOC-7-0.5-2.5	1223987005	07/11/2022	07/14/2022	Soil/Solid (dry weight)
FOC-5-0-1	1223987006	07/11/2022	07/14/2022	Soil/Solid (dry weight)
FOC-5-1-2.5	1223987007	07/11/2022	07/14/2022	Soil/Solid (dry weight)
BH-30-1-3	1223987008	07/12/2022	07/14/2022	Soil/Solid (dry weight)
BH-30-3-6	1223987009	07/12/2022	07/14/2022	Soil/Solid (dry weight)
Duplicate 1	1223987010	07/11/2022	07/14/2022	Soil/Solid (dry weight)
BH-30-6-7	1223987011	07/12/2022	07/14/2022	Soil/Solid (dry weight)
BH-31-1-4	1223987012	07/12/2022	07/14/2022	Soil/Solid (dry weight)
BH-31-1-4(1223987012BMS)	1223987013	07/12/2022	07/14/2022	Soil/Solid (dry weight)
BH-31-1-4(1223987012BMSD)	1223987014	07/12/2022	07/14/2022	Soil/Solid (dry weight)
BH-31-4-6	1223987015	07/12/2022	07/14/2022	Soil/Solid (dry weight)
BH-32-1-4	1223987016	07/12/2022	07/14/2022	Soil/Solid (dry weight)
BH-32-4-6	1223987017	07/12/2022	07/14/2022	Soil/Solid (dry weight)
BH-33-4-5	1223987018	07/12/2022	07/14/2022	Soil/Solid (dry weight)
BH-33-5-6	1223987019	07/12/2022	07/14/2022	Soil/Solid (dry weight)
BH-34-1-2	1223987020	07/12/2022	07/14/2022	Soil/Solid (dry weight)
BH-35-1-3	1223987021	07/12/2022	07/14/2022	Soil/Solid (dry weight)
Duplicate 2	1223987022	07/12/2022	07/14/2022	Soil/Solid (dry weight)
BH-35-3-5	1223987023	07/12/2022	07/14/2022	Soil/Solid (dry weight)
BH-36-0.5-1	1223987024	07/12/2022	07/14/2022	Soil/Solid (dry weight)
BH-37-1.5-4	1223987025	07/13/2022	07/14/2022	Soil/Solid (dry weight)
BH-37-5-7	1223987026	07/13/2022	07/14/2022	Soil/Solid (dry weight)
BH-38-1-1.5	1223987027	07/13/2022	07/14/2022	Soil/Solid (dry weight)
BH-39-0.5-1	1223987028	07/13/2022	07/14/2022	Soil/Solid (dry weight)
BH-40-0.5-1	1223987029	07/13/2022	07/14/2022	Soil/Solid (dry weight)
BH-41-1-3	1223987030	07/13/2022	07/14/2022	Soil/Solid (dry weight)
Duplicate 4	1223987031	07/13/2022	07/14/2022	Soil/Solid (dry weight)
Duplicate 3	1223987032	07/13/2022	07/14/2022	Soil/Solid (dry weight)
BH-41-3-5	1223987033	07/13/2022	07/14/2022	Soil/Solid (dry weight)
BH-41-6.5-7	1223987034	07/13/2022	07/14/2022	Soil/Solid (dry weight)
Trip Blank	1223987035	07/11/2022	07/14/2022	Soil/Solid (dry weight)

Print Date: 07/26/2022 3:49:58PM

## Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
<u>Method</u>	<u>Method Description</u>			
SM21 2540G	Percent Solids SM2540G			
SW9060A-Mod	Total Organic Carbon-M in Soil			
SW8260D	Volatile Organic Compounds (S) FIELD EXT			

Print Date: 07/26/2022 3:49:58PM

### Detectable Results Summary

Client Sample ID: <b>FOC-8-2-3</b> Lab Sample ID: 1223987001 <b>Waters Department</b>	<u>Parameter</u> Total Organic Carbon	<u>Result</u> 20.0	<u>Units</u> %
Client Sample ID: <b>FOC-8-3-4</b> Lab Sample ID: 1223987002 <b>Waters Department</b>	<u>Parameter</u> Total Organic Carbon	<u>Result</u> 3.53	<u>Units</u> %
Client Sample ID: <b>FOC-6-1-3</b> Lab Sample ID: 1223987003 <b>Waters Department</b>	<u>Parameter</u> Total Organic Carbon	<u>Result</u> 33.2	<u>Units</u> %
Client Sample ID: <b>FOC-6-3-4</b> Lab Sample ID: 1223987004 <b>Waters Department</b>	<u>Parameter</u> Total Organic Carbon	<u>Result</u> 23.5	<u>Units</u> %
Client Sample ID: <b>FOC-7-0.5-2.5</b> Lab Sample ID: 1223987005 <b>Waters Department</b>	<u>Parameter</u> Total Organic Carbon	<u>Result</u> 37.5	<u>Units</u> %
Client Sample ID: <b>FOC-5-0-1</b> Lab Sample ID: 1223987006 <b>Waters Department</b>	<u>Parameter</u> Total Organic Carbon	<u>Result</u> 23.9	<u>Units</u> %
Client Sample ID: <b>FOC-5-1-2.5</b> Lab Sample ID: 1223987007 <b>Waters Department</b>	<u>Parameter</u> Total Organic Carbon	<u>Result</u> 35.4	<u>Units</u> %
Client Sample ID: <b>BH-30-1-3</b> Lab Sample ID: 1223987008 <b>Volatile GC/MS</b>	<u>Parameter</u> P & M -Xylene Xylenes (total)	<u>Result</u> 634J 634J	<u>Units</u> ug/kg ug/kg
Client Sample ID: <b>BH-30-3-6</b> Lab Sample ID: 1223987009 <b>Volatile GC/MS</b>	<u>Parameter</u> P & M -Xylene Xylenes (total)	<u>Result</u> 5960 5960	<u>Units</u> ug/kg ug/kg
Client Sample ID: <b>Duplicate 1</b> Lab Sample ID: 1223987010 <b>Waters Department</b>	<u>Parameter</u> Total Organic Carbon	<u>Result</u> 23.6	<u>Units</u> %
Client Sample ID: <b>BH-30-6-7</b> Lab Sample ID: 1223987011 <b>Volatile GC/MS</b>	<u>Parameter</u> Ethylbenzene o-Xylene P & M -Xylene Xylenes (total)	<u>Result</u> 1290 1320 26300 27600	<u>Units</u> ug/kg ug/kg ug/kg ug/kg

Print Date: 07/26/2022 3:50:00PM

### Detectable Results Summary

Client Sample ID: **BH-31-1-4**

Lab Sample ID: 1223987012

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
P & M -Xylene	13700	ug/kg
Xylenes (total)	13700	ug/kg

Client Sample ID: **BH-31-4-6**

Lab Sample ID: 1223987015

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
P & M -Xylene	32300	ug/kg
Xylenes (total)	32300	ug/kg

Client Sample ID: **BH-32-1-4**

Lab Sample ID: 1223987016

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
P & M -Xylene	20500	ug/kg
Xylenes (total)	20500	ug/kg

Client Sample ID: **BH-32-4-6**

Lab Sample ID: 1223987017

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
P & M -Xylene	3390	ug/kg
Xylenes (total)	3390	ug/kg

Client Sample ID: **BH-33-4-5**

Lab Sample ID: 1223987018

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
o-Xylene	125J	ug/kg
P & M -Xylene	1830	ug/kg
Xylenes (total)	1960	ug/kg

Client Sample ID: **BH-33-5-6**

Lab Sample ID: 1223987019

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
P & M -Xylene	135J	ug/kg
Xylenes (total)	135J	ug/kg

Client Sample ID: **BH-34-1-2**

Lab Sample ID: 1223987020

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
P & M -Xylene	2800	ug/kg
Xylenes (total)	2800	ug/kg

Client Sample ID: **BH-35-1-3**

Lab Sample ID: 1223987021

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
o-Xylene	350J	ug/kg
P & M -Xylene	13800	ug/kg
Xylenes (total)	14200	ug/kg

Client Sample ID: **Duplicate 2**

Lab Sample ID: 1223987022

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
P & M -Xylene	35000	ug/kg
Xylenes (total)	35000	ug/kg

### Detectable Results Summary

Client Sample ID: **BH-35-3-5**

Lab Sample ID: 1223987023

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
o-Xylene	1300	ug/kg
P & M -Xylene	6800	ug/kg
Xylenes (total)	8100	ug/kg

Client Sample ID: **BH-37-1.5-4**

Lab Sample ID: 1223987025

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
P & M -Xylene	10700	ug/kg
Xylenes (total)	10700	ug/kg

Client Sample ID: **BH-37-5-7**

Lab Sample ID: 1223987026

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
P & M -Xylene	2660	ug/kg
Xylenes (total)	2660	ug/kg

Client Sample ID: **BH-41-1-3**

Lab Sample ID: 1223987030

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Ethylbenzene	114000	ug/kg
o-Xylene	1930J	ug/kg
P & M -Xylene	470000	ug/kg
Xylenes (total)	471000	ug/kg

Client Sample ID: **Duplicate 4**

Lab Sample ID: 1223987031

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Ethylbenzene	69400	ug/kg
o-Xylene	2840	ug/kg
P & M -Xylene	321000	ug/kg
Xylenes (total)	324000	ug/kg

Client Sample ID: **Duplicate 3**

Lab Sample ID: 1223987032

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
P & M -Xylene	3950	ug/kg
Xylenes (total)	3950	ug/kg

Client Sample ID: **BH-41-3-5**

Lab Sample ID: 1223987033

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Ethylbenzene	25300	ug/kg
o-Xylene	3580	ug/kg
P & M -Xylene	211000	ug/kg
Xylenes (total)	215000	ug/kg

Client Sample ID: **BH-41-6.5-7**

Lab Sample ID: 1223987034

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Ethylbenzene	2940	ug/kg
o-Xylene	3150	ug/kg
P & M -Xylene	6870	ug/kg
Xylenes (total)	10000	ug/kg



Results of **FOC-8-2-3**

Client Sample ID: **FOC-8-2-3**  
Client Project ID: **Swanson River**  
Lab Sample ID: 1223987001  
Lab Project ID: 1223987

Collection Date: 07/11/22 14:15  
Received Date: 07/14/22 15:23  
Matrix: Soil/Solid (dry weight)  
Solids (%):21.9  
Location:

Results by **Waters Department**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Organic Carbon	20.0	0.571	0.171	%	1		07/20/22 10:50

Batch Information

Analytical Batch: WTC3208  
Analytical Method: SW9060A-Mod  
Analyst: EBH  
Analytical Date/Time: 07/20/22 10:50  
Container ID: 1223987001-A

Prep Batch: WXX14292  
Prep Method: METHOD  
Prep Date/Time: 07/20/22 09:30  
Prep Initial Wt./Vol.: 200 mg  
Prep Extract Vol: 1 mL



Results of **FOC-8-3-4**

Client Sample ID: **FOC-8-3-4**  
Client Project ID: **Swanson River**  
Lab Sample ID: 1223987002  
Lab Project ID: 1223987

Collection Date: 07/11/22 14:30  
Received Date: 07/14/22 15:23  
Matrix: Soil/Solid (dry weight)  
Solids (%):50.8  
Location:

Results by **Waters Department**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Organic Carbon	3.53	0.432	0.130	%	1		07/20/22 11:00

Batch Information

Analytical Batch: WTC3208  
Analytical Method: SW9060A-Mod  
Analyst: EBH  
Analytical Date/Time: 07/20/22 11:00  
Container ID: 1223987002-A

Prep Batch: WXX14292  
Prep Method: METHOD  
Prep Date/Time: 07/20/22 09:30  
Prep Initial Wt./Vol.: 113.8 mg  
Prep Extract Vol: 1 mL





Results of **FOC-6-1-3**

Client Sample ID: **FOC-6-1-3**  
Client Project ID: **Swanson River**  
Lab Sample ID: 1223987003  
Lab Project ID: 1223987

Collection Date: 07/11/22 15:40  
Received Date: 07/14/22 15:23  
Matrix: Soil/Solid (dry weight)  
Solids (%):17.1  
Location:

Results by **Waters Department**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Organic Carbon	33.2	0.573	0.172	%	1		07/20/22 12:00

Batch Information

Analytical Batch: WTC3208  
Analytical Method: SW9060A-Mod  
Analyst: EBH  
Analytical Date/Time: 07/20/22 12:00  
Container ID: 1223987003-A

Prep Batch: WXX14292  
Prep Method: METHOD  
Prep Date/Time: 07/20/22 09:30  
Prep Initial Wt./Vol.: 255.1 mg  
Prep Extract Vol: 1 mL



**Results of FOC-6-3-4**

Client Sample ID: **FOC-6-3-4**  
Client Project ID: **Swanson River**  
Lab Sample ID: 1223987004  
Lab Project ID: 1223987

Collection Date: 07/11/22 15:45  
Received Date: 07/14/22 15:23  
Matrix: Soil/Solid (dry weight)  
Solids (%):24.8  
Location:

**Results by Waters Department**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Organic Carbon	23.5	0.893	0.268	%	1		07/20/22 12:34

**Batch Information**

Analytical Batch: WTC3208  
Analytical Method: SW9060A-Mod  
Analyst: EBH  
Analytical Date/Time: 07/20/22 12:34  
Container ID: 1223987004-A

Prep Batch: WXX14292  
Prep Method: METHOD  
Prep Date/Time: 07/20/22 09:30  
Prep Initial Wt./Vol.: 112.9 mg  
Prep Extract Vol: 1 mL



Results of **FOC-7-0.5-2.5**

Client Sample ID: **FOC-7-0.5-2.5**  
Client Project ID: **Swanson River**  
Lab Sample ID: 1223987005  
Lab Project ID: 1223987

Collection Date: 07/11/22 16:10  
Received Date: 07/14/22 15:23  
Matrix: Soil/Solid (dry weight)  
Solids (%):15.9  
Location:

Results by **Waters Department**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Organic Carbon	37.5	1.03	0.308	%	1		07/20/22 12:52

**Batch Information**

Analytical Batch: WTC3208  
Analytical Method: SW9060A-Mod  
Analyst: EBH  
Analytical Date/Time: 07/20/22 12:52  
Container ID: 1223987005-A

Prep Batch: WXX14292  
Prep Method: METHOD  
Prep Date/Time: 07/20/22 09:30  
Prep Initial Wt./Vol.: 153 mg  
Prep Extract Vol: 1 mL



Results of **FOC-5-0-1**

Client Sample ID: **FOC-5-0-1**  
Client Project ID: **Swanson River**  
Lab Sample ID: 1223987006  
Lab Project ID: 1223987

Collection Date: 07/11/22 16:25  
Received Date: 07/14/22 15:23  
Matrix: Soil/Solid (dry weight)  
Solids (%):17.4  
Location:

Results by **Waters Department**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Organic Carbon	23.9	0.774	0.232	%	1		07/20/22 13:00

Batch Information

Analytical Batch: WTC3208  
Analytical Method: SW9060A-Mod  
Analyst: EBH  
Analytical Date/Time: 07/20/22 13:00  
Container ID: 1223987006-A

Prep Batch: WXX14292  
Prep Method: METHOD  
Prep Date/Time: 07/20/22 09:30  
Prep Initial Wt./Vol.: 185.1 mg  
Prep Extract Vol: 1 mL



**Results of FOC-5-1-2.5**

Client Sample ID: **FOC-5-1-2.5**  
Client Project ID: **Swanson River**  
Lab Sample ID: 1223987007  
Lab Project ID: 1223987

Collection Date: 07/11/22 16:30  
Received Date: 07/14/22 15:23  
Matrix: Soil/Solid (dry weight)  
Solids (%):15.6  
Location:

**Results by Waters Department**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Organic Carbon	35.4	0.804	0.241	%	1		07/20/22 13:11

**Batch Information**

Analytical Batch: WTC3208  
Analytical Method: SW9060A-Mod  
Analyst: EBH  
Analytical Date/Time: 07/20/22 13:11  
Container ID: 1223987007-A

Prep Batch: WXX14292  
Prep Method: METHOD  
Prep Date/Time: 07/20/22 09:30  
Prep Initial Wt./Vol.: 199.6 mg  
Prep Extract Vol: 1 mL



Results of **BH-30-1-3**

Client Sample ID: **BH-30-1-3**  
Client Project ID: **Swanson River**  
Lab Sample ID: 1223987008  
Lab Project ID: 1223987

Collection Date: 07/12/22 10:45  
Received Date: 07/14/22 15:23  
Matrix: Soil/Solid (dry weight)  
Solids (%):14.9  
Location:

Results by **Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	142 U	284	88.7	ug/kg	1		07/18/22 16:45
Ethylbenzene	284 U	568	177	ug/kg	1		07/18/22 16:45
o-Xylene	284 U	568	177	ug/kg	1		07/18/22 16:45
P & M -Xylene	634 J	1140	341	ug/kg	1		07/18/22 16:45
Toluene	284 U	568	177	ug/kg	1		07/18/22 16:45
Xylenes (total)	634 J	1700	518	ug/kg	1		07/18/22 16:45
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	106	71-136		%	1		07/18/22 16:45
4-Bromofluorobenzene (surr)	80.5	55-151		%	1		07/18/22 16:45
Toluene-d8 (surr)	98.9	85-116		%	1		07/18/22 16:45

**Batch Information**

Analytical Batch: VMS21803  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 07/18/22 16:45  
Container ID: 1223987008-B

Prep Batch: VXX38893  
Prep Method: SW5035A  
Prep Date/Time: 07/12/22 10:45  
Prep Initial Wt./Vol.: 29.497 g  
Prep Extract Vol: 50.0899 mL



Results of **BH-30-3-6**

Client Sample ID: **BH-30-3-6**  
Client Project ID: **Swanson River**  
Lab Sample ID: 1223987009  
Lab Project ID: 1223987

Collection Date: 07/12/22 10:50  
Received Date: 07/14/22 15:23  
Matrix: Soil/Solid (dry weight)  
Solids (%):22.3  
Location:

Results by **Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	84.5 U	169	52.7	ug/kg	1		07/18/22 17:02
Ethylbenzene	169 U	338	105	ug/kg	1		07/18/22 17:02
o-Xylene	169 U	338	105	ug/kg	1		07/18/22 17:02
P & M -Xylene	5960	676	203	ug/kg	1		07/18/22 17:02
Toluene	169 U	338	105	ug/kg	1		07/18/22 17:02
Xylenes (total)	5960	1010	308	ug/kg	1		07/18/22 17:02
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	105	71-136		%	1		07/18/22 17:02
4-Bromofluorobenzene (surr)	79.6	55-151		%	1		07/18/22 17:02
Toluene-d8 (surr)	98.1	85-116		%	1		07/18/22 17:02

**Batch Information**

Analytical Batch: VMS21803  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 07/18/22 17:02  
Container ID: 1223987009-B

Prep Batch: VXX38893  
Prep Method: SW5035A  
Prep Date/Time: 07/12/22 10:50  
Prep Initial Wt./Vol.: 34.317 g  
Prep Extract Vol: 51.6706 mL



**Results of Duplicate 1**

Client Sample ID: **Duplicate 1**  
Client Project ID: **Swanson River**  
Lab Sample ID: 1223987010  
Lab Project ID: 1223987

Collection Date: 07/11/22 15:47  
Received Date: 07/14/22 15:23  
Matrix: Soil/Solid (dry weight)  
Solids (%):23.3  
Location:

**Results by Waters Department**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Organic Carbon	23.6	0.827	0.248	%	1		07/20/22 13:46

**Batch Information**

Analytical Batch: WTC3208  
Analytical Method: SW9060A-Mod  
Analyst: EBH  
Analytical Date/Time: 07/20/22 13:46  
Container ID: 1223987010-A

Prep Batch: WXX14292  
Prep Method: METHOD  
Prep Date/Time: 07/20/22 09:30  
Prep Initial Wt./Vol.: 129.9 mg  
Prep Extract Vol: 1 mL





Results of **BH-30-6-7**

Client Sample ID: **BH-30-6-7**  
Client Project ID: **Swanson River**  
Lab Sample ID: 1223987011  
Lab Project ID: 1223987

Collection Date: 07/12/22 11:14  
Received Date: 07/14/22 15:23  
Matrix: Soil/Solid (dry weight)  
Solids (%):31.6  
Location:

Results by **Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	57.0 U	114	35.6	ug/kg	1		07/18/22 17:19
Ethylbenzene	1290	228	71.2	ug/kg	1		07/18/22 17:19
o-Xylene	1320	228	71.2	ug/kg	1		07/18/22 17:19
P & M -Xylene	26300	456	137	ug/kg	1		07/18/22 17:19
Toluene	114 U	228	71.2	ug/kg	1		07/18/22 17:19
Xylenes (total)	27600	684	208	ug/kg	1		07/18/22 17:19

**Surrogates**

1,2-Dichloroethane-D4 (surr)	104	71-136		%	1		07/18/22 17:19
4-Bromofluorobenzene (surr)	75.7	55-151		%	1		07/18/22 17:19
Toluene-d8 (surr)	98.7	85-116		%	1		07/18/22 17:19

**Batch Information**

Analytical Batch: VMS21803  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 07/18/22 17:19  
Container ID: 1223987011-B

Prep Batch: VXX38893  
Prep Method: SW5035A  
Prep Date/Time: 07/12/22 11:14  
Prep Initial Wt./Vol.: 32.903 g  
Prep Extract Vol: 47.4926 mL



Results of **BH-31-1-4**

Client Sample ID: **BH-31-1-4**  
Client Project ID: **Swanson River**  
Lab Sample ID: 1223987012  
Lab Project ID: 1223987

Collection Date: 07/12/22 12:05  
Received Date: 07/14/22 15:23  
Matrix: Soil/Solid (dry weight)  
Solids (%):17.2  
Location:

Results by **Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	118 U	236	73.5	ug/kg	1		07/18/22 16:28
Ethylbenzene	236 U	471	147	ug/kg	1		07/18/22 16:28
o-Xylene	236 U	471	147	ug/kg	1		07/18/22 16:28
P & M -Xylene	13700	943	283	ug/kg	1		07/18/22 16:28
Toluene	236 U	471	147	ug/kg	1		07/18/22 16:28
Xylenes (total)	13700	1410	430	ug/kg	1		07/18/22 16:28

**Surrogates**

1,2-Dichloroethane-D4 (surr)	105	71-136		%	1		07/18/22 16:28
4-Bromofluorobenzene (surr)	86.3	55-151		%	1		07/18/22 16:28
Toluene-d8 (surr)	97.7	85-116		%	1		07/18/22 16:28

**Batch Information**

Analytical Batch: VMS21803  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 07/18/22 16:28  
Container ID: 1223987012-B

Prep Batch: VXX38893  
Prep Method: SW5035A  
Prep Date/Time: 07/12/22 12:05  
Prep Initial Wt./Vol.: 31.401 g  
Prep Extract Vol: 50.9919 mL



Results of **BH-31-4-6**

Client Sample ID: **BH-31-4-6**  
Client Project ID: **Swanson River**  
Lab Sample ID: 1223987015  
Lab Project ID: 1223987

Collection Date: 07/12/22 12:17  
Received Date: 07/14/22 15:23  
Matrix: Soil/Solid (dry weight)  
Solids (%):41.9  
Location:

Results by **Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	35.8 U	71.5	22.3	ug/kg	1		07/18/22 17:36
Ethylbenzene	71.5 U	143	44.6	ug/kg	1		07/18/22 17:36
o-Xylene	71.5 U	143	44.6	ug/kg	1		07/18/22 17:36
P & M -Xylene	32300	2860	858	ug/kg	10		07/18/22 21:00
Toluene	71.5 U	143	44.6	ug/kg	1		07/18/22 17:36
Xylenes (total)	32300	4290	1300	ug/kg	10		07/18/22 21:00

**Surrogates**

1,2-Dichloroethane-D4 (surr)	102	71-136		%	1		07/18/22 17:36
4-Bromofluorobenzene (surr)	88.2	55-151		%	1		07/18/22 17:36
Toluene-d8 (surr)	99.1	85-116		%	1		07/18/22 17:36

**Batch Information**

Analytical Batch: VMS21803  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 07/18/22 17:36  
Container ID: 1223987015-B

Prep Batch: VXX38893  
Prep Method: SW5035A  
Prep Date/Time: 07/12/22 12:17  
Prep Initial Wt./Vol.: 40.424 g  
Prep Extract Vol: 48.4748 mL

Analytical Batch: VMS21803  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 07/18/22 21:00  
Container ID: 1223987015-B

Prep Batch: VXX38893  
Prep Method: SW5035A  
Prep Date/Time: 07/12/22 12:17  
Prep Initial Wt./Vol.: 40.424 g  
Prep Extract Vol: 48.4748 mL



Results of **BH-32-1-4**

Client Sample ID: **BH-32-1-4**  
Client Project ID: **Swanson River**  
Lab Sample ID: 1223987016  
Lab Project ID: 1223987

Collection Date: 07/12/22 13:35  
Received Date: 07/14/22 15:23  
Matrix: Soil/Solid (dry weight)  
Solids (%):20.8  
Location:

Results by **Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	91.0 U	182	56.8	ug/kg	1		07/18/22 17:53
Ethylbenzene	182 U	364	114	ug/kg	1		07/18/22 17:53
o-Xylene	182 U	364	114	ug/kg	1		07/18/22 17:53
P & M -Xylene	20500	728	218	ug/kg	1		07/18/22 17:53
Toluene	182 U	364	114	ug/kg	1		07/18/22 17:53
Xylenes (total)	20500	1090	332	ug/kg	1		07/18/22 17:53

**Surrogates**

1,2-Dichloroethane-D4 (surr)	104	71-136		%	1		07/18/22 17:53
4-Bromofluorobenzene (surr)	86.6	55-151		%	1		07/18/22 17:53
Toluene-d8 (surr)	98.4	85-116		%	1		07/18/22 17:53

**Batch Information**

Analytical Batch: VMS21803  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 07/18/22 17:53  
Container ID: 1223987016-B

Prep Batch: VXX38893  
Prep Method: SW5035A  
Prep Date/Time: 07/12/22 13:35  
Prep Initial Wt./Vol.: 34.656 g  
Prep Extract Vol: 52.4501 mL



Results of **BH-32-4-6**

Client Sample ID: **BH-32-4-6**  
Client Project ID: **Swanson River**  
Lab Sample ID: 1223987017  
Lab Project ID: 1223987

Collection Date: 07/12/22 13:50  
Received Date: 07/14/22 15:23  
Matrix: Soil/Solid (dry weight)  
Solids (%):37.9  
Location:

Results by **Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	43.0 U	86.1	26.9	ug/kg	1		07/18/22 18:10
Ethylbenzene	86.0 U	172	53.7	ug/kg	1		07/18/22 18:10
o-Xylene	86.0 U	172	53.7	ug/kg	1		07/18/22 18:10
P & M -Xylene	3390	344	103	ug/kg	1		07/18/22 18:10
Toluene	86.0 U	172	53.7	ug/kg	1		07/18/22 18:10
Xylenes (total)	3390	516	157	ug/kg	1		07/18/22 18:10

**Surrogates**

1,2-Dichloroethane-D4 (surr)	104	71-136		%	1		07/18/22 18:10
4-Bromofluorobenzene (surr)	94.6	55-151		%	1		07/18/22 18:10
Toluene-d8 (surr)	98.3	85-116		%	1		07/18/22 18:10

**Batch Information**

Analytical Batch: VMS21803  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 07/18/22 18:10  
Container ID: 1223987017-B

Prep Batch: VXX38893  
Prep Method: SW5035A  
Prep Date/Time: 07/12/22 13:50  
Prep Initial Wt./Vol.: 36.608 g  
Prep Extract Vol: 47.7404 mL



Results of **BH-33-4-5**

Client Sample ID: **BH-33-4-5**  
Client Project ID: **Swanson River**  
Lab Sample ID: 1223987018  
Lab Project ID: 1223987

Collection Date: 07/12/22 14:30  
Received Date: 07/14/22 15:23  
Matrix: Soil/Solid (dry weight)  
Solids (%):41.1  
Location:

Results by **Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	41.3 U	82.6	25.8	ug/kg	1		07/18/22 18:27
Ethylbenzene	82.5 U	165	51.5	ug/kg	1		07/18/22 18:27
o-Xylene	125 J	165	51.5	ug/kg	1		07/18/22 18:27
P & M -Xylene	1830	330	99.1	ug/kg	1		07/18/22 18:27
Toluene	82.5 U	165	51.5	ug/kg	1		07/18/22 18:27
Xylenes (total)	1960	496	151	ug/kg	1		07/18/22 18:27
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	103	71-136		%	1		07/18/22 18:27
4-Bromofluorobenzene (surr)	81.6	55-151		%	1		07/18/22 18:27
Toluene-d8 (surr)	98.2	85-116		%	1		07/18/22 18:27

**Batch Information**

Analytical Batch: VMS21803  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 07/18/22 18:27  
Container ID: 1223987018-B

Prep Batch: VXX38893  
Prep Method: SW5035A  
Prep Date/Time: 07/12/22 14:30  
Prep Initial Wt./Vol.: 32.486 g  
Prep Extract Vol: 44.1295 mL



Results of **BH-33-5-6**

Client Sample ID: **BH-33-5-6**  
Client Project ID: **Swanson River**  
Lab Sample ID: 1223987019  
Lab Project ID: 1223987

Collection Date: 07/12/22 14:40  
Received Date: 07/14/22 15:23  
Matrix: Soil/Solid (dry weight)  
Solids (%):68.5  
Location:

Results by **Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	19.9 U	39.7	12.4	ug/kg	1		07/18/22 18:44
Ethylbenzene	39.8 U	79.5	24.8	ug/kg	1		07/18/22 18:44
o-Xylene	39.8 U	79.5	24.8	ug/kg	1		07/18/22 18:44
P & M -Xylene	135 J	159	47.7	ug/kg	1		07/18/22 18:44
Toluene	39.8 U	79.5	24.8	ug/kg	1		07/18/22 18:44
Xylenes (total)	135 J	238	72.5	ug/kg	1		07/18/22 18:44

**Surrogates**

1,2-Dichloroethane-D4 (surr)	103	71-136		%	1		07/18/22 18:44
4-Bromofluorobenzene (surr)	103	55-151		%	1		07/18/22 18:44
Toluene-d8 (surr)	98.2	85-116		%	1		07/18/22 18:44

**Batch Information**

Analytical Batch: VMS21803  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 07/18/22 18:44  
Container ID: 1223987019-B

Prep Batch: VXX38893  
Prep Method: SW5035A  
Prep Date/Time: 07/12/22 14:40  
Prep Initial Wt./Vol.: 32.315 g  
Prep Extract Vol: 35.1826 mL



Results of **BH-34-1-2**

Client Sample ID: **BH-34-1-2**  
Client Project ID: **Swanson River**  
Lab Sample ID: 1223987020  
Lab Project ID: 1223987

Collection Date: 07/12/22 15:15  
Received Date: 07/14/22 15:23  
Matrix: Soil/Solid (dry weight)  
Solids (%):12.4  
Location:

Results by **Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	154 U	307	95.7	ug/kg	1		07/18/22 19:01
Ethylbenzene	307 U	614	191	ug/kg	1		07/18/22 19:01
o-Xylene	307 U	614	191	ug/kg	1		07/18/22 19:01
P & M -Xylene	2800	1230	368	ug/kg	1		07/18/22 19:01
Toluene	307 U	614	191	ug/kg	1		07/18/22 19:01
Xylenes (total)	2800	1840	560	ug/kg	1		07/18/22 19:01
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	106	71-136		%	1		07/18/22 19:01
4-Bromofluorobenzene (surr)	81	55-151		%	1		07/18/22 19:01
Toluene-d8 (surr)	98.7	85-116		%	1		07/18/22 19:01

**Batch Information**

Analytical Batch: VMS21803  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 07/18/22 19:01  
Container ID: 1223987020-B

Prep Batch: VXX38893  
Prep Method: SW5035A  
Prep Date/Time: 07/12/22 15:15  
Prep Initial Wt./Vol.: 38.602 g  
Prep Extract Vol: 58.8103 mL





Results of **BH-35-1-3**

Client Sample ID: **BH-35-1-3**  
Client Project ID: **Swanson River**  
Lab Sample ID: 1223987021  
Lab Project ID: 1223987

Collection Date: 07/12/22 15:30  
Received Date: 07/14/22 15:23  
Matrix: Soil/Solid (dry weight)  
Solids (%):16.7  
Location:

Results by **Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	115 U	229	71.5	ug/kg	1		07/18/22 19:18
Ethylbenzene	229 U	458	143	ug/kg	1		07/18/22 19:18
o-Xylene	350 J	458	143	ug/kg	1		07/18/22 19:18
P & M -Xylene	13800	916	275	ug/kg	1		07/18/22 19:18
Toluene	229 U	458	143	ug/kg	1		07/18/22 19:18
Xylenes (total)	14200	1370	418	ug/kg	1		07/18/22 19:18
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	104	71-136		%	1		07/18/22 19:18
4-Bromofluorobenzene (surr)	88.1	55-151		%	1		07/18/22 19:18
Toluene-d8 (surr)	98.2	85-116		%	1		07/18/22 19:18

**Batch Information**

Analytical Batch: VMS21803  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 07/18/22 19:18  
Container ID: 1223987021-B

Prep Batch: VXX38893  
Prep Method: SW5035A  
Prep Date/Time: 07/12/22 15:30  
Prep Initial Wt./Vol.: 35.725 g  
Prep Extract Vol: 54.7484 mL



**Results of Duplicate 2**

Client Sample ID: **Duplicate 2**  
Client Project ID: **Swanson River**  
Lab Sample ID: 1223987022  
Lab Project ID: 1223987

Collection Date: 07/12/22 12:20  
Received Date: 07/14/22 15:23  
Matrix: Soil/Solid (dry weight)  
Solids (%):37.2  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	44.0 U	88.1	27.5	ug/kg	1		07/18/22 19:35
Ethylbenzene	88.0 U	176	55.0	ug/kg	1		07/18/22 19:35
o-Xylene	88.0 U	176	55.0	ug/kg	1		07/18/22 19:35
P & M -Xylene	35000	352	106	ug/kg	1		07/18/22 19:35
Toluene	88.0 U	176	55.0	ug/kg	1		07/18/22 19:35
Xylenes (total)	35000	528	161	ug/kg	1		07/18/22 19:35

**Surrogates**

1,2-Dichloroethane-D4 (surr)	104	71-136		%	1		07/18/22 19:35
4-Bromofluorobenzene (surr)	90.8	55-151		%	1		07/18/22 19:35
Toluene-d8 (surr)	97.8	85-116		%	1		07/18/22 19:35

**Batch Information**

Analytical Batch: VMS21803  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 07/18/22 19:35  
Container ID: 1223987022-B

Prep Batch: VXX38893  
Prep Method: SW5035A  
Prep Date/Time: 07/12/22 12:20  
Prep Initial Wt./Vol.: 36.634 g  
Prep Extract Vol: 48.0067 mL



Results of **BH-35-3-5**

Client Sample ID: **BH-35-3-5**  
Client Project ID: **Swanson River**  
Lab Sample ID: 1223987023  
Lab Project ID: 1223987

Collection Date: 07/12/22 15:40  
Received Date: 07/14/22 15:23  
Matrix: Soil/Solid (dry weight)  
Solids (%):44.1  
Location:

Results by **Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	32.5 U	65.0	20.3	ug/kg	1		07/18/22 19:52
Ethylbenzene	65.0 U	130	40.6	ug/kg	1		07/18/22 19:52
o-Xylene	1300	130	40.6	ug/kg	1		07/18/22 19:52
P & M -Xylene	6800	260	78.0	ug/kg	1		07/18/22 19:52
Toluene	65.0 U	130	40.6	ug/kg	1		07/18/22 19:52
Xylenes (total)	8100	390	119	ug/kg	1		07/18/22 19:52
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	105	71-136		%	1		07/18/22 19:52
4-Bromofluorobenzene (surr)	90.9	55-151		%	1		07/18/22 19:52
Toluene-d8 (surr)	98	85-116		%	1		07/18/22 19:52

**Batch Information**

Analytical Batch: VMS21803  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 07/18/22 19:52  
Container ID: 1223987023-B

Prep Batch: VXX38893  
Prep Method: SW5035A  
Prep Date/Time: 07/12/22 15:40  
Prep Initial Wt./Vol.: 42.494 g  
Prep Extract Vol: 48.7427 mL



Results of **BH-36-0.5-1**

Client Sample ID: **BH-36-0.5-1**  
Client Project ID: **Swanson River**  
Lab Sample ID: 1223987024  
Lab Project ID: 1223987

Collection Date: 07/12/22 16:10  
Received Date: 07/14/22 15:23  
Matrix: Soil/Solid (dry weight)  
Solids (%):16.2  
Location:

Results by **Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	126 U	251	78.3	ug/kg	1		07/18/22 20:09
Ethylbenzene	251 U	502	157	ug/kg	1		07/18/22 20:09
o-Xylene	251 U	502	157	ug/kg	1		07/18/22 20:09
P & M -Xylene	500 U	1000	301	ug/kg	1		07/18/22 20:09
Toluene	251 U	502	157	ug/kg	1		07/18/22 20:09
Xylenes (total)	755 U	1510	458	ug/kg	1		07/18/22 20:09
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	105	71-136		%	1		07/18/22 20:09
4-Bromofluorobenzene (surr)	85.1	55-151		%	1		07/18/22 20:09
Toluene-d8 (surr)	98.6	85-116		%	1		07/18/22 20:09

**Batch Information**

Analytical Batch: VMS21803  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 07/18/22 20:09  
Container ID: 1223987024-B

Prep Batch: VXX38893  
Prep Method: SW5035A  
Prep Date/Time: 07/12/22 16:10  
Prep Initial Wt./Vol.: 31.86 g  
Prep Extract Vol: 51.711 mL



Results of **BH-37-1.5-4**

Client Sample ID: **BH-37-1.5-4**  
Client Project ID: **Swanson River**  
Lab Sample ID: 1223987025  
Lab Project ID: 1223987

Collection Date: 07/13/22 11:10  
Received Date: 07/14/22 15:23  
Matrix: Soil/Solid (dry weight)  
Solids (%):25.5  
Location:

Results by **Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	73.0 U	146	45.6	ug/kg	1		07/18/22 20:26
Ethylbenzene	147 U	293	91.3	ug/kg	1		07/18/22 20:26
o-Xylene	147 U	293	91.3	ug/kg	1		07/18/22 20:26
P & M -Xylene	10700	585	176	ug/kg	1		07/18/22 20:26
Toluene	147 U	293	91.3	ug/kg	1		07/18/22 20:26
Xylenes (total)	10700	878	267	ug/kg	1		07/18/22 20:26

**Surrogates**

1,2-Dichloroethane-D4 (surr)	105	71-136		%	1		07/18/22 20:26
4-Bromofluorobenzene (surr)	86.1	55-151		%	1		07/18/22 20:26
Toluene-d8 (surr)	97.4	85-116		%	1		07/18/22 20:26

**Batch Information**

Analytical Batch: VMS21803  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 07/18/22 20:26  
Container ID: 1223987025-B

Prep Batch: VXX38893  
Prep Method: SW5035A  
Prep Date/Time: 07/13/22 11:10  
Prep Initial Wt./Vol.: 33.6 g  
Prep Extract Vol: 50.0469 mL



Results of **BH-37-5-7**

Client Sample ID: **BH-37-5-7**  
Client Project ID: **Swanson River**  
Lab Sample ID: 1223987026  
Lab Project ID: 1223987

Collection Date: 07/13/22 11:30  
Received Date: 07/14/22 15:23  
Matrix: Soil/Solid (dry weight)  
Solids (%):40.2  
Location:

Results by **Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	39.6 U	79.2	24.7	ug/kg	1		07/18/22 20:43
Ethylbenzene	79.0 U	158	49.4	ug/kg	1		07/18/22 20:43
o-Xylene	79.0 U	158	49.4	ug/kg	1		07/18/22 20:43
P & M -Xylene	2660	317	95.1	ug/kg	1		07/18/22 20:43
Toluene	79.0 U	158	49.4	ug/kg	1		07/18/22 20:43
Xylenes (total)	2660	475	144	ug/kg	1		07/18/22 20:43
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	103	71-136		%	1		07/18/22 20:43
4-Bromofluorobenzene (surr)	88.8	55-151		%	1		07/18/22 20:43
Toluene-d8 (surr)	97.5	85-116		%	1		07/18/22 20:43

**Batch Information**

Analytical Batch: VMS21803  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 07/18/22 20:43  
Container ID: 1223987026-B

Prep Batch: VXX38893  
Prep Method: SW5035A  
Prep Date/Time: 07/13/22 11:30  
Prep Initial Wt./Vol.: 36.929 g  
Prep Extract Vol: 47.0729 mL



Results of **BH-38-1-1.5**

Client Sample ID: **BH-38-1-1.5**  
Client Project ID: **Swanson River**  
Lab Sample ID: 1223987027  
Lab Project ID: 1223987

Collection Date: 07/13/22 12:25  
Received Date: 07/14/22 15:23  
Matrix: Soil/Solid (dry weight)  
Solids (%):27.0  
Location:

Results by **Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	86.5 U	173	54.1	ug/kg	1		07/21/22 17:51
Ethylbenzene	174 U	347	108	ug/kg	1		07/21/22 17:51
o-Xylene	174 U	347	108	ug/kg	1		07/21/22 17:51
P & M -Xylene	347 U	694	208	ug/kg	1		07/21/22 17:51
Toluene	174 U	347	108	ug/kg	1		07/21/22 17:51
Xylenes (total)	520 U	1040	316	ug/kg	1		07/21/22 17:51
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	102	71-136		%	1		07/21/22 17:51
4-Bromofluorobenzene (surr)	65.5	55-151		%	1		07/21/22 17:51
Toluene-d8 (surr)	103	85-116		%	1		07/21/22 17:51

**Batch Information**

Analytical Batch: VMS21814  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 07/21/22 17:51  
Container ID: 1223987027-B

Prep Batch: VXX38907  
Prep Method: SW5035A  
Prep Date/Time: 07/13/22 12:25  
Prep Initial Wt./Vol.: 21.905 g  
Prep Extract Vol: 40.9965 mL



Results of **BH-39-0.5-1**

Client Sample ID: **BH-39-0.5-1**  
Client Project ID: **Swanson River**  
Lab Sample ID: 1223987028  
Lab Project ID: 1223987

Collection Date: 07/13/22 12:45  
Received Date: 07/14/22 15:23  
Matrix: Soil/Solid (dry weight)  
Solids (%):26.2  
Location:

Results by **Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	80.5 U	161	50.1	ug/kg	1		07/21/22 18:07
Ethylbenzene	161 U	321	100	ug/kg	1		07/21/22 18:07
o-Xylene	161 U	321	100	ug/kg	1		07/21/22 18:07
P & M -Xylene	322 U	643	193	ug/kg	1		07/21/22 18:07
Toluene	161 U	321	100	ug/kg	1		07/21/22 18:07
Xylenes (total)	482 U	964	293	ug/kg	1		07/21/22 18:07
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	101	71-136		%	1		07/21/22 18:07
4-Bromofluorobenzene (surr)	58.2	55-151		%	1		07/21/22 18:07
Toluene-d8 (surr)	102	85-116		%	1		07/21/22 18:07

**Batch Information**

Analytical Batch: VMS21814  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 07/21/22 18:07  
Container ID: 1223987028-B

Prep Batch: VXX38907  
Prep Method: SW5035A  
Prep Date/Time: 07/13/22 12:45  
Prep Initial Wt./Vol.: 26.509 g  
Prep Extract Vol: 44.5733 mL





Results of **BH-40-0.5-1**

Client Sample ID: **BH-40-0.5-1**  
Client Project ID: **Swanson River**  
Lab Sample ID: 1223987029  
Lab Project ID: 1223987

Collection Date: 07/13/22 14:00  
Received Date: 07/14/22 15:23  
Matrix: Soil/Solid (dry weight)  
Solids (%):23.5  
Location:

Results by **Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	84.0 U	168	52.5	ug/kg	1		07/21/22 18:23
Ethylbenzene	169 U	337	105	ug/kg	1		07/21/22 18:23
o-Xylene	169 U	337	105	ug/kg	1		07/21/22 18:23
P & M -Xylene	337 U	673	202	ug/kg	1		07/21/22 18:23
Toluene	169 U	337	105	ug/kg	1		07/21/22 18:23
Xylenes (total)	505 U	1010	307	ug/kg	1		07/21/22 18:23
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	99.3	71-136		%	1		07/21/22 18:23
4-Bromofluorobenzene (surr)	69.3	55-151		%	1		07/21/22 18:23
Toluene-d8 (surr)	104	85-116		%	1		07/21/22 18:23

**Batch Information**

Analytical Batch: VMS21814  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 07/21/22 18:23  
Container ID: 1223987029-B

Prep Batch: VXX38907  
Prep Method: SW5035A  
Prep Date/Time: 07/13/22 14:00  
Prep Initial Wt./Vol.: 30.587 g  
Prep Extract Vol: 48.3991 mL



Results of **BH-41-1-3**

Client Sample ID: **BH-41-1-3**  
Client Project ID: **Swanson River**  
Lab Sample ID: 1223987030  
Lab Project ID: 1223987

Collection Date: 07/13/22 14:40  
Received Date: 07/14/22 15:23  
Matrix: Soil/Solid (dry weight)  
Solids (%):26.1  
Location:

Results by **Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	1365 U	2730	852	ug/kg	20		07/21/22 20:29
Ethylbenzene	114000	5460	1700	ug/kg	20		07/21/22 20:29
o-Xylene	1930 J	5460	1700	ug/kg	20		07/21/22 20:29
P & M -Xylene	470000	10900	3280	ug/kg	20		07/21/22 20:29
Toluene	2730 U	5460	1700	ug/kg	20		07/21/22 20:29
Xylenes (total)	471000	16400	4980	ug/kg	20		07/21/22 20:29
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	99.8	71-136		%	20		07/21/22 20:29
4-Bromofluorobenzene (surr)	80.6	55-151		%	20		07/21/22 20:29
Toluene-d8 (surr)	103	85-116		%	20		07/21/22 20:29

**Batch Information**

Analytical Batch: VMS21814  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 07/21/22 20:29  
Container ID: 1223987030-B

Prep Batch: VXX38907  
Prep Method: SW5035A  
Prep Date/Time: 07/13/22 14:40  
Prep Initial Wt./Vol.: 36.486 g  
Prep Extract Vol: 51.9703 mL



### Results of Duplicate 4

Client Sample ID: **Duplicate 4**  
 Client Project ID: **Swanson River**  
 Lab Sample ID: 1223987031  
 Lab Project ID: 1223987

Collection Date: 07/13/22 14:43  
 Received Date: 07/14/22 15:23  
 Matrix: Soil/Solid (dry weight)  
 Solids (%):27.0  
 Location:

### Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	675 U	1350	421	ug/kg	10		07/21/22 16:02
Ethylbenzene	69400	2700	841	ug/kg	10		07/21/22 16:02
o-Xylene	2840	2700	841	ug/kg	10		07/21/22 16:02
P & M -Xylene	321000	5390	1620	ug/kg	10		07/21/22 16:02
Toluene	1350 U	2700	841	ug/kg	10		07/21/22 16:02
Xylenes (total)	324000	8090	2460	ug/kg	10		07/21/22 16:02
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	97.9	71-136		%	10		07/21/22 16:02
4-Bromofluorobenzene (surr)	83.4	55-151		%	10		07/21/22 16:02
Toluene-d8 (surr)	104	85-116		%	10		07/21/22 16:02

### Batch Information

Analytical Batch: VMS21814  
 Analytical Method: SW8260D  
 Analyst: S.S  
 Analytical Date/Time: 07/21/22 16:02  
 Container ID: 1223987031-B

Prep Batch: VXX38907  
 Prep Method: SW5035A  
 Prep Date/Time: 07/13/22 14:43  
 Prep Initial Wt./Vol.: 34.362 g  
 Prep Extract Vol: 50.0738 mL



**Results of Duplicate 3**

Client Sample ID: **Duplicate 3**  
Client Project ID: **Swanson River**  
Lab Sample ID: 1223987032  
Lab Project ID: 1223987

Collection Date: 07/13/22 11:33  
Received Date: 07/14/22 15:23  
Matrix: Soil/Solid (dry weight)  
Solids (%):38.9  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	47.1 U	94.2	29.4	ug/kg	1		07/21/22 18:38
Ethylbenzene	94.0 U	188	58.8	ug/kg	1		07/21/22 18:38
o-Xylene	94.0 U	188	58.8	ug/kg	1		07/21/22 18:38
P & M -Xylene	3950	377	113	ug/kg	1		07/21/22 18:38
Toluene	94.0 U	188	58.8	ug/kg	1		07/21/22 18:38
Xylenes (total)	3950	565	172	ug/kg	1		07/21/22 18:38

**Surrogates**

1,2-Dichloroethane-D4 (surr)	101	71-136		%	1		07/21/22 18:38
4-Bromofluorobenzene (surr)	82.2	55-151		%	1		07/21/22 18:38
Toluene-d8 (surr)	103	85-116		%	1		07/21/22 18:38

**Batch Information**

Analytical Batch: VMS21814  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 07/21/22 18:38  
Container ID: 1223987032-B

Prep Batch: VXX38907  
Prep Method: SW5035A  
Prep Date/Time: 07/13/22 11:33  
Prep Initial Wt./Vol.: 29.23 g  
Prep Extract Vol: 42.8598 mL



Results of **BH-41-3-5**

Client Sample ID: **BH-41-3-5**  
Client Project ID: **Swanson River**  
Lab Sample ID: 1223987033  
Lab Project ID: 1223987

Collection Date: 07/13/22 14:50  
Received Date: 07/14/22 15:23  
Matrix: Soil/Solid (dry weight)  
Solids (%):24.4  
Location:

Results by **Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	391 U	781	244	ug/kg	5		07/21/22 16:33
Ethylbenzene	25300	1560	487	ug/kg	5		07/21/22 16:33
o-Xylene	3580	1560	487	ug/kg	5		07/21/22 16:33
P & M -Xylene	211000	3120	937	ug/kg	5		07/21/22 16:33
Toluene	780 U	1560	487	ug/kg	5		07/21/22 16:33
Xylenes (total)	215000	4690	1420	ug/kg	5		07/21/22 16:33
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	101	71-136		%	5		07/21/22 16:33
4-Bromofluorobenzene (surr)	77.4	55-151		%	5		07/21/22 16:33
Toluene-d8 (surr)	104	85-116		%	5		07/21/22 16:33

**Batch Information**

Analytical Batch: VMS21814  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 07/21/22 16:33  
Container ID: 1223987033-B

Prep Batch: VXX38907  
Prep Method: SW5035A  
Prep Date/Time: 07/13/22 14:50  
Prep Initial Wt./Vol.: 32.422 g  
Prep Extract Vol: 49.4995 mL



Results of **BH-41-6.5-7**

Client Sample ID: **BH-41-6.5-7**  
Client Project ID: **Swanson River**  
Lab Sample ID: 1223987034  
Lab Project ID: 1223987

Collection Date: 07/13/22 15:13  
Received Date: 07/14/22 15:23  
Matrix: Soil/Solid (dry weight)  
Solids (%):84.5  
Location:

