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ENVIRONMENT

Ms. Rebekah Reams
Alaska Department of Environmental Conservation (ADEC)
Spill Prevention and Response, Contaminated Sites Program
610 University Avenue
Fairbanks, Alaska 99709

Subject:
2022 Annual Groundwater Monitoring Report

Date:
January 9, 2023

Dear Ms. Reams,

On behalf of Chevron Environmental Management Company (CEMC), Arcadis U.S., Inc. (Arcadis) has prepared the attached *2022 Annual Groundwater Monitoring Report* for the annual groundwater sampling event for the following facility:

Former Texaco Bulk Plant No.	ADEC File No.	Hazard ID:	Location
211815	102.38.005	287	410 Driveway Street Fairbanks, AK

If you have any questions, please do not hesitate to contact me.

Sincerely,

Arcadis U.S., Inc.

Contact:
Nick Wood

Phone:
808-522-0342

Email:
Nick.Wood@arcadis.com

Our ref:
30064222

Nick Wood
Project Manager

Copies:
James Kiernan (electronic copy)
Tim Bishop (*electronic copy*)

Chevron Environmental Management Company

2022 ANNUAL GROUNDWATER MONITORING REPORT

Former Texaco Bulk Plant 211815
410 Driveway Street
Fairbanks, Alaska
ADEC File No. 102.38.005

January 9, 2023

2022 ANNUAL GROUNDWATER MONITORING REPORT

Former Texaco Bulk Plant 211815

410 Driveway Street
Fairbanks, Alaska

ADEC File ID: 102.38.005
Hazard ID: 287

Prepared for:

Chevron Environmental Management Company

Gantt Jeffers, GIT
Staff Geologist

Nick Wood, PE
Project Manager

Prepared by:

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Our Ref.:
30064222

Date:
January 9, 2023

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FIGURES

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2022 ANNUAL GROUNDWATER MONINTORING REPORT
January 9, 2023

Facility No:	Former Texaco Bulk Plant 211815	Address:	410 Driveway Street Road, Fairbanks, Alaska

Arcadis Contact Person / Phone No.:	Nick Wood / 808-522-0342
Arcadis Project No.:	30064222
Primary Agency/Regulatory ID No.:	Alaska Department of Environmental Conservation (ADEC) / Rebekah Reams / ADEC file ID: 102.38.005

WORK CONDUCTED THIS PERIOD [2022]:

1. Conducted annual groundwater gauging activities on July 12, 2022, with adjacent sites.
2. Conducted annual groundwater sampling activities on July 12, 2022.
3. Conducted soil investigation and assessment activities on September 21 and 22, 2022.
4. Prepared the *2022 Annual Groundwater Monitoring Report*.

WORK PROPOSED NEXT PERIOD [2022/2023]:

1. Prepare the 2022 Soil Assessment Report.
2. Conduct annual groundwater monitoring activities in 2023.
3. Prepare the *2023 Annual Groundwater Monitoring Report*.

Current Phase of Project:	Monitoring	
Frequency of Monitoring / Sampling:	Annual	
Is Liquid Non-Aqueous Phase Liquid (LNAPL) Present On-site:	No	
Cumulative LNAPL Recovered to Date:	0.0	(gallons)
Approximate Depth to Groundwater:	11.83 (MW-1) to 14.20 (MW-7)	(feet below top of casing)
Approximate Groundwater Elevation:	429.11 (MW-8) to 429.74 (MW-1)	(feet relative to NAVD88)
Groundwater Flow Direction	West-southwest	

Groundwater Gradient	0.0008	(feet per foot)
Current Remediation Techniques:	None	
Permits for Discharge:	None	
Summary of Unusual Activity:	None	
Agency Directive Requirements:	None	

1 INTRODUCTION

On behalf of Chevron Environmental Management Company (CEMC), Arcadis US, Inc. (Arcadis), has prepared this report to document the annual groundwater sampling event of 2022 for former Texaco Bulk Plant no. 211815, located at 410 Driveway Street, Fairbanks, Alaska (the site). The site location and site plan are shown on Figure 1 and Figure 2, respectively.

This work was conducted under the direction of a Qualified Environmental Professional" (QEP) and "Qualified Sampler" (18 Alaska Administrative Code [AAC] 75.333). Site background and history summaries are attached as Appendix A.

2 GROUNDWATER MONITORING

2.1 Groundwater Gauging Methods

The 2022 annual groundwater gauging event was conducted on July 12, 2022. Site monitoring wells were gauged with an oil-water interface probe to determine depth-to-water and to ascertain if LNAPL was present. In order to prevent the possibility of cross-contamination, wells were gauged in the order of lowest to highest historical petroleum hydrocarbon concentrations in groundwater. In addition, non-disposable groundwater gauging equipment was decontaminated prior to and after each use with a detergent solution and rinsed in potable water.

2.2 Groundwater Elevation and Flow Direction

During the 2022 annual event, monitoring wells AR-81, AR-85, MW-1, MW-3, MW-4, MW-5, MW-7, MW-8, and MW-9 were scheduled to be gauged for groundwater elevations and the presence of LNAPL. The groundwater monitoring event field notes are presented in Appendix B.

The inferred groundwater flow direction for the annual 2022 monitoring events is to the West-southwest and is consistent with historical flow direction. Current and historical groundwater depth-to-water and elevation data are included in Table 1 and Table 2, respectively. A groundwater contour map with a rose diagram of historical flow direction is presented as Figure 3.

2.3 Groundwater Sampling Methods

The annual groundwater monitoring event were conducted on July 12, 2022. Groundwater samples were collected from monitoring wells AR-81, AR-85, MW-1, MW-3, MW-4, MW-5, MW-7, MW-8 and MW-9 using a low-flow purge sampling method.

Sampling procedures were conducted in accordance with ADEC *Field Sampling Guidance* (ADEC, 2022). Monitoring well caps were removed to allow groundwater levels to stabilize and equilibrate before using an electronic interface probe (EIP) meter capable of 0.01-foot accuracy to measure the depth to groundwater and total well depth. A bladder pump with compressor & control unit with clean/disposable Teflon lined tubing and bladders was used to purge groundwater from the wells and collect samples to minimize the risk of volatile contaminant absorption by the sampling equipment. Water table drawdown was continuously monitored during purging with a water level meter and the flow rate of the pump was adjusted to limit drawdown to 0.1 meter. The intake of the pump was set as close as possible to the soil groundwater interface. Water quality parameters were monitored during purging with a multi-parameter water quality meter equipped with a flow through cell and Turbidity meter. Parameters were recorded every 3 to 5 minutes until a minimum of three (minimum of four if using temperature as an indicator) of the parameters listed below stabilized. The flow rate was reduced to 100-150 ml/minute and samples were collected from the discharge line into laboratory sample bottles. Water quality parameters were considered stable when three successive readings were within the following ADEC limits:

- ± 3% for temperature (minimum of ± 0.2 C°),
- ± 0.1 for pH,
- ± 3% for conductivity,
- ± 10 mv for redox potential,
- ± 10% for dissolved oxygen, and
- ± 10% for turbidity.

Sample bottles were labeled, stored in a cooler packed with ice, and submitted to Pace Analytical (National Centre for Testing & Innovation), Mount Juliet, Tennessee, under proper chain-of-custody procedures.

Groundwater samples collected from monitoring wells AR-81, AR-85, MW-1, MW-3, MW-4, MW-5, MW-7, MW-8, and MW-9 were submitted to the analytical laboratory for the following analyses:

- Full-Scan Volatile Organic Compounds (VOCs) including benzene, toluene, ethylbenzene and total xylenes (BTEX), 1,2-dibromoethane (EDB), 1,2-dichloroethane (EDC), tetrachloroethylene (PCE) and chloroform by United States Environmental Protection Agency (USEPA) method 8260D
- Total petroleum hydrocarbon as gasoline organics (GRO) by Alaska method AK101
- Total petroleum hydrocarbons as diesel organics (DRO), and total petroleum hydrocarbons as residual range organics (RRO) by Alaska method AK102/103.
- Total petroleum hydrocarbons as diesel organics with Silica gel (DRO w Si/Gel) by Alaska method AK102SGT.

A groundwater duplicate sample was collected from monitoring well MW-4. The duplicate sample was analyzed for Full-Scan Volatile Organic Compounds (VOCs) including BTEX, EDB, EDC, PCE, chloroform,

GRO, DRO, DRO w Si/Gel, and RRO. The duplicate sample was submitted blind with the sample set to Pace Analytical.

2.4 Groundwater Analytical Results

Routine analytical results for BTEX, EDB, EDC, PCE, chloroform, GRO, DRO, DRO w Si/Gel, and RRO, obtained from the annual 2022 groundwater monitoring event are summarized in Table 1 and are presented on Figure 4. Historical analytical results of BTEX, GRO, DRO, DRO with Si/Gel are summarized in Table 2. Historical groundwater elevations, GRO, DRO and Benzene concentrations plotted over time for monitoring wells AR-85, MW-3, MW-4, MW-7, MW-8, and MW-9 are depicted in Figure 5 (a-h) as hydrographs.

Current and historical groundwater analytical results of additional VOCs analyzed by USEPA method 8260D are summarized in Table 3a though Table 3d, respectively.

3 INVESTIGATION DERIVED WASTE

Purge water and decontamination water from groundwater was temporarily collected into 5-gallon buckets and treated onsite via a Granular Activated Carbon (GAC) bucket. The treatment of purge water and decontamination water was completed per the Technical Guidance Instructions for Investigation Derived waste Treatment Utilizing Granular Activated Carbon provided in Appendix C

4 LABORATORY DATA QUALITY ASSURANCE SUMMARY

As required by ADEC (Technical Memorandum, October 2019), Arcadis completed a laboratory data review checklist for each of the laboratory report generated for the 2022 annual event. The laboratory report is included as Appendix D and data review checklist is included as Appendix E. The following quality assurance (QA) summary describes six parameters, related to the quality and usability of the data presented in this report.

4.1 Precision

The relative percent difference (RPD) for laboratory control sample and laboratory control sample duplicate (LCS/LCSD) and field duplicates (FD) were within the control limits.

The relative percent difference (RPD) between matrix spike and matrix spike duplicate (MS/MSD) exceeded for compound 1,2,4-Trimethylbenzene for method USEPA 8260D in sample location MW-3. Results were qualified as estimated.

The precision of the data, as measured by laboratory quality control (QC) indicators, suggest that the Data Quality Objectives (DQOs) were met.

4.2 Accuracy

The percent recoveries of LCS/LCSD and surrogates were within the control limit.

The percent recoveries of MS/MSD were lower than the 10% for compounds 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene for method USEPA 8260D in sample location MW-3. Associated compound results were qualified as estimated.

Continuing calibration for compounds 1,2,3-trichlorobenzene and 1,2,4-trichlorobenzene exhibited a low bias recovery. Compounds in the sample locations MW-7, MW-8, MW-9, MW-3, MW-4, blind duplicate (BD-1), EQB-1, and the trip blank were qualified as estimated.

The accuracy of the data, as measured by laboratory quality control (QC) indicators, suggest that the DQOs were met.

4.3 Representativeness

The data appear to be representative of site conditions and are generally consistent with historical groundwater monitoring results and expected impacts to groundwater.

4.4 Comparability

The laboratory results are presented in the same units as previous reports to allow comparison. The target compounds were not detected in trip blank and method blank with below exceptions.

GRO was detected below the reporting limit in the method blank for method AK101. Based on blank evaluation, the results for GRO at sample locations MW-3 and MW-1 was qualified as non-detect.

Naphthalene was detected below the reporting limit in the method blank for method USEPA 8260D. Based on blank evaluation, the results for naphthalene in the blind duplicate (BD-1) were qualified as non-detect.

Benzene was detected below the reporting limit in the method blank for method USEPA 8260D. Based on blank evaluation, the results for benzene at sample location MW-1 were qualified as non-detect.

RRO was detected below the reporting limit in method blank for method AK102/103. Based on blank evaluation, the associated results at sample locations AR-81, AR-85, MW-1, MW-3, MW-4, MW-5, MW-7, MW-8, and MW-9 were qualified as non-detect.

4.5 Completeness

The results appear to be valid and usable, and thus, the laboratory results have 100% completeness.

GRO was analyzed past holding time in method AK101. Results in sample locations MW-1, blind duplicate (BD-1), and EQB-1 were qualified as estimated.

4.6 Sensitivity

DRO results exceeded the ADEC Groundwater Cleanup Levels (GCLs) in sample locations MW-3 through MW-5, and MW-7.

GRO results exceeded the ADEC GCLs in sample locations MW-4, MW-5, and MW-7.

DRO-Si/Gel, toluene, and RRO results exceeded the ADEC GCLs in sample location MW-4.

Benzene exceeded the ADEC GCLs in sample locations MW-4, MW-5, MW-7, and MW-8.

Toluene exceeded the ADEC GCLs in sample location MW-4.

Ethylbenzene and total xylenes exceeded the ADEC GCLs in sample locations MW-4, MW-5, MW-7 and MW-8.

Compound 1,2,4-trimethylbenzene exceeded the ADEC GCLs in sample locations MW-4 and MW-7.

The laboratory reported detection limit for compounds 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 1,1-Dichloroethane, 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, 1,2-dichloropropane, 1,3-dichlorobenzene, 1,4-dichlorobenzene, bromodichloromethane, bromoform, bromomethane (methyl bromide), carbon tetrachloride, chlorobenzene, chloromethane (methyl chloride), cis-1,2-dichloroethene, cis-1,3-dichloropropene, dibromochloromethane, dichlorodifluoromethane (Freon 12), methylene chloride (dichloromethane), trans-1,3-dichloropropene, trichloroethene (trichloroethylene), tetrachloroethene, chloroform, 1,2-dibromoethane, 1,2-dichloroethane, and vinyl chloride (chloroethene) exceeded the respective ADEC groundwater cleanup levels, however the laboratory method detection limit is below the ADEC groundwater cleanup levels. All samples were reported as non-detect for the mentioned constituents.

The sensitivity of the analyses was adequate for the samples as the detection limits were less than the ADEC GCLs for compounds with above exceptions.

5 CONCLUSIONS AND RECOMMENDATIONS

The groundwater data collected during the annual 2022 event indicates groundwater flow direction (West-southwest) is generally consistent with historical data. During the annual 2022 groundwater monitoring event, groundwater samples were collected for analysis from monitoring wells AR-81, AR-85, MW-1, MW-3, MW-4, MW-5, MW-7, MW-8, and MW-9. Analytical results from the monitoring wells are generally consistent with historical data.

Groundwater monitoring will continue in accordance with the current annual schedule. The next annual sampling event is scheduled for the spring of 2023. A soil investigation and assessment will be conducted fall 2022 to further characterize site conditions.

6 REFERENCES

ADEC. *Field Sampling Guidance*, January. Division of Spill Prevention and Response Contaminated Sites Program. 2022.

ADEC Technical Memorandum, October 2019. *Minimum Quality Assurance Requirements for Sample Handling*, Reports and Laboratory Data. ADEC, Division of Spill Prevention and Response Contaminated Sites Program.

TABLES

Table 1. Current Groundwater Gauging and Analytical Results
Former Texaco Bulk Plant 211815
410 Driveway Street
Fairbanks, Alaska

Well ID	Sample Date	TOC (ft)	Datum	DTW bTOC)	LNAPL Thickness (ft)	GW Elev (ft)	DRO (µg/L)	GRO (µg/L)	DRO w Si/Gel (µg/L)	RRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	EDB (µg/L)	EDC (µg/L)	PCE (µg/L)	Chloroform (µg/L)	Comments
ADEC Groundwater Cleanup Levels							**1,500**	**2,200**	**1,500**	**1,100**	**4.60**	**1,100**	**15.0**	**190**	**0.075**	**1.70**	**41.0**	**2.20**	
AR-81	7/12/2022	442.27	NAVD88	12.70	0.00	429.57	**936**	<100	<800	<800 B	**0.120 J**	<1.00	<1.00	<3.00	<0.00500	--	--	--	
AR-85	7/12/2022	442.47	NAVD88	12.92	0.00	429.55	**493 J**	<100	**493 J**	<800 B	**0.259 J**	<1.00	<1.00	**0.214 J**	<0.00500	--	--	--	
MW-1	7/12/2022	441.57	NAVD88	11.83	0.00	429.74	**882**	<100 B	**291 J**	<800 B	<1.00 B	<1.00	**0.151 J**	**1.11 J**	<0.0500	--	--	--	
MW-3	7/12/2022	442.89	NAVD88	13.35	0.00	429.54	**2,280 J**	<100 B	<800	***<1,130 B***	**3.58**	<1.00	**1.31**	**3.17**	<0.0500	<1.00	<1.00	***<5.00***	
MW-4	7/12/2022	442.56	NAVD88	13.00	0.00	429.56	**39,200 [37,500]**	**17,100 [18,400]**	**3,350 [3,770]**	***<1,790 B [<1,640 B]***	**1,560 [1,630]**	**3,010 [3,150]**	**218 [235]**	**4,770 [5,100]**	***<5.00 [<5.00]***	***<100 [<50.0]***	***<100 [<50.0]***	***<500 [<250]***	
MW-5	7/12/2022	441.75	NAVD88	12.28	0.00	429.47	**3,200**	**2,490**	**1,020**	<800 B	**194**	**6.59**	**127**	**475**	***<0.500***	--	--	--	
MW-7	7/12/2022	443.36	NAVD88	14.20	0.00	429.16	**3,650**	**3,230**	**722 J**	<800 B	**760**	<25.0	**79.4**	**395**	***<5.00***	***<25.0***	<25.0	***<125***	
MW-8	7/12/2022	441.61	NAVD88	12.50	0.00	429.11	**708 J**	**274**	**708 J**	<800 B	**29.1**	**0.580 J**	**2.79**	**17.3**	***<0.500***	<1.00	<1.00	***<5.00***	
MW-9	7/12/2022	441.61	NAVD88	12.31	0.00	429.30	<800	<100	<800	<800 B	<1.00	<1.00	<1.00	<3.00	<0.00500	<1.00	<1.00	***<5.00***	
QA (EQB)	7/12/2022	--	--	--	--	--	<888	<100	<888	<888	<1.00	<1.00	<1.00	<3.00	<0.00500	<1.00	<1.00	***<5.00***	
QA (TB)	7/12/2022	--	--	--	--	--	**--**	<100	**--**	**--**	<1.00	<1.00	<1.00	<3.00	<0.00500	<1.00	<1.00	***<5.00***	

Notes:
ID = Identification
MW = Groundwater monitoring well
TOC = Top of casing
DTW = Depth to groundwater
ft bTOC = Feet below top of casing
ft = Feet relative to NAVD88
GW Elev = Groundwater elevation
µg/L = Micrograms per liter
<1.00 = Not detected at or above the Reported Detection Limit (RDL)
Bold = Value exceeds laboratory Method Detection Limit (MDL)
Bold and Shaded = Value exceeds ADEC Groundwater Cleanup Level
Bold and italicized : Constituent considered non-detect, however Laboratory RDL is greater than the ADEC Groundwater Cleanup Level
J = The associated numerical value is an estimated concentration only
B = Compound reported at the listed value due to associated blank contamination

GRO = Total petroleum hydrocarbons, gasoline range by LUFT GC/MS according to Alaska Method AK101
DRO = Total petroleum hydrocarbons, diesel range by LUFT GC/MS according to Alaska Method AK102/103
DRO w/Si Gel = Total petroleum hydrocarbons, diesel range by LUFT GC/MS with Silica Gel according to Alaska Method AK102
RRO = Total petroleum hydrocarbons, residual range organics LUFT GC/MS according to USEPA Method AK102/103
Samples analyzed by USEPA Method 8260D:
Benzene, toluene, ethylbenzene and total xylenes (collectively BTEX)
EDC = 1,2-Dichloroethane
EDB = 1,2-Dibromoethane
PCE = Tetrachloroethylene
LUFT = Leaking Underground Fuel Tank
GC/MS = Gas chromatography/Mass Spectrometry
QA (EQB) = Quality Assurance (Equipment Blank)

QA (TB) = Quality Assurance (Trip Blank)
ADEC = Alaska Department of Environmental Conservation
NADV88 = North American Vertical Datum of 1988
-- = Not Available or Not Analyzed
LNAPL = Light Non-Aqueous Phase Liquid
[ ] = Blind Duplicate Result

Table 2. Historical Groundwater Gauging and Analytical Results
Third Quarter 1999 to Current
Former
410 Driveway Street
Fairbanks, Alaska

Well ID	Sample Dates	TOC (ft)	DTW (ft bToc)	LNAPL Thickness (ft)	GWE ft msl	DRO (µg/L)	GRO (µg/L)	DRO w Si/Gel (µg/L)	RRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Comments
ADEC Groundwater Cleanup Levels						**1,500**	**2,200**	**1,500**	**1,100**	**4.6**	**1,100**	**15**	**190**	
AR-81	8/25/1999	--	NM	--	--	**3,230**	**474**	**--**	**--**	**9.24**	**0.522**	**8.80**	**14.2**	
AR-81	8/15/2000	--	NM	--	--	**3,600**	**247**	**--**	**--**	**3.62**	<0.500	**3.83**	**8.95**	
AR-81	6/25/2002	436.99	13.28	--	423.71	**1,130**	<50.0	**--**	**--**	**0.920**	<0.500	**0.520**	<1.00	
AR-81	9/24/2002	436.99	12.34	--	424.65	**4,550**	**212**	**--**	**--**	**7.56**	**2.11**	**5.14**	**8.95**	
AR-81	4/29/2003	436.99	14.82	--	422.17	**2,300**	**150**	**--**	**1,000**	**2.50**	<0.500	**1.00**	**1.80**	
AR-81	9/3/2003	436.99	11.83	--	425.16	**2,000**	**140**	**--**	**2,400**	**3.10**	<0.500	**1.60**	**2.80**	
AR-81	3/10/2004	436.99	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well Frozen
AR-81	9/16/2004	436.99	13.12	--	423.87	**2,200**	**69.0**	**--**	**3,200**	**1.00**	<0.500	<0.500	<1.50	
AR-81	4/19/2005	436.99	15.00	--	421.99	**2,000**	**110**	**--**	**3,700**	**0.800**	<0.500	**0.600**	**1.60**	
AR-81	9/7/2005	436.99	16.10	--	420.89	**1,400**	**68.0**	**--**	**1,200**	**0.500**	<0.500	<0.500	<1.50	
AR-81	4/20/2006	436.99	15.13	--	421.86	**3,100**	**95.0**	**--**	**160**	**0.600**	<0.500	<0.500	<1.50	
AR-81	9/12/2006	436.99	15.18	--	421.81	**900**	**100**	**--**	**310**	**0.700**	<0.500	<0.500	<1.50	
AR-81	3/15/2007	436.99	15.73	--	421.26	**1,800**	**100**	**--**	**250**	<1.00	<1.00	<1.00	<2.00	
AR-81	9/10/2007	436.99	NM	--	--	**1,100**	**100**	**--**	**110**	<1.00	<1.00	<1.00	<2.00	
AR-81	4/4/2008	444.44	15.40	--	429.04	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-81	4/10/2008	444.44	15.40	--	429.04	**4,290**	**121**	**--**	<714	**0.623**	<0.500	<0.500	**1.18**	
AR-81	9/16/2008	444.44	14.97	--	429.47	**2,270**	**91.8**	**--**	<750	**0.423**	<0.500	<0.500	**1.72**	
AR-81	3/25/2009	444.44	15.80	--	428.64	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-81	4/20/2009	444.44	16.54	--	427.90	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-81	7/31/2009	444.44	16.54	--	427.90	**1,630**	**126**	**--**	**496**	<0.500	<1.00	<1.00	<3.00	
AR-81	5/26/2009	444.44	15.94	--	428.50	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-81	6/24/2009	444.44	14.32	--	430.12	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-81	7/27/2009	444.44	15.61	--	428.83	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-81	8/1/2009	444.44	16.54	--	427.90	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-81	9/17/2009	444.44	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-81	10/22/2009	444.44	14.92	--	429.52	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-81	11/3/2009	444.44	15.84	--	428.60	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-81	12/14/2009	444.44	16.30	--	428.14	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-81	1/12/2010	444.44	13.97	--	430.47	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-81	2/9/2010	444.44	12.99	--	431.45	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-81	3/18/2010	444.44	14.79	--	429.65	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-81	4/21/2010	444.44	15.64	--	428.80	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-81	5/26/2010	444.44	14.76	--	429.68	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-81	6/15/2010	444.44	14.03	--	430.41	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-81	7/20/2010	444.44	16.12	--	428.32	**1,700**	**67.0**	**--**	**760**	<0.500	<0.500	<0.500	<1.50	
AR-81	8/16/2010	444.44	13.02	--	431.42	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-81	9/22/2010	444.44	15.55	--	428.89	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-81	10/27/2010	442.16	12.56	--	429.60	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-81	11/15/2010	442.16	15.85	--	426.31	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-81	12/13/2010	442.16	15.32	--	426.84	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-81	1/4/2011	442.16	16.20	--	425.96	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-81	2/7/2011	442.16	14.16	--	428.00	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-81	9/21/2011	442.16	16.25	--	425.91	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-81	9/22/2011	442.16	16.25	--	425.91	**280**	<10.0	**--**	**330**	<0.500	<0.500	<0.500	<1.50	
AR-81	7/23/2012	442.16	16.48	--	425.68	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-81	7/27/2012	442.16	16.48	--	425.68	**1,300**	**50.0**	**86.0**	**250**	<0.500	<0.500	<0.500	<1.50	
AR-81	7/30/2013	442.16	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-81	8/5/2013	442.16	NM	--	--	**1,100**	<100	<420	<1,000	<1.00	<1.00	<1.00	<3.00	
AR-81	7/11/2014	442.16	15.30	--	426.86	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-81	7/14/2014	442.16	15.30	--	426.86	**1,100**	<100	<400	**1,300**	<1.00	<1.00	<1.00	<3.00	
AR-81	9/15/2015	442.16	15.26	--	426.90	**1,000**	<100	<400	**670**	<1.00	<1.00	<1.00	<3.00	
AR-81	7/21/2016	442.16	NM	--	--	**1,100**	**12.0 J**	**100 J**	**320**	<0.500	<0.500	<0.500	<0.500	
AR-81	8/17/2017	442.16	14.75	--	427.41	**2,700**	**28.0 J**	**77.0 J**	**3,200**	<0.500	<0.500	<0.500	<0.500	
AR-81	8/23/2018	442.16	14.91	--	427.25	**3,300**	**1,500**	<57.0 BJ	**670**	<1.00	**610**	<2.00	<5.00	
AR-81	7/11/2019	442.27	15.45	0.00	426.82	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-81	6/26/2020	442.27	11.82	0.00	430.45	**657 J**	**12.4 J**	<888 J	**967**	<1.00	<1.00	<1.00	<3.00	
AR-81	7/15/2021	442.27	13.52	0.00	428.75	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Not enough water to sample

Table 2. Historical Groundwater Gauging and Analytical Results
Third Quarter 1999 to Current
Former
410 Driveway Street
Fairbanks, Alaska

Well ID	Sample Dates	TOC (ft)	DTW (ft bToc)	LNAPL Thickness (ft)	GWE ft msl	DRO (µg/L)	GRO (µg/L)	DRO w Si/Gel (µg/L)	RRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Comments
ADEC Groundwater Cleanup Levels						**1,500**	**2,200**	**1,500**	**1,100**	**4.6**	**1,100**	**15**	**190**	
AR-81	7/12/2022	442.27	12.70	0.00	429.57	**936**	<100	<800	<800 B	**0.120 J**	<1.00	<1.00	<3.00	
AR-82	6/25/2002	437.47	13.64	--	423.83	**72,800**	**219**	**--**	**--**	**0.200**	<0.500	**0.525**	**6.33**	
AR-82	9/24/2002	437.47	12.69	--	424.78	**1,620**	**90.3**	**--**	**--**	**0.269**	<0.500	<0.500	**1.25**	
AR-82	4/29/2003	437.47	15.13	--	422.34	**390,000**	**3,500**	**--**	***<20,000***	<2.50	<2.50	**2.50**	<25.0	
AR-82	9/3/2003	437.47	12.17	--	425.30	**24,000**	**83.0**	**--**	**1,800**	<0.500	**1.10**	**2.90**	**8.60**	
AR-85	8/25/1999	--	NM	--	--	**606**	<50.0	**--**	**--**	<0.500	<0.500	<0.500	<1.00	
AR-85	8/15/2000	--	NM	--	--	**634**	<50.0	**--**	**--**	<0.500	<0.500	<0.500	<1.00	
AR-85	6/25/2002	437.23	13.45	--	423.78	**964**	<50.0	**--**	**--**	<0.200	<0.500	<0.500	<1.00	
AR-85	9/24/2002	437.23	12.49	--	424.74	**958**	<50.0	**--**	**--**	**0.268**	<0.500	<0.500	<1.00	
AR-85	4/29/2003	437.23	15.00	--	422.23	**620**	<10.0	**--**	**530**	**1.00**	<0.500	<0.500	<1.50	
AR-85	9/3/2003	437.23	12.00	--	425.23	**640**	<10.0	**--**	**510**	**0.500**	<0.500	<0.500	<1.50	
AR-85	09/03/03	437.23	NM	--	--	**640**	<10.0	**--**	**570**	<0.500	<0.500	<0.500	<1.50	Duplicate Sample Results
AR-85	3/10/2004	437.23	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well Beneath Snow bank
AR-85	9/16/2004	437.23	14.68	--	422.55	**880**	**12.0**	**--**	**1,300**	**2.20**	<0.500	<0.500	<1.50	
AR-85	09/16/04	437.23	NM	--	--	**900**	**13.0**	**--**	**1,300**	**2.20**	<0.500	<0.500	<1.50	Duplicate Sample Results
AR-85	4/19/2005	437.23	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well Beneath Snow bank
AR-85	9/7/2005	437.23	13.79	--	423.44	**450**	<10.0	**--**	**350**	<0.500	<0.500	<0.500	<1.50	
AR-85	09/07/05	437.23	13.79	--	423.44	**630**	<10.0	**--**	**910**	<0.500	<0.500	<0.500	<1.50	Duplicate Sample Results
AR-85	4/20/2006	437.23	15.61	--	421.62	**850**	<10.0	**--**	**1,200**	<0.500	<0.500	<0.500	<1.50	
AR-85	9/12/2006	437.23	13.45	--	423.78	**480**	<10.0	**--**	**200**	<0.500	<0.500	<0.500	<1.50	
AR-85	3/14/2007	437.23	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well buried under snow bank
AR-85	9/10/2007	444.65	13.74	--	430.91	**450**	<10.0	**--**	**220**	<1.00	<1.00	<1.00	<2.00	
AR-85	4/4/2008	444.65	15.79	--	428.86	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-85	4/10/2008	444.65	NM	--	--	**951**	<50.0	**--**	<735	<0.500	<0.500	<0.500	<1.00	
AR-85	4/10/2008	444.65	NM	--	--	**522**	<50.0	**--**	<708	<0.500	<0.500	<0.500	<1.00	
AR-85	9/16/2008	444.65	12.89	--	431.76	**636**	<50.0	**--**	<750	**0.275**	<0.500	<0.500	<1.00	
AR-85	3/25/2009	444.65	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-85	4/20/2009	444.65	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-85	5/26/2009	444.65	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-85	6/24/2009	444.65	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-85	7/27/2009	444.65	14.58	--	430.07	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-85	7/31/2009	444.65	14.58	--	430.07	**604**	<50.0	**--**	<391	<0.500	<1.00	<1.00	<3.00	
AR-85	8/1/2009	444.65	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-85	9/17/2009	444.65	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-85	10/22/2009	444.65	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-85	11/3/2009	444.65	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-85	12/14/2009	444.65	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-85	1/12/2010	444.65	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-85	2/9/2010	444.65	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-85	3/18/2010	444.65	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-85	4/21/2010	444.65	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-85	5/26/2010	444.65	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-85	6/15/2010	444.65	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-85	7/20/2010	444.65	15.54	--	429.11	**360**	<10.0	**--**	**170**	<0.500	<0.500	<0.500	<1.50	
AR-85	8/16/2010	444.65	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-85	9/22/2010	442.32	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-85	10/27/2010	442.32	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-85	11/15/2010	442.32	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-85	12/13/2010	442.32	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-85	1/4/2011	442.32	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-85	2/7/2011	442.32	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-85	9/21/2011	442.32	12.82	--	429.50	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-85	9/22/2011	442.32	NM	--	--	**280**	<10.0	**--**	**260**	<0.500	<0.500	<0.500	<1.50	
AR-85	7/23/2012	442.32	13.79	--	428.53	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-85	7/27/2012	442.32	NM	--	--	**450**	<10.0	<49.0	**150**	<0.500	<0.500	<0.500	<1.50	

Table 2. Historical Groundwater Gauging and Analytical Results
Third Quarter 1999 to Current
Former
410 Driveway Street
Fairbanks, Alaska

Well ID	Sample Dates	TOC (ft)	DTW (ft bToc)	LNAPL Thickness (ft)	GWE ft msl	DRO (µg/L)	GRO (µg/L)	DRO w Si/Gel (µg/L)	RRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Comments
ADEC Groundwater Cleanup Levels						**1,500**	**2,200**	**1,500**	**1,100**	**4.6**	**1,100**	**15**	**190**	
AR-85	7/30/2013	442.32	14.50	--	427.82	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-85	8/5/2013	442.32	NM	--	--	**710**	<100	<490	***<1,200***	<1.00	<1.00	<1.00	<3.00	
AR-85	7/11/2014	442.32	10.14	--	432.18	<400	<100	**--**	<400	<1.00	<1.00	<1.00	<3.00	
AR-85	7/14/2014	442.32	10.14	--	432.18	<400	<100	**--**	<400	<1.00	<1.00	<1.00	<3.00	
AR-85	9/15/2015	442.32	12.34	--	429.98	<400	<100	**--**	<400	<1.00	<1.00	<1.00	<3.00	
AR-85	7/21/2016	442.32	12.05	--	430.27	**250**	<10.0	<48.0	**390**	<0.500	<0.500	<0.500	<0.500	
AR-85	8/17/2017	442.32	13.63	--	428.69	**2,500**	**20.0 J**	<47.0	**2,000**	<0.500	**0.700 J**	<0.500	<0.500	
AR-85	8/23/2018	442.32	12.57	--	429.75	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
AR-85	8/24/2018	442.32	12.57	--	429.75	**310**	**18.0 J**	<54.0 J	**2,000**	<0.200	<0.200	<0.400	<1.00	
AR-85	8/24/2018	442.32	12.57	--	429.75	**150 J**	<14.0	<51.0 J	**1,600**	<0.200	<0.200	<0.400	<1.00	Duplicate Sample Results
AR-85	7/11/2019	442.47	14.52	0.00	427.95	**480 J**	<100 J	**86.0 J**	**730 J**	**2.00 J**	**5.10**	**2.00 J**	**13.5**	
AR-85	6/26/2020	442.47	11.97	0.00	430.50	**575 J**	**13.0 J**	<888 J	**499 J**	**0.255 J**	<1.00	<1.00	<3.00	
AR-85	7/15/2021	442.47	13.64	0.00	428.83	<800 B J	<100	<800 B	<800	**0.276 J**	<1.00	<1.00	<3.00	
AR-85	7/12/2022	442.47	12.92	0.00	429.55	**493 J**	<100	**493 J**	<800 B	**0.259 J**	<1.00	<1.00	**0.214 J**	
MW-1	10/23/2003	436.36	12.28	--	424.08	**8,200**	**97.0**	**--**	**--**	<0.500	<0.500	<0.500	<1.50	
MW-1	3/10/2004	436.36	14.14	--	422.22	**4,100**	**33.0**	**--**	**1,400**	<0.500	<0.500	<0.500	<1.50	
MW-1	3/10/2004	436.36	NM	--	--	**6,000**	**35.0**	**--**	**1,500**	<0.500	<0.500	<0.500	<1.50	Duplicate Sample Results
MW-1	9/16/2004	436.36	13.72	--	422.64	**5,100**	**29.0**	**--**	**1,600**	<0.500	<0.500	<0.500	<1.50	
MW-1	4/19/2005	436.36	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well Beneath Snow bank
MW-1	9/7/2005	436.36	12.77	--	423.59	**870**	**32.0**	**--**	**410**	<0.500	<0.500	<0.500	<1.50	
MW-1	4/20/2006	436.36	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well buried and surrounded by equipment
MW-1	9/12/2006	436.36	12.47	--	423.89	**470**	**23.0**	**--**	**210**	<0.500	<0.500	<0.500	<1.50	
MW-1	3/15/2007	436.36	14.57	--	421.79	**830**	<10.0	**--**	**360**	<1.00	<1.00	<1.00	<2.00	
MW-1	9/10/2007	441.46	12.76	--	428.70	**520**	**20.0**	**--**	**160**	<1.00	<1.00	<1.00	<2.00	
MW-1	4/4/2008	441.46	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well not sampled - monument underwater
MW-1	9/16/2008	441.46	11.91	--	429.55	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-1	9/17/2008	441.46	NM	--	--	**938**	<50.0	**--**	<750	**0.369**	<0.500	<0.500	**1.46**	
MW-1	3/25/2009	441.46	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-1	4/20/2009	441.46	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-1	5/26/2009	441.46	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-1	6/24/2009	441.46	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-1	7/27/2009	441.46	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well buried by gravel regrade
MW-1	8/1/2009	441.46	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-1	9/17/2009	441.46	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well buried by gravel regrade
MW-1	10/22/2009	441.46	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-1	11/3/2009	441.46	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-1	12/14/2009	441.46	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-1	1/12/2010	441.46	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-1	2/9/2010	441.46	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-1	3/18/2010	441.46	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-1	4/21/2010	441.46	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-1	5/26/2010	441.46	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-1	6/15/2010	441.46	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-1	7/20/2010	441.46	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Unable to locate
MW-1	8/16/2010	441.46	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-1	9/22/2010	441.47	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-1	10/27/2010	441.47	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-1	11/15/2010	441.47	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-1	12/13/2010	441.47	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-1	1/4/2011	441.47	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-1	2/7/2011	441.47	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-1	9/21/2011	441.47	11.84	--	429.63	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-1	9/22/2011	441.47	11.84	--	429.63	**460**	**55.0**	**--**	**420**	<0.500	<0.500	<0.500	<1.50	
MW-1	7/23/2012	441.47	12.79	--	428.68	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-1	7/27/2012	441.47	NM	--	--	**1,000**	**17.0**	**500**	**1,300**	<0.500	<0.500	<0.500	<1.50	
MW-1	7/30/2013	441.47	13.57	--	427.90	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	

Table 2. Historical Groundwater Gauging and Analytical Results
Third Quarter 1999 to Current
Former
410 Driveway Street
Fairbanks, Alaska

