



Tesoro Alaska Company LLC

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August 30, 2021

Ms. Janice E. Palumbo
Environmental Compliance Specialist
Office of Solid Waste and Emergency Response
RCRA Permitting Unit
U.S. Environmental Protection Agency, Region 10
1200 Sixth Avenue
Seattle, WA 98101

Submitted via email
Palumbo.jan@epa.gov

**RE: Submission of Quarterly Progress Report #21-3
Tesoro Alaska Company LLC
Kenai Refinery
EPA ID# AKD 048679682**

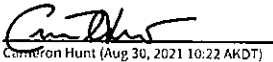
Dear Ms. Palumbo:

Enclosed is Tesoro Alaska's Kenai Refinery Quarterly Progress Report (QPR) Number 21-3, prepared per the requirements of Tesoro Alaska Company's Resource Conservation and Recovery Act (RCRA) Post-Closure Permit, issued on November 1, 2017 by the U.S. Environmental Protection Agency. This report describes activities conducted May through July 2021.

I certify under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violation.

Please contact Stephanie Plate of my staff (907) 776-2090 should you have questions or comments regarding the enclosed report.

Sincerely,


Cameron Hunt (Aug 30, 2021 10:22 AKDT)

Cameron Hunt
General Manager, Kenai Refinery

Enclosure- Quarterly Progress Report Number 21-3

CC via email: Peter Campbell, peter.campbell@alaska.gov, ADEC Soldotna Office
Tong Li, tongligws@comcast.net, ASE

Q21-3 Cover Letter

Final Audit Report

2021-08-30

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Quarterly Progress Report

No. 21-3

May, June, and July 2021

RCRA POST-CLOSURE PERMIT No. AKD 04867 9682

Tesoro Alaska Company, LLC

Kenai, Alaska

August 31, 2021



Table of Contents

1.0	INTRODUCTION	1-1
2.0	CORRECTIVE ACTIONS SUMMARY	2-1
2.1	Surface Impoundment (SI) Area	2-1
2.2	A-Aquifer.....	2-1
2.3	B-Aquifer.....	2-2
2.4	Upper Confined Aquifer (UCA).....	2-3
3.0	ADMINISTRATIVE ACTIVITIES	3-1
4.0	INDEX OF QPR APPENDICES	4-1
5.0	INDEX OF CAMPS.....	5-1

List of Tables

1. Water Level Data – Potentiometric Surface Elevations (*Placeholder – Not Included in Winter and Summer Reports*)
2. Analytical Results – Indicator Parameters (IPs)
- 3A. SI Air Sparge System Performance Data
- 3B. PRM Air Sparge System Performance Data
- 3C. Highway Air Sparge System Performance Data
4. Recovery Well Pumping Rates
5. Groundwater Injection Rates
6. UCA Industrial Pumping

List of Figures

1. Site Location Map, Tesoro Kenai Refinery, Kenai, Alaska
2. Area Designations and Corrective Action Systems, Tesoro Kenai Refinery, Kenai, Alaska
3. Diagrammatic Cross Section Illustrating Aquifer Identification, Tesoro Kenai Refinery, Kenai, Alaska

List of Appendices

- A. DATA VALIDATION AND LABORATORY REPORTS
 - A-1. DATA VALIDATION
 - A-2. LABORATORY REPORTS

List of Abbreviations and Acronyms

µg/L	micrograms per liter
AS	air sparge
BTEX	benzene, toluene, ethylbenzene, and xylenes
CAPP	corrective action program plan
CAMP	corrective action modification plan per Permit condition III.D.1
cfm	cubic feet per meter
COC	contaminant(s) of concern (Permit table 2)
COPC	contaminant(s) of potential concern (Permit table 8)
CSM	conception site model
EPA	Environmental Protection Agency
IP	indicator parameter(s) (Permit table 3)
LTF	Lower Tank Farm
Permit	Tesoro's Alaska refinery Part B Post-Closure Permit
PRM	Phillips Remedial Measure
psi	pounds per square inch
Q##-#	quarter (year-quarter)
QPR (##-#)	quarterly progress report (year-quarter)
UCA	upper confined aquifer
SI	surface impoundment
TCE	trichloroethene
Tesoro	Tesoro Alaska Company
VC	vinyl chloride

1.0 INTRODUCTION

Tesoro Alaska Company, LLC (Tesoro) is implementing the requirements outlined in the Region 10 Environmental Protection Agency (EPA) Post-Closure Permit No. AKD 04867 9682 (Permit) for Tesoro's refinery in Kenai, Alaska (Figure 1), effective November 1, 2017. Information regarding the performance of the EPA-approved groundwater corrective action program plan (CAPP) is provided herein and includes activities that were completed or in-progress during the May 2021 – July 2021 quarter (summer quarter).

In winter and summer quarters, Tesoro performs routine system monitoring, and sampling or gauging required by active corrective action modification plans (CAMPs). Winter and summer Quarterly Progress Reports (QPRs) are condensed to include only summaries of activities and systems data.

In spring and fall quarters, Tesoro performs comprehensive monitoring including gauging and sampling monitoring wells required by Permit Table 4 for indicator parameters (IPs), contaminants of concern (COCs), and/or contaminants of potential concern (COPCs), and additional wells required by active CAMPs. Spring and fall QPRs are more comprehensive and include data analysis, a summary of corrective action changes, potentiometric surface maps, semi-annual effectiveness demonstrations, and systems data.

Appendix A contains data validation laboratory data packages for analyses performed during the quarter.

2.0 CORRECTIVE ACTIONS SUMMARY

All Permit-required corrective action system performance criteria were met this quarter, except A and B-aquifer groundwater extraction rates and air sparge criteria at the surface impoundment (SI) area (discussed below). A brief summary of each corrective action area is presented in following sections. Figure 2 illustrates system location and area designations and Figure 3 shows aquifer designation in relation to overall site features. The SI area is in the A-aquifer but is discussed separately because of the disconnected and unique plume conditions. Analytical results are summarized in Table 2 and the laboratory report is included in Appendix A.

2.1 SURFACE IMPOUNDMENT (SI) AREA

Tesoro operated the SI air sparge (AS) system in accordance with Permit Table D-6. Table 3A presents SI AS system monitoring records required by Permit Table D-10. Flow in cubic feet per minute (cfm) and pressure in pounds per square foot (psi) were recorded weekly for each AS well. All performance criteria were met 5 of the 13 weeks. Performance criteria were not met due to a Bank 1 hardware error and system reading collection errors. AS system maintenance was performed, and the AS system was returned to normal operation.

Passive flux traps will be deployed for additional data collection in September of 2021 to supplement the mass flux evaluation provided in the Q21-1 Report and guide the future remediation approach. Passive flux traps will be deployed in four monitoring wells, SMW-34, SMW-I-1, SMW-31, and SMW-36 to match and verify data from mass flux transects established in the Mass Flux evaluation in the Q21-1 Report. Data from passive flux meters will include benzene, trichloroethene (TCE), 1,2-Dichloroethene (DCE), and vinyl chloride (VC). The Updated SI Area CAMP, planned to be submitted Q21-4, will include an updated assessment of SI Area conditions and preferred remedial alternative.

2.2 A-AQUIFER

The A-Aquifer groundwater extraction system was above the target 60 gallons per minute (gpm) for 12 of the 13 weeks. Groundwater extraction rates were not met the first week of July because the system was shut down for recovery well rehabilitation and maintenance on R-40 and R-41. The system was shut down for less than 10 days, so subsequent gauging was not required. Table 4 presents the groundwater extraction system flow rates and volumes, recorded weekly as required by Permit Table D-10. Table 5 presents groundwater injection rates, recorded weekly. The Calgon treatment system operated continuously during the quarter. The latest carbon replacement was completed on October 27, 2020.

Tesoro operated the Phillips Remedial Measure (PRM), Highway AS System and the Highway Vapor Extraction system during this quarter. All system data were collected in accordance with Permit Table D-6 except PRM readings and are provided in Tables 3B, 3C, and 6.

Tesoro collected six supplemental groundwater samples to monitor the southern portion of the benzene plume near E-072RR, three monitoring wells and three temporary piezometer wells. Three samples were collected down gradient of the Lower Tank Farm (LTF) area as part of the LTF AS shut-down requirements. Three samples were collected down gradient of the swamp, and one sample was collected down gradient of the Highway Air Sparge (HAS) Expansion to assess HAS system efficiency. Three additional samples were collected to monitor the benzene plume during the shutdown of R-21R. Discussion of the results will be provided in the next comprehensive Quarterly Report (Q21-4).

The beach seep area is checked daily during the ebbing tide to identify the presence of petroleum sheen seeps and mitigate sheen migration as needed. Continued updates will be included in the Kenai Refinery's Quarterly Progress Reports submitted to EPA. The Final Beach Seep CSM and an assessment of remedial alternatives was submitted on April 22, 2021. Tesoro plans to implement bio-sparging to increase oxygen content of source soils and groundwater and potentially speed NSZD rates along the bluff. The proposed bio-sparge well installation is tentatively scheduled for September 2021.

2.3 B-AQUIFER

Tesoro operated the B-Aquifer groundwater extraction system in accordance with Permit Table D-6. Table 4 presents the groundwater extraction system monitoring records required by Permit Table D-10. Flow and volume were recorded weekly for each pumping well. Table 5 presents groundwater injection rates, recorded weekly. Performance criteria were met 12 out of 13 weeks. Groundwater extraction rates were not met the first week of July because the system was shut down for recovery well rehabilitation and maintenance on R-54, R-55, and R-56. The system was shut down for less than 10 days, so subsequent gauging was not required.

Three supplemental groundwater samples were collected from the northern portion of the B-Aquifer to monitor the northern boundary. One sample was collected down gradient of the Highway Air Sparge Expansion to assess system efficiency. Two groundwater samples were collected from two newly installed wells located on the bluff, to further assess the beach seep sheen (Appendix B). Discussion of the results will be provided in the next comprehensive Quarterly Report (Q21-4).

Implementing the planned HAS expansion, called West Highway Air Sparge (WAS), which includes deep (B-Aquifer) air sparging, has been in progress and anticipated for a Fall of 2021 startup.

2.4 UPPER CONFINED AQUIFER (UCA)

Industrial pumping rates for the UCA wells and total volume are presented in Table 7.

No supplemental wells were sampled in the UCA.

3.0 ADMINISTRATIVE ACTIVITIES

Activity

None

Summary

None

Upcoming Activities

None

Summary

None

4.0 INDEX OF QPR APPENDICES

QPR NO.	QUARTER	APPENDIX
QPR 01	Nov-Dec 95-Jan 96	A - Laboratory Analytical Reports B - Groundwater Velocity Calculations C - Daily Ground Water Recovery Totals D - Biannual Assessment of Effectiveness of Corrective Actions
QPR 02	Feb-Mar-Apr 96	A - Laboratory Analytical Reports B - Daily Ground Water Recovery Totals
QPR 03	May-Jun-Jul 96	A - Boring Logs and Well Completion Diagrams for New Piezometers; Revised Permit Figures 3 and 4 B - Boring Log and Well Completion Diagram for New Recovery Well R-45; Revised Permit Figure 2 C - Laboratory Analytical Reports D - Groundwater Velocity Calculations E - Daily Ground Water Recovery Totals F - Workplans for Pilot Testing Alternate Groundwater Treatment Actions G - Biannual assessment of Effectiveness of Corrective Actions
QPR 04	Aug-Sep-Oct 96	A - Laboratory Analytical Reports and Data Validation Memoranda B - Groundwater Velocity Calculations C - Daily Ground Water Recovery Totals D - PRC Environmental Management, Inc. Correspondence and Response
QPR 05	Nov-Dec 96-Jan 97	A - Additional Gauging Data B - Data Validation Summary and Laboratory Reports C - Comparison of Sample Handling Methods on Dissolved Lead Concentrations D - Daily Groundwater and Product Recovery Totals
QPR 06	Feb-Mar-Apr 97	A - Data Validation Summary and Laboratory Reports B - Daily Groundwater and Product Recovery Totals C - Well E-72 Replacement and Abandonment Report D - Well E-103B Installation Report E - Piezometer P-45 Installation Report F - Revised Survey Data

QPR NO.	QUARTER	APPENDIX
		<ul style="list-style-type: none"> G - Notification Letters H - Revised Permit Tables and Figures I - Well E-17 Replacement and Abandonment Report
QPR 07	May-Jun-Jul 97	<ul style="list-style-type: none"> A - Additional Gauging Data B - Summary of Analytical Data C - Data Validation Summary and ARI Laboratory Reports D - Data Validation Summary and MAS Laboratory Reports E - Revised Groundwater Contour Maps F - Daily Groundwater and Product Recovery Totals G - ADEC Notification Letters H - New Survey Data I - Additional Analytical Data for E-122 and SPZ-3 J - E-77 Investigation Borehole and Monitoring Well Location Map K - Responses to EPA Comments L - Revised Permit Tables and Figures M - Boring and Well Construction Logs (E-101B, E-121B, E-137B, E-168, 97B-23)
QPR-08	Aug-Sep-Oct 97	<ul style="list-style-type: none"> A - Additional Gauging Data B - Summary of Analytical Data C - Data Validation Summary and Laboratory Reports D - Daily Groundwater and Product Recovery Totals E - Notification Letter F - Interim Measures Data G - Beach Inspection Log
QPR-09	Nov-Dec 97-Jan 98	<ul style="list-style-type: none"> A - Quarterly Gauging Data B - Summary of Analytical Data C - Data Validation Summary and Laboratory Reports D - Daily Groundwater and Product Recovery Totals E - New Survey Data F - Notification Letter G - Interim Monitoring Program Data H - Boring and Well Construction Logs (E-173, E-174)

QPR NO.	QUARTER	APPENDIX
QPR-10	Feb-Mar-Apr 98	A - Quarterly Gauging Data B - Summary of Analytical Data C - Data Validation Summary and Laboratory Reports D - Daily Groundwater and Product Recovery Totals E - SPZ-1 and SPZ-2 Well Construction Diagrams F - ADEC Notification Letters G - Interim Monitoring Program Data H - New Survey Data I - Well Installation Report (R-46 To R-49; P-46 To P-49; E-173, -175, -176) J - Response to EPA Comments (regarding QPR 7)
QPR 11	May-Jun-Jul 98	A - Quarterly Gauging Data B - Summary of Analytical Data C - Data Validation Summary and Laboratory Reports D - Daily Groundwater and Product Recovery Totals E - SI Area Laboratory Reports F - Well Installation Report (E-177A/B; SMW-29, -30) G - ADEC Notification Letters H - Interim Measures Monitoring Data and Beach Logs I - PM Area Lab Reports J - Revised Permit Figures
QPR 12	Aug-Sep-Oct 98	A - Quarterly Gauging Data B - Summary of Analytical Data C - Data Validation Summary and Laboratory Reports D - Daily Groundwater and Product Recovery Totals E - Interim Monitoring Program Data F - Well Installation Report (E-178 To E-183) G - ADEC Notice of Violation #98-075 H - Revised Permit Figure 4 and Table 1B
QPR 13	Nov-Dec 98-Jan 99	A - Quarterly Gauging Data B - Summary of Analytical Data C - Data Validation Summary and Laboratory Reports D - Daily Groundwater and Product Recovery Totals E - Interim Monitoring Program Data

QPR NO.	QUARTER	APPENDIX
		<ul style="list-style-type: none"> F - ADEC Notification Letter G - Well Installation & Abandonment Report (E-182 to E-194; Abandon E-39) H - Revised Permit Figure 4 and Permit Table 1D
QPR 14	Feb-Mar-Apr 99	<ul style="list-style-type: none"> A - Quarterly Gauging Data B - Summary of Analytical Data C - Data Validation Summary and Laboratory Reports D - Daily Groundwater and Product Recovery Totals E - Expanded Interim Monitoring Program Data F - Well Installation Report (E-195 to E-201) G - Sheetpile Wall Monitoring Points Survey Data H - Boardwalk Plume Corrective Action Modification Plan I - Revised Permit Figure 4 J - Revised Permit Attachment DD - Security Plan K - Revised Permit Attachment EE - Inspection Plan J - Revised Permit Attachment FF - Training Plan
QPR 15	May-Jun-Jul 99	<ul style="list-style-type: none"> A - Quarterly Gauging Data B - Summary of Analytical Data C - Data Validation Summary and Laboratory Reports D - Daily Groundwater and Product Recovery Totals E - Expanded Interim Monitoring Program Data F - ADEC Notification Letters G - Well Installation Report (E-202 to E-208) H - Revised Permit Tables I - Revised Permit Figures J - Boardwalk Plume Corrective Action Modification Report K - E-77 Area Investigation Report
QPR 16	Aug-Sep-Oct 99	<ul style="list-style-type: none"> A - Quarterly Gauging Data B - Summary of Analytical Data C - Data Validation Summary and Laboratory Reports D - Daily Groundwater and Product Recovery Totals E - Expanded Interim Monitoring Program Data F - ADEC Notification Letters G - Revised Permit Table 1B

QPR NO.	QUARTER	APPENDIX
		H - Well Installation Report (E-209, -210; TW-5)
		I - Revised Permit Attachment GG - Contingency Plan
QPR 17	Nov-Dec 99-Jan 2000	A - Quarterly Gauging Data
		B - Summary of Analytical Data
		C - Data Validation Summary and Laboratory Reports
		D - Daily Groundwater and Product Recovery Totals
		E - Expanded Interim Monitoring Program Data
		F - ADEC Compliance Reports
		G - Well Installation Report (E-211 to E-214; I-1 to I-5; PI-1, -4, -5)
		H - Response to EPA Comments
		I - Revised Permit Figure 4
		J - Revised Permit Attachment EE - Inspection Plan
QPR 18	Feb-Mar-Apr 2000	A - Quarterly Gauging Data
		B - Summary of Analytical Data
		C - Data Validation Summary and Laboratory Reports
		D - Daily Groundwater and Product Recovery Totals
		E - Expanded Interim Monitoring Program Data
		F - ADEC Compliance Reports
		G - SI Area Supplemental Sampling Report
		H - Injection System Startup Report - E-150 Lobe Area
		I - Well Installation Report (DW-1; O-1 to O-7)
		J - Revised Permit Figure 4
		K - Revised Permit Attachment GG - Contingency Plan
QPR 19	May-Jun-Jul 2000	A - Quarterly Gauging Data
		B - Summary of Analytical Data
		C - Data Validation Summary and Laboratory Reports
		D - Daily Groundwater and Product Recovery Totals
		E - Expanded Interim Monitoring Program Data
		F - UCA Potentiometric Surface Elevation Correction Procedures
		G - ADEC Notification Letters
		H - Monitoring Well Installation Report (E-215 to E-218A/B)
		I - Corrective Action Modification Assessment Report; Boardwalk Plume
		J - E-77 Supplemental Monitoring Report

QPR NO.	QUARTER	APPENDIX
QPR 20	Aug-Sep-Oct 2000	K - Wharf Lobe Supplemental Sampling Report
		L - Revised Permit Figure 4
		M - Revised Permit Attachment FF - Training Plan
		A - Quarterly Gauging Data
		B - Summary of Analytical Data
		C - Data Validation Summary and Laboratory Reports
		D - Daily Groundwater and Product Recovery Totals
		E - Expanded Interim Monitoring Program Data
QPR 21	Nov-Dec 2000-Jan 01	F - ADEC Notification Letters
		A - Quarterly Gauging Data
		B - Summary of Analytical Data
		C - Data Validation Summary and Laboratory Reports
		D - Daily Groundwater and Product Recovery Totals
		E - Expanded Interim Monitoring Program Data
		F - ADEC Compliance Reports
		G - Monitoring Well Installation Report (E-224 - E-227; R-50 - R-53; P-50 - P-53; TW-5A; I-6 - I-9; PI-6A - PI-9)
Separate Submittal	Nov. 16, 2000	H - Revised Permit Figure 4
		<i>B-Aquifer Interim Corrective Measures Plan</i> [EPA approval dated Jan. 30, 2001]
QPR 22	Feb-Mar-Apr 01	A - Quarterly Gauging Data
		B - Summary of Analytical Data
		C - Data Validation Summary and Laboratory Reports
		D - Daily Groundwater and Product Recovery Totals
		E - Expanded Interim Monitoring Program Data
		F - ADEC Notification Letters
		G - B-Aquifer Interim Corrective Measures Startup Report
		H - A-Aquifer Supplemental Corrective Measures Plan
QPR 23	May-Jun-Jul 01	I - Revised Permit Tables and Figures
		A - Data Validation and Lab Reports
		B - Well Installation Report (E-228, RR2AS to RR-6AS, RR-8AS to RR-17AS, RR-14SVE

QPR NO.	QUARTER	APPENDIX
		C - Well Decommissioning Report (E-E, E-13, E-113, E-124, DW-1, O-1, O-3, O-6, O-7) D - Revised Permit Documents E - B-Aquifer Corrective Measure and Monitoring Plan [EPA approval dated May 27, 2003] F - UCA Natural Attenuation Supplemental Sampling Report and Work Plan [EPA approval dated Feb. 18, 2003]
QPR 24	Aug-Sep-Oct 01	A - Data Validation and Lab Reports B - Revised Permit Documents
QPR 25	Nov-Dec 01-Jan 02	A - Data Validation and Lab Reports B - Well Installation Report C - E-228 Investigation Report
QPR 26	Feb-Mar-Apr 02	A - Data Validation and Lab Reports B - E-228 CAMP Investigation Status Report C - Startup Monitoring Report for Lower Tank Farm (LTF) Supplemental Corrective Measure (SCM)
QPR 27	May-Jun-Jul 02	A - Data Validation and Lab Reports B - Well Installation Report for Wells E-231 and E-232A/B and Borehole 02B-01 C - E-228 Corrective Action Modification Plan (CAMP) Report D - Research of Sample E-38 (Collected on 9/12/01) for the Presence of 1,2-Dichloroethane (1,2-DCA)
QPR 28	Aug-Sep-Oct 02	A - Data Validation and Lab Reports B - Revised Permit Documents C - Research of Sample E-38 (Collected on 9/12/01) for the Presence of 1,2-Dichloroethane (1,2-DCA)
QPR 29	Nov-Dec 02-Jan 03	A - Data Validation and Lab Reports B - Assessment of Quarter 28 Analytical Data from Wells E-137B and E-161
QPR 30	Feb-Mar-Apr 03	A - Data Validation and Lab Reports B - Revised Permit Table 4
QPR 31	May-Jun-Jul 03	A - Data Validation and Lab Reports

QPR NO.	QUARTER	APPENDIX
QPR 32	Aug-Sep-Oct 03	A - Data Validation and Lab Reports B - Compilation of Historical Analytical Data for Selected Wells
QPR 33	Nov-Dec 03-Jan 04	A - Data Validation and Lab Reports B - Compilation of Historical Analytical Data for Selected Wells
QPR 34	Feb-Mar-Apr 04	A - Data Validation and Lab Reports B - Compilation of Historical Analytical Data for Selected Wells C - Response of Unconfined Aquifer to the Shut Down of the SI Corrective Measure D - Environmental Indicator Determination Information
QPR 35	May-Jun-Jul 04	A - Data Validation and Lab Reports B - Well E-112 Abandonment Report
QPR 36	Aug-Sep-Oct 04	A - Data Validation and Lab Reports
Separate Submittal	Aug. 4, 2004	<i>No-Purge Groundwater Sampling Evaluation and Plan</i> [EPA approval dated Feb. 14, 2005]
QPR 37	Nov-Dec 04-Jan 05	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter
QPR 38	Feb-Mar-Apr 05	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - Supplemental Corrective Measure Work Plan, SI Area Air Sparging System [EPA approval dated Aug. 11, 2005]
QPR 39	May-Jun-Jul 05	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - Well Installation Report (SMW31, -32, -33, and SAS-01 Through -25)
QPR 40	Aug-Sep-Oct 05	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - FFS for the SI Air Sparge Supplemental System
QPR 41	Nov-Dec 05-Jan 06	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter
QPR 42	Feb-Mar-Apr 06	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter

QPR NO.	QUARTER	APPENDIX
		<ul style="list-style-type: none"> C - Response of Unconfined Aquifer to the Shut Down of the SI Corrective Measure D - Revised Permit Table 4 E - Well Abandonment Report (IWS-1, IWS-2, SMW-I-3)
QPR 43	May-Jun-Jul 06	<ul style="list-style-type: none"> A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - Well Installation Report for PIRM Air Sparge Wells PAS-01 through PAS-15
QPR 44	Aug-Sep-Oct 06	<ul style="list-style-type: none"> A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - Response of Unconfined Aquifer to the Shut Down of the PIRM Corrective Measure
QPR 45	Nov-Dec 06-Jan 07	<ul style="list-style-type: none"> A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter
QPR 46	Feb-Mar-Apr 07	<ul style="list-style-type: none"> A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - Corrected Permit figure 5
QPR 47	May-Jun-Jul-07	<ul style="list-style-type: none"> A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - Well Installation Report for Injection Wells I-6A through I-9A
QPR 48	Aug-Sep-Oct-07	<ul style="list-style-type: none"> A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - Monitored Natural Attenuation Implementation Plan, Wharf Lobe Corrective Measure [EPA approval dated Feb. 25, 2008] D - Revised Permit Table 5 and Permit Figure 12
QPR 49	Nov-Dec 07-Jan 08	<ul style="list-style-type: none"> A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter
QPR 50	Feb-Mar-Apr 08	<ul style="list-style-type: none"> A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - Revised Permit Table 4 and Permit Figure 6

QPR NO.	QUARTER	APPENDIX
QPR 51	May-Jun-Jul 08	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - PIRM Air Sparging Startup Report D - Well Installation Report – Recovery Wells R-50R, R-51R, and R-52R
QPR 52	Aug-Sep-Oct-08	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - Well Installation Report – Production Well TW-8 D - Progress Report – B-Aquifer CAMP
Separate Submittal	Aug. 21, 2008	<i>Corrective Action Modification Plan for the B-Unconfined Aquifer</i> [EPA approval dated Aug. 28, 2008]
QPR 53	Nov-Dec 08-Jan 09	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - 2009 SI Corrective Action Modification and Monitored Natural Attenuation Validation Plan D - 2009 PIRM Air Sparge Transition Plan E - Class 1 Permit Modifications, Revised Table D-6
QPR 54	Feb-Mar-Apr 09	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - Corrective Action Modification Plan (CAMP) for UCA Well E-198 D - Revised Permit tables 5 and D-6
QPR 55	May-Jun-Jul 09	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - 2009 SI Corrective Action Modification and Monitored Natural Attenuation Validation Plan (Revised 7/29/09) [EPA approval dated Aug. 6, 2009] D - Beach Seep Sample Location Map
QPR 56	Aug-Sep-Oct 09	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - Well Installation Report: Monitoring Wells E-234A&B, E-235A&B, & E-236 and Air Sparge Wells HAS-01 through HAS-17
Separate submittal	Feb 4, 2010	<i>2009 PIRM Air Sparge Media Transfer Evaluation Report</i>

QPR NO.	QUARTER	APPENDIX
QPR 57	Nov-Dec 09-Jan 10	<p>A - Data Validation and Lab Reports</p> <p>B - Historical Data for the Monitoring Wells Sampled this Quarter</p> <p>C - 2009 PIRM Air Sparge Media Transfer Evaluation Report (previously submitted Feb. 4, 2010)</p>
Separate submittal	May 7, 2010	<p>2009 PIRM SVE System and Air Sparge System Expansion Work Plan [EPA comments dated May 27, 2010]</p>
QPR 58	Feb-Mar-Apr 10	<p>A - Data Validation and Lab Reports</p> <p>B - Historical Data for the Monitoring Wells Sampled this Quarter</p> <p>C - SI 2010 TCE Corrective Action Modification Plan (CAMP) [EPA comments and conditional approval, dated August 25, 2010] (Plan revised & re-submitted in QPR 60)</p>
-		<p>D - PM 2010 Highway AS/SVE Interim Measures Plan (IMP)</p> <p>E - PIRM 2010 AS/SVE Pilot Test Plan [EPA comments and conditional approval, dated August 9, 2010]</p> <p>F - Wharf 2010 Standby Plan</p>
QPR 59	May-Jun-Jul 10	<p>A - Data Validation and Lab Reports</p> <p>B - Historical Data for the Monitoring Wells Sampled this Quarter</p> <p>C - SI Well Installation Report – Monitoring Wells SMW-34 and SMW-35</p> <p>D - PM/PIRM Well Installation Report – Monitoring Wells E-237 and E-238; Soil Vapor Extraction Wells HSVE-1 through HSVE-6 and PSVE-6; Soil Vapor Monitoring Points (HMVP-1 through HMVP-3); and Air Sparge Wells PAS-16 through PAS-2</p> <p>E - Revised PIRM 2010 SVE Pilot Test and Air Sparge System Expansion Work Plan, (red-lined version submitted on August 13, 2010) [EPA approval dated August 23, 2010]</p> <p>F - Revised Table 5B (Quarterly Progress Report 54) and Table 5C (Quarterly Progress Report 58)</p>
Separate submittal	August 13, 2010	<p>Revised PIRM 2010 SVE Pilot Test and Air Sparge System Expansion Work Plan (redline version) <u>and</u> Response to EPA Comments dated August 9, 2010 [EPA approval dated August 23, 2010]</p>
QPR 60	Aug-Sep-Oct 10	<p>A - Data Validation and Lab Reports</p> <p>B - Historical Data for the Monitoring Wells Sampled this Quarter</p>