Results by **Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	12.7 U	25.3	7.90	ug/kg	1		07/21/22 18:54
Ethylbenzene	2940	50.7	15.8	ug/kg	1		07/21/22 18:54
o-Xylene	3150	50.7	15.8	ug/kg	1		07/21/22 18:54
P & M -Xylene	6870	101	30.4	ug/kg	1		07/21/22 18:54
Toluene	25.4 U	50.7	15.8	ug/kg	1		07/21/22 18:54
Xylenes (total)	10000	152	46.2	ug/kg	1		07/21/22 18:54
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	100	71-136		%	1		07/21/22 18:54
4-Bromofluorobenzene (surr)	93.4	55-151		%	1		07/21/22 18:54
Toluene-d8 (surr)	103	85-116		%	1		07/21/22 18:54

**Batch Information**

Analytical Batch: VMS21814  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 07/21/22 18:54  
Container ID: 1223987034-B

Prep Batch: VXX38907  
Prep Method: SW5035A  
Prep Date/Time: 07/13/22 15:13  
Prep Initial Wt./Vol.: 35.664 g  
Prep Extract Vol: 30.5322 mL



**Results of Trip Blank**

Client Sample ID: **Trip Blank**  
Client Project ID: **Swanson River**  
Lab Sample ID: 1223987035  
Lab Project ID: 1223987

Collection Date: 07/11/22 14:15  
Received Date: 07/14/22 15:23  
Matrix: Soil/Solid (dry weight)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	6.35 U	12.7	3.96	ug/kg	1		07/18/22 16:11
Ethylbenzene	12.7 U	25.4	7.92	ug/kg	1		07/18/22 16:11
o-Xylene	12.7 U	25.4	7.92	ug/kg	1		07/18/22 16:11
P & M -Xylene	25.4 U	50.8	15.2	ug/kg	1		07/18/22 16:11
Toluene	12.7 U	25.4	7.92	ug/kg	1		07/18/22 16:11
Xylenes (total)	38.1 U	76.2	23.2	ug/kg	1		07/18/22 16:11

**Surrogates**

1,2-Dichloroethane-D4 (surr)	104	71-136		%	1		07/18/22 16:11
4-Bromofluorobenzene (surr)	101	55-151		%	1		07/18/22 16:11
Toluene-d8 (surr)	98.4	85-116		%	1		07/18/22 16:11

**Batch Information**

Analytical Batch: VMS21803  
Analytical Method: SW8260D  
Analyst: S.S  
Analytical Date/Time: 07/18/22 16:11  
Container ID: 1223987035-A

Prep Batch: VXX38893  
Prep Method: SW5035A  
Prep Date/Time: 07/11/22 14:15  
Prep Initial Wt./Vol.: 49.222 g  
Prep Extract Vol: 25 mL



### Method Blank

Blank ID: MB for HBN 1840060 [SPT/11577]

Matrix: Soil/Solid (dry weight)

Blank Lab ID: 1674079

QC for Samples:

1223987001, 1223987002, 1223987003, 1223987004, 1223987005, 1223987006, 1223987007, 1223987008, 1223987009, 1223987010, 1223987011, 1223987012, 1223987015, 1223987016, 1223987017, 1223987018, 1223987019, 1223987020, 1223987021, 1223987022, 1223987023, 1223987024, 1223987025, 1223987026, 1223987027, 1223987028, 1223987029,

### Results by SM21 2540G

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Total Solids	100			%

### Batch Information

Analytical Batch: SPT11577

Analytical Method: SM21 2540G

Instrument:

Analyst: ICC

Analytical Date/Time: 7/18/2022 4:55:00PM

Print Date: 07/26/2022 3:50:05PM



## Duplicate Sample Summary

Original Sample ID: 1223860003  
Duplicate Sample ID: 1674082  
QC for Samples:

Analysis Date: 07/18/2022 16:55  
Matrix: Soil/Solid (dry weight)

## Results by SM21 2540G

<u>NAME</u>	<u>Original</u>	<u>Duplicate</u>	<u>Units</u>	<u>RPD (%)</u>	<u>RPD CL</u>
Total Solids	85.0	86.2	%	1.40	(< 15 )

## Batch Information

Analytical Batch: SPT11577  
Analytical Method: SM21 2540G  
Instrument:  
Analyst: ICC

Print Date: 07/26/2022 3:50:06PM



### Duplicate Sample Summary

Original Sample ID: 1223872004

Duplicate Sample ID: 1674083

Analysis Date: 07/18/2022 16:55

Matrix: Soil/Solid (dry weight)

QC for Samples:

1223987001, 1223987002, 1223987003, 1223987004, 1223987005, 1223987006, 1223987007, 1223987008, 1223987009

### Results by SM21 2540G

<u>NAME</u>	<u>Original</u>	<u>Duplicate</u>	<u>Units</u>	<u>RPD (%)</u>	<u>RPD CL</u>
Total Solids	90.0	90.8	%	0.92	(< 15 )

### Batch Information

Analytical Batch: SPT11577

Analytical Method: SM21 2540G

Instrument:

Analyst: ICC

Print Date: 07/26/2022 3:50:06PM

## Duplicate Sample Summary

Original Sample ID: 1223987009

Analysis Date: 07/18/2022 16:55

Duplicate Sample ID: 1674084

Matrix: Soil/Solid (dry weight)

QC for Samples:

1223987001, 1223987002, 1223987003, 1223987004, 1223987005, 1223987006, 1223987007, 1223987008, 1223987009, 1223987010, 1223987011, 1223987012, 1223987015, 1223987016, 1223987017, 1223987018,

## Results by SM21 2540G

<u>NAME</u>	<u>Original</u>	<u>Duplicate</u>	<u>Units</u>	<u>RPD (%)</u>	<u>RPD CL</u>
Total Solids	22.3	21.4	%	4.00	(< 15 )

## Batch Information

Analytical Batch: SPT11577

Analytical Method: SM21 2540G

Instrument:

Analyst: ICC

Print Date: 07/26/2022 3:50:06PM



### Duplicate Sample Summary

Original Sample ID: 1223987032  
Duplicate Sample ID: 1674085

Analysis Date: 07/18/2022 16:55  
Matrix: Soil/Solid (dry weight)

QC for Samples:

1223987010, 1223987011, 1223987012, 1223987015, 1223987016, 1223987017, 1223987018, 1223987019,  
1223987020, 1223987021, 1223987022, 1223987023, 1223987024, 1223987025, 1223987026, 1223987027,

### Results by SM21 2540G

<u>NAME</u>	<u>Original</u>	<u>Duplicate</u>	<u>Units</u>	<u>RPD (%)</u>	<u>RPD CL</u>
Total Solids	38.9	41.5	%	6.40	(< 15 )

### Batch Information

Analytical Batch: SPT11577  
Analytical Method: SM21 2540G  
Instrument:  
Analyst: ICC

Print Date: 07/26/2022 3:50:06PM

## Method Blank

Blank ID: MB for HBN 1840101 [VXX/38893]  
 Blank Lab ID: 1674325

Matrix: Soil/Solid (dry weight)

### QC for Samples:

1223987008, 1223987009, 1223987011, 1223987012, 1223987015, 1223987016, 1223987017, 1223987018, 1223987019, 1223987020, 1223987021, 1223987022, 1223987023, 1223987024, 1223987025, 1223987026, 1223987035

## Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	6.25U	12.5	3.90	ug/kg
Ethylbenzene	12.5U	25.0	7.80	ug/kg
o-Xylene	12.5U	25.0	7.80	ug/kg
P & M -Xylene	25.0U	50.0	15.0	ug/kg
Toluene	12.5U	25.0	7.80	ug/kg
Xylenes (total)	37.5U	75.0	22.8	ug/kg

### Surrogates

1,2-Dichloroethane-D4 (surr)	104	71-136		%
4-Bromofluorobenzene (surr)	110	55-151		%
Toluene-d8 (surr)	98.7	85-116		%

## Batch Information

Analytical Batch: VMS21803  
 Analytical Method: SW8260D  
 Instrument: VQA 7890/5975 GC/MS  
 Analyst: S.S  
 Analytical Date/Time: 7/18/2022 12:34:00PM

Prep Batch: VXX38893  
 Prep Method: SW5035A  
 Prep Date/Time: 7/18/2022 6:00:00AM  
 Prep Initial Wt./Vol.: 50 g  
 Prep Extract Vol: 25 mL



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1223987 [VXX38893]

Blank Spike Lab ID: 1674326

Date Analyzed: 07/18/2022 12:51

Matrix: Soil/Solid (dry weight)

QC for Samples: 1223987008, 1223987009, 1223987011, 1223987012, 1223987015, 1223987016, 1223987017, 1223987018, 1223987019, 1223987020, 1223987021, 1223987022, 1223987023, 1223987024, 1223987025, 1223987026, 1223987035

### Results by SW8260D

Blank Spike (ug/kg)

Parameter	Spike	Result	Rec (%)	CL
Benzene	750	758	101	( 77-121 )
Ethylbenzene	750	747	100	( 76-122 )
o-Xylene	750	767	102	( 77-123 )
P & M -Xylene	1500	1510	101	( 77-124 )
Toluene	750	705	94	( 77-121 )
Xylenes (total)	2250	2280	101	( 78-124 )

### Surrogates

1,2-Dichloroethane-D4 (surr)	750	93	( 71-136 )
4-Bromofluorobenzene (surr)	750	104	( 55-151 )
Toluene-d8 (surr)	750	101	( 85-116 )

### Batch Information

Analytical Batch: VMS21803

Analytical Method: SW8260D

Instrument: VQA 7890/5975 GC/MS

Analyst: S.S

Prep Batch: VXX38893

Prep Method: SW5035A

Prep Date/Time: 07/18/2022 06:00

Spike Init Wt./Vol.: 750 ug/kg Extract Vol: 25 mL

Dupe Init Wt./Vol.: Extract Vol:

Print Date: 07/26/2022 3:50:12PM



### Billable Matrix Spike Summary

Original Sample ID: 1223987012  
MS Sample ID: 1223987013 BMS  
MSD Sample ID: 1223987014 BMSD

Analysis Date: 07/18/2022 16:28  
Analysis Date: 07/18/2022 13:54  
Analysis Date: 07/18/2022 14:11  
Matrix: Soil/Solid (dry weight)

QC for Samples:

### Results by SW8260D

Parameter	Sample	Matrix Spike (ug/kg)			Spike Duplicate (ug/kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	118U	14186	14767	104	14186	14709	104	77-121	0.35	(< 20 )
Ethylbenzene	236U	14186	14593	103	14186	14593	103	76-122	0.26	(< 20 )
o-Xylene	236U	14186	15058	106	14186	15000	106	77-123	0.16	(< 20 )
P & M -Xylene	13700	28314	41570	99	28314	41628	99	77-124	0.02	(< 20 )
Toluene	236U	14186	13779	97	14186	13837	98	77-121	0.19	(< 20 )
Xylenes (total)	13700	42500	56628	101	42500	56628	101	78-124	0.03	(< 20 )
<b>Surrogates</b>										
1,2-Dichloroethane-D4 (surr)		14186	13314	94	14186	13430	95	71-136	1.10	
4-Bromofluorobenzene (surr)		11570	8779	76	11570	8547	74	55-151	2.50	
Toluene-d8 (surr)		14186	14244	100	14186	14302	101	85-116	0.46	

### Batch Information

Analytical Batch: VMS21803  
Analytical Method: SW8260D  
Instrument: VQA 7890/5975 GC/MS  
Analyst: S.S  
Analytical Date/Time: 7/18/2022 1:54:00PM

Prep Batch: VXX38893  
Prep Method: Vol. Extraction SW8260 Field Extracted L  
Prep Date/Time: 7/12/2022 12:05:00PM  
Prep Initial Wt./Vol.: 31.40g  
Prep Extract Vol: 50.99mL

Print Date: 07/26/2022 3:50:14PM



### Method Blank

Blank ID: MB for HBN 1840221 [VXX/38907]  
Blank Lab ID: 1674809

Matrix: Soil/Solid (dry weight)

QC for Samples:

1223987027, 1223987028, 1223987029, 1223987030, 1223987031, 1223987032, 1223987033, 1223987034

### Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	6.25U	12.5	3.90	ug/kg
Ethylbenzene	12.5U	25.0	7.80	ug/kg
o-Xylene	12.5U	25.0	7.80	ug/kg
P & M -Xylene	25.0U	50.0	15.0	ug/kg
Toluene	12.5U	25.0	7.80	ug/kg
Xylenes (total)	37.5U	75.0	22.8	ug/kg
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	101	71-136		%
4-Bromofluorobenzene (surr)	112	55-151		%
Toluene-d8 (surr)	104	85-116		%

### Batch Information

Analytical Batch: VMS21814  
Analytical Method: SW8260D  
Instrument: VRA Agilent GC/MS 7890B/5977A  
Analyst: S.S  
Analytical Date/Time: 7/21/2022 11:42:00AM

Prep Batch: VXX38907  
Prep Method: SW5035A  
Prep Date/Time: 7/21/2022 6:00:00AM  
Prep Initial Wt./Vol.: 50 g  
Prep Extract Vol: 25 mL

Print Date: 07/26/2022 3:50:15PM



## Blank Spike Summary

Blank Spike ID: LCS for HBN 1223987 [VXX38907]

Blank Spike Lab ID: 1674810

Date Analyzed: 07/21/2022 11:58

Matrix: Soil/Solid (dry weight)

QC for Samples: 1223987027, 1223987028, 1223987029, 1223987030, 1223987031, 1223987032, 1223987033, 1223987034

## Results by SW8260D

### Blank Spike (ug/kg)

Parameter	Spike	Result	Rec (%)	CL
Benzene	750	721	96	( 77-121 )
Ethylbenzene	750	770	103	( 76-122 )
o-Xylene	750	780	104	( 77-123 )
P & M -Xylene	1500	1540	102	( 77-124 )
Toluene	750	724	97	( 77-121 )
Xylenes (total)	2250	2320	103	( 78-124 )

### Surrogates

1,2-Dichloroethane-D4 (surr)	750	97	( 71-136 )
4-Bromofluorobenzene (surr)	750	107	( 55-151 )
Toluene-d8 (surr)	750	105	( 85-116 )

## Batch Information

Analytical Batch: VMS21814

Analytical Method: SW8260D

Instrument: VRA Agilent GC/MS 7890B/5977A

Analyst: S.S

Prep Batch: VXX38907

Prep Method: SW5035A

Prep Date/Time: 07/21/2022 06:00

Spike Init Wt./Vol.: 750 ug/kg Extract Vol: 25 mL

Dupe Init Wt./Vol.: Extract Vol:

## Matrix Spike Summary

Original Sample ID: 1674811  
 MS Sample ID: 1674812 MS  
 MSD Sample ID: 1674813 MSD

Analysis Date: 07/21/2022 14:59  
 Analysis Date: 07/21/2022 13:26  
 Analysis Date: 07/21/2022 13:41  
 Matrix: Solid/Soil (Wet Weight)

QC for Samples: 1223987027, 1223987028, 1223987029, 1223987030, 1223987031, 1223987032, 1223987033, 1223987034

## Results by SW8260D

Parameter	Sample	Matrix Spike (ug/kg)			Spike Duplicate (ug/kg)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	11.4U	1380	1360	99	1380	1370	100	77-121	1.10	(< 20 )
Ethylbenzene	22.9U	1380	1420	103	1380	1430	104	76-122	0.41	(< 20 )
o-Xylene	22.9U	1380	1450	105	1380	1440	105	77-123	0.55	(< 20 )
P & M -Xylene	45.8U	2750	2860	104	2750	2850	103	77-124	0.32	(< 20 )
Toluene	22.9U	1380	1360	99	1380	1350	98	77-121	0.80	(< 20 )
Xylenes (total)	68.5U	4130	4310	104	4130	4290	104	78-124	0.40	(< 20 )
<b>Surrogates</b>										
1,2-Dichloroethane-D4 (surr)		1380	1310	96	1380	1330	97	71-136	1.50	
4-Bromofluorobenzene (surr)		1220	664	55 *	1220	655	54 *	55-151	1.40	
Toluene-d8 (surr)		1380	1440	105	1380	1440	104	85-116	0.20	

## Batch Information

Analytical Batch: VMS21814  
 Analytical Method: SW8260D  
 Instrument: VRA Agilent GC/MS 7890B/5977A  
 Analyst: S.S  
 Analytical Date/Time: 7/21/2022 1:26:00PM

Prep Batch: VXX38907  
 Prep Method: Vol. Extraction SW8260 Field Extracted L  
 Prep Date/Time: 7/21/2022 6:00:00AM  
 Prep Initial Wt./Vol.: 51.24g  
 Prep Extract Vol: 46.89mL



### Method Blank

Blank ID: MB for HBN 1840148 [WXX/14292]  
Blank Lab ID: 1674522

Matrix: Soil/Solid (dry weight)

QC for Samples:

1223987001, 1223987002, 1223987003, 1223987004, 1223987005, 1223987006, 1223987007, 1223987010

### Results by SW9060A-Mod

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Total Organic Carbon	0.0250U	0.0500	0.0150	%

### Batch Information

Analytical Batch: WTC3208  
Analytical Method: SW9060A-Mod  
Instrument: TOC Analyzer 2  
Analyst: EBH  
Analytical Date/Time: 7/20/2022 10:12:42AM

Prep Batch: WXX14292  
Prep Method: METHOD  
Prep Date/Time: 7/20/2022 9:30:00AM  
Prep Initial Wt./Vol.: 500 mg  
Prep Extract Vol: 1 mL

Print Date: 07/26/2022 3:50:19PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1223987 [WXX14292]  
 Blank Spike Lab ID: 1674523  
 Date Analyzed: 07/20/2022 10:25

Spike Duplicate ID: LCSD for HBN 1223987 [WXX14292]  
 Spike Duplicate Lab ID: 1674524  
 Matrix: Soil/Solid (dry weight)

QC for Samples: 1223987001, 1223987002, 1223987003, 1223987004, 1223987005, 1223987006, 1223987007, 1223987010

### Results by SW9060A-Mod

Parameter	Blank Spike (%)			Spike Duplicate (%)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Organic Carbon	3.35	3.44	103	3.35	3.57	107	( 75-125 )	3.60	(< 25 )

### Batch Information

Analytical Batch: **WTC3208**  
 Analytical Method: **SW9060A-Mod**  
 Instrument: **TOC Analyzer 2**  
 Analyst: **EBH**

Prep Batch: **WXX14292**  
 Prep Method: **METHOD**  
 Prep Date/Time: **07/20/2022 09:30**  
 Spike Init Wt./Vol.: 3.35 % Extract Vol: 1 mL  
 Dupe Init Wt./Vol.: 3.35 % Extract Vol: 1 mL

Print Date: 07/26/2022 3:50:21PM



### Matrix Spike Summary

Original Sample ID: 1674512  
MS Sample ID: 1674525 MS  
MSD Sample ID:

Analysis Date: 07/20/2022 15:22  
Analysis Date: 07/20/2022 16:09  
Analysis Date:  
Matrix: Soil/Solid (dry weight)

QC for Samples: 1223987001, 1223987002, 1223987003, 1223987004, 1223987005, 1223987006, 1223987007, 1223987010

### Results by SW9060A-Mod

Parameter	Sample	Matrix Spike (%)			Spike Duplicate (%)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Organic Carbon	2.62	0.417	3.67	252 *				75-125		

### Batch Information

Analytical Batch: WTC3208  
Analytical Method: SW9060A-Mod  
Instrument: TOC Analyzer 2  
Analyst: EBH  
Analytical Date/Time: 7/20/2022 4:09:59PM

Prep Batch: WXX14292  
Prep Method: TOC Soils Prep (S)  
Prep Date/Time: 7/20/2022 9:30:00AM  
Prep Initial Wt./Vol.: 240.00mg  
Prep Extract Vol: 1.00mL

Print Date: 07/26/2022 3:50:22PM



*ID# 365909CPR*

CLIENT: <i>Stoutec</i>					Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.					Page <u>1</u> of <u>4</u>																																																																																																																																															
CONTACT: <i>John Marshall</i> PHONE #: <i>(907) 266-1108</i>					Section 3		Preservative																																																																																																																																																		
PROJECT NAME: <i>Swanson River</i> PROJECT/PWSID/PERMIT#: <i>203721236</i>					# C O N T A I N E R S	Comp Grab MI (Multi-incremental)	Analysis*					NOTE: *The following analyses require specific method and/or compound list: BTEX, Metals, PFAS																																																																																																																																													
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<table border="1"> <thead> <tr> <th>RESERVED for lab use</th> <th>SAMPLE IDENTIFICATION</th> <th>DATE mm/dd/yy</th> <th>TIME HH:MM</th> <th>MATRIX/MATRIX CODE</th> <th>#</th> <th>Comp Grab MI (Multi-incremental)</th> <th>FOC</th> <th>BTEX</th> <th colspan="3">Analysis*</th> <th>REMARKS/LOC ID</th> </tr> </thead> <tbody> <tr> <td>① A</td> <td>FOC-8-2-3</td> <td>07/11/22</td> <td>1415</td> <td>Soil</td> <td>1</td> <td>G</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>② A</td> <td>FOC-8-3-4</td> <td>07/11/22</td> <td>1430</td> <td></td> <td>1</td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>③ A</td> <td>FOC-6-1-3</td> <td>07/11/22</td> <td>1540</td> <td></td> <td>1</td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>④ A</td> <td>FOC-6-3-4</td> <td>07/11/22</td> <td>1545</td> <td></td> <td>1</td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>⑤ A</td> <td>FOC-7-0.5-2.5</td> <td>07/11/22</td> <td>1610</td> <td></td> <td>1</td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>⑥ A</td> <td>FOC-5-0-1</td> <td>07/11/22</td> <td>1625</td> <td></td> <td>1</td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>⑦ A</td> <td>FOC-5-1-2.5</td> <td>07/11/22</td> <td>1630</td> <td></td> <td>1</td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>⑧ AB</td> <td>BH-30-1-3</td> <td>07/12/22</td> <td>1045</td> <td></td> <td>2</td> <td></td> <td></td> <td>2</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>⑨ AB</td> <td>BH-30-3-6</td> <td>07/12/22</td> <td>1050</td> <td></td> <td>2</td> <td></td> <td></td> <td>2</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>⑩ A</td> <td>Duplicate 1</td> <td>07/11/22</td> <td>1547</td> <td></td> <td>1</td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>											RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/MATRIX CODE	#	Comp Grab MI (Multi-incremental)	FOC	BTEX	Analysis*			REMARKS/LOC ID	① A	FOC-8-2-3	07/11/22	1415	Soil	1	G	1						② A	FOC-8-3-4	07/11/22	1430		1		1						③ A	FOC-6-1-3	07/11/22	1540		1		1						④ A	FOC-6-3-4	07/11/22	1545		1		1						⑤ A	FOC-7-0.5-2.5	07/11/22	1610		1		1						⑥ A	FOC-5-0-1	07/11/22	1625		1		1						⑦ A	FOC-5-1-2.5	07/11/22	1630		1		1						⑧ AB	BH-30-1-3	07/12/22	1045		2			2					⑨ AB	BH-30-3-6	07/12/22	1050		2			2					⑩ A	Duplicate 1	07/11/22	1547		1		1					
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Relinquished By: (1) <i>[Signature]</i> Date: <i>7/14/22</i> Time: <i>1526</i> Received By:					Section 4 DOD Project? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Data Deliverable Requirements: <i>Standard</i>																																																																																																																																																		
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Relinquished By: (3) Date: Time: Received By:					Temp Blank °C: <i>0.5</i>		Chain of Custody Seal: (Circle) INTACT <input checked="" type="checkbox"/> BROKEN <input type="checkbox"/> ABSENT <input type="checkbox"/>																																																																																																																																																		
Relinquished By: (4) Date: <i>7/14/22</i> Time: <i>15:23</i> Received For Laboratory By: <i>[Signature]</i>					cooler or Ambient [ ] <input checked="" type="checkbox"/> <i>59</i>		Delivery Method: Hand Delivery [ ] Commerical Delivery [ ]																																																																																																																																																		



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Instructions: Sections 1 - 5 must be filled out.  
Omissions may delay the onset of analysis.

Page 2 of 4

CONTACT: John Marshall PHONE #: 907 266 1108

Section 3

Preservative

PROJECT NAME: Swanson River PROJECT/PWSID/PERMIT#: 203721234

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Comp  
Grab  
MI  
(Multi-incremental)

*wellhead*

*8260  
BTEX*

REPORTS TO: (same) E-MAIL: Profile #:

INVOICE TO: QUOTE #: P.O. #:

Analysis\*

NOTE:  
\*The following analyses require specific method and/or compound list: BTEX, Metals, PFAS

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/MATRIX CODE	#	CONTAINERS	Comp Grab MI (Multi-incremental)	Analysis*										REMARKS/LOC ID			
① AB	BH-30-6-7	7/12/22	1114	Soil	2	G	X														⑬ AD ⑭ AD MS/MSD
② AD	BH-31-1-4	7/12/22	1205		4		X														
⑤ AB	BH-31-4-6	7/12/22	1217		2		X														
⑬ AB	BH-32-1-4	7/12/22	1335		2		X														
⑭ AB	BH-32-4-6	7/12/22	1350		2		X														
⑮ AB	BH-33-4-5	7/12/22	1430		2		X														
⑰ AB	BH-33-5-6	7/12/22	1440		2		X														
⑳ AB	BH-34-1-2	7/12/22	1515		2		X														
㉑ AB	BH-35-1-3	7/12/22	1530		2		X														
㉒ AB	Duplicate 2	7/12/22	1220		2		X														

Section 5	Relinquished By: (1)	Date	Time	Received By:
	Relinquished By: (2)	Date	Time	Received By:
	Relinquished By: (3)	Date	Time	Received By:
	Relinquished By: (4)	Date	Time	Received For Laboratory By:

Section 4 DOD Project? Yes  No  Data Deliverable Requirements:

Cooler ID: \_\_\_\_\_

Requested Turnaround Time and/or Special Instructions:  
Standard

Temp Blank °C: 0.5 Chain of Custody Seal: (Circle)  
Cooler or Ambient [ ] 0.50 INTACT BROKEN ABSENT

Delivery Method: Hand Delivery [ ] Commerical Delivery [ ]



SGS North America Inc.  
CHAIN OF CUSTODY RECORD

1223987



CLIENT: <i>Stantec</i>					<b>Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.</b>										Page <u>3</u> of <u>4</u>																																															
CONTACT: <i>John Marshall</i>					PHONE #: <i>907 266 1108</i>					Section 3		Preservative																																																		
PROJECT NAME: <i>Swanson River</i>					PROJECT/PWSID/PERMIT#: <i>203721236</i>					# CONTAINERS Comp Grab MI (Multi-incremental)		Analysis*								NOTE: *The following analyses require specific method and/or compound list: BTEX, Metals, PFAS																																										
REPORTS TO: <i>(same)</i>					E-MAIL: Profile #:							<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 5%; text-align: center; vertical-align: middle;"><i>BTEX</i></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> <td style="width: 5%;"></td> </tr> <tr> <td style="text-align: center;"><i>8260</i></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>										<i>BTEX</i>																				<i>8260</i>																				
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<i>(23) AB</i>					<i>BH-35-3-5</i>					<i>7/12/22</i>					<i>1540</i>					<i>Soil</i>																																										
<i>(24) AB</i>					<i>BH-36-0.5-1</i>					<i>7/12/22</i>					<i>1610</i>																																															
<i>(25) AB</i>					<i>BH-37-1.5-4</i>					<i>7/13/22</i>					<i>1110</i>																																															
<i>(26) AB</i>					<i>BH-37-5-7</i>					<i>7/13/22</i>					<i>1130</i>																																															
<i>(27) AB</i>					<i>BH-38-1-1.5</i>					<i>7/13/22</i>					<i>1225</i>																																															
<i>(28) AB</i>					<i>BH-39-0.5-1</i>					<i>7/13/22</i>					<i>1245</i>																																															
<i>(29) AB</i>					<i>BH-40-0.5-1</i>					<i>7/13/22</i>					<i>1400</i>																																															
<i>(30) AB</i>					<i>BH-41-1-3</i>					<i>7/13/22</i>					<i>1440</i>																																															
<i>(31) AB</i>					<i>Duplicate 4</i>					<i>7/13/22</i>					<i>1443</i>																																															
<i>(32) AB</i>					<i>Duplicate 3</i>					<i>7/13/22</i>					<i>1133</i>																																															
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Relinquished By: (2)					Date					Time					Received By:					Cooler ID:					Requested Turnaround Time and/or Special Instructions:																																					
Relinquished By: (3)					Date					Time					Received By:					<i>Standard</i>					Chain of Custody Seal: (Circle)																																					
Relinquished By: (4)					Date <i>7/14/22</i>					Time <i>15:53</i>					Received For Laboratory By: <i>[Signature]</i>					Temp Blank °C: <i>0.5</i>					INTACT <input type="checkbox"/> BROKEN <input type="checkbox"/> <b>ABSENT</b> <input checked="" type="checkbox"/>																																					
Delivery Method: Hand Delivery [ ] Commerical Delivery [ ]																																																														







SGS Workorder #:

1223987

1223987

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
-----------------	--------------------------	------------------------

**Chain of Custody / Temperature Requirements**

*Note: Temperature and COC seal information is found on the chain of custody form*

DOD only: Did all sample coolers have a corresponding COC?

If <0°C, were sample containers ice free?

Note containers received with ice:

Identify any containers received at non-compliant temperature:

*(Use form FS-0029 if more space is needed)*

**Holding Time / Documentation / Sample Condition Requirement**

*Note: Refer to form F-083 "Sample Guide" for specific holding times and sample containers.*

Were samples received within analytical holding time?

Do sample labels match COC? Record discrepancies.

**Note:** If information on containers differs from COC, default to COC information for login. If times differ <1hr, record details & login per COC.

Were analytical requests clear?

*(i.e. method is specified for analyses with multiple option for method (Eg, BTEX 8021 vs 8260, Metals 6020 vs 200.8)*

Were proper containers (type/mass/volume/preservative)used?

Note: Exemption for metals analysis by 200.8/6020 in water.

**Volatile Analysis Requirements (VOC, GRO, LL-Hg, etc.)**

Were all soil VOAs received with a corresponding % solids container?

Were Trip Blanks (e.g., VOAs, LL-Hg) in cooler with samples?

Were all water VOA vials free of headspace (e.g., bubbles ≤ 6mm)?

Were all soil VOAs field extracted with Methanol+BFB?

**Note to Client:** Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.

**Additional notes (if applicable):**



## Sample Containers and Preservatives

<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1223987001-A	No Preservative Required	OK	1223987026-B	Methanol field pres. 4 C	OK
1223987002-A	No Preservative Required	OK	1223987027-A	No Preservative Required	OK
1223987003-A	No Preservative Required	OK	1223987027-B	Methanol field pres. 4 C	OK
1223987004-A	No Preservative Required	OK	1223987028-A	No Preservative Required	OK
1223987005-A	No Preservative Required	OK	1223987028-B	Methanol field pres. 4 C	OK
1223987006-A	No Preservative Required	OK	1223987029-A	No Preservative Required	OK
1223987007-A	No Preservative Required	OK	1223987029-B	Methanol field pres. 4 C	OK
1223987008-A	No Preservative Required	OK	1223987030-A	No Preservative Required	OK
1223987008-B	Methanol field pres. 4 C	OK	1223987030-B	Methanol field pres. 4 C	OK
1223987009-A	No Preservative Required	OK	1223987031-A	No Preservative Required	OK
1223987009-B	Methanol field pres. 4 C	OK	1223987031-B	Methanol field pres. 4 C	OK
1223987010-A	No Preservative Required	OK	1223987032-A	No Preservative Required	OK
1223987011-A	No Preservative Required	OK	1223987032-B	Methanol field pres. 4 C	OK
1223987011-B	Methanol field pres. 4 C	OK	1223987033-A	No Preservative Required	OK
1223987012-A	No Preservative Required	OK	1223987033-B	Methanol field pres. 4 C	OK
1223987012-B	Methanol field pres. 4 C	OK	1223987034-A	No Preservative Required	OK
1223987012-C	Methanol field pres. 4 C	OK	1223987034-B	Methanol field pres. 4 C	OK
1223987012-D	No Preservative Required	OK	1223987035-A	Methanol field pres. 4 C	OK
1223987013-A	No Preservative Required	OK			
1223987013-B	Methanol field pres. 4 C	OK			
1223987013-C	Methanol field pres. 4 C	OK			
1223987013-D	No Preservative Required	OK			
1223987014-A	No Preservative Required	OK			
1223987014-B	Methanol field pres. 4 C	OK			
1223987014-C	Methanol field pres. 4 C	OK			
1223987014-D	No Preservative Required	OK			
1223987015-A	No Preservative Required	OK			
1223987015-B	Methanol field pres. 4 C	OK			
1223987016-A	No Preservative Required	OK			
1223987016-B	Methanol field pres. 4 C	OK			
1223987017-A	No Preservative Required	OK			
1223987017-B	Methanol field pres. 4 C	OK			
1223987018-A	No Preservative Required	OK			
1223987018-B	Methanol field pres. 4 C	OK			
1223987019-A	No Preservative Required	OK			
1223987019-B	Methanol field pres. 4 C	OK			
1223987020-A	No Preservative Required	OK			
1223987020-B	Methanol field pres. 4 C	OK			
1223987021-A	No Preservative Required	OK			
1223987021-B	Methanol field pres. 4 C	OK			
1223987022-A	No Preservative Required	OK			
1223987022-B	Methanol field pres. 4 C	OK			
1223987023-A	No Preservative Required	OK			
1223987023-B	Methanol field pres. 4 C	OK			
1223987024-A	No Preservative Required	OK			
1223987024-B	Methanol field pres. 4 C	OK			
1223987025-A	No Preservative Required	OK			
1223987025-B	Methanol field pres. 4 C	OK			
1223987026-A	No Preservative Required	OK			

Container Id

Preservative

Container  
Condition

Container Id

Preservative

Container  
Condition

#### Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.

BU - The container was received with headspace greater than 6mm.

DM - The container was received damaged.

FR - The container was received frozen and not usable for Bacteria or BOD analyses.

IC - The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.

NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.

PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

QN - Insufficient sample quantity provided.



## Laboratory Report of Analysis

To: Stantec Consulting Services Inc.  
725 East Fireweed Lane, #200  
Anchorage, AK 99503  
(907)266-1148

Report Number: **1225273**

Client Project: **203721236 SRU-AS**

Dear Douglas Quist,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of ten years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Justin at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,  
SGS North America Inc.

---

Justin Nelson  
Project Manager  
Justin.Nelson@sgs.com

Date

## Case Narrative

SGS Client: **Stantec Consulting Services Inc.**

SGS Project: **1225273**

Project Name/Site: **203721236 SRU-AS**

Project Contact: **Douglas Quist**

Refer to sample receipt form for information on sample condition.

\*QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to associated field samples.

Print Date: 09/20/2022 12:15:00PM

## Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. The results apply to the samples as received. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the context or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry & Microbiology) & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020B, 7470A, 7471B, 8015C, 8021B, 8082A, 8260D, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). SGS is only certified for the analytes listed on our Drinking Water Certification (DW methods: 200.8, 2130B, 2320B, 2510B, 300.0, 4500-CN-C,E, 4500-H-B, 4500-NO3-F, 4500-P-E and 524.2) and only those analytes will be reported to the State of Alaska for compliance. Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
B	Indicates the analyte is found in a blank associated with the sample.
CCV/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Analytical Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
RPD	Relative Percent Difference
TNTC	Too Numerous To Count
U	Indicates the analyte was analyzed for but not detected.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content. All DRO/RRO analyses are integrated per SOP.

### Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
TW-2	1225273001	08/31/2022	08/31/2022	Water (Surface, Eff., Ground)
TW-3	1225273002	08/31/2022	08/31/2022	Water (Surface, Eff., Ground)
Trip Blank	1225273003	08/31/2022	08/31/2022	Water (Surface, Eff., Ground)

<u>Method</u>	<u>Method Description</u>
SW8260D	Volatile Organic Compounds (W)

Print Date: 09/20/2022 12:15:03PM



### Detectable Results Summary

Client Sample ID: **TW-2**  
 Lab Sample ID: 1225273001

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Ethylbenzene	3.08	ug/L
o-Xylene	7.78	ug/L
P & M -Xylene	16.2	ug/L
Xylenes (total)	24.0	ug/L

Client Sample ID: **TW-3**  
 Lab Sample ID: 1225273002

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Ethylbenzene	410	ug/L
P & M -Xylene	1930	ug/L
Xylenes (total)	1930	ug/L



Results of TW-2

Client Sample ID: TW-2
Client Project ID: 203721236 SRU-AS
Lab Sample ID: 1225273001
Lab Project ID: 1225273

Collection Date: 08/31/22 12:12
Received Date: 08/31/22 17:09
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, and Xylenes (total).

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include 1,2-Dichloroethane-D4 (surr), 4-Bromofluorobenzene (surr), and Toluene-d8 (surr).

Batch Information

Analytical Batch: VMS21955
Analytical Method: SW8260D
Analyst: NRB
Analytical Date/Time: 09/10/22 23:48
Container ID: 1225273001-A

Prep Batch: VXX39154
Prep Method: SW5030B
Prep Date/Time: 09/10/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL



**Results of TW-3**

Client Sample ID: **TW-3**  
Client Project ID: **203721236 SRU-AS**  
Lab Sample ID: 1225273002  
Lab Project ID: 1225273

Collection Date: 08/31/22 12:32  
Received Date: 08/31/22 17:09  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	2.00 U	4.00	1.20	ug/L	10		09/13/22 21:17
Ethylbenzene	410	20.0	6.20	ug/L	20		09/11/22 03:00
o-Xylene	5.00 U	10.0	3.10	ug/L	10		09/13/22 21:17
P & M -Xylene	1930	20.0	6.20	ug/L	10		09/13/22 21:17
Toluene	5.00 U	10.0	3.10	ug/L	10		09/13/22 21:17
Xylenes (total)	1930	30.0	10.0	ug/L	10		09/13/22 21:17
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	105	81-118		%	20		09/11/22 03:00
4-Bromofluorobenzene (surr)	103	85-114		%	20		09/11/22 03:00
Toluene-d8 (surr)	98.7	89-112		%	20		09/11/22 03:00

**Batch Information**

Analytical Batch: VMS21955  
Analytical Method: SW8260D  
Analyst: NRB  
Analytical Date/Time: 09/11/22 03:00  
Container ID: 1225273002-A

Prep Batch: VXX39154  
Prep Method: SW5030B  
Prep Date/Time: 09/10/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Analytical Batch: VMS21967  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/13/22 21:17  
Container ID: 1225273002-C

Prep Batch: VXX39170  
Prep Method: SW5030B  
Prep Date/Time: 09/13/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



### Results of Trip Blank

Client Sample ID: **Trip Blank**  
 Client Project ID: **203721236 SRU-AS**  
 Lab Sample ID: 1225273003  
 Lab Project ID: 1225273

Collection Date: 08/31/22 12:12  
 Received Date: 08/31/22 17:09  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		09/10/22 23:04
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/10/22 23:04
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/10/22 23:04
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/10/22 23:04
Toluene	0.500 U	1.00	0.310	ug/L	1		09/10/22 23:04
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		09/10/22 23:04
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	104	81-118		%	1		09/10/22 23:04
4-Bromofluorobenzene (surr)	101	85-114		%	1		09/10/22 23:04
Toluene-d8 (surr)	98.4	89-112		%	1		09/10/22 23:04

### Batch Information

Analytical Batch: VMS21955  
 Analytical Method: SW8260D  
 Analyst: NRB  
 Analytical Date/Time: 09/10/22 23:04  
 Container ID: 1225273003-A

Prep Batch: VXX39154  
 Prep Method: SW5030B  
 Prep Date/Time: 09/10/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



### Method Blank

Blank ID: MB for HBN 1843131 [VXX/39154]  
Blank Lab ID: 1685144

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1225273001, 1225273002, 1225273003

### Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	102	81-118		%
4-Bromofluorobenzene (surr)	102	85-114		%
Toluene-d8 (surr)	98.2	89-112		%

### Batch Information

Analytical Batch: VMS21955  
Analytical Method: SW8260D  
Instrument: VPA 780/5975 GC/MS  
Analyst: NRB  
Analytical Date/Time: 9/10/2022 8:08:00PM

Prep Batch: VXX39154  
Prep Method: SW5030B  
Prep Date/Time: 9/10/2022 6:00:00AM  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 09/20/2022 12:15:07PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1225273 [VXX39154]  
 Blank Spike Lab ID: 1685145  
 Date Analyzed: 09/10/2022 20:52

Spike Duplicate ID: LCSD for HBN 1225273 [VXX39154]  
 Spike Duplicate Lab ID: 1685146  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225273001, 1225273002, 1225273003

### Results by SW8260D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	30	31.7	106	30	31.3	104	( 79-120 )	1.50	(< 20 )
Ethylbenzene	30	32.2	107	30	32.1	107	( 79-121 )	0.49	(< 20 )
o-Xylene	30	31.5	105	30	32.1	107	( 78-122 )	1.80	(< 20 )
P & M -Xylene	60	63.6	106	60	63.5	106	( 80-121 )	0.07	(< 20 )
Toluene	30	30.2	101	30	30.0	100	( 80-121 )	0.63	(< 20 )
Xylenes (total)	90	95.1	106	90	95.6	106	( 79-121 )	0.55	(< 20 )
<b>Surrogates</b>									
1,2-Dichloroethane-D4 (surr)	30		97	30		94	( 81-118 )	2.50	
4-Bromofluorobenzene (surr)	30		99	30		99	( 85-114 )	0.26	
Toluene-d8 (surr)	30		100	30		100	( 89-112 )	0.63	

### Batch Information

Analytical Batch: VMS21955  
 Analytical Method: SW8260D  
 Instrument: VPA 780/5975 GC/MS  
 Analyst: NRB

Prep Batch: VXX39154  
 Prep Method: SW5030B  
 Prep Date/Time: 09/10/2022 06:00  
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 09/20/2022 12:15:09PM

## Method Blank

Blank ID: MB for HBN 1843531 [VXX/39170]  
 Blank Lab ID: 1685864

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
 1225273002

## Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	105	81-118		%
4-Bromofluorobenzene (surr)	100	85-114		%
Toluene-d8 (surr)	98.1	89-112		%

## Batch Information

Analytical Batch: VMS21967  
 Analytical Method: SW8260D  
 Instrument: Agilent 7890-75MS  
 Analyst: AZL  
 Analytical Date/Time: 9/13/2022 12:28:00PM

Prep Batch: VXX39170  
 Prep Method: SW5030B  
 Prep Date/Time: 9/13/2022 6:00:00AM  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1225273 [VXX39170]  
 Blank Spike Lab ID: 1685865  
 Date Analyzed: 09/13/2022 12:43

Spike Duplicate ID: LCSD for HBN 1225273 [VXX39170]  
 Spike Duplicate Lab ID: 1685866  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225273002

### Results by SW8260D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	30	29.8	99	30	28.9	96	( 79-120 )	3.20	(< 20 )
o-Xylene	30	29.0	97	30	28.7	96	( 78-122 )	1.10	(< 20 )
P & M -Xylene	60	58.3	97	60	58.0	97	( 80-121 )	0.55	(< 20 )
Toluene	30	27.6	92	30	27.6	92	( 80-121 )	0.11	(< 20 )
Xylenes (total)	90	87.2	97	90	86.6	96	( 79-121 )	0.72	(< 20 )
<b>Surrogates</b>									
1,2-Dichloroethane-D4 (surr)	30		100	30		96	( 81-118 )	5.10	
4-Bromofluorobenzene (surr)	30		101	30		100	( 85-114 )	0.77	
Toluene-d8 (surr)	30		98	30		99	( 89-112 )	1.40	

### Batch Information

Analytical Batch: VMS21967  
 Analytical Method: SW8260D  
 Instrument: Agilent 7890-75MS  
 Analyst: AZL

Prep Batch: VXX39170  
 Prep Method: SW5030B  
 Prep Date/Time: 09/13/2022 06:00  
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 09/20/2022 12:15:13PM





362427 Jm  
Profile # 302472 DBL

CLIENT: <u>Stantec</u>		Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.					Page <u>1</u> of <u>1</u>													
CONTACT: <u>John Marshall</u>		PHONE #: <u>407-266-1108</u>	Section 3		Preservative															
PROJECT NAME: <u>SRU-AS</u>		PROJECT/PWSID/PERMIT#: <u>203721236</u>	# CONTAINERS	Comp Grab MI (Multi-incremental)	Analysis*						NOTE: *The following analyses require specific method and/or compound list: BTEX, Metals, PFAS									
REPORTS TO:		E-MAIL: <u>John.Marshall@stantec.com</u>			/He1															
INVOICE TO: <u>Stantec</u>		QUOTE #:			BTEX															
P.O. #:					8260															
Section 2	RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/MATRIX CODE														REMARKS/LOC ID	
		<u>IAC</u>	<u>TW-2</u>	<u>8/3/22</u>	<u>1212</u>	<u>W</u>	<u>3</u>	<u>6</u>	<u>XXX</u>											
		<u>2AC</u>	<u>TW-3</u>	<u>8/21/22</u>	<u>1238</u>	<u>W</u>	<u>3</u>	<u>6</u>	<u>XXX</u>											
		<u>3AC</u>	<u>Trip Blank</u>	<u>8/3/22</u>	<u>---</u>	<u>W</u>	<u>3</u>	<u>6</u>	<u>XXX</u>											
Section 5	Relinquished By: (1)		Date	Time	Received By:		Section 4		DOD Project? Yes/No <u>No</u>		Data Deliverable Requirements:									
	<u>[Signature]</u>		<u>8/3/22</u>	<u>1700</u>	<u>[Signature]</u>		Cooler ID:		Requested Turnaround Time and/or Special Instructions:											
	<u>[Signature]</u>				<u>[Signature]</u>		<u>Standard</u>													
	<u>[Signature]</u>				<u>[Signature]</u>		Temp Blank °C: <u>2.4 DGS</u>		Chain of Custody Seal: (Circle)											
<u>[Signature]</u>				<u>[Signature]</u>		or Ambient [ ]		INTACT BROKEN <u>ABSENT</u>												
<u>[Signature]</u>		<u>8/31/22</u>	<u>1709</u>	<u>[Signature]</u>		Delivery Method: Hand Delivery <input checked="" type="checkbox"/> Commercial Delivery [ ]														



SGS Workorder #:

1225273

1225273

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
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<b>Chain of Custody / Temperature Requirements</b>	Note: Temperature and COC seal information is found on the chain of custody form	
--	--	--

DOD only: Did all sample coolers have a corresponding COC?	N/A	
If <0°C, were sample containers ice free?	N/A	
Note containers received with ice:		
Identify any containers received at non-compliant temperature:  (Use form FS-0029 if more space is needed)		

<b>Holding Time / Documentation / Sample Condition Requirement</b>	Note: Refer to form F-083 "Sample Guide" for specific holding times and sample containers.	
--	--	--

Were samples received within analytical holding time?	Yes	
Do sample labels match COC? Record discrepancies.	Yes	
<b>Note:</b> If information on containers differs from COC, default to COC information for login. If times differ <1hr, record details & login per COC.		
Were analytical requests clear?	Yes	
(i.e. method is specified for analyses with multiple option for method (Eg, BTEX 8021 vs 8260, Metals 6020 vs 200.8)		
Were proper containers (type/mass/volume/preservative) used?	Yes	
Note: Exemption for metals analysis by 200.8/6020 in water.		

<b>Volatile Analysis Requirements (VOC, GRO, LL-Hg, etc.)</b>		
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Were all soil VOAs received with a corresponding % solids container?	N/A	
Were Trip Blanks (e.g., VOAs, LL-Hg) in cooler with samples?	Yes	
Were all water VOA vials free of headspace (e.g., bubbles ≤ 6mm)?	Yes	
Were all soil VOAs field extracted with Methanol+BFB?	N/A	

**Note to Client:** Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.

<b>Additional notes (if applicable):</b>
--



## Sample Containers and Preservatives

<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1225273001-A	HCL to pH < 2	OK			
1225273001-B	HCL to pH < 2	OK			
1225273001-C	HCL to pH < 2	OK			
1225273002-A	HCL to pH < 2	OK			
1225273002-B	HCL to pH < 2	OK			
1225273002-C	HCL to pH < 2	OK			
1225273003-A	HCL to pH < 2	OK			
1225273003-B	HCL to pH < 2	OK			
1225273003-C	HCL to pH < 2	OK			

### Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.

BU - The container was received with headspace greater than 6mm.

DM - The container was received damaged.

FR - The container was received frozen and not usable for Bacteria or BOD analyses.

IC - The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.

NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.

PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

QN - Insufficient sample quantity provided.



## Laboratory Report of Analysis

To: Stantec Consulting Services Inc.  
725 East Fireweed Lane, #200  
Anchorage, AK 99503  
(907)266-1148

Report Number: **1225515**

Client Project: **SRU-COBC**

Dear Douglas Quist,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of ten years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Justin at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,  
SGS North America Inc.

---

Justin Nelson  
Project Manager  
Justin.Nelson@sgs.com

Date

## Case Narrative

SGS Client: **Stantec Consulting Services Inc.**

SGS Project: **1225515**

Project Name/Site: **SRU-COBC**

Project Contact: **Douglas Quist**

Refer to sample receipt form for information on sample condition.

**W-3A (1225515001) PS**

8270D SIM - PAH Surrogate recovery for fluoranthene-d10 does not meet QC criteria.

**W-7 (1225515002) PS**

8270D SIM - PAH Surrogate recovery for fluoranthene-d10 does not meet QC criteria. .

**TW-18D (1225515034) PS**

8260D - P&M-xylene and total xylenes are reported over the calibration range. Sample was analyzed at a dilution outside of hold time and results confirm. The in-hold data is reported.

**W-6 (1225515042) PS**

8270D SIM- PAH MB results for 1-methylnaphthalene and 2-methylnaphthalene are above the LOQ.

**MB for HBN 1843186 [XXX/46982] (1685436) MB**

8270D SIM- PAH MB results for 1-methylnaphthalene and 2-methylnaphthalene are above half the LOQ.

**5867-1C(1688567MS) (1688572) MS**

300.0 - Anions - MS recovery for sulfate is outside of QC criteria. Refer to LCS for accuracy requirements.

Methane by RSK-175 was analyzed by SGS of Orlando, FL.

\*QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to associated field samples.

Print Date: 09/29/2022 4:13:14PM

## Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. The results apply to the samples as received. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the context or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry & Microbiology) & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020B, 7470A, 7471B, 8015C, 8021B, 8082A, 8260D, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). SGS is only certified for the analytes listed on our Drinking Water Certification (DW methods: 200.8, 2130B, 2320B, 2510B, 300.0, 4500-CN-C,E, 4500-H-B, 4500-NO3-F, 4500-P-E and 524.2) and only those analytes will be reported to the State of Alaska for compliance. Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
B	Indicates the analyte is found in a blank associated with the sample.
CCV/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Analytical Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
RPD	Relative Percent Difference
TNTC	Too Numerous To Count
U	Indicates the analyte was analyzed for but not detected.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content. All DRO/RRO analyses are integrated per SOP.



### Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
W-3A	1225515001	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
W-7	1225515002	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
Duplicate 1	1225515003	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
W-1E	1225515004	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
W-5	1225515005	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
W-1P	1225515006	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
W-1	1225515007	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-16	1225515008	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-15	1225515009	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-13	1225515010	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
FSS-1	1225515011	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
Duplicate 2	1225515012	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
FSS-2	1225515013	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-4R	1225515014	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
PSW-1	1225515015	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
PSW-2	1225515016	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-26	1225515017	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-26(1225515017BMS)	1225515018	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-26(1225515017BMSD)	1225515019	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-25	1225515020	09/08/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-25(1225515020BMS)	1225515021	09/08/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-25(1225515020BMSD)	1225515022	09/08/2022	09/12/2022	Water (Surface, Eff., Ground)
Duplicate 3	1225515023	09/08/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-24	1225515024	09/08/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-23	1225515025	09/08/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-8	1225515026	09/08/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-22	1225515027	09/08/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-21	1225515028	09/08/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-7	1225515029	09/08/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-7D	1225515030	09/08/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-20	1225515031	09/08/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-6	1225515032	09/08/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-6D	1225515033	09/08/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-18D	1225515034	09/08/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-18	1225515035	09/09/2022	09/12/2022	Water (Surface, Eff., Ground)
Duplicate 4	1225515036	09/09/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-17	1225515037	09/09/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-19D	1225515038	09/09/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-19S	1225515039	09/09/2022	09/12/2022	Water (Surface, Eff., Ground)

Print Date: 09/29/2022 4:13:17PM

### Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
Trip Blank 1	1225515040	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
Trip Blank 2	1225515041	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
W-6	1225515042	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-5	1225515043	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
W-1P	1225515044	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-13	1225515045	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-4R	1225515046	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)

<u>Method</u>	<u>Method Description</u>
EPA 602/624	602 Aromatics by 624 (W)
EPA 625M SIM (PAH) LV	625 PAH SIM GC/MS Low Volume
SM21 2320B	Alkalinity as CaCO3 QC
SW6020B	Dissolved Metals by ICP-MS
EPA 300.0	Ion Chromatographic Analysis (W)
SW6020B	Metals by ICP-MS
SM21 4500NO3-F	Nitrate/Nitrite Flow injection Pres.
SW8260D	Volatile Organic Compounds (W)

Print Date: 09/29/2022 4:13:17PM



### Detectable Results Summary

Client Sample ID: **W-7**

Lab Sample ID: 1225515002

**Polynuclear Aromatics GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Fluorene	0.0159J	ug/L
Naphthalene	0.0320J	ug/L
Phenanthrene	0.0385J	ug/L

Client Sample ID: **Duplicate 1**

Lab Sample ID: 1225515003

**Polynuclear Aromatics GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Phenanthrene	0.0301J	ug/L

Client Sample ID: **W-5**

Lab Sample ID: 1225515005

**Polynuclear Aromatics GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Phenanthrene	0.0295J	ug/L

Client Sample ID: **W-1P**

Lab Sample ID: 1225515006

**Metals by ICP/MS**

**Waters Department**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Iron	2180	ug/L
Alkalinity	11.9	mg/L
Sulfate	0.0910J	mg/L
Total Nitrate/Nitrite-N	0.0550J	mg/L

Client Sample ID: **TW-13**

Lab Sample ID: 1225515010

**Metals by ICP/MS**

**Volatile GC/MS**

**Waters Department**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Iron	52400	ug/L
P & M -Xylene	50.7	ug/L
Xylenes (total)	50.7	ug/L
Alkalinity	192	mg/L
Total Nitrate/Nitrite-N	0.172J	mg/L

Client Sample ID: **TW-4R**

Lab Sample ID: 1225515014

**Metals by ICP/MS**

**Waters Department**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Iron	55900	ug/L
Alkalinity	238	mg/L
Sulfate	3.62	mg/L
Total Nitrate/Nitrite-N	0.194J	mg/L

Client Sample ID: **TW-26**

Lab Sample ID: 1225515017

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	0.400	ug/L
Ethylbenzene	0.960J	ug/L
P & M -Xylene	84.3	ug/L
Xylenes (total)	84.3	ug/L

Client Sample ID: **TW-25**

Lab Sample ID: 1225515020

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	0.266J	ug/L
Ethylbenzene	22.8	ug/L
o-Xylene	0.873J	ug/L
P & M -Xylene	110	ug/L
Xylenes (total)	111	ug/L

Print Date: 09/29/2022 4:13:18PM

### Detectable Results Summary

Client Sample ID: **Duplicate 3**

Lab Sample ID: 1225515023

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	0.254J	ug/L
Ethylbenzene	21.3	ug/L
o-Xylene	0.880J	ug/L
P & M -Xylene	103	ug/L
Xylenes (total)	104	ug/L

Client Sample ID: **TW-24**

Lab Sample ID: 1225515024

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	0.133J	ug/L
Ethylbenzene	42.1	ug/L
P & M -Xylene	3.24	ug/L
Xylenes (total)	3.24	ug/L

Client Sample ID: **TW-21**

Lab Sample ID: 1225515028

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Ethylbenzene	1980	ug/L
o-Xylene	1280	ug/L
P & M -Xylene	5770	ug/L
Toluene	6.62J	ug/L
Xylenes (total)	7050	ug/L

Client Sample ID: **TW-7**

Lab Sample ID: 1225515029

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	0.185J	ug/L
Ethylbenzene	5.35	ug/L
o-Xylene	0.400J	ug/L
P & M -Xylene	77.2	ug/L
Xylenes (total)	77.6	ug/L

Client Sample ID: **TW-7D**

Lab Sample ID: 1225515030

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	0.183J	ug/L
Ethylbenzene	3.25	ug/L
o-Xylene	0.310J	ug/L
P & M -Xylene	67.5	ug/L
Xylenes (total)	67.8	ug/L

Client Sample ID: **TW-6**

Lab Sample ID: 1225515032

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	0.320J	ug/L
P & M -Xylene	24.9	ug/L
Xylenes (total)	24.9	ug/L

Print Date: 09/29/2022 4:13:18PM

### Detectable Results Summary

Client Sample ID: **TW-6D**  
 Lab Sample ID: 1225515033

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	0.231J	ug/L
P & M -Xylene	9.89	ug/L
Xylenes (total)	9.89	ug/L

Client Sample ID: **TW-18D**  
 Lab Sample ID: 1225515034

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	0.298J	ug/L
Ethylbenzene	2.00	ug/L
P & M -Xylene	441	ug/L
Xylenes (total)	441	ug/L

Client Sample ID: **TW-18**  
 Lab Sample ID: 1225515035

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	0.125J	ug/L
P & M -Xylene	2.02	ug/L
Xylenes (total)	2.02J	ug/L

Client Sample ID: **Duplicate 4**  
 Lab Sample ID: 1225515036

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
P & M -Xylene	1.94J	ug/L
Xylenes (total)	1.94J	ug/L

Client Sample ID: **TW-19D**  
 Lab Sample ID: 1225515038

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	0.141J	ug/L
Ethylbenzene	4.31	ug/L
P & M -Xylene	104	ug/L
Xylenes (total)	105	ug/L

Client Sample ID: **TW-19S**  
 Lab Sample ID: 1225515039

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	0.136J	ug/L
P & M -Xylene	47.1	ug/L
Xylenes (total)	47.1	ug/L

Client Sample ID: **W-6**  
 Lab Sample ID: 1225515042

**Polynuclear Aromatics GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Fluoranthene	0.0156J	ug/L

Client Sample ID: **W-1P**  
 Lab Sample ID: 1225515044

**Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Iron	915	ug/L

Client Sample ID: **TW-13**  
 Lab Sample ID: 1225515045

**Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Iron	52500	ug/L

## Detectable Results Summary

Client Sample ID: **TW-4R**  
Lab Sample ID: 1225515046  
**Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Iron	54700	ug/L

Print Date: 09/29/2022 4:13:18PM



**Results of W-3A**

Client Sample ID: **W-3A**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515001  
Lab Project ID: 1225515

Collection Date: 09/07/22 10:25  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Polynuclear Aromatics GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Acenaphthene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 02:45
Acenaphthylene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 02:45
Anthracene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 02:45
Benzo(a)Anthracene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 02:45
Benzo[a]pyrene	0.00960 U	0.0192	0.00596	ug/L	1		09/21/22 02:45
Benzo[b]Fluoranthene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 02:45
Benzo[g,h,i]perylene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 02:45
Benzo[k]fluoranthene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 02:45
Chrysene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 02:45
Dibenzo[a,h]anthracene	0.00960 U	0.0192	0.00596	ug/L	1		09/21/22 02:45
Fluoranthene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 02:45
Fluorene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 02:45
Indeno[1,2,3-c,d] pyrene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 02:45
Naphthalene	0.0481 U	0.0962	0.0298	ug/L	1		09/21/22 02:45
Phenanthrene	0.0481 U	0.0962	0.0298	ug/L	1		09/21/22 02:45
Pyrene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 02:45
<b>Surrogates</b>							
2-Methylnaphthalene-d10 (surr)	46.3	42-86		%	1		09/21/22 02:45
Fluoranthene-d10 (surr)	21.8 *	50-97		%	1		09/21/22 02:45

**Batch Information**

Analytical Batch: XMS13361  
Analytical Method: EPA 625M SIM (PAH) LV  
Analyst: NGG  
Analytical Date/Time: 09/21/22 02:45  
Container ID: 1225515001-D

Prep Batch: XXX46972  
Prep Method: SW3535A  
Prep Date/Time: 09/13/22 09:32  
Prep Initial Wt./Vol.: 260 mL  
Prep Extract Vol: 1 mL

## Results of W-3A

Client Sample ID: **W-3A**  
 Client Project ID: **SRU-COBC**  
 Lab Sample ID: 1225515001  
 Lab Project ID: 1225515

Collection Date: 09/07/22 10:25  
 Received Date: 09/12/22 11:11  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

## Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		09/19/22 18:49
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/19/22 18:49
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/19/22 18:49
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/19/22 18:49
Toluene	0.500 U	1.00	0.310	ug/L	1		09/19/22 18:49

## Surrogates

1,2-Dichloroethane-D4 (surr)	111	81-118		%	1		09/19/22 18:49
4-Bromofluorobenzene (surr)	96.3	85-114		%	1		09/19/22 18:49
Toluene-d8 (surr)	102	89-112		%	1		09/19/22 18:49

## Batch Information

Analytical Batch: VMS21988  
 Analytical Method: EPA 602/624  
 Analyst: AZL  
 Analytical Date/Time: 09/19/22 18:49  
 Container ID: 1225515001-A

Prep Batch: VXX39200  
 Prep Method: SW5030B  
 Prep Date/Time: 09/19/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



### Results of W-7

Client Sample ID: **W-7**  
 Client Project ID: **SRU-COBC**  
 Lab Sample ID: 1225515002  
 Lab Project ID: 1225515

Collection Date: 09/07/22 10:35  
 Received Date: 09/12/22 11:11  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Polynuclear Aromatics GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Acenaphthene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:06
Acenaphthylene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:06
Anthracene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:06
Benzo(a)Anthracene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:06
Benzo[a]pyrene	0.00960 U	0.0192	0.00596	ug/L	1		09/21/22 03:06
Benzo[b]Fluoranthene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:06
Benzo[g,h,i]perylene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:06
Benzo[k]fluoranthene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:06
Chrysene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:06
Dibenzo[a,h]anthracene	0.00960 U	0.0192	0.00596	ug/L	1		09/21/22 03:06
Fluoranthene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:06
Fluorene	0.0159 J	0.0481	0.0144	ug/L	1		09/21/22 03:06
Indeno[1,2,3-c,d] pyrene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:06
Naphthalene	0.0320 J	0.0962	0.0298	ug/L	1		09/21/22 03:06
Phenanthrene	0.0385 J	0.0962	0.0298	ug/L	1		09/21/22 03:06
Pyrene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:06
<b>Surrogates</b>							
2-Methylnaphthalene-d10 (surr)	55.8	42-86		%	1		09/21/22 03:06
Fluoranthene-d10 (surr)	28.9 *	50-97		%	1		09/21/22 03:06

### Batch Information

Analytical Batch: XMS13361  
 Analytical Method: EPA 625M SIM (PAH) LV  
 Analyst: NGG  
 Analytical Date/Time: 09/21/22 03:06  
 Container ID: 1225515002-D

Prep Batch: XXX46972  
 Prep Method: SW3535A  
 Prep Date/Time: 09/13/22 09:32  
 Prep Initial Wt./Vol.: 260 mL  
 Prep Extract Vol: 1 mL



Results of **W-7**

Client Sample ID: **W-7**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515002  
Lab Project ID: 1225515

Collection Date: 09/07/22 10:35  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		09/19/22 19:04
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/19/22 19:04
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/19/22 19:04
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/19/22 19:04
Toluene	0.500 U	1.00	0.310	ug/L	1		09/19/22 19:04
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	112	81-118		%	1		09/19/22 19:04
4-Bromofluorobenzene (surr)	95.2	85-114		%	1		09/19/22 19:04
Toluene-d8 (surr)	102	89-112		%	1		09/19/22 19:04

**Batch Information**

Analytical Batch: VMS21988  
Analytical Method: EPA 602/624  
Analyst: AZL  
Analytical Date/Time: 09/19/22 19:04  
Container ID: 1225515002-A

Prep Batch: VXX39200  
Prep Method: SW5030B  
Prep Date/Time: 09/19/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL





**Results of Duplicate 1**

Client Sample ID: **Duplicate 1**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515003  
Lab Project ID: 1225515

Collection Date: 09/07/22 10:38  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Polynuclear Aromatics GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Acenaphthene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:26
Acenaphthylene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:26
Anthracene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:26
Benzo(a)Anthracene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:26
Benzo[a]pyrene	0.00960 U	0.0192	0.00596	ug/L	1		09/21/22 03:26
Benzo[b]Fluoranthene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:26
Benzo[g,h,i]perylene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:26
Benzo[k]fluoranthene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:26
Chrysene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:26
Dibenzo[a,h]anthracene	0.00960 U	0.0192	0.00596	ug/L	1		09/21/22 03:26
Fluoranthene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:26
Fluorene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:26
Indeno[1,2,3-c,d] pyrene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:26
Naphthalene	0.0481 U	0.0962	0.0298	ug/L	1		09/21/22 03:26
Phenanthrene	0.0301 J	0.0962	0.0298	ug/L	1		09/21/22 03:26
Pyrene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:26
<b>Surrogates</b>							
2-Methylnaphthalene-d10 (surr)	73.3	42-86		%	1		09/21/22 03:26
Fluoranthene-d10 (surr)	66	50-97		%	1		09/21/22 03:26

**Batch Information**

Analytical Batch: XMS13361  
Analytical Method: EPA 625M SIM (PAH) LV  
Analyst: NGG  
Analytical Date/Time: 09/21/22 03:26  
Container ID: 1225515003-D

Prep Batch: XXX46972  
Prep Method: SW3535A  
Prep Date/Time: 09/13/22 09:32  
Prep Initial Wt./Vol.: 260 mL  
Prep Extract Vol: 1 mL

## Results of Duplicate 1

Client Sample ID: **Duplicate 1**  
 Client Project ID: **SRU-COBC**  
 Lab Sample ID: 1225515003  
 Lab Project ID: 1225515

Collection Date: 09/07/22 10:38  
 Received Date: 09/12/22 11:11  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

## Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		09/19/22 19:19
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/19/22 19:19
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/19/22 19:19
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/19/22 19:19
Toluene	0.500 U	1.00	0.310	ug/L	1		09/19/22 19:19
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	113	81-118		%	1		09/19/22 19:19
4-Bromofluorobenzene (surr)	97.5	85-114		%	1		09/19/22 19:19
Toluene-d8 (surr)	101	89-112		%	1		09/19/22 19:19

## Batch Information

Analytical Batch: VMS21988  
 Analytical Method: EPA 602/624  
 Analyst: AZL  
 Analytical Date/Time: 09/19/22 19:19  
 Container ID: 1225515003-A

Prep Batch: VXX39200  
 Prep Method: SW5030B  
 Prep Date/Time: 09/19/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



Results of **W-1E**

Client Sample ID: **W-1E**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515004  
Lab Project ID: 1225515

Collection Date: 09/07/22 11:00  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Polynuclear Aromatics GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Acenaphthene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:47
Acenaphthylene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:47
Anthracene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:47
Benzo(a)Anthracene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:47
Benzo[a]pyrene	0.00960 U	0.0192	0.00596	ug/L	1		09/21/22 03:47
Benzo[b]Fluoranthene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:47
Benzo[g,h,i]perylene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:47
Benzo[k]fluoranthene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:47
Chrysene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:47
Dibenzo[a,h]anthracene	0.00960 U	0.0192	0.00596	ug/L	1		09/21/22 03:47
Fluoranthene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:47
Fluorene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:47
Indeno[1,2,3-c,d] pyrene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:47
Naphthalene	0.0481 U	0.0962	0.0298	ug/L	1		09/21/22 03:47
Phenanthrene	0.0481 U	0.0962	0.0298	ug/L	1		09/21/22 03:47
Pyrene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:47
<b>Surrogates</b>							
2-Methylnaphthalene-d10 (surr)	76.7	42-86		%	1		09/21/22 03:47
Fluoranthene-d10 (surr)	87.3	50-97		%	1		09/21/22 03:47

**Batch Information**

Analytical Batch: XMS13361  
Analytical Method: EPA 625M SIM (PAH) LV  
Analyst: NGG  
Analytical Date/Time: 09/21/22 03:47  
Container ID: 1225515004-D

Prep Batch: XXX46972  
Prep Method: SW3535A  
Prep Date/Time: 09/13/22 09:32  
Prep Initial Wt./Vol.: 260 mL  
Prep Extract Vol: 1 mL

## Results of W-1E

Client Sample ID: **W-1E**  
 Client Project ID: **SRU-COBC**  
 Lab Sample ID: 1225515004  
 Lab Project ID: 1225515

Collection Date: 09/07/22 11:00  
 Received Date: 09/12/22 11:11  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

## Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		09/19/22 19:34
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/19/22 19:34
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/19/22 19:34
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/19/22 19:34
Toluene	0.500 U	1.00	0.310	ug/L	1		09/19/22 19:34
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	112	81-118		%	1		09/19/22 19:34
4-Bromofluorobenzene (surr)	95.7	85-114		%	1		09/19/22 19:34
Toluene-d8 (surr)	103	89-112		%	1		09/19/22 19:34

## Batch Information

Analytical Batch: VMS21988  
 Analytical Method: EPA 602/624  
 Analyst: AZL  
 Analytical Date/Time: 09/19/22 19:34  
 Container ID: 1225515004-A

Prep Batch: VXX39200  
 Prep Method: SW5030B  
 Prep Date/Time: 09/19/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



Results of W-5

Client Sample ID: W-5
Client Project ID: SRU-COBC
Lab Sample ID: 1225515005
Lab Project ID: 1225515

Collection Date: 09/07/22 11:10
Received Date: 09/12/22 11:11
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Polynuclear Aromatics GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists various polynuclear aromatic hydrocarbons and their detection results.

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Lists surrogate compounds like 2-Methylnaphthalene-d10 and Fluoranthene-d10.

Batch Information

Analytical Batch: XMS13361
Analytical Method: EPA 625M SIM (PAH) LV
Analyst: NGG
Analytical Date/Time: 09/21/22 04:07
Container ID: 1225515005-D

Prep Batch: XXX46972
Prep Method: SW3535A
Prep Date/Time: 09/13/22 09:32
Prep Initial Wt./Vol.: 265 mL
Prep Extract Vol: 1 mL



Results of **W-5**

Client Sample ID: **W-5**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515005  
Lab Project ID: 1225515

Collection Date: 09/07/22 11:10  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		09/19/22 19:49
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/19/22 19:49
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/19/22 19:49
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/19/22 19:49
Toluene	0.500 U	1.00	0.310	ug/L	1		09/19/22 19:49

**Surrogates**

1,2-Dichloroethane-D4 (surr)	106	81-118		%	1		09/19/22 19:49
4-Bromofluorobenzene (surr)	96.8	85-114		%	1		09/19/22 19:49
Toluene-d8 (surr)	100	89-112		%	1		09/19/22 19:49

**Batch Information**

Analytical Batch: VMS21988  
Analytical Method: EPA 602/624  
Analyst: AZL  
Analytical Date/Time: 09/19/22 19:49  
Container ID: 1225515005-A

Prep Batch: VXX39200  
Prep Method: SW5030B  
Prep Date/Time: 09/19/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of W-1P**

Client Sample ID: **W-1P**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515006  
Lab Project ID: 1225515

Collection Date: 09/07/22 12:05  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Metals by ICP/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Iron	2180	500	150	ug/L	5		09/20/22 17:33

**Batch Information**

Analytical Batch: MMS11685  
Analytical Method: SW6020B  
Analyst: HGS  
Analytical Date/Time: 09/20/22 17:33  
Container ID: 1225515006-M

Prep Batch: MXX35463  
Prep Method: SW3010A  
Prep Date/Time: 09/15/22 09:42  
Prep Initial Wt./Vol.: 25 mL  
Prep Extract Vol: 25 mL



**Results of W-1P**

Client Sample ID: **W-1P**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515006  
Lab Project ID: 1225515

Collection Date: 09/07/22 12:05  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Polynuclear Aromatics GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Acenaphthene	0.0255 U	0.0510	0.0153	ug/L	1		09/21/22 04:28
Acenaphthylene	0.0255 U	0.0510	0.0153	ug/L	1		09/21/22 04:28
Anthracene	0.0255 U	0.0510	0.0153	ug/L	1		09/21/22 04:28
Benzo(a)Anthracene	0.0255 U	0.0510	0.0153	ug/L	1		09/21/22 04:28
Benzo[a]pyrene	0.0102 U	0.0204	0.00633	ug/L	1		09/21/22 04:28
Benzo[b]Fluoranthene	0.0255 U	0.0510	0.0153	ug/L	1		09/21/22 04:28
Benzo[g,h,i]perylene	0.0255 U	0.0510	0.0153	ug/L	1		09/21/22 04:28
Benzo[k]fluoranthene	0.0255 U	0.0510	0.0153	ug/L	1		09/21/22 04:28
Chrysene	0.0255 U	0.0510	0.0153	ug/L	1		09/21/22 04:28
Dibenzo[a,h]anthracene	0.0102 U	0.0204	0.00633	ug/L	1		09/21/22 04:28
Fluoranthene	0.0255 U	0.0510	0.0153	ug/L	1		09/21/22 04:28
Fluorene	0.0255 U	0.0510	0.0153	ug/L	1		09/21/22 04:28
Indeno[1,2,3-c,d] pyrene	0.0255 U	0.0510	0.0153	ug/L	1		09/21/22 04:28
Naphthalene	0.0510 U	0.102	0.0316	ug/L	1		09/21/22 04:28
Phenanthrene	0.0510 U	0.102	0.0316	ug/L	1		09/21/22 04:28
Pyrene	0.0255 U	0.0510	0.0153	ug/L	1		09/21/22 04:28
<b>Surrogates</b>							
2-Methylnaphthalene-d10 (surr)	78.9	42-86		%	1		09/21/22 04:28
Fluoranthene-d10 (surr)	74.5	50-97		%	1		09/21/22 04:28

**Batch Information**

Analytical Batch: XMS13361  
Analytical Method: EPA 625M SIM (PAH) LV  
Analyst: NGG  
Analytical Date/Time: 09/21/22 04:28  
Container ID: 1225515006-J

Prep Batch: XXX46972  
Prep Method: SW3535A  
Prep Date/Time: 09/13/22 09:32  
Prep Initial Wt./Vol.: 245 mL  
Prep Extract Vol: 1 mL





**Results of W-1P**

Client Sample ID: **W-1P**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515006  
Lab Project ID: 1225515

Collection Date: 09/07/22 12:05  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		09/21/22 16:38
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/21/22 16:38
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/21/22 16:38
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/21/22 16:38
Toluene	0.500 U	1.00	0.310	ug/L	1		09/21/22 16:38

**Surrogates**

1,2-Dichloroethane-D4 (surr)	102	81-118		%	1		09/21/22 16:38
4-Bromofluorobenzene (surr)	97.5	85-114		%	1		09/21/22 16:38
Toluene-d8 (surr)	96.5	89-112		%	1		09/21/22 16:38

**Batch Information**

Analytical Batch: VMS22009  
Analytical Method: EPA 602/624  
Analyst: AZL  
Analytical Date/Time: 09/21/22 16:38  
Container ID: 1225515006-A

Prep Batch: VXX39238  
Prep Method: SW5030B  
Prep Date/Time: 09/21/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		09/21/22 16:38
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/21/22 16:38
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/21/22 16:38
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/21/22 16:38
Toluene	0.500 U	1.00	0.310	ug/L	1		09/21/22 16:38
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		09/21/22 16:38

**Surrogates**

1,2-Dichloroethane-D4 (surr)	102	81-118		%	1		09/21/22 16:38
4-Bromofluorobenzene (surr)	97.5	85-114		%	1		09/21/22 16:38
Toluene-d8 (surr)	96.5	89-112		%	1		09/21/22 16:38

**Batch Information**

Analytical Batch: VMS22009  
Analytical Method: SW8260D  
Analyst: NRB  
Analytical Date/Time: 09/21/22 16:38  
Container ID: 1225515006-A

Prep Batch: VXX39238  
Prep Method: SW5030B  
Prep Date/Time: 09/21/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of W-1P**

Client Sample ID: **W-1P**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515006  
Lab Project ID: 1225515

Collection Date: 09/07/22 12:05  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Waters Department**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Sulfate	0.0910 J	0.200	0.0500	mg/L	1		09/28/22 16:44

**Batch Information**

Analytical Batch: WIC6379	Prep Batch: WXX14474
Analytical Method: EPA 300.0	Prep Method: METHOD
Analyst: EBH	Prep Date/Time: 09/28/22 10:00
Analytical Date/Time: 09/28/22 16:44	Prep Initial Wt./Vol.: 10 mL
Container ID: 1225515006-L	Prep Extract Vol: 10 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Alkalinity	11.9	10.0	2.50	mg/L	1		09/15/22 17:43

**Batch Information**

Analytical Batch: WTI5958  
Analytical Method: SM21 2320B  
Analyst: IGK  
Analytical Date/Time: 09/15/22 17:43  
Container ID: 1225515006-L

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Nitrate/Nitrite-N	0.0550 J	0.200	0.0500	mg/L	2		09/27/22 12:55

**Batch Information**

Analytical Batch: WFI3006  
Analytical Method: SM21 4500NO3-F  
Analyst: EBH  
Analytical Date/Time: 09/27/22 12:55  
Container ID: 1225515006-O



### Results of W-1

Client Sample ID: **W-1**  
 Client Project ID: **SRU-COBC**  
 Lab Sample ID: 1225515007  
 Lab Project ID: 1225515

Collection Date: 09/07/22 12:20  
 Received Date: 09/12/22 11:11  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Polynuclear Aromatics GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Acenaphthene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:48
Acenaphthylene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:48
Anthracene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:48
Benzo(a)Anthracene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:48
Benzo[a]pyrene	0.00945 U	0.0189	0.00585	ug/L	1		09/21/22 04:48
Benzo[b]Fluoranthene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:48
Benzo[g,h,i]perylene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:48
Benzo[k]fluoranthene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:48
Chrysene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:48
Dibenzo[a,h]anthracene	0.00945 U	0.0189	0.00585	ug/L	1		09/21/22 04:48
Fluoranthene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:48
Fluorene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:48
Indeno[1,2,3-c,d] pyrene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:48
Naphthalene	0.0471 U	0.0943	0.0292	ug/L	1		09/21/22 04:48
Phenanthrene	0.0471 U	0.0943	0.0292	ug/L	1		09/21/22 04:48
Pyrene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:48
<b>Surrogates</b>							
2-Methylnaphthalene-d10 (surr)	81.2	42-86		%	1		09/21/22 04:48
Fluoranthene-d10 (surr)	78.1	50-97		%	1		09/21/22 04:48

### Batch Information

Analytical Batch: XMS13361  
 Analytical Method: EPA 625M SIM (PAH) LV  
 Analyst: NGG  
 Analytical Date/Time: 09/21/22 04:48  
 Container ID: 1225515007-D

Prep Batch: XXX46972  
 Prep Method: SW3535A  
 Prep Date/Time: 09/13/22 09:32  
 Prep Initial Wt./Vol.: 265 mL  
 Prep Extract Vol: 1 mL



**Results of W-1**

Client Sample ID: **W-1**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515007  
Lab Project ID: 1225515

Collection Date: 09/07/22 12:20  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		09/21/22 16:52
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/21/22 16:52
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/21/22 16:52
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/21/22 16:52
Toluene	0.500 U	1.00	0.310	ug/L	1		09/21/22 16:52

**Surrogates**

1,2-Dichloroethane-D4 (surr)	100	81-118		%	1		09/21/22 16:52
4-Bromofluorobenzene (surr)	97.2	85-114		%	1		09/21/22 16:52
Toluene-d8 (surr)	96.2	89-112		%	1		09/21/22 16:52

**Batch Information**

Analytical Batch: VMS22009  
Analytical Method: EPA 602/624  
Analyst: AZL  
Analytical Date/Time: 09/21/22 16:52  
Container ID: 1225515007-A

Prep Batch: VXX39238  
Prep Method: SW5030B  
Prep Date/Time: 09/21/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of TW-16

Client Sample ID: TW-16
Client Project ID: SRU-COBC
Lab Sample ID: 1225515008
Lab Project ID: 1225515

Collection Date: 09/07/22 13:47
Received Date: 09/12/22 11:11
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, and Xylenes (total).

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include 1,2-Dichloroethane-D4 (surr), 4-Bromofluorobenzene (surr), and Toluene-d8 (surr).

Batch Information

Analytical Batch: VMS22009
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 09/21/22 17:07
Container ID: 1225515008-A

Prep Batch: VXX39238
Prep Method: SW5030B
Prep Date/Time: 09/21/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL



Results of TW-15

Client Sample ID: TW-15
Client Project ID: SRU-COBC
Lab Sample ID: 1225515009
Lab Project ID: 1225515

Collection Date: 09/07/22 14:29
Received Date: 09/12/22 11:11
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, and Xylenes (total).

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include 1,2-Dichloroethane-D4 (surr), 4-Bromofluorobenzene (surr), and Toluene-d8 (surr).

Batch Information

Analytical Batch: VMS22009
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 09/21/22 17:22
Container ID: 1225515009-A

Prep Batch: VXX39238
Prep Method: SW5030B
Prep Date/Time: 09/21/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL



**Results of TW-13**

Client Sample ID: **TW-13**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515010  
Lab Project ID: 1225515

Collection Date: 09/07/22 14:59  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Metals by ICP/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Iron	52400	500	150	ug/L	5		09/20/22 17:36

**Batch Information**

Analytical Batch: MMS11685  
Analytical Method: SW6020B  
Analyst: HGS  
Analytical Date/Time: 09/20/22 17:36  
Container ID: 1225515010-H

Prep Batch: MXX35463  
Prep Method: SW3010A  
Prep Date/Time: 09/15/22 09:42  
Prep Initial Wt./Vol.: 25 mL  
Prep Extract Vol: 25 mL

## Results of TW-13

Client Sample ID: **TW-13**  
 Client Project ID: **SRU-COBC**  
 Lab Sample ID: 1225515010  
 Lab Project ID: 1225515

Collection Date: 09/07/22 14:59  
 Received Date: 09/12/22 11:11  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

## Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		09/20/22 19:29
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/20/22 19:29
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/20/22 19:29
P & M -Xylene	50.7	2.00	0.620	ug/L	1		09/20/22 19:29
Toluene	0.500 U	1.00	0.310	ug/L	1		09/20/22 19:29
Xylenes (total)	50.7	3.00	1.00	ug/L	1		09/20/22 19:29
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	107	81-118		%	1		09/20/22 19:29
4-Bromofluorobenzene (surr)	96	85-114		%	1		09/20/22 19:29
Toluene-d8 (surr)	101	89-112		%	1		09/20/22 19:29

## Batch Information

Analytical Batch: VMS22007  
 Analytical Method: SW8260D  
 Analyst: AZL  
 Analytical Date/Time: 09/20/22 19:29  
 Container ID: 1225515010-A

Prep Batch: VXX39236  
 Prep Method: SW5030B  
 Prep Date/Time: 09/20/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL





**Results of TW-13**

Client Sample ID: **TW-13**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515010  
Lab Project ID: 1225515

Collection Date: 09/07/22 14:59  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Waters Department**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Sulfate	0.100 U	0.200	0.0500	mg/L	1		09/28/22 17:22

**Batch Information**

Analytical Batch: WIC6379	Prep Batch: WXX14474
Analytical Method: EPA 300.0	Prep Method: METHOD
Analyst: EBH	Prep Date/Time: 09/28/22 10:00
Analytical Date/Time: 09/28/22 17:22	Prep Initial Wt./Vol.: 10 mL
Container ID: 1225515010-G	Prep Extract Vol: 10 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Alkalinity	192	10.0	2.50	mg/L	1		09/15/22 17:52

**Batch Information**

Analytical Batch: WTI5958  
 Analytical Method: SM21 2320B  
 Analyst: IGK  
 Analytical Date/Time: 09/15/22 17:52  
 Container ID: 1225515010-G

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Nitrate/Nitrite-N	0.172 J	0.200	0.0500	mg/L	2		09/27/22 12:57

**Batch Information**

Analytical Batch: WFI3006  
 Analytical Method: SM21 4500NO3-F  
 Analyst: EBH  
 Analytical Date/Time: 09/27/22 12:57  
 Container ID: 1225515010-J



**Results of FSS-1**

Client Sample ID: **FSS-1**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515011  
Lab Project ID: 1225515

Collection Date: 09/07/22 15:50  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		09/20/22 19:44
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/20/22 19:44
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/20/22 19:44
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/20/22 19:44
Toluene	0.500 U	1.00	0.310	ug/L	1		09/20/22 19:44
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		09/20/22 19:44

**Surrogates**

1,2-Dichloroethane-D4 (surr)	109	81-118		%	1		09/20/22 19:44
4-Bromofluorobenzene (surr)	97.2	85-114		%	1		09/20/22 19:44
Toluene-d8 (surr)	103	89-112		%	1		09/20/22 19:44

**Batch Information**

Analytical Batch: VMS22007  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/20/22 19:44  
Container ID: 1225515011-A

Prep Batch: VXX39236  
Prep Method: SW5030B  
Prep Date/Time: 09/20/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of Duplicate 2**

Client Sample ID: **Duplicate 2**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515012  
Lab Project ID: 1225515

Collection Date: 09/07/22 15:53  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		09/20/22 19:58
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/20/22 19:58
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/20/22 19:58
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/20/22 19:58
Toluene	0.500 U	1.00	0.310	ug/L	1		09/20/22 19:58
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		09/20/22 19:58
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	112	81-118		%	1		09/20/22 19:58
4-Bromofluorobenzene (surr)	97	85-114		%	1		09/20/22 19:58
Toluene-d8 (surr)	102	89-112		%	1		09/20/22 19:58

**Batch Information**

Analytical Batch: VMS22007  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/20/22 19:58  
Container ID: 1225515012-A

Prep Batch: VXX39236  
Prep Method: SW5030B  
Prep Date/Time: 09/20/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of FSS-2**

Client Sample ID: **FSS-2**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515013  
Lab Project ID: 1225515

Collection Date: 09/07/22 15:57  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		09/20/22 20:13
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/20/22 20:13
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/20/22 20:13
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/20/22 20:13
Toluene	0.500 U	1.00	0.310	ug/L	1		09/20/22 20:13
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		09/20/22 20:13

**Surrogates**

1,2-Dichloroethane-D4 (surr)	108	81-118		%	1		09/20/22 20:13
4-Bromofluorobenzene (surr)	96.1	85-114		%	1		09/20/22 20:13
Toluene-d8 (surr)	101	89-112		%	1		09/20/22 20:13

**Batch Information**

Analytical Batch: VMS22007  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/20/22 20:13  
Container ID: 1225515013-A

Prep Batch: VXX39236  
Prep Method: SW5030B  
Prep Date/Time: 09/20/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of TW-4R**

Client Sample ID: **TW-4R**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515014  
Lab Project ID: 1225515

Collection Date: 09/07/22 15:55  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Metals by ICP/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Iron	55900	500	150	ug/L	5		09/20/22 17:39

**Batch Information**

Analytical Batch: MMS11685  
Analytical Method: SW6020B  
Analyst: HGS  
Analytical Date/Time: 09/20/22 17:39  
Container ID: 1225515014-H

Prep Batch: MXX35463  
Prep Method: SW3010A  
Prep Date/Time: 09/15/22 09:42  
Prep Initial Wt./Vol.: 25 mL  
Prep Extract Vol: 25 mL



Results of TW-4R

Client Sample ID: TW-4R
Client Project ID: SRU-COBC
Lab Sample ID: 1225515014
Lab Project ID: 1225515

Collection Date: 09/07/22 15:55
Received Date: 09/12/22 11:11
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, and Xylenes (total).

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include 1,2-Dichloroethane-D4 (surr), 4-Bromofluorobenzene (surr), and Toluene-d8 (surr).

Batch Information

Analytical Batch: VMS22007
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 09/20/22 20:28
Container ID: 1225515014-A

Prep Batch: VXX39236
Prep Method: SW5030B
Prep Date/Time: 09/20/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL



**Results of TW-4R**

Client Sample ID: **TW-4R**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515014  
Lab Project ID: 1225515

Collection Date: 09/07/22 15:55  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Waters Department**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Sulfate	3.62	0.200	0.0500	mg/L	1		09/28/22 17:41

**Batch Information**

Analytical Batch: WIC6379	Prep Batch: WXX14474
Analytical Method: EPA 300.0	Prep Method: METHOD
Analyst: EBH	Prep Date/Time: 09/28/22 10:00
Analytical Date/Time: 09/28/22 17:41	Prep Initial Wt./Vol.: 10 mL
Container ID: 1225515014-G	Prep Extract Vol: 10 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Alkalinity	238	10.0	2.50	mg/L	1		09/15/22 18:02

**Batch Information**

Analytical Batch: WTI5958  
 Analytical Method: SM21 2320B  
 Analyst: IGK  
 Analytical Date/Time: 09/15/22 18:02  
 Container ID: 1225515014-G

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Nitrate/Nitrite-N	0.194 J	0.200	0.0500	mg/L	2		09/27/22 12:59

**Batch Information**

Analytical Batch: WFI3006  
 Analytical Method: SM21 4500NO3-F  
 Analyst: EBH  
 Analytical Date/Time: 09/27/22 12:59  
 Container ID: 1225515014-J



Results of **PSW-1**

Client Sample ID: **PSW-1**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515015  
Lab Project ID: 1225515

Collection Date: 09/07/22 16:22  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		09/20/22 20:43
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/20/22 20:43
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/20/22 20:43
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/20/22 20:43
Toluene	0.500 U	1.00	0.310	ug/L	1		09/20/22 20:43
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		09/20/22 20:43
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	114	81-118		%	1		09/20/22 20:43
4-Bromofluorobenzene (surr)	95.6	85-114		%	1		09/20/22 20:43
Toluene-d8 (surr)	102	89-112		%	1		09/20/22 20:43

**Batch Information**

Analytical Batch: VMS22007  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/20/22 20:43  
Container ID: 1225515015-A

Prep Batch: VXX39236  
Prep Method: SW5030B  
Prep Date/Time: 09/20/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL





Results of **PSW-2**

Client Sample ID: **PSW-2**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515016  
Lab Project ID: 1225515

Collection Date: 09/07/22 16:35  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		09/20/22 20:58
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/20/22 20:58
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/20/22 20:58
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/20/22 20:58
Toluene	0.500 U	1.00	0.310	ug/L	1		09/20/22 20:58
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		09/20/22 20:58
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	112	81-118		%	1		09/20/22 20:58
4-Bromofluorobenzene (surr)	95.6	85-114		%	1		09/20/22 20:58
Toluene-d8 (surr)	102	89-112		%	1		09/20/22 20:58

**Batch Information**

Analytical Batch: VMS22007  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/20/22 20:58  
Container ID: 1225515016-A

Prep Batch: VXX39236  
Prep Method: SW5030B  
Prep Date/Time: 09/20/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of TW-26

Client Sample ID: TW-26
Client Project ID: SRU-COBC
Lab Sample ID: 1225515017
Lab Project ID: 1225515

Collection Date: 09/07/22 17:00
Received Date: 09/12/22 11:11
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, and Xylenes (total).

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include 1,2-Dichloroethane-D4 (surr), 4-Bromofluorobenzene (surr), and Toluene-d8 (surr).

Batch Information

Analytical Batch: VMS22007
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 09/20/22 18:59
Container ID: 1225515017-A

Prep Batch: VXX39236
Prep Method: SW5030B
Prep Date/Time: 09/20/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL



Results of TW-25

Client Sample ID: TW-25  
Client Project ID: SRU-COBC  
Lab Sample ID: 1225515020  
Lab Project ID: 1225515

Collection Date: 09/08/22 10:47  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.266 J	0.400	0.120	ug/L	1		09/21/22 16:23
Ethylbenzene	22.8	1.00	0.310	ug/L	1		09/21/22 16:23
o-Xylene	0.873 J	1.00	0.310	ug/L	1		09/21/22 16:23
P & M -Xylene	110	2.00	0.620	ug/L	1		09/21/22 16:23
Toluene	0.500 U	1.00	0.310	ug/L	1		09/21/22 16:23
Xylenes (total)	111	3.00	1.00	ug/L	1		09/21/22 16:23
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	102	81-118		%	1		09/21/22 16:23
4-Bromofluorobenzene (surr)	96.1	85-114		%	1		09/21/22 16:23
Toluene-d8 (surr)	96.5	89-112		%	1		09/21/22 16:23

Batch Information

Analytical Batch: VMS22009  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/21/22 16:23  
Container ID: 1225515020-A

Prep Batch: VXX39238  
Prep Method: SW5030B  
Prep Date/Time: 09/21/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of Duplicate 3**

Client Sample ID: **Duplicate 3**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515023  
Lab Project ID: 1225515

Collection Date: 09/08/22 10:50  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.254 J	0.400	0.120	ug/L	1		09/21/22 17:37
Ethylbenzene	21.3	1.00	0.310	ug/L	1		09/21/22 17:37
o-Xylene	0.880 J	1.00	0.310	ug/L	1		09/21/22 17:37
P & M -Xylene	103	2.00	0.620	ug/L	1		09/21/22 17:37
Toluene	0.500 U	1.00	0.310	ug/L	1		09/21/22 17:37
Xylenes (total)	104	3.00	1.00	ug/L	1		09/21/22 17:37

**Surrogates**

1,2-Dichloroethane-D4 (surr)	104	81-118		%	1		09/21/22 17:37
4-Bromofluorobenzene (surr)	95	85-114		%	1		09/21/22 17:37
Toluene-d8 (surr)	97.1	89-112		%	1		09/21/22 17:37

**Batch Information**

Analytical Batch: VMS22009  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/21/22 17:37  
Container ID: 1225515023-A

Prep Batch: VXX39238  
Prep Method: SW5030B  
Prep Date/Time: 09/21/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of TW-24

Client Sample ID: TW-24
Client Project ID: SRU-COBC
Lab Sample ID: 1225515024
Lab Project ID: 1225515

Collection Date: 09/08/22 11:22
Received Date: 09/12/22 11:11
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, Xylenes (total), and Surrogates (1,2-Dichloroethane-D4, 4-Bromofluorobenzene, Toluene-d8).

Batch Information

Analytical Batch: VMS22009
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 09/21/22 17:51
Container ID: 1225515024-A

Prep Batch: VXX39238
Prep Method: SW5030B
Prep Date/Time: 09/21/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL



Results of TW-23

Client Sample ID: TW-23
Client Project ID: SRU-COBC
Lab Sample ID: 1225515025
Lab Project ID: 1225515

Collection Date: 09/08/22 12:03
Received Date: 09/12/22 11:11
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, and Xylenes (total).

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include 1,2-Dichloroethane-D4 (surr), 4-Bromofluorobenzene (surr), and Toluene-d8 (surr).

Batch Information

Analytical Batch: VMS22009
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 09/21/22 18:06
Container ID: 1225515025-A

Prep Batch: VXX39238
Prep Method: SW5030B
Prep Date/Time: 09/21/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL



**Results of TW-8**

Client Sample ID: **TW-8**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515026  
Lab Project ID: 1225515

Collection Date: 09/08/22 12:04  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		09/21/22 18:21
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/21/22 18:21
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/21/22 18:21
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/21/22 18:21
Toluene	0.500 U	1.00	0.310	ug/L	1		09/21/22 18:21
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		09/21/22 18:21

**Surrogates**

1,2-Dichloroethane-D4 (surr)	103	81-118		%	1		09/21/22 18:21
4-Bromofluorobenzene (surr)	97.5	85-114		%	1		09/21/22 18:21
Toluene-d8 (surr)	95.3	89-112		%	1		09/21/22 18:21

**Batch Information**

Analytical Batch: VMS22009  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/21/22 18:21  
Container ID: 1225515026-A

Prep Batch: VXX39238  
Prep Method: SW5030B  
Prep Date/Time: 09/21/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



### Results of TW-22

Client Sample ID: **TW-22**  
 Client Project ID: **SRU-COBC**  
 Lab Sample ID: 1225515027  
 Lab Project ID: 1225515

Collection Date: 09/08/22 12:54  
 Received Date: 09/12/22 11:11  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		09/21/22 18:36
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/21/22 18:36
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/21/22 18:36
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/21/22 18:36
Toluene	0.500 U	1.00	0.310	ug/L	1		09/21/22 18:36
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		09/21/22 18:36

### Surrogates

1,2-Dichloroethane-D4 (surr)	104	81-118		%	1		09/21/22 18:36
4-Bromofluorobenzene (surr)	97.9	85-114		%	1		09/21/22 18:36
Toluene-d8 (surr)	95	89-112		%	1		09/21/22 18:36

### Batch Information

Analytical Batch: VMS22009  
 Analytical Method: SW8260D  
 Analyst: AZL  
 Analytical Date/Time: 09/21/22 18:36  
 Container ID: 1225515027-A

Prep Batch: VXX39238  
 Prep Method: SW5030B  
 Prep Date/Time: 09/21/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL





Results of TW-21

Client Sample ID: TW-21
Client Project ID: SRU-COBC
Lab Sample ID: 1225515028
Lab Project ID: 1225515

Collection Date: 09/08/22 13:17
Received Date: 09/12/22 11:11
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, and Xylenes (total).

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include 1,2-Dichloroethane-D4 (surr), 4-Bromofluorobenzene (surr), and Toluene-d8 (surr).

Batch Information

Analytical Batch: VMS22009
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 09/21/22 20:34
Container ID: 1225515028-A

Prep Batch: VXX39238
Prep Method: SW5030B
Prep Date/Time: 09/21/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL



Results of TW-7

Client Sample ID: TW-7
Client Project ID: SRU-COBC
Lab Sample ID: 1225515029
Lab Project ID: 1225515

Collection Date: 09/08/22 14:01
Received Date: 09/12/22 11:11
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, and Xylenes (total).

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include 1,2-Dichloroethane-D4 (surr), 4-Bromofluorobenzene (surr), and Toluene-d8 (surr).

Batch Information

Analytical Batch: VMS22009
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 09/21/22 18:50
Container ID: 1225515029-A

Prep Batch: VXX39238
Prep Method: SW5030B
Prep Date/Time: 09/21/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL



Results of TW-7D

Client Sample ID: TW-7D
Client Project ID: SRU-COBC
Lab Sample ID: 1225515030
Lab Project ID: 1225515

Collection Date: 09/08/22 14:09
Received Date: 09/12/22 11:11
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, Xylenes (total), and Surrogates (1,2-Dichloroethane-D4, 4-Bromofluorobenzene, Toluene-d8).

Batch Information

Analytical Batch: VMS22009
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 09/21/22 19:05
Container ID: 1225515030-A

Prep Batch: VXX39238
Prep Method: SW5030B
Prep Date/Time: 09/21/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL



**Results of TW-20**

Client Sample ID: **TW-20**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515031  
Lab Project ID: 1225515

Collection Date: 09/08/22 14:47  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		09/21/22 19:20
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/21/22 19:20
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/21/22 19:20
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/21/22 19:20
Toluene	0.500 U	1.00	0.310	ug/L	1		09/21/22 19:20
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		09/21/22 19:20

**Surrogates**

1,2-Dichloroethane-D4 (surr)	101	81-118		%	1		09/21/22 19:20
4-Bromofluorobenzene (surr)	97.4	85-114		%	1		09/21/22 19:20
Toluene-d8 (surr)	96.9	89-112		%	1		09/21/22 19:20

**Batch Information**

Analytical Batch: VMS22009  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/21/22 19:20  
Container ID: 1225515031-A

Prep Batch: VXX39238  
Prep Method: SW5030B  
Prep Date/Time: 09/21/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of TW-6**

Client Sample ID: **TW-6**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515032  
Lab Project ID: 1225515

Collection Date: 09/08/22 15:31  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.320 J	0.400	0.120	ug/L	1		09/21/22 19:35
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/21/22 19:35
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/21/22 19:35
P & M -Xylene	24.9	2.00	0.620	ug/L	1		09/21/22 19:35
Toluene	0.500 U	1.00	0.310	ug/L	1		09/21/22 19:35
Xylenes (total)	24.9	3.00	1.00	ug/L	1		09/21/22 19:35
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	99.8	81-118		%	1		09/21/22 19:35
4-Bromofluorobenzene (surr)	97.4	85-114		%	1		09/21/22 19:35
Toluene-d8 (surr)	96.7	89-112		%	1		09/21/22 19:35

**Batch Information**

Analytical Batch: VMS22009  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/21/22 19:35  
Container ID: 1225515032-A

Prep Batch: VXX39238  
Prep Method: SW5030B  
Prep Date/Time: 09/21/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of TW-6D

Client Sample ID: TW-6D
Client Project ID: SRU-COBC
Lab Sample ID: 1225515033
Lab Project ID: 1225515

Collection Date: 09/08/22 16:11
Received Date: 09/12/22 11:11
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, Xylenes (total), and Surrogates (1,2-Dichloroethane-D4, 4-Bromofluorobenzene, Toluene-d8).

Batch Information

Analytical Batch: VMS22009
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 09/21/22 19:50
Container ID: 1225515033-A

Prep Batch: VXX39238
Prep Method: SW5030B
Prep Date/Time: 09/21/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL



Results of TW-18D

Client Sample ID: TW-18D
Client Project ID: SRU-COBC
Lab Sample ID: 1225515034
Lab Project ID: 1225515

Collection Date: 09/08/22 16:24
Received Date: 09/12/22 11:11
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, Xylenes (total), and Surrogates (1,2-Dichloroethane-D4, 4-Bromofluorobenzene, Toluene-d8).