Well ID	Sample Dates	TOC (ft)	DTW (ft bToc)	LNAPL Thickness (ft)	GWE ft msl	DRO (µg/L)	GRO (µg/L)	DRO w Si/Gel (µg/L)	RRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Comments
ADEC Groundwater Cleanup Levels						**1,500**	**2,200**	**1,500**	**1,100**	**4.6**	**1,100**	**15**	**190**	
MW-1	8/5/2013	441.47	NM	--	--	**390**	<100	<380	<960	<1.00	<1.00	<1.00	<3.00	
MW-1	7/11/2014	441.47	9.17	--	432.30	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-1	7/14/2014	441.47	NM	--	--	**2,200**	<100	**500**	**1,400**	<1.00	<1.00	<1.00	<3.00	
MW-1	9/15/2015	441.47	11.36	--	430.11	**670**	<100	**400**	**730**	<1.00	<1.00	<1.00	<3.00	
MW-1	7/21/2016	441.47	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	well not sampled- under large puddle
MW-1	8/17/2017	441.47	12.65	--	428.82	**1,600**	**53.0 J**	**930**	**1,200**	<0.500	<0.500	<0.500	<0.500	
MW-1	8/23/2018	441.47	11.61	--	429.86	**490 J**	**42.0 J**	<120 BJ	**570 J**	**0.200 J**	<0.200	<0.400	<1.00	
MW-1	7/11/2019	441.57	11.61	--	429.96	**490 J**	**42.0 J**	<120 BJ	**570 J**	**0.200 J**	<0.200	<0.400	<1.14 [<1.14]	
MW-1	6/26/2020	441.57	10.97	0.00	430.60	**373 J**	**29.2 J**	<800 J	<800	**0.178 J**	<1.00	<1.00	<3.00	
MW-1	7/15/2021	441.57	12.65	0.00	428.92	<800 B	<100 J	<800 B J	<800	**0.302 J**	<1.00	<1.00	**0.409 J**	
MW-1	7/12/2022	441.57	11.83	0.00	429.74	**882**	<100 B	**291 J**	<800 B	<1.00 B	<1.00	**0.151 J**	**1.11 J**	
MW-2	10/23/2003	437.06	13.35	--	423.71	**40,000**	**48,000**	**--**	**--**	**2,000**	**6,000**	**960**	**6,000**	
MW-2	3/10/2004	437.06	14.89	**0.04**	422.20	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-2	9/16/2004	437.06	14.51	**0.03**	422.57	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-2	4/19/2005	437.06	15.47	**0.10**	421.67	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-2	9/7/2005	437.06	13.58	**0.01**	423.49	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-2	4/20/2006	437.06	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	well not sampled - covered with snow and gravel
MW-2	8/11/2006	437.06	13.85	--	423.21	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-2	9/12/2006	437.06	13.26	--	423.80	**22,000**	**8,000**	**--**	<500	**710**	**350**	**280**	**1,300**	
MW-2	12/1/2006	437.06	14.56	--	422.50	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-2	12/22/2006	437.06	14.80	--	422.26	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-2	2/6/2007	437.06	15.08	--	421.98	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-2	3/15/2007	437.06	NM	--	--	**7,100**	**6,600**	**--**	**170**	**500**	**100**	**200**	**900**	
MW-2	3/16/2007	437.06	15.31	--	421.75	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-2	4/30/2007	437.06	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well not sampled due to ice in well
MW-2	5/18/2007	437.06	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well not sampled due to ice in well
MW-2	9/10/2007	442.23	13.56	--	428.67	**14,000**	**7,600**	**--**	<200	**700**	**600**	**200**	**1,400**	
MW-2	10/15/2007	442.23	14.04	--	428.19	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-2	11/19/2007	442.23	14.10	--	428.13	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-2	1/29/2008	442.23	15.18	--	427.05	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-2	2/13/2008	442.23	15.24	--	426.99	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-2	4/4/2008	442.23	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well not sampled - absorbent sock frozen
MW-2	5/23/2008	442.23	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well not sampled - absorbent sock frozen
MW-2	6/25/2008	442.23	14.12	--	428.11	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-2	7/14/2008	442.23	14.63	--	427.60	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-2	8/6/2008	442.23	11.38	--	430.85	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-2	9/16/2008	442.23	12.68	--	429.55	**29,300**	**21,900**	**--**	***<3,750***	**967**	**1,570**	**337**	**2,770**	
MW-2	10/27/2008	442.23	13.97	--	428.26	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-2	11/24/2008	442.23	14.03	--	428.20	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-2	12/19/2008	442.23	14.45	--	427.78	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-2	1/30/2009	442.23	15.03	--	427.20	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-2	2/19/2009	442.23	15.27	--	426.96	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-2	3/25/2009	442.23	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well recessed in vault by gravel regrade
MW-2	4/20/2009	442.23	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-2	5/26/2009	442.23	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-2	6/24/2009	442.23	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-2	7/27/2009	442.23	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well recessed and buried in vault by gravel regrade
MW-2	8/26/2009	442.23	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well abandoned in place
MW-3	10/23/2003	437.49	13.60	--	423.89	**11,000**	**36,000**	**--**	**--**	**1,600**	**2,500**	**570**	**6,300**	
MW-3	3/10/2004	437.49	15.39	--	422.10	**44,000**	**56,000**	**--**	**3,000**	**2,100**	**4,800**	**1,100**	**9,800**	
MW-3	9/16/2004	437.49	14.99	--	422.50	**59,000**	**38,000**	**--**	***<2,000***	**1,900**	**3,100**	**810**	**6,600**	
MW-3	4/19/2005	437.49	15.88	--	421.61	**40,000**	**13,000**	**--**	***<2,000***	**630**	**600**	**340**	**2,100**	
MW-3	9/7/2005	437.49	14.10	--	423.39	**24,000**	**17,000**	**--**	**2,900**	**1,400**	**1,200**	**330**	**2,400**	
MW-3	4/20/2006	437.49	15.87	--	421.62	**15,000**	**19,000**	**--**	<500	**1,100**	**960**	**500**	**3,100**	

Table 2. Historical Groundwater Gauging and Analytical Results
Third Quarter 1999 to Current
Former
410 Driveway Street
Fairbanks, Alaska

Well ID	Sample Dates	TOC (ft)	DTW (ft bToc)	LNAPL Thickness (ft)	GWE ft msl	DRO (µg/L)	GRO (µg/L)	DRO w Si/Gel (µg/L)	RRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Comments
ADEC Groundwater Cleanup Levels						**1,500**	**2,200**	**1,500**	**1,100**	**4.6**	**1,100**	**15**	**190**	
MW-3	9/12/2006	437.49	13.78	--	423.71	**15,000**	**19,000**	**--**	<490	**1,400**	**1,000**	**520**	**3,200**	
MW-3	3/16/2007	437.49	15.84	--	421.65	**7,900**	**22,000**	**--**	**490**	**1,300**	**900**	**600**	**3,700**	
MW-3	9/10/2007	442.67	14.07	--	428.60	**17,000**	**11,000**	**--**	<490	**900**	**500**	**400**	**2,100**	
MW-3	4/4/2008	442.67	16.06	--	426.61	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-3	4/10/2008	442.67	NM	--	--	**11,000**	**33,300**	**--**	**942**	**1,540**	**2,080**	**923**	**6,000**	
MW-3	9/16/2008	442.67	13.18	--	429.49	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-3	9/17/2008	442.67	NM	--	--	**31,100**	**19,100**	**--**	***<7,500***	**1,360**	**791**	**411**	**2,390**	
MW-3	9/17/2008	442.67	NM	--	--	**22,100**	**18,600**	**--**	***<3,750***	**1,370**	**777**	**406**	**2,350**	Duplicate Sample Results
MW-3	3/25/2009	442.67	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-3	4/20/2009	442.67	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-3	5/26/2009	442.67	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-3	6/24/2009	442.67	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-3	7/27/2009	442.67	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well buried by gravel regrade
MW-3	8/1/2009	442.67	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well buried by gravel regrade
MW-3	9/17/2009	442.67	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well buried by gravel regrade
MW-3	10/22/2009	442.67	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well buried by gravel regrade
MW-3	11/3/2009	442.67	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well buried by gravel regrade
MW-3	12/14/2009	442.67	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well buried by gravel regrade
MW-3	1/12/2010	442.67	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well buried by gravel regrade
MW-3	2/9/2010	442.67	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well buried by gravel regrade
MW-3	0318/10	442.67	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well buried by gravel regrade
MW-3	4/21/2010	442.67	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well buried by gravel regrade
MW-3	5/26/2010	442.67	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well buried by gravel regrade
MW-3	6/15/2010	442.67	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well buried by gravel regrade
MW-3	7/20/2010	442.67	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well buried by gravel regrade
MW-3	8/16/2010	442.67	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well buried by gravel regrade
MW-3	9/22/2010	442.74	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well buried by gravel regrade
MW-3	10/27/2010	442.74	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well buried by gravel regrade
MW-3	11/15/2010	442.74	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well buried by gravel regrade
MW-3	12/13/2010	442.74	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well buried by gravel regrade
MW-3	1/4/2011	442.74	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well buried by gravel regrade
MW-3	2/7/2011	442.74	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well buried by gravel regrade
MW-3	9/21/2011	442.74	13.21	--	429.53	**1,800**	**57.0**	**--**	**1,300**	**1.90**	<0.500	<0.500	**2.60**	
MW-3	9/22/2011	442.74	13.21	--	429.53	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-3	7/23/2012	442.74	14.20	--	428.54	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-3	7/27/2012	442.74	NM	--	--	**1,200**	**360**	**240**	**1,600**	**14.0**	**1.20**	**13.0**	**47.0**	
MW-3	7/30/2013	442.74	14.98	--	427.76	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-3	8/5/2013	442.74	NM	--	--	**2,500**	**734**	**570**	<1,000	**59.3**	**2.80**	**37.3**	**80.4**	
MW-3	7/11/2014	442.74	10.48	--	432.26	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-3	7/14/2014	442.74	NM	--	--	**950**	**574**	<400	**600**	**12.1**	**1.30**	**16.0**	**103**	
MW-3	9/15/2015	442.74	12.65	--	430.09	**3,200**	**624**	**750**	**1,300**	**6.90**	**1.50**	**37.4**	**108**	
MW-3	7/21/2016	442.74	12.21	--	430.53	**1,200**	**43.0**	<49.0	**510**	**0.900 J**	<0.500	**1.00**	**2.00**	
MW-3	7/21/2016	442.74	NM	--	--	**1,500**	**39.0**	<48.0	**350**	**0.800 J**	<0.500	**1.00**	**2.00**	Duplicate Sample Results
MW-3	8/17/2017	442.74	14.13	--	428.61	**1,300**	**34.0 J**	**91.0 J**	**1,400**	<0.500	<0.500	<0.500	<0.500	
MW-3	8/23/2018	442.74	13.00	--	429.74	**450**	<14.0	<50.0 J	**190 J**	<0.200	<0.200	<0.400	<1.00	
MW-3	7/11/2019	442.89	15.00	0.00	427.89	**400**	<100 J	<77.0	**1,000**	<0.500 B	<0.390	**0.700 J**	<1.14	
MW-3	6/26/2020	442.89	12.40	0.00	430.49	**3,260 J [1,250 J]**	**16.6 J [13.4 J]**	**784 J [339 J]**	**2,320 [770 J]**	**0.756 J [0.634 J]**	<1.00 [<1.00]	<1.00 [<1.00]	**0.533 J [0.477 J]**	
MW-3	7/15/2021	442.89	14.18	0.00	428.71	**2,550 J**	<100 B	<800 B J	<800 J	**12.9**	**0.384 J**	**3.76**	**8.44**	
MW-3	7/12/2022	442.89	13.35	0.00	429.54	**2,280 J**	<100 B	<800	***<1,130 B***	**3.58**	<1.00	**1.31**	**3.17**	
MW-4	10/22/2003	437.33	13.70	--	423.63	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-4	3/10/2004	437.33	15.25	**0.23**	422.26	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-4	9/16/2004	437.33	14.85	**0.23**	422.66	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-4	4/19/2005	437.33	NM	--	--	**98,000**	**68,000**	**--**	***<2,000***	**3,200**	**7,700**	**1,300**	**10,000**	
MW-4	9/7/2005	437.33	13.92	--	423.41	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-4	4/20/2006	437.33	15.74	**0.32**	421.85	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-4	8/11/2006	437.33	14.19	--	423.14	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	

Table 2. Historical Groundwater Gauging and Analytical Results
Third Quarter 1999 to Current
Former
410 Driveway Street
Fairbanks, Alaska

Well ID	Sample Dates	TOC (ft)	DTW (ft bToc)	LNAPL Thickness (ft)	GWE ft msl	DRO (µg/L)	GRO (µg/L)	DRO w Si/Gel (µg/L)	RRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Comments
ADEC Groundwater Cleanup Levels						**1,500**	**2,200**	**1,500**	**1,100**	**4.6**	**1,100**	**15**	**190**	
MW-4	9/12/2006	437.33	13.63	--	423.70	**26,000**	**64,000**	--	<980	**3,300**	**8,200**	**1,400**	**9,600**	
MW-4	12/1/2006	437.33	14.93	--	422.40	--	--	--	--	--	--	--	--	
MW-4	12/22/2006	437.33	15.11	--	422.22	--	--	--	--	--	--	--	--	
MW-4	2/6/2007	437.33	15.43	--	421.90	--	--	--	--	--	--	--	--	
MW-4	3/16/2007	437.33	16.06	**0.46**	421.64	--	--	--	--	--	--	--	--	
MW-4	4/30/2007	437.33	15.15	--	422.18	--	--	--	--	--	--	--	--	
MW-4	5/18/2007	437.33	14.91	--	422.42	--	--	--	--	--	--	--	--	
MW-4	9/10/2007	442.52	13.91	--	428.61	**27,000**	**60,000**	--	<490	**3,000**	**7,900**	**1,400**	**9,800**	
MW-4	10/15/2007	442.52	14.45	--	428.07	--	--	--	--	--	--	--	--	
MW-4	11/19/2007	442.52	NM	--	--	--	--	--	--	--	--	--	--	Well not gauged - inaccessible
MW-4	1/29/2008	442.52	NM	--	--	--	--	--	--	--	--	--	--	Well not gauged - inaccessible
MW-4	2/13/2008	442.52	NM	--	--	--	--	--	--	--	--	--	--	Well not gauged - unable to locate
MW-4	4/4/2008	442.52	15.81	**0.01**	426.72	--	--	--	--	--	--	--	--	
MW-4	5/23/2008	442.52	NM	--	--	--	--	--	--	--	--	--	--	Well not sampled - absorbent sock frozen
MW-4	6/25/2008	442.52	14.47	--	428.05	--	--	--	--	--	--	--	--	
MW-4	7/14/2008	442.52	14.56	--	427.96	--	--	--	--	--	--	--	--	
MW-4	8/6/2008	442.52	11.73	--	430.79	--	--	--	--	--	--	--	--	
MW-4	9/16/2008	442.52	13.01	**0.01**	429.52	--	--	--	--	--	--	--	--	
MW-4	10/27/2008	442.52	14.34	--	428.18	--	--	--	--	--	--	--	--	
MW-4	11/24/2008	442.52	14.39	--	428.13	--	--	--	--	--	--	--	--	
MW-4	12/19/2008	442.52	14.82	--	427.70	--	--	--	--	--	--	--	--	
MW-4	1/30/2009	442.52	15.41	--	427.11	--	--	--	--	--	--	--	--	
MW-4	2/19/2009	442.52	15.61	--	426.91	--	--	--	--	--	--	--	--	
MW-4	3/25/2009	442.52	15.80	**0.09**	426.79	--	--	--	--	--	--	--	--	
MW-4	4/20/2009	442.52	16.36	**0.62**	426.66	--	--	--	--	--	--	--	--	
MW-4	5/26/2009	442.52	NM	--	--	--	--	--	--	--	--	--	--	
MW-4	6/24/2009	442.52	NM	--	--	--	--	--	--	--	--	--	--	Well submerged under water
MW-4	7/27/2009	442.52	14.76	--	427.76	--	--	--	--	--	--	--	--	
MW-4	8/26/2009	442.52	14.60	--	427.92	--	--	--	--	--	--	--	--	
MW-4	9/17/2009	442.52	13.95	--	428.57	--	--	--	--	--	--	--	--	
MW-4	10/22/2009	442.52	14.72	--	427.80	--	--	--	--	--	--	--	--	
MW-4	11/3/2009	442.52	14.93	--	427.59	--	--	--	--	--	--	--	--	
MW-4	12/14/2009	442.52	15.19	--	427.33	--	--	--	--	--	--	--	--	
MW-4	1/12/2010	442.52	NM	--	--	--	--	--	--	--	--	--	--	
MW-4	2/9/2010	442.52	16.11	**0.41**	426.74	--	--	--	--	--	--	--	--	
MW-4	3/18/2010	442.52	16.90	**0.01**	425.63	--	--	--	--	--	--	--	--	
MW-4	4/21/2010	442.52	16.89	**0.90**	426.35	--	--	--	--	--	--	--	--	
MW-4	5/26/2010	442.52	15.09	--	427.43	--	--	--	--	--	--	--	--	
MW-4	6/15/2010	442.52	14.38	--	428.14	--	--	--	--	--	--	--	--	
MW-4	7/20/2010	442.52	14.68	--	427.84	**80,000**	**40,000**	--	***<6,800***	**2,200**	**5,300**	**990**	**7,200**	
MW-4	7/20/2010	442.52	14.68	--	427.84	**42,000**	**33,000**	--	***<3,400***	**1,800**	**3,800**	**770**	**6,000**	Duplicate Sample Results
MW-4	8/16/2010	442.52	14.80	--	427.72	--	--	--	--	--	--	--	--	
MW-4	9/22/2010	442.44	14.50	--	427.94	--	--	--	--	--	--	--	--	
MW-4	10/27/2010	442.44	15.40	--	427.04	--	--	--	--	--	--	--	--	
MW-4	11/15/2010	442.44	15.25	**0.07**	427.25	--	--	--	--	--	--	--	--	
MW-4	12/13/2010	442.44	NM	--	--	--	--	--	--	--	--	--	--	Unable to locate well
MW-4	1/4/2011	442.44	NM	--	--	--	--	--	--	--	--	--	--	Unable to locate well
MW-4	2/7/2011	442.44	NM	--	--	--	--	--	--	--	--	--	--	Unable to locate well
MW-4	3/22/2011	442.44	NM	--	--	--	--	--	--	--	--	--	--	Unable to locate well
MW-4	4/13/2011	442.44	NM	--	--	--	--	--	--	--	--	--	--	Unable to locate well
MW-4	9/21/2011	442.44	12.92	--	429.52	**24,000**	**38,000**	--	**3,900**	**2,400**	**4,400**	**1,200**	**7,600**	
MW-4	9/22/2011	442.44	NM	--	--	**21,000**	**36,000**	--	**4,600**	**2,300**	**4,000**	**1,100**	**6,800**	
MW-4	7/23/2012	442.44	13.90	--	428.54	--	--	--	--	--	--	--	--	
MW-4	7/27/2012	442.44	13.90	--	428.54	**620,000**	**44,000**	**390,000**	***<33,000***	**2,100**	**4,900**	**1,200**	**8,400**	
MW-4	07/27/12	442.44	NM	--	--	**190,000**	**42,000**	--	--	**2,000**	**4,700**	**1,100**	**8,100**	Duplicate Sample Results
MW-4	7/30/2013	442.44	14.65	--	427.79	--	--	--	--	--	--	--	--	
MW-4	8/5/2013	442.44	14.65	--	427.79	**37,400**	**67,900**	**27,100**	**1,400**	**3,120**	**7,190**	**1,250**	**10,800**	

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Third Quarter 1999 to Current
Former
410 Driveway Street
Fairbanks, Alaska

Well ID	Sample Dates	TOC (ft)	DTW (ft bToc)	LNAPL Thickness (ft)	GWE ft msl	DRO (µg/L)	GRO (µg/L)	DRO w Si/Gel (µg/L)	RRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Comments
ADEC Groundwater Cleanup Levels						**1,500**	**2,200**	**1,500**	**1,100**	**4.6**	**1,100**	**15**	**190**	
MW-4	7/11/2014	442.44	10.20	**0.01**	432.25	--	--	--	--	--	--	--	--	
MW-4	7/14/2014	442.44	10.20	--	432.24	**30,800**	**58,600**	**18,900**	**1,800**	**2,670**	**4,160**	**457**	**6,510**	
MW-4	9/15/2015	442.44	12.37	--	430.07	--	--	--	--	--	--	--	--	
MW-4	9/15/2015	442.44	NM	--	--	**69,000**	**46,500**	--	**2,800**	**3,570**	**5,120**	**224**	**7,210**	Duplicate Sample Results
MW-4	7/21/2016	442.44	11.92	--	430.52	**47,000**	**43,000**	**67,000**	***<3,400***	**2,200**	**4,100**	**1,200**	**7,800**	
MW-4	8/17/2017	442.44	13.80	--	428.64	**100,000**	**49,000**	**27,000**	***<3,400***	**2,200**	**5,200**	**1,100**	**8,500**	
MW-4	8/23/2018	442.44	12.69	--	429.75	**66,000**	**37,000**	**120,000 J**	***<1,600***	**1,800**	**3,600**	**720**	**6,900**	
MW-4	7/11/2019	442.56	12.69	--	429.87	**19,000**	**43,000 J**	**8,700**	**2,000**	**2,000**	**5,300 D**	**1,400 D**	**10,800 D**	
MW-4	6/26/2020	442.56	--	--	--	**9,650 J**	**16,100**	**5,700 J**	**1,150**	**1,490**	**3,480**	**923**	**7,650**	Well casing obstructed by ice at 6.80 ft BTOC
MW-4	7/15/2021	442.56	13.82	0.00	428.74	**13,900 J [19,900 J]**	**31,200 [33,700 J]**	**2,360 J [3,190 J]**	**750 J [466 J]**	**2,410 [2,220]**	**5,490 [5,100]**	**1,070 [1,010]**	**8,100 [7,600]**	
MW-4	7/12/2022	442.56	13.00	0.00	429.56	**39,200 [37,500]**	**17,100 [18,400]**	**3,350 [3,770]**	***<1,790 B [<1,640 B]***	**1,560 [1,630]**	**3,010 [3,150]**	**218 [235]**	**4,770 [5,100]**	
MW-5	10/23/2003	436.37	12.58	--	423.79	**36,000**	**10,000**	--	--	**1,000**	**420**	**100**	**1,000**	
MW-5	3/10/2004	436.37	14.34	--	422.03	**9,800**	**22,000**	--	**2,000**	**1,200**	**1,800**	**320**	**3,000**	
MW-5	9/16/2004	436.37	13.92	--	422.45	**7,100**	**22,000**	--	<200	**970**	**2,000**	**370**	**3,500**	
MW-5	4/19/2005	436.37	NM	--	--	--	--	--	--	--	--	--	--	well not sampled - covered with ice and ponded water
MW-5	9/7/2005	436.37	13.01	--	423.36	**5,200**	**10,000**	--	**220**	**870**	**590**	**200**	**1,600**	
MW-5	4/20/2006	436.37	NM	--	--	--	--	--	--	--	--	--	--	well not sampled - covered with ice and ponded water
MW-5	9/12/2006	436.37	12.70	--	423.67	**2,900**	**9,700**	--	<100	**980**	**230**	**220**	**1,700**	
MW-5	9/12/2006	436.37	NM	--	--	**3,000**	**9,500**	--	<200	**980**	**220**	**210**	**1,600**	Duplicate Sample Results
MW-5	3/15/2007	441.54	15.78	--	425.76	**6,900**	**16,000**	--	<510	**800**	**900**	**300**	**2,700**	
MW-5	3/15/2007	441.54	NM	--	--	**7,900**	**16,000**	--	<510	**800**	**900**	**300**	**2,700**	Duplicate Sample Results
MW-5	9/10/2007	441.54	13.00	--	428.54	**5,200**	**6,500**	--	<200	**700**	**100**	**100**	**1,100**	
MW-5	9/10/2007	441.54	NM	--	--	**5,000**	**6,000**	--	<200	**700**	**100**	**100**	**1,100**	Duplicate Sample Results
MW-5	4/4/2008	441.54	NM	--	--	--	--	--	--	--	--	--	--	Well not sampled - monument underwater
MW-5	9/16/2008	441.54	NM	--	--	--	--	--	--	--	--	--	--	Well not sampled - unable to locate
MW-5	3/25/2009	441.54	NM	--	--	--	--	--	--	--	--	--	--	
MW-5	4/20/2009	441.54	NM	--	--	--	--	--	--	--	--	--	--	
MW-5	5/26/2009	441.54	NM	--	--	--	--	--	--	--	--	--	--	
MW-5	6/24/2009	441.54	NM	--	--	--	--	--	--	--	--	--	--	
MW-5	7/27/2009	441.54	13.98	--	427.56	--	--	--	--	--	--	--	--	
MW-5	7/31/2009	441.54	NM	--	--	**6,080**	**9,780** [1]	--	**707**	**649**	**212**	**166**	**1,410**	
MW-5	7/31/2009	441.54	NM	--	--	**8,240**	**11,900** [1]	--	**1,430**	**801** [1]	**304** [1]	**160** [1]	**1,860** [1]	Duplicate Sample Results
MW-5	8/1/2009	441.54	NM	--	--	--	--	--	--	--	--	--	--	
MW-5	9/17/2009	441.54	NM	--	--	--	--	--	--	--	--	--	--	
MW-5	10/22/2009	441.54	NM	--	--	--	--	--	--	--	--	--	--	
MW-5	11/3/2009	441.54	NM	--	--	--	--	--	--	--	--	--	--	
MW-5	12/14/2009	441.54	NM	--	--	--	--	--	--	--	--	--	--	
MW-5	1/12/2010	441.54	NM	--	--	--	--	--	--	--	--	--	--	
MW-5	2/9/2010	441.54	NM	--	--	--	--	--	--	--	--	--	--	
MW-5	4/21/2010	441.54	NM	--	--	--	--	--	--	--	--	--	--	
MW-5	5/26/2010	441.54	NM	--	--	--	--	--	--	--	--	--	--	
MW-5	6/15/2010	441.54	NM	--	--	--	--	--	--	--	--	--	--	
MW-5	7/20/2010	441.54	13.78	--	427.76	**6,500**	**4,100**	--	**530**	**570**	**6.70**	**81.0**	**300**	
MW-5	8/16/2010	441.54	NM	--	--	--	--	--	--	--	--	--	--	
MW-5	9/22/2010	441.51	NM	--	--	--	--	--	--	--	--	--	--	
MW-5	10/27/2010	441.51	NM	--	--	--	--	--	--	--	--	--	--	
MW-5	11/15/2010	441.51	NM	--	--	--	--	--	--	--	--	--	--	
MW-5	12/13/2010	441.51	NM	--	--	--	--	--	--	--	--	--	--	
MW-5	1/4/2011	441.51	NM	--	--	--	--	--	--	--	--	--	--	
MW-5	2/7/2011	441.51	NM	--	--	--	--	--	--	--	--	--	--	
MW-5	9/21/2011	441.51	12.03	--	429.48	**4,200**	**5,000**	--	<670	**530**	**35.0**	**150**	**660**	
MW-5	7/23/2012	441.51	13.02	--	428.49	--	--	--	--	--	--	--	--	
MW-5	7/27/2012	441.51	NM	--	--	**3,800**	**3,400**	**620**	<660	**410**	**49.0**	**54.0**	**420**	
MW-5	7/30/2013	441.51	13.80	--	427.71	--	--	--	--	--	--	--	--	

Table 2. Historical Groundwater Gauging and Analytical Results
Third Quarter 1999 to Current
Former
410 Driveway Street
Fairbanks, Alaska

Well ID	Sample Dates	TOC (ft)	DTW (ft bToc)	LNAPL Thickness (ft)	GWE ft msl	DRO (µg/L)	GRO (µg/L)	DRO w Si/Gel (µg/L)	RRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Comments
ADEC Groundwater Cleanup Levels						**1,500**	**2,200**	**1,500**	**1,100**	**4.6**	**1,100**	**15**	**190**	
MW-5	8/5/2013	441.51	NM	--	--	**1,310**	**4,100**	**1,300**	***<1,100***	**202**	**9.30**	**25.5**	**186**	
MW-5	7/11/2014	441.51	9.38	--	432.13	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-5	7/14/2014	441.51	NM	--	--	<100	<400	<400	**770**	<1.00	<1.00	<1.00	<3.00	
MW-5	9/15/2015	441.51	11.52	--	429.99	**2,200**	**2,600**	**1,100**	**1,700**	**95.8**	**5.00**	**46.4**	**214**	
MW-5	7/21/2016	441.51	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	well not sampled- under large puddle
MW-5	8/17/2017	441.51	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	well not sampled- under large puddle
MW-5	8/23/2018	441.51	11.92	--	429.59	**8,500**	**6,300**	**830 J**	**2,800**	**760**	**65.0**	**370**	**1,900**	
MW-5	7/11/2019	441.75	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Unable to locate
MW-5	6/9/2020	441.75	--	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Well casing obstructed by ice at 6.87 ft BTOC
MW-5	7/15/2021	441.75	--	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Could not locate the well
MW-5	7/12/2022	441.75	12.28	--	429.47	**3,200**	**2,490**	**1,020**	<800 B	**194**	**6.59**	**127**	**475**	
MW-7	10/3/2005	438.12	13.96	--	424.16	**2,200**	**7,100**	**--**	<97.0	**1,700**	<5.00	**240**	**300**	
MW-7	4/20/2006	438.12	16.84	--	421.28	**2,300**	**4,600**	**--**	**200**	**450**	**6.90**	**170**	**480**	
MW-7	9/11/2006	438.12	14.74	--	423.38	**2,000**	**8,100**	**--**	<98.0	**1,800**	**9.40**	**280**	**450**	
MW-7	3/16/2007	438.12	16.78	--	421.34	**2,500**	**7,600**	**--**	<100	**1,400**	**9.00**	**200**	**300**	
MW-7	9/9/2007	443.32	15.05	--	428.27	**3,500**	**8,100**	**--**	<200	**1,800**	**10.0**	**300**	**700**	
MW-7	4/4/2008	443.32	17.08	--	426.24	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-7	4/10/2008	443.32	NM	--	--	**4,730**	**8,650**	**--**	<750	**1,700**	**3.08**	**234**	**452**	
MW-7	9/16/2008	443.32	14.16	--	429.16	**5,640**	**10,900**	**--**	<750	**1,830**	<25.0	**277**	**676**	
MW-7	3/25/2009	443.32	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-7	4/20/2009	443.32	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-7	5/26/2009	443.32	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-7	6/24/2009	443.32	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-7	7/27/2009	443.32	15.97	--	427.35	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-7	7/31/2009	443.32	NM	--	--	**3,960**	**8,570**[1]	**--**	**606**	**1,760**	<25.0	**255**	**481**	
MW-7	8/1/2009	443.32	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-7	9/17/2009	443.32	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-7	10/22/2009	443.32	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-7	11/3/2009	443.32	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-7	12/14/2009	443.32	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-7	1/12/2010	443.32	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-7	2/9/2010	443.32	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-7	3/18/2010	443.32	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-7	4/21/2010	443.32	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-7	5/26/2010	443.32	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-7	6/15/2010	443.32	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-7	7/20/2010	443.32	15.64	--	427.68	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-7	7/22/2010	443.32	NM	--	--	**4,000**	**6,400**	**--**	**290**	**1,400**	**3.40**	**270**	**460**	
MW-7	8/16/2010	443.32	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-7	9/22/2010	443.20	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-7	10/27/2010	443.20	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-7	11/15/2010	443.20	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-7	12/13/2010	443.20	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-7	1/4/2011	443.20	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-7	2/7/2011	443.20	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-7	9/21/2011	443.20	13.99	--	429.21	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-7	9/22/2011	443.20	NM	--	--	**4,300**	**5,100**	**--**	<670	**1,200**	**2.60**	**210**	**350**	
MW-7	7/23/2012	443.20	14.99	--	428.21	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-7	7/27/2012	443.20	NM	--	--	**2,500**	**4,800**	**410**	<340	**1,000**	**7.40**	**190**	**260**	
MW-7	7/30/2013	443.20	15.93	--	427.27	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-7	7/11/2014	443.20	11.24	--	431.96	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-7	9/15/2015	443.20	13.35	--	429.85	**650**	**773**	<400	<400	**114**	<1.00	**1.30**	<3.00	
MW-7	7/21/2016	443.20	12.81	--	430.39	**2,400**	**3,500**	**210 J**	**170**	**660**	**2.00 J**	**44.0**	**22.0**	
MW-7	8/17/2017	443.20	14.89	--	428.31	**4,400**	**4,500**	**400**	<680	**830**	**3.00**	**110**	**270**	
MW-7	8/23/2018	443.20	13.77	--	429.43	**4,300**	**6,200**	**380 J**	<170	**1,100**	**4.00 J**	**160**	**430**	
MW-7	7/11/2019	443.36	15.91	0.00	427.45	**3,800**	**2,500 J**	**1,300**	**590**	**800**	**10.0**	**65.0**	**240**	

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Third Quarter 1999 to Current
Former
410 Driveway Street
Fairbanks, Alaska

Well ID	Sample Dates	TOC (ft)	DTW (ft bToc)	LNAPL Thickness (ft)	GWE ft msl	DRO (µg/L)	GRO (µg/L)	DRO w Si/Gel (µg/L)	RRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Comments
ADEC Groundwater Cleanup Levels						**1,500**	**2,200**	**1,500**	**1,100**	**4.6**	**1,100**	**15**	**190**	
MW-7	6/27/2020	443.36	13.20	0.00	430.16	**3,500 J** [<888 J]	**2,000 [1,960]**	**1,330 J** [<888 J]	**849** [<888]	**881 [937]**	**1.41 [1.51]**	**86.9 [92.0]**	**302 [323]**	
MW-7	7/15/2021	443.36	15.00	0.00	428.36	**3,850**	**2,990**	<800 B J	<800	**851**	<25.0	**83.4**	**341**	
MW-7	7/12/2022	443.36	14.20	0.00	429.16	**3,650**	**3,230**	**722 J**	<800 B	**760**	<25.0	**79.4**	**395**	
MW-8	10/3/2005	436.51	12.32	--	424.19	**1,500**	**2,900**	**--**	**720**	**390**	**39.0**	**96.0**	**290**	
MW-8	4/20/2006	436.51	15.23	--	421.28	**1,800**	**4,500**	**--**	**120**	**430**	**7.90**	**190**	**530**	
MW-8	9/11/2006	436.51	13.12	--	423.39	**1,400**	**3,300**	**--**	**300**	**410**	**16.0**	**120**	**330**	
MW-8	3/16/2007	436.51	15.18	--	421.33	**1,800**	**4,400**	**--**	**110**	**400**	**10.0**	**200**	**600**	
MW-8	9/9/2007	441.69	13.41	--	428.28	**2,000**	**2,200**	**--**	**210**	**300**	**20.0**	**100**	**300**	
MW-8	4/4/2008	441.69	15.42	--	426.27	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-8	4/10/2008	441.69	15.42	--	426.27	**2,950**	**5,700**	**--**	<750	**458**	**6.92**	**191**	**525**	
MW-8	9/16/2008	441.69	12.49	--	429.20	**1,930**	**3,020**	**--**	<750	**269**	**6.58**	**95.1**	**186**	
MW-8	3/25/2009	441.69	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-8	4/20/2009	441.69	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-8	5/26/2009	441.69	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-8	6/24/2009	441.69	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-8	7/27/2009	441.69	14.40	--	427.29	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-8	7/30/2009	441.69	14.40	--	427.29	**1,370**	**2,230** [1]	**--**	<391	**180** [1]	<10.0 [1]	**81.4** [1]	**163** [1]	
MW-8	8/26/2009	441.69	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-8	9/17/2009	441.69	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-8	10/22/2009	441.69	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-8	11/3/2009	441.69	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-8	12/14/2009	441.69	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-8	1/12/2010	441.69	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-8	3/18/2010	441.69	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-8	2/9/2010	441.69	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-8	4/21/2010	441.69	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-8	5/26/2010	441.69	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-8	6/15/2010	441.69	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-8	7/20/2010	441.69	14.05	--	427.64	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-8	7/21/2010	441.69	NM	--	--	**2,300**	**4,400**	**--**	**250**	**290**	**7.30**	**140**	**340**	
MW-8	8/16/2010	441.69	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-8	9/22/2010	441.61	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-8	10/27/2010	441.61	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-8	11/15/2010	441.61	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-8	12/13/2010	441.61	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-8	1/4/2011	441.61	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-8	2/7/2011	441.61	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-8	9/21/2011	441.61	12.36	--	429.25	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-8	9/22/2011	441.61	12.36	--	429.25	**1,900**	**620**	**--**	**270**	**5.10**	<0.500	**0.900**	**4.00**	
MW-8	7/23/2012	441.61	13.21	--	428.40	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-8	7/27/2012	441.61	13.21	--	428.40	**1,700**	**3,600**	**250**	**340**	**330**	**6.20**	**100**	**230**	
MW-8	7/30/2013	441.61	14.19	--	427.42	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-8	8/5/2013	441.61	NM	--	--	**2,200**	**2,410**	**720**	<1,000	**292**	**3.90**	**92.3**	**174**	
MW-8	8/5/2013	441.61	NM	--	--	**2,000**	**2,900**	**--**	<980	**273**	**4.20**	**106**	**174**	Duplicate Sample Results
MW-8	7/11/2014	441.61	9.61	--	432.00	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-8	7/14/2014	441.61	NM	--	--	<400	**269**	**--**	<400	<1.00	<1.00	<1.00	<3.00	
MW-8	9/15/2015	441.61	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Could not locate, possibly buried
MW-8	7/21/2016	441.61	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Could not locate
MW-8	8/17/2017	441.61	**13.20**	--	428.41	**770**	**900**	**<49.0**	**270**	**94.0**	**<0.500**	**3.00**	**3.00**	
MW-8	8/23/2018	441.61	**11.98**		429.63	**1,500**	**1,500**	**89.0 J**	**260 J**	**170**	**2.00 J**	**19.0**	**38.0**	
MW-8	6/27/2020	441.61	11.56	0.00	430.05	**2,880**	**1,260**	**1,280 J**	**874 J**	**224**	**15.3**	**53.9**	**305**	Hydrasleeve in well, removed for gauging
MW-8	7/15/2021	441.61	--	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Could not locate the well
MW-8	7/12/2022	441.61	12.50	--	429.11	**708 J**	**274**	**708 J**	<800 B	**29.1**	**0.580 J**	**2.79**	**17.3**	
MW-9	10/3/2005	436.39	12.18	--	424.21	**240**	**26.0**	**--**	**390**	**0.700**	<0.500	<0.500	<1.50	
MW-9	4/20/2006	436.39	15.06	--	421.33	**500**	**91.0**	**--**	**310**	**2.50**	<0.500	<0.500	<1.50	

Table 2. Historical Groundwater Gauging and Analytical Results
Third Quarter 1999 to Current
Former
410 Driveway Street
Fairbanks, Alaska