QPR NO.	QUARTER	APPENDIX
		<p>C - <i>REVISED SI 2010 Potassium Permanganate In-Situ Chemical Oxidation (ISCO) Pilot Test</i>, (originally submitted in QPR 58)</p> <p>[EPA comments and conditional approval, dated August 25, 2010]</p>
QPR 61	Nov-Dec 10-Jan 11	<p>A - Data Validation and Lab Reports</p> <p>B - Historical Data for the Monitoring Wells Sampled this Quarter</p> <p>C - <i>SI 2010 TCE Potassium Permanganate In-situ Chemical Oxidation (ISCO) Report</i></p> <p>D - <i>PM 2011 Highway AS/SVE System Installation and Operation Work Plan</i></p>
Separate submittal	May 27, 2011	<i>Soil Vapor Extraction System Startup Report, PIRM Area</i> , dated May 25, 2011.
QPR 62	Feb-Mar-Apr 11	<p>A - Data Validation and Lab Reports</p> <p>B - Historical Data for the Monitoring Wells Sampled this Quarter</p> <p>C - <i>Soil Vapor Extraction System Startup Report, PIRM Area</i> dated May 25, 2011 (submitted previously on May 27, 2011).</p> <p>[EPA comments dated October 21, 2011]</p>
Separate submittal	July 26, 2011	<i>Final PM 2011 Highway Area ASSVE System Installation and Operation Work Plan – Phase 1</i> , dated July 25, 2011.
QPR 63	May-Jun-Jul 11	<p>A - Data Validation and Lab Reports</p> <p>B - Historical Data for the Monitoring Wells Sampled this Quarter</p> <p>C - <i>Final PM 2011 Highway Area ASSVE System Installation and Operation Work Plan – Phase 1</i> dated July 25, 2011 (previously submitted on July 26, 2011) [EPA approval dated July 28, 2011]</p>
QPR 64	Aug-Sep-Oct 11	<p>A - Data Validation and Lab Reports</p> <p>B - Historical Data for the Monitoring Wells Sampled this Quarter</p> <p>C - <i>Well Abandonment Report, SI Monitoring Well SMW-13</i></p>
QPR 65	Nov-Dec 11-Jan 12	<p>A - Data Validation and Lab Reports</p> <p>B - Historical Data for the Monitoring Wells Sampled this Quarter</p> <p>C - <i>Final PM 2011 Highway Area AS/SVE System Installation and Operation Work Plan – Phase 1</i> (submitted February 6, 2012)</p>
Separate submittal	February 6, 2012	<i>Final PM 2011 Highway Area AS/SVE System Installation and Operation Work Plan – Phase 1</i>
Separate submittal	May 16, 2012	<i>PM Highway Area AS/SVE System Phase 1 Startup Report</i>

QPR NO.	QUARTER	APPENDIX
QPR 66	Feb-Mar-Apr 2012	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - <i>PM Highway Area AS/SVE System Phase 1 Startup Report</i>
QPR 67	May-Jun-Jul 2012	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - B-Aquifer Potentiometric Surface Elevation Maps, June 5 and June 28, 2012 D - Revised Permit Figures 2, 3, and 4
Separate submittal	October 9, 2012	<i>Memorandum: PIRM Area Deep Benzene Plume (DBP) Update</i> , (electronically submitted to EPA on October 16, 2012). [EPA comments and conditional approval, dated November 6, 2012]
QPR 68	Aug-Sept-Oct 2012	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - <i>2012 SI TCE Corrective Action Modification Plan (CAMP)</i> D - PIRM SVE Capture Evaluation Data
QPR 69	Nov-Dec 12-Jan 13	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - <i>Well Installation Report: E-239, E-240, E-242, E-243, PAS-21 through PAS-32, PAS-21R, PSVE-7, PVMP-1</i>
QPR 70	Feb-Mar-Apr 2013	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - <i>Well Installation Report: Production Well TW-2B</i> D - Revised Permit Table 4
Separate submittal	May 14, 2013	Letter to EPA with proposed deep benzene plume (DBP) interim measures [EPA approval and additional comments, dated August 14, 2013]
QPR 71	May-Jun-Jul 2013	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - <i>Well Installation Report: E-244, E-245A/B, PAS-34, PSVE-8</i> D - <i>2013 Deep Benzene Plume (DBP) Response Report</i>
QPR 72	Aug-Sept-Oct 2013	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter

QPR NO.	QUARTER	APPENDIX
Separate submittal	September 12, 2013	<i>Response to EPA Comments Dated August 14, 2013, Tesoro PIRM Deep Benzene Plume</i>
QPR 73	Nov-Dec 13-Jan 14	<p>A - Data Validation and Lab Reports</p> <p>B - Historical Data for the Monitoring Wells Sampled this Quarter</p> <p>C - <i>Well Installation Report: Highway System Wells: E-246A/B, HAS-18 through HAS-21, HSVE-8, HVMP-10 and HVMP-11</i></p> <p>D - <i>PM Swamp Corrective Action Modification Plan (CAMP)</i></p>
QPR 74	Feb-Mar-Apr 2014	<p>A - Data Validation and Lab Reports</p> <p>B - Historical Data for the Monitoring Wells Sampled this Quarter</p> <p>C - <i>Well Installation and Abandonment Report: Highway System Wells: Monitoring Wells E-077RR, E-247A/B, and E-248A/B, Air Sparge Wells HAS-23 and HAS-24, and Abandoned Well E-077R</i></p>
Separate submittal	April 21, 2014	<i>PM Swamp CAMP Update</i> [EPA approval and additional comments, dated June 5, 2014]
Class 2 Permit Mod Request	May 28, 2014	<i>Request for Class 2 Permit Modification</i> for allowing A-aquifer groundwater to be treated in the Calgon granulated activated carbon (GAC) unit [EPA approval, dated September 16, 2014]
Class 1 Permit Modification	July 24, 2014	<i>Class 1 Permit Modification</i> for change in company name to Tesoro Alaska Company, LLC
Separate submittal	August 8, 2014	<i>PM Swamp CAMP Update</i>
QPR 75	May-Jun-Jul 2014	<p>A - Data Validation and Lab Reports</p> <p>B - Historical Data for the Monitoring Wells Sampled this Quarter</p> <p>C - <i>PM Swamp CAMP Report</i></p>
Separate submittal	August 11, 2014	<i>August PM Swamp CAMP Memo</i> to EPA
QPR 76	Aug-Sept-Oct 2014	<p>A - Data Validation and Lab Reports</p> <p>B - Historical Data for the Monitoring Wells Sampled this Quarter</p> <p>C - <i>E-219 CAMP, Restarting the Lower Tank Farm (LTF) Air Sparge and Soil Vapor Extraction (AS/SVE) System</i></p>
QPR 77	Nov-Dec 14-Jan 15	<p>A - Data Validation and Lab Reports</p> <p>B - Historical Data for the Monitoring Wells Sampled this Quarter</p>

QPR NO.	QUARTER	APPENDIX
		<ul style="list-style-type: none"> C - SI Potentiometric Contour Maps D - Revised Permit Table 4 E - <i>Well Installation Report – Monitoring Wells MW-93A/B, Recovery Wells R-54 and R-55</i> F - <i>2015 B-Aquifer Corrective Action Modification Plan (CAMP)</i>
QPR 78	Feb-Mar-Apr 2015	<ul style="list-style-type: none"> A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - <i>SI Potentiometric Surface Contour Map, April 2015</i> D - Revised Permit Table 4
QPR 79	May-Jun-Jul 2015	<ul style="list-style-type: none"> A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - SI Potentiometric Surface Contour Map
QPR 80	Aug-Sept-Oct 2015	<ul style="list-style-type: none"> A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter
Separate submittal	November 5, 2015	<i>R-21 Replacement Well Screen Depth</i> [EPA approval e-mail dated November 5, 2015]
Separate submittal	January 13, 2016	<i>Recovery Well R-21R and R-56 Installation Work Plan</i>
Separate submittal	January 22, 2016	<i>Work Plan for Well Installation: E-249 to E-254, TPZ-1 to TPZ-4, and Replacement for E-064</i>
QPR 16-1 (81)	Nov-Dec 15, Jan 16	<ul style="list-style-type: none"> A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - SI Area Data Review and Plan for Remedy Enhancement D - Modeling Feasibility Study of B-aquifer Plume Capture Alternatives
QPR 16-2	Feb-Mar-Apr 2016	<ul style="list-style-type: none"> A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - <i>SI Potentiometric Surface Contour Map, March 2016</i> D - Decommissioning Report E - R-21R Aquifer Testing Work Plan

QPR NO.	QUARTER	APPENDIX
QPR 16-3	May-Jun-Jul 2016	A - Data Validation and Lab Reports B - Historical Analytical Data C - Well Installation Report D - R-21R Aquifer Testing Report
Separate Submittal	September 29, 2016	<i>RCRA Post-Closure Permit 10-year Renewal Application</i>
Separate Submittal	October 5, 2016	<i>Proposal for SVE System Shut-Down</i>
QPR 16-4	Aug-Sep-Oct 2016	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - Air Optimization Test Results for SI Area D - Maps and Hydrographs for Injection Trench Area
QPR 17-1	Nov-Dec '16, Jan '17	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - Well Installation Information
QPR 17-2	Feb-Mar-Apr 2017	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - LTF CAMP
QPR 17-3	May-June-July 2017	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter
Separate Submittal	September 7, 2017	SI Area Pilot Study Work Plan Approval [EPA/ADEC approval e-mail dated September 7, 2017]
Separate Submittal	October 31, 2017	Treated Groundwater Injection Plan [ADEC approval e-mail dated October 31, 2017]
QPR 17-4	Aug-Sept-Oct 2017	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - Installation Report D - Decommissioning Report E - 2017 B-Aquifer CAMP
QPR 18-1	Nov-Dec 17, Jan 18	A - Data Validation and Lab Reports

QPR NO.	QUARTER	APPENDIX
QPR 18-2	Feb-Apr 2018	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter
QPR 18-3	May-July 2018	A - Data Validation and Lab Reports B - SI Area Remedy Enhancement Pilot Study Interim Report C - R-51RR Well Replacement Installation Report
QPR 18-4	May-July 2018	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - SI Area Remedy Enhancement Pilot Study Interim Report
Separate Submittal	Feb 7, 2019	Cook Inlet Bluff Sheet Pile Wall Inspection, Maintenance and Pending Repair or Replacement
QPR 19-1	May-July 2018	A - Data Validation and Lab Reports B - Southern Plume Review
Separate Submittal	March 26, 2019	Sheet Pile Wall Beach Sheet Notification Letter
Separate Submittal	April 15, 2019	Table 2B Revision for Quarterly Report 18-2
Separate Submittal	May 7, 2019	Sheet Pile Wall Beach Sheen 60-Day Report
QPR 19-2	Feb-Apr 2019	A - Data Validation and Lab Reports B - SI Area Remedy Enhancement Pilot Study Interim Report C - Time Plots D - SI Interim Report E - LTF Report
QPR 19-3	May-July 2019	A - Data Validation and Lab Reports
QPR 19-4	Aug-Oct 2019	B - Historical Data for the Monitoring Wells Sampled this Quarter C - Time Plots D - Well Installation Site Plans
QPR 20-1	Nov 2019-Dec 2020	A - Data Validation and Lab Reports B - Well Installation and Decommissioning Report C - Kenai Beach Sheen

QPR NO.	QUARTER	APPENDIX
QPR 20-2	Feb-Apr 2020	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - Concentrations/Depth to Groundwater versus Time Graphs D - SI Interim Report
QPR 20-3	May-July 2020	A - Data Validation and Lab Reports
QPR 20-4	Aug-Oct 2020	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - Concentrations/Depth to Groundwater versus Time Graphs D - SI Interim Report
QPR 21-1	Nov 2020-Jan 2021	A - Data Validation and Lab Reports B - SI Area Mass Flux Evaluation
Separate Submittal	November 13, 2020	Updated Conceptual Site Model and Remedial Alternatives Evaluation for the 1987 Hot Oil Pipeline Release
QPR 21-2	Feb-Apr 2021	A - Data Validation and Lab Reports B - Historical Data for the Monitoring Wells Sampled this Quarter C - Concentrations/Depth to Groundwater versus Time Graphs D - R-56 Well Replacement Installation Report
Separate Submittal	April 22 2021	Updated Conceptual Site Model and Remedial Alternatives Evaluation for the 1987 Hot Oil Pipeline Release Revision 2
QPR 21-3	May-July 2021	A - Data Validation and Lab Reports

5.0 INDEX OF CAMPS

CAMP	Summary	Status
1999 Boardwalk Plume Lobe CAMP	Modify the corrective measures system to more effectively meet the performance standards for the boardwalk plume.	Closed
2000 B-Aquifer Interim Corrective Measures Plan	Installation of groundwater pumping and injection systems.	Closed
2001 B-Aquifer Corrective Measure and Monitoring Plan	Describes required water level monitoring, water quality monitoring, and treatment monitoring.	Included in Permit
2002 E-228 CAMP	Evaluation if E-228 was within capture zone, including source area evaluation, natural attenuation evaluation, and groundwater flow and capture zone evaluation.	Updated in 2013 and Subsequently Closed
2009 CAMP for UCA Well E-198	Evaluation of elevated benzene concentrations in E-198, including pressurization test and supplemental sampling.	Updated in 2013 and Subsequently Closed
2009 SI CAMP	Air sparge combined with natural attenuation as the corrective measure for the SI plume.	Included in Permit
2012 SI TCE CAMP	System maintenance and additional sampling of downgradient wells to evaluate the effectiveness of the actions.	Active
2013 B-Aquifer CAMP	Address dissolved-phase contamination that occurs in the B-aquifer and lower portion of the merged UCA.	Updated in 2015
2013 E-228 CAMP	Evaluation if E-228 was within capture zone, including source area evaluation, natural attenuation evaluation, and groundwater flow and capture zone evaluation.	Closed
2013 E-198 CAMP	Evaluation of elevated benzene concentrations in E-198, including pressurization test and supplemental sampling.	Closed

CAMP	Summary	Status
2014 PM Swamp CAMP	Additional surface water sampling, groundwater sampling, sediment sampling, and gauging.	Updated in 2014
2014 E-219 CAMP	Lower Tank Farm AS/SVE restart.	Updated in 2017
2014 PM Area Swamp CAMP Update	Expansion of air sparge system, installation of monitoring wells, additional groundwater, and surface water sampling, and additional gauging.	Active
2015 B-Aquifer CAMP	New recovery wells, well redevelopment, pipeline modifications, additional gauging and capture evaluation, and additional sampling.	Updated in 2017
2017 LFT CAMP	Lower Tank Farm AS/SVE restart and monitoring.	Closed
2017 B-Aquifer CAMP	New recovery wells, monitoring wells, pumping rates and monitoring.	Active

TABLES

TABLE 1. WATER LEVEL DATA – POTENTIOMETRIC SURFACE ELEVATIONS

PLACEHOLDER

TABLE 1. NOT REQUIRED IN WINTER AND SUMMER QUARTERS

**TABLE 2. ANALYTICAL RESULTS - INDICATOR PARAMETERS
QUARTER 21-3**

Well ID	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Xylenes, Total (µg/L)	Trichloro-ethene (µg/L)	Vinyl Chloride (µg/L)
E-010	06/25/21	2860	140	75	786	--	--
E-072RR	06/25/21	1990	ND(15.5)	455	1180	--	--
E-097	06/24/21	792	ND(3.1)	ND(3.1)	ND(9.3)	--	--
E-152	06/22/21	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)	--	--
E-162	06/23/21	38.2	ND(0.31)	ND(0.31)	ND(0.93)	--	--
E-168	06/23/21	15.8	ND(0.31)	ND(0.31)	ND(0.93)	--	--
E-187B	06/22/21	7.46	ND(0.31)	ND(0.31)	ND(0.93)	--	--
E-217A	06/22/21	1.1	ND(0.31)	2.19	5.29	--	--
E-227	06/24/21	1180	ND(15.5)	364	700	--	--
E-244	06/22/21	0.58	ND(0.31)	ND(0.31)	ND(0.93)	--	--
E-247A	06/23/21	54.4	ND(0.31)	ND(0.31)	ND(0.93)	--	--
E-247B	06/23/21	18.3	ND(0.31)	ND(0.31)	ND(0.93)	--	--
E-249A	06/24/21	1230	ND(15.5)	ND(15.5)	ND(46.5)	--	--
E-249B	06/24/21	707	ND(3.1)	ND(3.1)	ND(9.3)	--	--
E-249C	06/23/21	4.97	ND(0.31)	ND(0.31)	ND(0.93)	--	--
E-250A	06/24/21	742	ND(3.1)	ND(3.1)	ND(9.3)	--	--
E-250B	06/24/21	731	ND(3.1)	ND(3.1)	ND(9.3)	--	--
E-253	06/22/21	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)	--	--
E-255	06/24/21	462	ND(3.1)	ND(3.1)	ND(9.3)	--	--
E-256	06/25/21	2210	ND(15.5)	ND(15.5)	ND(46.5)	--	--
E-258	06/21/21	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)	--	--
MW-92	06/23/21	3.33	ND(0.31)	ND(0.31)	ND(0.93)	--	--
SMW-34	06/22/21	13.3	ND(0.31)	29.3	9.71	4	4.17
SMW-36	06/22/21	1.49	ND(0.31)	ND(0.31)	ND(1)	5.22	--
TPZ-1	06/21/21	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)	--	--
TPZ-2	06/21/21	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)	--	--
TPZ-4	06/21/21	ND(0.15)	ND(0.31)	ND(0.31)	ND(0.93)	--	--
TGPS		4.6	1,100	15	190	2.8	0.19

BOLD Results exceed TGPS

TGPS Target Groundwater Protection Standards, from Permit table 2

ND Analyte was not present in a concentration above detection level

J-/± Estimated concentration low/high

-- Not analyzed

The method detection limit (MDL) was used as the reporting limit.

TABLE 3A. SI AIR SPARGE SYSTEM PERFORMANCE DATA

Week ending:	SAS-1		SAS-2		SAS-3		SAS-4	
	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
5/7/2021	0	0	13	8	7	7	1	4
5/14/2021	3	1.5	8	8.5	6	7	5	3
5/21/2021	2	2	5	9	7	7	3	2
5/28/2021	0	0	6	7	7	7	6	4
6/4/2021	3	0.5	7	7.5	8	7	3	3
6/11/2021	3	2	7	7	8	7	0	2
6/18/2021	2	1	7	7	7	7	5	3
6/25/2021	2	1	7	7	7	7	5	3
7/2/2021	2	2	7	8	6	7	5	2
7/9/2021	5	1	7	7	8	7	5	3
7/16/2021	4	0	6	8	7	8	4	4
7/23/2021	2	2	6	8	9	7	3	2
7/30/2021	0	0	--*	--*	8	7	4	1

Week ending:	SAS-5		SAS-6		SAS-7		SAS-8	
	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
5/7/2021	5	7	10	7	2	5	6	7
5/14/2021	7	8	7	6	3	5	8	7
5/21/2021	5	9	7	7	5	5	9	7
5/28/2021	6	8	7	7	2	6	7	7
6/4/2021	6	8	8	6.5	3	5.5	8	7
6/11/2021	1	7	7	6	5	4	9	5
6/18/2021	1	7	7	7	5	5	9	5
6/25/2021	1	7	7	7	5	5	9	5
7/2/2021	7	8	6	7	5	4	9	7
7/9/2021	6	8	7	6	5	5	9	7
7/16/2021	6	9	6	8	4	8	9	8
7/23/2021	6	9	7	7	5	4	9	9
7/30/2021	--*	--*	6	6	1	3	--*	--*

Week ending:	SAS-9		SAS-10		SAS-11		SAS-12	
	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
5/7/2021	5	8	0	0	0	8	8	7
5/14/2021	5	8	0	0	3	8	5	7
5/21/2021	5	8	0	0	2	8	5	8
5/28/2021	5	6	0	0	6	8	5	6
6/4/2021	5	7.5	0	0	3	8	5	6.5
6/11/2021	5	7	0	0	2	6	5	7
6/18/2021	6	7	0	0	2	6	5	6
6/25/2021	5	6	0	0	2	6	5	6
7/2/2021	5	8	0	0	5	7	5	7
7/9/2021	5	7	0	0	5	7	5	6
7/16/2021	5	9	0	0	2	9	5	8
7/23/2021	6	7	0	0	2	8	5	6
7/30/2021	5	7	0	0	--*	--*	5	6

TABLE 3A. SI AIR SPARGE SYSTEM PERFORMANCE DATA

Week ending:	SAS-13		SAS-14		SAS-15		SAS-16	
	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
5/7/2021	10	6	0	7	5	2	10	7
5/14/2021	8	6	5	7.5	5	2.5	9	7
5/21/2021	10	6	5	8	5	2	7	7
5/28/2021	5	6	2	7	5	1	5	7
6/4/2021	8	6	5	8	5	2	7	7.5
6/11/2021	9	6	5	6	4	2	7	7
6/18/2021	6	6	5	6	5	1	10	6
6/25/2021	6	6	5	5	6	1	10	6
7/2/2021	5	6	5	7	5	2	5	6
7/9/2021	6	6	5	7	3	1	9	6
7/16/2021	5	8	5	9	6	3	7	8
7/23/2021	5	6	5	9	5	1	8	6
7/30/2021	1	6	--*	--*	0	0	7	7

Week ending:	SAS-17		SAS-18		SAS-19		SAS-20	
	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
5/7/2021	0	6	6	7	6	9	16	0
5/14/2021	5	6.5	9	9	5	9	14	0
5/21/2021	5	7	11	7	7	9	5	0
5/28/2021	2.5	7	6	7	5	9	5	0
6/4/2021	5	6.5	6	8	5	9	7	0
6/11/2021	5	5	4	8	5	8	7	0
6/18/2021	5	5	8	8	5	9	7	0
6/25/2021	4	5	8	8	7	8	7	0
7/2/2021	5	6	5	8	5	6	9	0
7/9/2021	5	6	5	8	5	9	9	0
7/16/2021	5	8	6	10	6	9	5	0
7/23/2021	5	9	7	8	6	8	4	0
7/30/2021	--*	--*	6	7	1	8	--*	--*

Week ending:	SAS-21		SAS-22		TOTAL CFM			Minimum
	CFM	PSI	CFM	PSI	BANK 1	BANK 2	BANK 3	Total
5/7/2021	6	6	5	7	34	40	47	35
5/14/2021	6	6.5	3	6.5	36	50	43	35
5/21/2021	6	6	5	6	39	36	46	35
5/28/2021	10	7	2	52	25	35	45	35
6/4/2021	10	6.5	3	6.5	32	41	47	35
6/11/2021	10	7	5	6	34	36	43	35
6/18/2021	10	7	5	7	38	36	48	35
6/25/2021	10	7	5	6	40	35	48	35
7/2/2021	9	7	5	5	32	47	41	35
7/9/2021	7	7	5	6	40	46	40	35
7/16/2021	8	9	4	8	34	38	43	35
7/23/2021	8	7	5	6	34	37	47	35
7/30/2021	6	7	2	6	16	--*	36	35

Notes:

CFM - cubic feet per minute

PSI - pounds per square inch

Minimum total rate per permit Table D-6

Bold - Below Minimum Total

--* - System Readings Collection Error

- AS system maintenance performed on Bank 1 in August.

TABLE 3B. PRM AIR SPARGE SYSTEM PERFORMANCE DATA

Week ending:	PAS-7		PAS-8		PAS-9		PAS-10	
	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
5/7/2021	6.4	12	4.7	13	0.0	14	3.0	1.5
5/14/2021	4.7	13	4.7	13	0.0	13	1.8	1
5/21/2021	3.2	12	3.3	13	0.0	14	1.6	1
5/28/2021	4.1	10	3.4	14	3.4	14	2.3	1
6/4/2021	4.6	12.5	4.6	12.5	0.0	13	2.5	1.5
6/11/2021	4.3	11	3.2	12	0.0	13	2.3	1
6/18/2021	4.3	11	3.3	13	0.0	13	2.1	1
6/25/2021	3.1	11	3.3	13	0.0	13	2.1	1
7/2/2021	3.1	11	3.3	13	0.0	12	2.1	1
7/9/2021	0.0	0	0.0	0	0.0	0	0.0	0
7/16/2021	6.4	12	3.3	12.5	0.0	13	5.7	5.5
7/23/2021	4.7	13	3.3	13	0.0	13	2.9	2
7/30/2021	4.7	13	2.3	3	0.0	14	3.2	2

Week ending:	PAS-11		PAS-12		PAS-13		PAS-16	
	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
5/7/2021	4.1	13	6.2	11.5	0.0	0	3.3	13
5/14/2021	4.4	11.5	5.5	12	0.0	0	5.6	12.5
5/21/2021	3.2	12	6.1	11	0.0	0	3.3	13
5/28/2021	4.7	13	6.5	10	0.0	0	7.8	12
6/4/2021	4.5	12	4.4	11.5	0.0	0	4.6	12.5
6/11/2021	3.3	13	5.3	11	0.0	0	4.7	13
6/18/2021	3.2	12	5.3	11	0.0	0	4.7	13
6/25/2021	3.2	12	4.3	11	0.0	0	4.7	13
7/2/2021	3.2	12	4.3	11	0.0	0	4.5	12
7/9/2021	0.0	0	0.0	0	0.0	0	0.0	0
7/16/2021	4.5	12	6.4	12	0.0	0	5.8	13
7/23/2021	4.3	11	4.3	11	0.0	0	3.3	13
7/30/2021	0.0	14	4.5	12	0.0	0	3.3	13

Week ending:	PAS-17		PAS-18		PAS-19		PAS-21	
	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
5/7/2021	0.0	15	8.1	13	0.0	14.5	0.0	0
5/14/2021	0.0	14.5	6.5	10	0.0	14.5	0.0	0
5/21/2021	0.0	15	3.1	11	0.0	14	0.0	0
5/28/2021	0.0	14	6.5	10	0.0	14	0.0	0
6/4/2021	0.0	14.5	6.0	10.5	0.0	14	0.0	0
6/11/2021	0.0	14	4.3	11	0.0	14	0.0	0
6/18/2021	0.0	13	4.3	11	0.0	14	0.0	0
6/25/2021	0.0	13	4.5	12	0.0	14	0.0	0
7/2/2021	0.0	13	3.2	12	0.0	13	0.0	0
7/9/2021	0.0	0	0.0	0	0.0	0	0.0	0
7/16/2021	3.5	14.5	6.1	11	0.0	15	0.0	0
7/23/2021	0.0	15	5.3	11	0.0	15	0.0	0
7/30/2021	0.0	14.5	4.3	11	0.0	14	0.0	0

TABLE 3B. PRM AIR SPARGE SYSTEM PERFORMANCE DATA

Week ending:	PAS-22		PAS-23		PAS-24		PAS-25	
	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
5/7/2021	6.6	8.5	4.7	13	0.0	15	3.4	14
5/14/2021	2.4	7	3.4	13.5	0.0	12.5	3.4	13.5
5/21/2021	3.2	4	3.3	13	0.0	14	3.3	13
5/28/2021	1.3	2	4.5	12	5.3	11	3.4	14
6/4/2021	3.6	5	4.7	13	0.0	13.5	3.4	13.5
6/11/2021	3.2	4	0.0	12	0.0	13	0.0	13
6/18/2021	3.2	4	0.0	12	0.0	12	0.0	13
6/25/2021	3.2	4	0.0	12	0.0	13	0.0	12
7/2/2021	2.6	4	0.0	13	0.0	13	0.0	12
7/9/2021	0.0	0	0.0	0	0.0	0	0.0	0
7/16/2021	4.8	4.5	4.7	13	0.0	14	3.5	14.5
7/23/2021	2.3	2	4.5	12	0.0	14	0.0	14
7/30/2021	1.6	1	5.3	11	0.0	14	7.8	14.5

Week ending:	PAS-26		PAS-27		PAS-28		PAS-29	
	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
5/7/2021	6.8	13.5	5.0	15	0.0	14	2.3	6.5
5/14/2021	4.9	14	4.6	12.5	0.0	13	2.3	6
5/21/2021	4.5	8	4.9	14	0.0	13	2.1	5
5/28/2021	2.9	2	10.3	14	0.0	13	2.1	5
6/4/2021	4.7	13	4.6	12.5	0.0	12.5	2.1	5
6/11/2021	2.8	9	3.3	13	0.0	13	1.8	4
6/18/2021	2.8	9	3.3	13	0.0	13	2.1	5
6/25/2021	2.8	9	3.2	12	0.0	13	2.1	5
7/2/2021	2.9	10	3.2	12	0.0	13	2.3	6
7/9/2021	0.0	0	0.0	0	0.0	0	0.0	0
7/16/2021	4.9	14	4.5	12	0.0	13	4.3	11
7/23/2021	3.4	14	3.3	13	0.0	13	4.7	13
7/30/2021	11.8	11	9.7	11	0.0	12	4.5	12