Batch Information

Analytical Batch: VMS22009
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 09/21/22 20:04
Container ID: 1225515034-A

Prep Batch: VXX39238
Prep Method: SW5030B
Prep Date/Time: 09/21/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL



### Results of TW-18

Client Sample ID: **TW-18**  
 Client Project ID: **SRU-COBC**  
 Lab Sample ID: 1225515035  
 Lab Project ID: 1225515

Collection Date: 09/09/22 10:05  
 Received Date: 09/12/22 11:11  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.125 J	0.400	0.120	ug/L	1		09/22/22 17:50
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/22/22 17:50
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/22/22 17:50
P & M -Xylene	2.02	2.00	0.620	ug/L	1		09/22/22 17:50
Toluene	0.500 U	1.00	0.310	ug/L	1		09/22/22 17:50
Xylenes (total)	2.02 J	3.00	1.00	ug/L	1		09/22/22 17:50
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	102	81-118		%	1		09/22/22 17:50
4-Bromofluorobenzene (surr)	95.1	85-114		%	1		09/22/22 17:50
Toluene-d8 (surr)	95	89-112		%	1		09/22/22 17:50

### Batch Information

Analytical Batch: VMS21998  
 Analytical Method: SW8260D  
 Analyst: AZL  
 Analytical Date/Time: 09/22/22 17:50  
 Container ID: 1225515035-A

Prep Batch: VXX39221  
 Prep Method: SW5030B  
 Prep Date/Time: 09/22/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL





### Results of Duplicate 4

Client Sample ID: **Duplicate 4**  
 Client Project ID: **SRU-COBC**  
 Lab Sample ID: 1225515036  
 Lab Project ID: 1225515

Collection Date: 09/09/22 10:08  
 Received Date: 09/12/22 11:11  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Volatile GC/MS

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		09/22/22 18:05
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/22/22 18:05
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/22/22 18:05
P & M -Xylene	1.94 J	2.00	0.620	ug/L	1		09/22/22 18:05
Toluene	0.500 U	1.00	0.310	ug/L	1		09/22/22 18:05
Xylenes (total)	1.94 J	3.00	1.00	ug/L	1		09/22/22 18:05

### Surrogates

1,2-Dichloroethane-D4 (surr)	103	81-118		%	1		09/22/22 18:05
4-Bromofluorobenzene (surr)	95.1	85-114		%	1		09/22/22 18:05
Toluene-d8 (surr)	96.8	89-112		%	1		09/22/22 18:05

### Batch Information

Analytical Batch: VMS21998  
 Analytical Method: SW8260D  
 Analyst: AZL  
 Analytical Date/Time: 09/22/22 18:05  
 Container ID: 1225515036-A

Prep Batch: VXX39221  
 Prep Method: SW5030B  
 Prep Date/Time: 09/22/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



**Results of TW-17**

Client Sample ID: **TW-17**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515037  
Lab Project ID: 1225515

Collection Date: 09/09/22 10:15  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		09/22/22 18:20
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/22/22 18:20
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/22/22 18:20
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/22/22 18:20
Toluene	0.500 U	1.00	0.310	ug/L	1		09/22/22 18:20
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		09/22/22 18:20
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	103	81-118		%	1		09/22/22 18:20
4-Bromofluorobenzene (surr)	96.4	85-114		%	1		09/22/22 18:20
Toluene-d8 (surr)	96.2	89-112		%	1		09/22/22 18:20

**Batch Information**

Analytical Batch: VMS21998  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/22/22 18:20  
Container ID: 1225515037-A

Prep Batch: VXX39221  
Prep Method: SW5030B  
Prep Date/Time: 09/22/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of TW-19D**

Client Sample ID: **TW-19D**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515038  
Lab Project ID: 1225515

Collection Date: 09/09/22 11:02  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.141 J	0.400	0.120	ug/L	1		09/22/22 18:34
Ethylbenzene	4.31	1.00	0.310	ug/L	1		09/22/22 18:34
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/22/22 18:34
P & M -Xylene	104	2.00	0.620	ug/L	1		09/22/22 18:34
Toluene	0.500 U	1.00	0.310	ug/L	1		09/22/22 18:34
Xylenes (total)	105	3.00	1.00	ug/L	1		09/22/22 18:34
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	105	81-118		%	1		09/22/22 18:34
4-Bromofluorobenzene (surr)	97.1	85-114		%	1		09/22/22 18:34
Toluene-d8 (surr)	96.1	89-112		%	1		09/22/22 18:34

**Batch Information**

Analytical Batch: VMS21998  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/22/22 18:34  
Container ID: 1225515038-A

Prep Batch: VXX39221  
Prep Method: SW5030B  
Prep Date/Time: 09/22/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of TW-19S

Client Sample ID: TW-19S
Client Project ID: SRU-COBC
Lab Sample ID: 1225515039
Lab Project ID: 1225515

Collection Date: 09/09/22 11:16
Received Date: 09/12/22 11:11
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, and Xylenes (total).

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include 1,2-Dichloroethane-D4 (surr), 4-Bromofluorobenzene (surr), and Toluene-d8 (surr).

Batch Information

Analytical Batch: VMS21998
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 09/22/22 18:49
Container ID: 1225515039-A

Prep Batch: VXX39221
Prep Method: SW5030B
Prep Date/Time: 09/22/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL



**Results of Trip Blank 1**

Client Sample ID: **Trip Blank 1**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515040  
Lab Project ID: 1225515

Collection Date: 09/07/22 10:25  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		09/20/22 18:29
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/20/22 18:29
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/20/22 18:29
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/20/22 18:29
Toluene	0.500 U	1.00	0.310	ug/L	1		09/20/22 18:29
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		09/20/22 18:29
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	112	81-118		%	1		09/20/22 18:29
4-Bromofluorobenzene (surr)	96.9	85-114		%	1		09/20/22 18:29
Toluene-d8 (surr)	104	89-112		%	1		09/20/22 18:29

**Batch Information**

Analytical Batch: VMS22007  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/20/22 18:29  
Container ID: 1225515040-A

Prep Batch: VXX39236  
Prep Method: SW5030B  
Prep Date/Time: 09/20/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of Trip Blank 2**

Client Sample ID: **Trip Blank 2**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515041  
Lab Project ID: 1225515

Collection Date: 09/07/22 10:25  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		09/20/22 18:44
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/20/22 18:44
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/20/22 18:44
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/20/22 18:44
Toluene	0.500 U	1.00	0.310	ug/L	1		09/20/22 18:44
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		09/20/22 18:44
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	109	81-118		%	1		09/20/22 18:44
4-Bromofluorobenzene (surr)	96.8	85-114		%	1		09/20/22 18:44
Toluene-d8 (surr)	102	89-112		%	1		09/20/22 18:44

**Batch Information**

Analytical Batch: VMS22007  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/20/22 18:44  
Container ID: 1225515041-A

Prep Batch: VXX39236  
Prep Method: SW5030B  
Prep Date/Time: 09/20/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of W-6**

Client Sample ID: **W-6**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515042  
Lab Project ID: 1225515

Collection Date: 09/07/22 10:45  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Polynuclear Aromatics GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Acenaphthene	0.0245 U	0.0490	0.0147	ug/L	1		09/22/22 15:11
Acenaphthylene	0.0245 U	0.0490	0.0147	ug/L	1		09/22/22 15:11
Anthracene	0.0245 U	0.0490	0.0147	ug/L	1		09/22/22 15:11
Benzo(a)Anthracene	0.0245 U	0.0490	0.0147	ug/L	1		09/22/22 15:11
Benzo[a]pyrene	0.00980 U	0.0196	0.00608	ug/L	1		09/22/22 15:11
Benzo[b]Fluoranthene	0.0245 U	0.0490	0.0147	ug/L	1		09/22/22 15:11
Benzo[g,h,i]perylene	0.0245 U	0.0490	0.0147	ug/L	1		09/22/22 15:11
Benzo[k]fluoranthene	0.0245 U	0.0490	0.0147	ug/L	1		09/22/22 15:11
Chrysene	0.0245 U	0.0490	0.0147	ug/L	1		09/22/22 15:11
Dibenzo[a,h]anthracene	0.00980 U	0.0196	0.00608	ug/L	1		09/22/22 15:11
Fluoranthene	0.0156 J	0.0490	0.0147	ug/L	1		09/22/22 15:11
Fluorene	0.0245 U	0.0490	0.0147	ug/L	1		09/22/22 15:11
Indeno[1,2,3-c,d] pyrene	0.0245 U	0.0490	0.0147	ug/L	1		09/22/22 15:11
Naphthalene	0.0490 U	0.0980	0.0304	ug/L	1		09/22/22 15:11
Phenanthrene	0.0490 U	0.0980	0.0304	ug/L	1		09/22/22 15:11
Pyrene	0.0245 U	0.0490	0.0147	ug/L	1		09/22/22 15:11
<b>Surrogates</b>							
2-Methylnaphthalene-d10 (surr)	83	42-86		%	1		09/22/22 15:11
Fluoranthene-d10 (surr)	81.6	50-97		%	1		09/22/22 15:11

**Batch Information**

Analytical Batch: XMS13368  
Analytical Method: EPA 625M SIM (PAH) LV  
Analyst: NGG  
Analytical Date/Time: 09/22/22 15:11  
Container ID: 1225515042-D

Prep Batch: XXX46982  
Prep Method: SW3535A  
Prep Date/Time: 09/14/22 09:54  
Prep Initial Wt./Vol.: 255 mL  
Prep Extract Vol: 1 mL



Results of **W-6**

Client Sample ID: **W-6**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515042  
Lab Project ID: 1225515

Collection Date: 09/07/22 10:45  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		09/20/22 21:13
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/20/22 21:13
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/20/22 21:13
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/20/22 21:13
Toluene	0.500 U	1.00	0.310	ug/L	1		09/20/22 21:13

**Surrogates**

1,2-Dichloroethane-D4 (surr)	111	81-118		%	1		09/20/22 21:13
4-Bromofluorobenzene (surr)	97.4	85-114		%	1		09/20/22 21:13
Toluene-d8 (surr)	101	89-112		%	1		09/20/22 21:13

**Batch Information**

Analytical Batch: VMS22007  
Analytical Method: EPA 602/624  
Analyst: AZL  
Analytical Date/Time: 09/20/22 21:13  
Container ID: 1225515042-A

Prep Batch: VXX39236  
Prep Method: SW5030B  
Prep Date/Time: 09/20/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL





**Results of TW-5**

Client Sample ID: **TW-5**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515043  
Lab Project ID: 1225515

Collection Date: 09/07/22 17:10  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		09/20/22 21:28
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/20/22 21:28
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/20/22 21:28
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/20/22 21:28
Toluene	0.500 U	1.00	0.310	ug/L	1		09/20/22 21:28
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		09/20/22 21:28
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	112	81-118		%	1		09/20/22 21:28
4-Bromofluorobenzene (surr)	95.4	85-114		%	1		09/20/22 21:28
Toluene-d8 (surr)	101	89-112		%	1		09/20/22 21:28

**Batch Information**

Analytical Batch: VMS22007  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/20/22 21:28  
Container ID: 1225515043-A

Prep Batch: VXX39236  
Prep Method: SW5030B  
Prep Date/Time: 09/20/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of W-1P**

Client Sample ID: **W-1P**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515044  
Lab Project ID: 1225515

Collection Date: 09/07/22 12:05  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Iron	915	500	150	ug/L	5		09/20/22 17:50

**Batch Information**

Analytical Batch: MMS11685  
Analytical Method: SW6020B  
Analyst: HGS  
Analytical Date/Time: 09/20/22 17:50  
Container ID: 1225515044-A

Prep Batch: MXX35463  
Prep Method: SW3010A  
Prep Date/Time: 09/15/22 09:42  
Prep Initial Wt./Vol.: 25 mL  
Prep Extract Vol: 25 mL



**Results of TW-13**

Client Sample ID: **TW-13**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515045  
Lab Project ID: 1225515

Collection Date: 09/07/22 14:59  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Iron	52500	500	150	ug/L	5		09/20/22 17:53

**Batch Information**

Analytical Batch: MMS11685  
Analytical Method: SW6020B  
Analyst: HGS  
Analytical Date/Time: 09/20/22 17:53  
Container ID: 1225515045-A

Prep Batch: MXX35463  
Prep Method: SW3010A  
Prep Date/Time: 09/15/22 09:42  
Prep Initial Wt./Vol.: 25 mL  
Prep Extract Vol: 25 mL



Results of **TW-4R**

Client Sample ID: **TW-4R**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515046  
Lab Project ID: 1225515

Collection Date: 09/07/22 15:55  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Iron	54700	500	150	ug/L	5		09/20/22 17:56

**Batch Information**

Analytical Batch: MMS11685  
Analytical Method: SW6020B  
Analyst: HGS  
Analytical Date/Time: 09/20/22 17:56  
Container ID: 1225515046-A

Prep Batch: MXX35463  
Prep Method: SW3010A  
Prep Date/Time: 09/15/22 09:42  
Prep Initial Wt./Vol.: 25 mL  
Prep Extract Vol: 25 mL



## Laboratory Report of Analysis

To: Stantec Consulting Services Inc.  
725 East Fireweed Lane, #200  
Anchorage, AK 99503  
(907)266-1148

Report Number: **1225515**

Client Project: **SRU-COBC**

Dear Douglas Quist,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of ten years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of fourteen (14) days from the date of this report unless other archiving requirements were included in the quote.

If there are any questions about the report or services performed during this project, please call Justin at (907) 562-2343. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,  
SGS North America Inc.

---

Justin Nelson  
Project Manager  
Justin.Nelson@sgs.com

Date

### Case Narrative

SGS Client: **Stantec Consulting Services Inc.**

SGS Project: **1225515**

Project Name/Site: **SRU-COBC**

Project Contact: **Douglas Quist**

Refer to sample receipt form for information on sample condition.

**W-3A (1225515001) PS**

8270D SIM - PAH Surrogate recovery for fluoranthene-d10 does not meet QC criteria.

**W-7 (1225515002) PS**

8270D SIM - PAH Surrogate recovery for fluoranthene-d10 does not meet QC criteria. .

**TW-18D (1225515034) PS**

8260D - P&M-xylene and total xylenes are reported over the calibration range. Sample was analyzed at a dilution outside of hold time and results confirm. The in-hold data is reported.

**W-6 (1225515042) PS**

8270D SIM- PAH MB results for 1-methylnaphthalene and 2-methylnaphthalene are above the LOQ.

**MB for HBN 1843186 [XXX/46982] (1685436) MB**

8270D SIM- PAH MB results for 1-methylnaphthalene and 2-methylnaphthalene are above half the LOQ.

**5867-1C(1688567MS) (1688572) MS**

300.0 - Anions - MS recovery for sulfate is outside of QC criteria. Refer to LCS for accuracy requirements.

Methane by RSK-175 was analyzed by SGS of Orlando, FL.

\*QC comments may be associated with the field samples found in this report. When applicable, comments will be applied to associated field samples.

Print Date: 09/29/2022 4:13:18PM

## Laboratory Qualifiers

Enclosed are the analytical results associated with the above work order. The results apply to the samples as received. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. This document is issued by the Company under its General Conditions of Service accessible at <http://www.sgs.com/en/Terms-and-Conditions.aspx>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the context or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

SGS maintains a formal Quality Assurance/Quality Control (QA/QC) program. A copy of our Quality Assurance Plan (QAP), which outlines this program, is available at your request. The laboratory certification numbers are AK00971 (DW Chemistry & Microbiology) & 17-021 (CS) for ADEC and 2944.01 for DOD ELAP/ISO17025 (RCRA methods: 1020B, 1311, 3010A, 3050B, 3520C, 3550C, 5030B, 5035A, 6020B, 7470A, 7471B, 8015C, 8021B, 8082A, 8260D, 8270D, 8270D-SIM, 9040C, 9045D, 9056A, 9060A, AK101 and AK102/103). SGS is only certified for the analytes listed on our Drinking Water Certification (DW methods: 200.8, 2130B, 2320B, 2510B, 300.0, 4500-CN-C,E, 4500-H-B, 4500-NO3-F, 4500-P-E and 524.2) and only those analytes will be reported to the State of Alaska for compliance. Except as specifically noted, all statements and data in this report are in conformance to the provisions set forth by the SGS QAP and, when applicable, other regulatory authorities.

The following descriptors or qualifiers may be found in your report:

*	The analyte has exceeded allowable regulatory or control limits.
!	Surrogate out of control limits.
B	Indicates the analyte is found in a blank associated with the sample.
CCV/CVA/CVB	Continuing Calibration Verification
CCCV/CVC/CVCA/CVCB	Closing Continuing Calibration Verification
CL	Control Limit
DF	Analytical Dilution Factor
DL	Detection Limit (i.e., maximum method detection limit)
E	The analyte result is above the calibrated range.
GT	Greater Than
IB	Instrument Blank
ICV	Initial Calibration Verification
J	The quantitation is an estimation.
LCS(D)	Laboratory Control Spike (Duplicate)
LLQC/LLIQC	Low Level Quantitation Check
LOD	Limit of Detection (i.e., 1/2 of the LOQ)
LOQ	Limit of Quantitation (i.e., reporting or practical quantitation limit)
LT	Less Than
MB	Method Blank
MS(D)	Matrix Spike (Duplicate)
ND	Indicates the analyte is not detected.
RPD	Relative Percent Difference
TNTC	Too Numerous To Count
U	Indicates the analyte was analyzed for but not detected.

Note: Sample summaries which include a result for "Total Solids" have already been adjusted for moisture content. All DRO/RRO analyses are integrated per SOP.



### Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
W-3A	1225515001	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
W-7	1225515002	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
Duplicate 1	1225515003	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
W-1E	1225515004	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
W-5	1225515005	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
W-1P	1225515006	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
W-1	1225515007	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-16	1225515008	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-15	1225515009	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-13	1225515010	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
FSS-1	1225515011	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
Duplicate 2	1225515012	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
FSS-2	1225515013	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-4R	1225515014	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
PSW-1	1225515015	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
PSW-2	1225515016	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-26	1225515017	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-26(1225515017BMS)	1225515018	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-26(1225515017BMDS)	1225515019	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-25	1225515020	09/08/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-25(1225515020BMS)	1225515021	09/08/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-25(1225515020BMDS)	1225515022	09/08/2022	09/12/2022	Water (Surface, Eff., Ground)
Duplicate 3	1225515023	09/08/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-24	1225515024	09/08/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-23	1225515025	09/08/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-8	1225515026	09/08/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-22	1225515027	09/08/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-21	1225515028	09/08/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-7	1225515029	09/08/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-7D	1225515030	09/08/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-20	1225515031	09/08/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-6	1225515032	09/08/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-6D	1225515033	09/08/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-18D	1225515034	09/08/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-18	1225515035	09/09/2022	09/12/2022	Water (Surface, Eff., Ground)
Duplicate 4	1225515036	09/09/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-17	1225515037	09/09/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-19D	1225515038	09/09/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-19S	1225515039	09/09/2022	09/12/2022	Water (Surface, Eff., Ground)

Print Date: 09/29/2022 4:13:22PM



### Sample Summary

<u>Client Sample ID</u>	<u>Lab Sample ID</u>	<u>Collected</u>	<u>Received</u>	<u>Matrix</u>
Trip Blank 1	1225515040	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
Trip Blank 2	1225515041	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
W-6	1225515042	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-5	1225515043	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
W-1P	1225515044	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-13	1225515045	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)
TW-4R	1225515046	09/07/2022	09/12/2022	Water (Surface, Eff., Ground)

<u>Method</u>	<u>Method Description</u>
EPA 602/624	602 Aromatics by 624 (W)
EPA 625M SIM (PAH) LV	625 PAH SIM GC/MS Low Volume
SM21 2320B	Alkalinity as CaCO3 QC
SW6020B	Dissolved Metals by ICP-MS
EPA 300.0	Ion Chromatographic Analysis (W)
SW6020B	Metals by ICP-MS
SM21 4500NO3-F	Nitrate/Nitrite Flow injection Pres.
SW8260D	Volatile Organic Compounds (W)

Print Date: 09/29/2022 4:13:22PM

### Detectable Results Summary

Client Sample ID: **W-7**

Lab Sample ID: 1225515002

**Polynuclear Aromatics GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Fluorene	0.0159J	ug/L
Naphthalene	0.0320J	ug/L
Phenanthrene	0.0385J	ug/L

Client Sample ID: **Duplicate 1**

Lab Sample ID: 1225515003

**Polynuclear Aromatics GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Phenanthrene	0.0301J	ug/L

Client Sample ID: **W-5**

Lab Sample ID: 1225515005

**Polynuclear Aromatics GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Phenanthrene	0.0295J	ug/L

Client Sample ID: **W-1P**

Lab Sample ID: 1225515006

**Metals by ICP/MS**

**Waters Department**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Iron	2180	ug/L
Alkalinity	11.9	mg/L
Sulfate	0.0910J	mg/L
Total Nitrate/Nitrite-N	0.0550J	mg/L

Client Sample ID: **TW-13**

Lab Sample ID: 1225515010

**Metals by ICP/MS**

**Volatile GC/MS**

**Waters Department**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Iron	52400	ug/L
P & M -Xylene	50.7	ug/L
Xylenes (total)	50.7	ug/L
Alkalinity	192	mg/L
Total Nitrate/Nitrite-N	0.172J	mg/L

Client Sample ID: **TW-4R**

Lab Sample ID: 1225515014

**Metals by ICP/MS**

**Waters Department**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Iron	55900	ug/L
Alkalinity	238	mg/L
Sulfate	3.62	mg/L
Total Nitrate/Nitrite-N	0.194J	mg/L

Client Sample ID: **TW-26**

Lab Sample ID: 1225515017

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	0.400	ug/L
Ethylbenzene	0.960J	ug/L
P & M -Xylene	84.3	ug/L
Xylenes (total)	84.3	ug/L

Client Sample ID: **TW-25**

Lab Sample ID: 1225515020

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	0.266J	ug/L
Ethylbenzene	22.8	ug/L
o-Xylene	0.873J	ug/L
P & M -Xylene	110	ug/L
Xylenes (total)	111	ug/L

Print Date: 09/29/2022 4:13:23PM

### Detectable Results Summary

Client Sample ID: **Duplicate 3**

Lab Sample ID: 1225515023

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	0.254J	ug/L
Ethylbenzene	21.3	ug/L
o-Xylene	0.880J	ug/L
P & M -Xylene	103	ug/L
Xylenes (total)	104	ug/L

Client Sample ID: **TW-24**

Lab Sample ID: 1225515024

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	0.133J	ug/L
Ethylbenzene	42.1	ug/L
P & M -Xylene	3.24	ug/L
Xylenes (total)	3.24	ug/L

Client Sample ID: **TW-21**

Lab Sample ID: 1225515028

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Ethylbenzene	1980	ug/L
o-Xylene	1280	ug/L
P & M -Xylene	5770	ug/L
Toluene	6.62J	ug/L
Xylenes (total)	7050	ug/L

Client Sample ID: **TW-7**

Lab Sample ID: 1225515029

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	0.185J	ug/L
Ethylbenzene	5.35	ug/L
o-Xylene	0.400J	ug/L
P & M -Xylene	77.2	ug/L
Xylenes (total)	77.6	ug/L

Client Sample ID: **TW-7D**

Lab Sample ID: 1225515030

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	0.183J	ug/L
Ethylbenzene	3.25	ug/L
o-Xylene	0.310J	ug/L
P & M -Xylene	67.5	ug/L
Xylenes (total)	67.8	ug/L

Client Sample ID: **TW-6**

Lab Sample ID: 1225515032

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	0.320J	ug/L
P & M -Xylene	24.9	ug/L
Xylenes (total)	24.9	ug/L

### Detectable Results Summary

Client Sample ID: **TW-6D**  
 Lab Sample ID: 1225515033

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	0.231J	ug/L
P & M -Xylene	9.89	ug/L
Xylenes (total)	9.89	ug/L

Client Sample ID: **TW-18D**  
 Lab Sample ID: 1225515034

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	0.298J	ug/L
Ethylbenzene	2.00	ug/L
P & M -Xylene	441	ug/L
Xylenes (total)	441	ug/L

Client Sample ID: **TW-18**  
 Lab Sample ID: 1225515035

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	0.125J	ug/L
P & M -Xylene	2.02	ug/L
Xylenes (total)	2.02J	ug/L

Client Sample ID: **Duplicate 4**  
 Lab Sample ID: 1225515036

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
P & M -Xylene	1.94J	ug/L
Xylenes (total)	1.94J	ug/L

Client Sample ID: **TW-19D**  
 Lab Sample ID: 1225515038

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	0.141J	ug/L
Ethylbenzene	4.31	ug/L
P & M -Xylene	104	ug/L
Xylenes (total)	105	ug/L

Client Sample ID: **TW-19S**  
 Lab Sample ID: 1225515039

**Volatile GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	0.136J	ug/L
P & M -Xylene	47.1	ug/L
Xylenes (total)	47.1	ug/L

Client Sample ID: **W-6**  
 Lab Sample ID: 1225515042

**Polynuclear Aromatics GC/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Fluoranthene	0.0156J	ug/L

Client Sample ID: **W-1P**  
 Lab Sample ID: 1225515044

**Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Iron	915	ug/L

Client Sample ID: **TW-13**  
 Lab Sample ID: 1225515045

**Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Iron	52500	ug/L

## Detectable Results Summary

Client Sample ID: **TW-4R**  
Lab Sample ID: 1225515046  
**Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Iron	54700	ug/L

Print Date: 09/29/2022 4:13:23PM



Results of **W-3A**

Client Sample ID: **W-3A**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515001  
Lab Project ID: 1225515

Collection Date: 09/07/22 10:25  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Acenaphthene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 02:45
Acenaphthylene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 02:45
Anthracene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 02:45
Benzo(a)Anthracene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 02:45
Benzo[a]pyrene	0.00960 U	0.0192	0.00596	ug/L	1		09/21/22 02:45
Benzo[b]Fluoranthene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 02:45
Benzo[g,h,i]perylene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 02:45
Benzo[k]fluoranthene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 02:45
Chrysene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 02:45
Dibenzo[a,h]anthracene	0.00960 U	0.0192	0.00596	ug/L	1		09/21/22 02:45
Fluoranthene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 02:45
Fluorene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 02:45
Indeno[1,2,3-c,d] pyrene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 02:45
Naphthalene	0.0481 U	0.0962	0.0298	ug/L	1		09/21/22 02:45
Phenanthrene	0.0481 U	0.0962	0.0298	ug/L	1		09/21/22 02:45
Pyrene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 02:45
<b>Surrogates</b>							
2-Methylnaphthalene-d10 (surr)	46.3	42-86		%	1		09/21/22 02:45
Fluoranthene-d10 (surr)	21.8 *	50-97		%	1		09/21/22 02:45

**Batch Information**

Analytical Batch: XMS13361  
Analytical Method: EPA 625M SIM (PAH) LV  
Analyst: NGG  
Analytical Date/Time: 09/21/22 02:45  
Container ID: 1225515001-D

Prep Batch: XXX46972  
Prep Method: SW3535A  
Prep Date/Time: 09/13/22 09:32  
Prep Initial Wt./Vol.: 260 mL  
Prep Extract Vol: 1 mL



**Results of W-3A**

Client Sample ID: **W-3A**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515001  
Lab Project ID: 1225515

Collection Date: 09/07/22 10:25  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.200 U	0.400	0.120	ug/L	1		09/19/22 18:49
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/19/22 18:49
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/19/22 18:49
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/19/22 18:49
Toluene	0.500 U	1.00	0.310	ug/L	1		09/19/22 18:49
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	111	81-118		%	1		09/19/22 18:49
4-Bromofluorobenzene (surr)	96.3	85-114		%	1		09/19/22 18:49
Toluene-d8 (surr)	102	89-112		%	1		09/19/22 18:49

**Batch Information**

Analytical Batch: VMS21988  
Analytical Method: EPA 602/624  
Analyst: AZL  
Analytical Date/Time: 09/19/22 18:49  
Container ID: 1225515001-A

Prep Batch: VXX39200  
Prep Method: SW5030B  
Prep Date/Time: 09/19/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of **W-7**

Client Sample ID: **W-7**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515002  
Lab Project ID: 1225515

Collection Date: 09/07/22 10:35  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Acenaphthene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:06
Acenaphthylene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:06
Anthracene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:06
Benzo(a)Anthracene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:06
Benzo[a]pyrene	0.00960 U	0.0192	0.00596	ug/L	1		09/21/22 03:06
Benzo[b]Fluoranthene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:06
Benzo[g,h,i]perylene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:06
Benzo[k]fluoranthene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:06
Chrysene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:06
Dibenzo[a,h]anthracene	0.00960 U	0.0192	0.00596	ug/L	1		09/21/22 03:06
Fluoranthene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:06
Fluorene	0.0159 J	0.0481	0.0144	ug/L	1		09/21/22 03:06
Indeno[1,2,3-c,d] pyrene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:06
Naphthalene	0.0320 J	0.0962	0.0298	ug/L	1		09/21/22 03:06
Phenanthrene	0.0385 J	0.0962	0.0298	ug/L	1		09/21/22 03:06
Pyrene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:06
<b>Surrogates</b>							
2-Methylnaphthalene-d10 (surr)	55.8	42-86		%	1		09/21/22 03:06
Fluoranthene-d10 (surr)	28.9 *	50-97		%	1		09/21/22 03:06

**Batch Information**

Analytical Batch: XMS13361  
Analytical Method: EPA 625M SIM (PAH) LV  
Analyst: NGG  
Analytical Date/Time: 09/21/22 03:06  
Container ID: 1225515002-D

Prep Batch: XXX46972  
Prep Method: SW3535A  
Prep Date/Time: 09/13/22 09:32  
Prep Initial Wt./Vol.: 260 mL  
Prep Extract Vol: 1 mL





**Results of W-7**

Client Sample ID: **W-7**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515002  
Lab Project ID: 1225515

Collection Date: 09/07/22 10:35  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.200 U	0.400	0.120	ug/L	1		09/19/22 19:04
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/19/22 19:04
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/19/22 19:04
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/19/22 19:04
Toluene	0.500 U	1.00	0.310	ug/L	1		09/19/22 19:04
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	112	81-118		%	1		09/19/22 19:04
4-Bromofluorobenzene (surr)	95.2	85-114		%	1		09/19/22 19:04
Toluene-d8 (surr)	102	89-112		%	1		09/19/22 19:04

**Batch Information**

Analytical Batch: VMS21988  
Analytical Method: EPA 602/624  
Analyst: AZL  
Analytical Date/Time: 09/19/22 19:04  
Container ID: 1225515002-A

Prep Batch: VXX39200  
Prep Method: SW5030B  
Prep Date/Time: 09/19/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of Duplicate 1**

Client Sample ID: **Duplicate 1**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515003  
Lab Project ID: 1225515

Collection Date: 09/07/22 10:38  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Polynuclear Aromatics GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Acenaphthene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:26
Acenaphthylene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:26
Anthracene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:26
Benzo(a)Anthracene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:26
Benzo[a]pyrene	0.00960 U	0.0192	0.00596	ug/L	1		09/21/22 03:26
Benzo[b]Fluoranthene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:26
Benzo[g,h,i]perylene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:26
Benzo[k]fluoranthene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:26
Chrysene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:26
Dibenzo[a,h]anthracene	0.00960 U	0.0192	0.00596	ug/L	1		09/21/22 03:26
Fluoranthene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:26
Fluorene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:26
Indeno[1,2,3-c,d] pyrene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:26
Naphthalene	0.0481 U	0.0962	0.0298	ug/L	1		09/21/22 03:26
Phenanthrene	0.0301 J	0.0962	0.0298	ug/L	1		09/21/22 03:26
Pyrene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:26
<b>Surrogates</b>							
2-Methylnaphthalene-d10 (surr)	73.3	42-86		%	1		09/21/22 03:26
Fluoranthene-d10 (surr)	66	50-97		%	1		09/21/22 03:26

**Batch Information**

Analytical Batch: XMS13361  
Analytical Method: EPA 625M SIM (PAH) LV  
Analyst: NGG  
Analytical Date/Time: 09/21/22 03:26  
Container ID: 1225515003-D

Prep Batch: XXX46972  
Prep Method: SW3535A  
Prep Date/Time: 09/13/22 09:32  
Prep Initial Wt./Vol.: 260 mL  
Prep Extract Vol: 1 mL



**Results of Duplicate 1**

Client Sample ID: **Duplicate 1**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515003  
Lab Project ID: 1225515

Collection Date: 09/07/22 10:38  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		09/19/22 19:19
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/19/22 19:19
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/19/22 19:19
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/19/22 19:19
Toluene	0.500 U	1.00	0.310	ug/L	1		09/19/22 19:19
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	113	81-118		%	1		09/19/22 19:19
4-Bromofluorobenzene (surr)	97.5	85-114		%	1		09/19/22 19:19
Toluene-d8 (surr)	101	89-112		%	1		09/19/22 19:19

**Batch Information**

Analytical Batch: VMS21988  
Analytical Method: EPA 602/624  
Analyst: AZL  
Analytical Date/Time: 09/19/22 19:19  
Container ID: 1225515003-A

Prep Batch: VXX39200  
Prep Method: SW5030B  
Prep Date/Time: 09/19/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of **W-1E**

Client Sample ID: **W-1E**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515004  
Lab Project ID: 1225515

Collection Date: 09/07/22 11:00  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Acenaphthene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:47
Acenaphthylene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:47
Anthracene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:47
Benzo(a)Anthracene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:47
Benzo[a]pyrene	0.00960 U	0.0192	0.00596	ug/L	1		09/21/22 03:47
Benzo[b]Fluoranthene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:47
Benzo[g,h,i]perylene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:47
Benzo[k]fluoranthene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:47
Chrysene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:47
Dibenzo[a,h]anthracene	0.00960 U	0.0192	0.00596	ug/L	1		09/21/22 03:47
Fluoranthene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:47
Fluorene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:47
Indeno[1,2,3-c,d] pyrene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:47
Naphthalene	0.0481 U	0.0962	0.0298	ug/L	1		09/21/22 03:47
Phenanthrene	0.0481 U	0.0962	0.0298	ug/L	1		09/21/22 03:47
Pyrene	0.0240 U	0.0481	0.0144	ug/L	1		09/21/22 03:47
<b>Surrogates</b>							
2-Methylnaphthalene-d10 (surr)	76.7	42-86		%	1		09/21/22 03:47
Fluoranthene-d10 (surr)	87.3	50-97		%	1		09/21/22 03:47

**Batch Information**

Analytical Batch: XMS13361  
Analytical Method: EPA 625M SIM (PAH) LV  
Analyst: NGG  
Analytical Date/Time: 09/21/22 03:47  
Container ID: 1225515004-D

Prep Batch: XXX46972  
Prep Method: SW3535A  
Prep Date/Time: 09/13/22 09:32  
Prep Initial Wt./Vol.: 260 mL  
Prep Extract Vol: 1 mL



**Results of W-1E**

Client Sample ID: **W-1E**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515004  
Lab Project ID: 1225515

Collection Date: 09/07/22 11:00  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.200 U	0.400	0.120	ug/L	1		09/19/22 19:34
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/19/22 19:34
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/19/22 19:34
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/19/22 19:34
Toluene	0.500 U	1.00	0.310	ug/L	1		09/19/22 19:34
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	112	81-118		%	1		09/19/22 19:34
4-Bromofluorobenzene (surr)	95.7	85-114		%	1		09/19/22 19:34
Toluene-d8 (surr)	103	89-112		%	1		09/19/22 19:34

**Batch Information**

Analytical Batch: VMS21988  
Analytical Method: EPA 602/624  
Analyst: AZL  
Analytical Date/Time: 09/19/22 19:34  
Container ID: 1225515004-A

Prep Batch: VXX39200  
Prep Method: SW5030B  
Prep Date/Time: 09/19/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of **W-5**

Client Sample ID: **W-5**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515005  
Lab Project ID: 1225515

Collection Date: 09/07/22 11:10  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Acenaphthene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:07
Acenaphthylene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:07
Anthracene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:07
Benzo(a)Anthracene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:07
Benzo[a]pyrene	0.00945 U	0.0189	0.00585	ug/L	1		09/21/22 04:07
Benzo[b]Fluoranthene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:07
Benzo[g,h,i]perylene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:07
Benzo[k]fluoranthene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:07
Chrysene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:07
Dibenzo[a,h]anthracene	0.00945 U	0.0189	0.00585	ug/L	1		09/21/22 04:07
Fluoranthene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:07
Fluorene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:07
Indeno[1,2,3-c,d] pyrene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:07
Naphthalene	0.0471 U	0.0943	0.0292	ug/L	1		09/21/22 04:07
Phenanthrene	0.0295 J	0.0943	0.0292	ug/L	1		09/21/22 04:07
Pyrene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:07
<b>Surrogates</b>							
2-Methylnaphthalene-d10 (surr)	70.4	42-86		%	1		09/21/22 04:07
Fluoranthene-d10 (surr)	75.9	50-97		%	1		09/21/22 04:07

**Batch Information**

Analytical Batch: XMS13361  
Analytical Method: EPA 625M SIM (PAH) LV  
Analyst: NGG  
Analytical Date/Time: 09/21/22 04:07  
Container ID: 1225515005-D

Prep Batch: XXX46972  
Prep Method: SW3535A  
Prep Date/Time: 09/13/22 09:32  
Prep Initial Wt./Vol.: 265 mL  
Prep Extract Vol: 1 mL



**Results of W-5**

Client Sample ID: **W-5**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515005  
Lab Project ID: 1225515

Collection Date: 09/07/22 11:10  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		09/19/22 19:49
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/19/22 19:49
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/19/22 19:49
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/19/22 19:49
Toluene	0.500 U	1.00	0.310	ug/L	1		09/19/22 19:49
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	106	81-118		%	1		09/19/22 19:49
4-Bromofluorobenzene (surr)	96.8	85-114		%	1		09/19/22 19:49
Toluene-d8 (surr)	100	89-112		%	1		09/19/22 19:49

**Batch Information**

Analytical Batch: VMS21988  
Analytical Method: EPA 602/624  
Analyst: AZL  
Analytical Date/Time: 09/19/22 19:49  
Container ID: 1225515005-A

Prep Batch: VXX39200  
Prep Method: SW5030B  
Prep Date/Time: 09/19/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of **W-1P**

Client Sample ID: **W-1P**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515006  
Lab Project ID: 1225515

Collection Date: 09/07/22 12:05  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable</u> <u>Limits</u>	<u>Date Analyzed</u>
Iron	2180		500	150	ug/L	5		09/20/22 17:33

**Batch Information**

Analytical Batch: MMS11685  
Analytical Method: SW6020B  
Analyst: HGS  
Analytical Date/Time: 09/20/22 17:33  
Container ID: 1225515006-M

Prep Batch: MXX35463  
Prep Method: SW3010A  
Prep Date/Time: 09/15/22 09:42  
Prep Initial Wt./Vol.: 25 mL  
Prep Extract Vol: 25 mL





Results of **W-1P**

Client Sample ID: **W-1P**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515006  
Lab Project ID: 1225515

Collection Date: 09/07/22 12:05  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Acenaphthene	0.0255 U	0.0510	0.0153	ug/L	1		09/21/22 04:28
Acenaphthylene	0.0255 U	0.0510	0.0153	ug/L	1		09/21/22 04:28
Anthracene	0.0255 U	0.0510	0.0153	ug/L	1		09/21/22 04:28
Benzo(a)Anthracene	0.0255 U	0.0510	0.0153	ug/L	1		09/21/22 04:28
Benzo[a]pyrene	0.0102 U	0.0204	0.00633	ug/L	1		09/21/22 04:28
Benzo[b]Fluoranthene	0.0255 U	0.0510	0.0153	ug/L	1		09/21/22 04:28
Benzo[g,h,i]perylene	0.0255 U	0.0510	0.0153	ug/L	1		09/21/22 04:28
Benzo[k]fluoranthene	0.0255 U	0.0510	0.0153	ug/L	1		09/21/22 04:28
Chrysene	0.0255 U	0.0510	0.0153	ug/L	1		09/21/22 04:28
Dibenzo[a,h]anthracene	0.0102 U	0.0204	0.00633	ug/L	1		09/21/22 04:28
Fluoranthene	0.0255 U	0.0510	0.0153	ug/L	1		09/21/22 04:28
Fluorene	0.0255 U	0.0510	0.0153	ug/L	1		09/21/22 04:28
Indeno[1,2,3-c,d] pyrene	0.0255 U	0.0510	0.0153	ug/L	1		09/21/22 04:28
Naphthalene	0.0510 U	0.102	0.0316	ug/L	1		09/21/22 04:28
Phenanthrene	0.0510 U	0.102	0.0316	ug/L	1		09/21/22 04:28
Pyrene	0.0255 U	0.0510	0.0153	ug/L	1		09/21/22 04:28
<b>Surrogates</b>							
2-Methylnaphthalene-d10 (surr)	78.9	42-86		%	1		09/21/22 04:28
Fluoranthene-d10 (surr)	74.5	50-97		%	1		09/21/22 04:28

**Batch Information**

Analytical Batch: XMS13361  
Analytical Method: EPA 625M SIM (PAH) LV  
Analyst: NGG  
Analytical Date/Time: 09/21/22 04:28  
Container ID: 1225515006-J

Prep Batch: XXX46972  
Prep Method: SW3535A  
Prep Date/Time: 09/13/22 09:32  
Prep Initial Wt./Vol.: 245 mL  
Prep Extract Vol: 1 mL



### Results of W-1P

Client Sample ID: **W-1P**  
 Client Project ID: **SRU-COBC**  
 Lab Sample ID: 1225515006  
 Lab Project ID: 1225515

Collection Date: 09/07/22 12:05  
 Received Date: 09/12/22 11:11  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.200 U	0.400	0.120	ug/L	1		09/21/22 16:38
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/21/22 16:38
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/21/22 16:38
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/21/22 16:38
Toluene	0.500 U	1.00	0.310	ug/L	1		09/21/22 16:38

### Surrogates

1,2-Dichloroethane-D4 (surr)	102	81-118		%	1		09/21/22 16:38
4-Bromofluorobenzene (surr)	97.5	85-114		%	1		09/21/22 16:38
Toluene-d8 (surr)	96.5	89-112		%	1		09/21/22 16:38

### Batch Information

Analytical Batch: VMS22009  
 Analytical Method: EPA 602/624  
 Analyst: AZL  
 Analytical Date/Time: 09/21/22 16:38  
 Container ID: 1225515006-A

Prep Batch: VXX39238  
 Prep Method: SW5030B  
 Prep Date/Time: 09/21/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.200 U	0.400	0.120	ug/L	1		09/21/22 16:38
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/21/22 16:38
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/21/22 16:38
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/21/22 16:38
Toluene	0.500 U	1.00	0.310	ug/L	1		09/21/22 16:38
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		09/21/22 16:38

### Surrogates

1,2-Dichloroethane-D4 (surr)	102	81-118		%	1		09/21/22 16:38
4-Bromofluorobenzene (surr)	97.5	85-114		%	1		09/21/22 16:38
Toluene-d8 (surr)	96.5	89-112		%	1		09/21/22 16:38

### Batch Information

Analytical Batch: VMS22009  
 Analytical Method: SW8260D  
 Analyst: NRB  
 Analytical Date/Time: 09/21/22 16:38  
 Container ID: 1225515006-A

Prep Batch: VXX39238  
 Prep Method: SW5030B  
 Prep Date/Time: 09/21/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL

Print Date: 09/29/2022 4:13:24PM

J flagging is activated



Results of **W-1P**

Client Sample ID: **W-1P**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515006  
Lab Project ID: 1225515

Collection Date: 09/07/22 12:05  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Waters Department**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Sulfate	0.0910 J	0.200	0.0500	mg/L	1		09/28/22 16:44

**Batch Information**

Analytical Batch: WIC6379	Prep Batch: WXX14474
Analytical Method: EPA 300.0	Prep Method: METHOD
Analyst: EBH	Prep Date/Time: 09/28/22 10:00
Analytical Date/Time: 09/28/22 16:44	Prep Initial Wt./Vol.: 10 mL
Container ID: 1225515006-L	Prep Extract Vol: 10 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Alkalinity	11.9	10.0	2.50	mg/L	1		09/15/22 17:43

**Batch Information**

Analytical Batch: WTI5958
Analytical Method: SM21 2320B
Analyst: IGK
Analytical Date/Time: 09/15/22 17:43
Container ID: 1225515006-L

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Nitrate/Nitrite-N	0.0550 J	0.200	0.0500	mg/L	2		09/27/22 12:55

**Batch Information**

Analytical Batch: WFI3006
Analytical Method: SM21 4500NO3-F
Analyst: EBH
Analytical Date/Time: 09/27/22 12:55
Container ID: 1225515006-O



**Results of W-1**

Client Sample ID: **W-1**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515007  
Lab Project ID: 1225515

Collection Date: 09/07/22 12:20  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Polynuclear Aromatics GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Acenaphthene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:48
Acenaphthylene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:48
Anthracene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:48
Benzo(a)Anthracene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:48
Benzo[a]pyrene	0.00945 U	0.0189	0.00585	ug/L	1		09/21/22 04:48
Benzo[b]Fluoranthene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:48
Benzo[g,h,i]perylene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:48
Benzo[k]fluoranthene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:48
Chrysene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:48
Dibenzo[a,h]anthracene	0.00945 U	0.0189	0.00585	ug/L	1		09/21/22 04:48
Fluoranthene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:48
Fluorene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:48
Indeno[1,2,3-c,d] pyrene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:48
Naphthalene	0.0471 U	0.0943	0.0292	ug/L	1		09/21/22 04:48
Phenanthrene	0.0471 U	0.0943	0.0292	ug/L	1		09/21/22 04:48
Pyrene	0.0236 U	0.0472	0.0142	ug/L	1		09/21/22 04:48
<b>Surrogates</b>							
2-Methylnaphthalene-d10 (surr)	81.2	42-86		%	1		09/21/22 04:48
Fluoranthene-d10 (surr)	78.1	50-97		%	1		09/21/22 04:48

**Batch Information**

Analytical Batch: XMS13361  
Analytical Method: EPA 625M SIM (PAH) LV  
Analyst: NGG  
Analytical Date/Time: 09/21/22 04:48  
Container ID: 1225515007-D

Prep Batch: XXX46972  
Prep Method: SW3535A  
Prep Date/Time: 09/13/22 09:32  
Prep Initial Wt./Vol.: 265 mL  
Prep Extract Vol: 1 mL

## Results of W-1

Client Sample ID: **W-1**  
 Client Project ID: **SRU-COBC**  
 Lab Sample ID: 1225515007  
 Lab Project ID: 1225515

Collection Date: 09/07/22 12:20  
 Received Date: 09/12/22 11:11  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

## Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.200 U	0.400	0.120	ug/L	1		09/21/22 16:52
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/21/22 16:52
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/21/22 16:52
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/21/22 16:52
Toluene	0.500 U	1.00	0.310	ug/L	1		09/21/22 16:52
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	100	81-118		%	1		09/21/22 16:52
4-Bromofluorobenzene (surr)	97.2	85-114		%	1		09/21/22 16:52
Toluene-d8 (surr)	96.2	89-112		%	1		09/21/22 16:52

## Batch Information

Analytical Batch: VMS22009  
 Analytical Method: EPA 602/624  
 Analyst: AZL  
 Analytical Date/Time: 09/21/22 16:52  
 Container ID: 1225515007-A

Prep Batch: VXX39238  
 Prep Method: SW5030B  
 Prep Date/Time: 09/21/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



Results of **TW-16**

Client Sample ID: **TW-16**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515008  
Lab Project ID: 1225515

Collection Date: 09/07/22 13:47  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Volatile GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.200 U	0.400	0.120	ug/L	1		09/21/22 17:07
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/21/22 17:07
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/21/22 17:07
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/21/22 17:07
Toluene	0.500 U	1.00	0.310	ug/L	1		09/21/22 17:07
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		09/21/22 17:07
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	98.5	81-118		%	1		09/21/22 17:07
4-Bromofluorobenzene (surr)	98.6	85-114		%	1		09/21/22 17:07
Toluene-d8 (surr)	96.8	89-112		%	1		09/21/22 17:07

**Batch Information**

Analytical Batch: VMS22009  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/21/22 17:07  
Container ID: 1225515008-A

Prep Batch: VXX39238  
Prep Method: SW5030B  
Prep Date/Time: 09/21/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



### Results of TW-15

Client Sample ID: **TW-15**  
 Client Project ID: **SRU-COBC**  
 Lab Sample ID: 1225515009  
 Lab Project ID: 1225515

Collection Date: 09/07/22 14:29  
 Received Date: 09/12/22 11:11  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.200 U	0.400	0.120	ug/L	1		09/21/22 17:22
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/21/22 17:22
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/21/22 17:22
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/21/22 17:22
Toluene	0.500 U	1.00	0.310	ug/L	1		09/21/22 17:22
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		09/21/22 17:22
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	96.8	81-118		%	1		09/21/22 17:22
4-Bromofluorobenzene (surr)	98	85-114		%	1		09/21/22 17:22
Toluene-d8 (surr)	96.7	89-112		%	1		09/21/22 17:22

### Batch Information

Analytical Batch: VMS22009  
 Analytical Method: SW8260D  
 Analyst: AZL  
 Analytical Date/Time: 09/21/22 17:22  
 Container ID: 1225515009-A

Prep Batch: VXX39238  
 Prep Method: SW5030B  
 Prep Date/Time: 09/21/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



**Results of TW-13**

Client Sample ID: **TW-13**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515010  
Lab Project ID: 1225515

Collection Date: 09/07/22 14:59  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable</u> <u>Limits</u>	<u>Date Analyzed</u>
Iron	52400		500	150	ug/L	5		09/20/22 17:36

**Batch Information**

Analytical Batch: MMS11685  
Analytical Method: SW6020B  
Analyst: HGS  
Analytical Date/Time: 09/20/22 17:36  
Container ID: 1225515010-H

Prep Batch: MXX35463  
Prep Method: SW3010A  
Prep Date/Time: 09/15/22 09:42  
Prep Initial Wt./Vol.: 25 mL  
Prep Extract Vol: 25 mL



## Results of TW-13

Client Sample ID: **TW-13**  
 Client Project ID: **SRU-COBC**  
 Lab Sample ID: 1225515010  
 Lab Project ID: 1225515

Collection Date: 09/07/22 14:59  
 Received Date: 09/12/22 11:11  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

## Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.200 U	0.400	0.120	ug/L	1		09/20/22 19:29
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/20/22 19:29
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/20/22 19:29
P & M -Xylene	50.7	2.00	0.620	ug/L	1		09/20/22 19:29
Toluene	0.500 U	1.00	0.310	ug/L	1		09/20/22 19:29
Xylenes (total)	50.7	3.00	1.00	ug/L	1		09/20/22 19:29

## Surrogates

1,2-Dichloroethane-D4 (surr)	107	81-118		%	1		09/20/22 19:29
4-Bromofluorobenzene (surr)	96	85-114		%	1		09/20/22 19:29
Toluene-d8 (surr)	101	89-112		%	1		09/20/22 19:29

## Batch Information

Analytical Batch: VMS22007  
 Analytical Method: SW8260D  
 Analyst: AZL  
 Analytical Date/Time: 09/20/22 19:29  
 Container ID: 1225515010-A

Prep Batch: VXX39236  
 Prep Method: SW5030B  
 Prep Date/Time: 09/20/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



**Results of TW-13**

Client Sample ID: **TW-13**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515010  
Lab Project ID: 1225515