Well ID	Sample Dates	TOC (ft)	DTW (ft bToc)	LNAPL Thickness (ft)	GWE ft msl	DRO (µg/L)	GRO (µg/L)	DRO w Si/Gel (µg/L)	RRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Comments
ADEC Groundwater Cleanup Levels						**1,500**	**2,200**	**1,500**	**1,100**	**4.6**	**1,100**	**15**	**190**	
MW-9	9/11/2006	436.39	12.90	--	423.49	**63.0**	**31.0**	**--**	**40.0**	<0.500	<0.500	<0.500	**--**	
MW-9	3/16/2007	436.39	14.99	--	421.40	**580**	**700**	**--**	**340**	**2.00**	<1.00	<1.00	<2.00	
MW-9	9/9/2007	441.56	13.21	--	428.35	**110**	<10.0	**--**	**93.0**	<1.00	<1.00	<1.00	<2.00	
MW-9	4/4/2008	441.56	15.28	--	426.28	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-9	4/10/2008	441.56	NM	--	--	**538**	**92.7**	**--**	<750	**1.61**	<0.500	<0.500	<1.00	
MW-9	9/16/2008	441.56	12.31	--	429.25	**193**	<50.0	**--**	<750	**1.86**	<0.500	<0.500	<1.00	
MW-9	3/25/2009	441.56	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-9	4/20/2009	441.56	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-9	5/26/2009	441.56	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-9	6/24/2009	441.56	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-9	7/27/2009	441.56	14.05	--	427.51	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-9	7/30/2009	441.56	NM	--	--	**484**	**58.8**	**--**	<394	**3.02**	<1.00	<1.00	<3.00	
MW-9	8/26/2009	441.56	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-9	9/17/2009	441.56	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-9	10/22/2009	441.56	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-9	11/3/2009	441.56	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-9	12/14/2009	441.56	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-9	1/12/2010	441.56	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-9	2/9/2010	441.56	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-9	3/18/2010	441.56	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-9	4/21/2010	441.56	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-9	5/26/2010	441.56	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-9	6/15/2010	441.56	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-9	7/20/2010	441.56	13.91	--	427.65	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-9	7/21/2010	441.56	NM	--	--	**840**	**110**	**--**	**220**	**5.60**	<0.500	<0.500	<1.50	
MW-9	8/16/2010	441.56	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-9	9/22/2010	441.56	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-9	10/27/2010	441.45	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-9	11/15/2010	441.45	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-9	12/13/2010	441.45	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-9	1/4/2011	441.45	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-9	2/7/2011	441.45	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-9	9/21/2011	441.45	12.19	--	429.26	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-9	9/22/2011	441.45	NM	--	--	**780**	**440**	**--**	**220**	**43.0**	**0.700**	<0.500	**10.0**	
MW-9	7/23/2012	441.45	13.39	--	428.06	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-9	7/27/2012	441.45	NM	--	--	**100**	<10.0	<47.0	**120**	<0.500	<0.500	<0.500	<1.50	
MW-9	7/30/2013	441.45	13.99	--	427.46	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-9	8/5/2013	441.45	NM	--	--	**850**	**221**	<430	**1,100**	**37.9**	<1.00	**2.70**	**8.70**	
MW-9	7/11/2014	441.45	9.45	--	432.00	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-9	7/14/2014	441.45	9.45	--	432.00	<420	<100	**--**	<420	<1.00	<1.00	<1.00	<3.00	
MW-9	9/15/2015	441.45	11.63	--	429.82	<400	<100	**--**	<400	<1.00	<1.00	<1.00	<3.00	
MW-9	7/21/2016	441.45	11.26	--	430.19	**290**	**27.0 J**	<52.0	**78.0**	**3.00**	<0.500	<0.500	<0.500	
MW-9	8/17/2017	441.45	13.05	--	428.40	**230 J**	**50.0 J**	<49.0	**240 J**	**3.00**	<0.500	<0.500	<0.500	
MW-9	08/17/17	441.45	NM	--	--	**200 J**	**66.0 J**	<49.0	**160 J**	**6.00**	<0.500	<0.500	<0.500	Duplicate Sample Results
MW-9	8/23/2018	441.45	12.14	--	429.31	**850**	<14.0	<51.0 J	**680**	<0.200	<0.200	<0.400	<1.00	
MW-9	7/11/2019	441.61	14.01	0.00	427.60	**370**	<100 J	<75.0	**360 J**	<0.500 B J	**2.40 J**	**0.850 J**	**7.40 J**	
MW-9	6/27/2020	441.61	11.40	0.00	430.21	**4,360**	**23.5 J**	**1,660 J**	**1,270**	<1.00	<1.00	<1.00	<3.00	Vehicle parked over, unable to sample
MW-9	7/15/2021	441.61	13.14	0.00	428.47	<800 B	<100 B	<800 B J	<800	<1.00	<1.00	<1.00	<3.00 R	
MW-9	7/12/2022	441.61	12.31	0.00	429.30	<800	<100	<800	<800 B	<1.00	<1.00	<1.00	<3.00	
MW-10	10/3/2005	437.32	12.98	--	424.34	**1,200**	**760**	**--**	**520**	**64.0**	**1.70**	**4.80**	**21.0**	
MW-10	4/20/2006	437.32	15.82	--	421.50	**1,400**	**450**	**--**	**390**	**25.0**	<0.500	<0.500	**1.70**	
MW-10	4/20/2006	437.32	NM	--	--	**1,500**	**470**	**--**	**330**	**25.0**	<0.500	<0.500	**1.80**	Duplicate Sample Results
MW-10	9/11/2006	437.32	13.66	--	423.66	**1,300**	**670**	**--**	**250**	**64.0**	**0.800**	**0.500**	**2.70**	Well buried under snow bank
MW-10	9/11/2006	437.32	13.66	--	423.66	**1,200**	**660**	**--**	**240**	**63.0**	**0.800**	**0.500**	**2.70**	Duplicate Sample Results
MW-10	3/14/2007	437.32	NM	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-10	9/9/2007	442.52	13.98	--	428.54	**1,500**	**700**	**--**	**240**	**70.0**	<1.00	**3.00**	**7.00**	

Table 2. Historical Groundwater Gauging and Analytical Results
Third Quarter 1999 to Current
Former
410 Driveway Street
Fairbanks, Alaska

Well ID	Sample Dates	TOC (ft)	DTW (ft bToc)	LNAPL Thickness (ft)	GWE ft msl	DRO (µg/L)	GRO (µg/L)	DRO w Si/Gel (µg/L)	RRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Comments
ADEC Groundwater Cleanup Levels						**1,500**	**2,200**	**1,500**	**1,100**	**4.6**	**1,100**	**15**	**190**	
MW-10	4/4/2008	442.52	16.00	--	426.52	--	--	--	--	--	--	--	--	
MW-10	4/10/2008	442.52	NM	--	--	**1,150**	**498**	--	<765	**24.1**	<0.500	<0.500	**3.60**	
MW-10	9/16/2008	442.52	13.07	--	429.45	**2,220**	**706**	--	<750	**52.5**	**0.637**	**2.58**	**10.0**	
MW-10	3/25/2009	442.52	NM	--	--	--	--	--	--	--	--	--	--	Well buried by recent construction
MW-10	4/20/2009	442.52	NM	--	--	--	--	--	--	--	--	--	--	Well buried by recent construction
MW-10	5/26/2009	442.52	NM	--	--	--	--	--	--	--	--	--	--	Well buried by recent construction
MW-10	6/24/2009	442.52	NM	--	--	--	--	--	--	--	--	--	--	Well buried by recent construction
MW-10	7/27/2009	442.52	NM	--	--	--	--	--	--	--	--	--	--	Well buried by recent construction
MW-10	8/26/2009	442.52	NM	--	--	--	--	--	--	--	--	--	--	Well buried
MW-10	9/17/2009	442.52	NM	--	--	--	--	--	--	--	--	--	--	Well buried
MW-10	10/22/2009	442.52	NM	--	--	--	--	--	--	--	--	--	--	Well buried
MW-10	11/3/2009	442.52	NM	--	--	--	--	--	--	--	--	--	--	Well buried
MW-10	12/14/2009	442.52	NM	--	--	--	--	--	--	--	--	--	--	Well buried
MW-10	1/12/2010	442.52	NM	--	--	--	--	--	--	--	--	--	--	Well buried
MW-10	2/9/2010	442.52	NM	--	--	--	--	--	--	--	--	--	--	Well buried
MW-10	3/18/2010	442.52	NM	--	--	--	--	--	--	--	--	--	--	Well buried
MW-10	4/21/2010	442.52	NM	--	--	--	--	--	--	--	--	--	--	Well buried
MW-10	5/26/2010	442.52	NM	--	--	--	--	--	--	--	--	--	--	Well buried
MW-10	6/15/2010	442.52	NM	--	--	--	--	--	--	--	--	--	--	Well buried
MW-10	7/20/2010	442.52	NM	--	--	--	--	--	--	--	--	--	--	Well buried
MW-10	8/16/2010	442.52	NM	--	--	--	--	--	--	--	--	--	--	Well buried
MW-10	9/22/2010	442.52	NM	--	--	--	--	--	--	--	--	--	--	Well buried
MW-10	10/27/2010	442.52	NM	--	--	--	--	--	--	--	--	--	--	Well buried
MW-10	11/15/2010	442.52	NM	--	--	--	--	--	--	--	--	--	--	Well buried
MW-10	12/13/2010	442.52	NM	--	--	--	--	--	--	--	--	--	--	Well buried
MW-10	1/4/2011	442.52	NM	--	--	--	--	--	--	--	--	--	--	Well buried
MW-10	2/7/2011	442.52	NM	--	--	--	--	--	--	--	--	--	--	Well buried
MW-10	9/21/2011	442.52	NM	--	--	--	--	--	--	--	--	--	--	Well buried
MW-10	7/23/2012	442.52	NM	--	--	--	--	--	--	--	--	--	--	Well Destroyed
QA (EQB)	6/27/2020	--	--	--	--	<840	<100	<840	<840	<1.00	<1.00	<1.00	<3.00	
QA (EQB)	7/15/2021	--	--	--	--	**412 J**	<100 J	**412 J**	<800	<1.00	<1.00	<1.00	<3.00	
QA (EQB)	7/12/2022	--	--	--	--	<888	<100	<888	<888	<1.00	<1.00	<1.00	<3.00	
QA (TB)	6/27/2020	--	--	--	--	--	<100	--	--	<1.00	<1.00	<1.00	<3.00	
QA (TB)	7/15/2021	--	--	--	--	--	**37.1 J**	--	--	<1.00	<1.00	<1.00	<3.00	
QA (TB)	7/12/2022	--	--	--	--	--	<100	--	--	<1.00	<1.00	<1.00	<3.00	

Table 2. Historical Groundwater Gauging and Analytical Results
Third Quarter 1999 to Current
Former
410 Driveway Street
Fairbanks, Alaska

Well ID	Sample Dates	TOC (ft)	DTW (ft bToc)	LNAPL Thickness (ft)	GWE ft msl	DRO (µg/L)	GRO (µg/L)	DRO w Si/Gel (µg/L)	RRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Comments
ADEC Groundwater Cleanup Levels						**1,500**	**2,200**	**1,500**	**1,100**	**4.6**	**1,100**	**15**	**190**	

Notes:

ID = Identification
MW = Groundwater monitoring well
TOC = Top of casing
DTW = Depth to groundwater
ft bTOC = Feet below top of casing
ft = Feet relative to NAVD88
GW Elev = Groundwater elevation
µg/L = Micrograms per liter
<1.00 = Not detected at or above the Reported Detection Limit (RDL)
Bold = Value exceeds laboratory Method Detection Limit (MDL)
Bold and Shaded = Value exceeds ADEC Groundwater Cleanup Level
Bold and italicized : Constituent considered non-detect, however Laboratory RDL is greater than the ADEC Groundwater Cleanup Level
J = The associated numerical value is an estimated concentration only.
B = Compound reported at the listed value due to associated blank contamination
R = The sample results are rejected as unusable. The compound may or may not be present in the sample.
D = The sample result reported from dilution

GRO = Total petroleum hydrocarbons, gasoline range by LUFT GC/MS according to Alaska Method AK101
DRO = Total petroleum hydrocarbons, diesel range by LUFT GC/MS according to Alaska Method AK102/103
DRO w/Si Gel = Total petroleum hydrocarbons, diesel range by LUFT GC/MS with Silica Gel according to Alaska Method AK102
RRO = Total petroleum hydrocarbons, residual range organics LUFT GC/MS according to USEPA Method AK102/103
Samples analyzed by USEPA Method 8260D:
Benzene, toluene, ethylbenzene and total xylenes (collectively BTEX)
LUFT = Leaking Underground Fuel Tank
GC/MS = Gas chromatography/Mass Spectrometry
QA (EQB) = Quality Assurance (Equipment Blank)
QA (TB) = Quality Assurance (Trip Blank)
ADEC = Alaska Department of Environmental Conservation
NADV88 = North American Vertical Datum of 1988
NA = Not available
ND = Not Detected
NM = Not Measured
-- = Not Available or Not Analyzed
LNAPL = Light Non-Aqueous Phase Liquid
[ ] = Blind Duplicate Result
Groundwater elevations with product are corrected using an assumed LNAPL specific gravity of 0.8. The formula used to correct groundwater elevation is as follows:

$$Corrected\ GW\ Elevation = TOC\ Elevation - (DTW + LNAPL\ Thickness * LNAPL\ Specific\ Gravity)$$

Table 3a-d. Historical Groundwater Analytical Results - Additional VOCs
Second Quarter 2020 to Current
Former Texaco Bulk Plant 211815
410 Driveway Street
Fairbanks, Alaska

ARCADIS

Well ID	Sample Date	1,2-Dibromoethane (µg/L)	1,2-Dichloroethane (µg/L)	1,2,4-Trimethylbenzene (µg/L)	Vinyl chloride (Chloroethene) (µg/L)	Isopropylbenzene (Cumene) (µg/L)	Methyl-t-butyl ether (µg/L)	Trichlorofluoromethane (Freon 11) (µg/L)	Chloroform (µg/L)	1,1,2,2-Tetrachloroethane (µg/L)	1,1,2-Trichloroethane (µg/L)	1,2,3-Trichlorobenzene (µg/L)	1,2,4-Trichlorobenzene (µg/L)	1,2-Dichloropropane (µg/L)	1,3-Dichlorobenzene (µg/L)	1,4-Dichlorobenzene (µg/L)	Bromodichloromethane (µg/L)	Bromomethane (Methyl bromide) (µg/L)	Carbon Tetrachloride (µg/L)	cis-1,3-Dichloropropene (µg/L)
ADEC Groundwater Cleanup Levels		**0.075**	**1.7**	**56**	**0.19**	**450**	**140**	**5,200**	**2.2**	**0.76**	**0.41**	**7**	**4**	**8.2**	**300**	**4.8**	**1.3**	**7.5**	**4.6**	**4.7**
AR-81	**6/26/2020**	--	<1.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
AR-81	**7/15/2021**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
AR-81	**7/12/2022**	<0.00500	--	--	--	--		--	--	--	--	--	--	--	--	--	--	--		--
AR-85	**6/26/2020**	--	<1.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
AR-85	**7/15/2021**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
AR-85	**7/12/2022**	<0.00500	--	--	--	--		--	--	--	--	--	--	--	--	--	--	--		--
MW-1	**6/26/2020**	--	<1.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	**7/15/2021**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	**7/12/2022**	<0.0500	--	--	--	--		--	--	--	--	--	--	--	--	--	--	--		--
MW-3	**6/26/2020**	<0.00500 **[0.00500 J]**	<1.00 [<1.00]	<1.00 [<1.00]	***<1.00 [<1.00]***	<1.00 [<1.00]	<1.00 [<1.00]	**4.34 J [4.39 J]**	***<5.00 [<5.00]***	***<1.00 [<1.00]***	***<1.00 [<1.00]***	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<5.00 [<5.00]	<1.00 [<1.00]	<1.00 [<1.00]
MW-3	**7/15/2021**	<0.0500	<1.00	**14.1**	***<1.00***	**0.951 J**	<1.00 J	**1.45 J**	***<5.00***	***<1.00***	***<1.00***	<1.00 J	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00
MW-3	**7/12/2022**	<0.0500	<1.00	**10.2 J**	***<1.00***	**0.671 J**	<1.00	**3.18 J**	***<5.00***	***<1.00***	***<1.00***	<1.00 J	<1.00 J	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00
MW-4	**6/26/2020**	***<5.00***	***<10.0***	**1,010**	***<10.0***	**50.8**	<10.0	<50.0	***<50.0***	***<10.0***	***<10.0***	<10.0	<10.0	***<10.0***	<10.0	***<10.0***	***<10.0***	***<50.0***	***<10.0***	***<10.0***
MW-4	**7/15/2021**	***<5.00 [<5.00]***	***<10.0* [5.71]**	**985 [1,110]**	***<10.0 [<1.00]***	**48.9 [59]**	**5.84 J [3.60 J]**	<50.0 J [<5.00 J]	***<50.0 [<5.00]***	***<10.0 [<1.00]***	***<10.0 [<1.00]***	***<10.0 J*** [<1.00 J]	***<10.0*** [<1.00]	***<10.0*** [<1.00]	<10.0 [<1.00]	***<10.0*** [<1.00]	***<10.0*** [<1.00]	***<50.0*** [<5.00]	***<10.0*** [<1.00]	***<10.0*** [<1.00]
MW-4	**7/12/2022**	***<5.00 [<5.00]***	**<100 [<50.0]**	**542 [563]**	***<100 [<50.0]***	**13.7 J [13.8 J]**	**13.6 J [15.8 J]**	<500 [250]	<500 [250]	***<100 [<50.0]***	***<100 [<50.0]***	***<100 J [<50.0 J]***	***<100 J [<50.0 J]***	***<100 [<50.0]***	<100 [<50.0]	***<100 [<50.0]***	***<100 [<50.0]***	***<500 [<250]***	***<100 [<50.0]***	***<100 [<50.0]***
MW-5	**7/12/2022**	***<0.500***	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	**6/27/2020**	***<2.50* [0.500 J]**	**1.73** [<1.00]	**149 [155]**	***<1.00 [<1.00]***	**19.6 [20.4]**	1.04 [<1.00]	<5.00 [<5.00]	***<5.00 [<5.00]***	***<1.00 [<1.00]***	***<1.00 [<1.00]***	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<5.00 [<5.00]	<1.00 [<1.00]	<1.00 [<1.00]
MW-7	**7/15/2021**	***<0.500***	***<25.0***	**116**	***<25.0***	**19.5 J**	<25.0 J	<125 J	***<125***	***<25.0***	***<25.0***	***<25.0 J***	***<25.0***	***<25.0***	<25.0	***<25.0***	***<25.0***	***<125***	***<25.0***	***<25.0***
MW-7	**7/12/2022**	***<5.00***	***<25.0***	**183**	***<25.0***	**19.9 J**	<1.00	<125	***<125***	***<25.0***	***<25.0***	***<25.0 J***	***<25.0 J***	***<25.0***	<25.0	***<25.0***	***<25.0***	***<125***	***<25.0***	***<25.0***
MW-8	**6/27/2020**	***<0.500***	<1.00	**124**	**0.327 J**	**12.9**	<1.00	**0.621 J**	***<5.00***	***<1.00***	***<1.00***	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00
MW-8	**7/15/2021**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	**7/12/2022**	***<0.500***	<1.00	**14.2**	***<1.00***	**3.29**	<1.00	**1.09 J**	***<5.00***	***<1.00***	***<1.00***	<1.00 J	<1.00 J	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00
MW-9	**6/27/2020**	<0.00500	<1.00	<1.00	***<1.00***	<1.00	<1.00	**1.49 J**	***<5.00***	***<1.00***	***<1.00***	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00
MW-9	**7/15/2021**	<0.00500	<1.00	<1.00 R	***<1.00***	<1.00	<1.00 R	**2.20 J**	***<5.00***	***<1.00***	***<1.00***	<1.00 J	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00
MW-9	**7/12/2022**	<0.00500	<1.00	<1.00	***<1.00***	<1.00	<1.00	**2.89 J**	***<5.00***	***<1.00***	***<1.00***	<1.00 J	<1.00 J	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00
QA-TB	**6/27/2020**	***<1.00***	<1.00	<1.00	***<1.00***	<1.00	<1.00	<5.00	***<5.00***	***<1.00***	***<1.00***	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00
QA-TB	**7/15/2021**	--	<1.00	<1.00	***<1.00***	<1.00	<1.00 J	<5.00 J	***<5.00***	***<1.00***	***<1.00***	<1.00 J	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00
QA-TB	**7/12/2022**	<0.00500	<1.00	<1.00	***<1.00***	<1.00	<1.00	<5.00	***<5.00***	***<1.00***	***<1.00***	<1.00 J	<1.00 J	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00
QA-EQB	**6/27/2020**	<0.00500	<1.00	<1.00	***<1.00***	<1.00	<1.00	<5.00	***<5.00***	***<1.00***	***<1.00***	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00
QA-EQB	**7/15/2021**	<0.00500	<1.00	<1.00	***<1.00***	<1.00	<1.00 J	<5.00 J	***<5.00***	***<1.00***	***<1.00***	<1.00 J	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00
QA-EQB	**7/12/2022**	<0.00500	<1.00	<1.00	***<1.00***	<1.00	<1.00	<5.00	***<5.00***	***<1.00***	***<1.00***	<1.00 J	<1.00 J	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00

Notes:
ID = Identification
MW = Groundwater monitoring well
µg/L = Micrograms per liter
<1.00 = Not detected at or above the Reported Detection Limit

Bold = Detected above laboratory method detection limit (MDL)

Bold and Shaded = Value exceeds ADEC Groundwater Cleanup Level

Bold and Italicized : Constituent considered non-detect, however Laboratory RDL is greater than the ADEC Groundwater Cleanup Level

J = The associated numerical value is an estimated concentration only
R = The sample results are rejected as unusable. The compound may or may not be present in the sample.

[ ] = Blind Duplicate Sample Result

ADEC = Alaska Department of Environmental Conservation

Constituents analyzed by United States Environmental Protection Agency Method 8260D

Table 3a-d. Historical Groundwater Analytical Results - Additional VOCs
Second Quarter 2020 to Current
Former Texaco Bulk Plant 211815
410 Driveway Street
Fairbanks, Alaska

ARCADIS

Well ID	Sample Date	Chlorodibromomethane (Dibromochloromethane) (µg/L)	trans-1,3-Dichloropropene (µg/L)	Trichloroethene (Trichloroethylene) (µg/L)	1,1,1-Trichloroethane (µg/L)	1,1,2-Trichlorotrifluoroethane (Freon 113) (µg/L)	1,1-Dichloroethane (µg/L)	1,1 Dichloroethene (µg/L)	1,2-Dichlorobenzene (o-Dichlorobenzene) (µg/L)	2-Butanone (Methyl ethyl ketone) (µg/L)	4-Methyl-2-pentanone (Methyl Isobutyl Keton) (µg/L)	Acetone (µg/L)	Bromochloromethane (µg/L)	Bromoform (µg/L)	Carbon disulfide (µg/L)	Chlorobenzene (µg/L)	Chloroethane (µg/L)	Chloromethane (Methyl chloride) (µg/L)	cis-1,2-Dichloroethene (cis-1,2 Dichloroethylene) (µg/L)	Dichlorodifluoromethane (Freon 12) (µg/L)	Methylene chloride (Dichloromethane) (µg/L)
ADEC Groundwater Cleanup Levels		**8.7**	**--**	**2.8**	**8000**	**10,000**	**28**	**280**	**300**	**5,600**	**6,300**	**14,000**	**--**	**33**	**810**	**78**	**--**	**190**	**36**	**200**	**100**
AR-81	**6/26/2020**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
AR-81	**7/15/2021**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
AR-81	**7/12/2022**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
AR-85	**6/26/2020**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
AR-85	**7/15/2021**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
AR-85	**7/12/2022**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	**6/26/2020**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	**7/15/2021**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	**7/12/2022**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-3	**6/26/2020**	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<10.0 [<10.0]	<10.0 [<10.0]	<50.0 [<50.0]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<5.00 [<5.00]	<2.50 [<2.50]	<1.00 [<1.00]	<5.00 [<5.00]	<5.00 [<5.00]
MW-3	**7/15/2021**	<1.00	<1.00	<1.00	<1.00	<1.00 J	<1.00	<1.00	<1.00	<10.0	<10.0	<50.0 J	<1.00	<1.00	<1.00	<1.00	<5.00	<2.50	<1.00	<5.00 J	<5.00
MW-3	**7/12/2022**	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<10.0	<50.0	<1.00	<1.00	<1.00	<1.00	<5.00	<2.50	<1.00	<5.00	<5.00
MW-4	**6/26/2020**	***<10.0***	***<10.0***	***<10.0***	<10.0	<10.0	<10.0	<10.0	<10.0	<100	<100	<500	<10.0	<10.0	<10.0	<10.0	<50.0	<25.0	<10.0	<50.0	<50.0
MW-4	**7/15/2021**	***<10.0*** [<1.00]	***<10.0*** [<1.00]	***<10.0*** [<1.00]	<10.0 [<1.00]	<10.0 J [<1.00 J]	<10.0 [<1.00]	<10.0 [<1.00]	<10.0 [<1.00]	<100 [<10.0]	<100 [<10.0]	<500 J [<50.0 J]	<10.0 [<1.00]	<10.0 [<1.00]	<10.0 [<1.00]	<10.0 [<1.00]	<50.0 [<5.00]	<25.0 [<2.50]	<10.0 [<1.00]	<50.0 J [<5.00 J]	<50.0 [<5.00]
MW-4	**7/12/2022**	***<100 [<50.0]***	***<100 [<50.0]***	***<100 [<50.0]***	<100 [<50.0]	<100 [<50.0]	***<100 [<50.0]***	<100 [<50.0]	<100 [<50.0]	<1,000 [<500]	<1,000 [<500]	<5,000 [<2,500]	<100 [<50.0]	***<100 [<50.0]***	<100 [<50.0]	***<100*** [<50.0]	<500 [<250]	***<250 [<125]***	***<100 [<50.0]***	***<500 [<250]***	***<500 [<250]***
MW-5	**7/12/2022**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-7	**6/27/2020**	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<10.0 [<10.0]	<10.0 [<10.0]	<50.0 [<50.0]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<5.00 [<5.00]	<2.50 [<2.50]	<1.00 [<1.00]	<5.00 [<5.00]	<5.00 [<5.00]
MW-7	**7/15/2021**	***<25.0***	***<25.0***	***<25.0***	<25.0	<25.0 J	<25.0	<25.0	<25.0	<250	<250	<1,250 J	<25.0	<25.0	<25.0	<25.0	<125	<62.5	<25.0	<125 J	<125
MW-7	**7/12/2022**	***<25.0***	***<25.0***	***<25.0***	<25.0	<25.0	<25.0	<25.0	<25.0	<250	<250	<1,250	<25.0	<25.0	<25.0	<25.0	<125	<62.5	<25.0	<125	<125
MW-8	**6/27/2020**	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<10.0	<50.0	<1.00	<1.00	<1.00	<1.00	<5.00	<2.50	<1.00	<5.00	<5.00
MW-8	**7/15/2021**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-8	**7/12/2022**	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<10.0	<50.0	<1.00	<1.00	<1.00	<1.00	<5.00	<2.50	<1.00	<5.00	<5.00
MW-9	**6/27/2020**	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<10.0	<50.0	<1.00	<1.00	<1.00	<1.00	<5.00	<2.50	<1.00	<5.00	<5.00
MW-9	**7/15/2021**	<1.00	<1.00	<1.00	<1.00	<1.00 J	<1.00	<1.00	<1.00	<10.0	<10.0	<50.0 J	<1.00	<1.00	<1.00	<1.00	<5.00	<2.50	<1.00	<5.00 J	<5.00
MW-9	**7/12/2022**	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<10.0	<50.0	<1.00	<1.00	<1.00	<1.00	<5.00	<2.50	<1.00	<5.00	<5.00
QA-TB	**6/27/2020**	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<10.0	<50.0	<1.00	<1.00	<1.00	<1.00	<5.00	<2.50	<1.00	<5.00	<5.00
QA-TB	**7/15/2021**	<1.00	<1.00	<1.00	<1.00	<1.00 J	<1.00	<1.00	<1.00	<10.0	<10.0	<50.0 J	<1.00	<1.00	<1.00	<1.00	<5.00	<2.50	<1.00	<5.00 J	<5.00
QA-TB	**7/12/2022**	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<10.0	<50.0	<1.00	<1.00	<1.00	<1.00	<5.00	<2.50	<1.00	<5.00	<5.00
QA-EQB	**6/27/2020**	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<10.0	<50.0	<1.00	<1.00	<1.00	<1.00	<5.00	<2.50	<1.00	<5.00	<5.00
QA-EQB	**7/15/2021**	<1.00	<1.00	<1.00	<1.00	<1.00 J	<1.00	<1.00	<1.00	<10.0	<10.0	<50.0 J	<1.00	<1.00	<1.00	<1.00	<5.00	<2.50	<1.00	<5.00 J	<5.00
QA-EQB	**7/12/2022**	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<10.0	<10.0	<50.0	<1.00	<1.00	<1.00	<1.00	<5.00	<2.50	<1.00	<5.00	<5.00

Notes:
ID = Identification
MW = Groundwater monitoring well
µg/L = Micrograms per liter
<1.00 = Not detected at or above the Reported Detection Limit

Bold = Detected above laboratory method detection limit (MDL)

Bold and Shaded = Value exceeds ADEC Groundwater Cleanup Level

Bold and Italicized : Constituent considered non-detect, however Laboratory RDL is greater than the ADEC Groundwater Cleanup Level

J = The associated numerical value is an estimated concentration only
R = The sample results are rejected as unusable. The compound may or may not be present in the sample.

[ ] = Blind Duplicate Sample Result

ADEC = Alaska Department of Environmental Conservation

Constituents analyzed by United States Environmental Protection Agency Method 8260D

Table 3a-d. Historical Groundwater Analytical Results - Additional VOCs
Second Quarter 2020 to Current
Former Texaco Bulk Plant 211815
410 Driveway Street
Fairbanks, Alaska

Well ID	Sample Date	Styrene (µg/L)	trans-1,2-Dichloroethene (µg/L)	1,1,1,2-Tetrachloroethane (µg/L)	1,1-Dichloropropene (µg/L)	1,2,3-Trichloropropane (µg/L)	1,2,3-Trimethylbenzene (µg/L)	1,2-Dibromo-3-chloropropane (DBCP) (µg/L)	1,3,5-Trimethylbenzene (µg/L)	1,3-Dichloropropane (µg/L)	2-Propenal (µg/L)	4-Isopropyltoluene (µg/L)	4-Methyl-2-pentanone (µg/L)	Acrylonitrile (µg/L)	Bromobenzene (µg/L)	Dibromochloromethane (µg/L)
ADEC Groundwater Cleanup Levels		**1200**	**360**	**5.7**	**--**	**0.0075**	**--**	**--**	**60**	**--**	**--**	**--**	**6300**	**--**	**62**	**8.7**
AR-81	**6/26/2020**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
AR-81	**7/15/2021**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
AR-81	**7/12/2022**	--	--	--	--	<0.00500	--	--	--	--	--	--	--	--	--	--
AR-85	**6/26/2020**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
AR-85	**7/15/2021**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
AR-85	**7/12/2022**	--	--	--	--	<0.00500	--	--	--	--	--	--	--	--	--	--
MW-1	**6/26/2020**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	**7/15/2021**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-1	**7/12/2022**	--	--	--	--	***<0.0500***	--	--	--	--	--	--	--	--	--	--
MW-3	**6/26/2020**	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<0.00500 [<0.00500]	<1.00 [<1.00]	<5.00 [<5.00]	**0.256 J [0.229 J]**	<1.00 [<1.00]	<50.0 [<50.0]	<1.00 [<1.00]	<10.0 [<10.0]	<10.0 [<10.0]	<1.00 [<1.00]	<1.00 [<1.00]
MW-3	**7/15/2021**	<1.00	<1.00	<1.00	<1.00	<0.0500	**1.70 J**	<5.00	**2.62**	<1.00	<50.0 J	<1.00	<10.0	<10.0	<1.00	<1.00
MW-3	**7/12/2022**	<1.00	<1.00	<1.00	<1.00	***<0.0500***	<1.00	<5.00	**3.91**	<1.00	<50.0	<1.00	<10.0	<10.0	<1.00	<1.00
MW-4	**6/26/2020**	<10.0	<10.0	<10.0	<10.0	<5.00	**453**	<50.0	**277**	<10.0	<500	**6.18 J**	<100	<100	<10.0	<10.0
MW-4	**7/15/2021**	<10.0 [<1.00]	<10.0 [<1.00]	<10.0 [<1.00]	<10.0 [<1.00]	<5.00 [<5.00]	**393 J [558 J]**	<50.0 [<5.00]	**331 [358]**	<10.0 [<1.00]	<500 J [<50.0 J]	**5.97 J [7.14]**	<100 [<10.0]	<100 [<10.0]	<10.0 [<1.00]	<10.0 [<1.00]
MW-4	**7/12/2022**	<100 [<50.0]	<100 [<50.0]	***<100 [<50.0]***	<100 [<50.0]	***<5.00 [<5.00]***	**308 [326]**	<500 [<250]	**271 [276]**	<100 [<50.0]	<5,000 [<2,500]	16.7 J [<50.0]	<1,000 [<500]	<1,000 [<500]	***<100*** [<50.0]	***<100 [<50.0]***
MW-5	**7/12/2022**	--	--	--	--	***<0.500***	--	--	--	--	--	--	--	--	--	--
MW-7	**6/27/2020**	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<2.50 [<0.500]	**28.4 [29.4]**	<5.00 [<5.00]	**16.4 [18.1]**	<1.00 [<1.00]	<50.0 [<50.0]	**2.83 [2.56]**	<10.0 [<10.0]	<10.0 [<10.0]	<1.00 [<1.00]	<1.00 [<1.00]
MW-7	**7/15/2021**	<25.0	<25.0	<25.0	<25.0	<0.500	**20.1 J**	<125	**17.6 J**	<25.0	<1,250 J	<25.0	<250	<250	<25.0	<25.0
MW-7	**7/12/2022**	<25.0	<25.0	***<25.0***	<25.0	***<5.00***	**40.5**	<125	**40.4**	<25.0	<1,250	<25.0	<250	<250	<25.0	***<25.0***
MW-8	**6/27/2020**	<1.00	<1.00	<1.00	<1.00	<0.500	**27.3**	<5.00	**38.1**	<1.00	<50.0	**1.64**	<10.0	<10.0	<1.00	<1.00
MW-8	**7/15/2021**	--	--													
MW-8	**7/12/2022**	<1.00	<1.00	<1.00	<1.00	***<0.500***	**0.993 J**	<5.00	**2.37**	<1.00	<50.0	<1.00	<10.0	<10.0	<1.00	<1.00
MW-9	**6/27/2020**	<1.00	<1.00	<1.00	<1.00	<0.00500	<1.00	<5.00	<1.00	<1.00	<50.0	<1.00	<10.0	<10.0	<1.00	<1.00
MW-9	**7/15/2021**	<1.00	<1.00	<1.00	<1.00	<0.00500	<1.00 J	<5.00	<1.00 R	<1.00	<50.0 J	<1.00	<10.0	<10.0	<1.00	<1.00
MW-9	**7/12/2022**	<1.00	<1.00	<1.00	<1.00	<0.00500	<1.00	<5.00	<1.00	<1.00	<50.0	<1.00	<10.0	<10.0	<1.00	<1.00
QA-TB	**6/27/2020**	<1.00	<1.00	<1.00	<1.00	<2.50	<1.00	<5.00	<1.00	<1.00	<50.0	<1.00	<10.0	<10.0	<1.00	<1.00
QA-TB	**7/15/2021**	<1.00	<1.00	<1.00	<1.00	--	<1.00 J	<5.00	<1.00	<1.00	<50.0 J	<1.00	<10.0	<10.0	<1.00	<1.00
QA-TB	**7/12/2022**	<1.00	<1.00	<1.00	<1.00	<0.00500	<1.00	<5.00	<1.00	<1.00	<50.0	<1.00	<10.0	<10.0	<1.00	<1.00
QA-EQB	**6/27/2020**	<1.00	<1.00	<1.00	<1.00	<0.00500	<1.00	<5.00	<1.00	<1.00	<50.0	<1.00	<10.0	<10.0	<1.00	<1.00
QA-EQB	**7/15/2021**	<1.00	<1.00	<1.00	<1.00	<0.00500	<1.00 J	<5.00	<1.00	<1.00	<50.0 J	<1.00	<10.0	<10.0	<1.00	<1.00
QA-EQB	**7/12/2022**	<1.00	<1.00	<1.00	<1.00	<0.00500	<1.00	<5.00	<1.00	<1.00	<50.0	<1.00	<10.0	<10.0	<1.00	<1.00

Notes:
ID = Identification
MW = Groundwater monitoring well
µg/L = Micrograms per liter
<1.00 = Not detected at or above the Reported Detection Limit

Bold = Detected above laboratory method detection limit (MDL)

Bold and Shaded = Value exceeds ADEC Groundwater Cleanup Level

Bold and Italicized : Constituent considered non-detect, however Laboratory RDL is greater than the ADEC Groundwater Cleanup Level

J = The associated numerical value is an estimated concentration only
R = The sample results are rejected as unusable. The compound may or may not be present in the sample.