Week ending:	PAS-30		PAS-31		PAS-32		PAS-33	
	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
5/7/2021	0.0	15	0.0	15	0.0	15	0.0	0
5/14/2021	0.0	14	0.0	14	0.0	15	0.0	0
5/21/2021	0.0	14	0.0	15	0.0	15	0.0	0
5/28/2021	3.6	15	4.1	20	0.0	15	0.0	0
6/4/2021	0.0	14	0.0	14	0.0	14.5	0.0	0
6/11/2021	0.0	14	0.0	15	0.0	14	0.0	0
6/18/2021	0.0	14	0.0	15	0.0	14	0.0	0
6/25/2021	0.0	14	0.0	15	0.0	14	0.0	0
7/2/2021	0.0	15	0.0	15	0.0	14	0.0	0
7/9/2021	0.0	0	0.0	0	0.0	0	0.0	0
7/16/2021	0.0	15	0.0	14	0.0	15	0.0	0
7/23/2021	0.0	14	0.0	14	0.0	10	0.0	0
7/30/2021	0.0	15	0.0	15	0.0	15	0.0	0

TABLE 3B. PRM AIR SPARGE SYSTEM PERFORMANCE DATA

Week ending:	PAS-34		PAS-35		PAS-36		PAS-37	
	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
5/7/2021	1.3	2	4.9	14	5.8	10	3.2	12
5/14/2021	0.0	0	0.0	12	6.2	9	6.5	10
5/21/2021	0.0	0	4.7	13	3.2	12	6.8	11
5/28/2021	0.0	1	5.0	15	5.3	11	6.4	12
6/4/2021	0.0	0	4.7	13	5.8	10	5.8	10
6/11/2021	0.0	0	4.5	12	5.0	10	6.1	11
6/18/2021	0.0	0	4.7	13	5.0	10	6.1	11
6/25/2021	0.0	0	4.9	14	5.0	10	5.8	10
7/2/2021	0.0	0	15.4	14	4.1	10	4.8	9
7/9/2021	0.0	0	0.0	0	0.0	0	0.0	0
7/16/2021	6.6	13	8.4	12	6.2	9	6.1	11
7/23/2021	0.0	0	14.3	12	6.2	9	53.7	10
7/30/2021	0.0	0	16.0	15	4.3	11	6.4	12

Week ending:	PAS-38		PAS-39		Total
	CFM	PSI	CFM	PSI	CFM
5/7/2021	11.1	12	6.8	11	97.8
5/14/2021	6.2	9	7.0	9.5	80.1
5/21/2021	6.2	9	6.5	10	72.5
5/28/2021	5.8	10	6.8	11	105.8
6/4/2021	5.5	9	6.3	9.5	82.5
6/11/2021	4.8	9	6.5	10	65.5
6/18/2021	4.8	9	6.5	10	65.7
6/25/2021	5.5	9	6.5	10	64.2
7/2/2021	5.8	10	6.5	10	71.3
7/9/2021	0.0	0	0.0	0	0.0
7/16/2021	5.2	8	6.2	9	107.1
7/23/2021	4.9	7	6.2	9	131.6
7/30/2021	6.5	10	7.1	10	103.4

Notes:

CFM - cubic feet per minute

PSI - pounds per square inch

TABLE 3C. HIGHWAY AIR SPARGE SYSTEM PERFORMANCE DATA

Week ending:	HAS-01		HAS-02		HAS-03		HAS-04	
	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
5/7/2021	0.0	0	0.0	0	6.8	20	12.1	22
5/14/2021	0.0	0	0.0	0	4.4	0	14.0	22
5/21/2021	0.0	0	0.0	0	11.1	20	13.8	21
5/28/2021	0.0	0	0.0	0	12.4	20	14.6	25
6/4/2021	0.0	0	0.0	0	8.1	22	13.8	21
6/11/2021	0.0	0	0.0	0	9.6	20	12.9	23
6/18/2021	0.0	0	0.0	0	9.6	20	14.2	23
6/25/2021	0.0	0	0.0	0	9.6	20	14.2	23
7/2/2021	0.0	0	0.0	0	0.0	21	14.0	22
7/9/2021	0.0	0	0.0	0	9.6	20	14.0	22
7/16/2021	0.0	0	0.0	0	7.9	20	13.6	20
7/23/2021	0.0	0	0.0	0	9.6	20	13.6	20
7/30/2021	0.0	0	0.0	0	9.6	20	16.8	25

Week ending:	HAS-05		HAS-06		HAS-07		HAS-08	
	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
5/7/2021	5.6	20	0.0	21	5.7	22	5.6	21
5/14/2021	3.6	0	0.0	21	0.0	21.5	0.0	22
5/21/2021	0.0	20	0.0	20	0.0	24	0.0	21
5/28/2021	0.0	20	0.0	24	0.0	24	5.9	24
6/4/2021	5.7	22	0.0	20	0.0	26.5	0.0	20
6/11/2021	5.6	20	0.0	22	0.0	23	5.7	22
6/18/2021	5.6	21	0.0	21	0.0	23	0.0	22
6/25/2021	5.6	20	0.0	21	0.0	22	9.9	22
7/2/2021	5.6	20	0.0	21	0.0	25	9.9	22
7/9/2021	0.0	20	0.0	21	0.0	25	9.9	22
7/16/2021	5.6	20	0.0	19	5.9	25	0.0	19
7/23/2021	5.6	20	14.0	22	0.0	25	0.0	21
7/30/2021	5.6	20	0.0	25	0.0	24	5.9	24

Week ending:	HAS-09		HAS-10		HAS-11		HAS-12	
	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
5/7/2021	9.6	20	11.1	20	0.0	20	0.0	19
5/14/2021	7.6	18	6.3	0	0.0	18	0.0	20
5/21/2021	16.9	21	12.4	20	0.0	21	0.0	20
5/28/2021	15.7	20	5.7	22	0.0	21	0.0	21
6/4/2021	11.0	24	11.9	25	0.0	23	0.0	19
6/11/2021	13.6	20	11.9	25	0.0	20	0.0	20
6/18/2021	13.6	20	9.6	20	0.0	20	0.0	19
6/25/2021	12.4	20	0.0	20	0.0	20	10.9	19
7/2/2021	14.9	21	0.0	20	0.0	21	10.9	19
7/9/2021	14.0	22	0.0	20	0.0	21	10.9	19
7/16/2021	11.6	23	10.8	18	0.0	21	0.0	18
7/23/2021	14.0	22	0.0	21	0.0	21	11.9	25
7/30/2021	13.8	21	12.0	26	0.0	20	0.0	22

TABLE 3C. HIGHWAY AIR SPARGE SYSTEM PERFORMANCE DATA

Week ending:	HAS-13		HAS-14		HAS-15		HAS-16	
	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
5/7/2021	17.3	19	0.0	20	7.9	20	0.0	21
5/14/2021	0.0	18	5.7	0	0.0	19.5	13.4	22
5/21/2021	17.3	19	9.6	20	8.1	22	8.0	21
5/28/2021	0.0	18	7.9	20	8.1	22	9.9	22
6/4/2021	0.0	24	8.8	20	0.0	25	12.4	20
6/11/2021	17.3	19	9.6	20	0.0	22	12.9	23
6/18/2021	17.3	19	9.6	20	0.0	22	12.6	21
6/25/2021	17.3	19	9.6	20	0.0	22	12.4	20
7/2/2021	17.6	20	7.9	20	8.2	23	13.6	20
7/9/2021	18.3	23	7.9	20	8.2	23	14.7	20
7/16/2021	0.0	20	9.5	19	0.0	24	12.2	19
7/23/2021	17.8	21	9.8	21	5.8	23	12.9	23
7/30/2021	0.0	19	8.3	24	5.7	22	12.6	21

Week ending:	HAS-17		HAS-18		HAS-19		HAS-20	
	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI
5/7/2021	0.0	15	0.0	14	0.0	19	16.2	15
5/14/2021	0.0	13	8.9	0	0.0	18	0.0	18
5/21/2021	0.0	1	0.0	15	0.0	21	15.7	13
5/28/2021	0.0	0	10.9	19	0.0	21	17.8	21
6/4/2021	0.0	21.5	13.4	19	0.0	23	15.0	15
6/11/2021	0.0	16	12.6	15	0.0	20	15.0	17
6/18/2021	0.0	16	12.6	15	0.0	20	15.9	17
6/25/2021	0.0	16	12.6	15	0.0	20	15.9	17
7/2/2021	0.0	19	12.6	15	0.0	21	15.9	17
7/9/2021	0.0	20	12.6	15	0.0	22	16.4	19
7/16/2021	0.0	20	12.4	14	0.0	22	13.5	11
7/23/2021	0.0	19	13.8	16	0.0	22	15.0	17
7/30/2021	0.0	19	12.8	16	0.0	21	14.3	14

Week ending:	HAS-21		HAS-22		HAS-23		HAS-24		Total
	CFM	PSI	CFM	PSI	CFM	PSI	CFM	PSI	CFM
5/7/2021	9.6	20	7.9	20	5.4	18	8.1	0	128.9
5/14/2021	6.4	16	5.1	0	5.7	10	7.7	0	88.8
5/21/2021	11.5	15	7.9	20	0.0	7	7.2	0	139.5
5/28/2021	11.5	15	5.6	20	0.0	9	8.1	0	134.0
6/4/2021	13.1	17.5	7.7	19	5.1	15	7.7	0	133.7
6/11/2021	12.8	16	8.0	21	0.0	13	7.2	0	154.8
6/18/2021	12.8	16	8.0	21	0.0	13	7.2	0	148.7
6/25/2021	11.7	16	8.0	21	0.0	14	6.3	0	156.4
7/2/2021	9.6	20	8.0	21	0.0	15	6.3	0	154.9
7/9/2021	0.0	12	8.0	21	0.0	16	7.2	0	151.7
7/16/2021	0.0	16	7.5	17	4.8	11	8.1	0	123.3
7/23/2021	0.0	17	5.6	20	0.0	15	8.1	0	157.4
7/30/2021	0.0	19	5.5	19	4.9	12	10.3	9	138.0

TABLE 3C. HIGHWAY AIR SPARGE SYSTEM PERFORMANCE DATA

	SVE-1	SVE-2	SVE-3	SVE-4	SVE-5	SVE-6	SVE-7	SVE-8
Week ending:	CFM	CFM	CFM	CFM	CFM	CFM	CFM	CFM
5/7/2021	0.00	0.00	--*	--*	--*	--*	--*	--*
5/14/2021	0.00	0.00	18.00	32.00	28.00	28.00	22.00	25.00
5/21/2021	0.00	0.00	18.00	32.00	38.00	28.00	22.00	26.00
5/28/2021	0.00	0.00	--*	--*	--*	--*	--*	--*
6/4/2021	0.00	0.00	18.00	34.00	30.00	26.00	22.00	20.00
6/11/2021	0.00	0.00	18.00	34.00	30.00	26.00	22.00	20.00
6/18/2021	0.00	0.00	18.00	34.00	30.00	28.00	22.00	24.00
6/25/2021	0.00	0.00	18.00	24.00	30.00	28.00	22.00	24.00
7/2/2021	0.00	0.00	18.00	34.00	30.00	28.00	22.00	20.00
7/9/2021	0.00	0.00	18.00	34.00	30.00	28.00	22.00	24.00
7/16/2021	0.00	0.00	20.00	32.00	30.00	28.00	22.00	20.00
7/23/2021	0.00	0.00	28.00	30.00	32.00	28.00	22.00	26.00
7/30/2021	0.00	0.00	--*	--*	--*	--*	--*	--*

Notes:

CFM - cubic feet per minute

PSI - pounds per square inch

--* - System Readings Collection Error

TABLE 4. RECOVERY WELL PUMPING RATE

A-AQUIFER								
Week ending:	R-21R	R-40	R-41	COMBINED				
	GPM	GPM	GPM	TOTAL	MIN			
	GPM	GPM	GPM	GPM	GPM			
5/7/2021	0	71.2	0	71.2	60			
5/14/2021	0	65	0	65	60			
5/21/2021	0	65	0	65	60			
5/28/2021	0	61	0	61	60			
6/4/2021	0	61	0	61	60			
6/11/2021	0	58	0	58	60			
6/18/2021	0	61	0	61	60			
6/25/2021	0	71	0	71	60			
7/2/2021 *	0	0	0	0 *	60			
7/9/2021	0	35	33	68	60			
7/16/2021	0	39	37	76	60			
7/23/2021	0	40	36	76	60			
7/30/2021	0	40	35	75	60			

B-AQUIFER								
Week ending:	R-50	R-51	R-52	R-54	R-55	R-56	COMBINED	MIN
	GPM	GPM	GPM	GPM	GPM	GPM	TOTAL	GPM
	GPM	GPM	GPM	GPM	GPM	GPM	GPM	GPM
5/7/2021	0	0	0	41.1	9.8	15.1	66	60
5/14/2021	0	0	0	41	10	15	66	60
5/21/2021	0	0	0	40	8	14	62	60
5/28/2021	0	0	0	40	10	15	65	60
6/4/2021	0	0	0	41	9	15	65	60
6/11/2021	0	0	0	40	9	15	64	60
6/18/2021	0	0	0	42	8	16	66	60
6/25/2021	0	0	0	42	8	15	65	60
7/2/2021 *	0	0	0	0	0	0	0 *	60
7/9/2021	0	0	0	27	22	13	62	60
7/16/2021	0	0	0	27	26	21	74	60
7/23/2021	0	0	0	26	26	21	73	60
7/30/2021	0	0	0	29	27	21	77	60

TABLE 4. RECOVERY WELL PUMPING RATE

CALGON			
Week ending:	GPM	GPD	MAX GPD
5/7/2021	118.4	170496	1000000
5/14/2021	117	168480	1000000
5/21/2021	117	168480	1000000
5/28/2021	115	165600	1000000
6/4/2021	114	164160	1000000
6/11/2021	114	164160	1000000
6/18/2021	115	165600	1000000
6/25/2021	114	164160	1000000
7/2/2021 *	0 *	0 *	1000000
7/9/2021	151	217440	1000000
7/16/2021	164	236160	1000000
7/23/2021	166	239040	1000000
7/30/2021	162	233280	1000000

Notes:

gpm - gallons per minute

gpd - gallons per day

* Aquifer total below 60 gallons per minute; System shutdown for recovery well rehabilitation.

TABLE 5. GROUNDWATER INJECTION RATES

B-INJECTION					COMBINED	
	I-6	I-7	I-8	I-9	TOTAL	MIN
Week ending:	GPM	GPM	GPM	GPM	GPM	GPM
5/7/2021	24.9	27	20.5	0	72.4	30
5/14/2021	25	27	20	24	96	30
5/21/2021	25	27	20	21	93	30
5/28/2021	25	28	21	24	98	30
6/4/2021	25	28	21	23	97	30
6/11/2021	25	26	20	23	94	30
6/18/2021	25	26	20	21	92	30
6/25/2021	22	26	21	23	92	30
7/2/2021	22	24	21	23	90	30
7/9/2021	23	26	19	23	91	30
7/16/2021	23	26	21	23	93	30
7/23/2021	24	27	20	22	93	30
7/30/2021	25	27	20	25	97	30

A-INJECTION					COMBINED	
	IR-29	IR-30	IR-31	IR-32	TOTAL	MIN
Week ending:	GPM	GPM	GPM	GPM	GPM	GPM
5/7/2021	9.2	34.5	35.2	40	118.9	60
5/14/2021	10	34	35	38	117	60
5/21/2021	10	32	32	32	106	60
5/28/2021	9	33	35	38	115	60
6/4/2021	10	33	35	36	114	60
6/11/2021	10	34	34	36	114	60
6/18/2021	10	35	35	35	115	60
6/25/2021	10	34	34	34	112	60
7/2/2021	0	0	0	0	0 *	60
7/9/2021	10	47	47	47	151	60
7/16/2021	16	45	48	55	164	60
7/23/2021	10	52	52	52	166	60
7/30/2021	16	47	46	53	162	60

Notes:

gpm- gallons per minute

* Totals below 60 gpm minimum; System shutdown for recovery well rehabilitation.

I-1, I-2, and I-5 were not running during this reporting period

TABLE 6. UCA INDUSTRIAL PUMPING

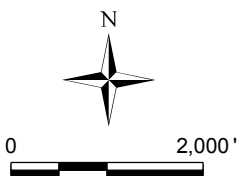
Date	WELL TW-2B		WELL TW-1		WELL TW-7	
	Total GAL	GPD	Total GAL	GPD	GAL	GPD
5/3/2021	29224884	412,641	6028.5	147	135684	5
5/10/2021	32688040	494,737	6188.9	23	135700	2
5/17/2021	36422417	533,482	6213.4	4	135772	10
5/25/2021	40787315	545,612	6248.5	4	135802	4
6/1/2021	44396281	515,567	6248.5	0	135861	8
6/7/2021	47635884	539,934	6260.6	2	135891	5
6/15/2021	51938200	537,790	6260.8	0	135951	8
6/21/2021	55430779	582,097	6279.1	3	135981	5
6/28/2021	59132628	528,836	6279.1	0	136010	4
7/6/2021	62953600	477,622	6279.1	0	136433	53
7/12/2021	65913367	493,295	6279.1	0	136849	69
7/19/2021	69408349	499,283	6279.1	0	137131	40
7/26/2021	73163466	536,445	6279.1	0	137370	34

Notes:

gal- gallons

gpd- gallons per day

FIGURES



SOURCE: USGS 7.5' QUAD SHEET
KENAI (C-4) NW, AK
PROVISIONAL EDITION 1986

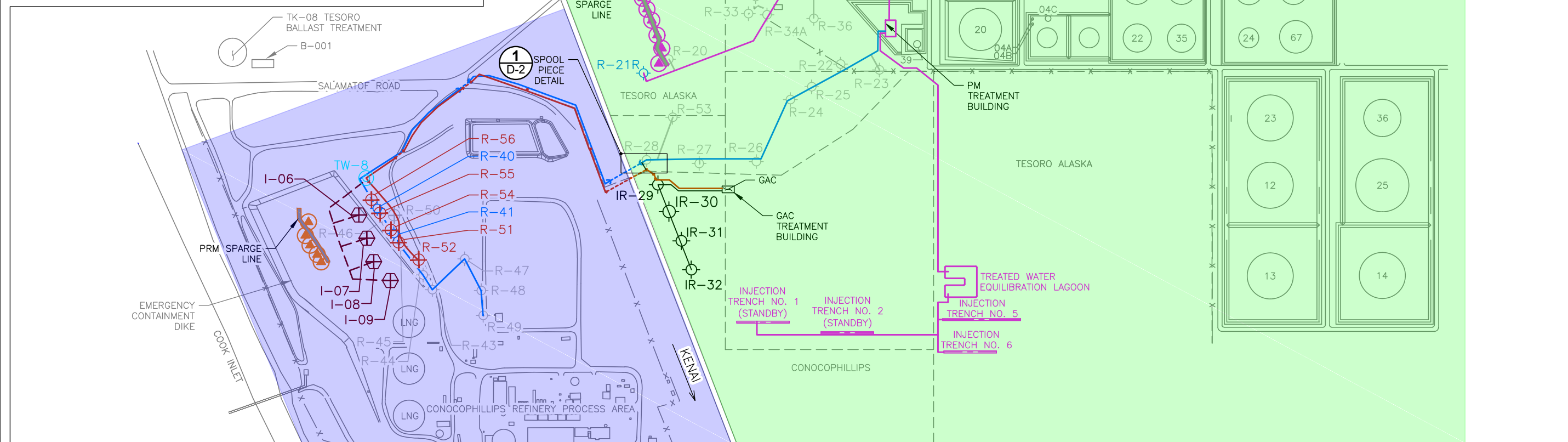
Trihydro
CORPORATION
1252 Commerce Drive
Laramie, WY 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

FIGURE 1

SITE LOCATION MAP


























**QUARTERLY PROGRESS REPORT
TESORO KENAI REFINERY
KENAI, ALASKA**



Drawn By: DH	Checked By: SP	Scale: 1" = 2,000'	Date: 11/21/16	File: Fig1_Kenai_Site_Location.mxd
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Source Drawing From: Kent & Sullivan Inc., Circa 2007

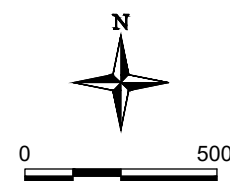
EXPLANATION


- | | | | | | | | | | |
|---|--|--|---|---|-------------------------------|-----|----------------------------|-----|---------------------------|
|  | PRM VAPOR EXTRACTION WELL |  | PRM AIR SPARGE LINE |  | PM INJECTION TRENCH | AS | AIR SPARGE | PRM | PHILLIPS REMEDIAL MEASURE |
|  | HIGHWAY VAPOR EXTRACTION WELL |  | HIGHWAY AIR SPARGE LINE |  | SI CLOSED SURFACE IMPOUNDMENT | GAC | GRANULAR ACTIVATED CARBON | PM | PHILLIPS MARATHON |
|  | LOWER TANKFARM VAPOR EXTRACTION WELL |  | LOWER TANKFARM AIR SPARGE LINE |  | PRM AREA | HEA | HOMER ELECTRIC ASSOCIATION | SI | SURFACE IMPOUNDMENT |
|  | PRODUCTION WELL AND DESIGNATION FOR PRM AND B-AQUIFER INJECTION SYSTEM |  | SI AIR SPARGE LINE |  | PM AREA | LNG | LIQUID NATURAL GAS | VE | VAPOR EXTRACTION |
|  | PRM RECOVERY WELL AND DESIGNATION |  | PRM RECOVERY WELL PIPELINE
(DASHED WHERE SEGMENTS ARE UNDERGROUND) |  | SI AREA | NO. | NUMBER | | |
|  | B-AQUIFER RECOVERY WELL AND DESIGNATION |  | PM RECOVERY WELL PIPELINE | | | | | | |
|  | B-AQUIFER INJECTION WELL AND DESIGNATION |  | B-AQUIFER RECOVERY WELL PIPELINE
(DASHED WHERE SEGMENTS ARE UNDERGROUND) | | | | | | |
|  | PRM RECOVERY WELL AND DESIGNATION |  | B-AQUIFER INJECTION WELL PIPELINE | | | | | | |
|  | INJECTION WELL AND DESIGNATION |  | GAC TREATMENT PIPELINE | | | | | | |
|  | OFFLINE B-AQUIFER RECOVERY WELL AND DESIGNATION | | | | | | | | |
- 


- 

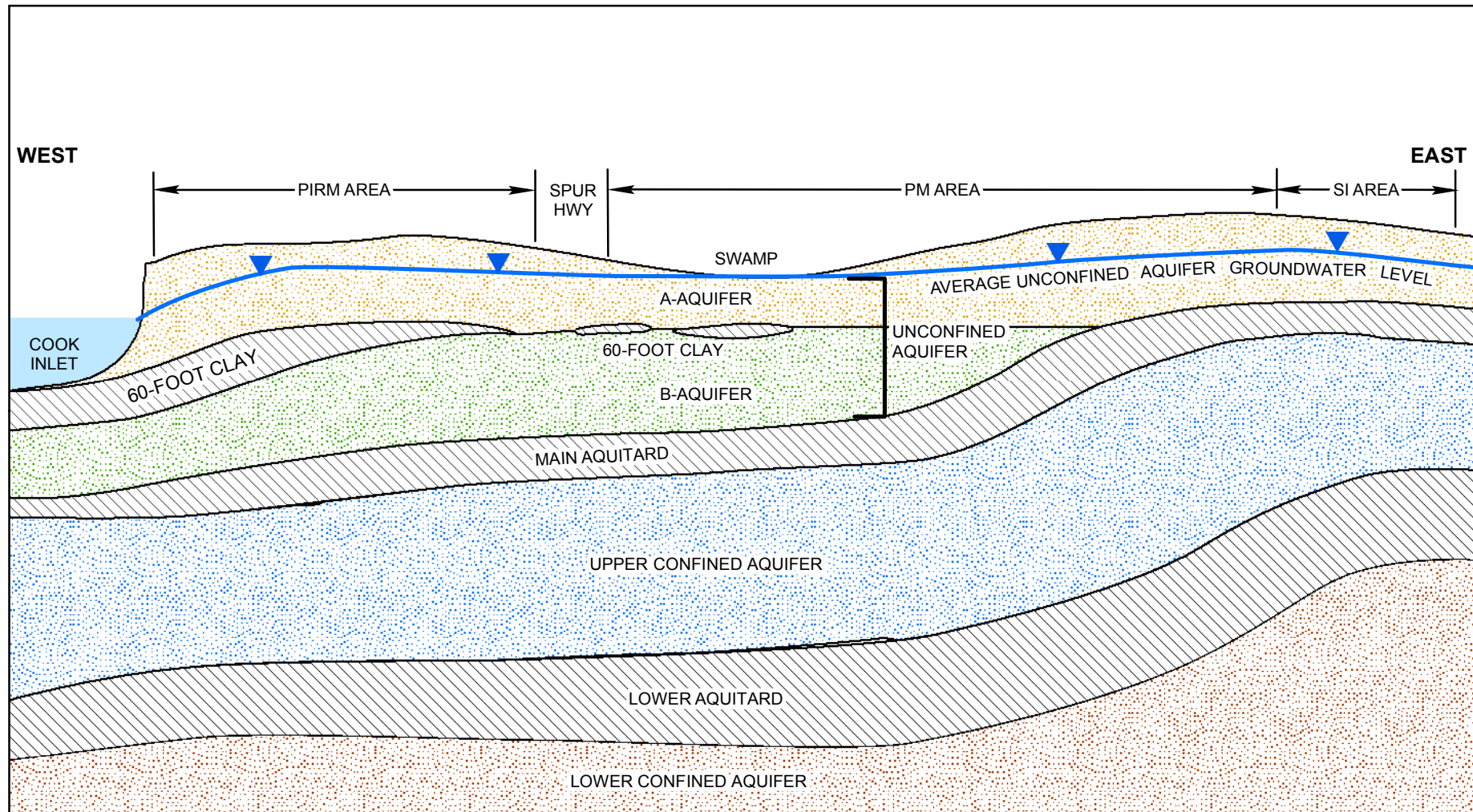
1252 Commerce Drive
Laramie, Wyoming 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

FIGURE 2			
AREA DESIGNATIONS AND CORRECTIVE MEASURES SYSTEM			
KENAI TESORO REFINERY KENAI, ALASKA			
Drawn By: JLP	Checked By: SP	Scale: NONE	Date: 2/16/2018
File: 30B-KR_CORRECTIVEMEASURESYS/20180216/			



 Trihydro CORPORATION 1252 Commerce Drive Laramie, Wyoming 82070 www.trihydro.com (P) 307/745.7474 (F) 307/745.7729	FIGURE 2		
	AREA DESIGNATIONS AND CORRECTIVE MEASURES SYSTEM		
	KENAI TESORO REFINERY KENAI, ALASKA		
Drawn By: JLP	Checked By: SP	Scale: NONE	Date: 2/16/2018
File: 39B-KR CORRECTIVEMEASURESYS 20180			

M:\STOVTESOR\GIS\PROJECTS\TESORO\EN\AMAPPING\QUARTERLY\REPORTS\201809_018_1\FIG3_XSEC\AQUIFERS.MXD



NOTE:
NOT TO SCALE



1252 Commerce Drive
Laramie, WY 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

FIGURE 3

**DIAGRAMMATIC CROSS SECTION
ILLUSTRATING AQUIFER IDENTIFICATION**

**TESORO KENAI REFINERY
KENAI, ALASKA**

Drawn By: DH	Checked By: SP	Scale: Not to Scale	Date: 2/16/18	File: Fig3_XSecAquifers.mxd
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APPENDIX A

DATA VALIDATIONS AND LABORATORY REPORTS

A-1. DATA VALIDATIONS

A-2. LABORATORY REPORTS

APPENDIX A-1

DATA VALIDATIONS

Laboratory Data Review Checklist

Completed By:

Maya Lehl

Title:

Staff Scientist

Date:

07/22/2021

Consultant Firm:

Trihydro Corp.

Laboratory Name:

SGS North America

Laboratory Report Number:

1213764

Laboratory Report Date:

07/15/2021

CS Site Name:

Tesoro Alaska Refinery (Marathon)

ADEC File Number:

232.38.057

Hazard Identification Number:

Note: Any N/A or No box checked must have an explanation in the comments box.

1. Laboratory

- a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?

Yes ☒ No ☐ N/A ☐ Comments:

SGS North America

- b. If the samples were transferred to another “network” laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?

Yes ☒ No ☐ N/A ☐ Comments:

SGS North America, Florida

2. Chain of Custody (CoC)

- a. CoC information completed, signed, and dated (including released/received by)?

Yes ☒ No ☐ N/A ☐ Comments:

- b. Correct analyses requested?