Collection Date: 09/07/22 14:59  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Waters Department**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Sulfate	0.100 U	0.200	0.0500	mg/L	1		09/28/22 17:22

**Batch Information**

Analytical Batch: WIC6379	Prep Batch: WXX14474
Analytical Method: EPA 300.0	Prep Method: METHOD
Analyst: EBH	Prep Date/Time: 09/28/22 10:00
Analytical Date/Time: 09/28/22 17:22	Prep Initial Wt./Vol.: 10 mL
Container ID: 1225515010-G	Prep Extract Vol: 10 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Alkalinity	192	10.0	2.50	mg/L	1		09/15/22 17:52

**Batch Information**

Analytical Batch: WTI5958  
Analytical Method: SM21 2320B  
Analyst: IGK  
Analytical Date/Time: 09/15/22 17:52  
Container ID: 1225515010-G

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Nitrate/Nitrite-N	0.172 J	0.200	0.0500	mg/L	2		09/27/22 12:57

**Batch Information**

Analytical Batch: WFI3006  
Analytical Method: SM21 4500NO3-F  
Analyst: EBH  
Analytical Date/Time: 09/27/22 12:57  
Container ID: 1225515010-J

## Results of FSS-1

Client Sample ID: **FSS-1**  
 Client Project ID: **SRU-COBC**  
 Lab Sample ID: 1225515011  
 Lab Project ID: 1225515

Collection Date: 09/07/22 15:50  
 Received Date: 09/12/22 11:11  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

## Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.200 U	0.400	0.120	ug/L	1		09/20/22 19:44
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/20/22 19:44
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/20/22 19:44
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/20/22 19:44
Toluene	0.500 U	1.00	0.310	ug/L	1		09/20/22 19:44
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		09/20/22 19:44
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	109	81-118		%	1		09/20/22 19:44
4-Bromofluorobenzene (surr)	97.2	85-114		%	1		09/20/22 19:44
Toluene-d8 (surr)	103	89-112		%	1		09/20/22 19:44

## Batch Information

Analytical Batch: VMS22007  
 Analytical Method: SW8260D  
 Analyst: AZL  
 Analytical Date/Time: 09/20/22 19:44  
 Container ID: 1225515011-A

Prep Batch: VXX39236  
 Prep Method: SW5030B  
 Prep Date/Time: 09/20/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



**Results of Duplicate 2**

Client Sample ID: **Duplicate 2**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515012  
Lab Project ID: 1225515

Collection Date: 09/07/22 15:53  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.200 U	0.400	0.120	ug/L	1		09/20/22 19:58
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/20/22 19:58
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/20/22 19:58
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/20/22 19:58
Toluene	0.500 U	1.00	0.310	ug/L	1		09/20/22 19:58
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		09/20/22 19:58
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	112	81-118		%	1		09/20/22 19:58
4-Bromofluorobenzene (surr)	97	85-114		%	1		09/20/22 19:58
Toluene-d8 (surr)	102	89-112		%	1		09/20/22 19:58

**Batch Information**

Analytical Batch: VMS22007  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/20/22 19:58  
Container ID: 1225515012-A

Prep Batch: VXX39236  
Prep Method: SW5030B  
Prep Date/Time: 09/20/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of FSS-2**

Client Sample ID: **FSS-2**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515013  
Lab Project ID: 1225515

Collection Date: 09/07/22 15:57  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.200 U	0.400	0.120	ug/L	1		09/20/22 20:13
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/20/22 20:13
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/20/22 20:13
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/20/22 20:13
Toluene	0.500 U	1.00	0.310	ug/L	1		09/20/22 20:13
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		09/20/22 20:13
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	108	81-118		%	1		09/20/22 20:13
4-Bromofluorobenzene (surr)	96.1	85-114		%	1		09/20/22 20:13
Toluene-d8 (surr)	101	89-112		%	1		09/20/22 20:13

**Batch Information**

Analytical Batch: VMS22007  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/20/22 20:13  
Container ID: 1225515013-A

Prep Batch: VXX39236  
Prep Method: SW5030B  
Prep Date/Time: 09/20/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of TW-4R**

Client Sample ID: **TW-4R**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515014  
Lab Project ID: 1225515

Collection Date: 09/07/22 15:55  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Iron	55900		500	150	ug/L	5		09/20/22 17:39

**Batch Information**

Analytical Batch: MMS11685  
Analytical Method: SW6020B  
Analyst: HGS  
Analytical Date/Time: 09/20/22 17:39  
Container ID: 1225515014-H

Prep Batch: MXX35463  
Prep Method: SW3010A  
Prep Date/Time: 09/15/22 09:42  
Prep Initial Wt./Vol.: 25 mL  
Prep Extract Vol: 25 mL



**Results of TW-4R**

Client Sample ID: **TW-4R**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515014  
Lab Project ID: 1225515

Collection Date: 09/07/22 15:55  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.200 U	0.400	0.120	ug/L	1		09/20/22 20:28
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/20/22 20:28
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/20/22 20:28
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/20/22 20:28
Toluene	0.500 U	1.00	0.310	ug/L	1		09/20/22 20:28
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		09/20/22 20:28
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	114	81-118		%	1		09/20/22 20:28
4-Bromofluorobenzene (surr)	96.6	85-114		%	1		09/20/22 20:28
Toluene-d8 (surr)	102	89-112		%	1		09/20/22 20:28

**Batch Information**

Analytical Batch: VMS22007  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/20/22 20:28  
Container ID: 1225515014-A

Prep Batch: VXX39236  
Prep Method: SW5030B  
Prep Date/Time: 09/20/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of TW-4R**

Client Sample ID: **TW-4R**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515014  
Lab Project ID: 1225515

Collection Date: 09/07/22 15:55  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Waters Department**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Sulfate	3.62	0.200	0.0500	mg/L	1		09/28/22 17:41

**Batch Information**

Analytical Batch: WIC6379	Prep Batch: WXX14474
Analytical Method: EPA 300.0	Prep Method: METHOD
Analyst: EBH	Prep Date/Time: 09/28/22 10:00
Analytical Date/Time: 09/28/22 17:41	Prep Initial Wt./Vol.: 10 mL
Container ID: 1225515014-G	Prep Extract Vol: 10 mL

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Alkalinity	238	10.0	2.50	mg/L	1		09/15/22 18:02

**Batch Information**

Analytical Batch: WTI5958
Analytical Method: SM21 2320B
Analyst: IGK
Analytical Date/Time: 09/15/22 18:02
Container ID: 1225515014-G

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Total Nitrate/Nitrite-N	0.194 J	0.200	0.0500	mg/L	2		09/27/22 12:59

**Batch Information**

Analytical Batch: WFI3006
Analytical Method: SM21 4500NO3-F
Analyst: EBH
Analytical Date/Time: 09/27/22 12:59
Container ID: 1225515014-J

Print Date: 09/29/2022 4:13:24PM

J flagging is activated





**Results of PSW-1**

Client Sample ID: **PSW-1**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515015  
Lab Project ID: 1225515

Collection Date: 09/07/22 16:22  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		09/20/22 20:43
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/20/22 20:43
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/20/22 20:43
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/20/22 20:43
Toluene	0.500 U	1.00	0.310	ug/L	1		09/20/22 20:43
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		09/20/22 20:43
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	114	81-118		%	1		09/20/22 20:43
4-Bromofluorobenzene (surr)	95.6	85-114		%	1		09/20/22 20:43
Toluene-d8 (surr)	102	89-112		%	1		09/20/22 20:43

**Batch Information**

Analytical Batch: VMS22007  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/20/22 20:43  
Container ID: 1225515015-A

Prep Batch: VXX39236  
Prep Method: SW5030B  
Prep Date/Time: 09/20/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of **PSW-2**

Client Sample ID: **PSW-2**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515016  
Lab Project ID: 1225515

Collection Date: 09/07/22 16:35  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Volatile GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.200 U	0.400	0.120	ug/L	1		09/20/22 20:58
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/20/22 20:58
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/20/22 20:58
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/20/22 20:58
Toluene	0.500 U	1.00	0.310	ug/L	1		09/20/22 20:58
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		09/20/22 20:58
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	112	81-118		%	1		09/20/22 20:58
4-Bromofluorobenzene (surr)	95.6	85-114		%	1		09/20/22 20:58
Toluene-d8 (surr)	102	89-112		%	1		09/20/22 20:58

**Batch Information**

Analytical Batch: VMS22007  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/20/22 20:58  
Container ID: 1225515016-A

Prep Batch: VXX39236  
Prep Method: SW5030B  
Prep Date/Time: 09/20/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of **TW-26**

Client Sample ID: **TW-26**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515017  
Lab Project ID: 1225515

Collection Date: 09/07/22 17:00  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Volatile GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.400	0.400	0.120	ug/L	1		09/20/22 18:59
Ethylbenzene	0.960 J	1.00	0.310	ug/L	1		09/20/22 18:59
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/20/22 18:59
P & M -Xylene	84.3	2.00	0.620	ug/L	1		09/20/22 18:59
Toluene	0.500 U	1.00	0.310	ug/L	1		09/20/22 18:59
Xylenes (total)	84.3	3.00	1.00	ug/L	1		09/20/22 18:59
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	115	81-118		%	1		09/20/22 18:59
4-Bromofluorobenzene (surr)	97.2	85-114		%	1		09/20/22 18:59
Toluene-d8 (surr)	101	89-112		%	1		09/20/22 18:59

**Batch Information**

Analytical Batch: VMS22007  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/20/22 18:59  
Container ID: 1225515017-A

Prep Batch: VXX39236  
Prep Method: SW5030B  
Prep Date/Time: 09/20/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of TW-25**

Client Sample ID: **TW-25**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515020  
Lab Project ID: 1225515

Collection Date: 09/08/22 10:47  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.266 J	0.400	0.120	ug/L	1		09/21/22 16:23
Ethylbenzene	22.8	1.00	0.310	ug/L	1		09/21/22 16:23
o-Xylene	0.873 J	1.00	0.310	ug/L	1		09/21/22 16:23
P & M -Xylene	110	2.00	0.620	ug/L	1		09/21/22 16:23
Toluene	0.500 U	1.00	0.310	ug/L	1		09/21/22 16:23
Xylenes (total)	111	3.00	1.00	ug/L	1		09/21/22 16:23
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	102	81-118		%	1		09/21/22 16:23
4-Bromofluorobenzene (surr)	96.1	85-114		%	1		09/21/22 16:23
Toluene-d8 (surr)	96.5	89-112		%	1		09/21/22 16:23

**Batch Information**

Analytical Batch: VMS22009  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/21/22 16:23  
Container ID: 1225515020-A

Prep Batch: VXX39238  
Prep Method: SW5030B  
Prep Date/Time: 09/21/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of Duplicate 3**

Client Sample ID: **Duplicate 3**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515023  
Lab Project ID: 1225515

Collection Date: 09/08/22 10:50  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.254	J	0.400	0.120	ug/L	1		09/21/22 17:37
Ethylbenzene	21.3		1.00	0.310	ug/L	1		09/21/22 17:37
o-Xylene	0.880	J	1.00	0.310	ug/L	1		09/21/22 17:37
P & M -Xylene	103		2.00	0.620	ug/L	1		09/21/22 17:37
Toluene	0.500	U	1.00	0.310	ug/L	1		09/21/22 17:37
Xylenes (total)	104		3.00	1.00	ug/L	1		09/21/22 17:37
<b>Surrogates</b>								
1,2-Dichloroethane-D4 (surr)	104		81-118		%	1		09/21/22 17:37
4-Bromofluorobenzene (surr)	95		85-114		%	1		09/21/22 17:37
Toluene-d8 (surr)	97.1		89-112		%	1		09/21/22 17:37

**Batch Information**

Analytical Batch: VMS22009  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/21/22 17:37  
Container ID: 1225515023-A

Prep Batch: VXX39238  
Prep Method: SW5030B  
Prep Date/Time: 09/21/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



### Results of TW-24

Client Sample ID: **TW-24**  
 Client Project ID: **SRU-COBC**  
 Lab Sample ID: 1225515024  
 Lab Project ID: 1225515

Collection Date: 09/08/22 11:22  
 Received Date: 09/12/22 11:11  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

### Results by Volatile GC/MS

Parameter	Result	Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.133	J	0.400	0.120	ug/L	1		09/21/22 17:51
Ethylbenzene	42.1		1.00	0.310	ug/L	1		09/21/22 17:51
o-Xylene	0.500	U	1.00	0.310	ug/L	1		09/21/22 17:51
P & M -Xylene	3.24		2.00	0.620	ug/L	1		09/21/22 17:51
Toluene	0.500	U	1.00	0.310	ug/L	1		09/21/22 17:51
Xylenes (total)	3.24		3.00	1.00	ug/L	1		09/21/22 17:51
<b>Surrogates</b>								
1,2-Dichloroethane-D4 (surr)	107		81-118		%	1		09/21/22 17:51
4-Bromofluorobenzene (surr)	97.1		85-114		%	1		09/21/22 17:51
Toluene-d8 (surr)	96.3		89-112		%	1		09/21/22 17:51

### Batch Information

Analytical Batch: VMS22009  
 Analytical Method: SW8260D  
 Analyst: AZL  
 Analytical Date/Time: 09/21/22 17:51  
 Container ID: 1225515024-A

Prep Batch: VXX39238  
 Prep Method: SW5030B  
 Prep Date/Time: 09/21/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



Results of **TW-23**

Client Sample ID: **TW-23**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515025  
Lab Project ID: 1225515

Collection Date: 09/08/22 12:03  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Volatile GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.200 U	0.400	0.120	ug/L	1		09/21/22 18:06
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/21/22 18:06
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/21/22 18:06
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/21/22 18:06
Toluene	0.500 U	1.00	0.310	ug/L	1		09/21/22 18:06
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		09/21/22 18:06

**Surrogates**

1,2-Dichloroethane-D4 (surr)	105	81-118		%	1		09/21/22 18:06
4-Bromofluorobenzene (surr)	96.4	85-114		%	1		09/21/22 18:06
Toluene-d8 (surr)	96.2	89-112		%	1		09/21/22 18:06

**Batch Information**

Analytical Batch: VMS22009  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/21/22 18:06  
Container ID: 1225515025-A

Prep Batch: VXX39238  
Prep Method: SW5030B  
Prep Date/Time: 09/21/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of TW-8**

Client Sample ID: **TW-8**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515026  
Lab Project ID: 1225515

Collection Date: 09/08/22 12:04  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.200 U	0.400	0.120	ug/L	1		09/21/22 18:21
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/21/22 18:21
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/21/22 18:21
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/21/22 18:21
Toluene	0.500 U	1.00	0.310	ug/L	1		09/21/22 18:21
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		09/21/22 18:21
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	103	81-118		%	1		09/21/22 18:21
4-Bromofluorobenzene (surr)	97.5	85-114		%	1		09/21/22 18:21
Toluene-d8 (surr)	95.3	89-112		%	1		09/21/22 18:21

**Batch Information**

Analytical Batch: VMS22009  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/21/22 18:21  
Container ID: 1225515026-A

Prep Batch: VXX39238  
Prep Method: SW5030B  
Prep Date/Time: 09/21/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL





Results of TW-22

Client Sample ID: TW-22
Client Project ID: SRU-COBC
Lab Sample ID: 1225515027
Lab Project ID: 1225515

Collection Date: 09/08/22 12:54
Received Date: 09/12/22 11:11
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, and Xylenes (total).

Surrogates

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include 1,2-Dichloroethane-D4 (surr), 4-Bromofluorobenzene (surr), and Toluene-d8 (surr).

Batch Information

Analytical Batch: VMS22009
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 09/21/22 18:36
Container ID: 1225515027-A

Prep Batch: VXX39238
Prep Method: SW5030B
Prep Date/Time: 09/21/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL



Results of TW-21

Client Sample ID: TW-21
Client Project ID: SRU-COBC
Lab Sample ID: 1225515028
Lab Project ID: 1225515

Collection Date: 09/08/22 13:17
Received Date: 09/12/22 11:11
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Table with 8 columns: Parameter, Result Qual, LOQ/CL, DL, Units, DF, Allowable Limits, Date Analyzed. Rows include Benzene, Ethylbenzene, o-Xylene, P & M -Xylene, Toluene, Xylenes (total), and Surrogates (1,2-Dichloroethane-D4, 4-Bromofluorobenzene, Toluene-d8).

Batch Information

Analytical Batch: VMS22009
Analytical Method: SW8260D
Analyst: AZL
Analytical Date/Time: 09/21/22 20:34
Container ID: 1225515028-A

Prep Batch: VXX39238
Prep Method: SW5030B
Prep Date/Time: 09/21/22 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL



**Results of TW-7**

Client Sample ID: **TW-7**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515029  
Lab Project ID: 1225515

Collection Date: 09/08/22 14:01  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.185 J	0.400	0.120	ug/L	1		09/21/22 18:50
Ethylbenzene	5.35	1.00	0.310	ug/L	1		09/21/22 18:50
o-Xylene	0.400 J	1.00	0.310	ug/L	1		09/21/22 18:50
P & M -Xylene	77.2	2.00	0.620	ug/L	1		09/21/22 18:50
Toluene	0.500 U	1.00	0.310	ug/L	1		09/21/22 18:50
Xylenes (total)	77.6	3.00	1.00	ug/L	1		09/21/22 18:50
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	104	81-118		%	1		09/21/22 18:50
4-Bromofluorobenzene (surr)	96	85-114		%	1		09/21/22 18:50
Toluene-d8 (surr)	97.6	89-112		%	1		09/21/22 18:50

**Batch Information**

Analytical Batch: VMS22009  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/21/22 18:50  
Container ID: 1225515029-A

Prep Batch: VXX39238  
Prep Method: SW5030B  
Prep Date/Time: 09/21/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of TW-7D**

Client Sample ID: **TW-7D**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515030  
Lab Project ID: 1225515

Collection Date: 09/08/22 14:09  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.183 J	0.400	0.120	ug/L	1		09/21/22 19:05
Ethylbenzene	3.25	1.00	0.310	ug/L	1		09/21/22 19:05
o-Xylene	0.310 J	1.00	0.310	ug/L	1		09/21/22 19:05
P & M -Xylene	67.5	2.00	0.620	ug/L	1		09/21/22 19:05
Toluene	0.500 U	1.00	0.310	ug/L	1		09/21/22 19:05
Xylenes (total)	67.8	3.00	1.00	ug/L	1		09/21/22 19:05
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	102	81-118		%	1		09/21/22 19:05
4-Bromofluorobenzene (surr)	96.4	85-114		%	1		09/21/22 19:05
Toluene-d8 (surr)	97.7	89-112		%	1		09/21/22 19:05

**Batch Information**

Analytical Batch: VMS22009  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/21/22 19:05  
Container ID: 1225515030-A

Prep Batch: VXX39238  
Prep Method: SW5030B  
Prep Date/Time: 09/21/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of **TW-20**

Client Sample ID: **TW-20**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515031  
Lab Project ID: 1225515

Collection Date: 09/08/22 14:47  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Volatile GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.200 U	0.400	0.120	ug/L	1		09/21/22 19:20
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/21/22 19:20
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/21/22 19:20
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/21/22 19:20
Toluene	0.500 U	1.00	0.310	ug/L	1		09/21/22 19:20
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		09/21/22 19:20
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	101	81-118		%	1		09/21/22 19:20
4-Bromofluorobenzene (surr)	97.4	85-114		%	1		09/21/22 19:20
Toluene-d8 (surr)	96.9	89-112		%	1		09/21/22 19:20

**Batch Information**

Analytical Batch: VMS22009  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/21/22 19:20  
Container ID: 1225515031-A

Prep Batch: VXX39238  
Prep Method: SW5030B  
Prep Date/Time: 09/21/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of TW-6**

Client Sample ID: **TW-6**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515032  
Lab Project ID: 1225515

Collection Date: 09/08/22 15:31  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.320 J	0.400	0.120	ug/L	1		09/21/22 19:35
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/21/22 19:35
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/21/22 19:35
P & M -Xylene	24.9	2.00	0.620	ug/L	1		09/21/22 19:35
Toluene	0.500 U	1.00	0.310	ug/L	1		09/21/22 19:35
Xylenes (total)	24.9	3.00	1.00	ug/L	1		09/21/22 19:35
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	99.8	81-118		%	1		09/21/22 19:35
4-Bromofluorobenzene (surr)	97.4	85-114		%	1		09/21/22 19:35
Toluene-d8 (surr)	96.7	89-112		%	1		09/21/22 19:35

**Batch Information**

Analytical Batch: VMS22009  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/21/22 19:35  
Container ID: 1225515032-A

Prep Batch: VXX39238  
Prep Method: SW5030B  
Prep Date/Time: 09/21/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of TW-6D**

Client Sample ID: **TW-6D**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515033  
Lab Project ID: 1225515

Collection Date: 09/08/22 16:11  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.231 J	0.400	0.120	ug/L	1		09/21/22 19:50
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/21/22 19:50
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/21/22 19:50
P & M -Xylene	9.89	2.00	0.620	ug/L	1		09/21/22 19:50
Toluene	0.500 U	1.00	0.310	ug/L	1		09/21/22 19:50
Xylenes (total)	9.89	3.00	1.00	ug/L	1		09/21/22 19:50
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	98.7	81-118		%	1		09/21/22 19:50
4-Bromofluorobenzene (surr)	96.7	85-114		%	1		09/21/22 19:50
Toluene-d8 (surr)	96.7	89-112		%	1		09/21/22 19:50

**Batch Information**

Analytical Batch: VMS22009  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/21/22 19:50  
Container ID: 1225515033-A

Prep Batch: VXX39238  
Prep Method: SW5030B  
Prep Date/Time: 09/21/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of TW-18D**

Client Sample ID: **TW-18D**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515034  
Lab Project ID: 1225515

Collection Date: 09/08/22 16:24  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.298 J	0.400	0.120	ug/L	1		09/21/22 20:04
Ethylbenzene	2.00	1.00	0.310	ug/L	1		09/21/22 20:04
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/21/22 20:04
P & M -Xylene	441	2.00	0.620	ug/L	1		09/21/22 20:04
Toluene	0.500 U	1.00	0.310	ug/L	1		09/21/22 20:04
Xylenes (total)	441	3.00	1.00	ug/L	1		09/21/22 20:04
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	106	81-118		%	1		09/21/22 20:04
4-Bromofluorobenzene (surr)	96.3	85-114		%	1		09/21/22 20:04
Toluene-d8 (surr)	97.6	89-112		%	1		09/21/22 20:04

**Batch Information**

Analytical Batch: VMS22009  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/21/22 20:04  
Container ID: 1225515034-A

Prep Batch: VXX39238  
Prep Method: SW5030B  
Prep Date/Time: 09/21/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



## Results of TW-18

Client Sample ID: **TW-18**  
 Client Project ID: **SRU-COBC**  
 Lab Sample ID: 1225515035  
 Lab Project ID: 1225515

Collection Date: 09/09/22 10:05  
 Received Date: 09/12/22 11:11  
 Matrix: Water (Surface, Eff., Ground)  
 Solids (%):  
 Location:

## Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.125 J	0.400	0.120	ug/L	1		09/22/22 17:50
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/22/22 17:50
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/22/22 17:50
P & M -Xylene	2.02	2.00	0.620	ug/L	1		09/22/22 17:50
Toluene	0.500 U	1.00	0.310	ug/L	1		09/22/22 17:50
Xylenes (total)	2.02 J	3.00	1.00	ug/L	1		09/22/22 17:50
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	102	81-118		%	1		09/22/22 17:50
4-Bromofluorobenzene (surr)	95.1	85-114		%	1		09/22/22 17:50
Toluene-d8 (surr)	95	89-112		%	1		09/22/22 17:50

## Batch Information

Analytical Batch: VMS21998  
 Analytical Method: SW8260D  
 Analyst: AZL  
 Analytical Date/Time: 09/22/22 17:50  
 Container ID: 1225515035-A

Prep Batch: VXX39221  
 Prep Method: SW5030B  
 Prep Date/Time: 09/22/22 06:00  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL



**Results of Duplicate 4**

Client Sample ID: **Duplicate 4**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515036  
Lab Project ID: 1225515

Collection Date: 09/09/22 10:08  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.200 U	0.400	0.120	ug/L	1		09/22/22 18:05
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/22/22 18:05
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/22/22 18:05
P & M -Xylene	1.94 J	2.00	0.620	ug/L	1		09/22/22 18:05
Toluene	0.500 U	1.00	0.310	ug/L	1		09/22/22 18:05
Xylenes (total)	1.94 J	3.00	1.00	ug/L	1		09/22/22 18:05
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	103	81-118		%	1		09/22/22 18:05
4-Bromofluorobenzene (surr)	95.1	85-114		%	1		09/22/22 18:05
Toluene-d8 (surr)	96.8	89-112		%	1		09/22/22 18:05

**Batch Information**

Analytical Batch: VMS21998  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/22/22 18:05  
Container ID: 1225515036-A

Prep Batch: VXX39221  
Prep Method: SW5030B  
Prep Date/Time: 09/22/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of **TW-17**

Client Sample ID: **TW-17**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515037  
Lab Project ID: 1225515

Collection Date: 09/09/22 10:15  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Volatile GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.200 U	0.400	0.120	ug/L	1		09/22/22 18:20
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/22/22 18:20
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/22/22 18:20
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/22/22 18:20
Toluene	0.500 U	1.00	0.310	ug/L	1		09/22/22 18:20
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		09/22/22 18:20
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	103	81-118		%	1		09/22/22 18:20
4-Bromofluorobenzene (surr)	96.4	85-114		%	1		09/22/22 18:20
Toluene-d8 (surr)	96.2	89-112		%	1		09/22/22 18:20

**Batch Information**

Analytical Batch: VMS21998  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/22/22 18:20  
Container ID: 1225515037-A

Prep Batch: VXX39221  
Prep Method: SW5030B  
Prep Date/Time: 09/22/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of TW-19D**

Client Sample ID: **TW-19D**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515038  
Lab Project ID: 1225515

Collection Date: 09/09/22 11:02  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.141 J	0.400	0.120	ug/L	1		09/22/22 18:34
Ethylbenzene	4.31	1.00	0.310	ug/L	1		09/22/22 18:34
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/22/22 18:34
P & M -Xylene	104	2.00	0.620	ug/L	1		09/22/22 18:34
Toluene	0.500 U	1.00	0.310	ug/L	1		09/22/22 18:34
Xylenes (total)	105	3.00	1.00	ug/L	1		09/22/22 18:34
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	105	81-118		%	1		09/22/22 18:34
4-Bromofluorobenzene (surr)	97.1	85-114		%	1		09/22/22 18:34
Toluene-d8 (surr)	96.1	89-112		%	1		09/22/22 18:34

**Batch Information**

Analytical Batch: VMS21998  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/22/22 18:34  
Container ID: 1225515038-A

Prep Batch: VXX39221  
Prep Method: SW5030B  
Prep Date/Time: 09/22/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of TW-19S**

Client Sample ID: **TW-19S**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515039  
Lab Project ID: 1225515

Collection Date: 09/09/22 11:16  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.136 J	0.400	0.120	ug/L	1		09/22/22 18:49
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/22/22 18:49
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/22/22 18:49
P & M -Xylene	47.1	2.00	0.620	ug/L	1		09/22/22 18:49
Toluene	0.500 U	1.00	0.310	ug/L	1		09/22/22 18:49
Xylenes (total)	47.1	3.00	1.00	ug/L	1		09/22/22 18:49
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	103	81-118		%	1		09/22/22 18:49
4-Bromofluorobenzene (surr)	96.3	85-114		%	1		09/22/22 18:49
Toluene-d8 (surr)	96.7	89-112		%	1		09/22/22 18:49

**Batch Information**

Analytical Batch: VMS21998  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/22/22 18:49  
Container ID: 1225515039-A

Prep Batch: VXX39221  
Prep Method: SW5030B  
Prep Date/Time: 09/22/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of Trip Blank 1**

Client Sample ID: **Trip Blank 1**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515040  
Lab Project ID: 1225515

Collection Date: 09/07/22 10:25  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		09/20/22 18:29
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/20/22 18:29
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/20/22 18:29
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/20/22 18:29
Toluene	0.500 U	1.00	0.310	ug/L	1		09/20/22 18:29
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		09/20/22 18:29
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	112	81-118		%	1		09/20/22 18:29
4-Bromofluorobenzene (surr)	96.9	85-114		%	1		09/20/22 18:29
Toluene-d8 (surr)	104	89-112		%	1		09/20/22 18:29

**Batch Information**

Analytical Batch: VMS22007  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/20/22 18:29  
Container ID: 1225515040-A

Prep Batch: VXX39236  
Prep Method: SW5030B  
Prep Date/Time: 09/20/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of Trip Blank 2**

Client Sample ID: **Trip Blank 2**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515041  
Lab Project ID: 1225515

Collection Date: 09/07/22 10:25  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.200 U	0.400	0.120	ug/L	1		09/20/22 18:44
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/20/22 18:44
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/20/22 18:44
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/20/22 18:44
Toluene	0.500 U	1.00	0.310	ug/L	1		09/20/22 18:44
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		09/20/22 18:44
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	109	81-118		%	1		09/20/22 18:44
4-Bromofluorobenzene (surr)	96.8	85-114		%	1		09/20/22 18:44
Toluene-d8 (surr)	102	89-112		%	1		09/20/22 18:44

**Batch Information**

Analytical Batch: VMS22007  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/20/22 18:44  
Container ID: 1225515041-A

Prep Batch: VXX39236  
Prep Method: SW5030B  
Prep Date/Time: 09/20/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



Results of **W-6**

Client Sample ID: **W-6**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515042  
Lab Project ID: 1225515

Collection Date: 09/07/22 10:45  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Polynuclear Aromatics GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Acenaphthene	0.0245 U	0.0490	0.0147	ug/L	1		09/22/22 15:11
Acenaphthylene	0.0245 U	0.0490	0.0147	ug/L	1		09/22/22 15:11
Anthracene	0.0245 U	0.0490	0.0147	ug/L	1		09/22/22 15:11
Benzo(a)Anthracene	0.0245 U	0.0490	0.0147	ug/L	1		09/22/22 15:11
Benzo[a]pyrene	0.00980 U	0.0196	0.00608	ug/L	1		09/22/22 15:11
Benzo[b]Fluoranthene	0.0245 U	0.0490	0.0147	ug/L	1		09/22/22 15:11
Benzo[g,h,i]perylene	0.0245 U	0.0490	0.0147	ug/L	1		09/22/22 15:11
Benzo[k]fluoranthene	0.0245 U	0.0490	0.0147	ug/L	1		09/22/22 15:11
Chrysene	0.0245 U	0.0490	0.0147	ug/L	1		09/22/22 15:11
Dibenzo[a,h]anthracene	0.00980 U	0.0196	0.00608	ug/L	1		09/22/22 15:11
Fluoranthene	0.0156 J	0.0490	0.0147	ug/L	1		09/22/22 15:11
Fluorene	0.0245 U	0.0490	0.0147	ug/L	1		09/22/22 15:11
Indeno[1,2,3-c,d] pyrene	0.0245 U	0.0490	0.0147	ug/L	1		09/22/22 15:11
Naphthalene	0.0490 U	0.0980	0.0304	ug/L	1		09/22/22 15:11
Phenanthrene	0.0490 U	0.0980	0.0304	ug/L	1		09/22/22 15:11
Pyrene	0.0245 U	0.0490	0.0147	ug/L	1		09/22/22 15:11
<b>Surrogates</b>							
2-Methylnaphthalene-d10 (surr)	83	42-86		%	1		09/22/22 15:11
Fluoranthene-d10 (surr)	81.6	50-97		%	1		09/22/22 15:11

**Batch Information**

Analytical Batch: XMS13368  
Analytical Method: EPA 625M SIM (PAH) LV  
Analyst: NGG  
Analytical Date/Time: 09/22/22 15:11  
Container ID: 1225515042-D

Prep Batch: XXX46982  
Prep Method: SW3535A  
Prep Date/Time: 09/14/22 09:54  
Prep Initial Wt./Vol.: 255 mL  
Prep Extract Vol: 1 mL





Results of **W-6**

Client Sample ID: **W-6**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515042  
Lab Project ID: 1225515

Collection Date: 09/07/22 10:45  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Volatile GC/MS**

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	0.200 U	0.400	0.120	ug/L	1		09/20/22 21:13
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/20/22 21:13
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/20/22 21:13
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/20/22 21:13
Toluene	0.500 U	1.00	0.310	ug/L	1		09/20/22 21:13
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	111	81-118		%	1		09/20/22 21:13
4-Bromofluorobenzene (surr)	97.4	85-114		%	1		09/20/22 21:13
Toluene-d8 (surr)	101	89-112		%	1		09/20/22 21:13

Batch Information

Analytical Batch: VMS22007  
Analytical Method: EPA 602/624  
Analyst: AZL  
Analytical Date/Time: 09/20/22 21:13  
Container ID: 1225515042-A

Prep Batch: VXX39236  
Prep Method: SW5030B  
Prep Date/Time: 09/20/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of TW-5**

Client Sample ID: **TW-5**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515043  
Lab Project ID: 1225515

Collection Date: 09/07/22 17:10  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Volatile GC/MS**

<u>Parameter</u>	<u>Result Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Benzene	0.200 U	0.400	0.120	ug/L	1		09/20/22 21:28
Ethylbenzene	0.500 U	1.00	0.310	ug/L	1		09/20/22 21:28
o-Xylene	0.500 U	1.00	0.310	ug/L	1		09/20/22 21:28
P & M -Xylene	1.00 U	2.00	0.620	ug/L	1		09/20/22 21:28
Toluene	0.500 U	1.00	0.310	ug/L	1		09/20/22 21:28
Xylenes (total)	1.50 U	3.00	1.00	ug/L	1		09/20/22 21:28
<b>Surrogates</b>							
1,2-Dichloroethane-D4 (surr)	112	81-118		%	1		09/20/22 21:28
4-Bromofluorobenzene (surr)	95.4	85-114		%	1		09/20/22 21:28
Toluene-d8 (surr)	101	89-112		%	1		09/20/22 21:28

**Batch Information**

Analytical Batch: VMS22007  
Analytical Method: SW8260D  
Analyst: AZL  
Analytical Date/Time: 09/20/22 21:28  
Container ID: 1225515043-A

Prep Batch: VXX39236  
Prep Method: SW5030B  
Prep Date/Time: 09/20/22 06:00  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL



**Results of W-1P**

Client Sample ID: **W-1P**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515044  
Lab Project ID: 1225515

Collection Date: 09/07/22 12:05  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Iron	915		500	150	ug/L	5		09/20/22 17:50

**Batch Information**

Analytical Batch: MMS11685  
Analytical Method: SW6020B  
Analyst: HGS  
Analytical Date/Time: 09/20/22 17:50  
Container ID: 1225515044-A

Prep Batch: MXX35463  
Prep Method: SW3010A  
Prep Date/Time: 09/15/22 09:42  
Prep Initial Wt./Vol.: 25 mL  
Prep Extract Vol: 25 mL



Results of **TW-13**

Client Sample ID: **TW-13**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515045  
Lab Project ID: 1225515

Collection Date: 09/07/22 14:59  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

Results by **Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Iron	52500		500	150	ug/L	5		09/20/22 17:53

**Batch Information**

Analytical Batch: MMS11685  
Analytical Method: SW6020B  
Analyst: HGS  
Analytical Date/Time: 09/20/22 17:53  
Container ID: 1225515045-A

Prep Batch: MXX35463  
Prep Method: SW3010A  
Prep Date/Time: 09/15/22 09:42  
Prep Initial Wt./Vol.: 25 mL  
Prep Extract Vol: 25 mL



**Results of TW-4R**

Client Sample ID: **TW-4R**  
Client Project ID: **SRU-COBC**  
Lab Sample ID: 1225515046  
Lab Project ID: 1225515

Collection Date: 09/07/22 15:55  
Received Date: 09/12/22 11:11  
Matrix: Water (Surface, Eff., Ground)  
Solids (%):  
Location:

**Results by Dissolved Metals by ICP/MS**

<u>Parameter</u>	<u>Result</u>	<u>Qual</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>	<u>DF</u>	<u>Allowable Limits</u>	<u>Date Analyzed</u>
Iron	54700		500	150	ug/L	5		09/20/22 17:56

**Batch Information**

Analytical Batch: MMS11685  
Analytical Method: SW6020B  
Analyst: HGS  
Analytical Date/Time: 09/20/22 17:56  
Container ID: 1225515046-A

Prep Batch: MXX35463  
Prep Method: SW3010A  
Prep Date/Time: 09/15/22 09:42  
Prep Initial Wt./Vol.: 25 mL  
Prep Extract Vol: 25 mL



**Method Blank**

Blank ID: MB for HBN 1843432 [MXX/35463]  
Blank Lab ID: 1685755

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1225515006, 1225515010, 1225515014, 1225515044, 1225515045, 1225515046

**Results by SW6020B**

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Iron	250U	500	150	ug/L

**Batch Information**

Analytical Batch: MMS11685  
Analytical Method: SW6020B  
Instrument: P7 Agilent 7800  
Analyst: HGS  
Analytical Date/Time: 9/20/2022 5:16:53PM

Prep Batch: MXX35463  
Prep Method: SW3010A  
Prep Date/Time: 9/15/2022 9:42:29AM  
Prep Initial Wt./Vol.: 25 mL  
Prep Extract Vol: 25 mL

Print Date: 09/29/2022 4:13:24PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1225515 [MXX35463]  
Blank Spike Lab ID: 1685756  
Date Analyzed: 09/20/2022 17:19

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515006, 1225515010, 1225515014, 1225515044, 1225515045, 1225515046

### Results by SW6020B

Parameter	Blank Spike (ug/L)			CL
	Spike	Result	Rec (%)	
Iron	5000	5420	108	( 87-118 )

### Batch Information

Analytical Batch: **MMS11685**  
Analytical Method: **SW6020B**  
Instrument: **P7 Agilent 7800**  
Analyst: **HGS**

Prep Batch: **MXX35463**  
Prep Method: **SW3010A**  
Prep Date/Time: **09/15/2022 09:42**  
Spike Init Wt./Vol.: 5000 ug/L Extract Vol: 25 mL  
Dupe Init Wt./Vol.: Extract Vol:

Print Date: 09/29/2022 4:13:26PM

## Matrix Spike Summary

Original Sample ID: 1685754  
 MS Sample ID: 1685758 MS  
 MSD Sample ID: 1685759 MSD

Analysis Date: 09/20/2022 17:22  
 Analysis Date: 09/20/2022 17:25  
 Analysis Date: 09/20/2022 17:28  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515006, 1225515010, 1225515014, 1225515044, 1225515045, 1225515046

## Results by SW6020B

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Iron	7010	5000	12700	113	5000	12100	102	87-118	4.66	(< 20 )

## Batch Information

Analytical Batch: MMS11685  
 Analytical Method: SW6020B  
 Instrument: P7 Agilent 7800  
 Analyst: HGS  
 Analytical Date/Time: 9/20/2022 5:25:00PM

Prep Batch: MXX35463  
 Prep Method: 3010 H2O Digest for Metals ICP-MS  
 Prep Date/Time: 9/15/2022 9:42:00AM  
 Prep Initial Wt./Vol.: 25.00mL  
 Prep Extract Vol: 25.00mL

Print Date: 09/29/2022 4:13:27PM





### Method Blank

Blank ID: MB for HBN 1843984 [VXX/39200]  
Blank Lab ID: 1686742

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1225515001, 1225515002, 1225515003, 1225515004, 1225515005

### Results by EPA 602/624

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	102	81-118		%
4-Bromofluorobenzene (surr)	100	85-114		%
Toluene-d8 (surr)	102	89-112		%

### Batch Information

Analytical Batch: VMS21988  
Analytical Method: EPA 602/624  
Instrument: Agilent 7890-75MS  
Analyst: AZL  
Analytical Date/Time: 9/19/2022 1:26:00PM

Prep Batch: VXX39200  
Prep Method: SW5030B  
Prep Date/Time: 9/19/2022 6:00:00AM  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 09/29/2022 4:13:29PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1225515 [VXX39200]  
 Blank Spike Lab ID: 1686743  
 Date Analyzed: 09/19/2022 13:41

Spike Duplicate ID: LCSD for HBN 1225515 [VXX39200]  
 Spike Duplicate Lab ID: 1686744  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515001, 1225515002, 1225515003, 1225515004, 1225515005

### Results by EPA 602/624

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	30	33.6	112	30	32.1	107	( 79-120 )	4.40	(< 20 )
Ethylbenzene	30	34.3	114	30	32.4	108	( 79-121 )	5.50	(< 20 )
o-Xylene	30	34.4	115	30	32.8	109	( 78-122 )	4.90	(< 20 )
P & M -Xylene	60	69.3	116	60	65.8	110	( 80-121 )	5.20	(< 20 )
Toluene	30	32.2	107	30	30.7	102	( 80-121 )	4.80	(< 20 )
<b>Surrogates</b>									
1,2-Dichloroethane-D4 (surr)	30		101	30		104	( 81-118 )	2.10	
4-Bromofluorobenzene (surr)	30		97	30		97	( 85-114 )	0.34	
Toluene-d8 (surr)	30		100	30		100	( 89-112 )	0.83	

### Batch Information

Analytical Batch: VMS21988  
 Analytical Method: EPA 602/624  
 Instrument: Agilent 7890-75MS  
 Analyst: AZL

Prep Batch: VXX39200  
 Prep Method: SW5030B  
 Prep Date/Time: 09/19/2022 06:00  
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 09/29/2022 4:13:31PM



### Method Blank

Blank ID: MB for HBN 1844138 [VXX/39221]  
Blank Lab ID: 1687452

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1225515035, 1225515036, 1225515037, 1225515038, 1225515039

### Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	104	81-118		%
4-Bromofluorobenzene (surr)	97.2	85-114		%
Toluene-d8 (surr)	96.2	89-112		%

### Batch Information

Analytical Batch: VMS21998  
Analytical Method: SW8260D  
Instrument: VPA 780/5975 GC/MS  
Analyst: AZL  
Analytical Date/Time: 9/22/2022 1:09:00PM

Prep Batch: VXX39221  
Prep Method: SW5030B  
Prep Date/Time: 9/22/2022 6:00:00AM  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 09/29/2022 4:13:34PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1225515 [VXX39221]  
 Blank Spike Lab ID: 1687453  
 Date Analyzed: 09/22/2022 13:24

Spike Duplicate ID: LCSD for HBN 1225515 [VXX39221]  
 Spike Duplicate Lab ID: 1687454  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515035, 1225515036, 1225515037, 1225515038, 1225515039

### Results by SW8260D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	30	30.9	103	30	32.2	107	( 79-120 )	4.30	(< 20 )
Ethylbenzene	30	30.4	101	30	32.3	108	( 79-121 )	5.90	(< 20 )
o-Xylene	30	30.1	100	30	31.7	106	( 78-122 )	5.10	(< 20 )
P & M -Xylene	60	60.8	101	60	64.2	107	( 80-121 )	5.50	(< 20 )
Toluene	30	28.2	94	30	29.7	99	( 80-121 )	5.00	(< 20 )
Xylenes (total)	90	90.9	101	90	95.9	107	( 79-121 )	5.40	(< 20 )
<b>Surrogates</b>									
1,2-Dichloroethane-D4 (surr)	30		102	30		101	( 81-118 )	1.60	
4-Bromofluorobenzene (surr)	30		95	30		95	( 85-114 )	0.32	
Toluene-d8 (surr)	30		99	30		98	( 89-112 )	0.41	

### Batch Information

Analytical Batch: VMS21998  
 Analytical Method: SW8260D  
 Instrument: VPA 780/5975 GC/MS  
 Analyst: AZL

Prep Batch: VXX39221  
 Prep Method: SW5030B  
 Prep Date/Time: 09/22/2022 06:00  
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 09/29/2022 4:13:35PM

## Method Blank

Blank ID: MB for HBN 1844300 [VXX/39236]  
 Blank Lab ID: 1688069

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

1225515010, 1225515011, 1225515012, 1225515013, 1225515014, 1225515015, 1225515016, 1225515017, 1225515040,  
 1225515041, 1225515042, 1225515043

## Results by EPA 602/624

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	106	81-118		%
4-Bromofluorobenzene (surr)	95.3	85-114		%
Toluene-d8 (surr)	101	89-112		%

## Batch Information

Analytical Batch: VMS22007  
 Analytical Method: EPA 602/624  
 Instrument: Agilent 7890-75MS  
 Analyst: AZL  
 Analytical Date/Time: 9/20/2022 2:49:00PM

Prep Batch: VXX39236  
 Prep Method: SW5030B  
 Prep Date/Time: 9/20/2022 6:00:00AM  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL

Print Date: 09/29/2022 4:13:37PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1225515 [VXX39236]  
 Blank Spike Lab ID: 1688070  
 Date Analyzed: 09/20/2022 15:04

Spike Duplicate ID: LCSD for HBN 1225515 [VXX39236]  
 Spike Duplicate Lab ID: 1688071  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515010, 1225515011, 1225515012, 1225515013, 1225515014, 1225515015, 1225515016, 1225515017, 1225515040, 1225515041, 1225515042, 1225515043

### Results by EPA 602/624

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	30	29.1	97	30	29.4	98	( 79-120 )	1.00	(< 20 )
Ethylbenzene	30	30.1	100	30	30.8	103	( 79-121 )	2.40	(< 20 )
o-Xylene	30	29.6	99	30	31.0	103	( 78-122 )	4.90	(< 20 )
P & M -Xylene	60	60.0	100	60	62.7	104	( 80-121 )	4.30	(< 20 )
Toluene	30	28.9	96	30	29.6	99	( 80-121 )	2.50	(< 20 )
Xylenes (total)	90	89.6	100	90	93.7	104	( 79-121 )	4.50	(< 20 )
<b>Surrogates</b>									
1,2-Dichloroethane-D4 (surr)	30		100	30		100	( 81-118 )	0.27	
4-Bromofluorobenzene (surr)	30		92	30		97	( 85-114 )	4.30	
Toluene-d8 (surr)	30		103	30		103	( 89-112 )	0.13	

### Batch Information

Analytical Batch: VMS22007  
 Analytical Method: EPA 602/624  
 Instrument: Agilent 7890-75MS  
 Analyst: AZL

Prep Batch: VXX39236  
 Prep Method: SW5030B  
 Prep Date/Time: 09/20/2022 06:00  
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 09/29/2022 4:13:39PM



### Method Blank

Blank ID: MB for HBN 1844300 [VXX/39236]  
Blank Lab ID: 1688069

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

1225515010, 1225515011, 1225515012, 1225515013, 1225515014, 1225515015, 1225515016, 1225515017, 1225515040, 1225515041, 1225515042, 1225515043

### Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	106	81-118		%
4-Bromofluorobenzene (surr)	95.3	85-114		%
Toluene-d8 (surr)	101	89-112		%

### Batch Information

Analytical Batch: VMS22007  
Analytical Method: SW8260D  
Instrument: Agilent 7890-75MS  
Analyst: AZL  
Analytical Date/Time: 9/20/2022 2:49:00PM

Prep Batch: VXX39236  
Prep Method: SW5030B  
Prep Date/Time: 9/20/2022 6:00:00AM  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 09/29/2022 4:13:42PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1225515 [VXX39236]  
 Blank Spike Lab ID: 1688070  
 Date Analyzed: 09/20/2022 15:04

Spike Duplicate ID: LCSD for HBN 1225515 [VXX39236]  
 Spike Duplicate Lab ID: 1688071  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515010, 1225515011, 1225515012, 1225515013, 1225515014, 1225515015, 1225515016, 1225515017, 1225515040, 1225515041, 1225515042, 1225515043

### Results by SW8260D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	30	29.1	97	30	29.4	98	( 79-120 )	1.00	(< 20 )
Ethylbenzene	30	30.1	100	30	30.8	103	( 79-121 )	2.40	(< 20 )
o-Xylene	30	29.6	99	30	31.0	103	( 78-122 )	4.90	(< 20 )
P & M -Xylene	60	60.0	100	60	62.7	104	( 80-121 )	4.30	(< 20 )
Toluene	30	28.9	96	30	29.6	99	( 80-121 )	2.50	(< 20 )
Xylenes (total)	90	89.6	100	90	93.7	104	( 79-121 )	4.50	(< 20 )
<b>Surrogates</b>									
1,2-Dichloroethane-D4 (surr)	30		100	30		100	( 81-118 )	0.27	
4-Bromofluorobenzene (surr)	30		92	30		97	( 85-114 )	4.30	
Toluene-d8 (surr)	30		103	30		103	( 89-112 )	0.13	

### Batch Information

Analytical Batch: VMS22007  
 Analytical Method: SW8260D  
 Instrument: Agilent 7890-75MS  
 Analyst: AZL

Prep Batch: VXX39236  
 Prep Method: SW5030B  
 Prep Date/Time: 09/20/2022 06:00  
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 09/29/2022 4:13:44PM





### Billable Matrix Spike Summary

Original Sample ID: 1225515017  
MS Sample ID: 1225515018 BMS  
MSD Sample ID: 1225515019 BMSD

Analysis Date: 09/20/2022 18:59  
Analysis Date: 09/20/2022 17:15  
Analysis Date: 09/20/2022 17:30  
Matrix: Water (Surface, Eff., Ground)

QC for Samples:

### Results by SW8260D

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	0.400	30.0	30.4	100	30.0	30.3	100	79-120	0.20	(< 20 )
Ethylbenzene	0.960J	30.0	32.1	104	30.0	33.2	108	79-121	3.30	(< 20 )
o-Xylene	0.500U	30.0	31.3	104	30.0	32.2	107	78-122	2.90	(< 20 )
P & M -Xylene	84.3	60.0	135	84	60.0	139	91	80-121	2.90	(< 20 )
Toluene	0.500U	30.0	29.4	98	30.0	30.5	102	80-121	3.70	(< 20 )
Xylenes (total)	84.3	90.0	166	91	90.0	171	96	79-121	2.90	(< 20 )
<b>Surrogates</b>										
1,2-Dichloroethane-D4 (surr)		30.0	30.7	102	30.0	30.2	101	81-118	1.70	
4-Bromofluorobenzene (surr)		30.0	28.2	94	30.0	28.5	95	85-114	0.81	
Toluene-d8 (surr)		30.0	30.2	101	30.0	30.8	103	89-112	1.90	

### Batch Information

Analytical Batch: VMS22007  
Analytical Method: SW8260D  
Instrument: Agilent 7890-75MS  
Analyst: AZL  
Analytical Date/Time: 9/20/2022 5:15:00PM

Prep Batch: VXX39236  
Prep Method: Volatiles Extraction 8240/8260  
Prep Date/Time: 9/20/2022 6:00:00AM  
Prep Initial Wt./Vol.: 5.00mL  
Prep Extract Vol: 5.00mL

Print Date: 09/29/2022 4:13:45PM

## Method Blank

Blank ID: MB for HBN 1844308 [VXX/39238]  
 Blank Lab ID: 1688108

Matrix: Water (Surface, Eff., Ground)

### QC for Samples:

1225515006, 1225515007, 1225515008, 1225515009, 1225515020, 1225515023, 1225515024, 1225515025, 1225515026,  
 1225515027, 1225515028, 1225515029, 1225515030, 1225515031, 1225515032, 1225515033, 1225515034