[ ] = Blind Duplicate Sample Result

ADEC = Alaska Department of Environmental Conservation

Constituents analyzed by United States Environmental Protection Agency Method 8260D

Table 3a-d. Historical Groundwater Analytical Results - Additional VOCs
Second Quarter 2020 to Current
Former Texaco Bulk Plant 211815
410 Driveway Street
Fairbanks, Alaska

Well ID	Sample Date	Dibromomethane (Methylene bromide) (µg/L)	Diisopropyl ether (µg/L)	Hexachlorobutadiene (µg/L)	Isopropylbenzene (µg/L)	n-Butylbenzene (µg/L)	n-Propylbenzene (µg/L)	Naphthalene (µg/L)	2-Chlorotoluene (µg/L)	4-Chlorotoluene (µg/L)	sec-Butylbenzene (µg/L)	2,2-Dichloropropane (µg/L)	tert-Butylbenzene (µg/L)	Tetrachloroethene (µg/L)	Comments
ADEC Groundwater Cleanup Levels		**8.3**	**--**	**1.4**	**450**	**1000**	**660**	**1.7**	**--**	**--**	**2000**	**--**	**690**	**41**	
AR-81	**6/26/2020**	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-81	**7/15/2021**	--	--	--	--	--	--	--	--	--	--	--	--	--	Not enough water to sample
AR-81	**7/12/2022**	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-85	**6/26/2020**	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-85	**7/15/2021**	--	--	--	--	--	--	--	--	--	--	--	--	--	
AR-85	**7/12/2022**	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	**6/26/2020**	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	**7/15/2021**	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-1	**7/12/2022**	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-3	**6/26/2020**	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<5.00 [<5.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	
MW-3	**7/15/2021**	<1.00	<1.00	<1.00	**0.951 J**	<1.00	**1.81**	**1.20 J**	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	
MW-3	**7/12/2022**	<1.00	<1.00	<1.00	**0.671 J**	<1.00	**1.44**	***<5.00***	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	
MW-4	**6/26/2020**	<10.0	<10.0	<10.0	**50.8**	**7.38 J**	**98.3**	**253**	<10.0	<10.0	**7.14 J**	<10.0	<10.0	<10.0	
MW-4	**7/15/2021**	<10.0 [<1.00]	<10.0 [<1.00]	<10.0 [<1.00]	**48.9 [59]**	**5.35 J [5.86]**	**109 [107]**	**151 J [192 J]**	<10.0 [<1.00]	<10.0 [<1.00]	**5.28 J [5.83]**	<10.0 [<1.00]	<10.0 [0.764 J]	<10.0 [<1.00]	
MW-4	**7/12/2022**	***<100 [<50.0]***	<100 [<50.0]	***<100 [<50.0]***	**13.7 J [13.8 J]**	<100 [<50.0]	<100 [<50.0]	***<500 [<250 B]***	<100 [<50.0]	<100 [<50.0]	<100 [<50.0]	<100 [<50.0]	<100 [<50.0]	***<100 [<50.0]***	
MW-5	**7/12/2022**	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-7	**6/27/2020**	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	**19.6 [20.4]**	**2.74 [3.04]**	**30.9 [35.3]**	**36.9 [36.7]**	<1.00 [<1.00]	<1.00 [<1.00]	**4.17 [4.3]**	<1.00 [<1.00]	**0.326 J [0.366 J]**	<1.00 [<1.00]	
MW-7	**7/15/2021**	<25.0	<25.0	<25.0	**19.5 J**	<25.0	**30.9**	**30.8 J**	<25.0	<25.0	**4.25 J**	<25.0	<25.0	<25.0	
MW-7	**7/12/2022**	***<25.0***	<25.0	***<25.0***	**19.9 J**	<25.0	**35.8**	***<125***	<25.0	<25.0	**6.40 J**	<25.0	<25.0	<25.0	
MW-8	**6/27/2020**	<1.00	<1.00	<1.00	**12.9**	**3.49**	**26.5**	**12.8**	<1.00	<1.00	**3.54**	<1.00	**0.363 J**	<1.00	
MW-8	**7/15/2021**														Could not locate the well
MW-8	**7/12/2022**	<1.00	<1.00	<1.00	**3.29**	**1.08**	**6.68**	***<5.00***	<1.00	<1.00	**1.47**	<1.00	<1.00	<1.00	
MW-9	**6/27/2020**	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	
MW-9	**7/15/2021**	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	
MW-9	**7/12/2022**	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	***<5.00***	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	
QA-TB	**6/27/2020**	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	
QA-TB	**7/15/2021**	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	
QA-TB	**7/12/2022**	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	***<5.00***	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	
QA-EQB	**6/27/2020**	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	
QA-EQB	**7/15/2021**	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<5.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	
QA-EQB	**7/12/2022**	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	***<5.00***	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	

Notes:
ID = Identification
MW = Groundwater monitoring well
µg/L = Micrograms per liter
<1.00 = Not detected at or above the Reported Detection Limit

Bold = Detected above laboratory method detection limit (MDL)

Bold and Shaded = Value exceeds ADEC Groundwater Cleanup Level

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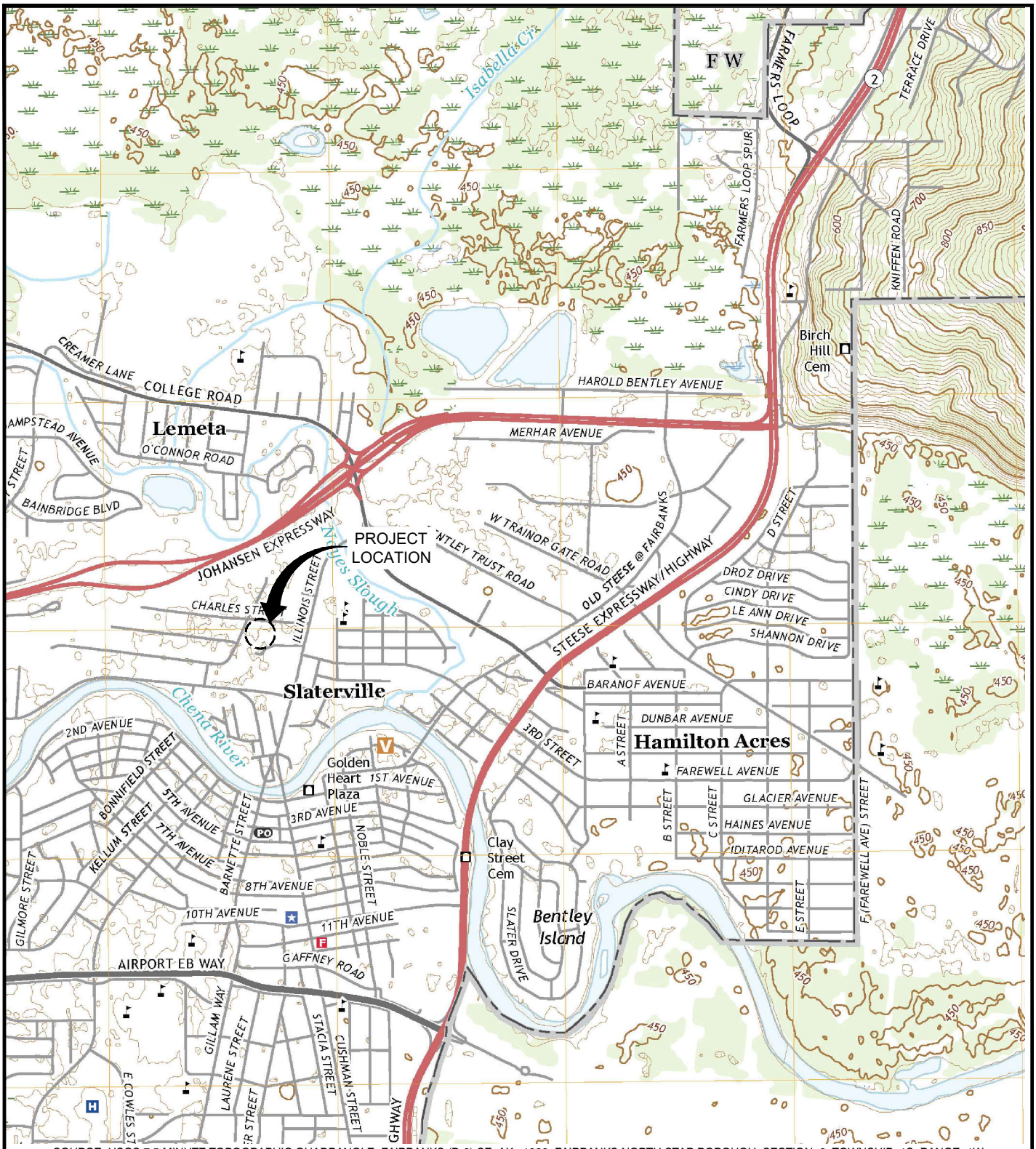
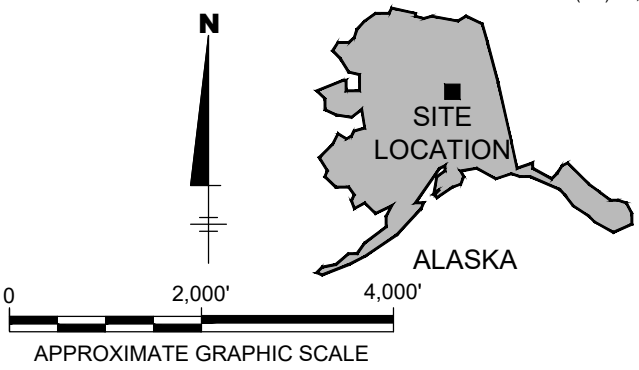
[ ] = Blind Duplicate Sample Result
ADEC = Alaska Department of Environmental Conservation
Constituents analyzed by United States Environmental Protection Agency Method 8260D

FIGURES



SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE: FAIRBANKS (D-2) SE, AK., 1992, FAIRBANKS NORTH STAR BOROUGH, SECTION: 3, TOWNSHIP: 1S, RANGE: 1W



FORMER TEXACO BULK TERMINAL 211815 - 410 DRIVEWAY ST.
FAIRBANKS, AK 99707
ANNUAL 2022 GROUNDWATER MONITORING REPORT

SITE LOCATION MAP

ARCADIS

FIGURE
1

LEGEND:

- PROPERTY BOUNDARY
- TH-1 — CHEVRON MONITORING WELL ADEC FILE NO. 101.38.006
- AR-81 — TEXACO MONITORING WELL ADEC FILE NO. 102.38.005
- GEI-6 — UNOCAL MONITORING WELL ADEC FILE NO. 102.38.004
- MW-2 — ABANDONED GROUNDWATER MONITORING WELL
- OH E — OVERHEAD ELECTRIC LINE
- RAILWAY TRACK
- USTs — UNDERGROUND STORAGE TANKS

N

0 120' 240'

APPROXIMATE GRAPHIC SCALE

FORMER TEXACO BULK TERMINAL 211815 - 410 DRIVEWAY ST.
FAIRBANKS, AK 99707

ANNUAL 2022 GROUNDWATER MONITORING REPORT

SITE PLAN

ARCADIS

FIGURE
2

FORMER VAN GAS

GOLDEN HEART UTILITIES

LEASE LOT #2914

PETRO STAR, INC. (LEASE LOT #7334)

ROAD

SHOP

TANK

SOURDOUGH BLDG

BLDG

BIG STATE LOGISTICS, INC.

WAREHOUSE

1000 Gallon Heating Oil USTs

TRENCH

ACS SITE

ACS BLDG. (SHOWN APPROXIMATE)

POLE SHED

FORMER OK LUMBER COMPANY, INC.

ABANDONED ACE HARDWARE BLDG

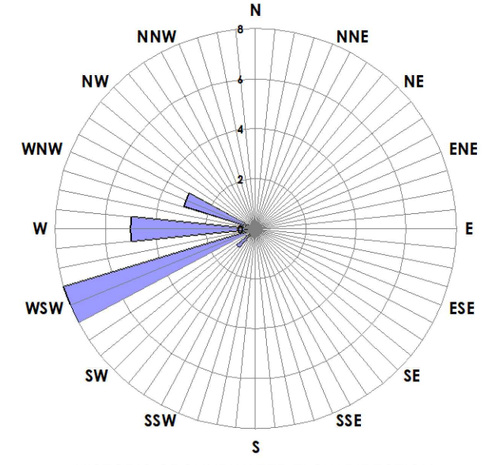
PHILLIPS FIELD ROAD

AR-85 (429.55)
MW-1 (429.74)
AR-81 (429.57)
MW-10
MW-4 (429.56)
MW-5 (429.47)
MW-9 (429.30)
MW-8 (429.11)
MW-6
MW-14
MW-15
MW-7 (429.16)
MW-3
MW-2
MW-13
MW-23 (429.81)
TH-1 (429.87)
TH-7 (NG)
TH-10 (429.94)
TH-5 (429.91)
MW-25 (429.36)*
TH-17 (NG)
TH-18 (NG)
TH-2 (429.87)
TH-13 (NG)
MW-3 (429.54)
GEI-5
GEI-6
MW-5
GEI-3
GEI-9
GEI-2
GEI-4
GEI-8
K-7
GEI-1
GEI-7
GEI-10
GEI-11
GEI-12
K-5
MW-4

429.60
429.80
429.40
429.20
0.0008 FT/FT

LEGEND:

- PROPERTY BOUNDARY
- TH-1 — CHEVRON MONITORING WELL ADEC FILE NO. 101.38.006
- AR-81 — TEXACO MONITORING WELL ADEC FILE NO. 102.38.005
- GEI-6 — UNOCAL MONITORING WELL ADEC FILE NO. 102.38.004
- MW-2 — ABANDONED GROUNDWATER MONITORING WELL
- USTs — UNDERGROUND STORAGE TANKS
- 429.80 — GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- (429.94) — GROUNDWATER ELEVATION IN FEET RELATIVE TO NAVD88
- APPARENT DIRECTION OF GROUNDWATER FLOW
- 0.0008 FT/FT — APPROXIMATE HYDRAULIC GRADIENT (FEET / FOOT)
- (NG) — NOT GAUGED
- NAVD88 — NORTH AMERICAN VERTICAL DATUM OF 1988
- * — WELL NOT USED FOR CONTORUING



HISTORIC GROUNDWATER FLOW DIRECTION

0 120' 240'

APPROXIMATE GRAPHIC SCALE

FORMER TEXACO BULK TERMINAL 211815 - 410 DRIVEWAY ST.
FAIRBANKS, AK 99707

ANNUAL 2022 GROUNDWATER MONITORING REPORT

GROUNDWATER ELEVATION CONTOUR MAP - JULY 12, 2022

ARCADIS

FIGURE 3

AR-85	
Sample Date	7/12/2022
DRO	**493 J**
GRO	<100
DRO w Si/Gel	**493 J**
RRO	<800 B
Benzene	**0.259 J**
Toluene	<1.00
Ethylbenzene	<1.00
Total Xylenes	**0.214 J**
EDB	<0.00500
EDC	--
PCE	--
Chloroform	--
1,2,4-Trimethylbenzene	--

MW-1	
Sample Date	7/12/2022
DRO	**882**
GRO	<100 B
DRO w Si/Gel	**291 J**
RRO	<800 B
Benzene	<1.00 B
Toluene	<1.00
Ethylbenzene	**0.151 J**
Total Xylenes	**1.11 J**
EDB	<0.0500
EDC	--
PCE	--
Chloroform	--
1,2,4-Trimethylbenzene	--

AR-81	
Sample Date	7/12/2022
DRO	**936**
GRO	<100
DRO w Si/Gel	<800
RRO	<800 B
Benzene	**0.120 J**
Toluene	<1.00
Ethylbenzene	<1.00
Total Xylenes	<3.00
EDB	<0.00500
EDC	--
PCE	--
Chloroform	--
1,2,4-Trimethylbenzene	--

MW-9	
Sample Date	7/12/2022
DRO	<800
GRO	<100
DRO w Si/Gel	<800
RRO	<800 B
Benzene	<1.00
Toluene	<1.00
Ethylbenzene	<1.00
Total Xylenes	<3.00
EDB	<0.00500
EDC	<1.00
PCE	<1.00
Chloroform	***<5.00***
1,2,4-Trimethylbenzene	<1.00

MW-8	
Sample Date	7/12/2022
DRO	**708 J**
GRO	**274**
DRO w Si/Gel	**708 J**
RRO	<800 B
Benzene	**29.1**
Toluene	**0.580 J**
Ethylbenzene	**2.79**
Total Xylenes	**17.3**
EDB	***<0.500***
EDC	<1.00
PCE	<1.00
Chloroform	***<5.00***
1,2,4-Trimethylbenzene	**14.2**

MW-4	
Sample Date	7/12/2022
DRO	**39,200 [37,500]**
GRO	**17,100 [18,400]**
DRO w Si/Gel	**3,350 [3,770]**
RRO	***<1,790 B [<1,640 B]***
Benzene	**1,560 [1,630]**
Toluene	**3,010 [3,150]**
Ethylbenzene	**218 [235]**
Total Xylenes	**4,770 [5,100]**
EDB	***<5.00 [<5.00]***
EDC	***<100 [<50.0]***
PCE	***<100 [<50.0]***
Chloroform	***<500 [<250]***
1,2,4-Trimethylbenzene	**542 [563]**

MW-7	
Sample Date	7/12/2022
DRO	**3,650**
GRO	**3,230**
DRO w Si/Gel	**722 J**
RRO	<800 B
Benzene	**760**
Toluene	<25.0
Ethylbenzene	**79.4**
Total Xylenes	**395**
EDB	***<5.00***
EDC	***<25.0***
PCE	<25.0
Chloroform	***<125***
1,2,4-Trimethylbenzene	**183**

MW-5	
Sample Date	7/12/2022
DRO	**3,200**
GRO	**2,490**
DRO w Si/Gel	**1,020**
RRO	<800 B
Benzene	**194**
Toluene	**6.59**
Ethylbenzene	**127**
Total Xylenes	**475**
EDB	***<0.500***
EDC	--
PCE	--
Chloroform	--
1,2,4-Trimethylbenzene	--

MW-3	
Sample Date	7/12/2022
DRO	**2,280 J**
GRO	<100 B
DRO w Si/Gel	<800
RRO	***<1,130 B***
Benzene	**3.58**
Toluene	<1.00
Ethylbenzene	**1.31**
Total Xylenes	**3.17**
EDB	<0.0500
EDC	<1.00
PCE	<1.00
Chloroform	**<5.00**
1,2,4-Trimethylbenzene	**10.2 J**

Analyte	ADEC Groundwater Cleanup Levels
DRO	1,500
GRO	2,200
DRO w/Si Gel	1,500
RRO	1,100
Benzene	4.6
Toluene	1,100
Ethylbenzene	15
Total Xylenes	190
EDB	0.075
EDC	1.7
PCE	41
Chloroform	2.2
1,2,4-Trimethylbenzene	56

Concentration in µg/L

0 120' 240'

APPROXIMATE GRAPHIC SCALE

LEGEND:

- PROPERTY BOUNDARY
- AR-81 TEXACO MONITORING WELL (AR)
- USTs UNDERGROUND STORAGE TANKS
- GRO TOTAL PETROLEUM HYDROCARBONS, GASOLINE RANGE
- DRO TOTAL PETROLEUM HYDROCARBONS, DIESEL RANGE
- DRO w/Si Gel TOTAL PETROLEUM HYDROCARBONS, DIESEL SILICA GEL RANGE
- RRO TOTAL PETROLEUM HYDROCARBONS, RESIDUAL RANGE
- EDB 1,2-DIBROMOETHANE
- EDC 1,2-DICHLOROETHANE
- PCE TETRACHLOROETHYLENE
- [ ] BLIND DUPLICATE RESULT
- <1.00 NOT DETECTED AT OR ABOVE THE REPORTED DETECTION LIMIT (RDL)
- **BOLD** VALUE EXCEEDS METHOD DETECTION LIMIT (MDL)
- **BOLD** VALUE EXCEEDS ADEC GROUNDWATER CLEANUP LEVEL
- ***BOLD*** CONSTITUENT CONSIDERED NON-DETECT, HOWEVER RDL IS GREATER THAN THE ADEC GROUNDWATER CLEANUP LEVEL
- J THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION ONLY
- B THE COMPOUND CONSIDERED NON-DETECT AT THE LISTED VALUE DUE TO ASSOCIATED BLANK CONTANIMATION
- µg/L MICROGRAMS PER LITER
- -- NOT ANALYZED
- ADEC ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

NOTES:

1. THE COORDINATE SYSTEM IS A LOCAL GRID. ELEVATIONS ARE STATE OF ALSKA TBM "X" NE BOLT OF FIRE HYDRANT ON THE SOUTH SIDE OF PHILLIPS FIELD ROAD BETWEEN ILLINOIS STREET ANS DRIVEWAY STREET. ELEVATION IS 446.59'.
2. PROPERTY BOUNDARY AND WELL LOCATIONS PROVIDED BY "MCLANE CONSULTING, Inc.", FIELD WORK DATE OCTOBER 9, 2014.

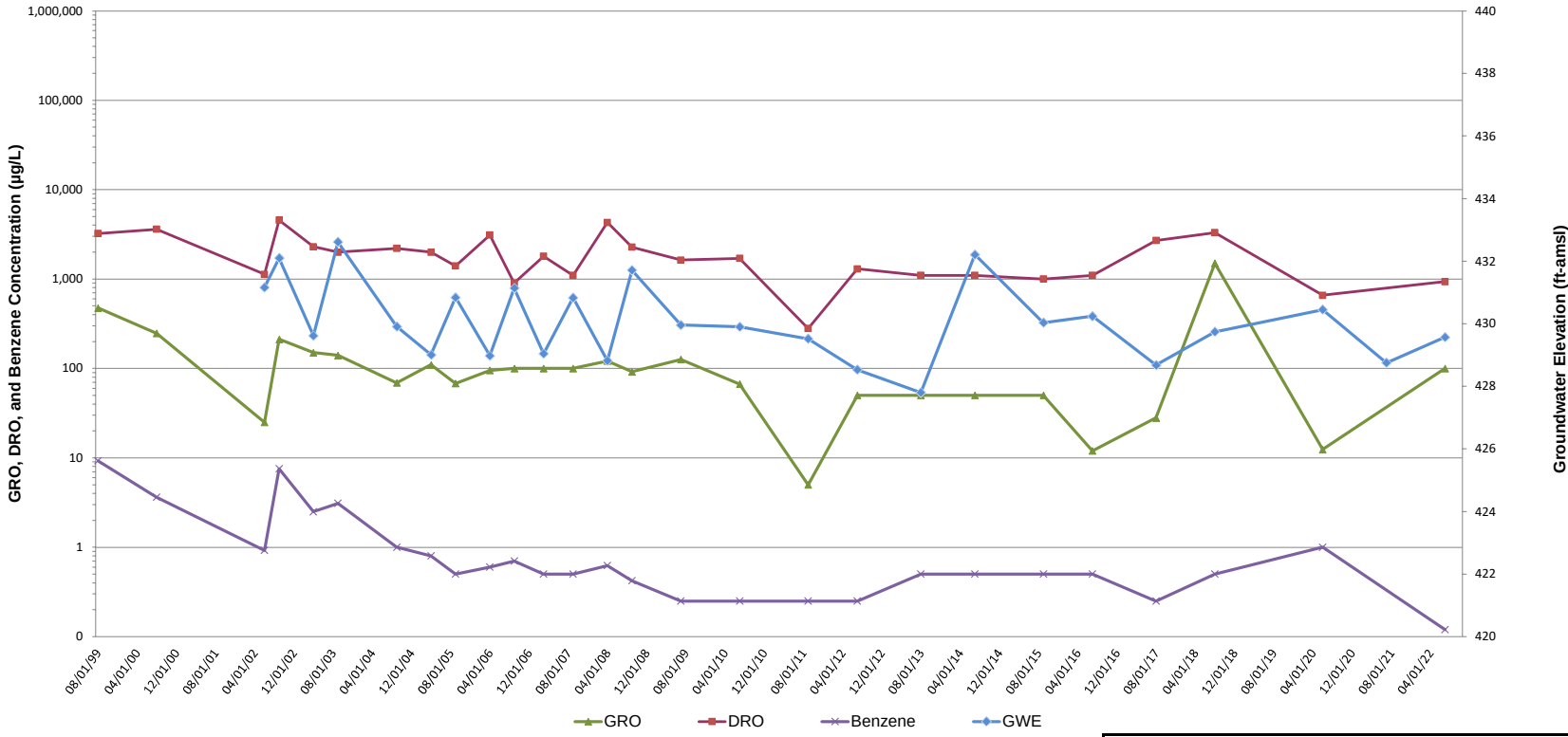
FORMER TEXACO BULK TERMINAL 211815 - 410 DRIVEWAY ST.
FAIRBANKS, AK 99707

ANNUAL 2022 GROUNDWATER MONITORING REPORT

GROUNDWATER ANALYTICAL CONCENTRATION MAP JULY 12, 2022

ARCADIS

FIGURE 4



LEGEND:

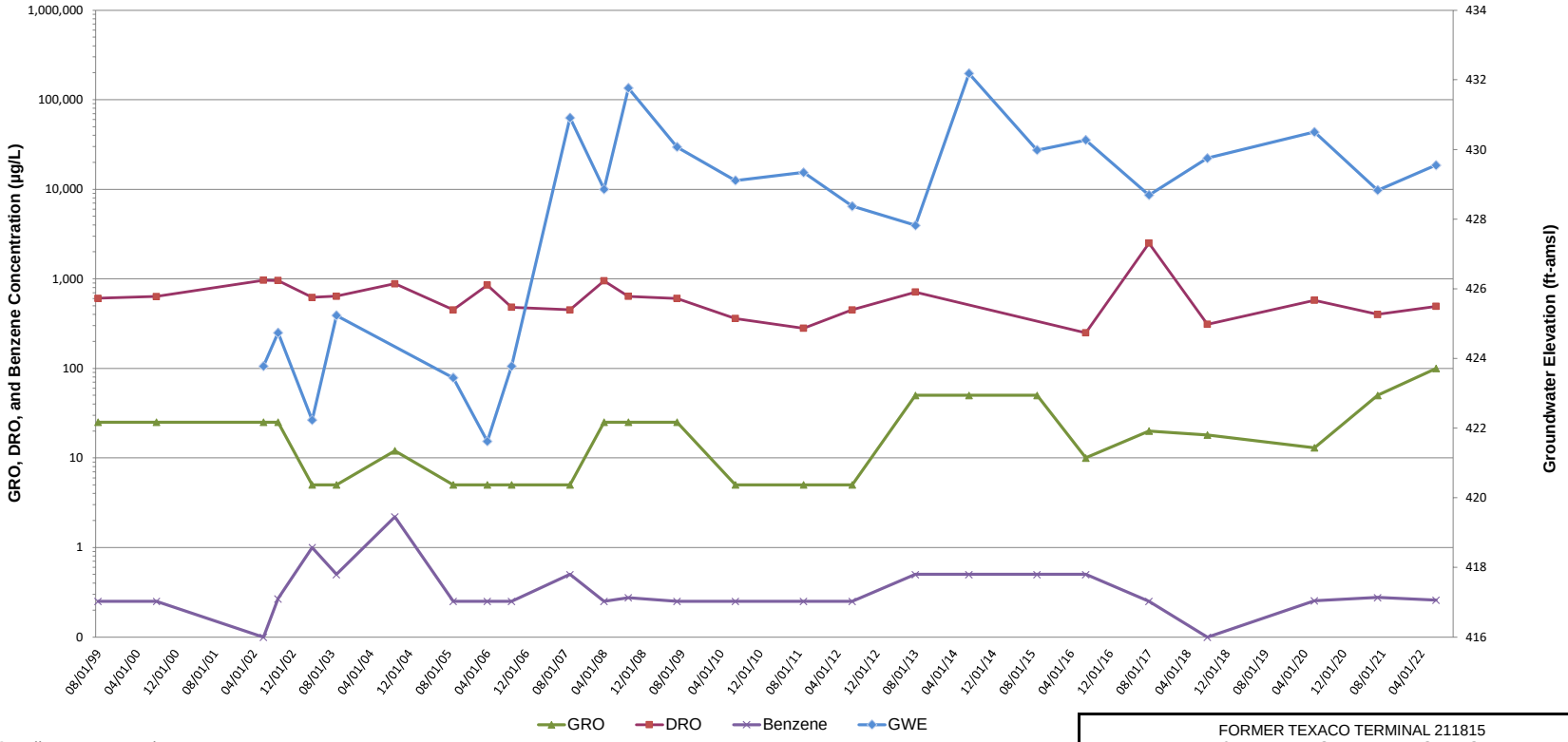
GRO = Gasoline range organics
DRO = Diesel range organics
GWE = Groundwater elevation
µg/L = micrograms per liter
ft-amsl = Feet above mean sea level
Used half of detection limit value for non-detect results

FORMER TEXACO TERMINAL 211815
410 DRIVEWAY ST. FAIRBANKS. ALASKA

Monitoring Well AR-81 Historical Groundwater Elevation and Analytical Data

ARCADIS

FIGURE
5a



LEGEND:

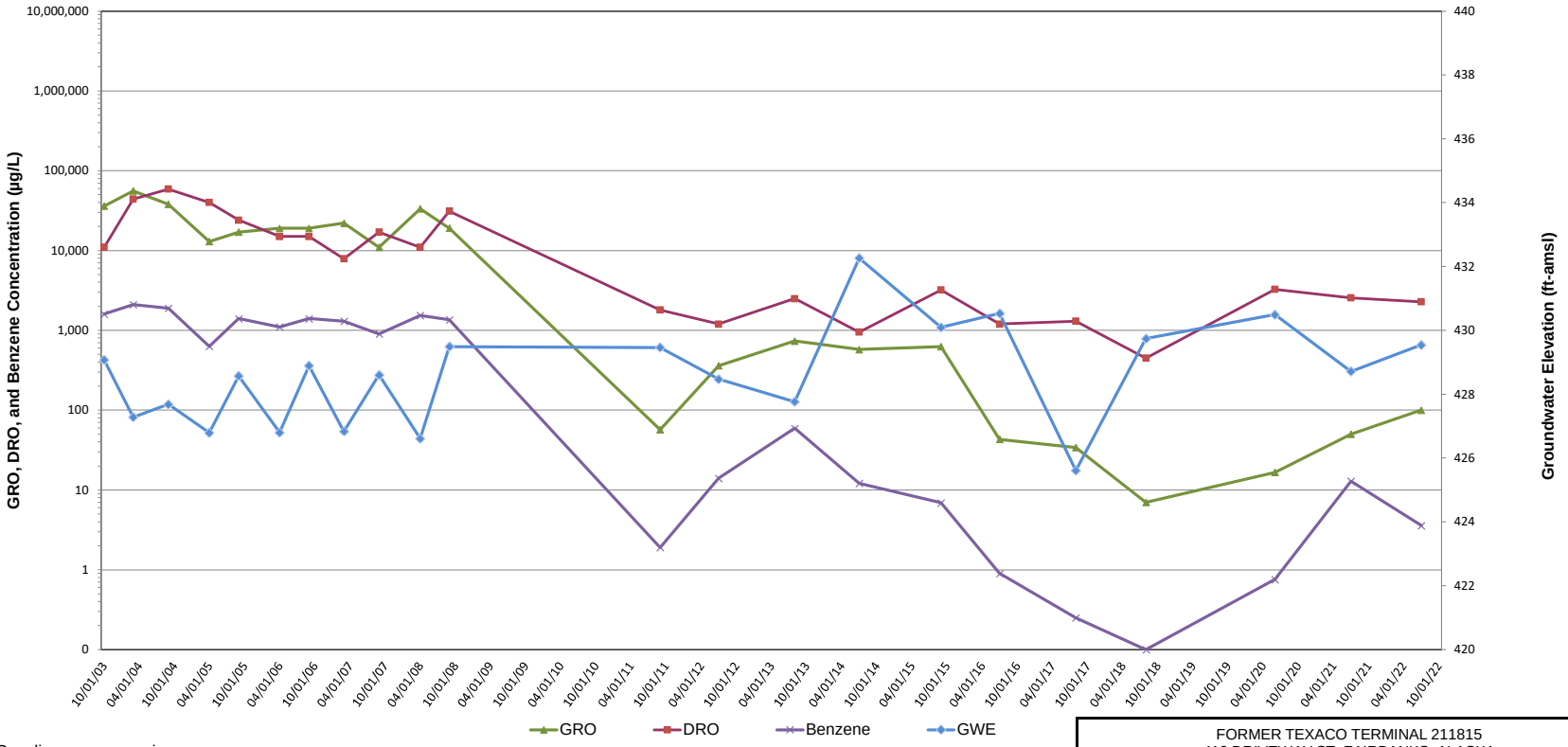
GRO = Gasoline range organics
DRO = Diesel range organics
GWE = Groundwater elevation
µg/L = micrograms per liter
ft-amsl = Feet above mean sea level
Used half of detection limit value for non-detect results

FORMER TEXACO TERMINAL 211815
410 DRIVEWAY ST. FAIRBANKS. ALASKA

Monitoring Well AR-85 Historical Groundwater Elevation and Analytical Data

ARCADIS

FIGURE
5b



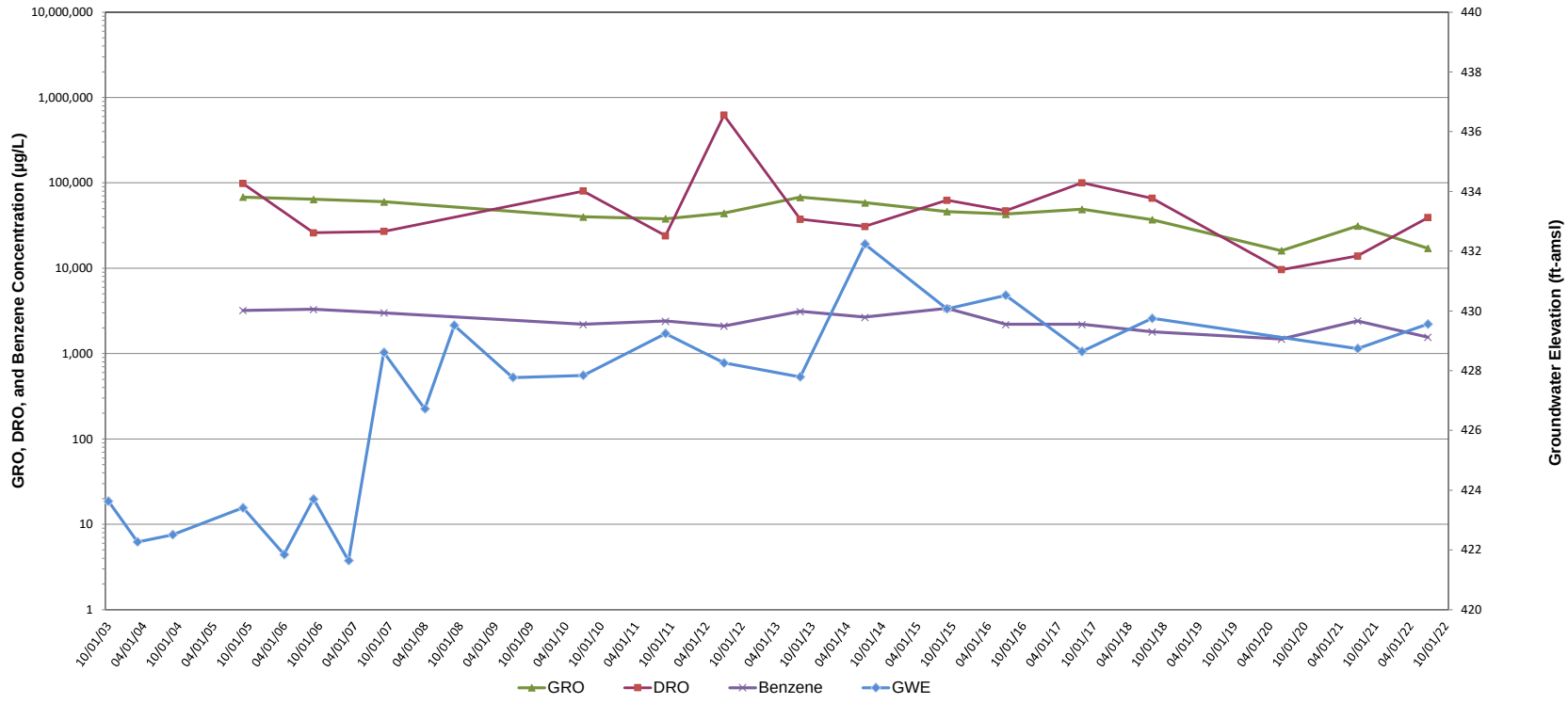
LEGEND:
GRO = Gasoline range organics
DRO = Diesel range organics
GWE = Groundwater elevation
µg/L = micrograms per liter
ft-amsl = Feet above mean sea level
Used half of detection limit value for non-detect results

FORMER TEXACO TERMINAL 211815
410 DRIVEWAY ST, FAIRBANKS, ALASKA

Monitoring Well MW-3 Historical Groundwater Elevation and Analytical Data

ARCADIS

FIGURE
5c



LEGEND:

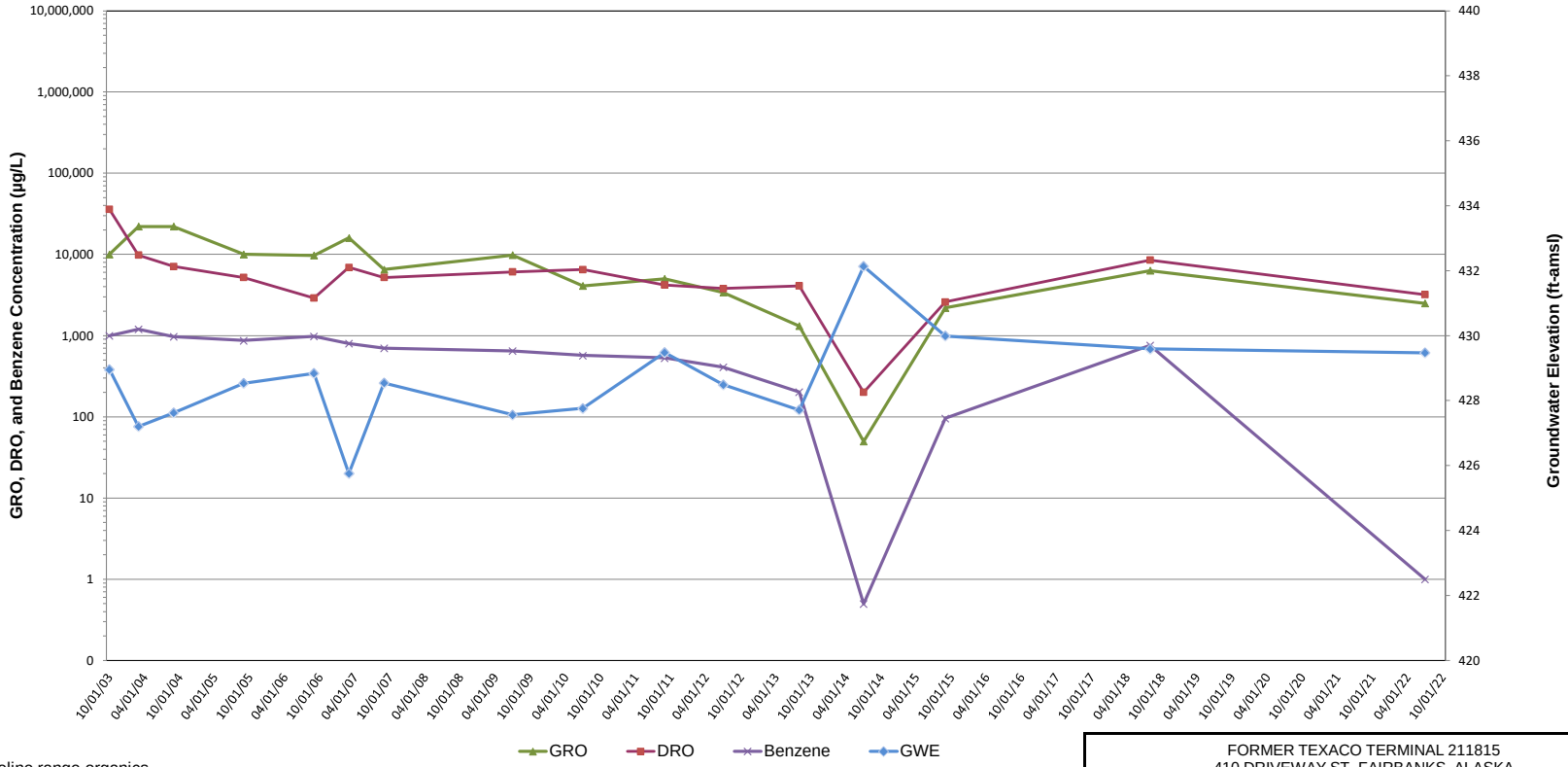
GRO = Gasoline range organics
DRO = Diesel range organics
GWE = Groundwater elevation
µg/L = micrograms per liter
ft-amsl = Feet above mean sea level
Used half of detection limit value for non-detect results