Yes ☒ No ☐ N/A ☐ Comments:

3. Laboratory Sample Receipt Documentation

- a. Sample/cooler temperature documented and within range at receipt (0° to 6° C)?

Yes ☒ No ☐ N/A ☐ Comments:

Receipt temperatures 3.8°C

- b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

Yes ☒ No ☐ N/A ☐ Comments:

- c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

Yes ☒ No ☐ N/A ☐ Comments:

Trip blank contained headspace. Proceeded with limited volume, PM notified.

- d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

Yes ☒ No ☐ N/A ☐ Comments:

- e. Data quality or usability affected?

Comments:

Data quality or usability was not affected.

4. Case Narrative

- a. Present and understandable?

Yes ☒ No ☐ N/A ☐ Comments:

- b. Discrepancies, errors, or QC failures identified by the lab?

Yes ☒ No ☐ N/A ☐ Comments:

- c. Were all corrective actions documented?

Yes ☒ No ☐ N/A ☐ Comments:

- d. What is the effect on data quality/usability according to the case narrative?

Comments:

None indicated

5. Samples Results

- a. Correct analyses performed/reported as requested on COC?

Yes ☒ No ☐ N/A ☐ Comments:

- b. All applicable holding times met?

Yes ☐ No ☒ N/A ☐ Comments:

8021B for sample E-258 analyzed outside of hold time. Data flagged by project team.

c. All soils reported on a dry weight basis?

Yes ☐ No ☐ N/A ☒ Comments:

d. Are the reported LOQs less than the Cleanup Level or the minimum required detection level for the project?

Yes ☒ No ☐ N/A ☐ Comments:

e. Data quality or usability affected?

Data flagged by project team.

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

Yes ☒ No ☐ N/A ☐ Comments:

ii. All method blank results less than limit of quantitation (LOQ) or project specified objectives?

Yes ☒ No ☐ N/A ☐ Comments:

iii. If above LOQ or project specified objectives, what samples are affected?

Comments:

NA

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes ☐ No ☐ N/A ☒ Comments:

v. Data quality or usability affected?

Comments:

Data quality or usability was not affected.

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

Yes ☒ No ☐ N/A ☐ Comments:

- ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

Yes ☐ No ☐ N/A ☒ Comments:

- iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

Yes ☒ No ☐ N/A ☐ Comments:

- iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from LCS/LCSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

Yes ☒ No ☐ N/A ☐ Comments:

- v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

N/A

- vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes ☐ No ☐ N/A ☒ Comments:

- vii. Data quality or usability affected? (Use comment box to explain.)

Comments:

Data quality or usability was not affected.

- c. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

Note: Leave blank if not required for project

- i. Organics – One MS/MSD reported per matrix, analysis and 20 samples?

Yes ☒ No ☐ N/A ☐ Comments:

- ii. Metals/Inorganics – one MS and one MSD reported per matrix, analysis and 20 samples?

Yes ☒ No ☐ N/A ☐ Comments:

- iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?

Yes ☐ No ☒ N/A ☐ Comments:

1213764002 (1621838) MSD recovery for Fluoride outside of QC criteria. Project team determined that data quality and usability not affected.

- iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate.

Yes ☒ No ☐ N/A ☐ Comments:

- v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

- vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes ☒ No ☐ N/A ☐ Comments:

- vii. Data quality or usability affected? (Use comment box to explain.)

Comments:

Data quality or usability was not affected.

- d. Surrogates – Organics Only or Isotope Dilution Analytes (IDA) – Isotope Dilution Methods Only

- i. Are surrogate/IDA recoveries reported for organic analyses – field, QC and laboratory samples?

Yes ☒ No ☐ N/A ☐ Comments:

- ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R for field samples and 60-120 %R for QC samples; all other analyses see the laboratory report pages)

Yes ☐ No ☒ N/A ☐ Comments:

Surrogate recovery for 4-bromofluorobenzene in samples Dup-5 (154%) and SMW-34 (156%) do not meet QC criteria due to matrix interference.

- iii. Do the sample results with failed surrogate/IDA recoveries have data flags? If so, are the data flags clearly defined?

Yes ☒ No ☐ N/A ☐ Comments:

iv. Data quality or usability affected?

Comments:

Data quality and usability determined by project team.

e. Trip Blanks

- i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples?
-
- (If not, enter explanation below.)

Yes ☒ No ☐ N/A ☐ Comments:

- ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC?
-
- (If not, a comment explaining why must be entered below)

Yes ☒ No ☐ N/A ☐ Comments:

- iii. All results less than LOQ and project specified objectives?

Yes ☒ No ☐ N/A ☐ Comments:

- iv. If above LOQ or project specified objectives, what samples are affected?

Comments:

v. Data quality or usability affected?

Comments:

Data quality or usability was not affected.

f. Field Duplicate

- i. One field duplicate submitted per matrix, analysis and 10 project samples?

Yes ☒ No ☐ N/A ☐ Comments:

- ii. Submitted blind to lab?

Yes ☒ No ☐ N/A ☐ Comments:

- iii. Precision – All relative percent differences (RPD) less than specified project objectives?
(Recommended: 30% water, 50% soil)

$$\text{RPD (\%)} = \text{Absolute value of: } \frac{(R_1 - R_2)}{((R_1 + R_2)/2)} \times 100$$

Where R_1 = Sample Concentration
 R_2 = Field Duplicate Concentration

Yes ☐ No ☒ N/A ☐ Comments:

Dissolved iron in Dup-2/E-258 outside of RPD criteria (40.9%).

- iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

Data quality and usability determined by project team.

- g. Decontamination or Equipment Blank (If not applicable, a comment stating why must be entered below)?

Yes ☒ No ☐ N/A ☐ Comments:

- i. All results less than LOQ and project specified objectives?

Yes ☒ No ☐ N/A ☐ Comments:

- ii. If above LOQ or project specified objectives, what samples are affected?

Comments:

NA

- iii. Data quality or usability affected?

Comments:

Data quality or usability was not affected.

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

- a. Defined and appropriate?

Yes ☒ No ☐ N/A ☐ Comments:

QUALITY CONTROL SUMMARY- 1213764

Trihydro completed a quality assurance/quality control (QA/QC) review of the analytical results. Results of the QA/QC review for data are summarized below and are presented in the ADEC Laboratory Data Review Checklist. The sample results are reported under SGS North America project number 1213764. On June 28, 2021, twenty-eight groundwater samples, five duplicate samples, one trip blank, and two equipment blank samples were submitted in one batch to the laboratory. Dup-1 was collected as a duplicate of E-010, Dup-2 as a duplicate of E-258, Dup-3 as a duplicate of E-072RR, Dup-4 as a duplicate of SMW-36, and Dup-5 as a duplicate of SMW-34. The samples were received at the lab in good condition. All samples were preserved and at temperatures of 3.8°C. The trip blank had head space, PM was notified and proceeded with limited volume. 8021B analyzed outside of hold time for sample E-258. Data flagged by project team.

Sample results were reviewed to determine overall precision of sampling and analysis as well as matrix homogeneity for all analytes. All percent recoveries (%R) from laboratory control sample/duplicate (LCS/LCSD) were within range. All duplicated sample RPDs were well below the recommended percentage (30% water) except for dissolved iron in Dup-2/E-258 (40.9%). Data flagged by project team. The following summary highlights the data evaluation findings for this sampling event:

- No data are rejected.
- The completeness objectives (greater than 85 percent complete) for this project are met with 100% completeness.
- The precision and accuracy of the laboratory data, as measured by laboratory quality control indicators, demonstrate that the data are useable as qualified for the purposes of this project.
- The precision measurements for result comparisons between primary and duplicate field samples are acceptable for the purpose of this project and are marked with applicable qualifiers.

APPENDIX A-2

(PLEASE SEE ATTACHED USB)

LABORATORY REPORT

QUALITY CONTROL SUMMARY- 1213764

Trihydro completed a quality assurance/quality control (QA/QC) review of the analytical results. Results of the QA/QC review for data are summarized below and are presented in the ADEC Laboratory Data Review Checklist. The sample results are reported under SGS North America project number 1213764. On June 28, 2021, twenty-eight groundwater samples, five duplicate samples, one trip blank, and two equipment blank samples were submitted in one batch to the laboratory. Dup-1 was collected as a duplicate of E-010, Dup-2 as a duplicate of E-258, Dup-3 as a duplicate of E-072RR, Dup-4 as a duplicate of SMW-36, and Dup-5 as a duplicate of SMW-34. The samples were received at the lab in good condition. All samples were preserved and at temperatures of 3.8°C. The trip blank had head space, PM was notified and proceeded with limited volume. 8021B analyzed outside of hold time for sample E-258. Data flagged by project team.

Sample results were reviewed to determine overall precision of sampling and analysis as well as matrix homogeneity for all analytes. All percent recoveries (%R) from laboratory control sample/duplicate (LCS/LCSD) were within range. All duplicated sample RPDs were well below the recommended percentage (30% water) except for dissolved iron in Dup-2/E-258 (40.9%). Data flagged by project team. The following summary highlights the data evaluation findings for this sampling event:

- No data are rejected.
- The completeness objectives (greater than 85 percent complete) for this project are met with 100% completeness.
- The precision and accuracy of the laboratory data, as measured by laboratory quality control indicators, demonstrate that the data are useable as qualified for the purposes of this project.
- The precision measurements for result comparisons between primary and duplicate field samples are acceptable for the purpose of this project and are marked with applicable qualifiers.

Laboratory Data Review Checklist

Completed By:

Maya Lehl

Title:

Staff Scientist

Date:

07/22/2021

Consultant Firm:

Trihydro Corp.

Laboratory Name:

SGS North America

Laboratory Report Number:

1213764

Laboratory Report Date:

07/15/2021

CS Site Name:

Tesoro Alaska Refinery (Marathon)

ADEC File Number:

232.38.057

Hazard Identification Number:

Note: Any N/A or No box checked must have an explanation in the comments box.

1. Laboratory

- a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?

Yes ☒ No ☐ N/A ☐ Comments:

SGS North America

- b. If the samples were transferred to another “network” laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?

Yes ☒ No ☐ N/A ☐ Comments:

SGS North America, Florida

2. Chain of Custody (CoC)

- a. CoC information completed, signed, and dated (including released/received by)?

Yes ☒ No ☐ N/A ☐ Comments:

- b. Correct analyses requested?

Yes ☒ No ☐ N/A ☐ Comments:

3. Laboratory Sample Receipt Documentation

- a. Sample/cooler temperature documented and within range at receipt (0° to 6° C)?

Yes ☒ No ☐ N/A ☐ Comments:

Receipt temperatures 3.8°C

- b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

Yes ☒ No ☐ N/A ☐ Comments:

- c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

Yes ☒ No ☐ N/A ☐ Comments:

Trip blank contained headspace. Proceeded with limited volume, PM notified.

- d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

Yes ☒ No ☐ N/A ☐ Comments:

- e. Data quality or usability affected?

Comments:

Data quality or usability was not affected.

4. Case Narrative

- a. Present and understandable?

Yes ☒ No ☐ N/A ☐ Comments:

- b. Discrepancies, errors, or QC failures identified by the lab?

Yes ☒ No ☐ N/A ☐ Comments:

- c. Were all corrective actions documented?

Yes ☒ No ☐ N/A ☐ Comments:

- d. What is the effect on data quality/usability according to the case narrative?

Comments:

None indicated

5. Samples Results

- a. Correct analyses performed/reported as requested on COC?

Yes ☒ No ☐ N/A ☐ Comments:

- b. All applicable holding times met?

Yes ☐ No ☒ N/A ☐ Comments:

8021B for sample E-258 analyzed outside of hold time. Data flagged by project team.

c. All soils reported on a dry weight basis?

Yes ☐ No ☐ N/A ☒ Comments:

d. Are the reported LOQs less than the Cleanup Level or the minimum required detection level for the project?

Yes ☒ No ☐ N/A ☐ Comments:

e. Data quality or usability affected?

Data flagged by project team.

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

Yes ☒ No ☐ N/A ☐ Comments:

ii. All method blank results less than limit of quantitation (LOQ) or project specified objectives?

Yes ☒ No ☐ N/A ☐ Comments:

iii. If above LOQ or project specified objectives, what samples are affected?

Comments:

NA

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes ☐ No ☐ N/A ☒ Comments:

v. Data quality or usability affected?

Comments:

Data quality or usability was not affected.

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

Yes ☒ No ☐ N/A ☐ Comments:

- ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

Yes ☐ No ☐ N/A ☒ Comments:

- iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

Yes ☒ No ☐ N/A ☐ Comments:

- iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from LCS/LCSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

Yes ☒ No ☐ N/A ☐ Comments:

- v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

N/A

- vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes ☐ No ☐ N/A ☒ Comments:

- vii. Data quality or usability affected? (Use comment box to explain.)

Comments:

Data quality or usability was not affected.

- c. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

Note: Leave blank if not required for project

- i. Organics – One MS/MSD reported per matrix, analysis and 20 samples?

Yes ☒ No ☐ N/A ☐ Comments:

- ii. Metals/Inorganics – one MS and one MSD reported per matrix, analysis and 20 samples?

Yes ☒ No ☐ N/A ☐ Comments:

- iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable?

Yes ☐ No ☒ N/A ☐ Comments:

1213764002 (1621838) MSD recovery for Fluoride outside of QC criteria. Project team determined that data quality and usability not affected.

- iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? RPD reported from MS/MSD, and or sample/sample duplicate.

Yes ☒ No ☐ N/A ☐ Comments:

- v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

- vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes ☒ No ☐ N/A ☐ Comments:

- vii. Data quality or usability affected? (Use comment box to explain.)

Comments:

Data quality or usability was not affected.

- d. Surrogates – Organics Only or Isotope Dilution Analytes (IDA) – Isotope Dilution Methods Only

- i. Are surrogate/IDA recoveries reported for organic analyses – field, QC and laboratory samples?

Yes ☒ No ☐ N/A ☐ Comments:

- ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits and project specified objectives, if applicable? (AK Petroleum methods 50-150 %R for field samples and 60-120 %R for QC samples; all other analyses see the laboratory report pages)

Yes ☐ No ☒ N/A ☐ Comments:

Surrogate recovery for 4-bromofluorobenzene in samples Dup-5 (154%) and SMW-34 (156%) do not meet QC criteria due to matrix interference.

- iii. Do the sample results with failed surrogate/IDA recoveries have data flags? If so, are the data flags clearly defined?

Yes ☒ No ☐ N/A ☐ Comments:

iv. Data quality or usability affected?

Comments:

Data quality and usability determined by project team.

e. Trip Blanks

- i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples?
-
- (If not, enter explanation below.)

Yes ☒ No ☐ N/A ☐

Comments:

- ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC?
-
- (If not, a comment explaining why must be entered below)

Yes ☒ No ☐ N/A ☐

Comments:

- iii. All results less than LOQ and project specified objectives?

Yes ☒ No ☐ N/A ☐

Comments:

- iv. If above LOQ or project specified objectives, what samples are affected?

Comments:

v. Data quality or usability affected?

Comments:

Data quality or usability was not affected.

f. Field Duplicate

- i. One field duplicate submitted per matrix, analysis and 10 project samples?

Yes ☒ No ☐ N/A ☐

Comments:

- ii. Submitted blind to lab?

Yes ☒ No ☐ N/A ☐

Comments:

- iii. Precision – All relative percent differences (RPD) less than specified project objectives?
(Recommended: 30% water, 50% soil)

$$\text{RPD (\%)} = \text{Absolute value of: } \frac{(R_1 - R_2)}{((R_1 + R_2)/2)} \times 100$$

Where R_1 = Sample Concentration
 R_2 = Field Duplicate Concentration

Yes ☐ No ☒ N/A ☐ Comments:

Dissolved iron in Dup-2/E-258 outside of RPD criteria (40.9%).

- iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

Data quality and usability determined by project team.

- g. Decontamination or Equipment Blank (If not applicable, a comment stating why must be entered below)?

Yes ☒ No ☐ N/A ☐ Comments:

- i. All results less than LOQ and project specified objectives?

Yes ☒ No ☐ N/A ☐ Comments:

- ii. If above LOQ or project specified objectives, what samples are affected?

Comments:

NA

- iii. Data quality or usability affected?

Comments:

Data quality or usability was not affected.

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

- a. Defined and appropriate?

Yes ☒ No ☐ N/A ☐ Comments:



Laboratory Report of Analysis

To: Tesoro Alaska Petroleum-Kenai
312 Tyee Street
Soldotna, AK 99669
(907)262-2315

Report Number: **1213764**

Client Project: **39B-003-007 21-3**

Dear Brianna Force,

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 Chuck 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.

Chuck Homestead
Project Manager
Charles.Homestead@sgs.com

Date

Case Narrative

SGS Client: **Tesoro Alaska Petroleum-Kenai**

SGS Project: **1213764**

Project Name/Site: **39B-003-007 21-3**

Project Contact: **Brianna Force**

Refer to sample receipt form for information on sample condition.

Dup-2 (1213764002) PS

Light Gases by RSK-175 were analyzed by Bio-Chem in Grand Rapids, MI.

Dup-5 (1213764005) PS

AK101 - Surrogate recovery for 4-bromofluorobenzene does not meet QC criteria, due to matrix interference.

E-258 (1213764026) PS

8021B- Sample was analyzed outside of hold time.

SMW-34 (1213764028) PS

AK101 - Surrogate recovery for 4-bromofluorobenzene does not meet QC criteria, due to matrix interference.

1213764002MSD (1621838) MSD

300.0 - Anions - MSD recovery for Fluoride 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: 07/14/2021 3:45:58PM

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 05/27/2021 for Mercury by EPA200.8, Nitrate as N by SM 4500NO3-F and VOCs by EPA 524.2) & 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

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>
Dup-1	1213764001	06/25/2021	06/28/2021	Water (Surface, Eff., Ground)
Dup-2	1213764002	06/21/2021	06/28/2021	Water (Surface, Eff., Ground)
Dup-3	1213764003	06/25/2021	06/28/2021	Water (Surface, Eff., Ground)
Dup-4	1213764004	06/22/2021	06/28/2021	Water (Surface, Eff., Ground)
Dup-5	1213764005	06/22/2021	06/28/2021	Water (Surface, Eff., Ground)
E-010	1213764006	06/25/2021	06/28/2021	Water (Surface, Eff., Ground)
E-072RR	1213764007	06/25/2021	06/28/2021	Water (Surface, Eff., Ground)
E-097	1213764008	06/24/2021	06/28/2021	Water (Surface, Eff., Ground)
E-152	1213764009	06/22/2021	06/28/2021	Water (Surface, Eff., Ground)
E-162	1213764010	06/23/2021	06/28/2021	Water (Surface, Eff., Ground)
E-168	1213764011	06/23/2021	06/28/2021	Water (Surface, Eff., Ground)
E-187B	1213764012	06/22/2021	06/28/2021	Water (Surface, Eff., Ground)
E-217A	1213764013	06/22/2021	06/28/2021	Water (Surface, Eff., Ground)
E-227	1213764014	06/24/2021	06/28/2021	Water (Surface, Eff., Ground)
E-244	1213764015	06/22/2021	06/28/2021	Water (Surface, Eff., Ground)
E-247A	1213764016	06/23/2021	06/28/2021	Water (Surface, Eff., Ground)
E-247B	1213764017	06/23/2021	06/28/2021	Water (Surface, Eff., Ground)
E-249A	1213764018	06/24/2021	06/28/2021	Water (Surface, Eff., Ground)
E-249B	1213764019	06/24/2021	06/28/2021	Water (Surface, Eff., Ground)
E-249C	1213764020	06/23/2021	06/28/2021	Water (Surface, Eff., Ground)
E-250A	1213764021	06/24/2021	06/28/2021	Water (Surface, Eff., Ground)
E-250B	1213764022	06/24/2021	06/28/2021	Water (Surface, Eff., Ground)
E-253	1213764023	06/22/2021	06/28/2021	Water (Surface, Eff., Ground)
E-255	1213764024	06/24/2021	06/28/2021	Water (Surface, Eff., Ground)
E-256	1213764025	06/25/2021	06/28/2021	Water (Surface, Eff., Ground)
E-258	1213764026	06/21/2021	06/28/2021	Water (Surface, Eff., Ground)
MW-92	1213764027	06/23/2021	06/28/2021	Water (Surface, Eff., Ground)
SMW-34	1213764028	06/22/2021	06/28/2021	Water (Surface, Eff., Ground)
SMW-36	1213764029	06/22/2021	06/28/2021	Water (Surface, Eff., Ground)
TPZ-1	1213764030	06/21/2021	06/28/2021	Water (Surface, Eff., Ground)
TPZ-2	1213764031	06/21/2021	06/28/2021	Water (Surface, Eff., Ground)
TPZ-4	1213764032	06/21/2021	06/28/2021	Water (Surface, Eff., Ground)
TW-8	1213764033	06/25/2021	06/28/2021	Drinking Water
EB 6-23	1213764034	06/23/2021	06/28/2021	Water (Surface, Eff., Ground)
EB 6-25	1213764035	06/25/2021	06/28/2021	Water (Surface, Eff., Ground)
Trip Blank	1213764036	06/21/2021	06/28/2021	Water (Surface, Eff., Ground)

Print Date: 07/14/2021 3:46:02PM

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>			
SW8021B	BTEX 8021			
SM21 2510B	Conductivity SM2510B			
SW6020B	Dissolved Metals by ICP-MS			
AK102	DRO Low Volume (W)			
AK101	Gasoline Range Organics (W)			
SW9056A	Ion Chromatographic Analysis Water			
SM21 4500NO3-F	Nitrate/Nitrite Flow injection Pres.			
SW8260D	Volatile Organic Compounds (W) FULL			
SW8260D	Volatile Organic Compounds(W)Custom List			

Print Date: 07/14/2021 3:46:02PM

Detectable Results Summary

Client Sample ID: **Dup-1**

Lab Sample ID: 1213764001

Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	2820	ug/L
Ethylbenzene	71.0	ug/L
o-Xylene	61.5	ug/L
P & M -Xylene	712	ug/L
Toluene	131	ug/L
Xylenes (total)	774	ug/L

Client Sample ID: **Dup-2**

Lab Sample ID: 1213764002

Dissolved Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Iron	2740	ug/L
Manganese	1120	ug/L
Sulfate	31.6	mg/L

Waters Department

Client Sample ID: **Dup-3**

Lab Sample ID: 1213764003

Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	1960	ug/L
Ethylbenzene	428	ug/L
o-Xylene	356	ug/L
P & M -Xylene	743	ug/L
Toluene	14.5	ug/L
Xylenes (total)	1100	ug/L

Client Sample ID: **Dup-4**

Lab Sample ID: 1213764004

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	1.45	ug/L
Trichloroethene	5.15	ug/L

Client Sample ID: **Dup-5**

Lab Sample ID: 1213764005

Volatile Fuels

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Gasoline Range Organics	0.434	mg/L
1,2,4-Trimethylbenzene	16.1	ug/L
Benzene	14.5	ug/L
cis-1,2-Dichloroethene	3.25	ug/L
Ethylbenzene	33.0	ug/L
Isopropylbenzene (Cumene)	7.75	ug/L
Naphthalene	3.06	ug/L
n-Propylbenzene	8.71	ug/L
P & M -Xylene	11.0	ug/L
sec-Butylbenzene	2.58	ug/L
Trichloroethene	4.40	ug/L
Vinyl chloride	4.85	ug/L
Xylenes (total)	11.0	ug/L

Detectable Results Summary

Client Sample ID: **E-010**
Lab Sample ID: 1213764006

Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	2860	ug/L
Ethylbenzene	75.0	ug/L
o-Xylene	67.0	ug/L
P & M -Xylene	719	ug/L
Toluene	140	ug/L
Xylenes (total)	786	ug/L

Client Sample ID: **E-072RR**
Lab Sample ID: 1213764007

Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	1990	ug/L
Ethylbenzene	455	ug/L
o-Xylene	378	ug/L
P & M -Xylene	800	ug/L
Xylenes (total)	1180	ug/L

Client Sample ID: **E-097**
Lab Sample ID: 1213764008

Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	792	ug/L

Client Sample ID: **E-162**
Lab Sample ID: 1213764010

Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	38.2	ug/L

Client Sample ID: **E-168**
Lab Sample ID: 1213764011

Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	15.8	ug/L

Client Sample ID: **E-187B**
Lab Sample ID: 1213764012

Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	7.46	ug/L

Client Sample ID: **E-217A**
Lab Sample ID: 1213764013

Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	1.10	ug/L
Ethylbenzene	2.19	ug/L
P & M -Xylene	4.31	ug/L
Xylenes (total)	5.29	ug/L

Client Sample ID: **E-227**
Lab Sample ID: 1213764014

Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	1180	ug/L
Ethylbenzene	364	ug/L
P & M -Xylene	684	ug/L
Xylenes (total)	700	ug/L

Client Sample ID: **E-244**
Lab Sample ID: 1213764015

Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	0.580	ug/L

Detectable Results Summary

Client Sample ID: **E-247A**
Lab Sample ID: 1213764016

Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	54.4	ug/L

Client Sample ID: **E-247B**
Lab Sample ID: 1213764017

Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	18.3	ug/L

Client Sample ID: **E-249A**
Lab Sample ID: 1213764018

Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	1230	ug/L

Client Sample ID: **E-249B**
Lab Sample ID: 1213764019

Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	707	ug/L

Client Sample ID: **E-249C**
Lab Sample ID: 1213764020

Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	4.97	ug/L

Client Sample ID: **E-250A**
Lab Sample ID: 1213764021

Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	742	ug/L

Client Sample ID: **E-250B**
Lab Sample ID: 1213764022

Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	731	ug/L

Client Sample ID: **E-255**
Lab Sample ID: 1213764024

Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	462	ug/L

Client Sample ID: **E-256**
Lab Sample ID: 1213764025

Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	2210	ug/L

Client Sample ID: **E-258**
Lab Sample ID: 1213764026

Dissolved Metals by ICP/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Iron	4150	ug/L
Manganese	1110	ug/L
Sulfate	31.4	mg/L

Waters Department

Client Sample ID: **MW-92**
Lab Sample ID: 1213764027

Volatile Fuels

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	3.33	ug/L

Detectable Results Summary

Client Sample ID: **SMW-34**

Lab Sample ID: 1213764028

Volatile Fuels

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Gasoline Range Organics	0.452	mg/L
1,2,4-Trimethylbenzene	13.7	ug/L
Benzene	13.3	ug/L
cis-1,2-Dichloroethene	2.90	ug/L
Ethylbenzene	29.3	ug/L
Isopropylbenzene (Cumene)	7.06	ug/L
Naphthalene	2.91	ug/L
n-Propylbenzene	7.69	ug/L
P & M -Xylene	9.71	ug/L
sec-Butylbenzene	2.31	ug/L
Trichloroethene	4.00	ug/L
Vinyl chloride	4.17	ug/L
Xylenes (total)	9.71	ug/L

Client Sample ID: **SMW-36**

Lab Sample ID: 1213764029

Volatile GC/MS

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Benzene	1.49	ug/L
Trichloroethene	5.22	ug/L

Client Sample ID: **TW-8**

Lab Sample ID: 1213764033

Waters Department

<u>Parameter</u>	<u>Result</u>	<u>Units</u>
Conductivity	1690	umhos/cm



Results of Dup-1

Client Sample ID: **Dup-1**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764001
Lab Project ID: 1213764

Collection Date: 06/25/21 08:10
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<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	2820	25.0	7.50	ug/L	50		07/07/21 01:26
Ethylbenzene	71.0	50.0	15.5	ug/L	50		07/07/21 01:26
o-Xylene	61.5	50.0	15.5	ug/L	50		07/07/21 01:26
P & M -Xylene	712	100	31.0	ug/L	50		07/07/21 01:26
Toluene	131	50.0	15.5	ug/L	50		07/07/21 01:26
Xylenes (total)	774	150	46.5	ug/L	50		07/07/21 01:26
Surrogates							
1,4-Difluorobenzene (surr)	107	77-115		%	50		07/07/21 01:26

Batch Information

Analytical Batch: VFC15694
Analytical Method: SW8021B
Analyst: MDT
Analytical Date/Time: 07/07/21 01:26
Container ID: 1213764001-A

Prep Batch: VXX37372
Prep Method: SW5030B
Prep Date/Time: 07/06/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Results of Dup-2

Client Sample ID: **Dup-2**

Client Project ID: **39B-003-007 21-3**

Lab Sample ID: 1213764002

Lab Project ID: 1213764

Collection Date: 06/21/21 08:00

Received Date: 06/28/21 14:33

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	2740	500	150	ug/L	5		07/10/21 17:45
Manganese	1120	2.00	0.620	ug/L	5		07/10/21 17:45

Batch Information

Analytical Batch: MMS11190

Analytical Method: SW6020B

Analyst: ACF

Analytical Date/Time: 07/10/21 17:45

Container ID: 1213764002-G

Prep Batch: MXX34365

Prep Method: SW3010A

Prep Date/Time: 07/07/21 09:44

Prep Initial Wt./Vol.: 25 mL

Prep Extract Vol: 25 mL

Print Date: 07/14/2021 3:46:05PM

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Results of Dup-2

Client Sample ID: **Dup-2**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764002
Lab Project ID: 1213764