## Results by EPA 602/624

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	103	81-118		%
4-Bromofluorobenzene (surr)	97.5	85-114		%
Toluene-d8 (surr)	96.3	89-112		%

## Batch Information

Analytical Batch: VMS22009  
 Analytical Method: EPA 602/624  
 Instrument: VPA 780/5975 GC/MS  
 Analyst: AZL  
 Analytical Date/Time: 9/21/2022 1:11:00PM

Prep Batch: VXX39238  
 Prep Method: SW5030B  
 Prep Date/Time: 9/21/2022 6:00:00AM  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL

Print Date: 09/29/2022 4:13:46PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1225515 [VXX39238]  
 Blank Spike Lab ID: 1688109  
 Date Analyzed: 09/21/2022 13:26

Spike Duplicate ID: LCSD for HBN 1225515 [VXX39238]  
 Spike Duplicate Lab ID: 1688110  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515006, 1225515007, 1225515008, 1225515009, 1225515020, 1225515023, 1225515024, 1225515025, 1225515026, 1225515027, 1225515028, 1225515029, 1225515030, 1225515031, 1225515032, 1225515033, 1225515034

### Results by EPA 602/624

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	30	31.3	104	30	31.0	103	( 79-120 )	1.10	(< 20 )
Ethylbenzene	30	30.7	102	30	30.8	103	( 79-121 )	0.13	(< 20 )
o-Xylene	30	30.7	102	30	30.3	101	( 78-122 )	1.30	(< 20 )
P & M -Xylene	60	61.6	103	60	61.5	102	( 80-121 )	0.16	(< 20 )
Toluene	30	28.8	96	30	28.7	96	( 80-121 )	0.62	(< 20 )
Xylenes (total)	90	92.3	103	90	91.8	102	( 79-121 )	0.53	(< 20 )
<b>Surrogates</b>									
1,2-Dichloroethane-D4 (surr)	30		98	30		96	( 81-118 )	2.10	
4-Bromofluorobenzene (surr)	30		98	30		98	( 85-114 )	0.56	
Toluene-d8 (surr)	30		98	30		98	( 89-112 )	0.24	

### Batch Information

Analytical Batch: **VMS22009**  
 Analytical Method: **EPA 602/624**  
 Instrument: **VPA 780/5975 GC/MS**  
 Analyst: **AZL**

Prep Batch: **VXX39238**  
 Prep Method: **SW5030B**  
 Prep Date/Time: **09/21/2022 06:00**  
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 09/29/2022 4:13:49PM



### Method Blank

Blank ID: MB for HBN 1844308 [VXX/39238]  
Blank Lab ID: 1688108

Matrix: Water (Surface, Eff., Ground)

#### QC for Samples:

1225515006, 1225515007, 1225515008, 1225515009, 1225515020, 1225515023, 1225515024, 1225515025, 1225515026,  
1225515027, 1225515028, 1225515029, 1225515030, 1225515031, 1225515032, 1225515033, 1225515034

### Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	103	81-118		%
4-Bromofluorobenzene (surr)	97.5	85-114		%
Toluene-d8 (surr)	96.3	89-112		%

### Batch Information

Analytical Batch: VMS22009  
Analytical Method: SW8260D  
Instrument: VPA 780/5975 GC/MS  
Analyst: AZL  
Analytical Date/Time: 9/21/2022 1:11:00PM

Prep Batch: VXX39238  
Prep Method: SW5030B  
Prep Date/Time: 9/21/2022 6:00:00AM  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 09/29/2022 4:13:51PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1225515 [VXX39238]  
 Blank Spike Lab ID: 1688109  
 Date Analyzed: 09/21/2022 13:26

Spike Duplicate ID: LCSD for HBN 1225515 [VXX39238]  
 Spike Duplicate Lab ID: 1688110  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515006, 1225515007, 1225515008, 1225515009, 1225515020, 1225515023, 1225515024, 1225515025, 1225515026, 1225515027, 1225515028, 1225515029, 1225515030, 1225515031, 1225515032, 1225515033, 1225515034

### Results by SW8260D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	30	31.3	104	30	31.0	103	( 79-120 )	1.10	(< 20 )
Ethylbenzene	30	30.7	102	30	30.8	103	( 79-121 )	0.13	(< 20 )
o-Xylene	30	30.7	102	30	30.3	101	( 78-122 )	1.30	(< 20 )
P & M -Xylene	60	61.6	103	60	61.5	102	( 80-121 )	0.16	(< 20 )
Toluene	30	28.8	96	30	28.7	96	( 80-121 )	0.62	(< 20 )
Xylenes (total)	90	92.3	103	90	91.8	102	( 79-121 )	0.53	(< 20 )
<b>Surrogates</b>									
1,2-Dichloroethane-D4 (surr)	30		98	30		96	( 81-118 )	2.10	
4-Bromofluorobenzene (surr)	30		98	30		98	( 85-114 )	0.56	
Toluene-d8 (surr)	30		98	30		98	( 89-112 )	0.24	

### Batch Information

Analytical Batch: VMS22009  
 Analytical Method: SW8260D  
 Instrument: VPA 780/5975 GC/MS  
 Analyst: AZL

Prep Batch: VXX39238  
 Prep Method: SW5030B  
 Prep Date/Time: 09/21/2022 06:00  
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 09/29/2022 4:13:55PM



### Billable Matrix Spike Summary

Original Sample ID: 1225515020  
MS Sample ID: 1225515021 BMS  
MSD Sample ID: 1225515022 BMSD

Analysis Date: 09/21/2022 16:23  
Analysis Date: 09/21/2022 14:54  
Analysis Date: 09/21/2022 15:09  
Matrix: Water (Surface, Eff., Ground)

QC for Samples:

### Results by SW8260D

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	0.266J	30.0	32.4	107	30.0	32.5	107	79-120	0.20	(< 20 )
Ethylbenzene	22.8	30.0	54.9	107	30.0	54.7	106	79-121	0.49	(< 20 )
o-Xylene	0.873J	30.0	32.2	104	30.0	33.0	107	78-122	2.60	(< 20 )
P & M -Xylene	110	60.0	161	85	60.0	161	85	80-121	0.00	(< 20 )
Toluene	0.500U	30.0	30.2	101	30.0	30.1	100	80-121	0.24	(< 20 )
Xylenes (total)	111	90.0	193	92	90.0	194	93	79-121	0.44	(< 20 )
<b>Surrogates</b>										
1,2-Dichloroethane-D4 (surr)		30.0	27.4	91	30.0	29.0	97	81-118	5.80	
4-Bromofluorobenzene (surr)		30.0	29.1	97	30.0	28.9	96	85-114	0.85	
Toluene-d8 (surr)		30.0	29.2	97	30.0	29.2	97	89-112	0.10	

### Batch Information

Analytical Batch: VMS22009  
Analytical Method: SW8260D  
Instrument: VPA 780/5975 GC/MS  
Analyst: AZL  
Analytical Date/Time: 9/21/2022 2:54:00PM

Prep Batch: VXX39238  
Prep Method: Volatiles Extraction 8240/8260  
Prep Date/Time: 9/21/2022 6:00:00AM  
Prep Initial Wt./Vol.: 5.00mL  
Prep Extract Vol: 5.00mL

Print Date: 09/29/2022 4:13:57PM



**Method Blank**

Blank ID: MB for HBN 1844315 (WFI/3006)  
Blank Lab ID: 1688150  
QC for Samples:

Matrix: Water (Surface, Eff., Ground)

**Results by SM21 4500NO3-F**

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Nitrate-N	0.100U	0.200	0.0500	mg/L
Nitrite-N	0.100U	0.200	0.0500	mg/L
Total Nitrate/Nitrite-N	0.100U	0.200	0.0500	mg/L

**Batch Information**

Analytical Batch: WFI3006  
Analytical Method: SM21 4500NO3-F  
Instrument: Astoria segmented flow  
Analyst: EBH  
Analytical Date/Time: 9/27/2022 2:16:28PM

Print Date: 09/29/2022 4:13:59PM



### Method Blank

Blank ID: MB for HBN 1844315 (WFI/3006)

Blank Lab ID: 1688156

QC for Samples:

1225515006, 1225515010, 1225515014

Matrix: Water (Surface, Eff., Ground)

### Results by SM21 4500NO3-F

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Nitrate-N	0.100U	0.200	0.0500	mg/L
Nitrite-N	0.100U	0.200	0.0500	mg/L
Total Nitrate/Nitrite-N	0.100U	0.200	0.0500	mg/L

### Batch Information

Analytical Batch: WFI3006

Analytical Method: SM21 4500NO3-F

Instrument: Astoria segmented flow

Analyst: EBH

Analytical Date/Time: 9/27/2022 1:30:58PM

Print Date: 09/29/2022 4:13:59PM





### Method Blank

Blank ID: MB for HBN 1844315 (WFI/3006)

Blank Lab ID: 1688162

QC for Samples:

1225515006, 1225515010, 1225515014

Matrix: Water (Surface, Eff., Ground)

### Results by SM21 4500NO3-F

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Nitrate-N	0.100U	0.200	0.0500	mg/L
Nitrite-N	0.100U	0.200	0.0500	mg/L
Total Nitrate/Nitrite-N	0.100U	0.200	0.0500	mg/L

### Batch Information

Analytical Batch: WFI3006

Analytical Method: SM21 4500NO3-F

Instrument: Astoria segmented flow

Analyst: EBH

Analytical Date/Time: 9/27/2022 12:45:27PM

Print Date: 09/29/2022 4:13:59PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1225515 [WFI3006]  
 Blank Spike Lab ID: 1688152  
 Date Analyzed: 09/27/2022 14:14

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

## Results by SM21 4500NO3-F

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Nitrate-N	2.5	2.50	100	( 70-130 )
Nitrite-N	2.5	2.57	103	( 90-110 )
Total Nitrate/Nitrite-N	5	5.07	101	( 90-110 )

## Batch Information

Analytical Batch: **WFI3006**  
 Analytical Method: **SM21 4500NO3-F**  
 Instrument: **Astoria segmented flow**  
 Analyst: **EBH**

Print Date: 09/29/2022 4:14:01PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1225515 [WFI3006]

Blank Spike Lab ID: 1688158

Date Analyzed: 09/27/2022 13:29

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515006, 1225515010, 1225515014

### Results by SM21 4500NO3-F

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Nitrate-N	2.5	2.85	114	( 70-130 )
Nitrite-N	2.5	2.59	103	( 90-110 )
Total Nitrate/Nitrite-N	5	5.44	109	( 90-110 )

### Batch Information

Analytical Batch: **WFI3006**

Analytical Method: **SM21 4500NO3-F**

Instrument: **Astoria segmented flow**

Analyst: **EBH**

Print Date: 09/29/2022 4:14:01PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1225515 [WFI3006]

Blank Spike Lab ID: 1688164

Date Analyzed: 09/27/2022 12:43

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515006, 1225515010, 1225515014

### Results by SM21 4500NO3-F

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Nitrate-N	2.5	2.47	99	( 70-130 )
Nitrite-N	2.5	2.58	103	( 90-110 )
Total Nitrate/Nitrite-N	5	5.05	101	( 90-110 )

### Batch Information

Analytical Batch: **WFI3006**

Analytical Method: **SM21 4500NO3-F**

Instrument: **Astoria segmented flow**

Analyst: **EBH**

Print Date: 09/29/2022 4:14:01PM



### Matrix Spike Summary

Original Sample ID: 1688128  
MS Sample ID: 1688129 MS  
MSD Sample ID: 1688130 MSD

Analysis Date: 09/27/2022 12:41  
Analysis Date: 09/27/2022 11:59  
Analysis Date: 09/27/2022 12:01  
Matrix: Water (Surface, Eff., Ground)

QC for Samples:

### Results by SM21 4500NO3-F

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Nitrate/Nitrite-N	0.591	5.00	5.59	100	5.00	5.63	101	90-110	0.58	(< 25 )

### Batch Information

Analytical Batch: WFI3006  
Analytical Method: SM21 4500NO3-F  
Instrument: Astoria segmented flow  
Analyst: EBH  
Analytical Date/Time: 9/27/2022 11:59:00AM

Print Date: 09/29/2022 4:14:02PM



### Matrix Spike Summary

Original Sample ID: 1225513013  
MS Sample ID: 1688131 MS  
MSD Sample ID: 1688132 MSD

Analysis Date: 09/27/2022 12:48  
Analysis Date: 09/27/2022 12:50  
Analysis Date: 09/27/2022 12:52  
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515006, 1225515010, 1225515014

### Results by SM21 4500NO3-F

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Nitrate/Nitrite-N	0.0570J	5.00	4.89	97	5.00	5.14	102	90-110	5.10	(< 25 )

### Batch Information

Analytical Batch: WFI3006  
Analytical Method: SM21 4500NO3-F  
Instrument: Astoria segmented flow  
Analyst: EBH  
Analytical Date/Time: 9/27/2022 12:50:00PM

Print Date: 09/29/2022 4:14:02PM



### Matrix Spike Summary

Original Sample ID: 1225613001  
MS Sample ID: 1688133 MS  
MSD Sample ID: 1688134 MSD

Analysis Date: 09/27/2022 13:34  
Analysis Date: 09/27/2022 13:36  
Analysis Date: 09/27/2022 13:37  
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515006, 1225515010, 1225515014

### Results by SM21 4500NO3-F

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Nitrate/Nitrite-N	0.200U	5.00	5.17	103	5.00	5.41	108	90-110	4.50	(< 25 )

### Batch Information

Analytical Batch: WFI3006  
Analytical Method: SM21 4500NO3-F  
Instrument: Astoria segmented flow  
Analyst: EBH  
Analytical Date/Time: 9/27/2022 1:36:00PM

Print Date: 09/29/2022 4:14:02PM



**Method Blank**

Blank ID: MB for HBN 1843540 [WTI/5958]  
Blank Lab ID: 1685897

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1225515006, 1225515010, 1225515014

**Results by SM21 2320B**

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Alkalinity	5.00U	10.0	2.50	mg/L

**Batch Information**

Analytical Batch: WTI5958  
Analytical Method: SM21 2320B  
Instrument: Titration  
Analyst: IGK  
Analytical Date/Time: 9/15/2022 12:42:00PM

Print Date: 09/29/2022 4:14:04PM





### Duplicate Sample Summary

Original Sample ID: 1225576001

Duplicate Sample ID: 1685900

QC for Samples:

1225515006, 1225515010, 1225515014

Analysis Date: 09/15/2022 18:31

Matrix: Drinking Water

### Results by SM21 2320B

<u>NAME</u>	<u>Original</u>	<u>Duplicate</u>	<u>Units</u>	<u>RPD (%)</u>	<u>RPD CL</u>
Alkalinity	216	215	mg/L	0.84	(< 25 )

### Batch Information

Analytical Batch: WTI5958

Analytical Method: SM21 2320B

Instrument: Titration

Analyst: IGK

Print Date: 09/29/2022 4:14:05PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1225515 [WTI5958]

Blank Spike Lab ID: 1685898

Date Analyzed: 09/15/2022 12:50

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515006, 1225515010, 1225515014

### Results by SM21 2320B

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Alkalinity	250	265	106	( 85-115 )

### Batch Information

Analytical Batch: **WTI5958**

Analytical Method: **SM21 2320B**

Instrument: **Titration**

Analyst: **IGK**

Print Date: 09/29/2022 4:14:06PM



**Method Blank**

Blank ID: MB for HBN 1844456 [WXX/14474]  
Blank Lab ID: 1688569

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1225515006, 1225515010, 1225515014

**Results by EPA 300.0**

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Sulfate	0.100U	0.200	0.0500	mg/L

**Batch Information**

Analytical Batch: WIC6379  
Analytical Method: EPA 300.0  
Instrument: 930 Metrohm compact IC flex  
Analyst: EBH  
Analytical Date/Time: 9/28/2022 11:59:55AM

Prep Batch: WXX14474  
Prep Method: METHOD  
Prep Date/Time: 9/28/2022 10:00:00AM  
Prep Initial Wt./Vol.: 10 mL  
Prep Extract Vol: 10 mL

Print Date: 09/29/2022 4:14:09PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1225515 [WXX14474]  
Blank Spike Lab ID: 1688570  
Date Analyzed: 09/28/2022 12:18

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515006, 1225515010, 1225515014

### Results by EPA 300.0

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Sulfate	5	5.08	102	( 90-110 )

### Batch Information

Analytical Batch: **WIC6379**  
Analytical Method: **EPA 300.0**  
Instrument: **930 Metrohm compact IC flex**  
Analyst: **EBH**

Prep Batch: **WXX14474**  
Prep Method: **METHOD**  
Prep Date/Time: **09/28/2022 10:00**  
Spike Init Wt./Vol.: 5 mg/L Extract Vol: 10 mL  
Dupe Init Wt./Vol.: Extract Vol:

Print Date: 09/29/2022 4:14:11PM

## Matrix Spike Summary

Original Sample ID: 1688567  
 MS Sample ID: 1688572 MS  
 MSD Sample ID:

Analysis Date: 09/28/2022 12:56  
 Analysis Date: 09/28/2022 13:15  
 Analysis Date:  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515006, 1225515010, 1225515014

## Results by EPA 300.0

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Sulfate	27.2	5.00	29.6	49 *				90-110		

## Batch Information

Analytical Batch: WIC6379  
 Analytical Method: EPA 300.0  
 Instrument: 930 Metrohm compact IC flex  
 Analyst: EBH  
 Analytical Date/Time: 9/28/2022 1:15:53PM

Prep Batch: WXX14474  
 Prep Method: EPA 300.0 Extraction Waters/Liquids  
 Prep Date/Time: 9/28/2022 10:00:00AM  
 Prep Initial Wt./Vol.: 10.00mL  
 Prep Extract Vol: 10.00mL

Print Date: 09/29/2022 4:14:13PM



### Matrix Spike Summary

Original Sample ID: 1688568  
MS Sample ID: 1688573 MS  
MSD Sample ID:

Analysis Date: 09/28/2022 16:44  
Analysis Date: 09/28/2022 17:03  
Analysis Date:  
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515006, 1225515010, 1225515014

### Results by EPA 300.0

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Sulfate	0.0910J	5.00	5.16	101				90-110		

### Batch Information

Analytical Batch: WIC6379  
Analytical Method: EPA 300.0  
Instrument: 930 Metrohm compact IC flex  
Analyst: EBH  
Analytical Date/Time: 9/28/2022 5:03:52PM

Prep Batch: WXX14474  
Prep Method: EPA 300.0 Extraction Waters/Liquids  
Prep Date/Time: 9/28/2022 10:00:00AM  
Prep Initial Wt./Vol.: 10.00mL  
Prep Extract Vol: 10.00mL

Print Date: 09/29/2022 4:14:13PM



**Method Blank**

Blank ID: MB for HBN 1843120 [XXX/46972]  
Blank Lab ID: 1685110

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

1225515001, 1225515002, 1225515003, 1225515004, 1225515005, 1225515006, 1225515007

**Results by EPA 625M SIM (PAH) LV**

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Acenaphthene	0.0250U	0.0500	0.0150	ug/L
Acenaphthylene	0.0250U	0.0500	0.0150	ug/L
Anthracene	0.0250U	0.0500	0.0150	ug/L
Benzo(a)Anthracene	0.0250U	0.0500	0.0150	ug/L
Benzo[a]pyrene	0.0100U	0.0200	0.00620	ug/L
Benzo[b]Fluoranthene	0.0250U	0.0500	0.0150	ug/L
Benzo[g,h,i]perylene	0.0250U	0.0500	0.0150	ug/L
Benzo[k]fluoranthene	0.0250U	0.0500	0.0150	ug/L
Chrysene	0.0250U	0.0500	0.0150	ug/L
Dibenzo[a,h]anthracene	0.0100U	0.0200	0.00620	ug/L
Fluoranthene	0.0184J	0.0500	0.0150	ug/L
Fluorene	0.0250U	0.0500	0.0150	ug/L
Indeno[1,2,3-c,d] pyrene	0.0250U	0.0500	0.0150	ug/L
Naphthalene	0.0500U	0.100	0.0310	ug/L
Phenanthrene	0.0518J	0.100	0.0310	ug/L
Pyrene	0.0250U	0.0500	0.0150	ug/L
<b>Surrogates</b>				
2-Methylnaphthalene-d10 (surr)	79.8	42-86		%
Fluoranthene-d10 (surr)	86.5	50-97		%

**Batch Information**

Analytical Batch: XMS13359  
Analytical Method: EPA 625M SIM (PAH) LV  
Instrument: Agilent GC 7890B/5977A SWA  
Analyst: NGG  
Analytical Date/Time: 9/18/2022 12:06:00PM

Prep Batch: XXX46972  
Prep Method: SW3535A  
Prep Date/Time: 9/13/2022 9:32:45AM  
Prep Initial Wt./Vol.: 250 mL  
Prep Extract Vol: 1 mL

Print Date: 09/29/2022 4:14:14PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1225515 [XXX46972]  
 Blank Spike Lab ID: 1685111  
 Date Analyzed: 09/18/2022 12:26

Spike Duplicate ID: LCSD for HBN 1225515 [XXX46972]  
 Spike Duplicate Lab ID: 1685112  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515001, 1225515002, 1225515003, 1225515004, 1225515005, 1225515006, 1225515007

### Results by EPA 625M SIM (PAH) LV

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Acenaphthene	2	1.67	84	2	1.75	88	( 48-114 )	4.70	(< 20 )
Acenaphthylene	2	1.54	77	2	1.62	81	( 35-121 )	4.90	(< 20 )
Anthracene	2	1.58	79	2	1.68	84	( 53-119 )	6.20	(< 20 )
Benzo(a)Anthracene	2	1.53	76	2	1.56	78	( 59-120 )	2.20	(< 20 )
Benzo[a]pyrene	2	1.64	82	2	1.68	84	( 53-120 )	2.20	(< 20 )
Benzo[b]Fluoranthene	2	1.51	76	2	1.57	78	( 53-126 )	3.50	(< 20 )
Benzo[g,h,i]perylene	2	1.83	92	2	1.86	93	( 44-128 )	1.70	(< 20 )
Benzo[k]fluoranthene	2	1.71	86	2	1.75	87	( 54-125 )	2.10	(< 20 )
Chrysene	2	1.65	83	2	1.68	84	( 57-120 )	1.90	(< 20 )
Dibenzo[a,h]anthracene	2	1.82	91	2	1.86	93	( 44-131 )	2.10	(< 20 )
Fluoranthene	2	1.61	81	2	1.66	83	( 58-120 )	3.10	(< 20 )
Fluorene	2	1.69	85	2	1.71	85	( 50-118 )	0.99	(< 20 )
Indeno[1,2,3-c,d] pyrene	2	1.77	88	2	1.80	90	( 48-130 )	1.70	(< 20 )
Naphthalene	2	1.52	76	2	1.62	81	( 43-114 )	6.10	(< 20 )
Phenanthrene	2	1.66	83	2	1.73	86	( 53-115 )	4.10	(< 20 )
Pyrene	2	1.61	80	2	1.64	82	( 53-121 )	2.20	(< 20 )
<b>Surrogates</b>									
2-Methylnaphthalene-d10 (surr)	2		76	2		83	( 42-86 )	9.00	
Fluoranthene-d10 (surr)	2		81	2		87	( 50-97 )	7.00	

### Batch Information

Analytical Batch: XMS13359  
 Analytical Method: EPA 625M SIM (PAH) LV  
 Instrument: Agilent GC 7890B/5977A SWA  
 Analyst: NGG

Prep Batch: XXX46972  
 Prep Method: SW3535A  
 Prep Date/Time: 09/13/2022 09:32  
 Spike Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL  
 Dupe Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL

Print Date: 09/29/2022 4:14:17PM



## Method Blank

Blank ID: MB for HBN 1843186 [XXX/46982]  
 Blank Lab ID: 1685436

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
 1225515042

## Results by EPA 625M SIM (PAH) LV

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Acenaphthene	0.0250U	0.0500	0.0150	ug/L
Acenaphthylene	0.0250U	0.0500	0.0150	ug/L
Anthracene	0.0250U	0.0500	0.0150	ug/L
Benzo(a)Anthracene	0.0250U	0.0500	0.0150	ug/L
Benzo[a]pyrene	0.0100U	0.0200	0.00620	ug/L
Benzo[b]Fluoranthene	0.0250U	0.0500	0.0150	ug/L
Benzo[g,h,i]perylene	0.0250U	0.0500	0.0150	ug/L
Benzo[k]fluoranthene	0.0250U	0.0500	0.0150	ug/L
Chrysene	0.0250U	0.0500	0.0150	ug/L
Dibenzo[a,h]anthracene	0.0100U	0.0200	0.00620	ug/L
Fluoranthene	0.0250U	0.0500	0.0150	ug/L
Fluorene	0.0250U	0.0500	0.0150	ug/L
Indeno[1,2,3-c,d] pyrene	0.0250U	0.0500	0.0150	ug/L
Naphthalene	0.0500U	0.100	0.0310	ug/L
Phenanthrene	0.0500U	0.100	0.0310	ug/L
Pyrene	0.0250U	0.0500	0.0150	ug/L
<b>Surrogates</b>				
2-Methylnaphthalene-d10 (surr)	77.5	42-86		%
Fluoranthene-d10 (surr)	77.1	50-97		%

## Batch Information

Analytical Batch: XMS13368  
 Analytical Method: EPA 625M SIM (PAH) LV  
 Instrument: Agilent GC 7890B/5977A SWA  
 Analyst: NGG  
 Analytical Date/Time: 9/22/2022 2:30:00PM

Prep Batch: XXX46982  
 Prep Method: SW3535A  
 Prep Date/Time: 9/14/2022 9:54:11AM  
 Prep Initial Wt./Vol.: 250 mL  
 Prep Extract Vol: 1 mL



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1225515 [XXX46982]

Blank Spike Lab ID: 1685437

Date Analyzed: 09/22/2022 14:50

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515042

### Results by EPA 625M SIM (PAH) LV

#### Blank Spike (ug/L)

Parameter	Spike	Result	Rec (%)	CL
Acenaphthene	2	1.59	80	( 48-114 )
Acenaphthylene	2	1.44	72	( 35-121 )
Anthracene	2	1.64	82	( 53-119 )
Benzo(a)Anthracene	2	1.46	73	( 59-120 )
Benzo[a]pyrene	2	1.56	78	( 53-120 )
Benzo[b]Fluoranthene	2	1.48	74	( 53-126 )
Benzo[g,h,i]perylene	2	1.73	86	( 44-128 )
Benzo[k]fluoranthene	2	1.60	80	( 54-125 )
Chrysene	2	1.54	77	( 57-120 )
Dibenzo[a,h]anthracene	2	1.77	88	( 44-131 )
Fluoranthene	2	1.50	75	( 58-120 )
Fluorene	2	1.62	81	( 50-118 )
Indeno[1,2,3-c,d] pyrene	2	1.68	84	( 48-130 )
Naphthalene	2	1.35	68	( 43-114 )
Phenanthrene	2	1.60	80	( 53-115 )
Pyrene	2	1.47	74	( 53-121 )

#### Surrogates

2-Methylnaphthalene-d10 (surr)	2		79	( 42-86 )
Fluoranthene-d10 (surr)	2		81	( 50-97 )

### Batch Information

Analytical Batch: XMS13368

Analytical Method: EPA 625M SIM (PAH) LV

Instrument: Agilent GC 7890B/5977A SWA

Analyst: NGG

Prep Batch: XXX46982

Prep Method: SW3535A

Prep Date/Time: 09/14/2022 09:54

Spike Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL

Dupe Init Wt./Vol.: Extract Vol:

Print Date: 09/29/2022 4:14:21PM



### Matrix Spike Summary

Original Sample ID: 1225517008  
 MS Sample ID: 1685438 MS  
 MSD Sample ID: 1685439 MSD

Analysis Date: 09/22/2022 17:55  
 Analysis Date: 09/22/2022 18:15  
 Analysis Date: 09/22/2022 18:35  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515042

### Results by EPA 625M SIM (PAH) LV

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Acenaphthene	0.0240U	1.89	1.41	75	2.00	1.52	76	48-114	7.20	(< 20)
Acenaphthylene	0.0240U	1.89	1.27	67	2.00	1.33	67	35-121	4.80	(< 20)
Anthracene	0.0240U	1.89	1.39	74	2.00	1.51	75	53-119	7.90	(< 20)
Benzo(a)Anthracene	0.0240U	1.89	1.38	73	2.00	1.50	75	59-120	8.40	(< 20)
Benzo[a]pyrene	0.00960U	1.89	1.42	76	2.00	1.49	75	53-120	4.80	(< 20)
Benzo[b]Fluoranthene	0.0240U	1.89	1.41	75	2.00	1.52	76	53-126	7.60	(< 20)
Benzo[g,h,i]perylene	0.0240U	1.89	1.41	75	2.00	1.45	73	44-128	3.40	(< 20)
Benzo[k]fluoranthene	0.0240U	1.89	1.43	76	2.00	1.50	75	54-125	4.60	(< 20)
Chrysene	0.0240U	1.89	1.47	78	2.00	1.57	79	57-120	6.70	(< 20)
Dibenzo[a,h]anthracene	0.00960U	1.89	1.44	76	2.00	1.49	75	44-131	3.40	(< 20)
Fluoranthene	0.0240U	1.89	1.38	73	2.00	1.56	78	58-120	11.70	(< 20)
Fluorene	0.0240U	1.89	1.44	76	2.00	1.53	76	50-118	5.90	(< 20)
Indeno[1,2,3-c,d] pyrene	0.0240U	1.89	1.4	74	2.00	1.45	72	48-130	3.00	(< 20)
Naphthalene	1.28	1.89	2.3	54	2.00	2.18	45	43-114	5.20	(< 20)
Phenanthrene	0.0481U	1.89	1.4	74	2.00	1.54	77	53-115	9.10	(< 20)
Pyrene	0.0240U	1.89	1.37	73	2.00	1.55	77	53-121	12.30	(< 20)
<b>Surrogates</b>										
2-Methylnaphthalene-d10 (surr)		1.89	1.48	78	2.00	1.49	75	42-86	0.64	
Fluoranthene-d10 (surr)		1.89	1.54	81	2.00	1.67	83	50-97	8.20	

### Batch Information

Analytical Batch: XMS13368  
 Analytical Method: EPA 625M SIM (PAH) LV  
 Instrument: Agilent GC 7890B/5977A SWA  
 Analyst: NGG  
 Analytical Date/Time: 9/22/2022 6:15:00PM

Prep Batch: XXX46982  
 Prep Method: 3535 Solid Phase Ext for 8270 PAH SIM LV  
 Prep Date/Time: 9/14/2022 9:54:11AM  
 Prep Initial Wt./Vol.: 265.00mL  
 Prep Extract Vol: 1.00mL

Print Date: 09/29/2022 4:14:22PM



### Matrix Spike Summary

Original Sample ID: 1225536004  
 MS Sample ID: 1685440 MS  
 MSD Sample ID: 1685441 MSD

Analysis Date: 09/22/2022 20:18  
 Analysis Date: 09/22/2022 20:38  
 Analysis Date:  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515042

### Results by EPA 625M SIM (PAH) LV

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Acenaphthene	0.0227U	1.85	1.31	71				48-114		
Acenaphthylene	0.0227U	1.85	1.23	66				35-121		
Anthracene	0.0227U	1.85	1.35	73				53-119		
Benzo(a)Anthracene	0.0227U	1.85	1.38	74				59-120		
Benzo[a]pyrene	0.00910U	1.85	1.49	80				53-120		
Benzo[b]Fluoranthene	0.0227U	1.85	1.5	81				53-126		
Benzo[g,h,i]perylene	0.0227U	1.85	1.63	88				44-128		
Benzo[k]fluoranthene	0.0227U	1.85	1.5	81				54-125		
Chrysene	0.0227U	1.85	1.47	80				57-120		
Dibenzo[a,h]anthracene	0.00910U	1.85	1.66	90				44-131		
Fluoranthene	0.0227U	1.85	1.33	72				58-120		
Fluorene	0.0227U	1.85	1.39	75				50-118		
Indeno[1,2,3-c,d] pyrene	0.0227U	1.85	1.6	86				48-130		
Naphthalene	0.0454U	1.85	1.14	62				43-114		
Phenanthrene	0.0454U	1.85	1.36	73				53-115		
Pyrene	0.0227U	1.85	1.32	71				53-121		
<b>Surrogates</b>										
2-Methylnaphthalene-d10 (surr)		1.85	1.25	67	1.85	1.24	67	42-86	0.45	
Fluoranthene-d10 (surr)		1.85	1.4	75	1.85	1.35	73	50-97	3.70	

### Batch Information

Analytical Batch: XMS13368  
 Analytical Method: EPA 625M SIM (PAH) LV  
 Instrument: Agilent GC 7890B/5977A SWA  
 Analyst: NGG  
 Analytical Date/Time: 9/22/2022 8:38:00PM

Prep Batch: XXX46982  
 Prep Method: 3535 Solid Phase Ext for 8270 PAH SIM LV  
 Prep Date/Time: 9/14/2022 9:54:11AM  
 Prep Initial Wt./Vol.: 270.00mL  
 Prep Extract Vol: 1.00mL

Print Date: 09/29/2022 4:14:22PM



Profile #302427 GM

CLIENT: Stantec

Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.

CONTACT: John Marshall PHONE #: 907-266-1108

PROJECT NAME: SRU-COBC PROJECT/PWSID/PERMIT#: 203721236

REPORTS TO: Craig Wilson E-MAIL: Profile #: Craig.Wilson@stantec.com

INVOICE TO: Stantec QUOTE #: P.O. #:

Section 3

Preservative

CONTAINERS

Comp Grab MI (Multi-incremental)

Table with columns for analysis types (He1, H2SO4, HNO3, HNO2, HCS, He1) and rows for various analytes (BTEX, Nitrate, Nitrite, Dissolved Fe, Total Fe, Sulphate, Alkalinity, Methane, TAP, TAPH).

NOTE: \*The following analyses require specific method and/or compound list: BTEX, Metals, PFAS

REMARKS/LOC ID

Table with columns: RESERVED for lab use, SAMPLE IDENTIFICATION, DATE mm/dd/yy, TIME HH:MM, MATRIX/MATRIX CODE, CONTAINERS, and analysis results.

Table for Section 5: Relinquished By (1-4), Date, Time, Received By.

Table for Section 4: DOD Project? Yes/No, Cooler ID, Requested Turnaround Time and/or Special Instructions, Temp Blank, Chain of Custody Seal, Delivery Method.



SGS North America Inc.  
CHAIN OF CUSTODY RECORD

1225515



CLIENT: <u>Stantec</u>					Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.					Page <u>2</u> of <u>4</u>																																		
CONTACT: <u>John Marshall</u>					PHONE #: <u>907-266-108</u>					Section 3 Preservative																																		
PROJECT NAME: <u>SRU-COBC</u>					PROJECT/PWSID/PERMIT#: <u>203721236</u>					# CONTAINERS																																		
REPORTS TO: <u>Craig Wilson</u>					E-MAIL: <u>Craig.Wilson@stantec.com</u>																																							
INVOICE TO: <u>Stantec</u>					QUOTE #: _____																																							
					P.O. #: _____																																							
Section 2	RESERVED for lab use	SAMPLE IDENTIFICATION		DATE mm/dd/yy	TIME HH:MM	MATRIX/MATRIX CODE	CONTAINERS	Comp Grab MI (Multi-incremental)	HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HNO <sub>3</sub>	-	HCl	Analysis*	BTEX	Nitrate	Nitrite	Dissolved	Fe (All Risk)	Total Fe	Sulfate	Alkalinity	Mercury	REMARKS/LOC ID																			
	11AC	FSS-1	9/7/22	1550	W	3																				G	X																	
	12AC	Duplicate 2	9/7/22	1553	W	3																				G	X																	
	13AC	FSS-2	9/7/22	1557	W	3																				G	X																	
	14AJ (96)	TW-4R	9/7/22	1555	W	10																				G	X	X	X	X	X	X	X	X										
	15AC	PSW-1	9/7/22	1622	W	3																				G	X																	
	16AC	PSW-2	9/7/22	1635	W	3																				G	X																	
	17AIBABAI	TW-26	9/7/22	1700	W	9																				G	X																	MS/MSD
	20AIBABAI	TW-25	9/8/22	1047	W	9																				G	X																	MS/MSD
	23AC	Duplicate 3	9/8/22	1050	W	3																				G	X																	
	24AC	TW-24	9/8/22	1122	W	3																				G	X																	
	Section 5	Relinquished By: (1)		Date	Time	Received By:																				Section 4		DOD Project? Yes No		Data Deliverable Requirements:														
Relinquished By: (2)		Date	Time	Received By:			Cooler ID:		Requested Turnaround Time and/or Special Instructions:																																			
Relinquished By: (3)		Date	Time	Received By:			Temp Blank °C: <u>1) 3.2 023</u> <u>2) 0.4 023</u>		Chain of Custody Seal: (Circle) INTACT BROKEN <u>ABSENT</u>																																			
Relinquished By: (4)		Date	Time	Received For Laboratory By:			or Ambient [ ]		Delivery Method: Hand Delivery <input checked="" type="checkbox"/> Commercial Delivery [ ]																																			



SGS North America Inc.  
CHAIN OF CUSTODY RECORD

1225515



CLIENT: <u>Stantec</u>					Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.					Page <u>3</u> of <u>4</u>													
CONTACT: <u>John Marshall</u> PHONE #: <u>907-266-1108</u>					Section 3					Preservative													
PROJECT NAME: <u>SRU-CORC</u> PROJECT/PWSID/PERMIT#: <u>203721236</u>					# C O N T A I N E R S	Comp Grab MI (Multi-incremental)					Analysis*					NOTE: *The following analyses require specific method and/or compound list: BTEX, Metals, PFAS							
REPORTS TO: <u>Craig Wilson</u> E-MAIL: <u>Profile #: Craig.Wilson@stantec.com</u>																							
INVOICE TO: <u>Stantec</u> QUOTE #:																							
P.O. #:																							
RESERVED for lab use												REMARKS/LOC ID											
SAMPLE IDENTIFICATION		DATE mm/dd/yy		TIME HH:MM		MATRIX/ MATRIX CODE																	
<u>25 AC TW-23</u>		<u>9/8/22</u>		<u>1203</u>		<u>W</u>																	
<u>26 AC TW-8</u>		<u>9/8/22</u>		<u>1204</u>		<u>W</u>																	
<u>27 AC TW-22</u>		<u>9/8/22</u>		<u>1254</u>		<u>W</u>																	
<u>28 AC TW-21</u>		<u>9/8/22</u>		<u>1317</u>		<u>W</u>																	
<u>29 AC TW-7</u>		<u>9/8/22</u>		<u>1401</u>		<u>W</u>																	
<u>30 AC TW-7D</u>		<u>9/8/22</u>		<u>1409</u>		<u>W</u>																	
<u>31 AC TW-20</u>		<u>9/8/22</u>		<u>1447</u>		<u>W</u>																	
<u>32 AC TW-6</u>		<u>9/8/22</u>		<u>1531</u>		<u>W</u>																	
<u>33 AC TW-6D</u>		<u>9/8/22</u>		<u>1611</u>		<u>W</u>																	
<u>34 AC TW-18D</u>		<u>9/8/22</u>		<u>1624</u>		<u>W</u>																	
Section 5 Relinquished By: (1)  Relinquished By: (2)  Relinquished By: (3)  Relinquished By: (4)					Date		Time		Received By:					Section 4		DOD Project? Yes No		Data Deliverable Requirements:					
					Date		Time		Received By:					Cooler ID:		Requested Turnaround Time and/or Special Instructions:							
					Date		Time		Received By:					Temp Blank °C: <u>1) 0.2 023</u> <u>2) 0.4 023</u>		Chain of Custody Seal: (Circle) INTACT BROKEN <u>ABSENT</u>							
					Date		Time		Received For Laboratory By:					or Ambient [ ]		Delivery Method: Hand Delivery <input checked="" type="checkbox"/> Commercial Delivery [ ]							



SGS North America Inc.  
CHAIN OF CUSTODY RECORD

www.us.sgs.com

<b>CLIENT:</b> <u>Stantec</u>					<b>Instructions: Sections 1 - 5 must be filled out.</b> <b>Omissions may delay the onset of analysis.</b>					Page <u>4</u> of <u>4</u>							
Section 1	<b>CONTACT:</b> <u>John Marshall</u>		<b>PHONE #:</b> <u>907-266-1108</u>			Section 3		Preservative									
	<b>PROJECT NAME:</b> <u>SRU-CORC</u>		<b>PROJECT/PWSID/PERMIT#:</b> <u>20372436</u>			# C O N T A I N E R S	Analysis*					NOTE: *The following analyses require specific method and/or compound list: BTEX, Metals, PFAS					
	<b>REPORTS TO:</b> <u>Craig Wilson</u>		<b>E-MAIL:</b> <u>craig.wilson@stantec.com</u>				Comp Grab MI (Multi-incremental)	Analysis*									
	<b>INVOICE TO:</b> <u>Stantec</u>		<b>QUOTE #:</b>					Analysis*									
<b>P.O. #:</b>		<b>QUOTE #:</b>			Analysis*												
Section 2	RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/MATRIX CODE	#	C O N T A I N E R S	Comp Grab MI (Multi-incremental)	Analysis*					REMARKS/LOC ID			
	<u>35AC</u>	<u>TW-18</u>	<u>9/9/22</u>	<u>1005</u>	<u>W</u>				<u>3</u>	<u>G</u>	<u>X</u>						
	<u>36AC</u>	<u>Duplicate 4</u>	<u>9/9/22</u>	<u>1008</u>	<u>W</u>				<u>3</u>	<u>G</u>	<u>X</u>						
	<u>37AC</u>	<u>TW-17</u>	<u>9/9/22</u>	<u>1015</u>	<u>W</u>				<u>3</u>	<u>G</u>	<u>X</u>						
	<u>38AC</u>	<u>TW-19D</u>	<u>9/9/22</u>	<u>1102</u>	<u>W</u>				<u>3</u>	<u>G</u>	<u>X</u>						
	<u>39AC</u>	<u>TW-19S</u>	<u>9/9/22</u>	<u>1116</u>	<u>W</u>				<u>3</u>	<u>G</u>	<u>X</u>						
	<u>40AC</u>	<u>Trip Blank</u>	<u>-</u>	<u>-</u>	<u>-</u>				<u>3</u>	<u>G</u>	<u>X</u>						<u>Cooler 1</u>
	<u>41AC</u>	<u>Trip Blank</u>	<u>-</u>	<u>-</u>	<u>-</u>				<u>3</u>	<u>G</u>	<u>X</u>						<u>Cooler 2</u>
	<u>42AC</u>	<u>W-6</u>	<u>9/7/22</u>	<u>1045</u>	<u>W</u>				<u>3</u>	<u>G</u>		<u>X</u>	<u>X</u>				
	<u>43AC</u>	<u>TW-5</u>	<u>9/7/22</u>	<u>1710</u>	<u>W</u>				<u>3</u>	<u>G</u>	<u>X</u>						
Section 5	<b>Relinquished By: (1)</b>		<b>Date</b>	<b>Time</b>	<b>Received By:</b>		Section 4		<b>DOD Project? Yes No</b>		<b>Data Deliverable Requirements:</b>						
	<b>Relinquished By: (2)</b>		<b>Date</b>	<b>Time</b>	<b>Received By:</b>		Cooler ID:		<b>Requested Turnaround Time and/or Special Instructions:</b>								
	<b>Relinquished By: (3)</b>		<b>Date</b>	<b>Time</b>	<b>Received By:</b>		Temp Blank °C: <u>113.2 D23</u>		<b>Chain of Custody Seal: (Circle)</b> <b>INTACT    BROKEN    <u>ABSENT</u></b>								
	<b>Relinquished By: (4)</b>		<b>Date</b>	<b>Time</b>	<b>Received For Laboratory By:</b>		or Ambient [ ]		<b>Delivery Method: Hand Delivery <input checked="" type="checkbox"/> Commercial Delivery [ ]</b>								
		<u>9/12/22</u>	<u>11:11</u>	<u>[Signature]</u>													

<http://www.sgs.com/terms-and-conditions>





SGS Workorder #:

1225515

1225515

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
-----------------	--------------------------	------------------------

**Chain of Custody / Temperature Requirements**

*Note: Temperature and COC seal information is found on the chain of custody form*

DOD only: Did all sample coolers have a corresponding COC?

If <0°C, were sample containers ice free?

Note containers received with ice:

Identify any containers received at non-compliant temperature:

*(Use form FS-0029 if more space is needed)*

**Holding Time / Documentation / Sample Condition Requirement**

*Note: Refer to form F-083 "Sample Guide" for specific holding times and sample containers.*

Were samples received within analytical holding time?

Do sample labels match COC? Record discrepancies.

**Note:** If information on containers differs from COC, default to COC information for login. If times differ <1hr, record details & login per COC.

Were analytical requests clear?

*(i.e. method is specified for analyses with multiple option for method (Eg, BTEX 8021 vs 8260, Metals 6020 vs 200.8)*

Were proper containers (type/mass/volume/preservative)used?

Note: Exemption for metals analysis by 200.8/6020 in water.

**Volatile Analysis Requirements (VOC, GRO, LL-Hg, etc.)**

Were all soil VOAs received with a corresponding % solids container?

Were Trip Blanks (e.g., VOAs, LL-Hg) in cooler with samples?

Were all water VOA vials free of headspace (e.g., bubbles ≤ 6mm)?

Were all soil VOAs field extracted with Methanol+BFB?

**Note to Client:** Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.

**Additional notes (if applicable):**



## Sample Containers and Preservatives

<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1225515001-A	HCL to pH < 2	OK	1225515009-B	HCL to pH < 2	OK
1225515001-B	HCL to pH < 2	OK	1225515009-C	HCL to pH < 2	OK
1225515001-C	HCL to pH < 2	OK	1225515010-A	HCL to pH < 2	OK
1225515001-D	HCL to pH < 2	OK	1225515010-B	HCL to pH < 2	OK
1225515001-E	HCL to pH < 2	OK	1225515010-C	HCL to pH < 2	OK
1225515002-A	HCL to pH < 2	OK	1225515010-D	HCL to pH < 2	OK
1225515002-B	HCL to pH < 2	OK	1225515010-E	HCL to pH < 2	OK
1225515002-C	HCL to pH < 2	OK	1225515010-F	HCL to pH < 2	OK
1225515002-D	HCL to pH < 2	OK	1225515010-G	No Preservative Required	OK
1225515002-E	HCL to pH < 2	OK	1225515010-H	HNO3 to pH < 2	OK
1225515003-A	HCL to pH < 2	OK	1225515010-I	HNO3 to pH < 2	OK
1225515003-B	HCL to pH < 2	OK	1225515010-J	H2SO4 to pH < 2	OK
1225515003-C	HCL to pH < 2	OK	1225515011-A	HCL to pH < 2	OK
1225515003-D	HCL to pH < 2	OK	1225515011-B	HCL to pH < 2	OK
1225515003-E	HCL to pH < 2	OK	1225515011-C	HCL to pH < 2	OK
1225515004-A	HCL to pH < 2	OK	1225515012-A	HCL to pH < 2	OK
1225515004-B	HCL to pH < 2	OK	1225515012-B	HCL to pH < 2	OK
1225515004-C	HCL to pH < 2	OK	1225515012-C	HCL to pH < 2	OK
1225515004-D	HCL to pH < 2	OK	1225515013-A	HCL to pH < 2	OK
1225515004-E	HCL to pH < 2	OK	1225515013-B	HCL to pH < 2	OK
1225515005-A	HCL to pH < 2	OK	1225515013-C	HCL to pH < 2	OK
1225515005-B	HCL to pH < 2	OK	1225515014-A	HCL to pH < 2	OK
1225515005-C	HCL to pH < 2	OK	1225515014-B	HCL to pH < 2	OK
1225515005-D	HCL to pH < 2	OK	1225515014-C	HCL to pH < 2	OK
1225515005-E	HCL to pH < 2	OK	1225515014-D	HCL to pH < 2	OK
1225515006-A	HCL to pH < 2	OK	1225515014-E	HCL to pH < 2	OK
1225515006-B	HCL to pH < 2	OK	1225515014-F	HCL to pH < 2	OK
1225515006-C	HCL to pH < 2	OK	1225515014-G	No Preservative Required	OK
1225515006-D	HCL to pH < 2	OK	1225515014-H	HNO3 to pH < 2	OK
1225515006-E	HCL to pH < 2	OK	1225515014-I	HNO3 to pH < 2	OK
1225515006-F	HCL to pH < 2	OK	1225515014-J	H2SO4 to pH < 2	OK
1225515006-G	HCL to pH < 2	OK	1225515015-A	HCL to pH < 2	OK
1225515006-H	HCL to pH < 2	OK	1225515015-B	HCL to pH < 2	OK
1225515006-I	HCL to pH < 2	OK	1225515015-C	HCL to pH < 2	OK
1225515006-J	HCL to pH < 2	OK	1225515016-A	HCL to pH < 2	OK
1225515006-K	HCL to pH < 2	OK	1225515016-B	HCL to pH < 2	OK
1225515006-L	No Preservative Required	OK	1225515016-C	HCL to pH < 2	OK
1225515006-M	HNO3 to pH < 2	OK	1225515017-A	HCL to pH < 2	OK
1225515006-N	HNO3 to pH < 2	OK	1225515017-B	HCL to pH < 2	OK
1225515006-O	H2SO4 to pH < 2	OK	1225515017-C	HCL to pH < 2	OK
1225515007-A	HCL to pH < 2	OK	1225515017-D	HCL to pH < 2	OK
1225515007-B	HCL to pH < 2	OK	1225515017-E	HCL to pH < 2	OK
1225515007-C	HCL to pH < 2	OK	1225515017-F	HCL to pH < 2	OK
1225515007-D	HCL to pH < 2	OK	1225515017-G	HCL to pH < 2	OK
1225515007-E	HCL to pH < 2	OK	1225515017-H	HCL to pH < 2	OK
1225515008-A	HCL to pH < 2	OK	1225515017-I	HCL to pH < 2	OK
1225515008-B	HCL to pH < 2	OK	1225515018-A	HCL to pH < 2	OK
1225515008-C	HCL to pH < 2	OK	1225515018-B	HCL to pH < 2	OK
1225515009-A	HCL to pH < 2	OK	1225515018-C	HCL to pH < 2	OK

<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1225515018-D	HCL to pH < 2	OK	1225515027-C	HCL to pH < 2	OK
1225515018-E	HCL to pH < 2	OK	1225515028-A	HCL to pH < 2	OK
1225515018-F	HCL to pH < 2	OK	1225515028-B	HCL to pH < 2	OK
1225515018-G	HCL to pH < 2	OK	1225515028-C	HCL to pH < 2	OK
1225515018-H	HCL to pH < 2	OK	1225515029-A	HCL to pH < 2	OK
1225515018-I	HCL to pH < 2	OK	1225515029-B	HCL to pH < 2	OK
1225515019-A	HCL to pH < 2	OK	1225515029-C	HCL to pH < 2	OK
1225515019-B	HCL to pH < 2	OK	1225515030-A	HCL to pH < 2	OK
1225515019-C	HCL to pH < 2	OK	1225515030-B	HCL to pH < 2	OK
1225515019-D	HCL to pH < 2	OK	1225515030-C	HCL to pH < 2	OK
1225515019-E	HCL to pH < 2	OK	1225515031-A	HCL to pH < 2	OK
1225515019-F	HCL to pH < 2	OK	1225515031-B	HCL to pH < 2	OK
1225515019-G	HCL to pH < 2	OK	1225515031-C	HCL to pH < 2	OK
1225515019-H	HCL to pH < 2	OK	1225515032-A	HCL to pH < 2	OK
1225515019-I	HCL to pH < 2	OK	1225515032-B	HCL to pH < 2	OK
1225515020-A	HCL to pH < 2	OK	1225515032-C	HCL to pH < 2	OK
1225515020-B	HCL to pH < 2	OK	1225515033-A	HCL to pH < 2	OK
1225515020-C	HCL to pH < 2	OK	1225515033-B	HCL to pH < 2	OK
1225515020-D	HCL to pH < 2	OK	1225515033-C	HCL to pH < 2	OK
1225515020-E	HCL to pH < 2	OK	1225515034-A	HCL to pH < 2	OK
1225515020-F	HCL to pH < 2	OK	1225515034-B	HCL to pH < 2	OK
1225515020-G	HCL to pH < 2	OK	1225515034-C	HCL to pH < 2	OK
1225515020-H	HCL to pH < 2	OK	1225515035-A	HCL to pH < 2	OK
1225515020-I	HCL to pH < 2	OK	1225515035-B	HCL to pH < 2	OK
1225515021-A	HCL to pH < 2	OK	1225515035-C	HCL to pH < 2	OK
1225515021-B	HCL to pH < 2	OK	1225515036-A	HCL to pH < 2	OK
1225515021-C	HCL to pH < 2	OK	1225515036-B	HCL to pH < 2	OK
1225515021-D	HCL to pH < 2	OK	1225515036-C	HCL to pH < 2	OK
1225515021-E	HCL to pH < 2	OK	1225515037-A	HCL to pH < 2	OK
1225515021-F	HCL to pH < 2	OK	1225515037-B	HCL to pH < 2	OK
1225515021-G	HCL to pH < 2	OK	1225515037-C	HCL to pH < 2	OK
1225515021-H	HCL to pH < 2	OK	1225515038-A	HCL to pH < 2	OK
1225515021-I	HCL to pH < 2	OK	1225515038-B	HCL to pH < 2	OK
1225515022-A	HCL to pH < 2	OK	1225515038-C	HCL to pH < 2	OK
1225515022-B	HCL to pH < 2	OK	1225515039-A	HCL to pH < 2	OK
1225515022-C	HCL to pH < 2	OK	1225515039-B	HCL to pH < 2	OK
1225515022-D	HCL to pH < 2	OK	1225515039-C	HCL to pH < 2	OK
1225515022-E	HCL to pH < 2	OK	1225515040-A	HCL to pH < 2	OK
1225515022-F	HCL to pH < 2	OK	1225515040-B	HCL to pH < 2	OK
1225515022-G	HCL to pH < 2	OK	1225515040-C	HCL to pH < 2	OK
1225515022-H	HCL to pH < 2	OK	1225515041-A	HCL to pH < 2	OK
1225515022-I	HCL to pH < 2	OK	1225515041-B	HCL to pH < 2	OK
1225515023-A	HCL to pH < 2	OK	1225515041-C	HCL to pH < 2	OK
1225515023-B	HCL to pH < 2	OK	1225515042-A	HCL to pH < 2	OK
1225515023-C	HCL to pH < 2	OK			
1225515024-A	HCL to pH < 2	OK			
1225515024-B	HCL to pH < 2	OK			
1225515024-C	HCL to pH < 2	OK			
1225515025-A	HCL to pH < 2	OK			
1225515025-B	HCL to pH < 2	OK			
1225515025-C	HCL to pH < 2	OK			
1225515026-A	HCL to pH < 2	OK			
1225515026-B	HCL to pH < 2	OK			
1225515026-C	HCL to pH < 2	OK			
1225515027-A	HCL to pH < 2	OK			
1225515027-B	HCL to pH < 2	OK			

<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1225515042-B	HCL to pH < 2	OK			
1225515042-C	HCL to pH < 2	OK			
1225515043-A	HCL to pH < 2	OK			
1225515043-B	HCL to pH < 2	OK			
1225515043-C	HCL to pH < 2	OK			
1225515044-A	HNO3 to pH < 2	OK			
1225515045-A	HNO3 to pH < 2	OK			
1225515046-A	HNO3 to pH < 2	OK			

#### Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.