FORMER TEXACO TERMINAL 211815
410 DRIVEWAY ST. FAIRBANKS. ALASKA

Monitoring Well MW-4 Historical Groundwater Elevation and Analytical Data

ARCADIS

FIGURE
5d



LEGEND:

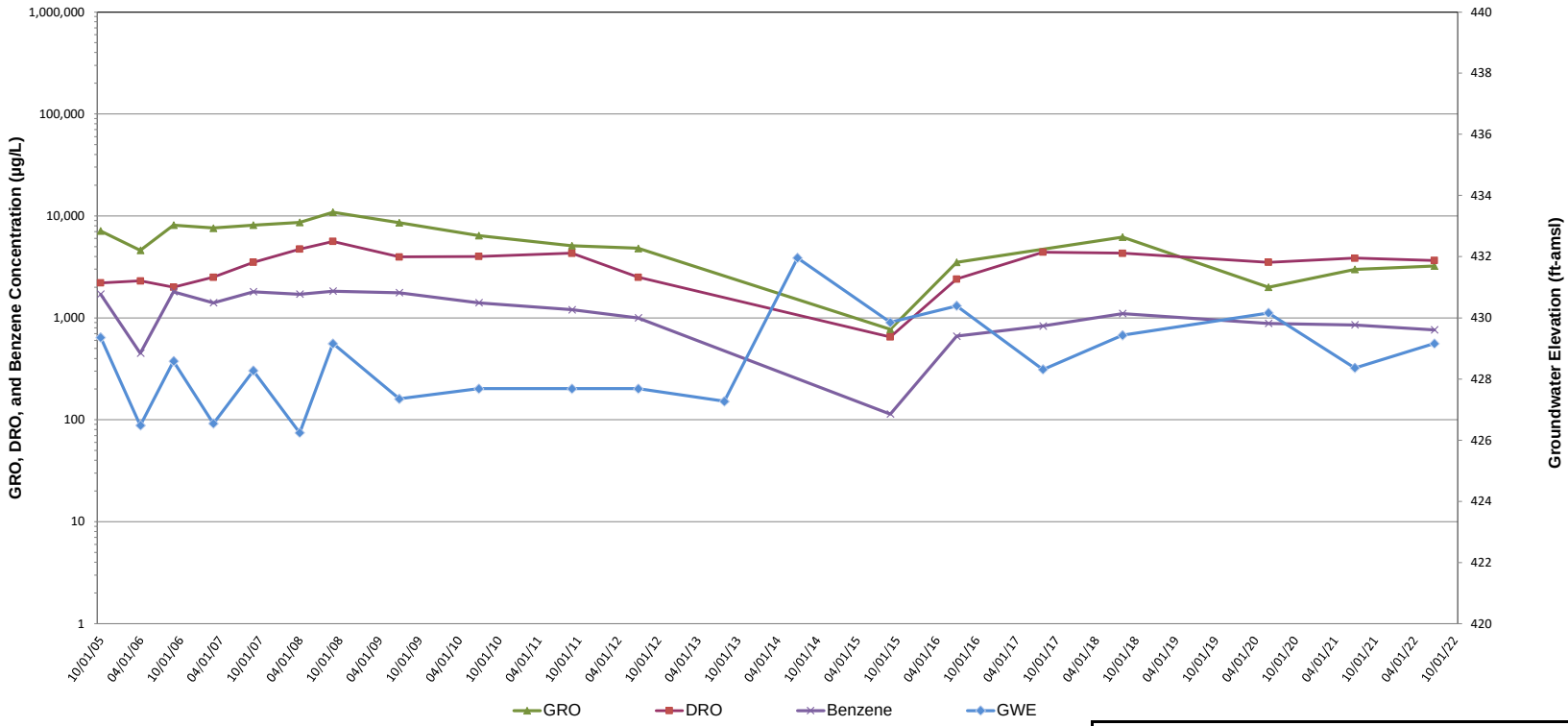
GRO = Gasoline range organics
DRO = Diesel range organics
GWE = Groundwater elevation
µg/L = micrograms per liter
ft-amsl = Feet above mean sea level
Used half of detection limit value for non-detect results

FORMER TEXACO TERMINAL 211815
410 DRIVEWAY ST. FAIRBANKS. ALASKA

Monitoring Well MW-5 Historical Groundwater Elevation and Analytical Data

ARCADIS

FIGURE
5e



LEGEND:

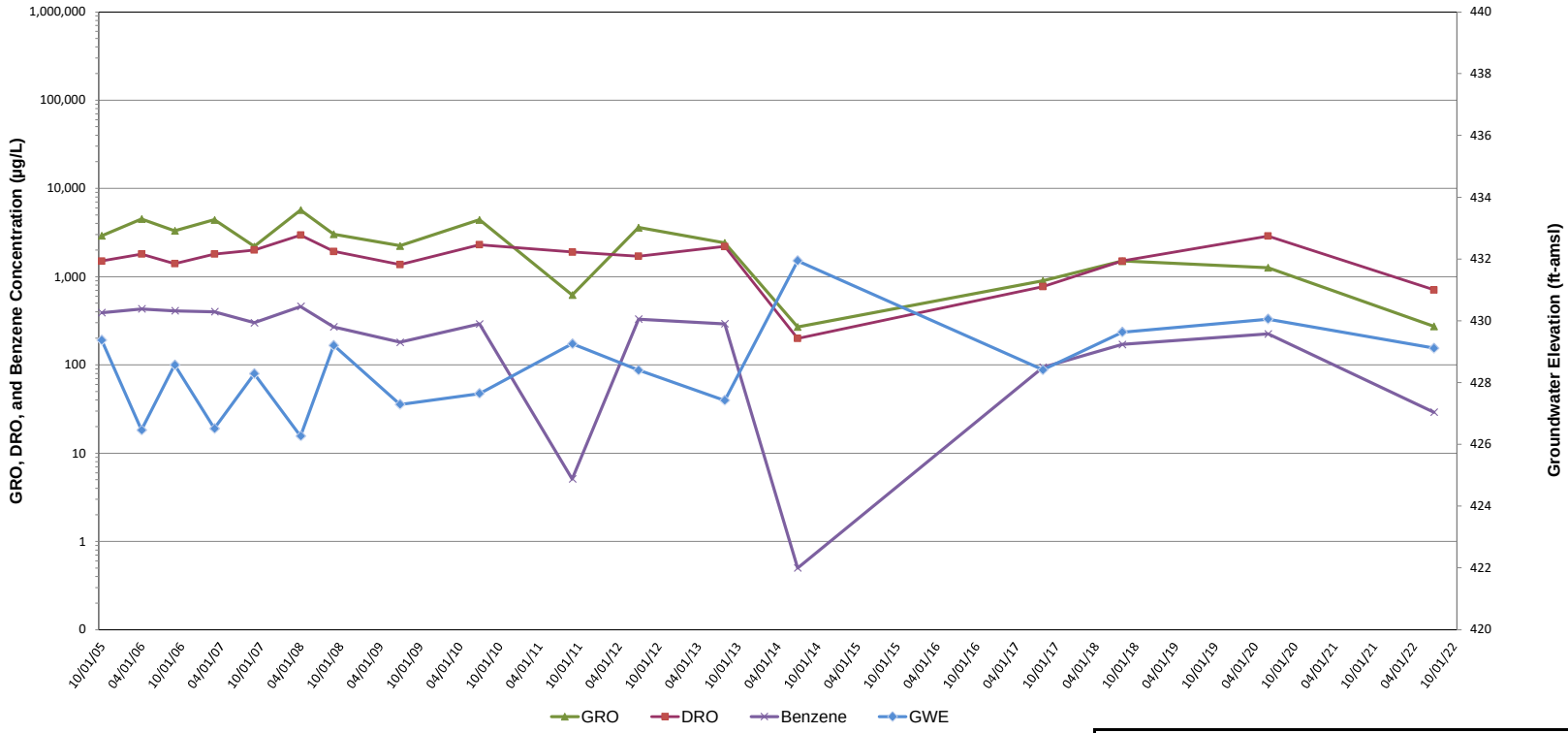
GRO = Gasoline range organics
DRO = Diesel range organics
GWE = Groundwater elevation
µg/L = micrograms per liter
ft-amsl = Feet above mean sea level
Used half of detection limit value for non-detect results

FORMER TEXACO TERMINAL 211815
410 DRIVEWAY ST. FAIRBANKS. ALASKA

Monitoring Well MW-7 Historical Groundwater Elevation and Analytical Data

ARCADIS

FIGURE
5f



LEGEND:

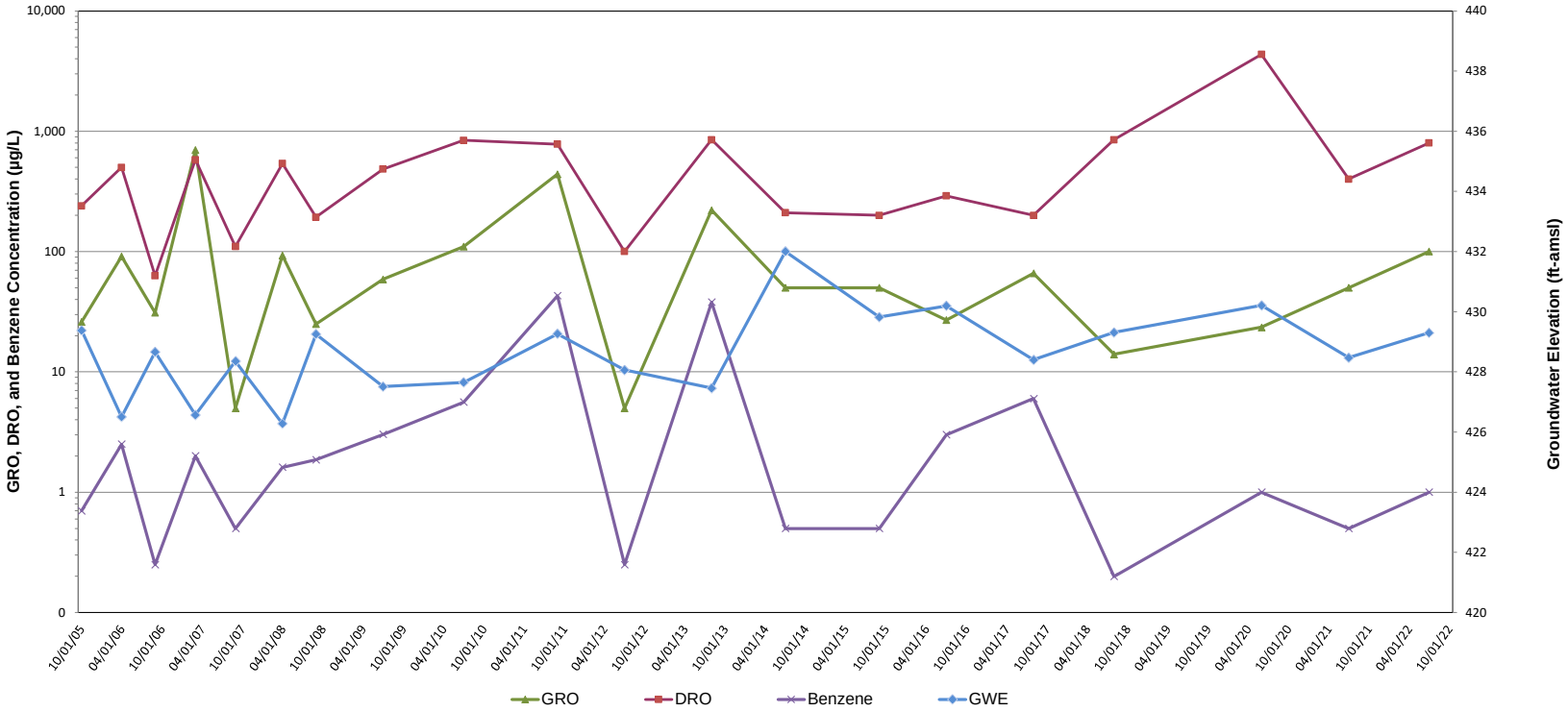
GRO = Gasoline range organics
DRO = Diesel range organics
GWE = Groundwater elevation
µg/L = micrograms per liter
ft-amsl = Feet above mean sea level
Used half of detection limit value for non-detect results

FORMER TEXACO TERMINAL 211815
410 DRIVEWAY ST, FAIRBANKS, ALASKA

Monitoring Well MW-8 Historical Groundwater Elevation and Analytical Data

ARCADIS

FIGURE
5g



LEGEND:

GRO = Gasoline range organics
DRO = Diesel range organics
GWE = Groundwater elevation
µg/L = micrograms per liter
ft-amsl = Feet above mean sea level
Used half of detection limit value for non-detect results

FORMER TEXACO TERMINAL 211815
410 DRIVEWAY ST. FAIRBANKS. ALASKA

Monitoring Well MW-9 Historical Groundwater Elevation and Analytical Data

ARCADIS

FIGURE
5h

APPENDIX A

Site Background and History

ARCADIS Design & Consultancy for natural and built assets

Chevron Environmental Management Company

Appendix A:

Site History and Background

Former Texaco Bulk Plant 211815
410 Driveway Street
Fairbanks, Alaska
ADEC File No: 102.38.005
HAZARD ID No: 287

August 25, 2021

SITE BACKGROUND AND HISTORIES

Site Description and Vicinity

The former Chevron (1001430), Texaco (211815) and former Unocal (306456) bulk plants are located adjacent to one another. The Alaska Railroad Corporation (ARRC) has owned the properties since the early 1900's. The sites are located within the Fairbanks Area-Wide Industrial Reclamation (FAIR) Area which is bordered by Noyes Slough to the north and east and Chena River to the south. Land use in the area consists primarily of industrial activities including: railroad facilities, bulk fuel terminals, gasoline stations, miscellaneous light industrial and warehousing

Site History

The former Texaco is located at 410 Driveway Street in Fairbanks, Alaska. Currently, the site is leased from the ARRC by Unique Alaska. Unique Alaska has sub-leased the property to ABC General Contracting. Texaco leased the property and operated a bulk plant at the site from 1958 to 1982. Willner's Fuel Distribution then leased the site and operated a bulk plant at the site from 1982 to 1993. A total of 12 aboveground storage tanks (ASTs), five 2,020-barrel capacity and seven 476-barrel capacity, were located on the southern portion of the site. The five larger AST's were removed from the site in 1994 and historically, contained No. 1 and No. 2 diesel, unleaded gasoline, and regular leaded gasoline. The smaller ASTs historically contained No. 10 oil. Information on their removal is unknown at this time. Two of the ASTs (one large and one small) were reportedly rented to a chemical company and contained silicone. The fuel holding and dispensing facilities were removed from the site sometime between 1994 and 2000. Eleven monitoring wells (AR-81, AR-85, MW-1 through MW-5, and MW-7 through MW-10) are currently available and part of the sampling program for the former Texaco site.

Site Characterizations

In 2007, a site assessment was performed. The purpose of the soil investigation and soil delineation was to assist in the evaluation of potential receptors being exposed to petroleum constituents near the surface. Three borings were completed near the southeast corner of the Former Texaco in the vicinity of the former ASTs and ethanol tank to evaluate potential surface releases from the tanks. To assess the potential for vapor intrusion at the site, Arcadis installed a permanent soil gas probe at the former Texaco facility (VP-1). The VP-1 sample at 5 feet below ground surface (bgs) exceeded the ethylbenzene screening level of 5.1 parts per billion by volume (ppbv) at a concentration of 9.9 ppbv at 8.5 feet bgs (Arcadis, 2008).

A vapor assessment was performed in 2008, including installation of additional vapor probes. The sample collected from vapor probe VP-7 at 3.5 feet bgs, located on the former Texaco site, exceeded the benzene screening level of 1.61 ppbv at a concentration of 19 ppbv. Vapor probe VP-7 is located within 10 feet of the northeast side of an Alaska Communication Systems (ACS) warehouse. During vapor probe installation and sampling, ACS trucks were observed driving into the warehouse for truck storage. The sample collected from vapor probe VP-7 at 8.5 feet bgs, exceeded the benzene screening level of 1.61 ppbv at a

concentration of 1,000 ppbv. There were no detections of the analyzed compounds above screening levels in vapor probes VP-1 at 8.5 feet bgs, VP-6 at 8.5 feet bgs (Arcadis, 2009).

Arcadis performed further vapor assessment in 2009. Concentrations of oxygen in the samples collected from vapor probes VP-1 and VP-6 demonstrate a consistent decrease with respect to depth with a corresponding increase in concentrations of carbon dioxide. These concentration profiles with respect to depth likely indicate biodegradation processes are active in the vicinities of these vapor probes (ARCADIS, 2010).

CURRENT SITE MONITORING ACTIVITIES

Nine monitoring wells, AR-81, AR-85, MW-1, MW-3 through MW-5, and MW-7 through MW-9, are currently part of the sampling program. Groundwater monitoring gauging and sampling activities are conducted annually for each site.

GEOLOGY AND HYDROGEOLOGY

Regional Geology

The Fairbanks region is typically underlain by 330 to approximately 600 feet of Quaternary fluvial and glaciofluvial sediment (sand and gravel covered by fine sediments and organic matter) based on seismic interpretations originating from the Alaska Range (Natural Resources Conservation Service and U.S. Department of Agriculture 2004).

Site Geology

Soils logged during site assessment activities ranged from well-graded sandy gravels to silt. Cross sections constructed from historical boring logs may indicate north-south trending channeling across the site. Subsurface channeling features are often characteristic of glacial and fluvial outwash geomorphology. The geology observed is consistent with regional geology. The geology of Fairbanks area is dominated by fluvial outwash and generally consists of sand and gravel overlain by finer sediments and organic matter. Lenses of both coarser gravels and finer-grained sediment are common in the subsurface.

Regional Hydrogeology

According to the U.S. Geological Survey conducted in 1995, the sites are located in the floodplain of the Tanana and Chena rivers. The Tanana Lowland consists of a wide, sediment-filled trough in which alluvial fans extending from the Alaska Range to the south have pushed northwest, forcing the Tanana River against the bedrock hills of the Yukon-Tanana Upland (Hawkins 1995). The Fairbanks area has not been subject to glaciations, although glaciers have advanced northward from the Alaska Range to within 80 kilometers of Fairbanks, which resulted in thick layers of silt, sand, and gravel deposited by the sediment-laden rivers (Hawkins 1995).

Site Hydrogeology

Historical groundwater elevations across the sites have historically ranged between approximately 420 and 430 feet above sea level. Based upon historical groundwater monitoring and gauging events, indications are that the hydraulic flow direction onsite is generally in a westerly to south-westerly direction.

REFERENCES

ARCADIS. 2008. 2007 Site Assessment Report. Former Chevron Bulk Plant 1001430, Former Texaco Bulk Plant 211815, and Former Unocal Bulk Plant 306456. January 18.

ARCADIS. 2009. 2008 Vapor Assessment Report. January 27.

ARCADIS. 2010. 2009 Vapor Assessment Report. March 1.

Natural Resources Conservation Service 2004.

Hawkins, D.B. 1995. Environmental overview and hydrogeological conditions at Federal Aviation Administration facilities near Fairbanks, Alaska: U.S. Geological Survey Open-File Report 95-172, 11 p.

APPENDIX B

Field Data Sheets

Daily Log

Project Number : 30064222

Prepared By: Evan Wujcik

Site ID: 211815

Site Name: 211815- Fair Texaco

City: Fairbanks

State: Alaska

Project Manager: Wood, Nicholas

Portfolio: COP 5.0

Subportfolio: West

Inside Chevron Operational Control? Yes ☐ No ☑

Staff on Site
Evan Wujcik

Weather(°F)	PPE	Equipment
Clear		Water Quality Meter (i.e. YSI), Water Level Meter (WLM), Bladder Pump, Photoionization Detector (PID)

Date	Time	Description of Activities
07/12/2022	07:00	Arrive on site McLane on site Locate wells
07/12/2022	07:30	Complete tailgate meeting and site walk Open wells for survey
07/12/2022	08:00	Sample MW7 Decon equipment See COC for analysis
07/12/2022	08:45	Sample MW8 Decon equipment See COC for analysis
07/12/2022	09:30	Sample MW9 Decon equipment See COC for analysis
07/12/2022	10:15	Sample MW5 Decon equipment See COC for analysis
07/12/2022	11:00	Sample MW3 MS/MSD samples collected at this location Decon equipment See COC for analysis
07/12/2022	11:45	Sample MW4 Blind duplicate samples collected at this location Decon equipment See COC for analysis
07/12/2022	12:30	Sample MW1 Decon equipment See COC for analysis

ARCADIS

Daily Log

07/12/2022	13:15	Sample AR81 Decon equipment See COC for analysis
07/12/2022	14:00	Sample AR85 Decon equipment See COC for analysis
07/12/2022	14:20	Load vehicle Mobilize offsite

Equipment and Calibration Information:

Supplier: Pine

Model:

Rental Number:

Calibrated:

Bump Checked:

Calibration Passed: yes

Water Quality Meter SN:

Date	Time	Calibrated Fulid and Value	Lot #	Expiration Date	Initial Reading	Final Reading
07/12/2022	18:41:00					

Equipment and Calibration Information:

Supplier: Pine

Model:

Rental Number:

Calibrated:

Bump Checked:

Calibration Passed: yes

PIDSN:

Date	Time	Calibrated Fulid and Value	Lot #	Expiration Date	Initial Reading	Final Reading
07/12/2022	18:41					

End of Day Questions	Yes	No	Comments	
Was waste generated?	☐	☑	Approximate volume of waste	
			Container type	
			Confirm container is not leaking	Yes ☐ No ☐
Have you performed work in accordance with the applicable QP/TGI?	☑	☐		
Change in plans (project delays)?	☐	☑		
Discovery of significant new site characteristics?	☐	☑		

ARCADIS

Daily Log

End of Day Questions	Yes	No	Comments
Upcoming regulatory, community, or other stakeholder views change?	☐	☑	
Incident at the site?	☐	☑	
Is there a potential dispute?	☐	☐	
Identification of strategic opportunity?	☐	☑	
New application, renewal, or permit modifcation?	☐	☑	

Signature

Groundwater Gauging Log

Project Number	30064222
Client:	Chevron
Site ID:	211815
Site Location:	Fairbanks, Alaska
Measuring Point:	Top of Casing
Date(s):	07/12/2022
Sampler(s):	Evan Wujcik
Gauging Equipment:	Water Level Meter

Well ID	Date	Gauging Time	Static Water Level (ft bmp)	Depth to Product (ft bmp)	Total Depth (ft bmp)	PID Reading (ppm)	LNAPL Removed (gal)	Comments
AR-81	07/12/2022	07:27	12.7	ND	14.60	0	--	--
AR-85	07/12/2022	07:20	12.92	ND	17.20	0	--	--
MW-1	07/12/2022	07:23	11.83	ND	20.70	0	--	--
MW-3	07/12/2022	07:32	13.35	ND	17.50	0	--	--
MW-4	07/12/2022	07:30	13	ND	20.10	4	--	--
MW-5	07/12/2022	07:40	12.28	ND	20.30	68	--	--
MW-7	07/12/2022	08:00	14.2	ND	22.10	0	--	--
MW-8	07/12/2022	07:47	12.5	ND	21.60	0	--	--
MW-9	07/12/2022	07:54	12.31	ND	21.60	0	--	--

ft-bmp = feet below measuring point ND = Not Detected PID = Photoionization Detector Reading

ppm = parts per million -- = Not Recorded

Chevron Groundwater Sampling Form

ARCADIS

Project Number	30064222	**Well ID**	AR-81	**Date**	7/12/2022		
Site Location	Fairbanks, Alaska	**Site ID**	211815	**Weather (°F)**	Clear	**Sampled by**	Evan Wujcik
Measuring Point Description	Top of Casing	**Screen Depth Interval (ft-bmp)**	-- to --	**Casing Diameter (in.)**	4	**Well Casing Material**	PVC
Static Water Level (ft-bmp)	12.7	**Total Depth (ft-bmp)**	14.6	**Water Column (ft)**	1.90	**Gallons in Well**	1.23
Water Quality Meter Make/Model	Horiba U-52	**Purge Method**	Low-Flow	**Sample Method**			Grab
Sample Time	13:15	**Well Volumes Purged**	0.52	**Sample ID**	AR-81-W-20220712	**Evacuation Equipment**	Bladder
Purge Start	12:40	**Gallons Purged**	0.63	**Duplicate ID**	--		
Purge End	13:00	**Total Purge Time (h:m)**	0:20				

Time	Rate (ml/min)	Depth to Water (ft)	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
									Color	Odor
12:43	200	12.70	7.42	0.708	16.1	13.60	7.84	-10	--	--
12:46	200	12.70	7.42	0.705	9.5	12.95	6.76	-14	--	--
12:49	200	12.70	7.43	0.704	8.2	12.39	6.34	-17	--	--
12:52	200	12.70	7.45	0.700	8.1	11.92	6.11	-19	--	--

Comments: None

Well Casing Volume Conversion

Well diameter (in.) = gallons per foot
1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Sample Information

Sample ID: AR-81-W-20220712 Sample Time: 13:15 Sample Depth (ft-bmp): 13

Analytes and Methods: See Chain-of-Custody.

ft-bmp = feet below measuring point
in. = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter
PVC = Polyvinyl Chloride

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius
-- = Not Recorded

Chevron Groundwater Sampling Form

ARCADIS

Project Number	30064222	**Well ID**	AR-85	**Date**	7/12/2022		
Site Location	Fairbanks, Alaska	**Site ID**	211815	**Weather (°F)**	Clear	**Sampled by**	Evan Wujcik
Measuring Point Description	Top of Casing	**Screen Depth Interval (ft-bmp)**	-- to --	**Casing Diameter (in.)**	4	**Well Casing Material**	Stainless Steel
Static Water Level (ft-bmp)	12.92	**Total Depth (ft-bmp)**	17.2	**Water Column (ft)**	4.28	**Gallons in Well**	2.78
Water Quality Meter Make/Model	Horiba U-52	**Purge Method**	Low-Flow	**Sample Method**		Grab	
Sample Time	14:00	**Well Volumes Purged**	0.23	**Sample ID**	AR-85-W-20220712	**Evacuation Equipment**	Bladder
Purge Start	13:30	**Gallons Purged**	0.63	**Duplicate ID**	--		
Purge End	13:50	**Total Purge Time (h:m)**	0:20				

Time	Rate (ml/min)	Depth to Water (ft)	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
									Color	Odor
13:33	200	12.92	7.86	0.577	14.1	13.15	7.03	-40	--	--
13:36	200	12.92	7.81	0.570	13.8	13.03	6.50	-46	--	--
13:39	200	12.92	7.79	0.565	15.5	12.83	6.36	-49	--	--
13:42	200	12.92	7.76	0.561	14.3	12.52	6.13	-53	--	--

Comments: None

Well Casing Volume Conversion

Well diameter (in.) = gallons per foot
1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Sample Information

Sample ID: AR-85-W-20220712 Sample Time: 14:00 Sample Depth (ft-bmp): 13.5

Analytes and Methods: See Chain-of-Custody.

ft-bmp = feet below measuring point
in. = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter
PVC = Polyvinyl Chloride

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius
-- = Not Recorded

Chevron Groundwater Sampling Form

ARCADIS

Project Number	30064222	**Well ID**	MW-1	**Date**	7/12/2022		
Site Location	Fairbanks, Alaska	**Site ID**	211815	**Weather (°F)**	Clear	**Sampled by**	Evan Wujcik
Measuring Point Description	Top of Casing	**Screen Depth Interval (ft-bmp)**	-- to --	**Casing Diameter (in.)**	2	**Well Casing Material**	PVC
Static Water Level (ft-bmp)	11.83	**Total Depth (ft-bmp)**	20.7	**Water Column (ft)**	8.87	**Gallons in Well**	1.44
Water Quality Meter Make/Model	Horiba U-52	**Purge Method**	Low-Flow	**Sample Method**			Grab
Sample Time	12:30	**Well Volumes Purged**	0.44	**Sample ID**	MW-1-W-20220712	**Evacuation Equipment**	Bladder
Purge Start	12:00	**Gallons Purged**	0.63	**Duplicate ID**	--		
Purge End	12:20	**Total Purge Time (h:m)**	0:20				

Time	Rate (ml/min)	Depth to Water (ft)	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
									Color	Odor
12:03	200	11.85	7.34	0.768	35.6	1.28	7.80	-34	--	--
12:06	200	11.85	7.37	0.752	34.2	1.11	7.34	-37	--	--
12:09	200	11.85	7.41	0.745	33.7	0.96	7.08	-41	--	--
12:12	200	11.85	7.44	0.743	37.0	0.70	6.95	-43	--	--

Comments: None

Well Casing Volume Conversion

Well diameter (in.) = gallons per foot
1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Sample Information

Sample ID: MW-1-W-20220712 Sample Time: 12:30 Sample Depth (ft-bmp): 12

Analytes and Methods: See Chain-of-Custody.

ft-bmp = feet below measuring point
in. = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter
PVC = Polyvinyl Chloride

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius
-- = Not Recorded

Chevron Groundwater Sampling Form

ARCADIS

Project Number	30064222	**Well ID**	MW-3	**Date**	7/12/2022		
Site Location	Fairbanks, Alaska	**Site ID**	211815	**Weather (°F)**	Clear	**Sampled by**	Evan Wujcik
Measuring Point Description	Top of Casing	**Screen Depth Interval (ft-bmp)**	-- to --	**Casing Diameter (in.)**	4	**Well Casing Material**	Stainless Steel
Static Water Level (ft-bmp)	13.35	**Total Depth (ft-bmp)**	17.5	**Water Column (ft)**	4.15	**Gallons in Well**	2.7
Water Quality Meter Make/Model	Horiba U-52	**Purge Method**	Low-Flow	**Sample Method**			Grab
Sample Time	11:00	**Well Volumes Purged**	0.23	**Sample ID**	MW-3-W-20220712	**Evacuation Equipment**	Bladder
Purge Start	10:30	**Gallons Purged**	0.63	**Duplicate ID**	MS/MSD		
Purge End	10:50	**Total Purge Time (h:m)**	0:20				

Time	Rate (ml/min)	Depth to Water (ft)	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
									Color	Odor
10:33	200	13.35	7.61	1.11	26.0	0.00	6.56	-18	--	--
10:36	200	13.35	7.64	1.13	21.8	0.00	6.44	-22	--	--
10:39	200	13.35	7.65	1.13	18.1	0.00	6.33	-25	--	--
10:42	200	13.35	7.69	1.13	16.6	0.00	6.30	-28	--	--

Comments: None

Well Casing Volume Conversion

Well diameter (in.) = gallons per foot
1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Sample Information

Sample ID: MW-3-W-20220712 Sample Time: 11:00 Sample Depth (ft-bmp): 14

Analytes and Methods: See Chain-of-Custody.

ft-bmp = feet below measuring point
in. = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter
PVC = Polyvinyl Chloride

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius
-- = Not Recorded

Chevron Groundwater Sampling Form

ARCADIS

Project Number	30064222	**Well ID**	MW-4	**Date**	7/12/2022		
Site Location	Fairbanks, Alaska	**Site ID**	211815	**Weather (°F)**	Clear	**Sampled by**	Evan Wujcik
Measuring Point Description	Top of Casing	**Screen Depth Interval (ft-bmp)**	-- to --	**Casing Diameter (in.)**	2	**Well Casing Material**	PVC
Static Water Level (ft-bmp)	13	**Total Depth (ft-bmp)**	20.1	**Water Column (ft)**	7.10	**Gallons in Well**	1.15
Water Quality Meter Make/Model	Horiba U-52	**Purge Method**	Low-Flow	**Sample Method**			Grab
Sample Time	11:45	**Well Volumes Purged**	0.55	**Sample ID**	MW-4-W-20220712	**Evacuation Equipment**	Bladder
Purge Start	11:20	**Gallons Purged**	0.63	**Duplicate ID**	BD		
Purge End	11:40	**Total Purge Time (h:m)**	0:20				

Time	Rate (ml/min)	Depth to Water (ft)	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
									Color	Odor
11:23	200	13.02	7.27	1.22	25.1	0.00	5.63	-34	--	--
11:26	200	13.02	7.26	1.23	24.2	0.00	5.05	-36	--	--
11:29	200	13.02	7.25	1.23	24.5	0.00	4.83	-39	--	--
11:32	200	13.02	7.23	1.24	24.6	0.00	4.69	-38	--	--

Comments: None

Well Casing Volume Conversion

Well diameter (in.) = gallons per foot
1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Sample Information

Sample ID: MW-4-W-20220712 Sample Time: 11:45 Sample Depth (ft-bmp): 13.5

Analytes and Methods: See Chain-of-Custody.

ft-bmp = feet below measuring point
in. = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter
PVC = Polyvinyl Chloride

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius
-- = Not Recorded

Chevron Groundwater Sampling Form

ARCADIS

Project Number	30064222	**Well ID**	MW-5	**Date**	7/12/2022		
Site Location	Fairbanks, Alaska	**Site ID**	211815	**Weather (°F)**	Clear	**Sampled by**	Evan Wujcik
Measuring Point Description	Top of Casing	**Screen Depth Interval (ft-bmp)**	-- to --	**Casing Diameter (in.)**	2	**Well Casing Material**	PVC
Static Water Level (ft-bmp)	12.28	**Total Depth (ft-bmp)**	20.3	**Water Column (ft)**	8.02	**Gallons in Well**	1.3
Water Quality Meter Make/Model	Horiba U-52	**Purge Method**	Low-Flow	**Sample Method**			Grab

Sample Time	10:15	**Well Volumes Purged**	0.49	**Sample ID**	MW-5-W-20220712	**Evacuation Equipment**	Bladder
Purge Start	09:40	**Gallons Purged**	0.63	**Duplicate ID**	--		
Purge End	10:00	**Total Purge Time (h:m)**	0:20				

Time	Rate (ml/min)	Depth to Water (ft)	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
									Color	Odor
09:43	200	12.30	7.51	0.895	79.3	11.81	4.74	58	--	--
09:46	200	12.30	7.52	0.912	68.5	11.30	4.54	50	--	--
09:49	200	12.30	7.50	0.913	60.9	10.88	4.57	42	--	--
09:52	200	12.30	7.50	0.916	53.3	10.66	4.59	36	--	--

Comments: None

Well Casing Volume Conversion

Well diameter (in.) = gallons per foot
1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Sample Information

Sample ID: MW-5-W-20220712 Sample Time: 10:15 Sample Depth (ft-bmp): 13

Analytes and Methods: See Chain-of-Custody.

ft-bmp = feet below measuring point
in. = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter
PVC = Polyvinyl Chloride

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius
-- = Not Recorded

Chevron Groundwater Sampling Form

ARCADIS

Project Number	30064222	**Well ID**	MW-7	**Date**	7/12/2022		
Site Location	Fairbanks, Alaska	**Site ID**	211815	**Weather (°F)**	Clear	**Sampled by**	Evan Wujcik
Measuring Point Description	Top of Casing	**Screen Depth Interval (ft-bmp)**	-- to --	**Casing Diameter (in.)**	2	**Well Casing Material**	PVC
Static Water Level (ft-bmp)	14.2	**Total Depth (ft-bmp)**	22.1	**Water Column (ft)**	7.90	**Gallons in Well**	1.28
Water Quality Meter Make/Model	Horiba U-52	**Purge Method**	Low-Flow	**Sample Method**			Grab
Sample Time	08:00	**Well Volumes Purged**	0.50	**Sample ID**	MW-7-W-20220712	**Evacuation Equipment**	Bladder
Purge Start	07:30	**Gallons Purged**	0.63	**Duplicate ID**	--		
Purge End	07:50	**Total Purge Time (h:m)**	0:20				

Time	Rate (ml/min)	Depth to Water (ft)	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
									Color	Odor
07:33	200	14.22	8.75	0.842	57.6	12.07	10.55	-78	--	--
07:36	200	14.22	8.55	0.848	49.9	11.40	9.93	-87	--	--
07:39	200	14.22	8.52	0.845	46.6	10.89	9.74	-90	--	--
07:42	200	14.22	8.44	0.847	45.7	10.71	9.58	-94	--	--

Comments: None

Well Casing Volume Conversion

Well diameter (in.) = gallons per foot
1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Sample Information

Sample ID: MW-7-W-20220712 Sample Time: 08:00 Sample Depth (ft-bmp): 15

Analytes and Methods: See Chain-of-Custody.

ft-bmp = feet below measuring point
in. = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter
PVC = Polyvinyl Chloride

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius
-- = Not Recorded

Chevron Groundwater Sampling Form

ARCADIS

Project Number	30064222	**Well ID**	MW-8	**Date**	7/12/2022		
Site Location	Fairbanks, Alaska	**Site ID**	211815	**Weather (°F)**	Clear	**Sampled by**	Evan Wujcik
Measuring Point Description	Top of Casing	**Screen Depth Interval (ft-bmp)**	-- to --	**Casing Diameter (in.)**	2	**Well Casing Material**	PVC
Static Water Level (ft-bmp)	12.5	**Total Depth (ft-bmp)**	21.6	**Water Column (ft)**	9.10	**Gallons in Well**	1.48
Water Quality Meter Make/Model	Horiba U-52	**Purge Method**	Low-Flow	**Sample Method**			Grab

Sample Time	08:45	**Well Volumes Purged**	0.43	**Sample ID**	MW-8-W-20220712	**Evacuation Equipment**	Bladder
Purge Start	08:20	**Gallons Purged**	0.63	**Duplicate ID**	--		
Purge End	08:40	**Total Purge Time (h:m)**	0:20				

Time	Rate (ml/min)	Depth to Water (ft)	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
									Color	Odor
08:23	200	12.46	7.93	0.631	16.3	5.93	5.00	-39	--	--
08:26	200	12.46	7.90	0.641	12.3	5.30	4.78	-43	--	--
08:29	200	12.46	7.90	0.647	11.3	4.81	4.66	-46	--	--
08:32	200	12.46	7.88	0.648	9.9	4.54	4.64	-45	--	--

Comments: None

Well Casing Volume Conversion

Well diameter (in.) = gallons per foot
1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Sample Information

Sample ID: MW-8-W-20220712 Sample Time: 08:45 Sample Depth (ft-bmp): 13

Analytes and Methods: See Chain-of-Custody.

ft-bmp = feet below measuring point
in. = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter
PVC = Polyvinyl Chloride

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius
-- = Not Recorded

Chevron Groundwater Sampling Form

ARCADIS

Project Number	30064222	**Well ID**	MW-9	**Date**	7/12/2022		
Site Location	Fairbanks, Alaska	**Site ID**	211815	**Weather (°F)**	Clear	**Sampled by**	Evan Wujcik
Measuring Point Description	Top of Casing	**Screen Depth Interval (ft-bmp)**	-- to --	**Casing Diameter (in.)**	2	**Well Casing Material**	PVC
Static Water Level (ft-bmp)	12.31	**Total Depth (ft-bmp)**	21.6	**Water Column (ft)**	9.29	**Gallons in Well**	1.51
Water Quality Meter Make/Model	Horiba U-52	**Purge Method**	Low-Flow	**Sample Method**			Grab
Sample Time	09:30	**Well Volumes Purged**	0.42	**Sample ID**	MW-9-W-20220712	**Evacuation Equipment**	Bladder
Purge Start	09:10	**Gallons Purged**	0.63	**Duplicate ID**	--		
Purge End	09:20	**Total Purge Time (h:m)**	0:10				

Time	Rate (ml/min)	Depth to Water (ft)	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
									Color	Odor
09:13	200	12.33	8.02	0.389	23.3	14.43	6.11	10	--	--
09:16	200	12.33	8.09	0.387	19.6	14.38	5.66	18	--	--
09:19	200	12.33	8.12	0.387	13.5	14.13	5.30	23	--	--
09:22	200	12.33	8.15	0.388	12.6	13.95	5.10	26	--	--

Comments: None

Well Casing Volume Conversion

Well diameter (in.) = gallons per foot
1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Sample Information

Sample ID: MW-9-W-20220712 Sample Time: 09:30 Sample Depth (ft-bmp): 13

Analytes and Methods: See Chain-of-Custody.

ft-bmp = feet below measuring point
in. = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter
PVC = Polyvinyl Chloride

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius
-- = Not Recorded

APPENDIX C

Technical Guidance Instructions for Investigation Derived Waste Treatment Utilizing Granular Activated Carbon

SOP – Investigation Derived Waste (IDW) Treatment Utilizing Granular Activated Carbon (GAC)

Rev: 0

Rev Date: May 24, 2022

Version Control

Issue	Revision No.	Date Issued	Page No.	Description	Reviewed By

Approval Signatures

Prepared by:

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Elysha Nygaard — Date

Reviewed by:

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Nick Wood, P.E. — Date

Gerald Robinson — 5/24/2022
Gerald Robinson — Date

1 Introduction

The objective of this Standard Operating Procedure (SOP) is to describe methods and procedures utilizing granular activated carbon (GAC) for treatment of purged groundwater produced during groundwater monitoring and sampling activities. This SOP is only applicable to impacted groundwater considered to be non-hazardous by the Resource Conservation and Recovery Act (RCRA) regulations. The United States Environmental Protection Agency (USEPA) Operating Procedure for the Management of Investigation Derived Waste (IDW), states that non-hazardous liquids may be discharged to the ground surface as long as doing so does not endanger human health, the environment, or violate state or federal regulations. Management and transportation of purged groundwater may have project, client and/or agency specific requirements and may require approval prior to initiating GAC treatment.