Collection Date: 06/21/21 08:00
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<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	0.500 U	0.500	0.150	ug/L	1		06/30/21 21:16
Ethylbenzene	1.00 U	1.00	0.310	ug/L	1		06/30/21 21:16
o-Xylene	1.00 U	1.00	0.310	ug/L	1		06/30/21 21:16
P & M -Xylene	2.00 U	2.00	0.620	ug/L	1		06/30/21 21:16
Toluene	1.00 U	1.00	0.310	ug/L	1		06/30/21 21:16
Xylenes (total)	3.00 U	3.00	0.930	ug/L	1		06/30/21 21:16
Surrogates							
1,4-Difluorobenzene (surr)	103	77-115		%	1		06/30/21 21:16

Batch Information

Analytical Batch: VFC15688
Analytical Method: SW8021B
Analyst: IJV
Analytical Date/Time: 06/30/21 21:16
Container ID: 1213764002-A

Prep Batch: VXX37340
Prep Method: SW5030B
Prep Date/Time: 06/30/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Results of Dup-2

Client Sample ID: **Dup-2**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764002
Lab Project ID: 1213764

Collection Date: 06/21/21 08:00
Received Date: 06/28/21 14:33
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>
Total Nitrate/Nitrite-N	0.200 U	0.200	0.0500	mg/L	2		07/02/21 11:36

Batch Information

Analytical Batch: WFI2940
Analytical Method: SM21 4500NO3-F
Analyst: EBH
Analytical Date/Time: 07/02/21 11:36
Container ID: 1213764002-H

<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	31.6	2.00	0.500	mg/L	10		07/08/21 16:36

Batch Information

Analytical Batch: WIC6187
Analytical Method: SW9056A
Analyst: A.A
Analytical Date/Time: 07/08/21 16:36
Container ID: 1213764002-I

Prep Batch: WXX13799
Prep Method: METHOD
Prep Date/Time: 07/08/21 11:00
Prep Initial Wt./Vol.: 10 mL
Prep Extract Vol: 10 mL

Print Date: 07/14/2021 3:46:05PM

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Results of Dup-3

Client Sample ID: **Dup-3**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764003
Lab Project ID: 1213764

Collection Date: 06/25/21 08:00
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<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	1960	25.0	7.50	ug/L	50		07/07/21 01:44
Ethylbenzene	428	50.0	15.5	ug/L	50		07/07/21 01:44
o-Xylene	356	50.0	15.5	ug/L	50		07/07/21 01:44
P & M -Xylene	743	100	31.0	ug/L	50		07/07/21 01:44
Toluene	14.5	1.00	0.310	ug/L	1		07/02/21 22:44
Xylenes (total)	1100	150	46.5	ug/L	50		07/07/21 01:44
Surrogates							
1,4-Difluorobenzene (surr)	100	77-115		%	50		07/07/21 01:44

Batch Information

Analytical Batch: VFC15694
Analytical Method: SW8021B
Analyst: MDT
Analytical Date/Time: 07/07/21 01:44
Container ID: 1213764003-A

Prep Batch: VXX37372
Prep Method: SW5030B
Prep Date/Time: 07/06/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Analytical Batch: VFC15692
Analytical Method: SW8021B
Analyst: MDT
Analytical Date/Time: 07/02/21 22:44
Container ID: 1213764003-A

Prep Batch: VXX37369
Prep Method: SW5030B
Prep Date/Time: 07/02/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Results of Dup-4

Client Sample ID: **Dup-4**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764004
Lab Project ID: 1213764

Collection Date: 06/22/21 08:00
Received Date: 06/28/21 14:33
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	1.45	0.400	0.120	ug/L	1		07/02/21 18:57
Ethylbenzene	1.00 U	1.00	0.310	ug/L	1		07/02/21 18:57
o-Xylene	1.00 U	1.00	0.310	ug/L	1		07/02/21 18:57
P & M -Xylene	2.00 U	2.00	0.620	ug/L	1		07/02/21 18:57
Toluene	1.00 U	1.00	0.310	ug/L	1		07/02/21 18:57
Trichloroethene	5.15	1.00	0.310	ug/L	1		07/02/21 18:57
Xylenes (total)	3.00 U	3.00	1.00	ug/L	1		07/02/21 18:57
Surrogates							
1,2-Dichloroethane-D4 (surr)	106	81-118		%	1		07/02/21 18:57
4-Bromofluorobenzene (surr)	101	85-114		%	1		07/02/21 18:57
Toluene-d8 (surr)	103	89-112		%	1		07/02/21 18:57

Batch Information

Analytical Batch: VMS20882
Analytical Method: SW8260D
Analyst: JMG
Analytical Date/Time: 07/02/21 18:57
Container ID: 1213764004-A

Prep Batch: VXX37356
Prep Method: SW5030B
Prep Date/Time: 07/02/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Results of Dup-5

Client Sample ID: **Dup-5**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764005
Lab Project ID: 1213764

Collection Date: 06/22/21 08:10
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Semivolatile Organic Fuels

<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>
Diesel Range Organics	0.612 U	0.612	0.184	mg/L	1		07/02/21 14:16
Surrogates							
5a Androstane (surr)	86	50-150		%	1		07/02/21 14:16

Batch Information

Analytical Batch: XFC15985
Analytical Method: AK102
Analyst: IVM
Analytical Date/Time: 07/02/21 14:16
Container ID: 1213764005-G

Prep Batch: XXX45087
Prep Method: SW3520C
Prep Date/Time: 07/01/21 16:33
Prep Initial Wt./Vol.: 245 mL
Prep Extract Vol: 1 mL

Print Date: 07/14/2021 3:46:05PM



Results of Dup-5

Client Sample ID: **Dup-5**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764005
Lab Project ID: 1213764

Collection Date: 06/22/21 08:10
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<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>
Gasoline Range Organics	0.434		0.100	0.0310	mg/L	1		07/01/21 19:30
Surrogates								
4-Bromofluorobenzene (surr)	154	*	50-150		%	1		07/01/21 19:30

Batch Information

Analytical Batch: VFC15690
Analytical Method: AK101
Analyst: MDT
Analytical Date/Time: 07/01/21 19:30
Container ID: 1213764005-A

Prep Batch: VXX37352
Prep Method: SW5030B
Prep Date/Time: 07/01/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Results of Dup-5

Client Sample ID: **Dup-5**

Client Project ID: **39B-003-007 21-3**

Lab Sample ID: 1213764005

Lab Project ID: 1213764

Collection Date: 06/22/21 08:10

Received Date: 06/28/21 14:33

Matrix: Water (Surface, Eff., Ground)

Solids (%):

Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.500 U	0.500	0.150	ug/L	1		07/02/21 19:12
1,1,1-Trichloroethane	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:12
1,1,2,2-Tetrachloroethane	0.500 U	0.500	0.150	ug/L	1		07/02/21 19:12
1,1,2-Trichloroethane	0.400 U	0.400	0.120	ug/L	1		07/02/21 19:12
1,1-Dichloroethane	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:12
1,1-Dichloroethene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:12
1,1-Dichloropropene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:12
1,2,3-Trichlorobenzene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:12
1,2,3-Trichloropropane	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:12
1,2,4-Trichlorobenzene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:12
1,2,4-Trimethylbenzene	16.1	1.00	0.310	ug/L	1		07/02/21 19:12
1,2-Dibromo-3-chloropropane	10.0 U	10.0	3.10	ug/L	1		07/02/21 19:12
1,2-Dibromoethane	0.0750 U	0.0750	0.0180	ug/L	1		07/02/21 19:12
1,2-Dichlorobenzene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:12
1,2-Dichloroethane	0.500 U	0.500	0.150	ug/L	1		07/02/21 19:12
1,2-Dichloropropane	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:12
1,3,5-Trimethylbenzene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:12
1,3-Dichlorobenzene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:12
1,3-Dichloropropane	0.500 U	0.500	0.150	ug/L	1		07/02/21 19:12
1,4-Dichlorobenzene	0.500 U	0.500	0.150	ug/L	1		07/02/21 19:12
2,2-Dichloropropane	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:12
2-Butanone (MEK)	10.0 U	10.0	3.10	ug/L	1		07/02/21 19:12
2-Chlorotoluene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:12
2-Hexanone	10.0 U	10.0	3.10	ug/L	1		07/02/21 19:12
4-Chlorotoluene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:12
4-Isopropyltoluene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:12
4-Methyl-2-pentanone (MIBK)	10.0 U	10.0	3.10	ug/L	1		07/02/21 19:12
Benzene	14.5	0.400	0.120	ug/L	1		07/02/21 19:12
Bromobenzene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:12
Bromochloromethane	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:12
Bromodichloromethane	0.500 U	0.500	0.150	ug/L	1		07/02/21 19:12
Bromoform	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:12
Bromomethane	5.00 U	5.00	2.00	ug/L	1		07/02/21 19:12
Carbon disulfide	10.0 U	10.0	3.10	ug/L	1		07/02/21 19:12
Carbon tetrachloride	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:12
Chlorobenzene	0.500 U	0.500	0.150	ug/L	1		07/02/21 19:12
Chloroethane	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:12

Print Date: 07/14/2021 3:46:05PM

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Results of Dup-5

Client Sample ID: **Dup-5**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764005
Lab Project ID: 1213764

Collection Date: 06/22/21 08:10
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Chloroform	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:12
Chloromethane	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:12
cis-1,2-Dichloroethene	3.25	1.00	0.310	ug/L	1		07/02/21 19:12
cis-1,3-Dichloropropene	0.500 U	0.500	0.150	ug/L	1		07/02/21 19:12
Dibromochloromethane	0.500 U	0.500	0.150	ug/L	1		07/02/21 19:12
Dibromomethane	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:12
Dichlorodifluoromethane	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:12
Ethylbenzene	33.0	1.00	0.310	ug/L	1		07/02/21 19:12
Freon-113	10.0 U	10.0	3.10	ug/L	1		07/02/21 19:12
Hexachlorobutadiene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:12
Isopropylbenzene (Cumene)	7.75	1.00	0.310	ug/L	1		07/02/21 19:12
Methylene chloride	10.0 U	10.0	3.10	ug/L	1		07/02/21 19:12
Methyl-t-butyl ether	10.0 U	10.0	3.10	ug/L	1		07/02/21 19:12
Naphthalene	3.06	1.00	0.310	ug/L	1		07/02/21 19:12
n-Butylbenzene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:12
n-Propylbenzene	8.71	1.00	0.310	ug/L	1		07/02/21 19:12
o-Xylene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:12
P & M -Xylene	11.0	2.00	0.620	ug/L	1		07/02/21 19:12
sec-Butylbenzene	2.58	1.00	0.310	ug/L	1		07/02/21 19:12
Styrene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:12
tert-Butylbenzene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:12
Tetrachloroethene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:12
Toluene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:12
trans-1,2-Dichloroethene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:12
trans-1,3-Dichloropropene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:12
Trichloroethene	4.40	1.00	0.310	ug/L	1		07/02/21 19:12
Trichlorofluoromethane	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:12
Vinyl acetate	10.0 U	10.0	3.10	ug/L	1		07/02/21 19:12
Vinyl chloride	4.85	0.150	0.0500	ug/L	1		07/02/21 19:12
Xylenes (total)	11.0	3.00	1.00	ug/L	1		07/02/21 19:12
Surrogates							
1,2-Dichloroethane-D4 (surr)	107	81-118		%	1		07/02/21 19:12
4-Bromofluorobenzene (surr)	100	85-114		%	1		07/02/21 19:12
Toluene-d8 (surr)	103	89-112		%	1		07/02/21 19:12

Print Date: 07/14/2021 3:46:05PM



Results of **Dup-5**

Client Sample ID: **Dup-5**

Client Project ID: **39B-003-007 21-3**

Lab Sample ID: 1213764005

Lab Project ID: 1213764

Collection Date: 06/22/21 08:10

Received Date: 06/28/21 14:33

Matrix: Water (Surface, Eff., Ground)

Solids (%):

Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS20882

Analytical Method: SW8260D

Analyst: JMG

Analytical Date/Time: 07/02/21 19:12

Container ID: 1213764005-D

Prep Batch: VXX37356

Prep Method: SW5030B

Prep Date/Time: 07/02/21 06:00

Prep Initial Wt./Vol.: 5 mL

Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM

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Results of E-010

Client Sample ID: **E-010**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764006
Lab Project ID: 1213764

Collection Date: 06/25/21 12:10
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<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	2860	25.0	7.50	ug/L	50		07/07/21 02:02
Ethylbenzene	75.0	50.0	15.5	ug/L	50		07/07/21 02:02
o-Xylene	67.0	50.0	15.5	ug/L	50		07/07/21 02:02
P & M -Xylene	719	100	31.0	ug/L	50		07/07/21 02:02
Toluene	140	50.0	15.5	ug/L	50		07/07/21 02:02
Xylenes (total)	786	150	46.5	ug/L	50		07/07/21 02:02
Surrogates							
1,4-Difluorobenzene (surr)	107	77-115		%	50		07/07/21 02:02

Batch Information

Analytical Batch: VFC15694
Analytical Method: SW8021B
Analyst: MDT
Analytical Date/Time: 07/07/21 02:02
Container ID: 1213764006-A

Prep Batch: VXX37372
Prep Method: SW5030B
Prep Date/Time: 07/06/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Results of E-072RR

Client Sample ID: E-072RR
Client Project ID: 39B-003-007 21-3
Lab Sample ID: 1213764007
Lab Project ID: 1213764

Collection Date: 06/25/21 10:25
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
Benzene	1990	25.0	7.50	ug/L	50		07/07/21 02:20
Ethylbenzene	455	50.0	15.5	ug/L	50		07/07/21 02:20
o-Xylene	378	50.0	15.5	ug/L	50		07/07/21 02:20
P & M -Xylene	800	100	31.0	ug/L	50		07/07/21 02:20
Toluene	50.0 U	50.0	15.5	ug/L	50		07/07/21 02:20
Xylenes (total)	1180	150	46.5	ug/L	50		07/07/21 02:20
Surrogates							
1,4-Difluorobenzene (surr)	99.8	77-115		%	50		07/07/21 02:20

Batch Information

Analytical Batch: VFC15694
Analytical Method: SW8021B
Analyst: MDT
Analytical Date/Time: 07/07/21 02:20
Container ID: 1213764007-A

Prep Batch: VXX37372
Prep Method: SW5030B
Prep Date/Time: 07/06/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Results of E-097

Client Sample ID: **E-097**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764008
Lab Project ID: 1213764

Collection Date: 06/24/21 13:00
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<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	792	5.00	1.50	ug/L	10		07/07/21 03:49
Ethylbenzene	10.0 U	10.0	3.10	ug/L	10		07/07/21 03:49
o-Xylene	10.0 U	10.0	3.10	ug/L	10		07/07/21 03:49
P & M -Xylene	20.0 U	20.0	6.20	ug/L	10		07/07/21 03:49
Toluene	10.0 U	10.0	3.10	ug/L	10		07/07/21 03:49
Xylenes (total)	30.0 U	30.0	9.30	ug/L	10		07/07/21 03:49
Surrogates							
1,4-Difluorobenzene (surr)	101	77-115		%	10		07/07/21 03:49

Batch Information

Analytical Batch: VFC15694
Analytical Method: SW8021B
Analyst: MDT
Analytical Date/Time: 07/07/21 03:49
Container ID: 1213764008-A

Prep Batch: VXX37372
Prep Method: SW5030B
Prep Date/Time: 07/06/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Results of E-152

Client Sample ID: **E-152**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764009
Lab Project ID: 1213764

Collection Date: 06/22/21 10:20
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<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	0.500 U	0.500	0.150	ug/L	1		07/06/21 22:26
Ethylbenzene	1.00 U	1.00	0.310	ug/L	1		07/06/21 22:26
o-Xylene	1.00 U	1.00	0.310	ug/L	1		07/06/21 22:26
P & M -Xylene	2.00 U	2.00	0.620	ug/L	1		07/06/21 22:26
Toluene	1.00 U	1.00	0.310	ug/L	1		07/06/21 22:26
Xylenes (total)	3.00 U	3.00	0.930	ug/L	1		07/06/21 22:26
Surrogates							
1,4-Difluorobenzene (surr)	98.9	77-115		%	1		07/06/21 22:26

Batch Information

Analytical Batch: VFC15694
Analytical Method: SW8021B
Analyst: MDT
Analytical Date/Time: 07/06/21 22:26
Container ID: 1213764009-A

Prep Batch: VXX37372
Prep Method: SW5030B
Prep Date/Time: 07/06/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Results of E-162

Client Sample ID: **E-162**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764010
Lab Project ID: 1213764

Collection Date: 06/23/21 14:30
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<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	38.2	0.500	0.150	ug/L	1		07/03/21 00:12
Ethylbenzene	1.00 U	1.00	0.310	ug/L	1		07/03/21 00:12
o-Xylene	1.00 U	1.00	0.310	ug/L	1		07/03/21 00:12
P & M -Xylene	2.00 U	2.00	0.620	ug/L	1		07/03/21 00:12
Toluene	1.00 U	1.00	0.310	ug/L	1		07/03/21 00:12
Xylenes (total)	3.00 U	3.00	0.930	ug/L	1		07/03/21 00:12
Surrogates							
1,4-Difluorobenzene (surr)	112	77-115		%	1		07/03/21 00:12

Batch Information

Analytical Batch: VFC15692
Analytical Method: SW8021B
Analyst: MDT
Analytical Date/Time: 07/03/21 00:12
Container ID: 1213764010-A

Prep Batch: VXX37369
Prep Method: SW5030B
Prep Date/Time: 07/02/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Results of E-168

Client Sample ID: **E-168**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764011
Lab Project ID: 1213764

Collection Date: 06/23/21 10:25
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<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	15.8	0.500	0.150	ug/L	1		07/03/21 00:30
Ethylbenzene	1.00 U	1.00	0.310	ug/L	1		07/03/21 00:30
o-Xylene	1.00 U	1.00	0.310	ug/L	1		07/03/21 00:30
P & M -Xylene	2.00 U	2.00	0.620	ug/L	1		07/03/21 00:30
Toluene	1.00 U	1.00	0.310	ug/L	1		07/03/21 00:30
Xylenes (total)	3.00 U	3.00	0.930	ug/L	1		07/03/21 00:30
Surrogates							
1,4-Difluorobenzene (surr)	103	77-115		%	1		07/03/21 00:30

Batch Information

Analytical Batch: VFC15692
Analytical Method: SW8021B
Analyst: MDT
Analytical Date/Time: 07/03/21 00:30
Container ID: 1213764011-A

Prep Batch: VXX37369
Prep Method: SW5030B
Prep Date/Time: 07/02/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Results of E-187B

Client Sample ID: **E-187B**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764012
Lab Project ID: 1213764

Collection Date: 06/22/21 11:40
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<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	7.46	0.500	0.150	ug/L	1		07/03/21 00:48
Ethylbenzene	1.00 U	1.00	0.310	ug/L	1		07/03/21 00:48
o-Xylene	1.00 U	1.00	0.310	ug/L	1		07/03/21 00:48
P & M -Xylene	2.00 U	2.00	0.620	ug/L	1		07/03/21 00:48
Toluene	1.00 U	1.00	0.310	ug/L	1		07/03/21 00:48
Xylenes (total)	3.00 U	3.00	0.930	ug/L	1		07/03/21 00:48
Surrogates							
1,4-Difluorobenzene (surr)	102	77-115		%	1		07/03/21 00:48

Batch Information

Analytical Batch: VFC15692
Analytical Method: SW8021B
Analyst: MDT
Analytical Date/Time: 07/03/21 00:48
Container ID: 1213764012-A

Prep Batch: VXX37369
Prep Method: SW5030B
Prep Date/Time: 07/02/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Results of E-217A

Client Sample ID: **E-217A**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764013
Lab Project ID: 1213764

Collection Date: 06/22/21 12:30
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<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	1.10	0.500	0.150	ug/L	1		07/03/21 01:05
Ethylbenzene	2.19	1.00	0.310	ug/L	1		07/03/21 01:05
o-Xylene	1.00 U	1.00	0.310	ug/L	1		07/03/21 01:05
P & M -Xylene	4.31	2.00	0.620	ug/L	1		07/03/21 01:05
Toluene	1.00 U	1.00	0.310	ug/L	1		07/03/21 01:05
Xylenes (total)	5.29	3.00	0.930	ug/L	1		07/03/21 01:05
Surrogates							
1,4-Difluorobenzene (surr)	99.6	77-115		%	1		07/03/21 01:05

Batch Information

Analytical Batch: VFC15692
Analytical Method: SW8021B
Analyst: MDT
Analytical Date/Time: 07/03/21 01:05
Container ID: 1213764013-A

Prep Batch: VXX37369
Prep Method: SW5030B
Prep Date/Time: 07/02/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Results of E-227

Client Sample ID: **E-227**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764014
Lab Project ID: 1213764

Collection Date: 06/24/21 13:45
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<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	1180	25.0	7.50	ug/L	50		07/07/21 02:38
Ethylbenzene	364	50.0	15.5	ug/L	50		07/07/21 02:38
o-Xylene	50.0 U	50.0	15.5	ug/L	50		07/07/21 02:38
P & M -Xylene	684	100	31.0	ug/L	50		07/07/21 02:38
Toluene	50.0 U	50.0	15.5	ug/L	50		07/07/21 02:38
Xylenes (total)	700	150	46.5	ug/L	50		07/07/21 02:38
Surrogates							
1,4-Difluorobenzene (surr)	106	77-115		%	50		07/07/21 02:38

Batch Information

Analytical Batch: VFC15694
Analytical Method: SW8021B
Analyst: MDT
Analytical Date/Time: 07/07/21 02:38
Container ID: 1213764014-A

Prep Batch: VXX37372
Prep Method: SW5030B
Prep Date/Time: 07/06/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Results of E-244

Client Sample ID: **E-244**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764015
Lab Project ID: 1213764

Collection Date: 06/22/21 11:00
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<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	0.580	0.500	0.150	ug/L	1		07/06/21 22:44
Ethylbenzene	1.00 U	1.00	0.310	ug/L	1		07/06/21 22:44
o-Xylene	1.00 U	1.00	0.310	ug/L	1		07/06/21 22:44
P & M -Xylene	2.00 U	2.00	0.620	ug/L	1		07/06/21 22:44
Toluene	1.00 U	1.00	0.310	ug/L	1		07/06/21 22:44
Xylenes (total)	3.00 U	3.00	0.930	ug/L	1		07/06/21 22:44
Surrogates							
1,4-Difluorobenzene (surr)	97.4	77-115		%	1		07/06/21 22:44

Batch Information

Analytical Batch: VFC15694
Analytical Method: SW8021B
Analyst: MDT
Analytical Date/Time: 07/06/21 22:44
Container ID: 1213764015-A

Prep Batch: VXX37372
Prep Method: SW5030B
Prep Date/Time: 07/06/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Results of E-247A

Client Sample ID: **E-247A**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764016
Lab Project ID: 1213764

Collection Date: 06/23/21 12:55
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<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	54.4	0.500	0.150	ug/L	1		07/03/21 01:58
Ethylbenzene	1.00 U	1.00	0.310	ug/L	1		07/03/21 01:58
o-Xylene	1.00 U	1.00	0.310	ug/L	1		07/03/21 01:58
P & M -Xylene	2.00 U	2.00	0.620	ug/L	1		07/03/21 01:58
Toluene	1.00 U	1.00	0.310	ug/L	1		07/03/21 01:58
Xylenes (total)	3.00 U	3.00	0.930	ug/L	1		07/03/21 01:58
Surrogates							
1,4-Difluorobenzene (surr)	104	77-115		%	1		07/03/21 01:58

Batch Information

Analytical Batch: VFC15692
Analytical Method: SW8021B
Analyst: MDT
Analytical Date/Time: 07/03/21 01:58
Container ID: 1213764016-A

Prep Batch: VXX37369
Prep Method: SW5030B
Prep Date/Time: 07/02/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Results of E-247B

Client Sample ID: **E-247B**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764017
Lab Project ID: 1213764

Collection Date: 06/23/21 11:55
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<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	18.3	0.500	0.150	ug/L	1		07/03/21 02:51
Ethylbenzene	1.00 U	1.00	0.310	ug/L	1		07/03/21 02:51
o-Xylene	1.00 U	1.00	0.310	ug/L	1		07/03/21 02:51
P & M -Xylene	2.00 U	2.00	0.620	ug/L	1		07/03/21 02:51
Toluene	1.00 U	1.00	0.310	ug/L	1		07/03/21 02:51
Xylenes (total)	3.00 U	3.00	0.930	ug/L	1		07/03/21 02:51
Surrogates							
1,4-Difluorobenzene (surr)	104	77-115		%	1		07/03/21 02:51

Batch Information

Analytical Batch: VFC15692
Analytical Method: SW8021B
Analyst: MDT
Analytical Date/Time: 07/03/21 02:51
Container ID: 1213764017-A

Prep Batch: VXX37369
Prep Method: SW5030B
Prep Date/Time: 07/02/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Results of E-249A

Client Sample ID: **E-249A**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764018
Lab Project ID: 1213764

Collection Date: 06/24/21 14:30
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<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	1230	25.0	7.50	ug/L	50		07/07/21 02:56
Ethylbenzene	50.0 U	50.0	15.5	ug/L	50		07/07/21 02:56
o-Xylene	50.0 U	50.0	15.5	ug/L	50		07/07/21 02:56
P & M -Xylene	100 U	100	31.0	ug/L	50		07/07/21 02:56
Toluene	50.0 U	50.0	15.5	ug/L	50		07/07/21 02:56
Xylenes (total)	150 U	150	46.5	ug/L	50		07/07/21 02:56
Surrogates							
1,4-Difluorobenzene (surr)	99.9	77-115		%	50		07/07/21 02:56

Batch Information

Analytical Batch: VFC15694
Analytical Method: SW8021B
Analyst: MDT
Analytical Date/Time: 07/07/21 02:56
Container ID: 1213764018-A

Prep Batch: VXX37372
Prep Method: SW5030B
Prep Date/Time: 07/06/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Results of E-249B

Client Sample ID: **E-249B**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764019
Lab Project ID: 1213764

Collection Date: 06/24/21 10:45
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<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	707	5.00	1.50	ug/L	10		07/07/21 04:07
Ethylbenzene	10.0 U	10.0	3.10	ug/L	10		07/07/21 04:07
o-Xylene	10.0 U	10.0	3.10	ug/L	10		07/07/21 04:07
P & M -Xylene	20.0 U	20.0	6.20	ug/L	10		07/07/21 04:07
Toluene	10.0 U	10.0	3.10	ug/L	10		07/07/21 04:07
Xylenes (total)	30.0 U	30.0	9.30	ug/L	10		07/07/21 04:07
Surrogates							
1,4-Difluorobenzene (surr)	101	77-115		%	10		07/07/21 04:07

Batch Information

Analytical Batch: VFC15694
Analytical Method: SW8021B
Analyst: MDT
Analytical Date/Time: 07/07/21 04:07
Container ID: 1213764019-A

Prep Batch: VXX37372
Prep Method: SW5030B
Prep Date/Time: 07/06/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Results of E-249C

Client Sample ID: **E-249C**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764020
Lab Project ID: 1213764

Collection Date: 06/23/21 11:15
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<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	4.97	0.500	0.150	ug/L	1		07/07/21 05:36
Ethylbenzene	1.00 U	1.00	0.310	ug/L	1		07/07/21 05:36
o-Xylene	1.00 U	1.00	0.310	ug/L	1		07/07/21 05:36
P & M -Xylene	2.00 U	2.00	0.620	ug/L	1		07/07/21 05:36
Toluene	1.00 U	1.00	0.310	ug/L	1		07/07/21 05:36
Xylenes (total)	3.00 U	3.00	0.930	ug/L	1		07/07/21 05:36
Surrogates							
1,4-Difluorobenzene (surr)	98.5	77-115		%	1		07/07/21 05:36

Batch Information

Analytical Batch: VFC15694
Analytical Method: SW8021B
Analyst: MDT
Analytical Date/Time: 07/07/21 05:36
Container ID: 1213764020-A

Prep Batch: VXX37372
Prep Method: SW5030B
Prep Date/Time: 07/06/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Results of E-250A

Client Sample ID: **E-250A**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764021
Lab Project ID: 1213764

Collection Date: 06/24/21 12:05
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<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	742	5.00	1.50	ug/L	10		07/07/21 04:25
Ethylbenzene	10.0 U	10.0	3.10	ug/L	10		07/07/21 04:25
o-Xylene	10.0 U	10.0	3.10	ug/L	10		07/07/21 04:25
P & M -Xylene	20.0 U	20.0	6.20	ug/L	10		07/07/21 04:25
Toluene	10.0 U	10.0	3.10	ug/L	10		07/07/21 04:25
Xylenes (total)	30.0 U	30.0	9.30	ug/L	10		07/07/21 04:25
Surrogates							
1,4-Difluorobenzene (surr)	102	77-115		%	10		07/07/21 04:25