BU - The container was received with headspace greater than 6mm.

DM - The container was received damaged.

FR - The container was received frozen and not usable for Bacteria or BOD analyses.

IC - The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.

NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.

PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

QN - Insufficient sample quantity provided.

The results set forth herein are provided by SGS North America Inc.

*e-Hardcopy 2.0*  
*Automated Report*

## Technical Report for

**SGS North America, Inc**

**1225515**

**SGS Job Number: FA98946**

**Sampling Date: 09/07/22**

**Report to:**

**SGS North America, Inc  
200 W Potter Dr  
Anchorage, AK 99518  
julie.shumway@sgs.com**

**ATTN: Julie Shumway**

**Total number of pages in report: 21**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

A handwritten signature in black ink, appearing to read "Norm Farmer".

**Norm Farmer  
Technical Director**

**Client Service contact: Andrea Colby 407-425-6700**

Certifications: FL(E83510), LA(03051), KS(E-10327), NC(573), NJ(FL002), NY(12022), SC(96038001)  
DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177),  
AL, AK, AR, CT, IA, KY, MA, MI, MS, ND, NH, NV, OK, OR, IL, UT, VT, WA, WI, WV

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Test results relate only to samples analyzed.

# Table of Contents

-1-

<b>Section 1: Sample Summary</b> .....	<b>3</b>
<b>Section 2: Case Narrative/Conformance Summary</b> .....	<b>4</b>
<b>Section 3: Summary of Hits</b> .....	<b>5</b>
<b>Section 4: Sample Results</b> .....	<b>6</b>
<b>4.1:</b> FA98946-1: W-1P .....	7
<b>4.2:</b> FA98946-2: TW-13 .....	8
<b>4.3:</b> FA98946-3: TW-4R .....	9
<b>Section 5: Misc. Forms</b> .....	<b>10</b>
<b>5.1:</b> Chain of Custody .....	11
<b>Section 6: GC Volatiles - QC Data Summaries</b> .....	<b>13</b>
<b>6.1:</b> Method Blank Summary .....	14
<b>6.2:</b> Blank Spike/Blank Spike Duplicate Summary .....	16
<b>6.3:</b> Matrix Spike Summary .....	18
<b>6.4:</b> Duplicate Summary .....	20



## Sample Summary

SGS North America, Inc  
1225515

Job No: FA98946

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
FA98946-1	09/07/22	12:05	09/16/22	AQ	Water	W-1P
FA98946-2	09/07/22	14:59	09/16/22	AQ	Water	TW-13
FA98946-3	09/07/22	15:55	09/16/22	AQ	Water	TW-4R

## SAMPLE DELIVERY GROUP CASE NARRATIVE

**Client:** SGS North America, Inc

**Job No:** FA98946

**Site:** 1225515

**Report Date:** 9/22/2022 2:49:28 PM

On 09/16/2022, 3 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc - Orlando. at a maximum corrected temperature of 2.6 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FA98946 was assigned to the project.

Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section. Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

### GC Volatiles By Method RSKSOP-147/175

**Matrix:** AQ **Batch ID:** GLL2752

Sample(s) FA98946-1DUP, FA98952-3MS were used as the QC samples indicated.

**Matrix:** AQ **Batch ID:** GLL2753

Sample(s) FA98897-5DUP, FA98919-63MS were used as the QC samples indicated.

SGS North America Inc. - Orlando certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted. Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria. SGS North America Inc.- Orlando is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety.

Narrative prepared by:

---

Kim Benham, Client Services (*Signature on File*)



## Summary of Hits

**Job Number:** FA98946  
**Account:** SGS North America, Inc  
**Project:** 1225515  
**Collected:** 09/07/22



Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
<b>FA98946-1</b>	<b>W-1P</b>					
Methane		8.0	0.50	0.25	ug/l	RSKSOP-147/175
<b>FA98946-2</b>	<b>TW-13</b>					
Methane		1810	5.0	2.5	ug/l	RSKSOP-147/175
<b>FA98946-3</b>	<b>TW-4R</b>					
Methane		1380	1.0	0.50	ug/l	RSKSOP-147/175

Sample Results

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Report of Analysis

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# Report of Analysis

<b>Client Sample ID:</b> W-1P	
<b>Lab Sample ID:</b> FA98946-1	<b>Date Sampled:</b> 09/07/22
<b>Matrix:</b> AQ - Water	<b>Date Received:</b> 09/16/22
<b>Method:</b> RSKSOP-147/175	<b>Percent Solids:</b> n/a
<b>Project:</b> 1225515	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL79235.D	1	09/19/22 11:01	JR	n/a	n/a	GLL2752
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	500 ul	20 Deg. C
Run #2				

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
74-82-8	Methane	8.0	0.50	0.25	0.16	ug/l	

U = Not detected      LOD = Limit of Detection      J = Indicates an estimated value  
 LOQ = Limit of Quantitation      DL = Detection Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

4.1  
4

# Report of Analysis

<b>Client Sample ID:</b> TW-13	
<b>Lab Sample ID:</b> FA98946-2	<b>Date Sampled:</b> 09/07/22
<b>Matrix:</b> AQ - Water	<b>Date Received:</b> 09/16/22
<b>Method:</b> RSKSOP-147/175	<b>Percent Solids:</b> n/a
<b>Project:</b> 1225515	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL79283.D	10	09/20/22 14:14	JR	n/a	n/a	GLL2753
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	500 ul	20 Deg. C
Run #2				

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
74-82-8	Methane	1810	5.0	2.5	1.6	ug/l	

U = Not detected      LOD = Limit of Detection      J = Indicates an estimated value  
 LOQ = Limit of Quantitation      DL = Detection Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

4.2  
4

# Report of Analysis

<b>Client Sample ID:</b> TW-4R	
<b>Lab Sample ID:</b> FA98946-3	<b>Date Sampled:</b> 09/07/22
<b>Matrix:</b> AQ - Water	<b>Date Received:</b> 09/16/22
<b>Method:</b> RSKSOP-147/175	<b>Percent Solids:</b> n/a
<b>Project:</b> 1225515	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL79258.D	1	09/19/22 14:25	JR	n/a	n/a	GLL2752
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	250 ul	20 Deg. C
Run #2				

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
74-82-8	Methane	1380	1.0	0.50	0.32	ug/l	

U = Not detected      LOD = Limit of Detection      J = Indicates an estimated value  
 LOQ = Limit of Quantitation      DL = Detection Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

4.3  
4

Misc. Forms

Custody Documents and Other Forms

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Includes the following where applicable:

- Chain of Custody

# FA98946

SGS North America Inc.  
CHAIN OF CUSTODY RECORD



Locations Nationwide  
 Alaska Florida  
 New Jersey Colorado  
 Texas North Carolina  
 Virginia Louisiana  
[www.us.sgs.com](http://www.us.sgs.com)

CLIENT: SGS North America Inc. - Alaska Division				SGS Reference: <b>SGS Orlando, FL</b>				Page 1 of 1			
CONTACT: Julie Shumway		PHONE NO: (907) 562-2343		Additional Comments: All soils report out in dry weight unless							
PROJECT NAME: 1225515		PWSID#:		CONTAINER	Preservative Used:	HCl	Methane by RSK-175	MS	MSD	SGS lab #	Location ID
REPORTS TO: Julie Shumway		E-MAIL: <a href="mailto:Julie_Shumway@sgs.com">Julie_Shumway@sgs.com</a>									
INVOICE TO: SGS - Alaska		QUOTE #:									
env.alaska.accounting@sgs.com		P.O. #: 1225515									
RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HHMM	MATRIX/MATRIX CODE							
	W-1P	09/07/2022	12:05:00	Water	3	X				1225515006	
	TW-13	09/07/2022	14:59:00	Water	3	X				1225515010	
	TW-4R	09/07/2022	15:55:00	Water	3	X				1225515014	
Relinquished By: (1)		Date	Time	Received By:		DOD Project? NO		Data Deliverable Requirements:			
<i>Shumway</i>		9/14/22	0958	<i>[Signature]</i>		Report to DL (J Flags)? YES		SGS EDD + EFWEDD EquiS for Stantec			
Relinquished By: (2)		Date	Time	Received By:		Cooler ID:					
						Requested Turnaround Time and-or Special Instructions:					
Relinquished By: (3)		Date	Time	Received By:		Temp Blank °C: 2.0		Chain of Custody Seal: (Circle)			
Relinquished By: (4)		Date	Time	Received For Laboratory By:		or Ambient [ ]		INTACT BROKEN ABSENT			

[ X 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301  
 [ . 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

[http://www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm)

INITIAL ASSESSMENT *[Signature]*

LABEL VERIFICATION *[Signature]*

F088\_COC\_REF\_LAB\_20190411

FA98946: Chain of Custody

Page 1 of 2



5.1  
5

## SGS Sample Receipt Summary

Job Number: FA98946

Client: SGS ALASKA

Project: 1225515

Date / Time Received: 9/16/2022 9:30:00 AM

Delivery Method: FX

Airbill #'s: 148348027084

Therm ID: IR 1;

Therm CF: 0.6;

# of Coolers: 1

Cooler Temps (Raw Measured) °C: Cooler 1: (2.0);

Cooler Temps (Corrected) °C: Cooler 1: (2.6);

**Cooler Information**

Y or N

- 1. Custody Seals Present
- 2. Custody Seals Intact
- 3. Temp criteria achieved
- 4. Cooler temp verification IR Gun
- 5. Cooler media Ice (Bag)

**Trip Blank Information**

Y or N

N/A

- 1. Trip Blank present / cooler
  - 2. Trip Blank listed on COC
- W or S      N/A
- 3. Type Of TB Received

**Sample Information**

Y or N

N/A

- 1. Sample labels present on bottles
- 2. Samples preserved properly
- 3. Sufficient volume/containers recvd for analysis:
- 4. Condition of sample Intact
- 5. Sample recvd within HT
- 6. Dates/Times/IDs on COC match Sample Label
- 7. VOCs have headspace
- 8. Bottles received for unspecified tests
- 9. Compositing instructions clear
- 10. Voa Soil Kits/Jars received past 48hrs?
- 11. % Solids Jar received?
- 12. Residual Chlorine Present?

**Misc. Information**

Number of Encores: 25-Gram \_\_\_\_\_ 5-Gram \_\_\_\_\_

Number of 5035 Field Kits: \_\_\_\_\_

Number of Lab Filtered Metals: \_\_\_\_\_

Test Strip Lot #: pH 0-3 230315

pH 10-12 219813A

Other: (Specify) \_\_\_\_\_

Residual Chlorine Test Strip Lot #: \_\_\_\_\_

Comments

SM001  
Rev. Date 05/24/17

Technician: NATHANS

Date: 9/16/2022 9:30:00 AM

Reviewer: \_\_\_\_\_

Date: \_\_\_\_\_

FA98946: Chain of Custody

Page 2 of 2

5.1  
5



## GC Volatiles

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## QC Data Summaries

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Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

# Method Blank Summary

**Job Number:** FA98946  
**Account:** SGS/SAK North America, Inc  
**Project:** 1225515

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GLL2752-MB	LL79257.D	1	09/19/22	JR	n/a	n/a	GLL2752

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA98946-1, FA98946-2, FA98946-3

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	0.50	0.16	ug/l	

6.1.1  
6

# Method Blank Summary

**Job Number:** FA98946  
**Account:** SGS/SAK North America, Inc  
**Project:** 1225515

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GLL2753-MB	LL79270.D	1	09/20/22	JR	n/a	n/a	GLL2753

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA98946-2

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	0.50	0.16	ug/l	

6.1.2  
6

# Blank Spike/Blank Spike Duplicate Summary

**Job Number:** FA98946  
**Account:** SGS/SAK North America, Inc  
**Project:** 1225515

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GLL2752-BS	LL79228.D	1	09/19/22	JR	n/a	n/a	GLL2752
GLL2752-BSD	LL79229.D	1	09/19/22	JR	n/a	n/a	GLL2752

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA98946-1, FA98946-2, FA98946-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
74-82-8	Methane	108	111	103	109	101	2	62-139/30

\* = Outside of Control Limits.

# Blank Spike/Blank Spike Duplicate Summary

**Job Number:** FA98946  
**Account:** SGS/SAK North America, Inc  
**Project:** 1225515

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GLL2753-BS	LL79267.D	1	09/20/22	JR	n/a	n/a	GLL2753
GLL2753-BSD	LL79268.D	1	09/20/22	JR	n/a	n/a	GLL2753

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA98946-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
74-82-8	Methane	108	110	102	107	99	3	62-139/30

\* = Outside of Control Limits.

# Matrix Spike Summary

**Job Number:** FA98946  
**Account:** SGS/KA SGS North America, Inc  
**Project:** 1225515

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA98952-3MS	LL79249.D	1	09/19/22	JR	n/a	n/a	GLL2752
FA98952-3	LL79240.D	1	09/19/22	JR	n/a	n/a	GLL2752

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA98946-1, FA98946-2, FA98946-3

CAS No.	Compound	FA98952-3 ug/l	Spike Q ug/l	MS ug/l	MS %	Limits
74-82-8	Methane	101	108	233	122	62-139

\* = Outside of Control Limits.

# Matrix Spike Summary

**Job Number:** FA98946  
**Account:** SGSAKA SGS North America, Inc  
**Project:** 1225515

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA98919-63MS	LL79287.D	1	09/20/22	JR	n/a	n/a	GLL2753
FA98919-63	LL79282.D	1	09/20/22	JR	n/a	n/a	GLL2753

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA98946-2

CAS No.	Compound	FA98919-63 ug/l	Spike Q ug/l	MS ug/l	MS %	Limits
74-82-8	Methane	83.2	108	197	105	62-139

\* = Outside of Control Limits.

# Duplicate Summary

**Job Number:** FA98946  
**Account:** SGS/SAK North America, Inc  
**Project:** 1225515

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA98946-1DUP	LL79243.D	1	09/19/22	JR	n/a	n/a	GLL2752
FA98946-1	LL79235.D	1	09/19/22	JR	n/a	n/a	GLL2752

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA98946-1, FA98946-2, FA98946-3

CAS No.	Compound	FA98946-1 ug/l	DUP Q ug/l	Q	RPD	Limits
74-82-8	Methane	8.0	6.9		15	30

\* = Outside of Control Limits.



# Duplicate Summary

**Job Number:** FA98946  
**Account:** SGS/SAK North America, Inc  
**Project:** 1225515

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA98897-5DUP	LL79286.D	1	09/20/22	JR	n/a	n/a	GLL2753
FA98897-5	LL79275.D	1	09/20/22	JR	n/a	n/a	GLL2753

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA98946-2

CAS No.	Compound	FA98897-5 ug/l	DUP Q ug/l	Q RPD	Limits
74-82-8	Methane	25.0	25.2	1	30

\* = Outside of Control Limits.



**Method Blank**

Blank ID: MB for HBN 1843432 [MXX/35463]  
Blank Lab ID: 1685755

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1225515006, 1225515010, 1225515014, 1225515044, 1225515045, 1225515046

**Results by SW6020B**

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Iron	250U	500	150	ug/L

**Batch Information**

Analytical Batch: MMS11685  
Analytical Method: SW6020B  
Instrument: P7 Agilent 7800  
Analyst: HGS  
Analytical Date/Time: 9/20/2022 5:16:53PM

Prep Batch: MXX35463  
Prep Method: SW3010A  
Prep Date/Time: 9/15/2022 9:42:29AM  
Prep Initial Wt./Vol.: 25 mL  
Prep Extract Vol: 25 mL

Print Date: 09/29/2022 4:13:29PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1225515 [MXX35463]

Blank Spike Lab ID: 1685756

Date Analyzed: 09/20/2022 17:19

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515006, 1225515010, 1225515014, 1225515044, 1225515045, 1225515046

## Results by SW6020B

Parameter	Blank Spike (ug/L)			CL
	Spike	Result	Rec (%)	
Iron	5000	5420	108	( 87-118 )

## Batch Information

Analytical Batch: **MMS11685**

Analytical Method: **SW6020B**

Instrument: **P7 Agilent 7800**

Analyst: **HGS**

Prep Batch: **MXX35463**

Prep Method: **SW3010A**

Prep Date/Time: **09/15/2022 09:42**

Spike Init Wt./Vol.: 5000 ug/L Extract Vol: 25 mL

Dupe Init Wt./Vol.: Extract Vol:

Print Date: 09/29/2022 4:13:32PM

## Matrix Spike Summary

Original Sample ID: 1685754  
 MS Sample ID: 1685758 MS  
 MSD Sample ID: 1685759 MSD

Analysis Date: 09/20/2022 17:22  
 Analysis Date: 09/20/2022 17:25  
 Analysis Date: 09/20/2022 17:28  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515006, 1225515010, 1225515014, 1225515044, 1225515045, 1225515046

## Results by SW6020B

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Iron	7010	5000	12700	113	5000	12100	102	87-118	4.66	(< 20 )

## Batch Information

Analytical Batch: MMS11685  
 Analytical Method: SW6020B  
 Instrument: P7 Agilent 7800  
 Analyst: HGS  
 Analytical Date/Time: 9/20/2022 5:25:00PM

Prep Batch: MXX35463  
 Prep Method: 3010 H2O Digest for Metals ICP-MS  
 Prep Date/Time: 9/15/2022 9:42:00AM  
 Prep Initial Wt./Vol.: 25.00mL  
 Prep Extract Vol: 25.00mL

Print Date: 09/29/2022 4:13:33PM



### Method Blank

Blank ID: MB for HBN 1843984 [VXX/39200]  
Blank Lab ID: 1686742

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1225515001, 1225515002, 1225515003, 1225515004, 1225515005

### Results by EPA 602/624

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	102	81-118		%
4-Bromofluorobenzene (surr)	100	85-114		%
Toluene-d8 (surr)	102	89-112		%

### Batch Information

Analytical Batch: VMS21988  
Analytical Method: EPA 602/624  
Instrument: Agilent 7890-75MS  
Analyst: AZL  
Analytical Date/Time: 9/19/2022 1:26:00PM

Prep Batch: VXX39200  
Prep Method: SW5030B  
Prep Date/Time: 9/19/2022 6:00:00AM  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 09/29/2022 4:13:34PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1225515 [VXX39200]  
 Blank Spike Lab ID: 1686743  
 Date Analyzed: 09/19/2022 13:41

Spike Duplicate ID: LCSD for HBN 1225515 [VXX39200]  
 Spike Duplicate Lab ID: 1686744  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515001, 1225515002, 1225515003, 1225515004, 1225515005

### Results by EPA 602/624

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	30	33.6	112	30	32.1	107	( 79-120 )	4.40	(< 20 )
Ethylbenzene	30	34.3	114	30	32.4	108	( 79-121 )	5.50	(< 20 )
o-Xylene	30	34.4	115	30	32.8	109	( 78-122 )	4.90	(< 20 )
P & M -Xylene	60	69.3	116	60	65.8	110	( 80-121 )	5.20	(< 20 )
Toluene	30	32.2	107	30	30.7	102	( 80-121 )	4.80	(< 20 )
<b>Surrogates</b>									
1,2-Dichloroethane-D4 (surr)	30		101	30		104	( 81-118 )	2.10	
4-Bromofluorobenzene (surr)	30		97	30		97	( 85-114 )	0.34	
Toluene-d8 (surr)	30		100	30		100	( 89-112 )	0.83	

### Batch Information

Analytical Batch: **VMS21988**  
 Analytical Method: **EPA 602/624**  
 Instrument: **Agilent 7890-75MS**  
 Analyst: **AZL**

Prep Batch: **VXX39200**  
 Prep Method: **SW5030B**  
 Prep Date/Time: **09/19/2022 06:00**  
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 09/29/2022 4:13:36PM

## Method Blank

Blank ID: MB for HBN 1844138 [VXX/39221]  
 Blank Lab ID: 1687452

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
 1225515035, 1225515036, 1225515037, 1225515038, 1225515039

## Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	104	81-118		%
4-Bromofluorobenzene (surr)	97.2	85-114		%
Toluene-d8 (surr)	96.2	89-112		%

## Batch Information

Analytical Batch: VMS21998  
 Analytical Method: SW8260D  
 Instrument: VPA 780/5975 GC/MS  
 Analyst: AZL  
 Analytical Date/Time: 9/22/2022 1:09:00PM

Prep Batch: VXX39221  
 Prep Method: SW5030B  
 Prep Date/Time: 9/22/2022 6:00:00AM  
 Prep Initial Wt./Vol.: 5 mL  
 Prep Extract Vol: 5 mL

Print Date: 09/29/2022 4:13:39PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1225515 [VXX39221]  
 Blank Spike Lab ID: 1687453  
 Date Analyzed: 09/22/2022 13:24

Spike Duplicate ID: LCSD for HBN 1225515 [VXX39221]  
 Spike Duplicate Lab ID: 1687454  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515035, 1225515036, 1225515037, 1225515038, 1225515039

### Results by SW8260D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	30	30.9	103	30	32.2	107	( 79-120 )	4.30	(< 20 )
Ethylbenzene	30	30.4	101	30	32.3	108	( 79-121 )	5.90	(< 20 )
o-Xylene	30	30.1	100	30	31.7	106	( 78-122 )	5.10	(< 20 )
P & M -Xylene	60	60.8	101	60	64.2	107	( 80-121 )	5.50	(< 20 )
Toluene	30	28.2	94	30	29.7	99	( 80-121 )	5.00	(< 20 )
Xylenes (total)	90	90.9	101	90	95.9	107	( 79-121 )	5.40	(< 20 )
<b>Surrogates</b>									
1,2-Dichloroethane-D4 (surr)	30		102	30		101	( 81-118 )	1.60	
4-Bromofluorobenzene (surr)	30		95	30		95	( 85-114 )	0.32	
Toluene-d8 (surr)	30		99	30		98	( 89-112 )	0.41	

### Batch Information

Analytical Batch: VMS21998  
 Analytical Method: SW8260D  
 Instrument: VPA 780/5975 GC/MS  
 Analyst: AZL

Prep Batch: VXX39221  
 Prep Method: SW5030B  
 Prep Date/Time: 09/22/2022 06:00  
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 09/29/2022 4:13:41PM





**Method Blank**

Blank ID: MB for HBN 1844300 [VXX/39236]  
Blank Lab ID: 1688069

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

1225515010, 1225515011, 1225515012, 1225515013, 1225515014, 1225515015, 1225515016, 1225515017, 1225515040, 1225515041, 1225515042, 1225515043

**Results by EPA 602/624**

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	106	81-118		%
4-Bromofluorobenzene (surr)	95.3	85-114		%
Toluene-d8 (surr)	101	89-112		%

**Batch Information**

Analytical Batch: VMS22007  
Analytical Method: EPA 602/624  
Instrument: Agilent 7890-75MS  
Analyst: AZL  
Analytical Date/Time: 9/20/2022 2:49:00PM

Prep Batch: VXX39236  
Prep Method: SW5030B  
Prep Date/Time: 9/20/2022 6:00:00AM  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 09/29/2022 4:13:44PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1225515 [VXX39236]  
 Blank Spike Lab ID: 1688070  
 Date Analyzed: 09/20/2022 15:04

Spike Duplicate ID: LCSD for HBN 1225515 [VXX39236]  
 Spike Duplicate Lab ID: 1688071  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515010, 1225515011, 1225515012, 1225515013, 1225515014, 1225515015, 1225515016, 1225515017, 1225515040, 1225515041, 1225515042, 1225515043

### Results by EPA 602/624

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	30	29.1	97	30	29.4	98	( 79-120 )	1.00	(< 20 )
Ethylbenzene	30	30.1	100	30	30.8	103	( 79-121 )	2.40	(< 20 )
o-Xylene	30	29.6	99	30	31.0	103	( 78-122 )	4.90	(< 20 )
P & M -Xylene	60	60.0	100	60	62.7	104	( 80-121 )	4.30	(< 20 )
Toluene	30	28.9	96	30	29.6	99	( 80-121 )	2.50	(< 20 )
Xylenes (total)	90	89.6	100	90	93.7	104	( 79-121 )	4.50	(< 20 )
<b>Surrogates</b>									
1,2-Dichloroethane-D4 (surr)	30		100	30		100	( 81-118 )	0.27	
4-Bromofluorobenzene (surr)	30		92	30		97	( 85-114 )	4.30	
Toluene-d8 (surr)	30		103	30		103	( 89-112 )	0.13	

### Batch Information

Analytical Batch: VMS22007  
 Analytical Method: EPA 602/624  
 Instrument: Agilent 7890-75MS  
 Analyst: AZL

Prep Batch: VXX39236  
 Prep Method: SW5030B  
 Prep Date/Time: 09/20/2022 06:00  
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 09/29/2022 4:13:46PM



### Method Blank

Blank ID: MB for HBN 1844300 [VXX/39236]  
Blank Lab ID: 1688069

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

1225515010, 1225515011, 1225515012, 1225515013, 1225515014, 1225515015, 1225515016, 1225515017, 1225515040, 1225515041, 1225515042, 1225515043

### Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	106	81-118		%
4-Bromofluorobenzene (surr)	95.3	85-114		%
Toluene-d8 (surr)	101	89-112		%

### Batch Information

Analytical Batch: VMS22007  
Analytical Method: SW8260D  
Instrument: Agilent 7890-75MS  
Analyst: AZL  
Analytical Date/Time: 9/20/2022 2:49:00PM

Prep Batch: VXX39236  
Prep Method: SW5030B  
Prep Date/Time: 9/20/2022 6:00:00AM  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 09/29/2022 4:13:48PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1225515 [VXX39236]  
 Blank Spike Lab ID: 1688070  
 Date Analyzed: 09/20/2022 15:04

Spike Duplicate ID: LCSD for HBN 1225515 [VXX39236]  
 Spike Duplicate Lab ID: 1688071  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515010, 1225515011, 1225515012, 1225515013, 1225515014, 1225515015, 1225515016, 1225515017, 1225515040, 1225515041, 1225515042, 1225515043

### Results by SW8260D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	30	29.1	97	30	29.4	98	( 79-120 )	1.00	(< 20 )
Ethylbenzene	30	30.1	100	30	30.8	103	( 79-121 )	2.40	(< 20 )
o-Xylene	30	29.6	99	30	31.0	103	( 78-122 )	4.90	(< 20 )
P & M -Xylene	60	60.0	100	60	62.7	104	( 80-121 )	4.30	(< 20 )
Toluene	30	28.9	96	30	29.6	99	( 80-121 )	2.50	(< 20 )
Xylenes (total)	90	89.6	100	90	93.7	104	( 79-121 )	4.50	(< 20 )
<b>Surrogates</b>									
1,2-Dichloroethane-D4 (surr)	30		100	30		100	( 81-118 )	0.27	
4-Bromofluorobenzene (surr)	30		92	30		97	( 85-114 )	4.30	
Toluene-d8 (surr)	30		103	30		103	( 89-112 )	0.13	

### Batch Information

Analytical Batch: VMS22007  
 Analytical Method: SW8260D  
 Instrument: Agilent 7890-75MS  
 Analyst: AZL

Prep Batch: VXX39236  
 Prep Method: SW5030B  
 Prep Date/Time: 09/20/2022 06:00  
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 09/29/2022 4:13:51PM



### Billable Matrix Spike Summary

Original Sample ID: 1225515017  
MS Sample ID: 1225515018 BMS  
MSD Sample ID: 1225515019 BMSD

Analysis Date: 09/20/2022 18:59  
Analysis Date: 09/20/2022 17:15  
Analysis Date: 09/20/2022 17:30  
Matrix: Water (Surface, Eff., Ground)

QC for Samples:

### Results by SW8260D

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	0.400	30.0	30.4	100	30.0	30.3	100	79-120	0.20	(< 20 )
Ethylbenzene	0.960J	30.0	32.1	104	30.0	33.2	108	79-121	3.30	(< 20 )
o-Xylene	0.500U	30.0	31.3	104	30.0	32.2	107	78-122	2.90	(< 20 )
P & M -Xylene	84.3	60.0	135	84	60.0	139	91	80-121	2.90	(< 20 )
Toluene	0.500U	30.0	29.4	98	30.0	30.5	102	80-121	3.70	(< 20 )
Xylenes (total)	84.3	90.0	166	91	90.0	171	96	79-121	2.90	(< 20 )
<b>Surrogates</b>										
1,2-Dichloroethane-D4 (surr)		30.0	30.7	102	30.0	30.2	101	81-118	1.70	
4-Bromofluorobenzene (surr)		30.0	28.2	94	30.0	28.5	95	85-114	0.81	
Toluene-d8 (surr)		30.0	30.2	101	30.0	30.8	103	89-112	1.90	

### Batch Information

Analytical Batch: VMS22007  
Analytical Method: SW8260D  
Instrument: Agilent 7890-75MS  
Analyst: AZL  
Analytical Date/Time: 9/20/2022 5:15:00PM

Prep Batch: VXX39236  
Prep Method: Volatiles Extraction 8240/8260  
Prep Date/Time: 9/20/2022 6:00:00AM  
Prep Initial Wt./Vol.: 5.00mL  
Prep Extract Vol: 5.00mL

Print Date: 09/29/2022 4:13:53PM



### Method Blank

Blank ID: MB for HBN 1844308 [VXX/39238]  
Blank Lab ID: 1688108

Matrix: Water (Surface, Eff., Ground)

#### QC for Samples:

1225515006, 1225515007, 1225515008, 1225515009, 1225515020, 1225515023, 1225515024, 1225515025, 1225515026, 1225515027, 1225515028, 1225515029, 1225515030, 1225515031, 1225515032, 1225515033, 1225515034

### Results by EPA 602/624

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	103	81-118		%
4-Bromofluorobenzene (surr)	97.5	85-114		%
Toluene-d8 (surr)	96.3	89-112		%

### Batch Information

Analytical Batch: VMS22009  
Analytical Method: EPA 602/624  
Instrument: VPA 780/5975 GC/MS  
Analyst: AZL  
Analytical Date/Time: 9/21/2022 1:11:00PM

Prep Batch: VXX39238  
Prep Method: SW5030B  
Prep Date/Time: 9/21/2022 6:00:00AM  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 09/29/2022 4:13:56PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1225515 [VXX39238]  
 Blank Spike Lab ID: 1688109  
 Date Analyzed: 09/21/2022 13:26

Spike Duplicate ID: LCSD for HBN 1225515 [VXX39238]  
 Spike Duplicate Lab ID: 1688110  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515006, 1225515007, 1225515008, 1225515009, 1225515020, 1225515023, 1225515024, 1225515025, 1225515026, 1225515027, 1225515028, 1225515029, 1225515030, 1225515031, 1225515032, 1225515033, 1225515034

### Results by EPA 602/624

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	30	31.3	104	30	31.0	103	( 79-120 )	1.10	(< 20 )
Ethylbenzene	30	30.7	102	30	30.8	103	( 79-121 )	0.13	(< 20 )
o-Xylene	30	30.7	102	30	30.3	101	( 78-122 )	1.30	(< 20 )
P & M -Xylene	60	61.6	103	60	61.5	102	( 80-121 )	0.16	(< 20 )
Toluene	30	28.8	96	30	28.7	96	( 80-121 )	0.62	(< 20 )
Xylenes (total)	90	92.3	103	90	91.8	102	( 79-121 )	0.53	(< 20 )
<b>Surrogates</b>									
1,2-Dichloroethane-D4 (surr)	30		98	30		96	( 81-118 )	2.10	
4-Bromofluorobenzene (surr)	30		98	30		98	( 85-114 )	0.56	
Toluene-d8 (surr)	30		98	30		98	( 89-112 )	0.24	

### Batch Information

Analytical Batch: VMS22009  
 Analytical Method: EPA 602/624  
 Instrument: VPA 780/5975 GC/MS  
 Analyst: AZL

Prep Batch: VXX39238  
 Prep Method: SW5030B  
 Prep Date/Time: 09/21/2022 06:00  
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 09/29/2022 4:13:59PM



### Method Blank

Blank ID: MB for HBN 1844308 [VXX/39238]  
Blank Lab ID: 1688108

Matrix: Water (Surface, Eff., Ground)

#### QC for Samples:

1225515006, 1225515007, 1225515008, 1225515009, 1225515020, 1225515023, 1225515024, 1225515025, 1225515026, 1225515027, 1225515028, 1225515029, 1225515030, 1225515031, 1225515032, 1225515033, 1225515034

### Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.200U	0.400	0.120	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
o-Xylene	0.500U	1.00	0.310	ug/L
P & M -Xylene	1.00U	2.00	0.620	ug/L
Toluene	0.500U	1.00	0.310	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
<b>Surrogates</b>				
1,2-Dichloroethane-D4 (surr)	103	81-118		%
4-Bromofluorobenzene (surr)	97.5	85-114		%
Toluene-d8 (surr)	96.3	89-112		%

### Batch Information

Analytical Batch: VMS22009  
Analytical Method: SW8260D  
Instrument: VPA 780/5975 GC/MS  
Analyst: AZL  
Analytical Date/Time: 9/21/2022 1:11:00PM

Prep Batch: VXX39238  
Prep Method: SW5030B  
Prep Date/Time: 9/21/2022 6:00:00AM  
Prep Initial Wt./Vol.: 5 mL  
Prep Extract Vol: 5 mL

Print Date: 09/29/2022 4:14:01PM





### Blank Spike Summary

Blank Spike ID: LCS for HBN 1225515 [VXX39238]  
 Blank Spike Lab ID: 1688109  
 Date Analyzed: 09/21/2022 13:26

Spike Duplicate ID: LCSD for HBN 1225515 [VXX39238]  
 Spike Duplicate Lab ID: 1688110  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515006, 1225515007, 1225515008, 1225515009, 1225515020, 1225515023, 1225515024, 1225515025, 1225515026, 1225515027, 1225515028, 1225515029, 1225515030, 1225515031, 1225515032, 1225515033, 1225515034

### Results by SW8260D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	30	31.3	104	30	31.0	103	( 79-120 )	1.10	(< 20 )
Ethylbenzene	30	30.7	102	30	30.8	103	( 79-121 )	0.13	(< 20 )
o-Xylene	30	30.7	102	30	30.3	101	( 78-122 )	1.30	(< 20 )
P & M -Xylene	60	61.6	103	60	61.5	102	( 80-121 )	0.16	(< 20 )
Toluene	30	28.8	96	30	28.7	96	( 80-121 )	0.62	(< 20 )
Xylenes (total)	90	92.3	103	90	91.8	102	( 79-121 )	0.53	(< 20 )
<b>Surrogates</b>									
1,2-Dichloroethane-D4 (surr)	30		98	30		96	( 81-118 )	2.10	
4-Bromofluorobenzene (surr)	30		98	30		98	( 85-114 )	0.56	
Toluene-d8 (surr)	30		98	30		98	( 89-112 )	0.24	

### Batch Information

Analytical Batch: VMS22009  
 Analytical Method: SW8260D  
 Instrument: VPA 780/5975 GC/MS  
 Analyst: AZL

Prep Batch: VXX39238  
 Prep Method: SW5030B  
 Prep Date/Time: 09/21/2022 06:00  
 Spike Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL  
 Dupe Init Wt./Vol.: 30 ug/L Extract Vol: 5 mL

Print Date: 09/29/2022 4:14:04PM



### Billable Matrix Spike Summary

Original Sample ID: 1225515020  
MS Sample ID: 1225515021 BMS  
MSD Sample ID: 1225515022 BMSD

Analysis Date: 09/21/2022 16:23  
Analysis Date: 09/21/2022 14:54  
Analysis Date: 09/21/2022 15:09  
Matrix: Water (Surface, Eff., Ground)

QC for Samples:

### Results by SW8260D

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	0.266J	30.0	32.4	107	30.0	32.5	107	79-120	0.20	(< 20 )
Ethylbenzene	22.8	30.0	54.9	107	30.0	54.7	106	79-121	0.49	(< 20 )
o-Xylene	0.873J	30.0	32.2	104	30.0	33.0	107	78-122	2.60	(< 20 )
P & M -Xylene	110	60.0	161	85	60.0	161	85	80-121	0.00	(< 20 )
Toluene	0.500U	30.0	30.2	101	30.0	30.1	100	80-121	0.24	(< 20 )
Xylenes (total)	111	90.0	193	92	90.0	194	93	79-121	0.44	(< 20 )
<b>Surrogates</b>										
1,2-Dichloroethane-D4 (surr)		30.0	27.4	91	30.0	29.0	97	81-118	5.80	
4-Bromofluorobenzene (surr)		30.0	29.1	97	30.0	28.9	96	85-114	0.85	
Toluene-d8 (surr)		30.0	29.2	97	30.0	29.2	97	89-112	0.10	

### Batch Information

Analytical Batch: VMS22009  
Analytical Method: SW8260D  
Instrument: VPA 780/5975 GC/MS  
Analyst: AZL  
Analytical Date/Time: 9/21/2022 2:54:00PM

Prep Batch: VXX39238  
Prep Method: Volatiles Extraction 8240/8260  
Prep Date/Time: 9/21/2022 6:00:00AM  
Prep Initial Wt./Vol.: 5.00mL  
Prep Extract Vol: 5.00mL

Print Date: 09/29/2022 4:14:05PM



### Method Blank

Blank ID: MB for HBN 1844315 (WFI/3006)

Blank Lab ID: 1688150

QC for Samples:

Matrix: Water (Surface, Eff., Ground)

### Results by SM21 4500NO3-F

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Nitrate-N	0.100U	0.200	0.0500	mg/L
Nitrite-N	0.100U	0.200	0.0500	mg/L
Total Nitrate/Nitrite-N	0.100U	0.200	0.0500	mg/L

### Batch Information

Analytical Batch: WFI3006

Analytical Method: SM21 4500NO3-F

Instrument: Astoria segmented flow

Analyst: EBH

Analytical Date/Time: 9/27/2022 2:16:28PM

Print Date: 09/29/2022 4:14:06PM



**Method Blank**

Blank ID: MB for HBN 1844315 (WFI/3006)  
Blank Lab ID: 1688156

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1225515006, 1225515010, 1225515014

**Results by SM21 4500NO3-F**

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Nitrate-N	0.100U	0.200	0.0500	mg/L
Nitrite-N	0.100U	0.200	0.0500	mg/L
Total Nitrate/Nitrite-N	0.100U	0.200	0.0500	mg/L

**Batch Information**

Analytical Batch: WFI3006  
Analytical Method: SM21 4500NO3-F  
Instrument: Astoria segmented flow  
Analyst: EBH  
Analytical Date/Time: 9/27/2022 1:30:58PM

Print Date: 09/29/2022 4:14:06PM



### Method Blank

Blank ID: MB for HBN 1844315 (WFI/3006)

Blank Lab ID: 1688162

QC for Samples:

1225515006, 1225515010, 1225515014

Matrix: Water (Surface, Eff., Ground)

### Results by SM21 4500NO3-F

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Nitrate-N	0.100U	0.200	0.0500	mg/L
Nitrite-N	0.100U	0.200	0.0500	mg/L
Total Nitrate/Nitrite-N	0.100U	0.200	0.0500	mg/L

### Batch Information

Analytical Batch: WFI3006

Analytical Method: SM21 4500NO3-F

Instrument: Astoria segmented flow

Analyst: EBH

Analytical Date/Time: 9/27/2022 12:45:27PM

Print Date: 09/29/2022 4:14:06PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1225515 [WFI3006]  
 Blank Spike Lab ID: 1688152  
 Date Analyzed: 09/27/2022 14:14

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

## Results by SM21 4500NO3-F

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Nitrate-N	2.5	2.50	100	( 70-130 )
Nitrite-N	2.5	2.57	103	( 90-110 )
Total Nitrate/Nitrite-N	5	5.07	101	( 90-110 )

## Batch Information

Analytical Batch: **WFI3006**  
 Analytical Method: **SM21 4500NO3-F**  
 Instrument: **Astoria segmented flow**  
 Analyst: **EBH**

Print Date: 09/29/2022 4:14:09PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1225515 [WFI3006]

Blank Spike Lab ID: 1688158

Date Analyzed: 09/27/2022 13:29

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515006, 1225515010, 1225515014

### Results by SM21 4500NO3-F

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Nitrate-N	2.5	2.85	114	( 70-130 )
Nitrite-N	2.5	2.59	103	( 90-110 )
Total Nitrate/Nitrite-N	5	5.44	109	( 90-110 )

### Batch Information

Analytical Batch: **WFI3006**

Analytical Method: **SM21 4500NO3-F**

Instrument: **Astoria segmented flow**

Analyst: **EBH**

Print Date: 09/29/2022 4:14:09PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1225515 [WFI3006]  
 Blank Spike Lab ID: 1688164  
 Date Analyzed: 09/27/2022 12:43

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515006, 1225515010, 1225515014

## Results by SM21 4500NO3-F

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Nitrate-N	2.5	2.47	99	( 70-130 )
Nitrite-N	2.5	2.58	103	( 90-110 )
Total Nitrate/Nitrite-N	5	5.05	101	( 90-110 )

## Batch Information

Analytical Batch: **WFI3006**  
 Analytical Method: **SM21 4500NO3-F**  
 Instrument: **Astoria segmented flow**  
 Analyst: **EBH**

Print Date: 09/29/2022 4:14:09PM





### Matrix Spike Summary

Original Sample ID: 1688128  
MS Sample ID: 1688129 MS  
MSD Sample ID: 1688130 MSD

Analysis Date: 09/27/2022 12:41  
Analysis Date: 09/27/2022 11:59  
Analysis Date: 09/27/2022 12:01  
Matrix: Water (Surface, Eff., Ground)

QC for Samples:

### Results by SM21 4500NO3-F

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Nitrate/Nitrite-N	0.591	5.00	5.59	100	5.00	5.63	101	90-110	0.58	(< 25 )

### Batch Information

Analytical Batch: WFI3006  
Analytical Method: SM21 4500NO3-F  
Instrument: Astoria segmented flow  
Analyst: EBH  
Analytical Date/Time: 9/27/2022 11:59:00AM

Print Date: 09/29/2022 4:14:10PM

## Matrix Spike Summary

Original Sample ID: 1225513013  
 MS Sample ID: 1688131 MS  
 MSD Sample ID: 1688132 MSD

Analysis Date: 09/27/2022 12:48  
 Analysis Date: 09/27/2022 12:50  
 Analysis Date: 09/27/2022 12:52  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515006, 1225515010, 1225515014

## Results by SM21 4500NO3-F

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Nitrate/Nitrite-N	0.0570J	5.00	4.89	97	5.00	5.14	102	90-110	5.10	(< 25 )

## Batch Information

Analytical Batch: WFI3006  
 Analytical Method: SM21 4500NO3-F  
 Instrument: Astoria segmented flow  
 Analyst: EBH  
 Analytical Date/Time: 9/27/2022 12:50:00PM

Print Date: 09/29/2022 4:14:10PM



### Matrix Spike Summary

Original Sample ID: 1225613001  
MS Sample ID: 1688133 MS  
MSD Sample ID: 1688134 MSD

Analysis Date: 09/27/2022 13:34  
Analysis Date: 09/27/2022 13:36  
Analysis Date: 09/27/2022 13:37  
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515006, 1225515010, 1225515014

### Results by SM21 4500NO3-F

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Total Nitrate/Nitrite-N	0.200U	5.00	5.17	103	5.00	5.41	108	90-110	4.50	(< 25 )

### Batch Information

Analytical Batch: WFI3006  
Analytical Method: SM21 4500NO3-F  
Instrument: Astoria segmented flow  
Analyst: EBH  
Analytical Date/Time: 9/27/2022 1:36:00PM

Print Date: 09/29/2022 4:14:10PM



**Method Blank**

Blank ID: MB for HBN 1843540 [WTI/5958]  
Blank Lab ID: 1685897

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1225515006, 1225515010, 1225515014

**Results by SM21 2320B**

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Alkalinity	5.00U	10.0	2.50	mg/L

**Batch Information**

Analytical Batch: WTI5958  
Analytical Method: SM21 2320B  
Instrument: Titration  
Analyst: IGK  
Analytical Date/Time: 9/15/2022 12:42:00PM

Print Date: 09/29/2022 4:14:12PM



### Duplicate Sample Summary

Original Sample ID: 1225576001

Duplicate Sample ID: 1685900

QC for Samples:

1225515006, 1225515010, 1225515014

Analysis Date: 09/15/2022 18:31

Matrix: Drinking Water

### Results by SM21 2320B

<u>NAME</u>	<u>Original</u>	<u>Duplicate</u>	<u>Units</u>	<u>RPD (%)</u>	<u>RPD CL</u>
Alkalinity	216	215	mg/L	0.84	(< 25 )

### Batch Information

Analytical Batch: WT15958

Analytical Method: SM21 2320B

Instrument: Titration

Analyst: IGK

Print Date: 09/29/2022 4:14:14PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1225515 [WTI5958]

Blank Spike Lab ID: 1685898

Date Analyzed: 09/15/2022 12:50

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515006, 1225515010, 1225515014

## Results by SM21 2320B

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Alkalinity	250	265	106	( 85-115 )

## Batch Information

Analytical Batch: **WTI5958**

Analytical Method: **SM21 2320B**

Instrument: **Titration**

Analyst: **IGK**

Print Date: 09/29/2022 4:14:15PM



**Method Blank**

Blank ID: MB for HBN 1844456 [WXX/14474]  
Blank Lab ID: 1688569

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
1225515006, 1225515010, 1225515014

**Results by EPA 300.0**

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Sulfate	0.100U	0.200	0.0500	mg/L

**Batch Information**

Analytical Batch: WIC6379  
Analytical Method: EPA 300.0  
Instrument: 930 Metrohm compact IC flex  
Analyst: EBH  
Analytical Date/Time: 9/28/2022 11:59:55AM

Prep Batch: WXX14474  
Prep Method: METHOD  
Prep Date/Time: 9/28/2022 10:00:00AM  
Prep Initial Wt./Vol.: 10 mL  
Prep Extract Vol: 10 mL

Print Date: 09/29/2022 4:14:17PM

## Blank Spike Summary

Blank Spike ID: LCS for HBN 1225515 [WXX14474]  
Blank Spike Lab ID: 1688570  
Date Analyzed: 09/28/2022 12:18

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515006, 1225515010, 1225515014

## Results by EPA 300.0

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Sulfate	5	5.08	102	( 90-110 )

## Batch Information

Analytical Batch: **WIC6379**  
Analytical Method: **EPA 300.0**  
Instrument: **930 Metrohm compact IC flex**  
Analyst: **EBH**

Prep Batch: **WXX14474**  
Prep Method: **METHOD**  
Prep Date/Time: **09/28/2022 10:00**  
Spike Init Wt./Vol.: 5 mg/L Extract Vol: 10 mL  
Dupe Init Wt./Vol.: Extract Vol:

Print Date: 09/29/2022 4:14:19PM





### Matrix Spike Summary

Original Sample ID: 1688567  
MS Sample ID: 1688572 MS  
MSD Sample ID:

Analysis Date: 09/28/2022 12:56  
Analysis Date: 09/28/2022 13:15  
Analysis Date:  
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515006, 1225515010, 1225515014