2 Intended Use and Responsibilities

This document describes general and/or specific procedures, methods, actions, steps, and considerations to be used and observed by Arcadis staff when performing work, tasks, or actions under the scope and relevancy of this document. This document may describe expectations, requirements, guidance, recommendations, and/or instructions pertinent to the service, work task, or activity it covers.

It is the responsibility of the Arcadis Certified Project Manager (CPM) to provide this document to the persons conducting services that fall under the scope and purpose of this procedure, instruction, and/or guidance. The Arcadis CPM will also ensure that the persons conducting the work falling under this document are appropriately trained and familiar with its content. The persons conducting the work under this document are required to meet the minimum competency requirements outlined herein, and inquire to the CPM regarding any questions, misunderstanding, or discrepancy related to the work under this document.

This document is not considered to be all inclusive nor does it apply to all projects. It is the CPM's responsibility to determine the proper scope and personnel required for each project. There may be project- and/or client- and/or state-specific requirements that may be more or less stringent than what is described herein. The CPM is responsible for informing Arcadis and/or Subcontractor personnel of omissions and/or deviations from this document that may be required for the project. In turn, project staff are required to inform the CPM if or when there is a deviation or omission from work performed as compared to what is described herein.

In following this document to execute the scope of work for a project, it may be necessary for staff to make professional judgment decisions to meet the project's scope of work based upon site conditions, staffing expertise, regulation-specific requirements, health and safety concerns, etc. Staff are required to consult with the CPM when or if a deviation or omission from this document is required that has not already been previously approved by the CPM. Upon approval by the CPM, the staff can perform the deviation or omission as confirmed by the CPM.

3 Scope and Application

Activated carbon is one of the most commonly used treatment methodologies for groundwater extraction and treatment remediation systems (USEPA, 2012) and is proven to be a safe engineering practice to remove organic constituents from waste waters. (USEPA, 1991). GAC media can remove petroleum and solvent volatile organic

compounds (VOCs) and other compounds such as per- and polyfluoroalkyl substances (PFAS), chloramines and trihalomethanes from water.

Groundwater wells are purged and treated with GAC media provided that no measurable non-aqueous phase liquid (NAPL) is present. As purge water is passed through the activated carbon contained in a portable vessel, constituents of potential concern (COPCs) adsorb on the surface area of the carbon granules and the treated water passes through the carbon matrix and is discharged to ground surface.

Estimation of the usage rate of GAC to predict breakthrough values relies on site and media specific data. For large scale GAC treatment systems, pilot testing may be conducted to obtain these values. For small scale portable GAC treatment systems across various sites, pilot testing may be cost and time prohibitive, as well as potentially inaccurate due to the variability in concentrations of COPCs. Therefore, Freundlich Isotherm modeling is commonly used to calculate breakthrough estimates of target COPCs.

Use of a portable GAC vessels effectively treats COPCs in generated purge water to desired concentrations applicable to regulatory criteria. Use of a GAC vessels also reduces the overall operational impact to the site and removes the need for drumming, storage, characterization and disposal of purged groundwater.

4 Personnel Qualifications

Arcadis field personnel will have completed site-specific training as well as have current health and safety training as required by Arcadis, client, or regulations such as the 40-hour HAZWOPER training and annual 8-hour HAZWOPER refresher. Arcadis personnel will also have up to date training as specified in the Health and Safety Plan (HASP) which may include first aid, fire extinguisher use or COPC specific trainings as needed. In addition, Arcadis personnel conducting work will be knowledgeable in the relevant processes, procedures, scope of work (SOW), standard operating procedures (SOPs) and Technical Guidance Instruction (TGIs), and possess the required skills and experience necessary to successfully and safely complete the work. The HASP and other site-specific SOW documentation will identify other training or work requirements.

5 Equipment List

The following field equipment is suggested for treating purged groundwater utilizing a portable GAC vessel:

- Appropriate personal protective equipment (PPE) as specified in the HASP
- Electronic oil-water interface probe and water level indicator with 0.01-foot increments
- Photoionization detector (PID) and/or other air quality measurement equipment as required by the HASP
- Non-phosphate laboratory soap (Alconox® or equivalent)
- Distilled, de-ionized, or potable water for equipment decontamination
- GAC media and portable vessel, including valves and fittings
- 5-gallon buckets
- Tubing
- Groundwater purge equipment such as submersible pumps or bailers
- Plastic drop cloth (e.g. Visqueen) to place beneath portable GAC vessel to reduce potential contamination from spills
- Tools and/or keys for accessing and opening wells
- FieldNow capable device or field logs

- GAC Volume Tracking Form

6 Cautions

Electronic water-level indicators and interface probes may sometimes produce false-positive readings. For accuracy, the probe should be raised and lowered several times to verify consistent, repeatable results. Ensure that the type of indicator or probe is compatible with the depth and diameter of the wells to be measured. If the presence of NAPL is suspected, do not use a water level indicator, use an oil-water interface probe. Purge water containing NAPL should not be treated using GAC methods.

Minimize the amount of sediment in purge water by pre-filtering, this will ensure GAC media filters impacted water efficiently.

7 Health and Safety Considerations

The site-specific HASP will be followed to ensure the safety of Arcadis field personnel. Access to groundwater wells may expose personnel to hazardous materials such as contaminated groundwater or petroleum compounds. Other potential hazards include pressurized wells, insects or animals that may inhabit the wells, other biological or environmental hazards in the vicinity of the well (e.g. dense vegetation and slope) and potentially the use of sharp tools (e.g. scissors or safety blade). Appropriate PPE will be worn and control measures taken while conducting these activities. Proper lifting and handling techniques will be used when moving portable GAC vessels and related materials.

8 Procedure

Background

Portable vessels containing GAC media are utilized as on-site treatment of impacted purge water during groundwater monitoring and sampling activities. As purge water passes through the carbon granules, VOCs adsorb to the surface area, allowing treated water to pass through and allow for discharge and disposal to ground surface.

Maximum concentrations of site-specific COPCs are utilized to calculate carbon usage rates. To calculate the volume of water that can be treated during purging before breakthrough occurs, Freundlich Isotherm equations are used. The Freundlich Isotherm is an empirically derived adsorption equation relating the concentration of a COPC within the impacted purge water to the concentration of the COPC on the surface of the adsorption material (GAC) (USEPA, 1980). Using these parameters for a given COPC concentration, carbon usage rates can be calculated for the rate and volume of purge water that can be treated per weight of GAC material in a single portable vessel as well as breakthrough estimates. The USEPA provides a free download of the Environmental Technologies Design Option Tool (ETDOT), which includes the Adsorption Design Software (AdDesignS™) to model groundwater treatment with GAC using Freundlich Isotherms. Software can be downloaded from the link below:

https://github.com/USEPA/Environmental-Technologies-Design-Option-Tool

While this document is intended as general guidance for Arcadis use, a model using the Chevron Environmental Company (CEMC) Alaska Portfolio of Sites is provided in Attachment A as a specific example utilizing the

AdDesignS™ isotherm software to calculate GAC breakthrough to meet the Alaska Department of Environmental Preservation (ADEP) criteria.

General Assumptions for GAC Usage

- GAC adsorbs uniformly, entire capacity is utilized prior to breakthrough
- Virgin granular activated carbon produced from coconut shell
- Disregard minor losses due to environmental factors such as ambient temperature (not including extreme temperatures)
- Neutral pH of groundwater (increase carbon bed by 20% per every unit above a pH of 7.0)
- COPCs are dissolved phase; no free product
- Typical density for GAC media is approximately 0.50 – 0.80 g/mL
- Suspended solids are not inhibiting adsorption
- Assume general background concentrations of non-COPCs that may affect COPC adsorption (fluoride, nitrate, phosphate, etc.)
- GAC media can immobilize 4% – 10% of its total mass (DeSilva, 2000)
- Volume of GAC vessel sufficient to ensure adequate contact time between untreated water and GAC media

Field Procedures

Prior to each use of the GAC vessel, the carbon material will be saturated with potable water and allowed to sit for 24 hours. Saturating the carbon opens pore space and increases surface area of the granules, reducing the potential formation of preferential pathways and resulting in optimal performance of the GAC material each time it is used.

Groundwater wells containing measurable NAPL will not be purged or treated through the portable GAC vessel. The presence of NAPL reduces the adsorption capacity and clogs pore space of the carbon media.

Purged groundwater will be pumped through the portable GAC vessel (Attachment C) at no more than the established flow rate (typically 200 to 300 milliliters per minute [mL/min]) to allow for adequate treatment time. As the untreated water begins to purge through the GAC vessel, the valve is opened to allow the treated water to discharge into a labeled waste container prior to discharge. Locations of discharged GAC treated water will be pre-determined and will not be in the immediate vicinity of any surface water, stormwater drains or any other sensitive receptors. After completing discharge of treated purge water, the portable GAC vessel valve will be closed.

Following the completion of groundwater monitoring and sampling activities, field personnel will record the total volume of purged water that has been treated on the GAC Tracking Log (Attachment B), which will remain with the portable GAC vessel until disposal. The following procedure should be followed when using a portable GAC vessel:

- Connect pump or evacuation equipment to well and a portable GAC vessel
- Connect portable GAC vessel outlet to a separate labeled waste container for treated purge water
- Purge impacted groundwater through the portable GAC vessel

- Discharge treated purge water from the GAC vessel into a identified waste container
- Document volume purged on GAC Tracking Log

- Discharge the treated purge water to pre-identified location onsite away from any sensitive receptors
- Replace GAC media prior to reaching calculated breakthrough values
- Store GAC in appropriate labeled container for staging and/or transportation and removal

9 Waste Management

Decontamination fluids, used PPE, and other disposable equipment will be properly stored on site in labeled containers and disposed of properly. Used GAC material will be containerized and labeled for transportation off site for re-use, disposal or regeneration. Ensure all waste is properly stored, labeled and documented in field logs. Review the *TGI – Investigation Derived Waste Handling and Storage* for additional information and refer to agency and/or client specific requirements.

10 Data Recording and Management

Digital data collection is the Arcadis standard using available FieldNow® applications that enable real-time, paperless data collection, entry, and automated reporting. Paper forms should only be used as backup to FieldNow® digital data collection and/or as necessary to collect data not captured by available FieldNow® applications. The Field Now® digital form applications follow a standardized approach, correlate to most TGIs and are available to all projects accessible with a PC or capable mobile device. Once the digital forms are saved within FieldNow®, the data is instantly available for review on a web interface. This facilitates review by project management team members and SMEs enabling error or anomalous data detection for correction while the staff are still in the field. Continual improvements of FieldNow® applications are ongoing, and revisions are made as necessary in response to feedback from users and subject matter experts.

11 Quality Assurance

Conducting sampling of GAC treated effluent purge water may be required to demonstrate that treatment is effective.

12 References

DeSilva, Frank. 2000. Activated Carbon Filtration. Water Quality Products Magazine. January

USEPA. 1980. Carbon Adsorption Isotherms for Toxic Organics. Wastewater Research Division. Municipal Environmental Research Laboratory, Cincinnati, Ohio. EPA-600/08-80-23. April.

USEPA. 1991. Engineering Bulletin, Granular Activated Carbon Treatment. Superfund EPA-540/02-91/024. October.

USEPA 2012. A Citizens Guide to Activated Carbon Treatment. Office of Solid Waste and Emergency Response. September.

Attachments

Attachment A	Chevron Environmental Management Company – Alaska Portfolio Isotherm Model
Attachment B	GAC Tracking Log
Attachment C	Portable GAC Vessel Diagram

Attachment A

Chevron Environmental Management Company – Alaska Portfolio Isotherms

Attachment A Chevron Environmental Management Company – Alaska Portfolio Isotherm Model

On behalf of Chevron Environmental Management Company (CEMC), Arcadis prepared conservative GAC breakthrough estimates for COPCs observed at Sites located across Anchorage and Fairbanks at the request of the Alaska Department of Environmental Preservation (ADEP). The USEPA recommended AdDesignS™ isotherm software was utilized to model the time until breakthrough is first observed.

Site Specific Modeling Parameters

To demonstrate the effective treatment of petroleum constituents in groundwater via GAC without confirmation samples, Arcadis has applied conservative parameters to the calculations for GAC breakthrough. The following parameters and conditions have been applied:

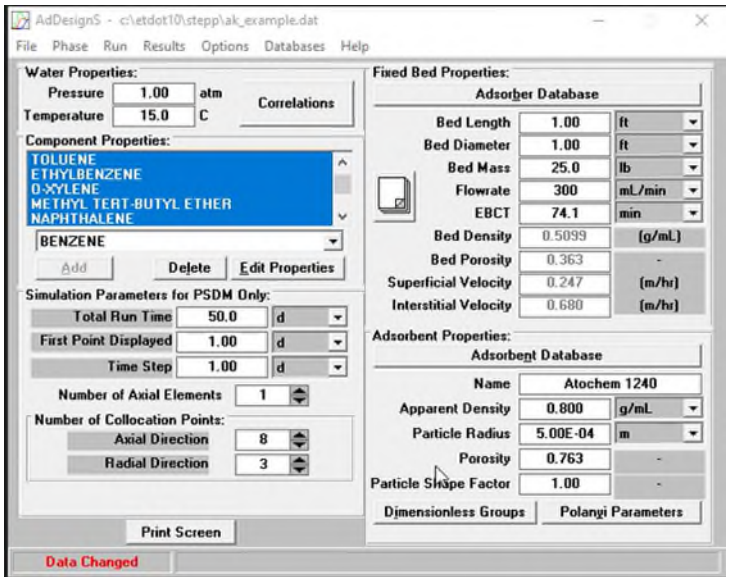
- 26 Sites in Arcadis' Chevron Alaska Portfolio are sampled utilizing portable GAC vessels to purge treated groundwater to surface. There are 18 Sites across Anchorage that utilize one portable GAC vessel and 8 Sites across Fairbanks that utilize a second portable GAC vessel. For the purpose of applying the most conservative parameters, the model assumed one portable GAC unit was utilized for all 26 Sites.
- The COPCs that have been detected in approximately half of the 26 Sites were selected to be utilized in the AdDesignS™ software. The highest observed concentration at any of the 26 Sites for each constituent was applied for the duration of the model. Therefore, the model assumes the GAC is exposed to the highest concentration of each COPC for the duration of the modeled run time. The constituents selected were benzene, toluene, ethylbenzene, o-xylene, and naphthalene. Methyl tert-butyl ether (MTBE) was also included in the model scenario, despite detections in only 4 of the 26 Sites due to its impact on carbon adsorption.
- A maximum low-flow methodology flowrate of 300 mL/min per ADEP guidance was utilized in the model, despite the majority of the 26 Sites conducting low-flow purging at a flowrate between 200 and 250 mL/min. Lower flowrates increase the empty bed contact time (EBCT), which increases the time to breakthrough. Sufficient EBCT ensures adequate contact time between the influent untreated groundwater and the GAC media. The maximum low-flow methodology flowrate was selected to provide the most conservative breakthrough estimates.

AdDesignS™ Modeling Parameters

- Freundlich constants (1/n and K) used for individual isotherm models were selected in the software's database using the maximum concentration range observed for that constituent across the 26 Sites.
- Models based on a single 5-gallon capacity portable GAC vessel (Figure A-1, Attachment B).
- To account for potential fouling of the GAC media, default groundwater conditions were selected.
- Pore-surface diffusion model (PSDM) was utilized.
- Adsorbent properties were selected using the software's database similar to the GAC media commonly used across the 26 sites (virgin GAC produced from coconut shell char).

AdDesignS™ Models

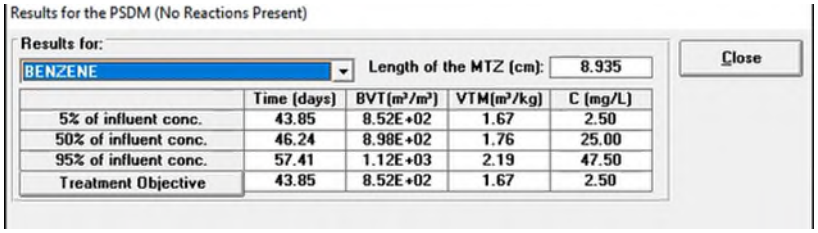
Figure A-1 PDSM Parameters, Fixed Bed and Adsorbent Properties



Alaska Chevron Site Modeling Results

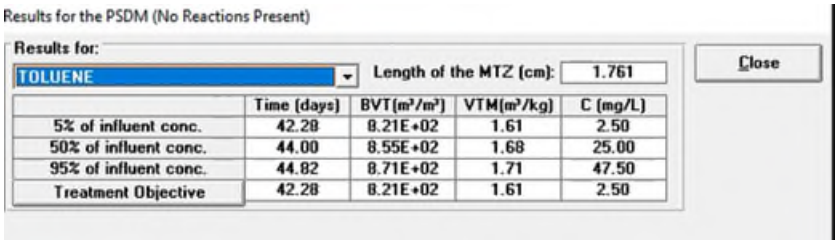
- As the most conservative parameters were input in the model, virtually no breakthrough of any COPCs was observed until over 3 weeks of continuous run time. As expected, MTBE was the first constituent to show breakthrough, at approximately 24 days. While MTBE was included in the model due to its effect on carbon adsorption, it was only detected at 4 of the 26 Sites in which GAC is utilized.
- Arcadis' typical purge volume for all 26 Sites for one event is approximately 225 gallons of purge water, which at 300 mL/min is approximately 2.37 days. Even with the most conservative parameters applied to the model, this equates to more than 2,000 gallons of purge water at 300 mL/min before any breakthrough is observed and more than 2,300 gallons of purge water at 300 mL/min before 5% of the influent concentration of MTBE is observed breaking through.
- Additional breakthrough estimates are detailed in Figures A-2 through A-9.

Figure A-2 Benzene Breakthrough



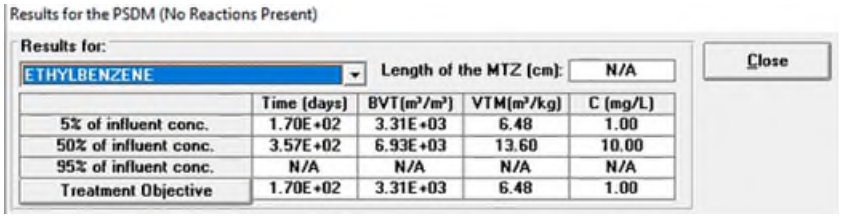
	Time (days)	BVT(m³/m³)	VTM(m³/kg)	C (mg/L)
5% of influent conc.	43.85	8.52E+02	1.67	2.50
50% of influent conc.	46.24	8.98E+02	1.76	25.00
95% of influent conc.	57.41	1.12E+03	2.19	47.50
Treatment Objective	43.85	8.52E+02	1.67	2.50

Figure A-3 Toluene Breakthrough



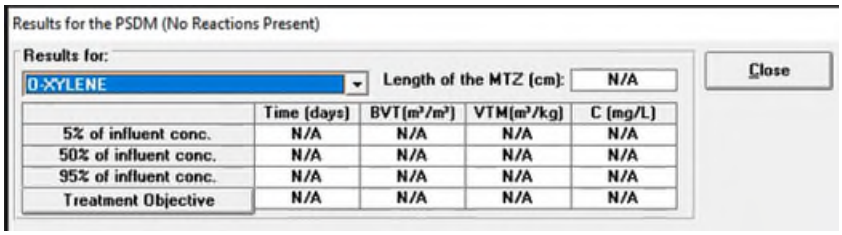
	Time (days)	BVT(m³/m³)	VTM(m³/kg)	C (mg/L)
5% of influent conc.	42.28	8.21E+02	1.61	2.50
50% of influent conc.	44.00	8.55E+02	1.68	25.00
95% of influent conc.	44.82	8.71E+02	1.71	47.50
Treatment Objective	42.28	8.21E+02	1.61	2.50

Figure A-4 Ethylbenzene Breakthrough



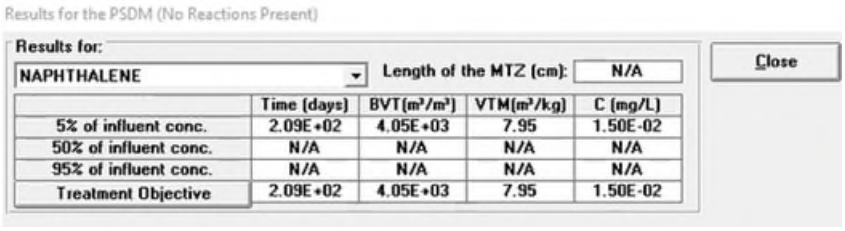
	Time (days)	BVT(m³/m³)	VTM(m³/kg)	C (mg/L)
5% of influent conc.	1.70E+02	3.31E+03	6.48	1.00
50% of influent conc.	3.57E+02	6.93E+03	13.60	10.00
95% of influent conc.	N/A	N/A	N/A	N/A
Treatment Objective	1.70E+02	3.31E+03	6.48	1.00

Figure A-5 o-Xylene Breakthrough



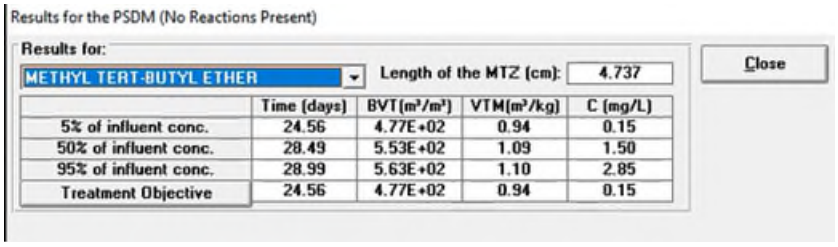
	Time (days)	BVT(m³/m³)	VTM(m³/kg)	C (mg/L)
5% of influent conc.	N/A	N/A	N/A	N/A
50% of influent conc.	N/A	N/A	N/A	N/A
95% of influent conc.	N/A	N/A	N/A	N/A
Treatment Objective	N/A	N/A	N/A	N/A

Figure A-6 Naphthalene Breakthrough



	Time (days)	BVT(m³/m³)	VTM(m³/kg)	C (mg/L)
5% of influent conc.	2.09E+02	4.05E+03	7.95	1.50E-02
50% of influent conc.	N/A	N/A	N/A	N/A
95% of influent conc.	N/A	N/A	N/A	N/A
Treatment Objective	2.09E+02	4.05E+03	7.95	1.50E-02

Figure A-7 MTBE Breakthrough



	Time (days)	BVT(m³/m³)	VTM(m³/kg)	C (mg/L)
5% of influent conc.	24.56	4.77E+02	0.94	0.15
50% of influent conc.	28.49	5.53E+02	1.09	1.50
95% of influent conc.	28.99	5.63E+02	1.10	2.85
Treatment Objective	24.56	4.77E+02	0.94	0.15

Figure A-8 COPC Breakthrough (Annual)

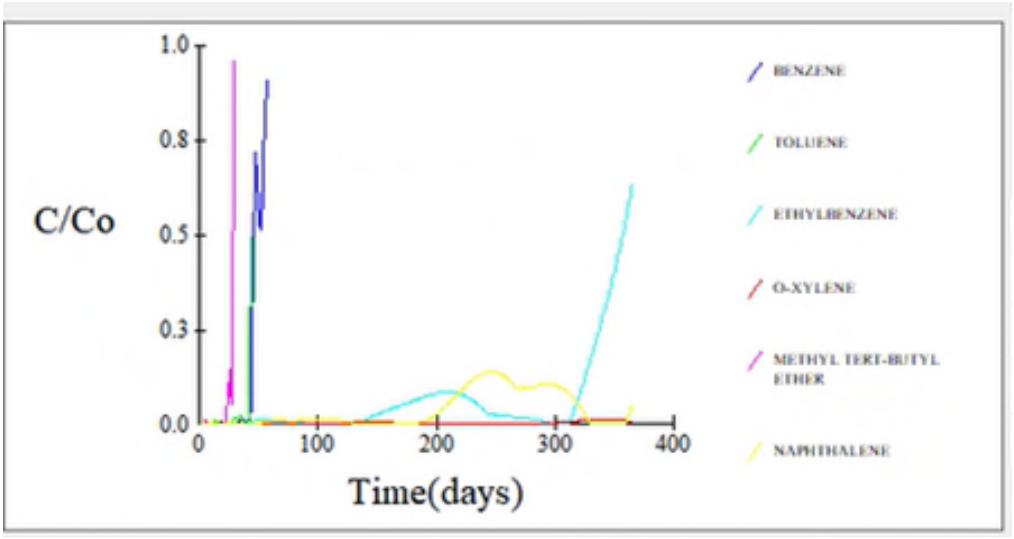
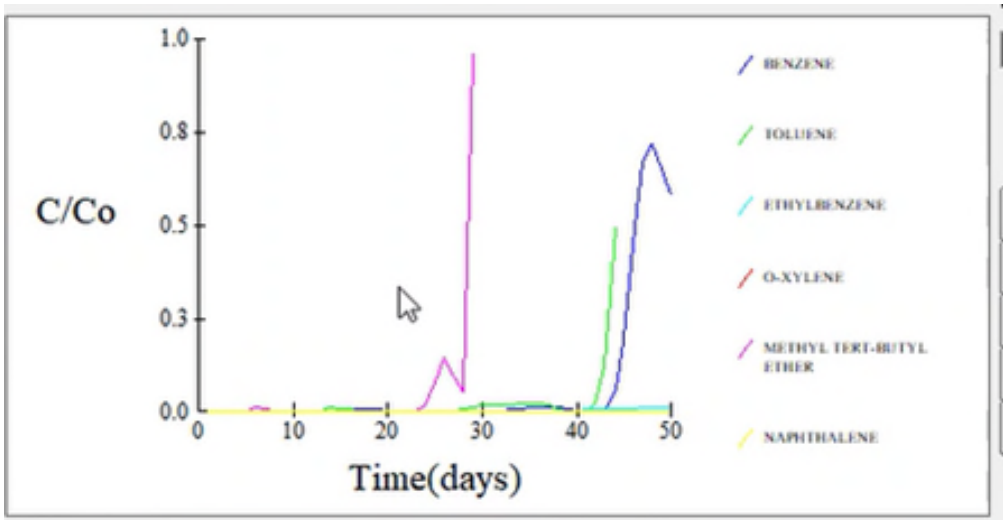


Figure A-9 COPC Breakthrough (Monthly)



Alaska Chevron Site Proposed Path Forward

Based on the models above, the most conservative breakthrough estimates are much longer than the period of routine GAC utilization activities conducted across the 26 Sites. However, Arcadis plans to replace the GAC media in each portable vessel after each round of sampling to ensure fresh carbon is utilized for each reporting period to prevent any fouling from occurring between events. If site conditions change such as significant increases to observed COPC concentrations, the isotherm model will be re-run to determine new breakthrough estimates.

Attachment B

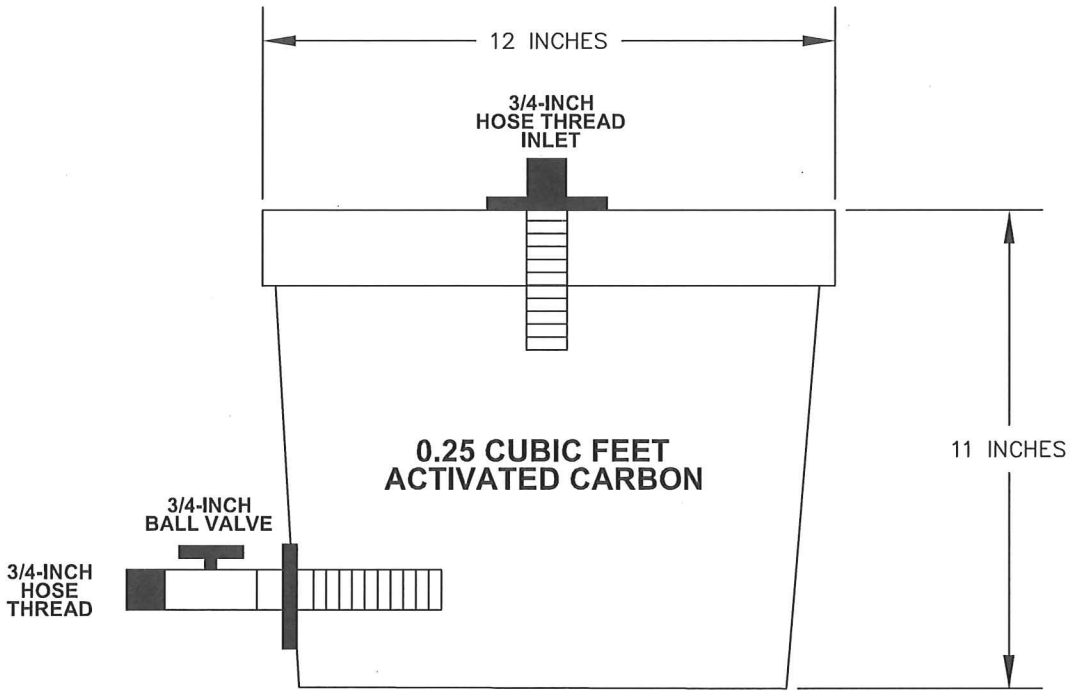
GAC Tracking Log

Granular Activated Carbon (GAC) Volume Tracking Log

Site ID	Date	Well ID	Flow Rate (mL/min)	Volume Per Individual Well Treated by GAC Vessel (gallons)	Total Cumulative Volume Treated by GAC Vessel (gallons)	Comments

Attachment C

Portable GAC Vessel Diagram



PORTABLE LIQUID-PHASE GRANULAR ACTIVATED CARBON (LGAC) VESSEL

ATLANTIC RICHFIELD COMPANY
FORMER AND CURRENT ARCO STATION
WASHINGTON STATE

TYPICAL PORTABLE LGAC VESSEL

ARCADIS

FIGURE
1

Arcadis U.S., Inc.
630 Plaza Drive, Suite 200
Highlands Ranch
Colorado 80129
Phone: 720 344 3500
Fax: 720 344 3535
www.arcadis.com

APPENDIX D

Laboratory Analytical Results

ANALYTICAL REPORT

July 28, 2022

Arcadis - Chevron - AK

Sample Delivery Group:	L1515010
Samples Received:	07/14/2022
Project Number:	30064222.19.21
Description:	211815
Site:	410 DRIVEWAY ST, FAIRBANKS, AK
Report To:	Nicole Monroe/Sydney Clark/Erika Midkiff 880 H St. Anchorage, AK 99501

Entire Report Reviewed By:

Brian Ford

Project Manager

Pace Analytical National

12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

MW-7-W-20220712 L1515010-01 GW

Collected by: E. Wujcik | Collected date/time: 07/12/22 08:00 | Received date/time: 07/14/22 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method AK101	WG1897164	1	07/19/22 08:38	07/19/22 08:38	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1896375	25	07/17/22 16:54	07/17/22 16:54	JCP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1896673	1000	07/19/22 12:31	07/19/22 12:31	BRA	Mt. Juliet, TN
EDB / DBCP by Method 8011	WG1895388	1.02	07/15/22 12:29	07/15/22 22:00	HLA	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102/103	WG1899409	1	07/25/22 15:20	07/26/22 14:48	MWS	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102SGT	WG1899412	1	07/25/22 15:20	07/26/22 19:11	MWS	Mt. Juliet, TN

MW-8-W-20220712 L1515010-02 GW

Collected by: E. Wujcik | Collected date/time: 07/12/22 08:45 | Received date/time: 07/14/22 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method AK101	WG1897164	1	07/19/22 09:04	07/19/22 09:04	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1896375	1	07/17/22 18:15	07/17/22 18:15	JCP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1896673	100	07/19/22 12:55	07/19/22 12:55	BRA	Mt. Juliet, TN
EDB / DBCP by Method 8011	WG1895388	1.03	07/15/22 12:29	07/15/22 22:12	HLA	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102/103	WG1899409	1	07/25/22 15:20	07/26/22 15:08	MWS	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102SGT	WG1899412	1	07/25/22 15:20	07/26/22 15:08	TJD	Mt. Juliet, TN

MW-9-W-20220712 L1515010-03 GW

Collected by: E. Wujcik | Collected date/time: 07/12/22 09:30 | Received date/time: 07/14/22 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method AK101	WG1897900	1	07/20/22 09:56	07/20/22 09:56	MGF	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1895732	1	07/17/22 15:20	07/17/22 15:20	BRA	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1896375	1	07/17/22 15:11	07/17/22 15:11	JCP	Mt. Juliet, TN
EDB / DBCP by Method 8011	WG1895388	1.07	07/15/22 12:29	07/15/22 22:24	HLA	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102/103	WG1899409	1	07/25/22 15:20	07/26/22 15:28	MWS	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102SGT	WG1899412	1	07/25/22 15:20	07/26/22 15:28	TJD	Mt. Juliet, TN

MW-5-W-20220712 L1515010-04 GW

Collected by: E. Wujcik | Collected date/time: 07/12/22 10:15 | Received date/time: 07/14/22 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method AK101	WG1897900	1	07/20/22 10:18	07/20/22 10:18	MGF	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1896128	1	07/16/22 23:29	07/16/22 23:29	JCP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1896673	100	07/19/22 13:19	07/19/22 13:19	BRA	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1897690	10	07/20/22 00:19	07/20/22 00:19	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102/103	WG1899409	1	07/25/22 15:20	07/26/22 15:49	MWS	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102SGT	WG1899412	1	07/25/22 15:20	07/26/22 19:52	MWS	Mt. Juliet, TN

MW-3-W-20220712 L1515010-05 GW

Collected by: E. Wujcik | Collected date/time: 07/12/22 11:00 | Received date/time: 07/14/22 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method AK101	WG1897900	1	07/20/22 10:39	07/20/22 10:39	MGF	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1896375	1	07/17/22 15:32	07/17/22 15:32	JCP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1896673	10	07/19/22 13:43	07/19/22 13:43	BRA	Mt. Juliet, TN
EDB / DBCP by Method 8011	WG1898144	1.02	07/21/22 12:19	07/21/22 17:22	JMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102/103	WG1899415	1	07/25/22 06:15	07/26/22 18:10	MWS	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102SGT	WG1899417	1	07/25/22 06:15	07/27/22 12:37	MWS	Mt. Juliet, TN

MW-4-W-20220712 L1515010-06 GW

Collected by: E. Wujcik | Collected date/time: 07/12/22 11:45 | Received date/time: 07/14/22 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method AK101	WG1897900	10	07/20/22 12:48	07/20/22 12:48	MGF	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1896375	100	07/17/22 17:14	07/17/22 17:14	JCP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1896673	1000	07/19/22 14:07	07/19/22 14:07	BRA	Mt. Juliet, TN
EDB / DBCP by Method 8011	WG1895388	1.06	07/15/22 12:29	07/15/22 22:37	HLA	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102/103	WG1899409	1	07/25/22 15:20	07/26/22 16:09	MWS	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102SGT	WG1899412	1	07/25/22 15:20	07/27/22 11:16	MWS	Mt. Juliet, TN

MW-1-W-20220712 L1515010-07 GW

Collected by: E. Wujcik | Collected date/time: 07/12/22 12:30 | Received date/time: 07/14/22 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method AK101	WG1897900	1	07/20/22 11:01	07/20/22 11:01	MGF	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1896128	1	07/16/22 23:48	07/16/22 23:48	JCP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1896673	10	07/19/22 14:30	07/19/22 14:30	BRA	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1897690	1	07/19/22 23:14	07/19/22 23:14	JHH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102/103	WG1899409	1	07/25/22 15:20	07/26/22 16:29	MWS	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102SGT	WG1899412	1	07/25/22 15:20	07/27/22 11:36	MWS	Mt. Juliet, TN

AR-81-W-20220712 L1515010-08 GW

Collected by: E. Wujcik | Collected date/time: 07/12/22 13:15 | Received date/time: 07/14/22 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method AK101	WG1897900	1	07/20/22 11:22	07/20/22 11:22	MGF	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1895732	1	07/17/22 16:32	07/17/22 16:32	BRA	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1896128	1	07/17/22 00:07	07/17/22 00:07	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102/103	WG1899409	1	07/25/22 15:20	07/26/22 16:49	MWS	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102SGT	WG1899412	1	07/25/22 15:20	07/27/22 11:57	MWS	Mt. Juliet, TN

AR-85-W-20220712 L1515010-09 GW

Collected by: E. Wujcik | Collected date/time: 07/12/22 14:00 | Received date/time: 07/14/22 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method AK101	WG1897900	1	07/20/22 11:44	07/20/22 11:44	MGF	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1895732	1	07/17/22 16:56	07/17/22 16:56	BRA	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1896128	1	07/17/22 00:26	07/17/22 00:26	JCP	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102/103	WG1899409	1	07/25/22 15:20	07/26/22 17:10	MWS	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102SGT	WG1899412	1	07/25/22 15:20	07/26/22 17:10	TJD	Mt. Juliet, TN

BD-1-W-20220712 L1515010-10 GW

Collected by: E. Wujcik | Collected date/time: 07/12/22 00:00 | Received date/time: 07/14/22 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method AK101	WG1898350	20	07/21/22 06:11	07/21/22 06:11	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1896375	50	07/17/22 17:34	07/17/22 17:34	JCP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1896673	1000	07/19/22 14:54	07/19/22 14:54	BRA	Mt. Juliet, TN
EDB / DBCP by Method 8011	WG1895388	1	07/15/22 12:29	07/15/22 22:49	HLA	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102/103	WG1899409	1	07/25/22 15:20	07/26/22 17:30	MWS	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102SGT	WG1899412	1	07/25/22 15:20	07/27/22 12:17	MWS	Mt. Juliet, TN

EQB-1-W-20220712 L1515010-11 GW

Collected by: E. Wujcik
Collected date/time: 07/12/22 18:00
Received date/time: 07/14/22 09:15

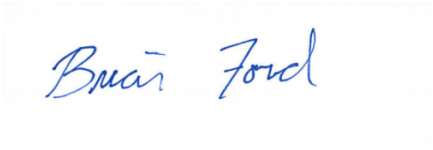
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method AK101	WG1897164	1	07/19/22 07:45	07/19/22 07:45	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1896375	1	07/17/22 12:28	07/17/22 12:28	JCP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1896673	1	07/19/22 12:07	07/19/22 12:07	BRA	Mt. Juliet, TN
EDB / DBCP by Method 8011	WG1898144	1.04	07/21/22 12:19	07/21/22 18:35	JMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102/103	WG1899409	1.11	07/25/22 15:20	07/26/22 17:50	MWS	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102SGT	WG1899412	1.11	07/25/22 15:20	07/26/22 17:50	TJD	Mt. Juliet, TN

TRIP BLANK-20220712 L1515010-12 GW

Collected by: E. Wujcik
Collected date/time: 07/12/22 00:00
Received date/time: 07/14/22 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method AK101	WG1897164	1	07/19/22 06:52	07/19/22 06:52	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1895732	1	07/17/22 14:09	07/17/22 14:09	BRA	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1896375	1	07/17/22 12:48	07/17/22 12:48	JCP	Mt. Juliet, TN

Unless qualified or notated within the narrative below, all sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford
Project Manager

Volatile Organic Compounds (GC) by Method AK101

The same analyte is found in the associated blank.