Batch Information

Analytical Batch: VFC15694
Analytical Method: SW8021B
Analyst: MDT
Analytical Date/Time: 07/07/21 04:25
Container ID: 1213764021-A

Prep Batch: VXX37372
Prep Method: SW5030B
Prep Date/Time: 07/06/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Results of E-250B

Client Sample ID: **E-250B**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764022
Lab Project ID: 1213764

Collection Date: 06/24/21 11:30
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<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	731	5.00	1.50	ug/L	10		07/07/21 04:42
Ethylbenzene	10.0 U	10.0	3.10	ug/L	10		07/07/21 04:42
o-Xylene	10.0 U	10.0	3.10	ug/L	10		07/07/21 04:42
P & M -Xylene	20.0 U	20.0	6.20	ug/L	10		07/07/21 04:42
Toluene	10.0 U	10.0	3.10	ug/L	10		07/07/21 04:42
Xylenes (total)	30.0 U	30.0	9.30	ug/L	10		07/07/21 04:42
Surrogates							
1,4-Difluorobenzene (surr)	101	77-115		%	10		07/07/21 04:42

Batch Information

Analytical Batch: VFC15694
Analytical Method: SW8021B
Analyst: MDT
Analytical Date/Time: 07/07/21 04:42
Container ID: 1213764022-A

Prep Batch: VXX37372
Prep Method: SW5030B
Prep Date/Time: 07/06/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Results of E-253

Client Sample ID: **E-253**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764023
Lab Project ID: 1213764

Collection Date: 06/22/21 09:45
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<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	0.500 U	0.500	0.150	ug/L	1		07/06/21 23:02
Ethylbenzene	1.00 U	1.00	0.310	ug/L	1		07/06/21 23:02
o-Xylene	1.00 U	1.00	0.310	ug/L	1		07/06/21 23:02
P & M -Xylene	2.00 U	2.00	0.620	ug/L	1		07/06/21 23:02
Toluene	1.00 U	1.00	0.310	ug/L	1		07/06/21 23:02
Xylenes (total)	3.00 U	3.00	0.930	ug/L	1		07/06/21 23:02
Surrogates							
1,4-Difluorobenzene (surr)	97.9	77-115		%	1		07/06/21 23:02

Batch Information

Analytical Batch: VFC15694
Analytical Method: SW8021B
Analyst: MDT
Analytical Date/Time: 07/06/21 23:02
Container ID: 1213764023-A

Prep Batch: VXX37372
Prep Method: SW5030B
Prep Date/Time: 07/06/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Results of E-255

Client Sample ID: **E-255**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764024
Lab Project ID: 1213764

Collection Date: 06/24/21 09:50
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<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	462	5.00	1.50	ug/L	10		07/07/21 05:00
Ethylbenzene	10.0 U	10.0	3.10	ug/L	10		07/07/21 05:00
o-Xylene	10.0 U	10.0	3.10	ug/L	10		07/07/21 05:00
P & M -Xylene	20.0 U	20.0	6.20	ug/L	10		07/07/21 05:00
Toluene	10.0 U	10.0	3.10	ug/L	10		07/07/21 05:00
Xylenes (total)	30.0 U	30.0	9.30	ug/L	10		07/07/21 05:00
Surrogates							
1,4-Difluorobenzene (surr)	105	77-115		%	10		07/07/21 05:00

Batch Information

Analytical Batch: VFC15694
Analytical Method: SW8021B
Analyst: MDT
Analytical Date/Time: 07/07/21 05:00
Container ID: 1213764024-A

Prep Batch: VXX37372
Prep Method: SW5030B
Prep Date/Time: 07/06/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Results of E-256

Client Sample ID: **E-256**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764025
Lab Project ID: 1213764

Collection Date: 06/25/21 11:20
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<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	2210	25.0	7.50	ug/L	50		07/07/21 03:13
Ethylbenzene	50.0 U	50.0	15.5	ug/L	50		07/07/21 03:13
o-Xylene	50.0 U	50.0	15.5	ug/L	50		07/07/21 03:13
P & M -Xylene	100 U	100	31.0	ug/L	50		07/07/21 03:13
Toluene	50.0 U	50.0	15.5	ug/L	50		07/07/21 03:13
Xylenes (total)	150 U	150	46.5	ug/L	50		07/07/21 03:13
Surrogates							
1,4-Difluorobenzene (surr)	101	77-115		%	50		07/07/21 03:13

Batch Information

Analytical Batch: VFC15694
Analytical Method: SW8021B
Analyst: MDT
Analytical Date/Time: 07/07/21 03:13
Container ID: 1213764025-A

Prep Batch: VXX37372
Prep Method: SW5030B
Prep Date/Time: 07/06/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Results of E-258

Client Sample ID: **E-258**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764026
Lab Project ID: 1213764

Collection Date: 06/21/21 12:20
Received Date: 06/28/21 14:33
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	4150	500	150	ug/L	5		07/10/21 19:01
Manganese	1110	2.00	0.620	ug/L	5		07/10/21 19:01

Batch Information

Analytical Batch: MMS11190
Analytical Method: SW6020B
Analyst: ACF
Analytical Date/Time: 07/10/21 19:01
Container ID: 1213764026-G

Prep Batch: MXX34365
Prep Method: SW3010A
Prep Date/Time: 07/07/21 09:44
Prep Initial Wt./Vol.: 25 mL
Prep Extract Vol: 25 mL

Print Date: 07/14/2021 3:46:05PM



Results of E-258

Client Sample ID: **E-258**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764026
Lab Project ID: 1213764

Collection Date: 06/21/21 12:20
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<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	0.500 U	0.500	0.150	ug/L	1		07/06/21 23:20
Ethylbenzene	1.00 U	1.00	0.310	ug/L	1		07/06/21 23:20
o-Xylene	1.00 U	1.00	0.310	ug/L	1		07/06/21 23:20
P & M -Xylene	2.00 U	2.00	0.620	ug/L	1		07/06/21 23:20
Toluene	1.00 U	1.00	0.310	ug/L	1		07/06/21 23:20
Xylenes (total)	3.00 U	3.00	0.930	ug/L	1		07/06/21 23:20
Surrogates							
1,4-Difluorobenzene (surr)	99.5	77-115		%	1		07/06/21 23:20

Batch Information

Analytical Batch: VFC15694
Analytical Method: SW8021B
Analyst: MDT
Analytical Date/Time: 07/06/21 23:20
Container ID: 1213764026-A

Prep Batch: VXX37372
Prep Method: SW5030B
Prep Date/Time: 07/06/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Results of E-258

Client Sample ID: **E-258**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764026
Lab Project ID: 1213764

Collection Date: 06/21/21 12:20
Received Date: 06/28/21 14:33
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>
Total Nitrate/Nitrite-N	0.200 U	0.200	0.0500	mg/L	2		07/02/21 11:38

Batch Information

Analytical Batch: WFI2940
Analytical Method: SM21 4500NO3-F
Analyst: EBH
Analytical Date/Time: 07/02/21 11:38
Container ID: 1213764026-H

<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	31.4	2.00	0.500	mg/L	10		07/08/21 17:33

Batch Information

Analytical Batch: WIC6187
Analytical Method: SW9056A
Analyst: A.A
Analytical Date/Time: 07/08/21 17:33
Container ID: 1213764026-I

Prep Batch: WXX13799
Prep Method: METHOD
Prep Date/Time: 07/08/21 11:00
Prep Initial Wt./Vol.: 10 mL
Prep Extract Vol: 10 mL

Print Date: 07/14/2021 3:46:05PM



Results of MW-92

Client Sample ID: **MW-92**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764027
Lab Project ID: 1213764

Collection Date: 06/23/21 09:35
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<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	3.33	0.500	0.150	ug/L	1		07/03/21 05:47
Ethylbenzene	1.00 U	1.00	0.310	ug/L	1		07/03/21 05:47
o-Xylene	1.00 U	1.00	0.310	ug/L	1		07/03/21 05:47
P & M -Xylene	2.00 U	2.00	0.620	ug/L	1		07/03/21 05:47
Toluene	1.00 U	1.00	0.310	ug/L	1		07/03/21 05:47
Xylenes (total)	3.00 U	3.00	0.930	ug/L	1		07/03/21 05:47
Surrogates							
1,4-Difluorobenzene (surr)	102	77-115		%	1		07/03/21 05:47

Batch Information

Analytical Batch: VFC15692
Analytical Method: SW8021B
Analyst: MDT
Analytical Date/Time: 07/03/21 05:47
Container ID: 1213764027-A

Prep Batch: VXX37369
Prep Method: SW5030B
Prep Date/Time: 07/02/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Results of **SMW-34**

Client Sample ID: **SMW-34**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764028
Lab Project ID: 1213764

Collection Date: 06/22/21 13:50
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Semivolatile Organic Fuels**

<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>
Diesel Range Organics	0.638 U	0.638	0.191	mg/L	1		07/02/21 14:36
Surrogates							
5a Androstane (surr)	86.3	50-150		%	1		07/02/21 14:36

Batch Information

Analytical Batch: XFC15985
Analytical Method: AK102
Analyst: IVM
Analytical Date/Time: 07/02/21 14:36
Container ID: 1213764028-E

Prep Batch: XXX45087
Prep Method: SW3520C
Prep Date/Time: 07/01/21 16:33
Prep Initial Wt./Vol.: 235 mL
Prep Extract Vol: 1 mL

Print Date: 07/14/2021 3:46:05PM



Results of **SMW-34**

Client Sample ID: **SMW-34**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764028
Lab Project ID: 1213764

Collection Date: 06/22/21 13:50
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile Fuels**

<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>
Gasoline Range Organics	0.452		0.100	0.0310	mg/L	1		07/01/21 21:34
Surrogates								
4-Bromofluorobenzene (surr)	156	*	50-150		%	1		07/01/21 21:34

Batch Information

Analytical Batch: VFC15690
Analytical Method: AK101
Analyst: MDT
Analytical Date/Time: 07/01/21 21:34
Container ID: 1213764028-A

Prep Batch: VXX37352
Prep Method: SW5030B
Prep Date/Time: 07/01/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM

Results of SMW-34

Client Sample ID: **SMW-34**
 Client Project ID: **39B-003-007 21-3**
 Lab Sample ID: 1213764028
 Lab Project ID: 1213764

Collection Date: 06/22/21 13:50
 Received Date: 06/28/21 14:33
 Matrix: Water (Surface, Eff., Ground)
 Solids (%):
 Location:

Results by Volatile GC/MS

Parameter	Result Qual	LOQ/CL	DL	Units	DF	Allowable Limits	Date Analyzed
1,1,1,2-Tetrachloroethane	0.500 U	0.500	0.150	ug/L	1		07/02/21 19:28
1,1,1-Trichloroethane	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:28
1,1,2,2-Tetrachloroethane	0.500 U	0.500	0.150	ug/L	1		07/02/21 19:28
1,1,2-Trichloroethane	0.400 U	0.400	0.120	ug/L	1		07/02/21 19:28
1,1-Dichloroethane	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:28
1,1-Dichloroethene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:28
1,1-Dichloropropene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:28
1,2,3-Trichlorobenzene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:28
1,2,3-Trichloropropane	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:28
1,2,4-Trichlorobenzene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:28
1,2,4-Trimethylbenzene	13.7	1.00	0.310	ug/L	1		07/02/21 19:28
1,2-Dibromo-3-chloropropane	10.0 U	10.0	3.10	ug/L	1		07/02/21 19:28
1,2-Dibromoethane	0.0750 U	0.0750	0.0180	ug/L	1		07/02/21 19:28
1,2-Dichlorobenzene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:28
1,2-Dichloroethane	0.500 U	0.500	0.150	ug/L	1		07/02/21 19:28
1,2-Dichloropropane	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:28
1,3,5-Trimethylbenzene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:28
1,3-Dichlorobenzene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:28
1,3-Dichloropropane	0.500 U	0.500	0.150	ug/L	1		07/02/21 19:28
1,4-Dichlorobenzene	0.500 U	0.500	0.150	ug/L	1		07/02/21 19:28
2,2-Dichloropropane	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:28
2-Butanone (MEK)	10.0 U	10.0	3.10	ug/L	1		07/02/21 19:28
2-Chlorotoluene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:28
2-Hexanone	10.0 U	10.0	3.10	ug/L	1		07/02/21 19:28
4-Chlorotoluene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:28
4-Isopropyltoluene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:28
4-Methyl-2-pentanone (MIBK)	10.0 U	10.0	3.10	ug/L	1		07/02/21 19:28
Benzene	13.3	0.400	0.120	ug/L	1		07/02/21 19:28
Bromobenzene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:28
Bromochloromethane	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:28
Bromodichloromethane	0.500 U	0.500	0.150	ug/L	1		07/02/21 19:28
Bromoform	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:28
Bromomethane	5.00 U	5.00	2.00	ug/L	1		07/02/21 19:28
Carbon disulfide	10.0 U	10.0	3.10	ug/L	1		07/02/21 19:28
Carbon tetrachloride	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:28
Chlorobenzene	0.500 U	0.500	0.150	ug/L	1		07/02/21 19:28
Chloroethane	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:28

Print Date: 07/14/2021 3:46:05PM

**Results of SMW-34**

Client Sample ID: **SMW-34**
 Client Project ID: **39B-003-007 21-3**
 Lab Sample ID: 1213764028
 Lab Project ID: 1213764

Collection Date: 06/22/21 13:50
 Received Date: 06/28/21 14:33
 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>
Chloroform	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:28
Chloromethane	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:28
cis-1,2-Dichloroethene	2.90	1.00	0.310	ug/L	1		07/02/21 19:28
cis-1,3-Dichloropropene	0.500 U	0.500	0.150	ug/L	1		07/02/21 19:28
Dibromochloromethane	0.500 U	0.500	0.150	ug/L	1		07/02/21 19:28
Dibromomethane	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:28
Dichlorodifluoromethane	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:28
Ethylbenzene	29.3	1.00	0.310	ug/L	1		07/02/21 19:28
Freon-113	10.0 U	10.0	3.10	ug/L	1		07/02/21 19:28
Hexachlorobutadiene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:28
Isopropylbenzene (Cumene)	7.06	1.00	0.310	ug/L	1		07/02/21 19:28
Methylene chloride	10.0 U	10.0	3.10	ug/L	1		07/02/21 19:28
Methyl-t-butyl ether	10.0 U	10.0	3.10	ug/L	1		07/02/21 19:28
Naphthalene	2.91	1.00	0.310	ug/L	1		07/02/21 19:28
n-Butylbenzene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:28
n-Propylbenzene	7.69	1.00	0.310	ug/L	1		07/02/21 19:28
o-Xylene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:28
P & M -Xylene	9.71	2.00	0.620	ug/L	1		07/02/21 19:28
sec-Butylbenzene	2.31	1.00	0.310	ug/L	1		07/02/21 19:28
Styrene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:28
tert-Butylbenzene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:28
Tetrachloroethene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:28
Toluene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:28
trans-1,2-Dichloroethene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:28
trans-1,3-Dichloropropene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:28
Trichloroethene	4.00	1.00	0.310	ug/L	1		07/02/21 19:28
Trichlorofluoromethane	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:28
Vinyl acetate	10.0 U	10.0	3.10	ug/L	1		07/02/21 19:28
Vinyl chloride	4.17	0.150	0.0500	ug/L	1		07/02/21 19:28
Xylenes (total)	9.71	3.00	1.00	ug/L	1		07/02/21 19:28
Surrogates							
1,2-Dichloroethane-D4 (surr)	109	81-118		%	1		07/02/21 19:28
4-Bromofluorobenzene (surr)	99.6	85-114		%	1		07/02/21 19:28
Toluene-d8 (surr)	104	89-112		%	1		07/02/21 19:28

Print Date: 07/14/2021 3:46:05PM



Results of **SMW-34**

Client Sample ID: **SMW-34**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764028
Lab Project ID: 1213764

Collection Date: 06/22/21 13:50
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by **Volatile GC/MS**

Batch Information

Analytical Batch: VMS20882
Analytical Method: SW8260D
Analyst: JMG
Analytical Date/Time: 07/02/21 19:28
Container ID: 1213764028-D

Prep Batch: VXX37356
Prep Method: SW5030B
Prep Date/Time: 07/02/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Results of **SMW-36**

Client Sample ID: **SMW-36**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764029
Lab Project ID: 1213764

Collection Date: 06/22/21 13:20
Received Date: 06/28/21 14:33
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	1.49	0.400	0.120	ug/L	1		07/02/21 19:43
Ethylbenzene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:43
o-Xylene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:43
P & M -Xylene	2.00 U	2.00	0.620	ug/L	1		07/02/21 19:43
Toluene	1.00 U	1.00	0.310	ug/L	1		07/02/21 19:43
Trichloroethene	5.22	1.00	0.310	ug/L	1		07/02/21 19:43
Xylenes (total)	3.00 U	3.00	1.00	ug/L	1		07/02/21 19:43
Surrogates							
1,2-Dichloroethane-D4 (surr)	108	81-118		%	1		07/02/21 19:43
4-Bromofluorobenzene (surr)	98.6	85-114		%	1		07/02/21 19:43
Toluene-d8 (surr)	103	89-112		%	1		07/02/21 19:43

Batch Information

Analytical Batch: VMS20882
Analytical Method: SW8260D
Analyst: JMG
Analytical Date/Time: 07/02/21 19:43
Container ID: 1213764029-A

Prep Batch: VXX37356
Prep Method: SW5030B
Prep Date/Time: 07/02/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Results of TPZ-1

Client Sample ID: **TPZ-1**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764030
Lab Project ID: 1213764

Collection Date: 06/21/21 14:00
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<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	0.500 U	0.500	0.150	ug/L	1		07/03/21 06:05
Ethylbenzene	1.00 U	1.00	0.310	ug/L	1		07/03/21 06:05
o-Xylene	1.00 U	1.00	0.310	ug/L	1		07/03/21 06:05
P & M -Xylene	2.00 U	2.00	0.620	ug/L	1		07/03/21 06:05
Toluene	1.00 U	1.00	0.310	ug/L	1		07/03/21 06:05
Xylenes (total)	3.00 U	3.00	0.930	ug/L	1		07/03/21 06:05
Surrogates							
1,4-Difluorobenzene (surr)	100	77-115		%	1		07/03/21 06:05

Batch Information

Analytical Batch: VFC15692
Analytical Method: SW8021B
Analyst: MDT
Analytical Date/Time: 07/03/21 06:05
Container ID: 1213764030-A

Prep Batch: VXX37369
Prep Method: SW5030B
Prep Date/Time: 07/02/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Results of TPZ-2

Client Sample ID: **TPZ-2**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764031
Lab Project ID: 1213764

Collection Date: 06/21/21 13:20
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<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	0.500 U	0.500	0.150	ug/L	1		07/03/21 06:23
Ethylbenzene	1.00 U	1.00	0.310	ug/L	1		07/03/21 06:23
o-Xylene	1.00 U	1.00	0.310	ug/L	1		07/03/21 06:23
P & M -Xylene	2.00 U	2.00	0.620	ug/L	1		07/03/21 06:23
Toluene	1.00 U	1.00	0.310	ug/L	1		07/03/21 06:23
Xylenes (total)	3.00 U	3.00	0.930	ug/L	1		07/03/21 06:23
Surrogates							
1,4-Difluorobenzene (surr)	101	77-115		%	1		07/03/21 06:23

Batch Information

Analytical Batch: VFC15692
Analytical Method: SW8021B
Analyst: MDT
Analytical Date/Time: 07/03/21 06:23
Container ID: 1213764031-A

Prep Batch: VXX37369
Prep Method: SW5030B
Prep Date/Time: 07/02/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Results of TPZ-4

Client Sample ID: **TPZ-4**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764032
Lab Project ID: 1213764

Collection Date: 06/21/21 15:00
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<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	0.500 U	0.500	0.150	ug/L	1		07/03/21 06:40
Ethylbenzene	1.00 U	1.00	0.310	ug/L	1		07/03/21 06:40
o-Xylene	1.00 U	1.00	0.310	ug/L	1		07/03/21 06:40
P & M -Xylene	2.00 U	2.00	0.620	ug/L	1		07/03/21 06:40
Toluene	1.00 U	1.00	0.310	ug/L	1		07/03/21 06:40
Xylenes (total)	3.00 U	3.00	0.930	ug/L	1		07/03/21 06:40
Surrogates							
1,4-Difluorobenzene (surr)	101	77-115		%	1		07/03/21 06:40

Batch Information

Analytical Batch: VFC15692
Analytical Method: SW8021B
Analyst: MDT
Analytical Date/Time: 07/03/21 06:40
Container ID: 1213764032-A

Prep Batch: VXX37369
Prep Method: SW5030B
Prep Date/Time: 07/02/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Results of TW-8

Client Sample ID: **TW-8**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764033
Lab Project ID: 1213764

Collection Date: 06/25/21 10:35
Received Date: 06/28/21 14:33
Matrix: Drinking Water
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>
Conductivity	1690	25.0	7.50	umhos/cm	5		06/29/21 15:22

Batch Information

Analytical Batch: WTI5669
Analytical Method: SM21 2510B
Analyst: SEM
Analytical Date/Time: 06/29/21 15:22
Container ID: 1213764033-A

Print Date: 07/14/2021 3:46:05PM

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Results of EB 6-23

Client Sample ID: **EB 6-23**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764034
Lab Project ID: 1213764

Collection Date: 06/23/21 16:00
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<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	0.500 U	0.500	0.150	ug/L	1		07/03/21 06:58
Ethylbenzene	1.00 U	1.00	0.310	ug/L	1		07/03/21 06:58
o-Xylene	1.00 U	1.00	0.310	ug/L	1		07/03/21 06:58
P & M -Xylene	2.00 U	2.00	0.620	ug/L	1		07/03/21 06:58
Toluene	1.00 U	1.00	0.310	ug/L	1		07/03/21 06:58
Xylenes (total)	3.00 U	3.00	0.930	ug/L	1		07/03/21 06:58
Surrogates							
1,4-Difluorobenzene (surr)	99.5	77-115		%	1		07/03/21 06:58

Batch Information

Analytical Batch: VFC15692
Analytical Method: SW8021B
Analyst: MDT
Analytical Date/Time: 07/03/21 06:58
Container ID: 1213764034-A

Prep Batch: VXX37369
Prep Method: SW5030B
Prep Date/Time: 07/02/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Results of EB 6-25

Client Sample ID: **EB 6-25**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764035
Lab Project ID: 1213764

Collection Date: 06/25/21 14:00
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<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	0.500 U	0.500	0.150	ug/L	1		07/03/21 07:15
Ethylbenzene	1.00 U	1.00	0.310	ug/L	1		07/03/21 07:15
o-Xylene	1.00 U	1.00	0.310	ug/L	1		07/03/21 07:15
P & M -Xylene	2.00 U	2.00	0.620	ug/L	1		07/03/21 07:15
Toluene	1.00 U	1.00	0.310	ug/L	1		07/03/21 07:15
Xylenes (total)	3.00 U	3.00	0.930	ug/L	1		07/03/21 07:15
Surrogates							
1,4-Difluorobenzene (surr)	100	77-115		%	1		07/03/21 07:15

Batch Information

Analytical Batch: VFC15692
Analytical Method: SW8021B
Analyst: MDT
Analytical Date/Time: 07/03/21 07:15
Container ID: 1213764035-A

Prep Batch: VXX37369
Prep Method: SW5030B
Prep Date/Time: 07/02/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Results of Trip Blank

Client Sample ID: **Trip Blank**
Client Project ID: **39B-003-007 21-3**
Lab Sample ID: 1213764036
Lab Project ID: 1213764

Collection Date: 06/21/21 08:00
Received Date: 06/28/21 14:33
Matrix: Water (Surface, Eff., Ground)
Solids (%):
Location:

Results by Volatile Fuels

<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	0.500 U	0.500	0.150	ug/L	1		07/02/21 18:36
Ethylbenzene	1.00 U	1.00	0.310	ug/L	1		07/02/21 18:36
o-Xylene	1.00 U	1.00	0.310	ug/L	1		07/02/21 18:36
P & M -Xylene	2.00 U	2.00	0.620	ug/L	1		07/02/21 18:36
Toluene	1.00 U	1.00	0.310	ug/L	1		07/02/21 18:36
Xylenes (total)	3.00 U	3.00	0.930	ug/L	1		07/02/21 18:36
Surrogates							
1,4-Difluorobenzene (surr)	101	77-115		%	1		07/02/21 18:36

Batch Information

Analytical Batch: VFC15692
Analytical Method: SW8021B
Analyst: MDT
Analytical Date/Time: 07/02/21 18:36
Container ID: 1213764036-A

Prep Batch: VXX37369
Prep Method: SW5030B
Prep Date/Time: 07/02/21 06:00
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:05PM



Method Blank

Blank ID: MB for HBN 1821853 [MXX/34365]

Blank Lab ID: 1621132

QC for Samples:

1213764002, 1213764026

Matrix: Water (Surface, Eff., Ground)

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
Manganese	1.00U	2.00	0.620	ug/L

Batch Information

Analytical Batch: MMS11190

Analytical Method: SW6020B

Instrument: Perkin Elmer Nexlon P5

Analyst: ACF

Analytical Date/Time: 7/10/2021 5:36:37PM

Prep Batch: MXX34365

Prep Method: SW3010A

Prep Date/Time: 7/7/2021 9:44:45AM

Prep Initial Wt./Vol.: 25 mL

Prep Extract Vol: 25 mL

Print Date: 07/14/2021 3:46:09PM

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1213764 [MXX34365]

Blank Spike Lab ID: 1621133

Date Analyzed: 07/10/2021 17:40

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1213764002, 1213764026

Results by SW6020B

Parameter	Blank Spike (ug/L)			CL
	Spike	Result	Rec (%)	
Iron	5000	5380	108	(87-118)
Manganese	500	522	104	(87-115)

Batch Information

Analytical Batch: MMS11190

Analytical Method: SW6020B

Instrument: Perkin Elmer Nexlon P5

Analyst: ACF

Prep Batch: MXX34365

Prep Method: SW3010A

Prep Date/Time: 07/07/2021 09:44

Spike Init Wt./Vol.: 5000 ug/L Extract Vol: 25 mL

Dupe Init Wt./Vol.: Extract Vol:

Print Date: 07/14/2021 3:46:12PM

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Matrix Spike Summary

Original Sample ID: 1621142
MS Sample ID: 1621143 MS
MSD Sample ID: 1621144 MSD

Analysis Date: 07/10/2021 17:45
Analysis Date: 07/10/2021 17:49
Analysis Date: 07/10/2021 17:53
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1213764002, 1213764026

Results by SW6020B

Parameter	Sample	Matrix Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Iron	2740	5000	8410	113	5000	8680	119 *	87-118	3.23	(< 20)
Manganese	1120	500	1660	107	500	1660	109	87-115	0.46	(< 20)

Batch Information

Analytical Batch: MMS11190
Analytical Method: SW6020B
Instrument: Perkin Elmer NexIon P5
Analyst: ACF
Analytical Date/Time: 7/10/2021 5:49:19PM

Prep Batch: MXX34365
Prep Method: 3010 H2O Digest for Metals ICP-MS
Prep Date/Time: 7/7/2021 9:44:45AM
Prep Initial Wt./Vol.: 25.00mL
Prep Extract Vol: 25.00mL

Print Date: 07/14/2021 3:46:13PM



Method Blank

Blank ID: MB for HBN 1821649 [VXX/37340]
Blank Lab ID: 1620148

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1213764002

Results by SW8021B

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.250U	0.500	0.150	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	0.930	ug/L

Surrogates

1,4-Difluorobenzene (surr)	102	77-115	%
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Batch Information

Analytical Batch: VFC15688
Analytical Method: SW8021B
Instrument: Agilent 7890A PID/FID
Analyst: IJV
Analytical Date/Time: 6/30/2021 9:45:00AM

Prep Batch: VXX37340
Prep Method: SW5030B
Prep Date/Time: 6/30/2021 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:14PM



Blank Spike Summary

Blank Spike ID: LCS for HBN 1213764 [VXX37340]
Blank Spike Lab ID: 1620149
Date Analyzed: 06/30/2021 10:21

Spike Duplicate ID: LCSD for HBN 1213764 [VXX37340]
Spike Duplicate Lab ID: 1620150
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1213764002

Results by SW8021B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	100	102	102	100	105	105	(80-120)	3.50	(< 20)
Ethylbenzene	100	87.9	88	100	91.7	92	(75-125)	4.30	(< 20)
o-Xylene	100	86.0	86	100	89.4	89	(80-120)	3.90	(< 20)
P & M -Xylene	200	173	86	200	180	90	(75-130)	4.00	(< 20)
Toluene	100	93.0	93	100	96.6	97	(75-120)	3.70	(< 20)
Xylenes (total)	300	259	86	300	269	90	(79-121)	3.90	(< 20)
Surrogates									
1,4-Difluorobenzene (surr)	50		105	50		106	(77-115)	1.20	

Batch Information

Analytical Batch: VFC15688
Analytical Method: SW8021B
Instrument: Agilent 7890A PID/FID
Analyst: IJV