### Results by EPA 300.0

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Sulfate	27.2	5.00	29.6	49 *				90-110		

### Batch Information

Analytical Batch: WIC6379  
Analytical Method: EPA 300.0  
Instrument: 930 Metrohm compact IC flex  
Analyst: EBH  
Analytical Date/Time: 9/28/2022 1:15:53PM

Prep Batch: WXX14474  
Prep Method: EPA 300.0 Extraction Waters/Liquids  
Prep Date/Time: 9/28/2022 10:00:00AM  
Prep Initial Wt./Vol.: 10.00mL  
Prep Extract Vol: 10.00mL

Print Date: 09/29/2022 4:14:20PM



### Matrix Spike Summary

Original Sample ID: 1688568  
MS Sample ID: 1688573 MS  
MSD Sample ID:

Analysis Date: 09/28/2022 16:44  
Analysis Date: 09/28/2022 17:03  
Analysis Date:  
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515006, 1225515010, 1225515014

### Results by EPA 300.0

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Sulfate	0.0910J	5.00	5.16	101				90-110		

### Batch Information

Analytical Batch: WIC6379  
Analytical Method: EPA 300.0  
Instrument: 930 Metrohm compact IC flex  
Analyst: EBH  
Analytical Date/Time: 9/28/2022 5:03:52PM

Prep Batch: WXX14474  
Prep Method: EPA 300.0 Extraction Waters/Liquids  
Prep Date/Time: 9/28/2022 10:00:00AM  
Prep Initial Wt./Vol.: 10.00mL  
Prep Extract Vol: 10.00mL

Print Date: 09/29/2022 4:14:20PM



**Method Blank**

Blank ID: MB for HBN 1843120 [XXX/46972]  
Blank Lab ID: 1685110

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

1225515001, 1225515002, 1225515003, 1225515004, 1225515005, 1225515006, 1225515007

**Results by EPA 625M SIM (PAH) LV**

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Acenaphthene	0.0250U	0.0500	0.0150	ug/L
Acenaphthylene	0.0250U	0.0500	0.0150	ug/L
Anthracene	0.0250U	0.0500	0.0150	ug/L
Benzo(a)Anthracene	0.0250U	0.0500	0.0150	ug/L
Benzo[a]pyrene	0.0100U	0.0200	0.00620	ug/L
Benzo[b]Fluoranthene	0.0250U	0.0500	0.0150	ug/L
Benzo[g,h,i]perylene	0.0250U	0.0500	0.0150	ug/L
Benzo[k]fluoranthene	0.0250U	0.0500	0.0150	ug/L
Chrysene	0.0250U	0.0500	0.0150	ug/L
Dibenzo[a,h]anthracene	0.0100U	0.0200	0.00620	ug/L
Fluoranthene	0.0184J	0.0500	0.0150	ug/L
Fluorene	0.0250U	0.0500	0.0150	ug/L
Indeno[1,2,3-c,d] pyrene	0.0250U	0.0500	0.0150	ug/L
Naphthalene	0.0500U	0.100	0.0310	ug/L
Phenanthrene	0.0518J	0.100	0.0310	ug/L
Pyrene	0.0250U	0.0500	0.0150	ug/L
<b>Surrogates</b>				
2-Methylnaphthalene-d10 (surr)	79.8	42-86		%
Fluoranthene-d10 (surr)	86.5	50-97		%

**Batch Information**

Analytical Batch: XMS13359  
Analytical Method: EPA 625M SIM (PAH) LV  
Instrument: Agilent GC 7890B/5977A SWA  
Analyst: NGG  
Analytical Date/Time: 9/18/2022 12:06:00PM

Prep Batch: XXX46972  
Prep Method: SW3535A  
Prep Date/Time: 9/13/2022 9:32:45AM  
Prep Initial Wt./Vol.: 250 mL  
Prep Extract Vol: 1 mL

Print Date: 09/29/2022 4:14:22PM



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1225515 [XXX46972]  
 Blank Spike Lab ID: 1685111  
 Date Analyzed: 09/18/2022 12:26

Spike Duplicate ID: LCSD for HBN 1225515  
 [XXX46972]  
 Spike Duplicate Lab ID: 1685112  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515001, 1225515002, 1225515003, 1225515004, 1225515005, 1225515006, 1225515007

### Results by EPA 625M SIM (PAH) LV

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Acenaphthene	2	1.67	84	2	1.75	88	( 48-114 )	4.70	(< 20 )
Acenaphthylene	2	1.54	77	2	1.62	81	( 35-121 )	4.90	(< 20 )
Anthracene	2	1.58	79	2	1.68	84	( 53-119 )	6.20	(< 20 )
Benzo(a)Anthracene	2	1.53	76	2	1.56	78	( 59-120 )	2.20	(< 20 )
Benzo[a]pyrene	2	1.64	82	2	1.68	84	( 53-120 )	2.20	(< 20 )
Benzo[b]Fluoranthene	2	1.51	76	2	1.57	78	( 53-126 )	3.50	(< 20 )
Benzo[g,h,i]perylene	2	1.83	92	2	1.86	93	( 44-128 )	1.70	(< 20 )
Benzo[k]fluoranthene	2	1.71	86	2	1.75	87	( 54-125 )	2.10	(< 20 )
Chrysene	2	1.65	83	2	1.68	84	( 57-120 )	1.90	(< 20 )
Dibenzo[a,h]anthracene	2	1.82	91	2	1.86	93	( 44-131 )	2.10	(< 20 )
Fluoranthene	2	1.61	81	2	1.66	83	( 58-120 )	3.10	(< 20 )
Fluorene	2	1.69	85	2	1.71	85	( 50-118 )	0.99	(< 20 )
Indeno[1,2,3-c,d] pyrene	2	1.77	88	2	1.80	90	( 48-130 )	1.70	(< 20 )
Naphthalene	2	1.52	76	2	1.62	81	( 43-114 )	6.10	(< 20 )
Phenanthrene	2	1.66	83	2	1.73	86	( 53-115 )	4.10	(< 20 )
Pyrene	2	1.61	80	2	1.64	82	( 53-121 )	2.20	(< 20 )
<b>Surrogates</b>									
2-Methylnaphthalene-d10 (surr)	2		76	2		83	( 42-86 )	9.00	
Fluoranthene-d10 (surr)	2		81	2		87	( 50-97 )	7.00	

### Batch Information

Analytical Batch: XMS13359  
 Analytical Method: EPA 625M SIM (PAH) LV  
 Instrument: Agilent GC 7890B/5977A SWA  
 Analyst: NGG

Prep Batch: XXX46972  
 Prep Method: SW3535A  
 Prep Date/Time: 09/13/2022 09:32  
 Spike Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL  
 Dupe Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL

Print Date: 09/29/2022 4:14:24PM

## Method Blank

Blank ID: MB for HBN 1843186 [XXX/46982]  
 Blank Lab ID: 1685436

Matrix: Water (Surface, Eff., Ground)

QC for Samples:  
 1225515042

## Results by EPA 625M SIM (PAH) LV

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Acenaphthene	0.0250U	0.0500	0.0150	ug/L
Acenaphthylene	0.0250U	0.0500	0.0150	ug/L
Anthracene	0.0250U	0.0500	0.0150	ug/L
Benzo(a)Anthracene	0.0250U	0.0500	0.0150	ug/L
Benzo[a]pyrene	0.0100U	0.0200	0.00620	ug/L
Benzo[b]Fluoranthene	0.0250U	0.0500	0.0150	ug/L
Benzo[g,h,i]perylene	0.0250U	0.0500	0.0150	ug/L
Benzo[k]fluoranthene	0.0250U	0.0500	0.0150	ug/L
Chrysene	0.0250U	0.0500	0.0150	ug/L
Dibenzo[a,h]anthracene	0.0100U	0.0200	0.00620	ug/L
Fluoranthene	0.0250U	0.0500	0.0150	ug/L
Fluorene	0.0250U	0.0500	0.0150	ug/L
Indeno[1,2,3-c,d] pyrene	0.0250U	0.0500	0.0150	ug/L
Naphthalene	0.0500U	0.100	0.0310	ug/L
Phenanthrene	0.0500U	0.100	0.0310	ug/L
Pyrene	0.0250U	0.0500	0.0150	ug/L
<b>Surrogates</b>				
2-Methylnaphthalene-d10 (surr)	77.5	42-86		%
Fluoranthene-d10 (surr)	77.1	50-97		%

## Batch Information

Analytical Batch: XMS13368  
 Analytical Method: EPA 625M SIM (PAH) LV  
 Instrument: Agilent GC 7890B/5977A SWA  
 Analyst: NGG  
 Analytical Date/Time: 9/22/2022 2:30:00PM

Prep Batch: XXX46982  
 Prep Method: SW3535A  
 Prep Date/Time: 9/14/2022 9:54:11AM  
 Prep Initial Wt./Vol.: 250 mL  
 Prep Extract Vol: 1 mL



### Blank Spike Summary

Blank Spike ID: LCS for HBN 1225515 [XXX46982]

Blank Spike Lab ID: 1685437

Date Analyzed: 09/22/2022 14:50

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515042

### Results by EPA 625M SIM (PAH) LV

#### Blank Spike (ug/L)

Parameter	Spike	Result	Rec (%)	CL
Acenaphthene	2	1.59	80	( 48-114 )
Acenaphthylene	2	1.44	72	( 35-121 )
Anthracene	2	1.64	82	( 53-119 )
Benzo(a)Anthracene	2	1.46	73	( 59-120 )
Benzo[a]pyrene	2	1.56	78	( 53-120 )
Benzo[b]Fluoranthene	2	1.48	74	( 53-126 )
Benzo[g,h,i]perylene	2	1.73	86	( 44-128 )
Benzo[k]fluoranthene	2	1.60	80	( 54-125 )
Chrysene	2	1.54	77	( 57-120 )
Dibenzo[a,h]anthracene	2	1.77	88	( 44-131 )
Fluoranthene	2	1.50	75	( 58-120 )
Fluorene	2	1.62	81	( 50-118 )
Indeno[1,2,3-c,d] pyrene	2	1.68	84	( 48-130 )
Naphthalene	2	1.35	68	( 43-114 )
Phenanthrene	2	1.60	80	( 53-115 )
Pyrene	2	1.47	74	( 53-121 )

#### Surrogates

2-Methylnaphthalene-d10 (surr)	2		79	( 42-86 )
Fluoranthene-d10 (surr)	2		81	( 50-97 )

### Batch Information

Analytical Batch: XMS13368

Analytical Method: EPA 625M SIM (PAH) LV

Instrument: Agilent GC 7890B/5977A SWA

Analyst: NGG

Prep Batch: XXX46982

Prep Method: SW3535A

Prep Date/Time: 09/14/2022 09:54

Spike Init Wt./Vol.: 2 ug/L Extract Vol: 1 mL

Dupe Init Wt./Vol.: Extract Vol:

Print Date: 09/29/2022 4:14:29PM



### Matrix Spike Summary

Original Sample ID: 1225517008  
 MS Sample ID: 1685438 MS  
 MSD Sample ID: 1685439 MSD

Analysis Date: 09/22/2022 17:55  
 Analysis Date: 09/22/2022 18:15  
 Analysis Date: 09/22/2022 18:35  
 Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515042

### Results by EPA 625M SIM (PAH) LV

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Acenaphthene	0.0240U	1.89	1.41	75	2.00	1.52	76	48-114	7.20	(< 20)
Acenaphthylene	0.0240U	1.89	1.27	67	2.00	1.33	67	35-121	4.80	(< 20)
Anthracene	0.0240U	1.89	1.39	74	2.00	1.51	75	53-119	7.90	(< 20)
Benzo(a)Anthracene	0.0240U	1.89	1.38	73	2.00	1.50	75	59-120	8.40	(< 20)
Benzo[a]pyrene	0.00960U	1.89	1.42	76	2.00	1.49	75	53-120	4.80	(< 20)
Benzo[b]Fluoranthene	0.0240U	1.89	1.41	75	2.00	1.52	76	53-126	7.60	(< 20)
Benzo[g,h,i]perylene	0.0240U	1.89	1.41	75	2.00	1.45	73	44-128	3.40	(< 20)
Benzo[k]fluoranthene	0.0240U	1.89	1.43	76	2.00	1.50	75	54-125	4.60	(< 20)
Chrysene	0.0240U	1.89	1.47	78	2.00	1.57	79	57-120	6.70	(< 20)
Dibenzo[a,h]anthracene	0.00960U	1.89	1.44	76	2.00	1.49	75	44-131	3.40	(< 20)
Fluoranthene	0.0240U	1.89	1.38	73	2.00	1.56	78	58-120	11.70	(< 20)
Fluorene	0.0240U	1.89	1.44	76	2.00	1.53	76	50-118	5.90	(< 20)
Indeno[1,2,3-c,d] pyrene	0.0240U	1.89	1.4	74	2.00	1.45	72	48-130	3.00	(< 20)
Naphthalene	1.28	1.89	2.3	54	2.00	2.18	45	43-114	5.20	(< 20)
Phenanthrene	0.0481U	1.89	1.4	74	2.00	1.54	77	53-115	9.10	(< 20)
Pyrene	0.0240U	1.89	1.37	73	2.00	1.55	77	53-121	12.30	(< 20)
<b>Surrogates</b>										
2-Methylnaphthalene-d10 (surr)		1.89	1.48	78	2.00	1.49	75	42-86	0.64	
Fluoranthene-d10 (surr)		1.89	1.54	81	2.00	1.67	83	50-97	8.20	

### Batch Information

Analytical Batch: XMS13368  
 Analytical Method: EPA 625M SIM (PAH) LV  
 Instrument: Agilent GC 7890B/5977A SWA  
 Analyst: NGG  
 Analytical Date/Time: 9/22/2022 6:15:00PM

Prep Batch: XXX46982  
 Prep Method: 3535 Solid Phase Ext for 8270 PAH SIM LV  
 Prep Date/Time: 9/14/2022 9:54:11AM  
 Prep Initial Wt./Vol.: 265.00mL  
 Prep Extract Vol: 1.00mL

Print Date: 09/29/2022 4:14:30PM



### Matrix Spike Summary

Original Sample ID: 1225536004  
MS Sample ID: 1685440 MS  
MSD Sample ID: 1685441 MSD

Analysis Date: 09/22/2022 20:18  
Analysis Date: 09/22/2022 20:38  
Analysis Date:  
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1225515042

### Results by EPA 625M SIM (PAH) LV

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Acenaphthene	0.0227U	1.85	1.31	71				48-114		
Acenaphthylene	0.0227U	1.85	1.23	66				35-121		
Anthracene	0.0227U	1.85	1.35	73				53-119		
Benzo(a)Anthracene	0.0227U	1.85	1.38	74				59-120		
Benzo[a]pyrene	0.00910U	1.85	1.49	80				53-120		
Benzo[b]Fluoranthene	0.0227U	1.85	1.5	81				53-126		
Benzo[g,h,i]perylene	0.0227U	1.85	1.63	88				44-128		
Benzo[k]fluoranthene	0.0227U	1.85	1.5	81				54-125		
Chrysene	0.0227U	1.85	1.47	80				57-120		
Dibenzo[a,h]anthracene	0.00910U	1.85	1.66	90				44-131		
Fluoranthene	0.0227U	1.85	1.33	72				58-120		
Fluorene	0.0227U	1.85	1.39	75				50-118		
Indeno[1,2,3-c,d] pyrene	0.0227U	1.85	1.6	86				48-130		
Naphthalene	0.0454U	1.85	1.14	62				43-114		
Phenanthrene	0.0454U	1.85	1.36	73				53-115		
Pyrene	0.0227U	1.85	1.32	71				53-121		
<b>Surrogates</b>										
2-Methylnaphthalene-d10 (surr)		1.85	1.25	67	1.85	1.24	67	42-86	0.45	
Fluoranthene-d10 (surr)		1.85	1.4	75	1.85	1.35	73	50-97	3.70	

### Batch Information

Analytical Batch: XMS13368  
Analytical Method: EPA 625M SIM (PAH) LV  
Instrument: Agilent GC 7890B/5977A SWA  
Analyst: NGG  
Analytical Date/Time: 9/22/2022 8:38:00PM

Prep Batch: XXX46982  
Prep Method: 3535 Solid Phase Ext for 8270 PAH SIM LV  
Prep Date/Time: 9/14/2022 9:54:11AM  
Prep Initial Wt./Vol.: 270.00mL  
Prep Extract Vol: 1.00mL

Print Date: 09/29/2022 4:14:30PM





Profile #302427 GM

CLIENT: Stantec

Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.

CONTACT: John Marshall PHONE #: 907-266-1108

PROJECT NAME: SRU-COBC PROJECT/PWSID/PERMIT#: 203721236

REPORTS TO: Craig Wilson E-MAIL: Profile #: Craig.Wilson@stantec.com

INVOICE TO: Stantec QUOTE #: P.O. #:

Section 3

Preservative

# CONTAINERS

Comp Grab MI (Multi-incremental)

Table with columns for analysis types (He1, H2SO4, HNO3, HNO2, HCS, He1) and rows for various chemical tests (BTEX, Nitrate, Nitrite, Dissolved Fe, Total Fe, Sulphate, Alkalinity, Methane, TAP, TAPH).

NOTE: \*The following analyses require specific method and/or compound list: BTEX, Metals, PFAS

REMARKS/LOC ID

Table with columns: RESERVED for lab use, SAMPLE IDENTIFICATION, DATE mm/dd/yy, TIME HH:MM, MATRIX/MATRIX CODE. Rows include samples 1AE through 10AJ.

Table for Section 5: Relinquished By (1-4), Date, Time, Received By. Includes signatures and dates.

Table for Section 4: DOD Project? Yes/No, Cooler ID, Requested Turnaround Time and/or Special Instructions, Temp Blank, Chain of Custody Seal, Delivery Method.



SGS North America Inc. CHAIN OF CUSTODY RECORD

1225515



**CLIENT:** *Stantec*

**CONTACT:** *John Marshall* **PHONE #:** *907-266-108*

**PROJECT NAME:** *SRU-COBC* **PROJECT/PWSID/PERMIT#:** *203721236*

**REPORTS TO:** *Craig Wilson* **E-MAIL:** *Craig.Wilson@stantec.com*

**INVOICE TO:** *Stantec* **QUOTE #:** **P.O. #:**

**Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.** Page 2 of 4

**Section 3** **Preservative**

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/MATRIX CODE	CONTAINERS	Comp Grab MI (Multi-incremental)	Analysis*										REMARKS/LOC ID							
							HCl	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HNO <sub>3</sub>	-	HCl	BTEX	Nitrate	Nitrite	Dissolved Fe (Asd Rtd)		Total Fe	Sulfate	Alkalinity	Mercuric			
11AC	FSS-1	9/7/22	1550	W	3	G	X																	
12AC	Duplicate 2	9/7/22	1553	W	3	G	X																	
13AC	FSS-2	9/7/22	1557	W	3	G	X																	
14AJ (96)	TW-4R	9/7/22	1555	W	10	G	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
15AC	PSW-1	9/7/22	1622	W	3	G	X																	
16AC	PSW-2	9/7/22	1635	W	3	G	X																	
17AIBABAI	TW-26	9/7/22	1700	W	9	G	X																	MS/MSD
20AIBABAI	TW-25	9/8/22	1047	W	9	G	X																	MS/MSD
23AC	Duplicate 3	9/8/22	1050	W	3	G	X																	
24AC	TW-24	9/8/22	1122	W	3	G	X																	

**Section 4** **DOD Project? Yes No** **Data Deliverable Requirements:**

**Section 5**

Relinquished By: (1) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_ Received By: \_\_\_\_\_

Relinquished By: (2) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_ Received By: \_\_\_\_\_

Relinquished By: (3) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_ Received By: \_\_\_\_\_

Relinquished By: (4) \_\_\_\_\_ Date *9/12/22* Time *11:11* Received For Laboratory By: *bi li*

Cooler ID: \_\_\_\_\_

Requested Turnaround Time and/or Special Instructions: \_\_\_\_\_

Temp Blank °C: *1) 3.2 023*  
*2) 0.4 023*

Chain of Custody Seal: (Circle) INTACT BROKEN **ABSENT**

Delivery Method: Hand Delivery  Commercial Delivery [ ]

http://www.sgs.com/terms-and-conditions



SGS North America Inc. CHAIN OF CUSTODY RECORD

1225515



**CLIENT:** Stantec

**CONTACT:** John Marshall **PHONE #:** 907-266-1108

**PROJECT NAME:** SRU-CORC **PROJECT/PWSID/PERMIT#:** 203721236

**REPORTS TO:** Craig Wilson **E-MAIL:** Profile #: Craig.Wilson@stantec.com

**INVOICE TO:** Stantec **QUOTE #:** **P.O. #:**

**Instructions: Sections 1 - 5 must be filled out. Omissions may delay the onset of analysis.**

Page 3 of 4

**Section 3** **Preservative**

RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HH:MM	MATRIX/MATRIX CODE	#	CONTAINERS	Comp Grab MI (Multi-incremental)	Analysis*										REMARKS/LOC ID				
								1	2	3	4	5	6	7	8	9	10		11	12		
25 AC	TW-23	9/8/22	1203	W	3	G	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
26 AC	TW-8	9/8/22	1204	W	3	G	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
27 AC	TW-22	9/8/22	1254	W	3	G	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
28 AC	TW-21	9/8/22	1317	W	3	G	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
29 AC	TW-7	9/8/22	1401	W	3	G	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
30 AC	TW-7D	9/8/22	1409	W	3	G	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
31 AC	TW-20	9/8/22	1447	W	3	G	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
32 AC	TW-6	9/8/22	1531	W	3	G	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
33 AC	TW-6D	9/8/22	1611	W	3	G	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
34 AC	TW-18D	9/8/22	1624	W	3	G	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

**Section 4** **DOD Project? Yes No** **Data Deliverable Requirements:**

**Section 5**

Relinquished By: (1) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_ Received By: \_\_\_\_\_

Relinquished By: (2) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_ Received By: \_\_\_\_\_

Relinquished By: (3) \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_ Received By: \_\_\_\_\_

Relinquished By: (4) \_\_\_\_\_ Date 9/12/22 Time 11:11 Received For Laboratory By: [Signature] CSJ

**Temp Blank °C:** 1) 0.2 023 2) 0.4 023 **Chain of Custody Seal: (Circle)**  
**INTACT** **BROKEN** **ABSENT**

**Delivery Method:**  Hand Delivery  Commercial Delivery [ ]

http://www.sgs.com/terms-and-conditions





SGS Workorder #:

1225515

1225515

Review Criteria	Condition (Yes, No, N/A)	Exceptions Noted below
-----------------	--------------------------	------------------------

**Chain of Custody / Temperature Requirements**

*Note: Temperature and COC seal information is found on the chain of custody form*

DOD only: Did all sample coolers have a corresponding COC?	N/A
If <0°C, were sample containers ice free?	N/A
Note containers received with ice:	

Identify any containers received at non-compliant temperature:  
  
(Use form FS-0029 if more space is needed)

**Holding Time / Documentation / Sample Condition Requirement**

*Note: Refer to form F-083 "Sample Guide" for specific holding times and sample containers.*

Were samples received within analytical holding time?	Yes
Do sample labels match COC? Record discrepancies.	Yes

**Note:** If information on containers differs from COC, default to COC information for login. If times differ <1hr, record details & login per COC.

Were analytical requests clear? <i>(i.e. method is specified for analyses with multiple option for method (Eg, BTEX 8021 vs 8260, Metals 6020 vs 200.8)</i>	Yes
--	-----

Were proper containers (type/mass/volume/preservative)used? Note: Exemption for metals analysis by 200.8/6020 in water.	Yes
--	-----

**Volatile Analysis Requirements (VOC, GRO, LL-Hg, etc.)**

Were all soil VOAs received with a corresponding % solids container?	N/A
Were Trip Blanks (e.g., VOAs, LL-Hg) in cooler with samples?	Yes
Were all water VOA vials free of headspace (e.g., bubbles ≤ 6mm)?	Yes
Were all soil VOAs field extracted with Methanol+BFB?	N/A

**Note to Client:** Any "No", answer above indicates non-compliance with standard procedures and may impact data quality.

**Additional notes (if applicable):**



### Sample Containers and Preservatives

<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1225515001-A	HCL to pH < 2	OK	1225515009-B	HCL to pH < 2	OK
1225515001-B	HCL to pH < 2	OK	1225515009-C	HCL to pH < 2	OK
1225515001-C	HCL to pH < 2	OK	1225515010-A	HCL to pH < 2	OK
1225515001-D	HCL to pH < 2	OK	1225515010-B	HCL to pH < 2	OK
1225515001-E	HCL to pH < 2	OK	1225515010-C	HCL to pH < 2	OK
1225515002-A	HCL to pH < 2	OK	1225515010-D	HCL to pH < 2	OK
1225515002-B	HCL to pH < 2	OK	1225515010-E	HCL to pH < 2	OK
1225515002-C	HCL to pH < 2	OK	1225515010-F	HCL to pH < 2	OK
1225515002-D	HCL to pH < 2	OK	1225515010-G	No Preservative Required	OK
1225515002-E	HCL to pH < 2	OK	1225515010-H	HNO3 to pH < 2	OK
1225515003-A	HCL to pH < 2	OK	1225515010-I	HNO3 to pH < 2	OK
1225515003-B	HCL to pH < 2	OK	1225515010-J	H2SO4 to pH < 2	OK
1225515003-C	HCL to pH < 2	OK	1225515011-A	HCL to pH < 2	OK
1225515003-D	HCL to pH < 2	OK	1225515011-B	HCL to pH < 2	OK
1225515003-E	HCL to pH < 2	OK	1225515011-C	HCL to pH < 2	OK
1225515004-A	HCL to pH < 2	OK	1225515012-A	HCL to pH < 2	OK
1225515004-B	HCL to pH < 2	OK	1225515012-B	HCL to pH < 2	OK
1225515004-C	HCL to pH < 2	OK	1225515012-C	HCL to pH < 2	OK
1225515004-D	HCL to pH < 2	OK	1225515013-A	HCL to pH < 2	OK
1225515004-E	HCL to pH < 2	OK	1225515013-B	HCL to pH < 2	OK
1225515005-A	HCL to pH < 2	OK	1225515013-C	HCL to pH < 2	OK
1225515005-B	HCL to pH < 2	OK	1225515014-A	HCL to pH < 2	OK
1225515005-C	HCL to pH < 2	OK	1225515014-B	HCL to pH < 2	OK
1225515005-D	HCL to pH < 2	OK	1225515014-C	HCL to pH < 2	OK
1225515005-E	HCL to pH < 2	OK	1225515014-D	HCL to pH < 2	OK
1225515006-A	HCL to pH < 2	OK	1225515014-E	HCL to pH < 2	OK
1225515006-B	HCL to pH < 2	OK	1225515014-F	HCL to pH < 2	OK
1225515006-C	HCL to pH < 2	OK	1225515014-G	No Preservative Required	OK
1225515006-D	HCL to pH < 2	OK	1225515014-H	HNO3 to pH < 2	OK
1225515006-E	HCL to pH < 2	OK	1225515014-I	HNO3 to pH < 2	OK
1225515006-F	HCL to pH < 2	OK	1225515014-J	H2SO4 to pH < 2	OK
1225515006-G	HCL to pH < 2	OK	1225515015-A	HCL to pH < 2	OK
1225515006-H	HCL to pH < 2	OK	1225515015-B	HCL to pH < 2	OK
1225515006-I	HCL to pH < 2	OK	1225515015-C	HCL to pH < 2	OK
1225515006-J	HCL to pH < 2	OK	1225515016-A	HCL to pH < 2	OK
1225515006-K	HCL to pH < 2	OK	1225515016-B	HCL to pH < 2	OK
1225515006-L	No Preservative Required	OK	1225515016-C	HCL to pH < 2	OK
1225515006-M	HNO3 to pH < 2	OK	1225515017-A	HCL to pH < 2	OK
1225515006-N	HNO3 to pH < 2	OK	1225515017-B	HCL to pH < 2	OK
1225515006-O	H2SO4 to pH < 2	OK	1225515017-C	HCL to pH < 2	OK
1225515007-A	HCL to pH < 2	OK	1225515017-D	HCL to pH < 2	OK
1225515007-B	HCL to pH < 2	OK	1225515017-E	HCL to pH < 2	OK
1225515007-C	HCL to pH < 2	OK	1225515017-F	HCL to pH < 2	OK
1225515007-D	HCL to pH < 2	OK	1225515017-G	HCL to pH < 2	OK
1225515007-E	HCL to pH < 2	OK	1225515017-H	HCL to pH < 2	OK
1225515008-A	HCL to pH < 2	OK	1225515017-I	HCL to pH < 2	OK
1225515008-B	HCL to pH < 2	OK	1225515018-A	HCL to pH < 2	OK
1225515008-C	HCL to pH < 2	OK	1225515018-B	HCL to pH < 2	OK
1225515009-A	HCL to pH < 2	OK	1225515018-C	HCL to pH < 2	OK

<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1225515018-D	HCL to pH < 2	OK	1225515027-C	HCL to pH < 2	OK
1225515018-E	HCL to pH < 2	OK	1225515028-A	HCL to pH < 2	OK
1225515018-F	HCL to pH < 2	OK	1225515028-B	HCL to pH < 2	OK
1225515018-G	HCL to pH < 2	OK	1225515028-C	HCL to pH < 2	OK
1225515018-H	HCL to pH < 2	OK	1225515029-A	HCL to pH < 2	OK
1225515018-I	HCL to pH < 2	OK	1225515029-B	HCL to pH < 2	OK
1225515019-A	HCL to pH < 2	OK	1225515029-C	HCL to pH < 2	OK
1225515019-B	HCL to pH < 2	OK	1225515030-A	HCL to pH < 2	OK
1225515019-C	HCL to pH < 2	OK	1225515030-B	HCL to pH < 2	OK
1225515019-D	HCL to pH < 2	OK	1225515030-C	HCL to pH < 2	OK
1225515019-E	HCL to pH < 2	OK	1225515031-A	HCL to pH < 2	OK
1225515019-F	HCL to pH < 2	OK	1225515031-B	HCL to pH < 2	OK
1225515019-G	HCL to pH < 2	OK	1225515031-C	HCL to pH < 2	OK
1225515019-H	HCL to pH < 2	OK	1225515032-A	HCL to pH < 2	OK
1225515019-I	HCL to pH < 2	OK	1225515032-B	HCL to pH < 2	OK
1225515020-A	HCL to pH < 2	OK	1225515032-C	HCL to pH < 2	OK
1225515020-B	HCL to pH < 2	OK	1225515033-A	HCL to pH < 2	OK
1225515020-C	HCL to pH < 2	OK	1225515033-B	HCL to pH < 2	OK
1225515020-D	HCL to pH < 2	OK	1225515033-C	HCL to pH < 2	OK
1225515020-E	HCL to pH < 2	OK	1225515034-A	HCL to pH < 2	OK
1225515020-F	HCL to pH < 2	OK	1225515034-B	HCL to pH < 2	OK
1225515020-G	HCL to pH < 2	OK	1225515034-C	HCL to pH < 2	OK
1225515020-H	HCL to pH < 2	OK	1225515035-A	HCL to pH < 2	OK
1225515020-I	HCL to pH < 2	OK	1225515035-B	HCL to pH < 2	OK
1225515021-A	HCL to pH < 2	OK	1225515035-C	HCL to pH < 2	OK
1225515021-B	HCL to pH < 2	OK	1225515036-A	HCL to pH < 2	OK
1225515021-C	HCL to pH < 2	OK	1225515036-B	HCL to pH < 2	OK
1225515021-D	HCL to pH < 2	OK	1225515036-C	HCL to pH < 2	OK
1225515021-E	HCL to pH < 2	OK	1225515037-A	HCL to pH < 2	OK
1225515021-F	HCL to pH < 2	OK	1225515037-B	HCL to pH < 2	OK
1225515021-G	HCL to pH < 2	OK	1225515037-C	HCL to pH < 2	OK
1225515021-H	HCL to pH < 2	OK	1225515038-A	HCL to pH < 2	OK
1225515021-I	HCL to pH < 2	OK	1225515038-B	HCL to pH < 2	OK
1225515022-A	HCL to pH < 2	OK	1225515038-C	HCL to pH < 2	OK
1225515022-B	HCL to pH < 2	OK	1225515039-A	HCL to pH < 2	OK
1225515022-C	HCL to pH < 2	OK	1225515039-B	HCL to pH < 2	OK
1225515022-D	HCL to pH < 2	OK	1225515039-C	HCL to pH < 2	OK
1225515022-E	HCL to pH < 2	OK	1225515040-A	HCL to pH < 2	OK
1225515022-F	HCL to pH < 2	OK	1225515040-B	HCL to pH < 2	OK
1225515022-G	HCL to pH < 2	OK	1225515040-C	HCL to pH < 2	OK
1225515022-H	HCL to pH < 2	OK	1225515041-A	HCL to pH < 2	OK
1225515022-I	HCL to pH < 2	OK	1225515041-B	HCL to pH < 2	OK
1225515023-A	HCL to pH < 2	OK	1225515041-C	HCL to pH < 2	OK
1225515023-B	HCL to pH < 2	OK	1225515042-A	HCL to pH < 2	OK
1225515023-C	HCL to pH < 2	OK			
1225515024-A	HCL to pH < 2	OK			
1225515024-B	HCL to pH < 2	OK			
1225515024-C	HCL to pH < 2	OK			
1225515025-A	HCL to pH < 2	OK			
1225515025-B	HCL to pH < 2	OK			
1225515025-C	HCL to pH < 2	OK			
1225515026-A	HCL to pH < 2	OK			
1225515026-B	HCL to pH < 2	OK			
1225515026-C	HCL to pH < 2	OK			
1225515027-A	HCL to pH < 2	OK			
1225515027-B	HCL to pH < 2	OK			

<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>	<u>Container Id</u>	<u>Preservative</u>	<u>Container Condition</u>
1225515042-B	HCL to pH < 2	OK			
1225515042-C	HCL to pH < 2	OK			
1225515043-A	HCL to pH < 2	OK			
1225515043-B	HCL to pH < 2	OK			
1225515043-C	HCL to pH < 2	OK			
1225515044-A	HNO3 to pH < 2	OK			
1225515045-A	HNO3 to pH < 2	OK			
1225515046-A	HNO3 to pH < 2	OK			

#### Container Condition Glossary

Containers for bacteriological, low level mercury and VOA vials are not opened prior to analysis and will be assigned condition code OK unless evidence indicates than an inappropriate container was submitted.

OK - The container was received at an acceptable pH for the analysis requested.

BU - The container was received with headspace greater than 6mm.

DM - The container was received damaged.

FR - The container was received frozen and not usable for Bacteria or BOD analyses.

IC - The container provided for microbiology analysis was not a laboratory-supplied, pre-sterilized container and therefore was not suitable for analysis.

NC- The container provided was not preserved or was under-preserved. The method does not allow for additional preservative added after collection.

PA - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt and the container is now at the correct pH. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

PH - The container was received outside of the acceptable pH for the analysis requested. Preservative was added upon receipt, but was insufficient to bring the container to the correct pH for the analysis requested. See the Sample Receipt Form for details on the amount and lot # of the preservative added.

QN - Insufficient sample quantity provided.



The results set forth herein are provided by SGS North America Inc.

*e-Hardcopy 2.0*  
*Automated Report*

## Technical Report for

**SGS North America, Inc**

**1225515**

**SGS Job Number: FA98946**

**Sampling Date: 09/07/22**

**Report to:**

**SGS North America, Inc  
200 W Potter Dr  
Anchorage, AK 99518  
julie.shumway@sgs.com**

**ATTN: Julie Shumway**

**Total number of pages in report: 21**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

A handwritten signature in black ink, appearing to read "Norm Farmer".

**Norm Farmer**  
**Technical Director**

**Client Service contact: Andrea Colby 407-425-6700**

Certifications: FL(E83510), LA(03051), KS(E-10327), NC(573), NJ(FL002), NY(12022), SC(96038001)  
DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177),  
AL, AK, AR, CT, IA, KY, MA, MI, MS, ND, NH, NV, OK, OR, IL, UT, VT, WA, WI, WV

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Test results relate only to samples analyzed.

# Table of Contents

-1-

<b>Section 1: Sample Summary</b> .....	<b>3</b>
<b>Section 2: Case Narrative/Conformance Summary</b> .....	<b>4</b>
<b>Section 3: Summary of Hits</b> .....	<b>5</b>
<b>Section 4: Sample Results</b> .....	<b>6</b>
<b>4.1:</b> FA98946-1: W-1P .....	7
<b>4.2:</b> FA98946-2: TW-13 .....	8
<b>4.3:</b> FA98946-3: TW-4R .....	9
<b>Section 5: Misc. Forms</b> .....	<b>10</b>
<b>5.1:</b> Chain of Custody .....	11
<b>Section 6: GC Volatiles - QC Data Summaries</b> .....	<b>13</b>
<b>6.1:</b> Method Blank Summary .....	14
<b>6.2:</b> Blank Spike/Blank Spike Duplicate Summary .....	16
<b>6.3:</b> Matrix Spike Summary .....	18
<b>6.4:</b> Duplicate Summary .....	20

1

2

3

4

5

6



### Sample Summary

SGS North America, Inc  
1225515

Job No: FA98946

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
FA98946-1	09/07/22	12:05	09/16/22	AQ	Water	W-1P
FA98946-2	09/07/22	14:59	09/16/22	AQ	Water	TW-13
FA98946-3	09/07/22	15:55	09/16/22	AQ	Water	TW-4R

## SAMPLE DELIVERY GROUP CASE NARRATIVE

**Client:** SGS North America, Inc

**Job No:** FA98946

**Site:** 1225515

**Report Date:** 9/22/2022 2:49:28 PM

On 09/16/2022, 3 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc - Orlando. at a maximum corrected temperature of 2.6 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FA98946 was assigned to the project.

Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section. Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

### GC Volatiles By Method RSKSOP-147/175

**Matrix:** AQ **Batch ID:** GLL2752

Sample(s) FA98946-1DUP, FA98952-3MS were used as the QC samples indicated.

**Matrix:** AQ **Batch ID:** GLL2753

Sample(s) FA98897-5DUP, FA98919-63MS were used as the QC samples indicated.

SGS North America Inc. - Orlando certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted. Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria. SGS North America Inc.- Orlando is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety.

Narrative prepared by:

---

Kim Benham, Client Services (*Signature on File*)

## Summary of Hits

**Job Number:** FA98946  
**Account:** SGS North America, Inc  
**Project:** 1225515  
**Collected:** 09/07/22



Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
<b>FA98946-1</b>	<b>W-1P</b>					
Methane		8.0	0.50	0.25	ug/l	RSKSOP-147/175
<b>FA98946-2</b>	<b>TW-13</b>					
Methane		1810	5.0	2.5	ug/l	RSKSOP-147/175
<b>FA98946-3</b>	<b>TW-4R</b>					
Methane		1380	1.0	0.50	ug/l	RSKSOP-147/175

Sample Results

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Report of Analysis

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# Report of Analysis

<b>Client Sample ID:</b> W-1P	
<b>Lab Sample ID:</b> FA98946-1	<b>Date Sampled:</b> 09/07/22
<b>Matrix:</b> AQ - Water	<b>Date Received:</b> 09/16/22
<b>Method:</b> RSKSOP-147/175	<b>Percent Solids:</b> n/a
<b>Project:</b> 1225515	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL79235.D	1	09/19/22 11:01	JR	n/a	n/a	GLL2752
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	500 ul	20 Deg. C
Run #2				

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
74-82-8	Methane	8.0	0.50	0.25	0.16	ug/l	

U = Not detected      LOD = Limit of Detection      J = Indicates an estimated value  
 LOQ = Limit of Quantitation      DL = Detection Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

4.1  
4

# Report of Analysis

<b>Client Sample ID:</b> TW-13	
<b>Lab Sample ID:</b> FA98946-2	<b>Date Sampled:</b> 09/07/22
<b>Matrix:</b> AQ - Water	<b>Date Received:</b> 09/16/22
<b>Method:</b> RSKSOP-147/175	<b>Percent Solids:</b> n/a
<b>Project:</b> 1225515	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL79283.D	10	09/20/22 14:14	JR	n/a	n/a	GLL2753
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	500 ul	20 Deg. C
Run #2				

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
74-82-8	Methane	1810	5.0	2.5	1.6	ug/l	

U = Not detected      LOD = Limit of Detection      J = Indicates an estimated value  
 LOQ = Limit of Quantitation      DL = Detection Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

4.2  
4



# Report of Analysis

<b>Client Sample ID:</b> TW-4R	
<b>Lab Sample ID:</b> FA98946-3	<b>Date Sampled:</b> 09/07/22
<b>Matrix:</b> AQ - Water	<b>Date Received:</b> 09/16/22
<b>Method:</b> RSKSOP-147/175	<b>Percent Solids:</b> n/a
<b>Project:</b> 1225515	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL79258.D	1	09/19/22 14:25	JR	n/a	n/a	GLL2752
Run #2							

	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	250 ul	20 Deg. C
Run #2				

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
74-82-8	Methane	1380	1.0	0.50	0.32	ug/l	

U = Not detected      LOD = Limit of Detection      J = Indicates an estimated value  
 LOQ = Limit of Quantitation      DL = Detection Limit      B = Indicates analyte found in associated method blank  
 E = Indicates value exceeds calibration range      N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

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Includes the following where applicable:

- Chain of Custody

# FA98946

SGS North America Inc.  
CHAIN OF CUSTODY RECORD



Locations Nationwide  
 Alaska Florida  
 New Jersey Colorado  
 Texas North Carolina  
 Virginia Louisiana  
[www.us.sgs.com](http://www.us.sgs.com)

CLIENT: SGS North America Inc. - Alaska Division				SGS Reference: <b>SGS Orlando, FL</b>				Page 1 of 1			
CONTACT: Julie Shumway		PHONE NO: (907) 562-2343		Additional Comments: All soils report out in dry weight unless							
PROJECT NAME: 1225515		PWSID#:		CONTAINER	Preservative Used:	KCI	Methane by RSK-175	MS	MSD	SGS lab #	Location ID
REPORTS TO: Julie Shumway		E-MAIL: <a href="mailto:Julie_Shumway@sgs.com">Julie_Shumway@sgs.com</a>									
INVOICE TO: SGS - Alaska		QUOTE #:									
env.alaska.accounting@sgs.com		P.O. #: 1225515									
RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HHMM	MATRIX/MATRIX CODE	TYPE						
	W-1P	09/07/2022	12:05:00	Water	3	X				1225515006	
	TW-13	09/07/2022	14:59:00	Water	3	X				1225515010	
	TW-4R	09/07/2022	15:55:00	Water	3	X				1225515014	
Relinquished By: (1)		Date	Time	Received By:	DOD Project? NO		Report to DL (J Flags)? YES		Data Deliverable Requirements: SGS EDD + EFWEDD EquiS for Stantec		
Relinquished By: (2)		Date	Time	Received By:	Cooler ID: Requested Turnaround Time and-or Special Instructions:						
Relinquished By: (3)		Date	Time	Received By:	Temp Blank °C: 2.0		Chain of Custody Seal: (Circle) INTACT BROKEN ABSENT				
Relinquished By: (4)		Date	Time	Received For Laboratory By:							

[ X 200 W. Potter Drive Anchorage, AK 99518 Tel: (907) 562-2343 Fax: (907) 561-5301  
 [ . 5500 Business Drive Wilmington, NC 28405 Tel: (910) 350-1903 Fax: (910) 350-1557

[http://www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm)

INITIAL ASSESSMENT

LABEL VERIFICATION

F088\_COC\_REF\_LAB\_20190411

FA98946: Chain of Custody

Page 1 of 2

5.1  
5

## SGS Sample Receipt Summary

Job Number: FA98946

Client: SGS ALASKA

Project: 1225515

Date / Time Received: 9/16/2022 9:30:00 AM

Delivery Method: FX

Airbill #'s: 148348027084

Therm ID: IR 1;

Therm CF: 0.6;

# of Coolers: 1

Cooler Temps (Raw Measured) °C: Cooler 1: (2.0);

Cooler Temps (Corrected) °C: Cooler 1: (2.6);

**Cooler Information**

Y or N

- 1. Custody Seals Present
- 2. Custody Seals Intact
- 3. Temp criteria achieved
- 4. Cooler temp verification IR Gun
- 5. Cooler media Ice (Bag)

**Trip Blank Information**

Y or N N/A

- 1. Trip Blank present / cooler
  - 2. Trip Blank listed on COC
- W or S N/A
- 3. Type Of TB Received

**Sample Information**

Y or N N/A

- 1. Sample labels present on bottles
- 2. Samples preserved properly
- 3. Sufficient volume/containers recvd for analysis:
- 4. Condition of sample Intact
- 5. Sample recvd within HT
- 6. Dates/Times/IDs on COC match Sample Label
- 7. VOCs have headspace
- 8. Bottles received for unspecified tests
- 9. Compositing instructions clear
- 10. Voa Soil Kits/Jars received past 48hrs?
- 11. % Solids Jar received?
- 12. Residual Chlorine Present?

**Misc. Information**

Number of Encores: 25-Gram \_\_\_\_\_ 5-Gram \_\_\_\_\_ Number of 5035 Field Kits: \_\_\_\_\_ Number of Lab Filtered Metals: \_\_\_\_\_  
 Test Strip Lot #: pH 0-3 230315 pH 10-12 219813A Other: (Specify) \_\_\_\_\_  
 Residual Chlorine Test Strip Lot #: \_\_\_\_\_

Comments

SM001 Rev. Date 05/24/17 Technician: NATHANS Date: 9/16/2022 9:30:00 AM Reviewer: \_\_\_\_\_ Date: \_\_\_\_\_

FA98946: Chain of Custody

Page 2 of 2

5.1  
5

## GC Volatiles

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## QC Data Summaries

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Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

# Method Blank Summary

**Job Number:** FA98946  
**Account:** SGS/KA SGS North America, Inc  
**Project:** 1225515

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GLL2752-MB	LL79257.D	1	09/19/22	JR	n/a	n/a	GLL2752

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA98946-1, FA98946-2, FA98946-3

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	0.50	0.16	ug/l	

6.1.1

6

# Method Blank Summary

**Job Number:** FA98946  
**Account:** SGSAKA SGS North America, Inc  
**Project:** 1225515

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GLL2753-MB	LL79270.D	1	09/20/22	JR	n/a	n/a	GLL2753

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA98946-2

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	0.50	0.16	ug/l	

6.1.2  
6

# Blank Spike/Blank Spike Duplicate Summary

**Job Number:** FA98946  
**Account:** SGS/SAK North America, Inc  
**Project:** 1225515

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GLL2752-BS	LL79228.D	1	09/19/22	JR	n/a	n/a	GLL2752
GLL2752-BSD	LL79229.D	1	09/19/22	JR	n/a	n/a	GLL2752

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA98946-1, FA98946-2, FA98946-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
74-82-8	Methane	108	111	103	109	101	2	62-139/30

\* = Outside of Control Limits.



# Blank Spike/Blank Spike Duplicate Summary

**Job Number:** FA98946  
**Account:** SGS/KA SGS North America, Inc  
**Project:** 1225515

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GLL2753-BS	LL79267.D	1	09/20/22	JR	n/a	n/a	GLL2753
GLL2753-BSD	LL79268.D	1	09/20/22	JR	n/a	n/a	GLL2753

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA98946-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
74-82-8	Methane	108	110	102	107	99	3	62-139/30

\* = Outside of Control Limits.

# Matrix Spike Summary

**Job Number:** FA98946  
**Account:** SGSAKA SGS North America, Inc  
**Project:** 1225515

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA98952-3MS	LL79249.D	1	09/19/22	JR	n/a	n/a	GLL2752
FA98952-3	LL79240.D	1	09/19/22	JR	n/a	n/a	GLL2752

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA98946-1, FA98946-2, FA98946-3

CAS No.	Compound	FA98952-3 ug/l	Spike Q ug/l	MS ug/l	MS %	Limits
74-82-8	Methane	101	108	233	122	62-139

\* = Outside of Control Limits.

# Matrix Spike Summary

**Job Number:** FA98946  
**Account:** SGS/SAK North America, Inc  
**Project:** 1225515

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA98919-63MS	LL79287.D	1	09/20/22	JR	n/a	n/a	GLL2753
FA98919-63	LL79282.D	1	09/20/22	JR	n/a	n/a	GLL2753

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA98946-2

CAS No.	Compound	FA98919-63 ug/l	Spike Q ug/l	MS ug/l	MS %	Limits
74-82-8	Methane	83.2	108	197	105	62-139

\* = Outside of Control Limits.

# Duplicate Summary

**Job Number:** FA98946  
**Account:** SGS/SAK North America, Inc  
**Project:** 1225515

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA98946-1DUP	LL79243.D	1	09/19/22	JR	n/a	n/a	GLL2752
FA98946-1	LL79235.D	1	09/19/22	JR	n/a	n/a	GLL2752

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA98946-1, FA98946-2, FA98946-3

CAS No.	Compound	FA98946-1 ug/l	DUP Q ug/l	Q	RPD	Limits
74-82-8	Methane	8.0	6.9		15	30

\* = Outside of Control Limits.

# Duplicate Summary

**Job Number:** FA98946  
**Account:** SGS/SAK North America, Inc  
**Project:** 1225515

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA98897-5DUP	LL79286.D	1	09/20/22	JR	n/a	n/a	GLL2753
FA98897-5	LL79275.D	1	09/20/22	JR	n/a	n/a	GLL2753

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA98946-2

CAS No.	Compound	FA98897-5 ug/l	DUP Q ug/l	Q RPD	Limits
74-82-8	Methane	25.0	25.2	1	30

\* = Outside of Control Limits.

## Appendix B **WETLAND SOIL BORING LOGS**



























PROJECT: Swanson River Unit P&S Yard  
 LOCATION: Soldotna, AK  
 PROJECT NUMBER: 203721236

WELL / PROBEHOLE /  
 BOREHOLE NO: BH-36

Stantec ESPA-304/20  
 PAGE 1 OF 1

DRILLING / INSTALLATION: BH-36  
 STARTED 1600 COMPLETED: 1610  
 DRILLING COMPANY: N/A  
 DRILLING EQUIPMENT: Hand Auger  
 DRILLING METHOD: N/A  
 SAMPLING EQUIPMENT: Hand Auger

NORTHING (ft):  
 LAT: 60.752432  
 GROUND ELEV (ft):  
 INITIAL DTW (ft): N/A  
 STATIC DTW (ft): N/A  
 WELL CASING DIA. (in): N/A  
 LOGGED BY: RM

EASTING (ft):  
 LONG: -150.849135  
 TOC ELEV (ft): N/A  
 WELL DEPTH (ft): N/A  
 BOREHOLE DEPTH (ft): 1  
 BOREHOLE DIA. (in): 2  
 CHECKED BY: JM

Time & Depth (feet)	Graphic Log	USCS	Description	Sample	Time Sample ID	Measured Recov. (feet)	Blow Count	Headspace PID (units)	Depth (feet)
0.5			Root mass						
1	PT		Fibric peat	1610	BH-36-0.9-1	100%		10	
			Refusal 1' bgs on cobble						