Batch	Analyte	Lab Sample ID
WG1897900	TPHGAK C6 to C10	L1515010-05, 07

The sample matrix interfered with the ability to make any accurate determination; spike value is low.

Batch	Lab Sample ID	Analytes
WG1897164	(MS) R3818555-3, (MSD) R3818555-4	TPHGAK C6 to C10

The associated batch QC was outside the established quality control range for precision.

Batch	Lab Sample ID	Analytes
WG1897164	(MSD) R3818555-4	TPHGAK C6 to C10

Volatile Organic Compounds (GC/MS) by Method 8260D

The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Data is likely to show a low bias concerning the result.

Batch	Lab Sample ID	Analytes
WG1896375	L1515010-01	1,2,3-Trichlorobenzene and 1,2,4-Trichlorobenzene
WG1896375	L1515010-02	1,2,3-Trichlorobenzene and 1,2,4-Trichlorobenzene
WG1896375	L1515010-03	1,2,3-Trichlorobenzene and 1,2,4-Trichlorobenzene
WG1896375	L1515010-05	1,2,3-Trichlorobenzene and 1,2,4-Trichlorobenzene
WG1896375	L1515010-06	1,2,3-Trichlorobenzene and 1,2,4-Trichlorobenzene
WG1896375	L1515010-10	1,2,3-Trichlorobenzene and 1,2,4-Trichlorobenzene
WG1896375	L1515010-11	1,2,3-Trichlorobenzene and 1,2,4-Trichlorobenzene
WG1896375	L1515010-12	1,2,3-Trichlorobenzene and 1,2,4-Trichlorobenzene

The same analyte is found in the associated blank.

Batch	Analyte	Lab Sample ID
WG1896375	Naphthalene	L1515010-10
WG1897690	Benzene	L1515010-07

The associated batch QC was above the established quality control range for accuracy.

Batch	Lab Sample ID	Analytes
WG1896375	(LCS) R3816764-1, L1515010-01, 02, 03, 05, 06, 10, 11, 12	Bromochloromethane

Volatile Organic Compounds (GC/MS) by Method 8260D

The sample matrix interfered with the ability to make any accurate determination; spike value is low.

Batch	Lab Sample ID	Analytes
WG1896375	(MS) R3816764-7, L1515010-05	1,2,4-Trimethylbenzene

The sample matrix interfered with the ability to make any accurate determination; spike value is high.

Batch	Lab Sample ID	Analytes
WG1896375	(MS) R3816764-5, (MS) R3816764-7, (MSD) R3816764-6, (MSD) R3816764-8, L1515010-05	Chloromethane and Dichlorodifluoromethane

The associated batch QC was outside the established quality control range for precision.

Batch	Lab Sample ID	Analytes
WG1896128	(MSD) R3816467-5	Benzene, Ethylbenzene and Toluene
WG1896375	(MSD) R3816764-8, L1515010-05	1,2,4-Trimethylbenzene

Semi-Volatile Organic Compounds (GC) by Method AK102/103

Surrogate recovery limits have been exceeded; values are outside upper control limits.

Batch	Analyte	Lab Sample ID
WG1899409	n-Triacontane d62	(BLANK) R3819599-1, (LCS) R3819599-2, (LCSD) R3819599-3, (LCSD) R3819599-5
WG1899415	n-Triacontane d62	(BLANK) R3819601-1, (LCS) R3819601-4, (LCS) R3819601-2, (LCSD) R3819601-3

The same analyte is found in the associated blank.

Batch	Analyte	Lab Sample ID
WG1899409	AK103 RRO C25-C36	L1515010-01, 02, 03, 04, 06, 07, 08, 09, 10
WG1899415	AK103 RRO C25-C36	L1515010-05

The associated batch QC was above the established quality control range for accuracy.

Batch	Lab Sample ID	Analytes
WG1899409	(LCSD) R3819599-5, L1515010-01, 02, 03, 04, 06, 07, 08, 09, 10, 11	AK103 RRO C25-C36
WG1899415	(LCS) R3819601-4, (LCSD) R3819601-5, L1515010-05	AK103 RRO C25-C36

The sample matrix interfered with the ability to make any accurate determination; spike value is high.

Batch	Lab Sample ID	Analytes
WG1899409	(MS) R3819599-6, (MS) R3819599-8, (MSD) R3819599-7, (MSD) R3819599-9	AK102 DRO C10-C25 and AK103 RRO C25-C36
WG1899415	(MS) R3819601-8, L1515010-05	AK102 DRO C10-C25

The associated batch QC was outside the established quality control range for precision.

Batch	Lab Sample ID	Analytes
WG1899409	(MSD) R3819599-7	AK102 DRO C10-C25

Volatile Organic Compounds (GC) by Method AK101

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
TPHGAK C6 to C10	3230		28.7	100	1	07/19/2022 08:38	WG1897164
(S) a,a,a-Trifluorotoluene(FID)	*96.9*			*50.0-150*		*07/19/2022 08:38*	WG1897164

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,3-Trichloropropane	U		2.00	5.00	1000	07/19/2022 12:31	WG1896673
Acetone	U		282	1250	25	07/17/2022 16:54	WG1896375
1,2-Dibromoethane	U		4.10	5.00	1000	07/19/2022 12:31	WG1896673
Acrolein	U		63.5	1250	25	07/17/2022 16:54	WG1896375
Acrylonitrile	U		16.8	250	25	07/17/2022 16:54	WG1896375
Benzene	760		2.35	25.0	25	07/17/2022 16:54	WG1896375
Bromobenzene	U		2.95	25.0	25	07/17/2022 16:54	WG1896375
Bromochloromethane	U	J4	3.20	25.0	25	07/17/2022 16:54	WG1896375
Bromodichloromethane	U		3.40	25.0	25	07/17/2022 16:54	WG1896375
Bromoform	U		3.22	25.0	25	07/17/2022 16:54	WG1896375
Bromomethane	U		15.1	125	25	07/17/2022 16:54	WG1896375
n-Butylbenzene	U		3.93	25.0	25	07/17/2022 16:54	WG1896375
sec-Butylbenzene	6.40	J	3.13	25.0	25	07/17/2022 16:54	WG1896375
tert-Butylbenzene	U		3.18	25.0	25	07/17/2022 16:54	WG1896375
Carbon disulfide	U		2.41	25.0	25	07/17/2022 16:54	WG1896375
Carbon tetrachloride	U		3.20	25.0	25	07/17/2022 16:54	WG1896375
Chlorobenzene	U		2.90	25.0	25	07/17/2022 16:54	WG1896375
Chlorodibromomethane	U		3.50	25.0	25	07/17/2022 16:54	WG1896375
Chloroethane	U		4.80	125	25	07/17/2022 16:54	WG1896375
Chloroform	U		2.78	125	25	07/17/2022 16:54	WG1896375
Chloromethane	U		24.0	62.5	25	07/17/2022 16:54	WG1896375
2-Chlorotoluene	U		2.65	25.0	25	07/17/2022 16:54	WG1896375
4-Chlorotoluene	U		2.85	25.0	25	07/17/2022 16:54	WG1896375
1,2-Dibromo-3-Chloropropane	U		6.90	125	25	07/17/2022 16:54	WG1896375
Dibromomethane	U		3.05	25.0	25	07/17/2022 16:54	WG1896375
1,2-Dichlorobenzene	U		2.68	25.0	25	07/17/2022 16:54	WG1896375
1,3-Dichlorobenzene	U		2.75	25.0	25	07/17/2022 16:54	WG1896375
1,4-Dichlorobenzene	U		3.00	25.0	25	07/17/2022 16:54	WG1896375
Dichlorodifluoromethane	U		9.35	125	25	07/17/2022 16:54	WG1896375
1,1-Dichloroethane	U		2.50	25.0	25	07/17/2022 16:54	WG1896375
1,2-Dichloroethane	U		2.05	25.0	25	07/17/2022 16:54	WG1896375
1,1-Dichloroethene	U		4.70	25.0	25	07/17/2022 16:54	WG1896375
cis-1,2-Dichloroethene	U		3.15	25.0	25	07/17/2022 16:54	WG1896375
trans-1,2-Dichloroethene	U		3.73	25.0	25	07/17/2022 16:54	WG1896375
1,2-Dichloropropane	U		3.73	25.0	25	07/17/2022 16:54	WG1896375
1,1-Dichloropropene	U		3.55	25.0	25	07/17/2022 16:54	WG1896375
1,3-Dichloropropane	U		2.75	25.0	25	07/17/2022 16:54	WG1896375
cis-1,3-Dichloropropene	U		2.78	25.0	25	07/17/2022 16:54	WG1896375
trans-1,3-Dichloropropene	U		2.95	25.0	25	07/17/2022 16:54	WG1896375
2,2-Dichloropropane	U		4.03	25.0	25	07/17/2022 16:54	WG1896375
Di-isopropyl ether	U		2.63	25.0	25	07/17/2022 16:54	WG1896375
Ethylbenzene	79.4		3.43	25.0	25	07/17/2022 16:54	WG1896375
Hexachloro-1,3-butadiene	U		8.43	25.0	25	07/17/2022 16:54	WG1896375
Isopropylbenzene	19.9	J	2.63	25.0	25	07/17/2022 16:54	WG1896375
p-Isopropyltoluene	U		3.00	25.0	25	07/17/2022 16:54	WG1896375
2-Butanone (MEK)	U		29.8	250	25	07/17/2022 16:54	WG1896375
Methylene Chloride	U		10.7	125	25	07/17/2022 16:54	WG1896375
4-Methyl-2-pentanone (MIBK)	U		12.0	250	25	07/17/2022 16:54	WG1896375
Methyl tert-butyl ether	U		2.53	25.0	25	07/17/2022 16:54	WG1896375

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Naphthalene	U		25.0	125	25	07/17/2022 16:54	WG1896375
n-Propylbenzene	35.8		2.48	25.0	25	07/17/2022 16:54	WG1896375
Styrene	U		2.95	25.0	25	07/17/2022 16:54	WG1896375
1,1,1,2-Tetrachloroethane	U		3.68	25.0	25	07/17/2022 16:54	WG1896375
1,1,2,2-Tetrachloroethane	U		3.33	25.0	25	07/17/2022 16:54	WG1896375
1,1,2-Trichlorotrifluoroethane	U		4.50	25.0	25	07/17/2022 16:54	WG1896375
Tetrachloroethene	U		7.50	25.0	25	07/17/2022 16:54	WG1896375
Toluene	U		6.95	25.0	25	07/17/2022 16:54	WG1896375
1,2,3-Trichlorobenzene	U	C4	5.75	25.0	25	07/17/2022 16:54	WG1896375
1,2,4-Trichlorobenzene	U	C4	12.0	25.0	25	07/17/2022 16:54	WG1896375
1,1,1-Trichloroethane	U		3.73	25.0	25	07/17/2022 16:54	WG1896375
1,1,2-Trichloroethane	U		3.95	25.0	25	07/17/2022 16:54	WG1896375
Trichloroethene	U		4.75	25.0	25	07/17/2022 16:54	WG1896375
Trichlorofluoromethane	U		4.00	125	25	07/17/2022 16:54	WG1896375
1,2,4-Trimethylbenzene	183		8.05	25.0	25	07/17/2022 16:54	WG1896375
1,2,3-Trimethylbenzene	40.5		2.60	25.0	25	07/17/2022 16:54	WG1896375
1,3,5-Trimethylbenzene	40.4		2.60	25.0	25	07/17/2022 16:54	WG1896375
Vinyl chloride	U		5.85	25.0	25	07/17/2022 16:54	WG1896375
Xylenes, Total	395		4.35	75.0	25	07/17/2022 16:54	WG1896375
o-Xylene	U		4.35	25.0	25	07/17/2022 16:54	WG1896375
m&p-Xylene	395		10.7	50.0	25	07/17/2022 16:54	WG1896375
(S) Toluene-d8	*112*			*80.0-120*		*07/17/2022 16:54*	WG1896375
(S) 4-Bromofluorobenzene	*112*			*77.0-126*		*07/17/2022 16:54*	WG1896375
(S) 1,2-Dichloroethane-d4	*112*			*70.0-130*		*07/17/2022 16:54*	WG1896375

Sample Narrative:

L1515010-01 WG1896673: Non-target compounds too high to run at a lower dilution.

EDB / DBCP by Method 8011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Ethylene Dibromide	U		0.00547	0.0204	1.02	07/15/2022 22:00	WG1895388

Semi-Volatile Organic Compounds (GC) by Method AK102/103

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	3650		229	800	1	07/26/2022 14:48	WG1899409
AK103 RRO C25-C36	584	B J J4	403	800	1	07/26/2022 14:48	WG1899409
(S) o-Terphenyl	*111*			*50.0-150*		*07/26/2022 14:48*	WG1899409
(S) n-Triacontane d62	*115*			*50.0-150*		*07/26/2022 14:48*	WG1899409

Semi-Volatile Organic Compounds (GC) by Method AK102SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	722	J	229	800	1	07/26/2022 19:11	WG1899412
(S) o-Terphenyl	*86.3*			*50.0-150*		*07/26/2022 19:11*	WG1899412

Volatile Organic Compounds (GC) by Method AK101

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
TPHGAK C6 to C10	274		28.7	100	1	07/19/2022 09:04	WG1897164
(S) a,a,a-Trifluorotoluene(FID)	*93.0*			*50.0-150*		*07/19/2022 09:04*	WG1897164

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,3-Trichloropropane	U		0.200	0.500	100	07/19/2022 12:55	WG1896673
Acetone	U		11.3	50.0	1	07/17/2022 18:15	WG1896375
1,2-Dibromoethane	U		0.410	0.500	100	07/19/2022 12:55	WG1896673
Acrolein	U		2.54	50.0	1	07/17/2022 18:15	WG1896375
Acrylonitrile	U		0.671	10.0	1	07/17/2022 18:15	WG1896375
Benzene	29.1		0.0941	1.00	1	07/17/2022 18:15	WG1896375
Bromobenzene	U		0.118	1.00	1	07/17/2022 18:15	WG1896375
Bromochloromethane	U	J4	0.128	1.00	1	07/17/2022 18:15	WG1896375
Bromodichloromethane	U		0.136	1.00	1	07/17/2022 18:15	WG1896375
Bromoform	U		0.129	1.00	1	07/17/2022 18:15	WG1896375
Bromomethane	U		0.605	5.00	1	07/17/2022 18:15	WG1896375
n-Butylbenzene	1.08		0.157	1.00	1	07/17/2022 18:15	WG1896375
sec-Butylbenzene	1.47		0.125	1.00	1	07/17/2022 18:15	WG1896375
tert-Butylbenzene	U		0.127	1.00	1	07/17/2022 18:15	WG1896375
Carbon disulfide	U		0.0962	1.00	1	07/17/2022 18:15	WG1896375
Carbon tetrachloride	U		0.128	1.00	1	07/17/2022 18:15	WG1896375
Chlorobenzene	U		0.116	1.00	1	07/17/2022 18:15	WG1896375
Chlorodibromomethane	U		0.140	1.00	1	07/17/2022 18:15	WG1896375
Chloroethane	U		0.192	5.00	1	07/17/2022 18:15	WG1896375
Chloroform	U		0.111	5.00	1	07/17/2022 18:15	WG1896375
Chloromethane	U		0.960	2.50	1	07/17/2022 18:15	WG1896375
2-Chlorotoluene	U		0.106	1.00	1	07/17/2022 18:15	WG1896375
4-Chlorotoluene	U		0.114	1.00	1	07/17/2022 18:15	WG1896375
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	07/17/2022 18:15	WG1896375
Dibromomethane	U		0.122	1.00	1	07/17/2022 18:15	WG1896375
1,2-Dichlorobenzene	U		0.107	1.00	1	07/17/2022 18:15	WG1896375
1,3-Dichlorobenzene	U		0.110	1.00	1	07/17/2022 18:15	WG1896375
1,4-Dichlorobenzene	U		0.120	1.00	1	07/17/2022 18:15	WG1896375
Dichlorodifluoromethane	U		0.374	5.00	1	07/17/2022 18:15	WG1896375
1,1-Dichloroethane	U		0.100	1.00	1	07/17/2022 18:15	WG1896375
1,2-Dichloroethane	U		0.0819	1.00	1	07/17/2022 18:15	WG1896375
1,1-Dichloroethene	U		0.188	1.00	1	07/17/2022 18:15	WG1896375
cis-1,2-Dichloroethene	U		0.126	1.00	1	07/17/2022 18:15	WG1896375
trans-1,2-Dichloroethene	U		0.149	1.00	1	07/17/2022 18:15	WG1896375
1,2-Dichloropropane	U		0.149	1.00	1	07/17/2022 18:15	WG1896375
1,1-Dichloropropene	U		0.142	1.00	1	07/17/2022 18:15	WG1896375
1,3-Dichloropropane	U		0.110	1.00	1	07/17/2022 18:15	WG1896375
cis-1,3-Dichloropropene	U		0.111	1.00	1	07/17/2022 18:15	WG1896375
trans-1,3-Dichloropropene	U		0.118	1.00	1	07/17/2022 18:15	WG1896375
2,2-Dichloropropane	U		0.161	1.00	1	07/17/2022 18:15	WG1896375
Di-isopropyl ether	U		0.105	1.00	1	07/17/2022 18:15	WG1896375
Ethylbenzene	2.79		0.137	1.00	1	07/17/2022 18:15	WG1896375
Hexachloro-1,3-butadiene	U		0.337	1.00	1	07/17/2022 18:15	WG1896375
Isopropylbenzene	3.29		0.105	1.00	1	07/17/2022 18:15	WG1896375
p-Isopropyltoluene	U		0.120	1.00	1	07/17/2022 18:15	WG1896375
2-Butanone (MEK)	U		1.19	10.0	1	07/17/2022 18:15	WG1896375
Methylene Chloride	U		0.430	5.00	1	07/17/2022 18:15	WG1896375
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	07/17/2022 18:15	WG1896375
Methyl tert-butyl ether	U		0.101	1.00	1	07/17/2022 18:15	WG1896375

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Naphthalene	U		1.00	5.00	1	07/17/2022 18:15	WG1896375
n-Propylbenzene	6.68		0.0993	1.00	1	07/17/2022 18:15	WG1896375
Styrene	U		0.118	1.00	1	07/17/2022 18:15	WG1896375
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	07/17/2022 18:15	WG1896375
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	07/17/2022 18:15	WG1896375
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	07/17/2022 18:15	WG1896375
Tetrachloroethene	U		0.300	1.00	1	07/17/2022 18:15	WG1896375
Toluene	0.580	J	0.278	1.00	1	07/17/2022 18:15	WG1896375
1,2,3-Trichlorobenzene	U	C4	0.230	1.00	1	07/17/2022 18:15	WG1896375
1,2,4-Trichlorobenzene	U	C4	0.481	1.00	1	07/17/2022 18:15	WG1896375
1,1,1-Trichloroethane	U		0.149	1.00	1	07/17/2022 18:15	WG1896375
1,1,2-Trichloroethane	U		0.158	1.00	1	07/17/2022 18:15	WG1896375
Trichloroethene	U		0.190	1.00	1	07/17/2022 18:15	WG1896375
Trichlorofluoromethane	1.09	J	0.160	5.00	1	07/17/2022 18:15	WG1896375
1,2,4-Trimethylbenzene	14.2		0.322	1.00	1	07/17/2022 18:15	WG1896375
1,2,3-Trimethylbenzene	0.993	J	0.104	1.00	1	07/17/2022 18:15	WG1896375
1,3,5-Trimethylbenzene	2.37		0.104	1.00	1	07/17/2022 18:15	WG1896375
Vinyl chloride	U		0.234	1.00	1	07/17/2022 18:15	WG1896375
Xylenes, Total	17.3		0.174	3.00	1	07/17/2022 18:15	WG1896375
o-Xylene	3.25		0.174	1.00	1	07/17/2022 18:15	WG1896375
m&p-Xylene	14.0		0.430	2.00	1	07/17/2022 18:15	WG1896375
(S) Toluene-d8	*111*			*80.0-120*		*07/17/2022 18:15*	WG1896375
(S) 4-Bromofluorobenzene	*114*			*77.0-126*		*07/17/2022 18:15*	WG1896375
(S) 1,2-Dichloroethane-d4	*112*			*70.0-130*		*07/17/2022 18:15*	WG1896375

Sample Narrative:

L1515010-02 WG1896673: Non-target compounds too high to run at a lower dilution.

EDB / DBCP by Method 8011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Ethylene Dibromide	U		0.00552	0.0206	1.03	07/15/2022 22:12	WG1895388

Semi-Volatile Organic Compounds (GC) by Method AK102/103

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	708	J	229	800	1	07/26/2022 15:08	WG1899409
AK103 RRO C25-C36	550	B J J4	403	800	1	07/26/2022 15:08	WG1899409
(S) o-Terphenyl	*106*			*50.0-150*		*07/26/2022 15:08*	WG1899409
(S) n-Triacontane d62	*126*			*50.0-150*		*07/26/2022 15:08*	WG1899409

Semi-Volatile Organic Compounds (GC) by Method AK102SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	708	J	229	800	1	07/26/2022 15:08	WG1899412
(S) o-Terphenyl	*106*			*50.0-150*		*07/26/2022 15:08*	WG1899412

Volatile Organic Compounds (GC) by Method AK101

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
TPHGAK C6 to C10	U		28.7	100	1	07/20/2022 09:56	WG1897900
(S) a,a,a-Trifluorotoluene(FID)	*93.3*			*50.0-150*		*07/20/2022 09:56*	WG1897900

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,3-Trichloropropane	U		0.00200	0.00500	1	07/17/2022 15:20	WG1895732
Acetone	U		11.3	50.0	1	07/17/2022 15:11	WG1896375
1,2-Dibromoethane	U		0.00410	0.00500	1	07/17/2022 15:20	WG1895732
Acrolein	U		2.54	50.0	1	07/17/2022 15:11	WG1896375
Acrylonitrile	U		0.671	10.0	1	07/17/2022 15:11	WG1896375
Benzene	U		0.0941	1.00	1	07/17/2022 15:11	WG1896375
Bromobenzene	U		0.118	1.00	1	07/17/2022 15:11	WG1896375
Bromochloromethane	U	J4	0.128	1.00	1	07/17/2022 15:11	WG1896375
Bromodichloromethane	U		0.136	1.00	1	07/17/2022 15:11	WG1896375
Bromoform	U		0.129	1.00	1	07/17/2022 15:11	WG1896375
Bromomethane	U		0.605	5.00	1	07/17/2022 15:11	WG1896375
n-Butylbenzene	U		0.157	1.00	1	07/17/2022 15:11	WG1896375
sec-Butylbenzene	U		0.125	1.00	1	07/17/2022 15:11	WG1896375
tert-Butylbenzene	U		0.127	1.00	1	07/17/2022 15:11	WG1896375
Carbon disulfide	U		0.0962	1.00	1	07/17/2022 15:11	WG1896375
Carbon tetrachloride	U		0.128	1.00	1	07/17/2022 15:11	WG1896375
Chlorobenzene	U		0.116	1.00	1	07/17/2022 15:11	WG1896375
Chlorodibromomethane	U		0.140	1.00	1	07/17/2022 15:11	WG1896375
Chloroethane	U		0.192	5.00	1	07/17/2022 15:11	WG1896375
Chloroform	U		0.111	5.00	1	07/17/2022 15:11	WG1896375
Chloromethane	U		0.960	2.50	1	07/17/2022 15:11	WG1896375
2-Chlorotoluene	U		0.106	1.00	1	07/17/2022 15:11	WG1896375
4-Chlorotoluene	U		0.114	1.00	1	07/17/2022 15:11	WG1896375
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	07/17/2022 15:11	WG1896375
Dibromomethane	U		0.122	1.00	1	07/17/2022 15:11	WG1896375
1,2-Dichlorobenzene	U		0.107	1.00	1	07/17/2022 15:11	WG1896375
1,3-Dichlorobenzene	U		0.110	1.00	1	07/17/2022 15:11	WG1896375
1,4-Dichlorobenzene	U		0.120	1.00	1	07/17/2022 15:11	WG1896375
Dichlorodifluoromethane	U		0.374	5.00	1	07/17/2022 15:11	WG1896375
1,1-Dichloroethane	U		0.100	1.00	1	07/17/2022 15:11	WG1896375
1,2-Dichloroethane	U		0.0819	1.00	1	07/17/2022 15:11	WG1896375
1,1-Dichloroethene	U		0.188	1.00	1	07/17/2022 15:11	WG1896375
cis-1,2-Dichloroethene	U		0.126	1.00	1	07/17/2022 15:11	WG1896375
trans-1,2-Dichloroethene	U		0.149	1.00	1	07/17/2022 15:11	WG1896375
1,2-Dichloropropane	U		0.149	1.00	1	07/17/2022 15:11	WG1896375
1,1-Dichloropropene	U		0.142	1.00	1	07/17/2022 15:11	WG1896375
1,3-Dichloropropane	U		0.110	1.00	1	07/17/2022 15:11	WG1896375
cis-1,3-Dichloropropene	U		0.111	1.00	1	07/17/2022 15:11	WG1896375
trans-1,3-Dichloropropene	U		0.118	1.00	1	07/17/2022 15:11	WG1896375
2,2-Dichloropropane	U		0.161	1.00	1	07/17/2022 15:11	WG1896375
Di-isopropyl ether	U		0.105	1.00	1	07/17/2022 15:11	WG1896375
Ethylbenzene	U		0.137	1.00	1	07/17/2022 15:11	WG1896375
Hexachloro-1,3-butadiene	U		0.337	1.00	1	07/17/2022 15:11	WG1896375
Isopropylbenzene	U		0.105	1.00	1	07/17/2022 15:11	WG1896375
p-Isopropyltoluene	U		0.120	1.00	1	07/17/2022 15:11	WG1896375
2-Butanone (MEK)	U		1.19	10.0	1	07/17/2022 15:11	WG1896375
Methylene Chloride	U		0.430	5.00	1	07/17/2022 15:11	WG1896375
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	07/17/2022 15:11	WG1896375
Methyl tert-butyl ether	U		0.101	1.00	1	07/17/2022 15:11	WG1896375

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Naphthalene	U		1.00	5.00	1	07/17/2022 15:11	WG1896375
n-Propylbenzene	U		0.0993	1.00	1	07/17/2022 15:11	WG1896375
Styrene	U		0.118	1.00	1	07/17/2022 15:11	WG1896375
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	07/17/2022 15:11	WG1896375
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	07/17/2022 15:11	WG1896375
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	07/17/2022 15:11	WG1896375
Tetrachloroethene	U		0.300	1.00	1	07/17/2022 15:11	WG1896375
Toluene	U		0.278	1.00	1	07/17/2022 15:11	WG1896375
1,2,3-Trichlorobenzene	U	C4	0.230	1.00	1	07/17/2022 15:11	WG1896375
1,2,4-Trichlorobenzene	U	C4	0.481	1.00	1	07/17/2022 15:11	WG1896375
1,1,1-Trichloroethane	U		0.149	1.00	1	07/17/2022 15:11	WG1896375
1,1,2-Trichloroethane	U		0.158	1.00	1	07/17/2022 15:11	WG1896375
Trichloroethene	U		0.190	1.00	1	07/17/2022 15:11	WG1896375
Trichlorofluoromethane	2.89	J	0.160	5.00	1	07/17/2022 15:11	WG1896375
1,2,4-Trimethylbenzene	U		0.322	1.00	1	07/17/2022 15:11	WG1896375
1,2,3-Trimethylbenzene	U		0.104	1.00	1	07/17/2022 15:11	WG1896375
1,3,5-Trimethylbenzene	U		0.104	1.00	1	07/17/2022 15:11	WG1896375
Vinyl chloride	U		0.234	1.00	1	07/17/2022 15:11	WG1896375
Xylenes, Total	U		0.174	3.00	1	07/17/2022 15:11	WG1896375
o-Xylene	U		0.174	1.00	1	07/17/2022 15:11	WG1896375
m&p-Xylene	U		0.430	2.00	1	07/17/2022 15:11	WG1896375
(S) Toluene-d8	*114*			*80.0-120*		*07/17/2022 15:11*	WG1896375
(S) 4-Bromofluorobenzene	*114*			*77.0-126*		*07/17/2022 15:11*	WG1896375
(S) 1,2-Dichloroethane-d4	*112*			*70.0-130*		*07/17/2022 15:11*	WG1896375

EDB / DBCP by Method 8011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Ethylene Dibromide	U		0.00574	0.0214	1.07	07/15/2022 22:24	WG1895388

Semi-Volatile Organic Compounds (GC) by Method AK102/103

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
AK102 DRO C10-C25	U		229	800	1	07/26/2022 15:28	WG1899409
AK103 RRO C25-C36	533	B J J4	403	800	1	07/26/2022 15:28	WG1899409
(S) o-Terphenyl	*99.0*			*50.0-150*		*07/26/2022 15:28*	WG1899409
(S) n-Triacontane d62	*116*			*50.0-150*		*07/26/2022 15:28*	WG1899409

Semi-Volatile Organic Compounds (GC) by Method AK102SGT

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
AK102 DRO C10-C25	U		229	800	1	07/26/2022 15:28	WG1899412
(S) o-Terphenyl	*99.0*			*50.0-150*		*07/26/2022 15:28*	WG1899412

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC) by Method AK101

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
TPHGAK C6 to C10	2490		28.7	100	1	07/20/2022 10:18	WG1897900
(S) a,a,a-Trifluorotoluene(FID)	*78.0*			*50.0-150*		*07/20/2022 10:18*	WG1897900

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	194		0.0941	1.00	1	07/16/2022 23:29	WG1896128
1,2,3-Trichloropropane	U		0.200	0.500	100	07/19/2022 13:19	WG1896673
Toluene	6.59		0.278	1.00	1	07/16/2022 23:29	WG1896128
1,2-Dibromoethane	U		0.410	0.500	100	07/19/2022 13:19	WG1896673
Ethylbenzene	127		0.137	1.00	1	07/16/2022 23:29	WG1896128
Total Xylenes	475		1.74	30.0	10	07/20/2022 00:19	WG1897690
(S) Toluene-d8	*96.3*			*80.0-120*		*07/16/2022 23:29*	WG1896128
(S) Toluene-d8	*101*			*80.0-120*		*07/20/2022 00:19*	WG1897690
(S) 4-Bromofluorobenzene	*101*			*77.0-126*		*07/16/2022 23:29*	WG1896128
(S) 4-Bromofluorobenzene	*107*			*77.0-126*		*07/20/2022 00:19*	WG1897690
(S) 1,2-Dichloroethane-d4	*122*			*70.0-130*		*07/16/2022 23:29*	WG1896128
(S) 1,2-Dichloroethane-d4	*118*			*70.0-130*		*07/20/2022 00:19*	WG1897690

Sample Narrative:

L1515010-04 WG1896673: Non-target compounds too high to run at a lower dilution.

Semi-Volatile Organic Compounds (GC) by Method AK102/103

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	3200		229	800	1	07/26/2022 15:49	WG1899409
AK103 RRO C25-C36	738	B J J4	403	800	1	07/26/2022 15:49	WG1899409
(S) o-Terphenyl	*111*			*50.0-150*		*07/26/2022 15:49*	WG1899409
(S) n-Triacontane d62	*122*			*50.0-150*		*07/26/2022 15:49*	WG1899409

Semi-Volatile Organic Compounds (GC) by Method AK102SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	1020		229	800	1	07/26/2022 19:52	WG1899412
(S) o-Terphenyl	*74.7*			*50.0-150*		*07/26/2022 19:52*	WG1899412

Volatile Organic Compounds (GC) by Method AK101

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
TPHGAK C6 to C10	85.5	B J	28.7	100	1	07/20/2022 10:39	WG1897900
(S) a,a,a-Trifluorotoluene(FID)	*76.4*			*50.0-150*		*07/20/2022 10:39*	WG1897900

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,3-Trichloropropane	U		0.0200	0.0500	10	07/19/2022 13:43	WG1896673
Acetone	U		11.3	50.0	1	07/17/2022 15:32	WG1896375
1,2-Dibromoethane	U		0.0410	0.0500	10	07/19/2022 13:43	WG1896673
Acrolein	U		2.54	50.0	1	07/17/2022 15:32	WG1896375
Acrylonitrile	U		0.671	10.0	1	07/17/2022 15:32	WG1896375
Benzene	3.58		0.0941	1.00	1	07/17/2022 15:32	WG1896375
Bromobenzene	U		0.118	1.00	1	07/17/2022 15:32	WG1896375
Bromochloromethane	U	J4	0.128	1.00	1	07/17/2022 15:32	WG1896375
Bromodichloromethane	U		0.136	1.00	1	07/17/2022 15:32	WG1896375
Bromoform	U		0.129	1.00	1	07/17/2022 15:32	WG1896375
Bromomethane	U		0.605	5.00	1	07/17/2022 15:32	WG1896375
n-Butylbenzene	U		0.157	1.00	1	07/17/2022 15:32	WG1896375
sec-Butylbenzene	U		0.125	1.00	1	07/17/2022 15:32	WG1896375
tert-Butylbenzene	U		0.127	1.00	1	07/17/2022 15:32	WG1896375
Carbon disulfide	U		0.0962	1.00	1	07/17/2022 15:32	WG1896375
Carbon tetrachloride	U		0.128	1.00	1	07/17/2022 15:32	WG1896375
Chlorobenzene	U		0.116	1.00	1	07/17/2022 15:32	WG1896375
Chlorodibromomethane	U		0.140	1.00	1	07/17/2022 15:32	WG1896375
Chloroethane	U		0.192	5.00	1	07/17/2022 15:32	WG1896375
Chloroform	U		0.111	5.00	1	07/17/2022 15:32	WG1896375
Chloromethane	U		0.960	2.50	1	07/17/2022 15:32	WG1896375
2-Chlorotoluene	U		0.106	1.00	1	07/17/2022 15:32	WG1896375
4-Chlorotoluene	U		0.114	1.00	1	07/17/2022 15:32	WG1896375
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	07/17/2022 15:32	WG1896375
Dibromomethane	U		0.122	1.00	1	07/17/2022 15:32	WG1896375
1,2-Dichlorobenzene	U		0.107	1.00	1	07/17/2022 15:32	WG1896375
1,3-Dichlorobenzene	U		0.110	1.00	1	07/17/2022 15:32	WG1896375
1,4-Dichlorobenzene	U		0.120	1.00	1	07/17/2022 15:32	WG1896375
Dichlorodifluoromethane	U	J5	0.374	5.00	1	07/17/2022 15:32	WG1896375
1,1-Dichloroethane	U		0.100	1.00	1	07/17/2022 15:32	WG1896375
1,2-Dichloroethane	U		0.0819	1.00	1	07/17/2022 15:32	WG1896375
1,1-Dichloroethene	U		0.188	1.00	1	07/17/2022 15:32	WG1896375
cis-1,2-Dichloroethene	U		0.126	1.00	1	07/17/2022 15:32	WG1896375
trans-1,2-Dichloroethene	U		0.149	1.00	1	07/17/2022 15:32	WG1896375
1,2-Dichloropropane	U		0.149	1.00	1	07/17/2022 15:32	WG1896375
1,1-Dichloropropene	U		0.142	1.00	1	07/17/2022 15:32	WG1896375
1,3-Dichloropropane	U		0.110	1.00	1	07/17/2022 15:32	WG1896375
cis-1,3-Dichloropropene	U		0.111	1.00	1	07/17/2022 15:32	WG1896375
trans-1,3-Dichloropropene	U		0.118	1.00	1	07/17/2022 15:32	WG1896375
2,2-Dichloropropane	U		0.161	1.00	1	07/17/2022 15:32	WG1896375
Di-isopropyl ether	U		0.105	1.00	1	07/17/2022 15:32	WG1896375
Ethylbenzene	1.31		0.137	1.00	1	07/17/2022 15:32	WG1896375
Hexachloro-1,3-butadiene	U		0.337	1.00	1	07/17/2022 15:32	WG1896375
Isopropylbenzene	0.671	J	0.105	1.00	1	07/17/2022 15:32	WG1896375
p-Isopropyltoluene	U		0.120	1.00	1	07/17/2022 15:32	WG1896375
2-Butanone (MEK)	U		1.19	10.0	1	07/17/2022 15:32	WG1896375
Methylene Chloride	U		0.430	5.00	1	07/17/2022 15:32	WG1896375
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	07/17/2022 15:32	WG1896375
Methyl tert-butyl ether	U		0.101	1.00	1	07/17/2022 15:32	WG1896375

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Naphthalene	U		1.00	5.00	1	07/17/2022 15:32	WG1896375
n-Propylbenzene	1.44		0.0993	1.00	1	07/17/2022 15:32	WG1896375
Styrene	U		0.118	1.00	1	07/17/2022 15:32	WG1896375
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	07/17/2022 15:32	WG1896375
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	07/17/2022 15:32	WG1896375
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	07/17/2022 15:32	WG1896375
Tetrachloroethene	U		0.300	1.00	1	07/17/2022 15:32	WG1896375
Toluene	U		0.278	1.00	1	07/17/2022 15:32	WG1896375
1,2,3-Trichlorobenzene	U	C4	0.230	1.00	1	07/17/2022 15:32	WG1896375
1,2,4-Trichlorobenzene	U	C4	0.481	1.00	1	07/17/2022 15:32	WG1896375
1,1,1-Trichloroethane	U		0.149	1.00	1	07/17/2022 15:32	WG1896375
1,1,2-Trichloroethane	U		0.158	1.00	1	07/17/2022 15:32	WG1896375
Trichloroethene	U		0.190	1.00	1	07/17/2022 15:32	WG1896375
Trichlorofluoromethane	3.18	J	0.160	5.00	1	07/17/2022 15:32	WG1896375
1,2,4-Trimethylbenzene	10.2	J3 J6	0.322	1.00	1	07/17/2022 15:32	WG1896375
1,2,3-Trimethylbenzene	U		0.104	1.00	1	07/17/2022 15:32	WG1896375
1,3,5-Trimethylbenzene	3.91		0.104	1.00	1	07/17/2022 15:32	WG1896375
Vinyl chloride	U		0.234	1.00	1	07/17/2022 15:32	WG1896375
Xylenes, Total	3.17		0.174	3.00	1	07/17/2022 15:32	WG1896375
o-Xylene	0.227	J	0.174	1.00	1	07/17/2022 15:32	WG1896375
m&p-Xylene	2.94		0.430	2.00	1	07/17/2022 15:32	WG1896375
(S) Toluene-d8	*111*			*80.0-120*		*07/17/2022 15:32*	WG1896375
(S) 4-Bromofluorobenzene	*115*			*77.0-126*		*07/17/2022 15:32*	WG1896375
(S) 1,2-Dichloroethane-d4	*112*			*70.0-130*		*07/17/2022 15:32*	WG1896375

Sample Narrative:

L1515010-05 WG1896673: Non-target compounds too high to run at a lower dilution.