Prep Batch: VXX37340
Prep Method: SW5030B
Prep Date/Time: 06/30/2021 06:00
Spike Init Wt./Vol.: 100 ug/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 100 ug/L Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:17PM



Method Blank

Blank ID: MB for HBN 1821785 [VXX/37352]

Blank Lab ID: 1620925

QC for Samples:

1213764005, 1213764028

Matrix: Water (Surface, Eff., Ground)

Results by AK101

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Gasoline Range Organics	0.0472J	0.100	0.0310	mg/L
Surrogates				
1,4-Difluorobenzene (surr)	101	77-115		%
4-Bromofluorobenzene (surr)	85.8	50-150		%

Batch Information

Analytical Batch: VFC15690

Analytical Method: AK101

Instrument: Agilent 7890A PID/FID

Analyst: MDT

Analytical Date/Time: 7/1/2021 10:45:00PM

Prep Batch: VXX37352

Prep Method: SW5030B

Prep Date/Time: 7/1/2021 6:00:00AM

Prep Initial Wt./Vol.: 5 mL

Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:19PM



Blank Spike Summary

Blank Spike ID: LCS for HBN 1213764 [VXX37352]
Blank Spike Lab ID: 1620926
Date Analyzed: 07/01/2021 23:03

Spike Duplicate ID: LCSD for HBN 1213764 [VXX37352]
Spike Duplicate Lab ID: 1620927
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1213764005, 1213764028

Results by AK101

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Gasoline Range Organics	1.00	1.19	119	1.00	1.14	114	(60-120)	4.50	(< 20)
Surrogates									
4-Bromofluorobenzene (surr)	0.0500		105	0.0500		103	(50-150)	1.60	

Batch Information

Analytical Batch: **VFC15690**
Analytical Method: **AK101**
Instrument: **Agilent 7890A PID/FID**
Analyst: **MDT**

Prep Batch: **VXX37352**
Prep Method: **SW5030B**
Prep Date/Time: **07/01/2021 06:00**
Spike Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL
Dupe Init Wt./Vol.: 1.00 mg/L Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:22PM



Method Blank

Blank ID: MB for HBN 1821801 [VXX/37356]

Blank Lab ID: 1620964

QC for Samples:

1213764004, 1213764005, 1213764028, 1213764029

Matrix: Water (Surface, Eff., Ground)

Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
1,1,1,2-Tetrachloroethane	0.250U	0.500	0.150	ug/L
1,1,1-Trichloroethane	0.500U	1.00	0.310	ug/L
1,1,2,2-Tetrachloroethane	0.250U	0.500	0.150	ug/L
1,1,2-Trichloroethane	0.200U	0.400	0.120	ug/L
1,1-Dichloroethane	0.500U	1.00	0.310	ug/L
1,1-Dichloroethene	0.500U	1.00	0.310	ug/L
1,1-Dichloropropene	0.500U	1.00	0.310	ug/L
1,2,3-Trichlorobenzene	0.500U	1.00	0.310	ug/L
1,2,3-Trichloropropane	0.500U	1.00	0.310	ug/L
1,2,4-Trichlorobenzene	0.500U	1.00	0.310	ug/L
1,2,4-Trimethylbenzene	0.500U	1.00	0.310	ug/L
1,2-Dibromo-3-chloropropane	5.00U	10.0	3.10	ug/L
1,2-Dibromoethane	0.0375U	0.0750	0.0180	ug/L
1,2-Dichlorobenzene	0.500U	1.00	0.310	ug/L
1,2-Dichloroethane	0.250U	0.500	0.150	ug/L
1,2-Dichloropropane	0.500U	1.00	0.310	ug/L
1,3,5-Trimethylbenzene	0.500U	1.00	0.310	ug/L
1,3-Dichlorobenzene	0.500U	1.00	0.310	ug/L
1,3-Dichloropropane	0.250U	0.500	0.150	ug/L
1,4-Dichlorobenzene	0.250U	0.500	0.150	ug/L
2,2-Dichloropropane	0.500U	1.00	0.310	ug/L
2-Butanone (MEK)	5.00U	10.0	3.10	ug/L
2-Chlorotoluene	0.500U	1.00	0.310	ug/L
2-Hexanone	5.00U	10.0	3.10	ug/L
4-Chlorotoluene	0.500U	1.00	0.310	ug/L
4-Isopropyltoluene	0.500U	1.00	0.310	ug/L
4-Methyl-2-pentanone (MIBK)	5.00U	10.0	3.10	ug/L
Benzene	0.200U	0.400	0.120	ug/L
Bromobenzene	0.500U	1.00	0.310	ug/L
Bromochloromethane	0.500U	1.00	0.310	ug/L
Bromodichloromethane	0.250U	0.500	0.150	ug/L
Bromoform	0.500U	1.00	0.310	ug/L
Bromomethane	2.50U	5.00	2.00	ug/L
Carbon disulfide	5.00U	10.0	3.10	ug/L
Carbon tetrachloride	0.500U	1.00	0.310	ug/L
Chlorobenzene	0.250U	0.500	0.150	ug/L
Chloroethane	0.500U	1.00	0.310	ug/L
Chloroform	0.500U	1.00	0.310	ug/L

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Method Blank

Blank ID: MB for HBN 1821801 [VXX/37356]

Blank Lab ID: 1620964

QC for Samples:

1213764004, 1213764005, 1213764028, 1213764029

Matrix: Water (Surface, Eff., Ground)

Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Chloromethane	0.500U	1.00	0.310	ug/L
cis-1,2-Dichloroethene	0.500U	1.00	0.310	ug/L
cis-1,3-Dichloropropene	0.250U	0.500	0.150	ug/L
Dibromochloromethane	0.250U	0.500	0.150	ug/L
Dibromomethane	0.500U	1.00	0.310	ug/L
Dichlorodifluoromethane	0.500U	1.00	0.310	ug/L
Ethylbenzene	0.500U	1.00	0.310	ug/L
Freon-113	5.00U	10.0	3.10	ug/L
Hexachlorobutadiene	0.500U	1.00	0.310	ug/L
Isopropylbenzene (Cumene)	0.500U	1.00	0.310	ug/L
Methylene chloride	5.00U	10.0	3.10	ug/L
Methyl-t-butyl ether	5.00U	10.0	3.10	ug/L
Naphthalene	0.500U	1.00	0.310	ug/L
n-Butylbenzene	0.500U	1.00	0.310	ug/L
n-Propylbenzene	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
sec-Butylbenzene	0.500U	1.00	0.310	ug/L
Styrene	0.500U	1.00	0.310	ug/L
tert-Butylbenzene	0.500U	1.00	0.310	ug/L
Tetrachloroethene	0.500U	1.00	0.310	ug/L
Toluene	0.500U	1.00	0.310	ug/L
trans-1,2-Dichloroethene	0.500U	1.00	0.310	ug/L
trans-1,3-Dichloropropene	0.500U	1.00	0.310	ug/L
Trichloroethene	0.500U	1.00	0.310	ug/L
Trichlorofluoromethane	0.500U	1.00	0.310	ug/L
Vinyl acetate	5.00U	10.0	3.10	ug/L
Vinyl chloride	0.0750U	0.150	0.0500	ug/L
Xylenes (total)	1.50U	3.00	1.00	ug/L
Surrogates				
1,2-Dichloroethane-D4 (surr)	107	81-118		%
4-Bromofluorobenzene (surr)	99.9	85-114		%
Toluene-d8 (surr)	104	89-112		%

Print Date: 07/14/2021 3:46:24PM



Method Blank

Blank ID: MB for HBN 1821801 [VXX/37356]
Blank Lab ID: 1620964

Matrix: Water (Surface, Eff., Ground)

QC for Samples:
1213764004, 1213764005, 1213764028, 1213764029

Results by SW8260D

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
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Batch Information

Analytical Batch: VMS20882
Analytical Method: SW8260D
Instrument: VPA 780/5975 GC/MS
Analyst: JMG
Analytical Date/Time: 7/2/2021 2:16:00PM

Prep Batch: VXX37356
Prep Method: SW5030B
Prep Date/Time: 7/2/2021 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1213764 [VXX37356]

Blank Spike Lab ID: 1620965

Date Analyzed: 07/02/2021 14:31

Spike Duplicate ID: LCSD for HBN 1213764 [VXX37356]

Spike Duplicate Lab ID: 1620966

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1213764004, 1213764005, 1213764028, 1213764029

Results by SW8260D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
1,1,1,2-Tetrachloroethane	30	31.7	106	30	31.5	105	(78-124)	0.41	(< 20)
1,1,1-Trichloroethane	30	28.2	94	30	27.2	91	(74-131)	3.70	(< 20)
1,1,2,2-Tetrachloroethane	30	32.2	107	30	33.1	110	(71-121)	2.60	(< 20)
1,1,2-Trichloroethane	30	32.0	107	30	32.2	107	(80-119)	0.79	(< 20)
1,1-Dichloroethane	30	28.3	94	30	27.4	92	(77-125)	3.20	(< 20)
1,1-Dichloroethene	30	28.1	94	30	26.5	89	(71-131)	5.70	(< 20)
1,1-Dichloropropene	30	28.3	94	30	27.3	91	(79-125)	3.60	(< 20)
1,2,3-Trichlorobenzene	30	33.1	110	30	33.6	112	(69-129)	1.40	(< 20)
1,2,3-Trichloropropane	30	31.9	106	30	32.6	109	(73-122)	2.40	(< 20)
1,2,4-Trichlorobenzene	30	32.8	109	30	32.7	109	(69-130)	0.25	(< 20)
1,2,4-Trimethylbenzene	30	32.0	107	30	31.1	104	(79-124)	2.90	(< 20)
1,2-Dibromo-3-chloropropane	30	31.1	104	30	33.1	110	(62-128)	6.20	(< 20)
1,2-Dibromoethane	30	32.2	107	30	32.6	109	(77-121)	1.30	(< 20)
1,2-Dichlorobenzene	30	31.6	105	30	31.3	104	(80-119)	0.86	(< 20)
1,2-Dichloroethane	30	28.9	96	30	28.8	96	(73-128)	0.44	(< 20)
1,2-Dichloropropane	30	29.6	99	30	29.1	97	(78-122)	1.70	(< 20)
1,3,5-Trimethylbenzene	30	32.0	107	30	31.0	103	(75-124)	3.10	(< 20)
1,3-Dichlorobenzene	30	31.6	105	30	31.1	104	(80-119)	1.40	(< 20)
1,3-Dichloropropane	30	31.9	106	30	32.2	107	(80-119)	1.10	(< 20)
1,4-Dichlorobenzene	30	31.5	105	30	31.2	104	(79-118)	0.91	(< 20)
2,2-Dichloropropane	30	28.1	94	30	27.2	91	(60-139)	3.20	(< 20)
2-Butanone (MEK)	90	89.2	99	90	94.6	105	(56-143)	5.80	(< 20)
2-Chlorotoluene	30	31.6	105	30	30.8	103	(79-122)	2.50	(< 20)
2-Hexanone	90	98.7	110	90	104	116	(57-139)	5.70	(< 20)
4-Chlorotoluene	30	31.9	106	30	31.2	104	(78-122)	2.30	(< 20)
4-Isopropyltoluene	30	32.1	107	30	31.1	104	(77-127)	3.10	(< 20)
4-Methyl-2-pentanone (MIBK)	90	91.3	101	90	94.8	105	(67-130)	3.80	(< 20)
Benzene	30	28.6	95	30	28.0	93	(79-120)	2.20	(< 20)
Bromobenzene	30	31.5	105	30	30.9	103	(80-120)	1.90	(< 20)
Bromochloromethane	30	29.2	97	30	28.6	95	(78-123)	2.20	(< 20)
Bromodichloromethane	30	29.9	100	30	29.4	98	(79-125)	1.70	(< 20)
Bromoform	30	32.4	108	30	33.1	110	(66-130)	2.10	(< 20)
Bromomethane	30	27.9	93	30	26.6	89	(53-141)	4.80	(< 20)
Carbon disulfide	45	41.8	93	45	39.1	87	(64-133)	6.50	(< 20)

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1213764 [VXX37356]

Blank Spike Lab ID: 1620965

Date Analyzed: 07/02/2021 14:31

Spike Duplicate ID: LCSD for HBN 1213764 [VXX37356]

Spike Duplicate Lab ID: 1620966

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1213764004, 1213764005, 1213764028, 1213764029

Results by SW8260D

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Carbon tetrachloride	30	28.2	94	30	27.1	90	(72-136)	4.20	(< 20)
Chlorobenzene	30	31.0	103	30	30.6	102	(82-118)	1.50	(< 20)
Chloroethane	30	29.7	99	30	27.1	90	(60-138)	9.40	(< 20)
Chloroform	30	28.7	96	30	28.0	94	(79-124)	2.20	(< 20)
Chloromethane	30	28.1	94	30	28.2	94	(50-139)	0.46	(< 20)
cis-1,2-Dichloroethene	30	28.4	95	30	28.2	94	(78-123)	0.70	(< 20)
cis-1,3-Dichloropropene	30	30.1	100	30	29.8	99	(75-124)	1.20	(< 20)
Dibromochloromethane	30	31.9	106	30	32.2	107	(74-126)	0.94	(< 20)
Dibromomethane	30	30.0	100	30	29.6	99	(79-123)	1.20	(< 20)
Dichlorodifluoromethane	30	27.3	91	30	25.8	86	(32-152)	5.50	(< 20)
Ethylbenzene	30	30.8	103	30	30.1	100	(79-121)	2.20	(< 20)
Freon-113	45	43.2	96	45	40.6	90	(70-136)	6.00	(< 20)
Hexachlorobutadiene	30	31.4	105	30	30.7	102	(66-134)	2.00	(< 20)
Isopropylbenzene (Cumene)	30	31.3	104	30	30.5	102	(72-131)	2.40	(< 20)
Methylene chloride	30	29.2	97	30	28.7	96	(74-124)	1.90	(< 20)
Methyl-t-butyl ether	45	44.8	100	45	45.0	100	(71-124)	0.48	(< 20)
Naphthalene	30	32.6	109	30	34.7	116	(61-128)	6.10	(< 20)
n-Butylbenzene	30	32.1	107	30	31.2	104	(75-128)	2.80	(< 20)
n-Propylbenzene	30	31.4	105	30	30.4	101	(76-126)	3.40	(< 20)
o-Xylene	30	30.8	103	30	30.5	102	(78-122)	1.20	(< 20)
P & M -Xylene	60	61.2	102	60	59.7	100	(80-121)	2.50	(< 20)
sec-Butylbenzene	30	31.8	106	30	30.6	102	(77-126)	3.70	(< 20)
Styrene	30	31.8	106	30	31.7	106	(78-123)	0.18	(< 20)
tert-Butylbenzene	30	30.9	103	30	30.3	101	(78-124)	2.00	(< 20)
Tetrachloroethene	30	30.1	100	30	29.2	97	(74-129)	3.00	(< 20)
Toluene	30	29.8	99	30	29.3	98	(80-121)	1.90	(< 20)
trans-1,2-Dichloroethene	30	28.2	94	30	27.0	90	(75-124)	4.40	(< 20)
trans-1,3-Dichloropropene	30	33.2	111	30	33.5	112	(73-127)	1.10	(< 20)
Trichloroethene	30	28.4	95	30	27.6	92	(79-123)	2.90	(< 20)
Trichlorofluoromethane	30	29.1	97	30	27.2	91	(65-141)	6.70	(< 20)
Vinyl acetate	30	31.1	104	30	32.4	108	(54-146)	4.10	(< 20)
Vinyl chloride	30	28.0	93	30	26.3	88	(58-137)	6.10	(< 20)
Xylenes (total)	90	92.0	102	90	90.2	100	(79-121)	2.10	(< 20)

Print Date: 07/14/2021 3:46:27PM



Blank Spike Summary

Blank Spike ID: LCS for HBN 1213764 [VXX37356]
Blank Spike Lab ID: 1620965
Date Analyzed: 07/02/2021 14:31

Spike Duplicate ID: LCSD for HBN 1213764 [VXX37356]
Spike Duplicate Lab ID: 1620966
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1213764004, 1213764005, 1213764028, 1213764029

Results by SW8260D

Parameter	Blank Spike (%)			Spike Duplicate (%)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Surrogates									
1,2-Dichloroethane-D4 (surr)	30		102	30		103	(81-118)	0.48	
4-Bromofluorobenzene (surr)	30		100	30		99	(85-114)	1.20	
Toluene-d8 (surr)	30		104	30		104	(89-112)	0.46	

Batch Information

Analytical Batch: VMS20882
Analytical Method: SW8260D
Instrument: VPA 780/5975 GC/MS
Analyst: JMG

Prep Batch: VXX37356
Prep Method: SW5030B
Prep Date/Time: 07/02/2021 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: 07/14/2021 3:46:27PM



Method Blank

Blank ID: MB for HBN 1821967 [VXX/37369]
Blank Lab ID: 1621672

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

1213764003, 1213764010, 1213764011, 1213764012, 1213764013, 1213764016, 1213764017, 1213764027, 1213764030, 1213764031, 1213764032, 1213764034, 1213764035, 1213764036

Results by SW8021B

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.250U	0.500	0.150	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	0.930	ug/L

Surrogates

1,4-Difluorobenzene (surr)	102	77-115	%
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Batch Information

Analytical Batch: VFC15692
Analytical Method: SW8021B
Instrument: Agilent 7890A PID/FID
Analyst: MDT
Analytical Date/Time: 7/2/2021 11:20:00AM

Prep Batch: VXX37369
Prep Method: SW5030B
Prep Date/Time: 7/2/2021 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:29PM



Blank Spike Summary

Blank Spike ID: LCS for HBN 1213764 [VXX37369]

Blank Spike Lab ID: 1621673

Date Analyzed: 07/02/2021 10:25

Spike Duplicate ID: LCSD for HBN 1213764 [VXX37369]

Spike Duplicate Lab ID: 1621674

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1213764003, 1213764010, 1213764011, 1213764012, 1213764013, 1213764016, 1213764017, 1213764027, 1213764030, 1213764031, 1213764032, 1213764034, 1213764035, 1213764036

Results by SW8021B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	100	104	104	100	108	108	(80-120)	3.10	(< 20)
Ethylbenzene	100	88.2	88	100	90.0	90	(75-125)	1.90	(< 20)
o-Xylene	100	85.4	85	100	87.3	87	(80-120)	2.20	(< 20)
P & M -Xylene	200	172	86	200	177	89	(75-130)	3.10	(< 20)
Toluene	100	94.3	94	100	96.4	96	(75-120)	2.20	(< 20)
Xylenes (total)	300	257	86	300	265	88	(79-121)	2.80	(< 20)
Surrogates									
1,4-Difluorobenzene (surr)	50		105	50		105	(77-115)	0.32	

Batch Information

Analytical Batch: VFC15692

Analytical Method: SW8021B

Instrument: Agilent 7890A PID/FID

Analyst: MDT

Prep Batch: VXX37369

Prep Method: SW5030B

Prep Date/Time: 07/02/2021 06:00

Spike Init Wt./Vol.: 100 ug/L Extract Vol: 5 mL

Dupe Init Wt./Vol.: 100 ug/L Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:32PM



Method Blank

Blank ID: MB for HBN 1821984 [VXX/37372]
Blank Lab ID: 1621773

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

1213764001, 1213764003, 1213764006, 1213764007, 1213764008, 1213764009, 1213764014, 1213764015, 1213764018, 1213764019, 1213764020, 1213764021, 1213764022, 1213764023, 1213764024, 1213764025, 1213764026

Results by SW8021B

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Benzene	0.250U	0.500	0.150	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	0.930	ug/L

Surrogates

1,4-Difluorobenzene (surr)	98.9	77-115	%
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Batch Information

Analytical Batch: VFC15694
Analytical Method: SW8021B
Instrument: Agilent 7890A PID/FID
Analyst: MDT
Analytical Date/Time: 7/6/2021 8:39:00PM

Prep Batch: VXX37372
Prep Method: SW5030B
Prep Date/Time: 7/6/2021 6:00:00AM
Prep Initial Wt./Vol.: 5 mL
Prep Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:34PM



Blank Spike Summary

Blank Spike ID: LCS for HBN 1213764 [VXX37372]

Blank Spike Lab ID: 1621774

Date Analyzed: 07/06/2021 21:15

Spike Duplicate ID: LCSD for HBN 1213764 [VXX37372]

Spike Duplicate Lab ID: 1621775

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1213764001, 1213764003, 1213764006, 1213764007, 1213764008, 1213764009, 1213764014, 1213764015, 1213764018, 1213764019, 1213764020, 1213764021, 1213764022, 1213764023, 1213764024, 1213764025, 1213764026

Results by SW8021B

Parameter	Blank Spike (ug/L)			Spike Duplicate (ug/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Benzene	100	106	106	100	105	105	(80-120)	0.48	(< 20)
Ethylbenzene	100	93.0	93	100	91.9	92	(75-125)	1.20	(< 20)
o-Xylene	100	90.9	91	100	90.0	90	(80-120)	0.99	(< 20)
P & M -Xylene	200	183	92	200	180	90	(75-130)	1.50	(< 20)
Toluene	100	98.6	99	100	98.7	99	(75-120)	0.12	(< 20)
Xylenes (total)	300	274	91	300	270	90	(79-121)	1.40	(< 20)
Surrogates									
1,4-Difluorobenzene (surr)	50		102	50		103	(77-115)	0.39	

Batch Information

Analytical Batch: VFC15694

Analytical Method: SW8021B

Instrument: Agilent 7890A PID/FID

Analyst: MDT

Prep Batch: VXX37372

Prep Method: SW5030B

Prep Date/Time: 07/06/2021 06:00

Spike Init Wt./Vol.: 100 ug/L Extract Vol: 5 mL

Dupe Init Wt./Vol.: 100 ug/L Extract Vol: 5 mL

Print Date: 07/14/2021 3:46:36PM



Method Blank

Blank ID: MB for HBN 1821689 (WFI/2940)

Blank Lab ID: 1620405

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: WFI2940

Analytical Method: SM21 4500NO3-F

Instrument: Astoria segmented flow

Analyst: EBH

Analytical Date/Time: 7/2/2021 12:32:28PM

Print Date: 07/14/2021 3:46:39PM

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Method Blank

Blank ID: MB for HBN 1821689 (WFI/2940)

Blank Lab ID: 1620411

QC for Samples:

1213764002, 1213764026

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: WFI2940

Analytical Method: SM21 4500NO3-F

Instrument: Astoria segmented flow

Analyst: EBH

Analytical Date/Time: 7/2/2021 11:46:58AM

Print Date: 07/14/2021 3:46:39PM

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Method Blank

Blank ID: MB for HBN 1821689 (WFI/2940)

Blank Lab ID: 1620418

QC for Samples:

1213764002, 1213764026

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: WFI2940

Analytical Method: SM21 4500NO3-F

Instrument: Astoria segmented flow

Analyst: EBH

Analytical Date/Time: 7/2/2021 10:59:43AM

Print Date: 07/14/2021 3:46:39PM

SGS North America Inc.

200 West Potter Drive Anchorage, AK 95518

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1213764 [WFI2940]

Blank Spike Lab ID: 1620407

Date Analyzed: 07/02/2021 12:30

Matrix: Water (Surface, Eff., Ground)

QC for Samples:

Results by SM21 4500NO3-F

Blank Spike (mg/L)				
Parameter	Spike	Result	Rec (%)	CL
Nitrate-N	2.5	2.25	90	(70-130)
Nitrite-N	2.5	2.42	97	(90-110)
Total Nitrate/Nitrite-N	5	4.67	93	(90-110)

Batch Information

Analytical Batch: WFI2940

Analytical Method: SM21 4500NO3-F

Instrument: Astoria segmented flow

Analyst: EBH

Print Date: 07/14/2021 3:46:41PM

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1213764 [WFI2940]

Blank Spike Lab ID: 1620413

Date Analyzed: 07/02/2021 11:45

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1213764002, 1213764026

Results by SM21 4500NO3-F

Blank Spike (mg/L)				
Parameter	Spike	Result	Rec (%)	CL
Nitrate-N	2.5	2.38	95	(70-130)
Nitrite-N	2.5	2.56	102	(90-110)
Total Nitrate/Nitrite-N	5	4.93	99	(90-110)

Batch Information

Analytical Batch: WFI2940

Analytical Method: SM21 4500NO3-F

Instrument: Astoria segmented flow

Analyst: EBH

Print Date: 07/14/2021 3:46:41PM



Blank Spike Summary

Blank Spike ID: LCS for HBN 1213764 [WFI2940]

Blank Spike Lab ID: 1620420

Date Analyzed: 07/02/2021 10:57

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1213764002, 1213764026

Results by SM21 4500NO3-F

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Nitrate-N	2.5	2.45	98	(70-130)
Nitrite-N	2.5	2.44	98	(90-110)
Total Nitrate/Nitrite-N	5	4.89	98	(90-110)

Batch Information

Analytical Batch: WFI2940

Analytical Method: SM21 4500NO3-F

Instrument: Astoria segmented flow

Analyst: EBH

Print Date: 07/14/2021 3:46:41PM



Matrix Spike Summary

Original Sample ID: 1213686001
MS Sample ID: 1620356 MS
MSD Sample ID: 1620357 MSD

Analysis Date: 07/02/2021 11:04
Analysis Date: 07/02/2021 11:06
Analysis Date: 07/02/2021 11:08
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1213764002, 1213764026

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	5.23	105	5.00	5.49	110	90-110	4.90	(< 25)

Batch Information

Analytical Batch: WFI2940
Analytical Method: SM21 4500NO3-F
Instrument: Astoria segmented flow
Analyst: EBH
Analytical Date/Time: 7/2/2021 11:06:00AM

Print Date: 07/14/2021 3:46:43PM



Matrix Spike Summary

Original Sample ID: 1213789001
MS Sample ID: 1620362 MS
MSD Sample ID: 1620363 MSD

Analysis Date: 07/02/2021 11:50
Analysis Date: 07/02/2021 11:52
Analysis Date: 07/02/2021 11:53
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1213764002, 1213764026

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	0.0952J	5.00	5.54	109	5.00	5.63	111 *	90-110	1.50	(< 25)

Batch Information

Analytical Batch: WFI2940
Analytical Method: SM21 4500NO3-F
Instrument: Astoria segmented flow
Analyst: EBH
Analytical Date/Time: 7/2/2021 11:52:00AM

Print Date: 07/14/2021 3:46:43PM



Method Blank

Blank ID: MB for HBN 1821500 [WTI/5669]

Blank Lab ID: 1619464

QC for Samples:

1213764033

Matrix: Water (Surface, Eff., Ground)

Results by SM21 2510B

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Conductivity	2.30J	5.00	1.50	umhos/cm

Batch Information

Analytical Batch: WTI5669

Analytical Method: SM21 2510B

Instrument: Titration

Analyst: SEM

Analytical Date/Time: 6/29/2021 12:30:01PM

Print Date: 07/14/2021 3:46:45PM

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Duplicate Sample Summary

Original Sample ID: 1213756001

Duplicate Sample ID: 1619465

QC for Samples:

1213764033

Analysis Date: 06/29/2021 13:17

Matrix: Drinking Water

Results by SM21 2510B

<u>NAME</u>	<u>Original</u>	<u>Duplicate</u>	<u>Units</u>	<u>RPD (%)</u>	<u>RPD CL</u>
Conductivity	29.1	27.7	umhos/cm	4.90	(< 20)

Batch Information

Analytical Batch: WTI5669

Analytical Method: SM21 2510B

Instrument: Titration

Analyst: SEM

Print Date: 07/14/2021 3:46:46PM

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1213764 [WTI5669]

Blank Spike Lab ID: 1619462

Date Analyzed: 06/29/2021 11:29

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1213764033

Results by SM21 2510B

Parameter	Blank Spike (umhos/cm)			CL
	Spike	Result	Rec (%)	
Conductivity	9.66	9.70	100	(90-110)

Batch Information

Analytical Batch: WTI5669

Analytical Method: SM21 2510B

Instrument: Titration

Analyst: SEM

Print Date: 07/14/2021 3:46:48PM

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Method Blank

Blank ID: MB for HBN 1821996 [WXX/13799]

Blank Lab ID: 1621834

QC for Samples:

1213764002, 1213764026

Matrix: Water (Surface, Eff., Ground)

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: WIC6187

Analytical Method: SW9056A

Instrument: 930 Metrohm compact IC flex

Analyst: A.A

Analytical Date/Time: 7/8/2021 3:39:34PM

Prep Batch: WXX13799

Prep Method: METHOD

Prep Date/Time: 7/8/2021 11:00:00AM

Prep Initial Wt./Vol.: 10 mL

Prep Extract Vol: 10 mL

Print Date: 07/14/2021 3:46:50PM

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1213764 [WXX13799]

Blank Spike Lab ID: 1621835

Date Analyzed: 07/08/2021 15:58

Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1213764002, 1213764026

Results by SW9056A

Parameter	Blank Spike (mg/L)			CL
	Spike	Result	Rec (%)	
Sulfate	5	4.93	99	(90-110)

Batch Information

Analytical Batch: WIC6187

Analytical Method: SW9056A

Instrument: 930 Metrohm compact IC flex

Analyst: A.A

Prep Batch: WXX13799

Prep Method: METHOD

Prep Date/Time: 07/08/2021 11:00

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

Dupe Init Wt./Vol.: Extract Vol:

Print Date: 07/14/2021 3:46:52PM

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Matrix Spike Summary

Original Sample ID: 1213764002
MS Sample ID: 1621837 MS
MSD Sample ID: 1621838 MSD

Analysis Date: 07/08/2021 16:36
Analysis Date: 07/08/2021 16:55
Analysis Date: 07/08/2021 17:14
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1213764002, 1213764026

Results by SW9056A

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Sulfate	31.6	50.0	79.2	95	50.0	78.6	94	90-110	0.72	(< 15)

Batch Information

Analytical Batch: WIC6187
Analytical Method: SW9056A
Instrument: 930 Metrohm compact IC flex
Analyst: A.A
Analytical Date/Time: 7/8/2021 4:55:33PM

Prep Batch: WXX13799
Prep Method: EPA 300.0 Extraction Waters/Liquids
Prep Date/Time: 7/8/2021 11:00:00AM
Prep Initial Wt./Vol.: 10.00mL
Prep Extract Vol: 10.00mL

Print Date: 07/14/2021 3:46:54PM



Matrix Spike Summary

Original Sample ID: 1621839
MS Sample ID: 1621840 MS
MSD Sample ID:

Analysis Date: 07/09/2021 0:51
Analysis Date: 07/09/2021 1:10
Analysis Date:
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1213764002, 1213764026

Results by SW9056A

Parameter	Sample	Matrix Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
		Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Sulfate	35.1	5.00	38.3	64 *				90-110		

Batch Information

Analytical Batch: WIC6187
Analytical Method: SW9056A
Instrument: 930 Metrohm compact IC flex
Analyst: A.A
Analytical Date/Time: 7/9/2021 1:10:08AM

Prep Batch: WXX13799
Prep Method: EPA 300.0 Extraction Waters/Liquids
Prep Date/Time: 7/8/2021 11:00:00AM
Prep Initial Wt./Vol.: 10.00mL
Prep Extract Vol: 10.00mL

Print Date: 07/14/2021 3:46:54PM



Method Blank

Blank ID: MB for HBN 1821635 [XXX/45087]

Blank Lab ID: 1620100

QC for Samples:

1213764005, 1213764028

Matrix: Water (Surface, Eff., Ground)

Results by AK102

<u>Parameter</u>	<u>Results</u>	<u>LOQ/CL</u>	<u>DL</u>	<u>Units</u>
Diesel Range Organics	0.0557J	0.150	0.0450	mg/L
Surrogates				
5a Androstane (surr)	94.1	60-120		%

Batch Information

Analytical Batch: XFC15985

Analytical Method: AK102

Instrument: Agilent 7890B R

Analyst: IVM

Analytical Date/Time: 7/2/2021 11:38:00AM

Prep Batch: XXX45087

Prep Method: SW3520C

Prep Date/Time: 7/1/2021 4:33:57PM

Prep Initial Wt./Vol.: 1000 mL

Prep Extract Vol: 1 mL

Print Date: 07/14/2021 3:46:55PM

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Blank Spike Summary

Blank Spike ID: LCS for HBN 1213764 [XXX45087]
Blank Spike Lab ID: 1620101
Date Analyzed: 07/02/2021 11:48

Spike Duplicate ID: LCSD for HBN 1213764 [XXX45087]
Spike Duplicate Lab ID: 1620102
Matrix: Water (Surface, Eff., Ground)

QC for Samples: 1213764005, 1213764028

Results by AK102

Parameter	Blank Spike (mg/L)			Spike Duplicate (mg/L)			CL	RPD (%)	RPD CL
	Spike	Result	Rec (%)	Spike	Result	Rec (%)			
Diesel Range Organics	5	4.61	92	5	4.52	90	(75-125)	2.10	(< 20)
Surrogates									
5a Androstane (surr)	0.1		98	0.1		98	(60-120)	0.00	

Batch Information

Analytical Batch: **XFC15985**
Analytical Method: **AK102**
Instrument: **Agilent 7890B R**
Analyst: **IVM**

Prep Batch: **XXX45087**
Prep Method: **SW3520C**
Prep Date/Time: **07/01/2021 16:33**
Spike Init Wt./Vol.: 5 mg/L Extract Vol: 1 mL
Dupe Init Wt./Vol.: 5 mg/L Extract Vol: 1 mL

Print Date: 07/14/2021 3:46:57PM

(907) 262-2315 - (907) 262-2320 (fax)

Trihydro

7:14 AM

7:14 AM

565

14. 13

3.8 D45

Date	Time
6/28/21	14:33

SGS

[illegible]

(Trihydro Corporation)

Bill: Trihydro

JY, BJ

No. of Jars per Analysis

Nitrate (EPA300.0)
Sulfate (SW9056A)
Methane (RSK175)
Dissolved Fe+Mn (SW6020A)
VOCs (8260C) List3
GRO (AK101)
DRO (AK102)
BTEX + TCE (8260C) List2
BTEX (8021B) List1

24-HR 48-HR 5-Day 2-WKS Other

Data Deliverables:

Standard Level 3 Other

EDD Required?

Comments & Special Instructions

Comments & Special Instructions

Trihydro Corporation

312 Tyee Street
Soldotna, Alaska 99669
(907) 262-2315 - (907) 262-2320 (fax)

Laboratory: SGS

Address:

Lab Accession No.

Reporting Instructions

Send Report To: Brianna Force

(Trihydro Corporation)

Project Name: 21-3
Our Client: Marathon
Our Project No: 39B-003-007

Billing Information

Bill: Trihydro - Our Client
Our Client's P.O. No: 4500235659

Our Client: Marathon**Our Project No:** 39B-003-007**Sampler(s):** JY, BJ

No. of Jars per Analysis

BTEX (8021B) List1

Lab No.	Sample No.	Matrix	Date	Time
11AC	E-168	GW	6/23/21	10:25
12AC	E-187B	GW	6/22/21	11:40
13AC	E-217A	GW	6/22/21	12:30
14AC	E-227	GW	6/24/21	13:45
15AC	E-244	GW	6/22/21	11:00
16AC	E-247A	GW	6/23/21	12:55
17AC	E-247B	GW	6/23/21	11:55
18AC	E-249A	GW	6/24/21	14:30
19AC	E-249B	GW	6/24/21	10:45
20AC	E-249C	GW	6/23/21	11:15

Comments & Special Instructions

Relinquished By (Name and Company):

Date

Time

Received By (Name and Company):

Date

Time

Trihydro

Trihydro Corporation

312 Tyee Street
Soldotna, Alaska 99669
(907) 262-2315 - (907) 262-2320 (fax)

Laboratory: SGS

Address:

Lab Accession No.

Reporting Instructions

Send Report To: Brianna Force
(Trihydro Corporation)

Billing Information

Bill: Trihydro - Our Client
Our Client's P.O. No: 4500235659

Project Name: 21-3**Our Client:** Marathon**Our Project No:** 39B-003-007**Sampler(s):** JY, BJ

No. of Jars per Analysis

Nitrate (EPA 300.0)	
VOCs (8260C) List3	
Sulfate (SW9056A)	
Methane (RSK 175)	
GRO (AK101)	
DRO (AK102)	
Dissolved Fe + Mn (SW6020A)	
BTEX + TCE (8260C) List2	
BTEX (8021B) List1	
BTEX (8021B) List1	

Lab No.	Sample No.	Matrix	Date	Time
21AC	E-250A	GW	6/24/21	12:05
22AC	E-250B	GW	6/24/21	11:30
23AC	E-253	GW	6/22/21	09:45
24AC	E-255	GW	6/24/21	09:50
25AC	E-256	GW	6/25/21	11:20
26AC	E-258	GW	6/21/21	12:20
27AC	MW-92	GW	6/23/21	09:35
28AC	SMW-34	GW	6/22/21	13:50
29AC	SMW-36	GW	6/22/21	13:20
30AC	TPZ-1	GW	6/21/21	14:00

Comments & Special Instructions

Dissolved Fe+Mn was Field filtered

Relinquished By (Name and Company):

Date

Time

Received By (Name and Company):

Date

Time

Trihydro

Trihydro Corporation

312 Tyee Street
Soldotna, Alaska 99669
(907) 262-2315 - (907) 262-2320 (fax)

Laboratory: SGS

Address:

Lab Accession No.

Reporting Instructions

Send Report To: Brianna Force

(Trihydro Corporation)

Billing Information

Bill: Trihydro - Our Client

Our Client's P.O. No: 4500235659

Our Client:

Marathon

Our Project No:

39B-003-007

Sampler(s):

JY, BJ

No. of Jars per Analysis

Conductivity
(SM2510B)

BTEX (8021B) List1

Turnaround:

24-HR 48-HR 5-Day 2-WKS Other

Data Deliverables:

Standard Level 3 Other

EDD Required?

Y - N

Comments & Special Instructions

Lab No. Sample No. Matrix Date Time

TPZ-2 6/21/21 13:20

TPZ-4 6/21/21 15:00

TW-8 6/25/21 10:35

EB 6-23 6/23/2021 16:00

EB 6-25 6/25/2021 14:00

Trip Blank 6/21/2021 08:00

Relinquished By (Name and Company):

Date

Time

Received By (Name and Company):

Date

Time

Trihydro

AIRBILL 8639417

I hereby declare that the goods contained herein do not contain dangerous goods.

Signed.....

Date

Grant Aviation

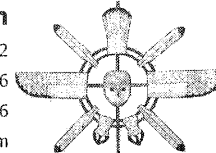
6520 Kulis Dr. Anchorage, AK 99502

Phone: 1 (888) 359-4726

Freephone: 1 (888) 359-4726

Email: res@flygrant.com

Web: <http://www.flygrant.com/>



GRANT AVIATION

FREIGHT DETAILS

FROM/TO: Kenai -> Anchorage International

Receiver: SGS
907-562-2343

Sender: TRIHYDRO
907-252-8366

Flight Departs: Jun 28 21 10:40 AM

Accepted: Mon, Jun 28 21 9:42:00 AM

Description & Comment	Quan.	Wgt.	Handle Fee	Hazmat Fee	Total
WATER SAMPLES	1	43	-	-	\$28.24

Total Tax: \$1.76

Total Payments made: \$30.00

Total Unpaid: \$0.00

Received in good condition by:

CUSTOMER COPY

AIRBILL 8639417

I hereby declare that the goods contained herein do not contain dangerous goods.

Signed.....

Date

Grant Aviation

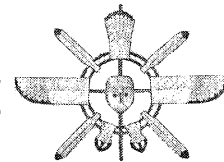
6520 Kulis Dr. Anchorage, AK 99502

Phone: 1 (888) 359-4726

Freephone: 1 (888) 359-4726

Email: res@flygrant.com

Web: <http://www.flygrant.com/>



GRANT AVIATION

FREIGHT DETAILS

FROM/TO: Kenai -> Anchorage International

Receiver: SGS
907-562-2343

Sender: TRIHYDRO
907-252-8366

Flight Departs: Jun 28 21 10:40 AM

Accepted: Mon, Jun 28 21 9:42:00 AM

Description & Comment	Quan.	Wgt.	Handle Fee	Hazmat Fee	Total
WATER SAMPLES	1	43	-	-	\$28.24
TAX: Federal Excise Tax					\$1.76

Total Payments made: \$30.00

Total Unpaid: \$0.00

TERMS AND CONDITIONS

Consignment Note Text

Alert Expeditors Inc.

#412089

Citywide Delivery • 440-3351
8421 Flamingo Drive • Anchorage, Alaska 99502

Date

6/28/21

From

Tubhydro

To

SGS

Collect ☐

Prepay ☐

Advance Charges ☐

Job #

PO#

Grant

8639417

Sample

Shipped Signature

JLT

Total Charge

Received By:



e-Sample Receipt Form

SGS Workorder #:

1213764

1213764

Review Criteria		Condition (Yes, No, N/A)	Exceptions Noted below	
Chain of Custody / Temperature Requirements			Yes	Exemption permitted if sampler hand carries/delivers.
Were Custody Seals intact? Note # & location		N/A		
COC accompanied samples?		Yes		
DOD: Were samples received in COC corresponding coolers?		N/A		
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	@ 3.8 °C Therm. ID: D45
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.			Cooler ID:	@ °C Therm. ID:
			Cooler ID:	@ °C Therm. ID:
			Cooler ID:	@ °C Therm. ID:
			Cooler ID:	@ °C Therm. ID:
*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.				
Holding Time / Documentation / Sample Condition Requirements			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		
Were proper containers (type/mass/volume/preservative***) used?		Yes	Yes	***Exemption permitted for metals (e.g. 200.8/6020B).
Volatile / LL-Hg Requirements				
Were Trip Blanks (i.e., VOAs, LL-Hg) in cooler with samples?		Yes	Trip Blanks had headspace larger than 6mm. PM Notified.	
Were all water VOA vials free of headspace (i.e., bubbles ≤ 6mm)?		No		
Were all soil VOAs field extracted with MeOH+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>
1213764001-A	HCL to pH < 2	OK	1213764013-C	HCL to pH < 2	OK
1213764001-B	HCL to pH < 2	OK	1213764014-A	HCL to pH < 2	OK
1213764001-C	HCL to pH < 2	OK	1213764014-B	HCL to pH < 2	OK
1213764002-A	HCL to pH < 2	OK	1213764014-C	HCL to pH < 2	OK
1213764002-B	HCL to pH < 2	OK	1213764015-A	HCL to pH < 2	OK
1213764002-C	HCL to pH < 2	OK	1213764015-B	HCL to pH < 2	OK
1213764002-D	HCL to pH < 2	OK	1213764015-C	HCL to pH < 2	OK
1213764002-E	HCL to pH < 2	OK	1213764016-A	HCL to pH < 2	OK
1213764002-F	HCL to pH < 2	OK	1213764016-B	HCL to pH < 2	OK
1213764002-G	HNO3 to pH < 2	OK	1213764016-C	HCL to pH < 2	OK
1213764002-H	H2SO4 to pH < 2	OK	1213764017-A	HCL to pH < 2	OK
1213764002-I	No Preservative Required	OK	1213764017-B	HCL to pH < 2	OK
1213764003-A	HCL to pH < 2	OK	1213764017-C	HCL to pH < 2	OK
1213764003-B	HCL to pH < 2	OK	1213764018-A	HCL to pH < 2	OK
1213764003-C	HCL to pH < 2	OK	1213764018-B	HCL to pH < 2	OK
1213764004-A	HCL to pH < 2	OK	1213764018-C	HCL to pH < 2	OK
1213764004-B	HCL to pH < 2	OK	1213764019-A	HCL to pH < 2	OK
1213764004-C	HCL to pH < 2	OK	1213764019-B	HCL to pH < 2	OK
1213764005-A	HCL to pH < 2	OK	1213764019-C	HCL to pH < 2	OK
1213764005-B	HCL to pH < 2	OK	1213764020-A	HCL to pH < 2	OK
1213764005-C	HCL to pH < 2	OK	1213764020-B	HCL to pH < 2	OK
1213764005-D	HCL to pH < 2	OK	1213764020-C	HCL to pH < 2	OK
1213764005-E	HCL to pH < 2	OK	1213764021-A	HCL to pH < 2	OK
1213764005-F	HCL to pH < 2	OK	1213764021-B	HCL to pH < 2	OK
1213764005-G	HCL to pH < 2	OK	1213764021-C	HCL to pH < 2	OK
1213764005-H	HCL to pH < 2	OK	1213764022-A	HCL to pH < 2	OK
1213764006-A	HCL to pH < 2	OK	1213764022-B	HCL to pH < 2	OK
1213764006-B	HCL to pH < 2	OK	1213764022-C	HCL to pH < 2	OK
1213764006-C	HCL to pH < 2	OK	1213764023-A	HCL to pH < 2	OK
1213764007-A	HCL to pH < 2	OK	1213764023-B	HCL to pH < 2	OK
1213764007-B	HCL to pH < 2	OK	1213764023-C	HCL to pH < 2	OK
1213764007-C	HCL to pH < 2	OK	1213764024-A	HCL to pH < 2	OK
1213764008-A	HCL to pH < 2	OK	1213764024-B	HCL to pH < 2	OK
1213764008-B	HCL to pH < 2	OK	1213764024-C	HCL to pH < 2	OK
1213764008-C	HCL to pH < 2	OK	1213764025-A	HCL to pH < 2	OK
1213764009-A	HCL to pH < 2	OK	1213764025-B	HCL to pH < 2	OK
1213764009-B	HCL to pH < 2	OK	1213764025-C	HCL to pH < 2	OK
1213764009-C	HCL to pH < 2	OK	1213764026-A	HCL to pH < 2	OK
1213764010-A	HCL to pH < 2	OK	1213764026-B	HCL to pH < 2	OK
1213764010-B	HCL to pH < 2	OK	1213764026-C	HCL to pH < 2	OK
1213764010-C	HCL to pH < 2	OK	1213764026-D	HCL to pH < 2	OK
1213764011-A	HCL to pH < 2	OK	1213764026-E	HCL to pH < 2	OK
1213764011-B	HCL to pH < 2	OK	1213764026-F	HCL to pH < 2	OK
1213764011-C	HCL to pH < 2	OK	1213764026-G	HNO3 to pH < 2	OK
1213764012-A	HCL to pH < 2	OK	1213764026-H	H2SO4 to pH < 2	OK
1213764012-B	HCL to pH < 2	OK	1213764026-I	No Preservative Required	OK
1213764012-C	HCL to pH < 2	OK	1213764027-A	HCL to pH < 2	OK
1213764013-A	HCL to pH < 2	OK	1213764027-B	HCL to pH < 2	OK
1213764013-B	HCL to pH < 2	OK	1213764027-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>
1213764028-A	HCL to pH < 2	OK			
1213764028-B	HCL to pH < 2	OK			
1213764028-C	HCL to pH < 2	OK			
1213764028-D	HCL to pH < 2	OK			
1213764028-E	HCL to pH < 2	OK			
1213764028-F	HCL to pH < 2	OK			
1213764028-G	HCL to pH < 2	OK			
1213764028-H	HCL to pH < 2	OK			
1213764029-A	HCL to pH < 2	OK			
1213764029-B	HCL to pH < 2	OK			
1213764029-C	HCL to pH < 2	OK			
1213764030-A	HCL to pH < 2	OK			
1213764030-B	HCL to pH < 2	OK			
1213764030-C	HCL to pH < 2	OK			
1213764031-A	HCL to pH < 2	OK			
1213764031-B	HCL to pH < 2	OK			
1213764031-C	HCL to pH < 2	OK			
1213764032-A	HCL to pH < 2	OK			
1213764032-B	HCL to pH < 2	OK			
1213764032-C	HCL to pH < 2	OK			
1213764033-A	No Preservative Required	OK			
1213764034-A	HCL to pH < 2	OK			
1213764034-B	HCL to pH < 2	OK			
1213764034-C	HCL to pH < 2	OK			
1213764035-A	HCL to pH < 2	OK			
1213764035-B	HCL to pH < 2	OK			
1213764035-C	HCL to pH < 2	OK			
1213764036-A	HCL to pH < 2	OK			
1213764036-B	HCL to pH < 2	OK			
1213764036-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.

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

1213764

SGS Job Number: FA86953

Sampling Date: 06/21/21

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: 16



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, UT, VT, WA, WV

This report shall not be reproduced, except in its entirety, without the written approval of SGS.

Test results relate only to samples analyzed.

Table of Contents

-1-

Section 1: Sample Summary 3

Section 2: Case Narrative/Conformance Summary 4

Section 3: Summary of Hits 5

Section 4: Sample Results 6

4.1: FA86953-1: DUP-2 7

4.2: FA86953-2: E-258 8

Section 5: Misc. Forms 9

5.1: Chain of Custody 10

Section 6: GC Volatiles - QC Data Summaries 12

6.1: Method Blank Summary 13

6.2: Blank Spike/Blank Spike Duplicate Summary 14

6.3: Matrix Spike Summary 15

6.4: Duplicate Summary 16



Sample Summary

SGS North America, Inc
1213764

Job No: FA86953

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
---------------	----------------	---------	----------	-------------	------	------------------

This report contains results reported as ND = Not detected. The following applies:
Organics ND = Not detected above the RL

FA86953-1	06/21/21	08:00	07/02/21	AQ	Water	DUP-2
FA86953-2	06/21/21	12:20	07/02/21	AQ	Water	E-258

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: SGS North America, Inc

Job No: FA86953

Site: 1213764

Report Date: 7/9/2021 5:06:13 PM

2 Sample(s) were collected on 06/21/2021 and were received at SGS North America Inc - Orlando on 07/02/2021 properly preserved, at 2 Deg. C and intact. These Samples received an SGS Orlando job number of FA86953. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

GC Volatiles By Method RSKSOP-147/175

Matrix: AQ

Batch ID: G1R208

Sample(s) FA86953-1DUP, FA86953-2MS were used as the QC samples indicated.

SGS Orlando certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS Orlando and as stated on the COC. SGS Orlando certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Orlando Quality Manual except as noted above. This report is to be used in its entirety. SGS Orlando is not responsible for any assumptions of data quality if partial data packages are used.

Friday, July 09, 2021

Page 1 of 1

Summary of Hits

Job Number: FA86953
Account: SGS North America, Inc
Project: 1213764
Collected: 06/21/21



Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
FA86953-1	DUP-2					
Methane		60.2	0.50		ug/l	RSKSOP-147/175
FA86953-2	E-258					
Methane		74.4	0.50		ug/l	RSKSOP-147/175



Orlando, FL

Section 4

4

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	DUP-2	Date Sampled:	06/21/21
Lab Sample ID:	FA86953-1	Date Received:	07/02/21
Matrix:	AQ - Water	Percent Solids:	n/a
Method:	RSKSOP-147/175		
Project:	1213764		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1R5370.D	1	07/03/21 13:24	KB	n/a	n/a	G1R208
Run #2							

Run #	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	500 ul	21 Deg. C
Run #2				

CAS No.	Compound	Result	RL	Units	Q
74-82-8	Methane	60.2	0.50	ug/l	
74-84-0	Ethane	ND	1.0	ug/l	
74-85-1	Ethene	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

4.1
4

Report of Analysis

Client Sample ID:	E-258	Date Sampled:	06/21/21
Lab Sample ID:	FA86953-2	Date Received:	07/02/21
Matrix:	AQ - Water	Percent Solids:	n/a
Method:	RSKSOP-147/175		
Project:	1213764		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1R5371.D	1	07/03/21 13:31	KB	n/a	n/a	G1R208
Run #2							

Run #	Initial Volume	Headspace Volume	Volume Injected	Temperature
Run #1	38.0 ml	5.0 ml	500 ul	21 Deg. C
Run #2				

CAS No.	Compound	Result	RL	Units	Q
74-82-8	Methane	74.4	0.50	ug/l	
74-84-0	Ethane	ND	1.0	ug/l	
74-85-1	Ethene	ND	1.0	ug/l	

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

4.2
4

Misc. Forms

5

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

FA86953

SGS North America Inc.
CHAIN OF CUSTODY RECORD

Locations Nationwide:

Alaska Florida
New Jersey Colorado
Texas North Carolina
Virginia Louisiana
www.us.sgs.com

2106180

7-1

CLIENT: SGS North America Inc. - Alaska Division				SGS Reference: <u>SGS-FL BioChem</u>				Page 1 of 1																			
CONTACT: Julie Shumway		PHONE NO: (907) 562-2343		Additional Comments: All soils report out in dry weight unless																							
PROJECT NAME: 1213764		PWSID#: NPD#:		<table border="1"><tr><td rowspan="4">CONTAINER</td><td rowspan="4">Preservative Used: HCl</td><td rowspan="4">TYPE</td><td rowspan="4">C = COMP G = GRAB</td><td rowspan="4">Xt = Multi Incremental Soils</td><td rowspan="4">Light Gases by RSK-175</td><td rowspan="4">MS</td><td rowspan="4">MSD</td><td rowspan="4">SGS lab #</td><td rowspan="4">Location ID</td></tr><tr></tr><tr></tr><tr></tr></table>								CONTAINER	Preservative Used: HCl	TYPE	C = COMP G = GRAB	Xt = Multi Incremental Soils	Light Gases by RSK-175	MS	MSD	SGS lab #	Location ID						
CONTAINER	Preservative Used: HCl	TYPE	C = COMP G = GRAB																			Xt = Multi Incremental Soils	Light Gases by RSK-175	MS	MSD	SGS lab #	Location ID
REPORTS TO: Julie Shumway		E-MAIL: Julie.Shumway@sgs.com Env.Alaska.RefLabTeam@sgs.com																									
INVOICE TO: SGS - Alaska		QUOTE #: P.O. #: 1213764																									
RESERVED for lab use	SAMPLE IDENTIFICATION	DATE mm/dd/yy	TIME HHMM	MATRIX/ MATRIX CODE	3	X																					
1	Dup-2	06/21/2021	08:00:00	Water	3	X																					
2	E-258	06/21/2021	12:20:00	Water	3	X																					
Relinquished By: (1)		Date	Time	Received By:		DOD Project?		NO		Data Deliverable Requirements:																	
Relinquished By: (2)		Date	Time	Received By:		Report to DL (J Flags)?		NO		Trihydro EDD																	
Relinquished By: (3)		Date	Time	Received By:		Cooler ID:				Requested Turnaround Time and-or Special Instructions:																	
Relinquished By: (4)		Date	Time	Received For Laboratory By:		Temp Blank °C: 1.6° / 1.8°		Chain of Custody Seal: (Circle)		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) 350-1557http://www.sgs.com/terms_and_conditions.htm

FX

F088_COC_REF_LAB_20190411

INITIAL ASSESSMENT

LABEL VERIFICATION

FA86953: Chain of Custody

Page 1 of 2

SGS Sample Receipt Summary

Job Number: FA86953

Client: SGS ALASKA

Project: 1213764

Date / Time Received: 7/2/2021 9:20:00 AM

Delivery Method: FX

Airbill #s:

Therm ID: IR 1;

Therm CF: 0.2;

of Coolers: 1

Cooler Temps (Raw Measured) °C: Cooler 1: (1.8);

Cooler Temps (Corrected) °C: Cooler 1: (2.0);

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 #s: 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: PETERH

Date: 7/2/2021 9:20:00 AM

Reviewer:

Date:

FA86953: Chain of Custody

Page 2 of 2

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: FA86953
Account: SGS/KA SGS North America, Inc
Project: 1213764

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
G1R208-MB	1R5367.D	1	07/03/21	KB	n/a	n/a	G1R208

The QC reported here applies to the following samples:

Method: RSKSOP-147/175

FA86953-1, FA86953-2

CAS No.	Compound	Result	RL	Units	Q
74-82-8	Methane	ND	0.50	ug/l	
74-84-0	Ethane	ND	1.0	ug/l	
74-85-1	Ethene	ND	1.0	ug/l	

Blank Spike/Blank Spike Duplicate Summary

Job Number: FA86953
Account: SGSAKA SGS North America, Inc
Project: 1213764

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
G1R208-BS	1R5368.D	1	07/03/21	KB	n/a	n/a	G1R208
G1R208-BSD	1R5369.D	1	07/03/21	KB	n/a	n/a	G1R208

The QC reported here applies to the following samples: Method: RSKSOP-147/175

FA86953-1, FA86953-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
74-82-8	Methane	108	121	112	119	110	2	62-139/30
74-84-0	Ethane	219	243	111	241	110	1	67-141/30
74-85-1	Ethene	290	331	114	328	113	1	68-141/30

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FA86953
Account: SGSAKA SGS North America, Inc
Project: 1213764

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA86953-2MS	1R5373.D	1	07/03/21	KB	n/a	n/a	G1R208
FA86953-2	1R5371.D	1	07/03/21	KB	n/a	n/a	G1R208

The QC reported here applies to the following samples: Method: RSKSOP-147/175

FA86953-1, FA86953-2

CAS No.	Compound	FA86953-2 ug/l	Spike Q	MS ug/l	MS %	Limits
74-82-8	Methane	74.4	108	198	114	62-139
74-84-0	Ethane	ND	219	268	122	67-141
74-85-1	Ethene	ND	290	366	126	68-141

* = Outside of Control Limits.

Duplicate Summary

Job Number: FA86953
Account: SGSAKA SGS North America, Inc
Project: 1213764

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA86953-1DUP	1R5372.D	1	07/03/21	KB	n/a	n/a	G1R208
FA86953-1	1R5370.D	1	07/03/21	KB	n/a	n/a	G1R208

The QC reported here applies to the following samples: Method: RSKSOP-147/175

FA86953-1, FA86953-2

CAS No.	Compound	FA86953-1 ug/l	DUP Q ug/l	Q	RPD	Limits
74-82-8	Methane	60.2	73.1		19	30
74-84-0	Ethane	ND	ND		nc	30
74-85-1	Ethene	ND	ND		nc	30

* = Outside of Control Limits.