EDB / DBCP by Method 8011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Ethylene Dibromide	U		0.00547	0.0204	1.02	07/21/2022 17:22	WG1898144

Semi-Volatile Organic Compounds (GC) by Method AK102/103

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	2280	J5	229	800	1	07/26/2022 18:10	WG1899415
AK103 RRO C25-C36	1130	B J4	403	800	1	07/26/2022 18:10	WG1899415
(S) o-Terphenyl	*110*			*50.0-150*		*07/26/2022 18:10*	WG1899415
(S) n-Triacontane d62	*121*			*50.0-150*		*07/26/2022 18:10*	WG1899415

Semi-Volatile Organic Compounds (GC) by Method AK102SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	U		229	800	1	07/27/2022 12:37	WG1899417
(S) o-Terphenyl	*84.4*			*50.0-150*		*07/27/2022 12:37*	WG1899417

Volatile Organic Compounds (GC) by Method AK101

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
TPHGAK C6 to C10	17100		287	1000	10	07/20/2022 12:48	WG1897900
(S) a,a,a-Trifluorotoluene(FID)	*80.4*			*50.0-150*		*07/20/2022 12:48*	WG1897900

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,3-Trichloropropane	U		2.00	5.00	1000	07/19/2022 14:07	WG1896673
Acetone	U		1130	5000	100	07/17/2022 17:14	WG1896375
1,2-Dibromoethane	U		4.10	5.00	1000	07/19/2022 14:07	WG1896673
Acrolein	U		254	5000	100	07/17/2022 17:14	WG1896375
Acrylonitrile	U		67.1	1000	100	07/17/2022 17:14	WG1896375
Benzene	1560		9.41	100	100	07/17/2022 17:14	WG1896375
Bromobenzene	U		11.8	100	100	07/17/2022 17:14	WG1896375
Bromochloromethane	U	J4	12.8	100	100	07/17/2022 17:14	WG1896375
Bromodichloromethane	U		13.6	100	100	07/17/2022 17:14	WG1896375
Bromoform	U		12.9	100	100	07/17/2022 17:14	WG1896375
Bromomethane	U		60.5	500	100	07/17/2022 17:14	WG1896375
n-Butylbenzene	U		15.7	100	100	07/17/2022 17:14	WG1896375
sec-Butylbenzene	U		12.5	100	100	07/17/2022 17:14	WG1896375
tert-Butylbenzene	U		12.7	100	100	07/17/2022 17:14	WG1896375
Carbon disulfide	U		9.62	100	100	07/17/2022 17:14	WG1896375
Carbon tetrachloride	U		12.8	100	100	07/17/2022 17:14	WG1896375
Chlorobenzene	U		11.6	100	100	07/17/2022 17:14	WG1896375
Chlorodibromomethane	U		14.0	100	100	07/17/2022 17:14	WG1896375
Chloroethane	U		19.2	500	100	07/17/2022 17:14	WG1896375
Chloroform	U		11.1	500	100	07/17/2022 17:14	WG1896375
Chloromethane	U		96.0	250	100	07/17/2022 17:14	WG1896375
2-Chlorotoluene	U		10.6	100	100	07/17/2022 17:14	WG1896375
4-Chlorotoluene	U		11.4	100	100	07/17/2022 17:14	WG1896375
1,2-Dibromo-3-Chloropropane	U		27.6	500	100	07/17/2022 17:14	WG1896375
Dibromomethane	U		12.2	100	100	07/17/2022 17:14	WG1896375
1,2-Dichlorobenzene	U		10.7	100	100	07/17/2022 17:14	WG1896375
1,3-Dichlorobenzene	U		11.0	100	100	07/17/2022 17:14	WG1896375
1,4-Dichlorobenzene	U		12.0	100	100	07/17/2022 17:14	WG1896375
Dichlorodifluoromethane	U		37.4	500	100	07/17/2022 17:14	WG1896375
1,1-Dichloroethane	U		10.0	100	100	07/17/2022 17:14	WG1896375
1,2-Dichloroethane	U		8.19	100	100	07/17/2022 17:14	WG1896375
1,1-Dichloroethene	U		18.8	100	100	07/17/2022 17:14	WG1896375
cis-1,2-Dichloroethene	U		12.6	100	100	07/17/2022 17:14	WG1896375
trans-1,2-Dichloroethene	U		14.9	100	100	07/17/2022 17:14	WG1896375
1,2-Dichloropropane	U		14.9	100	100	07/17/2022 17:14	WG1896375
1,1-Dichloropropene	U		14.2	100	100	07/17/2022 17:14	WG1896375
1,3-Dichloropropane	U		11.0	100	100	07/17/2022 17:14	WG1896375
cis-1,3-Dichloropropene	U		11.1	100	100	07/17/2022 17:14	WG1896375
trans-1,3-Dichloropropene	U		11.8	100	100	07/17/2022 17:14	WG1896375
2,2-Dichloropropane	U		16.1	100	100	07/17/2022 17:14	WG1896375
Di-isopropyl ether	U		10.5	100	100	07/17/2022 17:14	WG1896375
Ethylbenzene	218		13.7	100	100	07/17/2022 17:14	WG1896375
Hexachloro-1,3-butadiene	U		33.7	100	100	07/17/2022 17:14	WG1896375
Isopropylbenzene	13.7	J	10.5	100	100	07/17/2022 17:14	WG1896375
p-Isopropyltoluene	16.7	J	12.0	100	100	07/17/2022 17:14	WG1896375
2-Butanone (MEK)	U		119	1000	100	07/17/2022 17:14	WG1896375
Methylene Chloride	U		43.0	500	100	07/17/2022 17:14	WG1896375
4-Methyl-2-pentanone (MIBK)	U		47.8	1000	100	07/17/2022 17:14	WG1896375
Methyl tert-butyl ether	13.6	J	10.1	100	100	07/17/2022 17:14	WG1896375

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Naphthalene	U		100	500	100	07/17/2022 17:14	WG1896375
n-Propylbenzene	U		9.93	100	100	07/17/2022 17:14	WG1896375
Styrene	U		11.8	100	100	07/17/2022 17:14	WG1896375
1,1,1,2-Tetrachloroethane	U		14.7	100	100	07/17/2022 17:14	WG1896375
1,1,2,2-Tetrachloroethane	U		13.3	100	100	07/17/2022 17:14	WG1896375
1,1,2-Trichlorotrifluoroethane	U		18.0	100	100	07/17/2022 17:14	WG1896375
Tetrachloroethene	U		30.0	100	100	07/17/2022 17:14	WG1896375
Toluene	3010		27.8	100	100	07/17/2022 17:14	WG1896375
1,2,3-Trichlorobenzene	U	C4	23.0	100	100	07/17/2022 17:14	WG1896375
1,2,4-Trichlorobenzene	U	C4	48.1	100	100	07/17/2022 17:14	WG1896375
1,1,1-Trichloroethane	U		14.9	100	100	07/17/2022 17:14	WG1896375
1,1,2-Trichloroethane	U		15.8	100	100	07/17/2022 17:14	WG1896375
Trichloroethene	U		19.0	100	100	07/17/2022 17:14	WG1896375
Trichlorofluoromethane	U		16.0	500	100	07/17/2022 17:14	WG1896375
1,2,4-Trimethylbenzene	542		32.2	100	100	07/17/2022 17:14	WG1896375
1,2,3-Trimethylbenzene	308		10.4	100	100	07/17/2022 17:14	WG1896375
1,3,5-Trimethylbenzene	271		10.4	100	100	07/17/2022 17:14	WG1896375
Vinyl chloride	U		23.4	100	100	07/17/2022 17:14	WG1896375
Xylenes, Total	4770		17.4	300	100	07/17/2022 17:14	WG1896375
o-Xylene	1760		17.4	100	100	07/17/2022 17:14	WG1896375
m&p-Xylene	3010		43.0	200	100	07/17/2022 17:14	WG1896375
(S) Toluene-d8	*112*			*80.0-120*		*07/17/2022 17:14*	WG1896375
(S) 4-Bromofluorobenzene	*114*			*77.0-126*		*07/17/2022 17:14*	WG1896375
(S) 1,2-Dichloroethane-d4	*113*			*70.0-130*		*07/17/2022 17:14*	WG1896375

Sample Narrative:

L1515010-06 WG1896673: Non-target compounds too high to run at a lower dilution.

EDB / DBCP by Method 8011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Ethylene Dibromide	0.398		0.00568	0.0212	1.06	07/15/2022 22:37	WG1895388

Semi-Volatile Organic Compounds (GC) by Method AK102/103

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	39200		229	800	1	07/26/2022 16:09	WG1899409
AK103 RRO C25-C36	1790	B J4	403	800	1	07/26/2022 16:09	WG1899409
(S) o-Terphenyl	*111*			*50.0-150*		*07/26/2022 16:09*	WG1899409
(S) n-Triacontane d62	*130*			*50.0-150*		*07/26/2022 16:09*	WG1899409

Semi-Volatile Organic Compounds (GC) by Method AK102SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	3350		229	800	1	07/27/2022 11:16	WG1899412
(S) o-Terphenyl	*83.0*			*50.0-150*		*07/27/2022 11:16*	WG1899412

Volatile Organic Compounds (GC) by Method AK101

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
TPHGAK C6 to C10	60.6	B J	28.7	100	1	07/20/2022 11:01	WG1897900
(S) a,a,a-Trifluorotoluene(FID)	*83.7*			*50.0-150*		*07/20/2022 11:01*	WG1897900

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Benzene	0.468	B J	0.0941	1.00	1	07/19/2022 23:14	WG1897690
1,2,3-Trichloropropane	U		0.0200	0.0500	10	07/19/2022 14:30	WG1896673
Toluene	U		0.278	1.00	1	07/16/2022 23:48	WG1896128
1,2-Dibromoethane	U		0.0410	0.0500	10	07/19/2022 14:30	WG1896673
Ethylbenzene	0.151	J	0.137	1.00	1	07/19/2022 23:14	WG1897690
Total Xylenes	1.11	J	0.174	3.00	1	07/19/2022 23:14	WG1897690
(S) Toluene-d8	*102*			*80.0-120*		*07/16/2022 23:48*	WG1896128
(S) Toluene-d8	*99.2*			*80.0-120*		*07/19/2022 23:14*	WG1897690
(S) 4-Bromofluorobenzene	*99.9*			*77.0-126*		*07/16/2022 23:48*	WG1896128
(S) 4-Bromofluorobenzene	*107*			*77.0-126*		*07/19/2022 23:14*	WG1897690
(S) 1,2-Dichloroethane-d4	*121*			*70.0-130*		*07/16/2022 23:48*	WG1896128
(S) 1,2-Dichloroethane-d4	*114*			*70.0-130*		*07/19/2022 23:14*	WG1897690

Sample Narrative:

L1515010-07 WG1896673: Non-target compounds too high to run at a lower dilution.

Semi-Volatile Organic Compounds (GC) by Method AK102/103

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	882		229	800	1	07/26/2022 16:29	WG1899409
AK103 RRO C25-C36	547	B J J4	403	800	1	07/26/2022 16:29	WG1899409
(S) o-Terphenyl	*110*			*50.0-150*		*07/26/2022 16:29*	WG1899409
(S) n-Triacontane d62	*125*			*50.0-150*		*07/26/2022 16:29*	WG1899409

Semi-Volatile Organic Compounds (GC) by Method AK102SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	291	J	229	800	1	07/27/2022 11:36	WG1899412
(S) o-Terphenyl	*87.9*			*50.0-150*		*07/27/2022 11:36*	WG1899412

Volatile Organic Compounds (GC) by Method AK101

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
TPHGAK C6 to C10	U		28.7	100	1	07/20/2022 11:22	WG1897900
(S) a,a,a-Trifluorotoluene(FID)	*94.7*			*50.0-150*		*07/20/2022 11:22*	WG1897900

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Benzene	0.120	J	0.0941	1.00	1	07/17/2022 00:07	WG1896128
1,2,3-Trichloropropane	U		0.00200	0.00500	1	07/17/2022 16:32	WG1895732
Toluene	U		0.278	1.00	1	07/17/2022 00:07	WG1896128
1,2-Dibromoethane	U		0.00410	0.00500	1	07/17/2022 16:32	WG1895732
Ethylbenzene	U		0.137	1.00	1	07/17/2022 00:07	WG1896128
Total Xylenes	U		0.174	3.00	1	07/17/2022 00:07	WG1896128
(S) Toluene-d8	*99.8*			*80.0-120*		*07/17/2022 00:07*	WG1896128
(S) 4-Bromofluorobenzene	*101*			*77.0-126*		*07/17/2022 00:07*	WG1896128
(S) 1,2-Dichloroethane-d4	*111*			*70.0-130*		*07/17/2022 00:07*	WG1896128

Semi-Volatile Organic Compounds (GC) by Method AK102/103

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
AK102 DRO C10-C25	936		229	800	1	07/26/2022 16:49	WG1899409
AK103 RRO C25-C36	758	B J J4	403	800	1	07/26/2022 16:49	WG1899409
(S) o-Terphenyl	*110*			*50.0-150*		*07/26/2022 16:49*	WG1899409
(S) n-Triacontane d62	*128*			*50.0-150*		*07/26/2022 16:49*	WG1899409

Semi-Volatile Organic Compounds (GC) by Method AK102SGT

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
AK102 DRO C10-C25	U		229	800	1	07/27/2022 11:57	WG1899412
(S) o-Terphenyl	*80.6*			*50.0-150*		*07/27/2022 11:57*	WG1899412

Volatile Organic Compounds (GC) by Method AK101

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
TPHGAK C6 to C10	U		28.7	100	1	07/20/2022 11:44	WG1897900
(S) a,a,a-Trifluorotoluene(FID)	*93.3*			*50.0-150*		*07/20/2022 11:44*	WG1897900

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Benzene	0.259	J	0.0941	1.00	1	07/17/2022 00:26	WG1896128
1,2,3-Trichloropropane	U		0.00200	0.00500	1	07/17/2022 16:56	WG1895732
Toluene	U		0.278	1.00	1	07/17/2022 00:26	WG1896128
1,2-Dibromoethane	U		0.00410	0.00500	1	07/17/2022 16:56	WG1895732
Ethylbenzene	U		0.137	1.00	1	07/17/2022 00:26	WG1896128
Total Xylenes	0.214	J	0.174	3.00	1	07/17/2022 00:26	WG1896128
(S) Toluene-d8	*108*			*80.0-120*		*07/17/2022 00:26*	WG1896128
(S) 4-Bromofluorobenzene	*103*			*77.0-126*		*07/17/2022 00:26*	WG1896128
(S) 1,2-Dichloroethane-d4	*121*			*70.0-130*		*07/17/2022 00:26*	WG1896128

Semi-Volatile Organic Compounds (GC) by Method AK102/103

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
AK102 DRO C10-C25	493	J	229	800	1	07/26/2022 17:10	WG1899409
AK103 RRO C25-C36	582	B J J4	403	800	1	07/26/2022 17:10	WG1899409
(S) o-Terphenyl	*107*			*50.0-150*		*07/26/2022 17:10*	WG1899409
(S) n-Triacontane d62	*123*			*50.0-150*		*07/26/2022 17:10*	WG1899409

Semi-Volatile Organic Compounds (GC) by Method AK102SGT

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
AK102 DRO C10-C25	493	J	229	800	1	07/26/2022 17:10	WG1899412
(S) o-Terphenyl	*107*			*50.0-150*		*07/26/2022 17:10*	WG1899412

Volatile Organic Compounds (GC) by Method AK101

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
TPHGAK C6 to C10	18400		574	2000	20	07/21/2022 06:11	WG1898350
(S) a,a,a-Trifluorotoluene(FID)	*98.9*			*50.0-150*		*07/21/2022 06:11*	WG1898350

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,3-Trichloropropane	U		2.00	5.00	1000	07/19/2022 14:54	WG1896673
Acetone	U		565	2500	50	07/17/2022 17:34	WG1896375
1,2-Dibromoethane	U		4.10	5.00	1000	07/19/2022 14:54	WG1896673
Acrolein	U		127	2500	50	07/17/2022 17:34	WG1896375
Acrylonitrile	U		33.6	500	50	07/17/2022 17:34	WG1896375
Benzene	1630		4.71	50.0	50	07/17/2022 17:34	WG1896375
Bromobenzene	U		5.90	50.0	50	07/17/2022 17:34	WG1896375
Bromochloromethane	U	J4	6.40	50.0	50	07/17/2022 17:34	WG1896375
Bromodichloromethane	U		6.80	50.0	50	07/17/2022 17:34	WG1896375
Bromoform	U		6.45	50.0	50	07/17/2022 17:34	WG1896375
Bromomethane	U		30.3	250	50	07/17/2022 17:34	WG1896375
n-Butylbenzene	U		7.85	50.0	50	07/17/2022 17:34	WG1896375
sec-Butylbenzene	U		6.25	50.0	50	07/17/2022 17:34	WG1896375
tert-Butylbenzene	U		6.35	50.0	50	07/17/2022 17:34	WG1896375
Carbon disulfide	U		4.81	50.0	50	07/17/2022 17:34	WG1896375
Carbon tetrachloride	U		6.40	50.0	50	07/17/2022 17:34	WG1896375
Chlorobenzene	U		5.80	50.0	50	07/17/2022 17:34	WG1896375
Chlorodibromomethane	U		7.00	50.0	50	07/17/2022 17:34	WG1896375
Chloroethane	U		9.60	250	50	07/17/2022 17:34	WG1896375
Chloroform	U		5.55	250	50	07/17/2022 17:34	WG1896375
Chloromethane	U		48.0	125	50	07/17/2022 17:34	WG1896375
2-Chlorotoluene	U		5.30	50.0	50	07/17/2022 17:34	WG1896375
4-Chlorotoluene	U		5.70	50.0	50	07/17/2022 17:34	WG1896375
1,2-Dibromo-3-Chloropropane	U		13.8	250	50	07/17/2022 17:34	WG1896375
Dibromomethane	U		6.10	50.0	50	07/17/2022 17:34	WG1896375
1,2-Dichlorobenzene	U		5.35	50.0	50	07/17/2022 17:34	WG1896375
1,3-Dichlorobenzene	U		5.50	50.0	50	07/17/2022 17:34	WG1896375
1,4-Dichlorobenzene	U		6.00	50.0	50	07/17/2022 17:34	WG1896375
Dichlorodifluoromethane	U		18.7	250	50	07/17/2022 17:34	WG1896375
1,1-Dichloroethane	U		5.00	50.0	50	07/17/2022 17:34	WG1896375
1,2-Dichloroethane	U		4.09	50.0	50	07/17/2022 17:34	WG1896375
1,1-Dichloroethene	U		9.40	50.0	50	07/17/2022 17:34	WG1896375
cis-1,2-Dichloroethene	U		6.30	50.0	50	07/17/2022 17:34	WG1896375
trans-1,2-Dichloroethene	U		7.45	50.0	50	07/17/2022 17:34	WG1896375
1,2-Dichloropropane	U		7.45	50.0	50	07/17/2022 17:34	WG1896375
1,1-Dichloropropene	U		7.10	50.0	50	07/17/2022 17:34	WG1896375
1,3-Dichloropropane	U		5.50	50.0	50	07/17/2022 17:34	WG1896375
cis-1,3-Dichloropropene	U		5.55	50.0	50	07/17/2022 17:34	WG1896375
trans-1,3-Dichloropropene	U		5.90	50.0	50	07/17/2022 17:34	WG1896375
2,2-Dichloropropane	U		8.05	50.0	50	07/17/2022 17:34	WG1896375
Di-isopropyl ether	U		5.25	50.0	50	07/17/2022 17:34	WG1896375
Ethylbenzene	235		6.85	50.0	50	07/17/2022 17:34	WG1896375
Hexachloro-1,3-butadiene	U		16.9	50.0	50	07/17/2022 17:34	WG1896375
Isopropylbenzene	13.8	J	5.25	50.0	50	07/17/2022 17:34	WG1896375
p-Isopropyltoluene	U		6.00	50.0	50	07/17/2022 17:34	WG1896375
2-Butanone (MEK)	U		59.5	500	50	07/17/2022 17:34	WG1896375
Methylene Chloride	U		21.5	250	50	07/17/2022 17:34	WG1896375
4-Methyl-2-pentanone (MIBK)	U		23.9	500	50	07/17/2022 17:34	WG1896375
Methyl tert-butyl ether	15.8	J	5.05	50.0	50	07/17/2022 17:34	WG1896375

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Naphthalene	157	B J	50.0	250	50	07/17/2022 17:34	WG1896375
n-Propylbenzene	U		4.97	50.0	50	07/17/2022 17:34	WG1896375
Styrene	U		5.90	50.0	50	07/17/2022 17:34	WG1896375
1,1,1,2-Tetrachloroethane	U		7.35	50.0	50	07/17/2022 17:34	WG1896375
1,1,2,2-Tetrachloroethane	U		6.65	50.0	50	07/17/2022 17:34	WG1896375
1,1,2-Trichlorotrifluoroethane	U		9.00	50.0	50	07/17/2022 17:34	WG1896375
Tetrachloroethene	U		15.0	50.0	50	07/17/2022 17:34	WG1896375
Toluene	3150		13.9	50.0	50	07/17/2022 17:34	WG1896375
1,2,3-Trichlorobenzene	U	C4	11.5	50.0	50	07/17/2022 17:34	WG1896375
1,2,4-Trichlorobenzene	U	C4	24.1	50.0	50	07/17/2022 17:34	WG1896375
1,1,1-Trichloroethane	U		7.45	50.0	50	07/17/2022 17:34	WG1896375
1,1,2-Trichloroethane	U		7.90	50.0	50	07/17/2022 17:34	WG1896375
Trichloroethene	U		9.50	50.0	50	07/17/2022 17:34	WG1896375
Trichlorofluoromethane	U		8.00	250	50	07/17/2022 17:34	WG1896375
1,2,4-Trimethylbenzene	563		16.1	50.0	50	07/17/2022 17:34	WG1896375
1,2,3-Trimethylbenzene	326		5.20	50.0	50	07/17/2022 17:34	WG1896375
1,3,5-Trimethylbenzene	276		5.20	50.0	50	07/17/2022 17:34	WG1896375
Vinyl chloride	U		11.7	50.0	50	07/17/2022 17:34	WG1896375
Xylenes, Total	5100		8.70	150	50	07/17/2022 17:34	WG1896375
o-Xylene	1890		8.70	50.0	50	07/17/2022 17:34	WG1896375
m&p-Xylene	3210		21.5	100	50	07/17/2022 17:34	WG1896375
(S) Toluene-d8	*112*			*80.0-120*		*07/17/2022 17:34*	WG1896375
(S) 4-Bromofluorobenzene	*115*			*77.0-126*		*07/17/2022 17:34*	WG1896375
(S) 1,2-Dichloroethane-d4	*116*			*70.0-130*		*07/17/2022 17:34*	WG1896375

Sample Narrative:

L1515010-10 WG1896673: Non-target compounds too high to run at a lower dilution.

EDB / DBCP by Method 8011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Ethylene Dibromide	0.379		0.00536	0.0200	1	07/15/2022 22:49	WG1895388

Semi-Volatile Organic Compounds (GC) by Method AK102/103

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	37500		229	800	1	07/26/2022 17:30	WG1899409
AK103 RRO C25-C36	1640	B J4	403	800	1	07/26/2022 17:30	WG1899409
(S) o-Terphenyl	*114*			*50.0-150*		*07/26/2022 17:30*	WG1899409
(S) n-Triacontane d62	*126*			*50.0-150*		*07/26/2022 17:30*	WG1899409

Semi-Volatile Organic Compounds (GC) by Method AK102SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	3770		229	800	1	07/27/2022 12:17	WG1899412
(S) o-Terphenyl	*90.4*			*50.0-150*		*07/27/2022 12:17*	WG1899412

Volatile Organic Compounds (GC) by Method AK101

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
TPHGAK C6 to C10	U		28.7	100	1	07/19/2022 07:45	WG1897164
(S) a,a,a-Trifluorotoluene(FID)	*91.1*			*50.0-150*		*07/19/2022 07:45*	WG1897164

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,3-Trichloropropane	U		0.00200	0.00500	1	07/19/2022 12:07	WG1896673
Acetone	U		11.3	50.0	1	07/17/2022 12:28	WG1896375
1,2-Dibromoethane	U		0.00410	0.00500	1	07/19/2022 12:07	WG1896673
Acrolein	U		2.54	50.0	1	07/17/2022 12:28	WG1896375
Acrylonitrile	U		0.671	10.0	1	07/17/2022 12:28	WG1896375
Benzene	U		0.0941	1.00	1	07/17/2022 12:28	WG1896375
Bromobenzene	U		0.118	1.00	1	07/17/2022 12:28	WG1896375
Bromochloromethane	U	J4	0.128	1.00	1	07/17/2022 12:28	WG1896375
Bromodichloromethane	U		0.136	1.00	1	07/17/2022 12:28	WG1896375
Bromoform	U		0.129	1.00	1	07/17/2022 12:28	WG1896375
Bromomethane	U		0.605	5.00	1	07/17/2022 12:28	WG1896375
n-Butylbenzene	U		0.157	1.00	1	07/17/2022 12:28	WG1896375
sec-Butylbenzene	U		0.125	1.00	1	07/17/2022 12:28	WG1896375
tert-Butylbenzene	U		0.127	1.00	1	07/17/2022 12:28	WG1896375
Carbon disulfide	U		0.0962	1.00	1	07/17/2022 12:28	WG1896375
Carbon tetrachloride	U		0.128	1.00	1	07/17/2022 12:28	WG1896375
Chlorobenzene	U		0.116	1.00	1	07/17/2022 12:28	WG1896375
Chlorodibromomethane	U		0.140	1.00	1	07/17/2022 12:28	WG1896375
Chloroethane	U		0.192	5.00	1	07/17/2022 12:28	WG1896375
Chloroform	U		0.111	5.00	1	07/17/2022 12:28	WG1896375
Chloromethane	U		0.960	2.50	1	07/17/2022 12:28	WG1896375
2-Chlorotoluene	U		0.106	1.00	1	07/17/2022 12:28	WG1896375
4-Chlorotoluene	U		0.114	1.00	1	07/17/2022 12:28	WG1896375
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	07/17/2022 12:28	WG1896375
Dibromomethane	U		0.122	1.00	1	07/17/2022 12:28	WG1896375
1,2-Dichlorobenzene	U		0.107	1.00	1	07/17/2022 12:28	WG1896375
1,3-Dichlorobenzene	U		0.110	1.00	1	07/17/2022 12:28	WG1896375
1,4-Dichlorobenzene	U		0.120	1.00	1	07/17/2022 12:28	WG1896375
Dichlorodifluoromethane	U		0.374	5.00	1	07/17/2022 12:28	WG1896375
1,1-Dichloroethane	U		0.100	1.00	1	07/17/2022 12:28	WG1896375
1,2-Dichloroethane	U		0.0819	1.00	1	07/17/2022 12:28	WG1896375
1,1-Dichloroethene	U		0.188	1.00	1	07/17/2022 12:28	WG1896375
cis-1,2-Dichloroethene	U		0.126	1.00	1	07/17/2022 12:28	WG1896375
trans-1,2-Dichloroethene	U		0.149	1.00	1	07/17/2022 12:28	WG1896375
1,2-Dichloropropane	U		0.149	1.00	1	07/17/2022 12:28	WG1896375
1,1-Dichloropropene	U		0.142	1.00	1	07/17/2022 12:28	WG1896375
1,3-Dichloropropane	U		0.110	1.00	1	07/17/2022 12:28	WG1896375
cis-1,3-Dichloropropene	U		0.111	1.00	1	07/17/2022 12:28	WG1896375
trans-1,3-Dichloropropene	U		0.118	1.00	1	07/17/2022 12:28	WG1896375
2,2-Dichloropropane	U		0.161	1.00	1	07/17/2022 12:28	WG1896375
Di-isopropyl ether	U		0.105	1.00	1	07/17/2022 12:28	WG1896375
Ethylbenzene	U		0.137	1.00	1	07/17/2022 12:28	WG1896375
Hexachloro-1,3-butadiene	U		0.337	1.00	1	07/17/2022 12:28	WG1896375
Isopropylbenzene	U		0.105	1.00	1	07/17/2022 12:28	WG1896375
p-Isopropyltoluene	U		0.120	1.00	1	07/17/2022 12:28	WG1896375
2-Butanone (MEK)	U		1.19	10.0	1	07/17/2022 12:28	WG1896375
Methylene Chloride	U		0.430	5.00	1	07/17/2022 12:28	WG1896375
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	07/17/2022 12:28	WG1896375
Methyl tert-butyl ether	U		0.101	1.00	1	07/17/2022 12:28	WG1896375

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Naphthalene	U		1.00	5.00	1	07/17/2022 12:28	WG1896375
n-Propylbenzene	U		0.0993	1.00	1	07/17/2022 12:28	WG1896375
Styrene	U		0.118	1.00	1	07/17/2022 12:28	WG1896375
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	07/17/2022 12:28	WG1896375
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	07/17/2022 12:28	WG1896375
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	07/17/2022 12:28	WG1896375
Tetrachloroethene	U		0.300	1.00	1	07/17/2022 12:28	WG1896375
Toluene	U		0.278	1.00	1	07/17/2022 12:28	WG1896375
1,2,3-Trichlorobenzene	U	C4	0.230	1.00	1	07/17/2022 12:28	WG1896375
1,2,4-Trichlorobenzene	U	C4	0.481	1.00	1	07/17/2022 12:28	WG1896375
1,1,1-Trichloroethane	U		0.149	1.00	1	07/17/2022 12:28	WG1896375
1,1,2-Trichloroethane	U		0.158	1.00	1	07/17/2022 12:28	WG1896375
Trichloroethene	U		0.190	1.00	1	07/17/2022 12:28	WG1896375
Trichlorofluoromethane	U		0.160	5.00	1	07/17/2022 12:28	WG1896375
1,2,4-Trimethylbenzene	U		0.322	1.00	1	07/17/2022 12:28	WG1896375
1,2,3-Trimethylbenzene	U		0.104	1.00	1	07/17/2022 12:28	WG1896375
1,3,5-Trimethylbenzene	U		0.104	1.00	1	07/17/2022 12:28	WG1896375
Vinyl chloride	U		0.234	1.00	1	07/17/2022 12:28	WG1896375
Xylenes, Total	U		0.174	3.00	1	07/17/2022 12:28	WG1896375
o-Xylene	U		0.174	1.00	1	07/17/2022 12:28	WG1896375
m&p-Xylene	U		0.430	2.00	1	07/17/2022 12:28	WG1896375
(S) Toluene-d8	*113*			*80.0-120*		*07/17/2022 12:28*	WG1896375
(S) 4-Bromofluorobenzene	*115*			*77.0-126*		*07/17/2022 12:28*	WG1896375
(S) 1,2-Dichloroethane-d4	*114*			*70.0-130*		*07/17/2022 12:28*	WG1896375

EDB / DBCP by Method 8011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Ethylene Dibromide	U		0.00557	0.0208	1.04	07/21/2022 18:35	WG1898144

Semi-Volatile Organic Compounds (GC) by Method AK102/103

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	U		254	888	1.11	07/26/2022 17:50	WG1899409
AK103 RRO C25-C36	U	J4	447	888	1.11	07/26/2022 17:50	WG1899409
(S) o-Terphenyl	*104*			*50.0-150*		*07/26/2022 17:50*	WG1899409
(S) n-Triacontane d62	*122*			*50.0-150*		*07/26/2022 17:50*	WG1899409

Semi-Volatile Organic Compounds (GC) by Method AK102SGT

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	U		254	888	1.11	07/26/2022 17:50	WG1899412
(S) o-Terphenyl	*104*			*50.0-150*		*07/26/2022 17:50*	WG1899412

Volatile Organic Compounds (GC) by Method AK101

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
TPHGAK C6 to C10	U		28.7	100	1	07/19/2022 06:52	WG1897164
(S) a,a,a-Trifluorotoluene(FID)	*93.0*			*50.0-150*		*07/19/2022 06:52*	WG1897164

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,2,3-Trichloropropane	U		0.00200	0.00500	1	07/17/2022 14:09	WG1895732
Acetone	U		11.3	50.0	1	07/17/2022 12:48	WG1896375
1,2-Dibromoethane	U		0.00410	0.00500	1	07/17/2022 14:09	WG1895732
Acrolein	U		2.54	50.0	1	07/17/2022 12:48	WG1896375
Acrylonitrile	U		0.671	10.0	1	07/17/2022 12:48	WG1896375
Benzene	U		0.0941	1.00	1	07/17/2022 12:48	WG1896375
Bromobenzene	U		0.118	1.00	1	07/17/2022 12:48	WG1896375
Bromochloromethane	U	J4	0.128	1.00	1	07/17/2022 12:48	WG1896375
Bromodichloromethane	U		0.136	1.00	1	07/17/2022 12:48	WG1896375
Bromoform	U		0.129	1.00	1	07/17/2022 12:48	WG1896375
Bromomethane	U		0.605	5.00	1	07/17/2022 12:48	WG1896375
n-Butylbenzene	U		0.157	1.00	1	07/17/2022 12:48	WG1896375
sec-Butylbenzene	U		0.125	1.00	1	07/17/2022 12:48	WG1896375
tert-Butylbenzene	U		0.127	1.00	1	07/17/2022 12:48	WG1896375
Carbon disulfide	U		0.0962	1.00	1	07/17/2022 12:48	WG1896375
Carbon tetrachloride	U		0.128	1.00	1	07/17/2022 12:48	WG1896375
Chlorobenzene	U		0.116	1.00	1	07/17/2022 12:48	WG1896375
Chlorodibromomethane	U		0.140	1.00	1	07/17/2022 12:48	WG1896375
Chloroethane	U		0.192	5.00	1	07/17/2022 12:48	WG1896375
Chloroform	U		0.111	5.00	1	07/17/2022 12:48	WG1896375
Chloromethane	U		0.960	2.50	1	07/17/2022 12:48	WG1896375
2-Chlorotoluene	U		0.106	1.00	1	07/17/2022 12:48	WG1896375
4-Chlorotoluene	U		0.114	1.00	1	07/17/2022 12:48	WG1896375
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	07/17/2022 12:48	WG1896375
Dibromomethane	U		0.122	1.00	1	07/17/2022 12:48	WG1896375
1,2-Dichlorobenzene	U		0.107	1.00	1	07/17/2022 12:48	WG1896375
1,3-Dichlorobenzene	U		0.110	1.00	1	07/17/2022 12:48	WG1896375
1,4-Dichlorobenzene	U		0.120	1.00	1	07/17/2022 12:48	WG1896375
Dichlorodifluoromethane	U		0.374	5.00	1	07/17/2022 12:48	WG1896375
1,1-Dichloroethane	U		0.100	1.00	1	07/17/2022 12:48	WG1896375
1,2-Dichloroethane	U		0.0819	1.00	1	07/17/2022 12:48	WG1896375
1,1-Dichloroethene	U		0.188	1.00	1	07/17/2022 12:48	WG1896375
cis-1,2-Dichloroethene	U		0.126	1.00	1	07/17/2022 12:48	WG1896375
trans-1,2-Dichloroethene	U		0.149	1.00	1	07/17/2022 12:48	WG1896375
1,2-Dichloropropane	U		0.149	1.00	1	07/17/2022 12:48	WG1896375
1,1-Dichloropropene	U		0.142	1.00	1	07/17/2022 12:48	WG1896375
1,3-Dichloropropane	U		0.110	1.00	1	07/17/2022 12:48	WG1896375
cis-1,3-Dichloropropene	U		0.111	1.00	1	07/17/2022 12:48	WG1896375
trans-1,3-Dichloropropene	U		0.118	1.00	1	07/17/2022 12:48	WG1896375
2,2-Dichloropropane	U		0.161	1.00	1	07/17/2022 12:48	WG1896375
Di-isopropyl ether	U		0.105	1.00	1	07/17/2022 12:48	WG1896375
Ethylbenzene	U		0.137	1.00	1	07/17/2022 12:48	WG1896375
Hexachloro-1,3-butadiene	U		0.337	1.00	1	07/17/2022 12:48	WG1896375
Isopropylbenzene	U		0.105	1.00	1	07/17/2022 12:48	WG1896375
p-Isopropyltoluene	U		0.120	1.00	1	07/17/2022 12:48	WG1896375
2-Butanone (MEK)	U		1.19	10.0	1	07/17/2022 12:48	WG1896375
Methylene Chloride	U		0.430	5.00	1	07/17/2022 12:48	WG1896375
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	07/17/2022 12:48	WG1896375
Methyl tert-butyl ether	U		0.101	1.00	1	07/17/2022 12:48	WG1896375

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Naphthalene	U		1.00	5.00	1	07/17/2022 12:48	WG1896375
n-Propylbenzene	U		0.0993	1.00	1	07/17/2022 12:48	WG1896375
Styrene	U		0.118	1.00	1	07/17/2022 12:48	WG1896375
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	07/17/2022 12:48	WG1896375
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	07/17/2022 12:48	WG1896375
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	07/17/2022 12:48	WG1896375
Tetrachloroethene	U		0.300	1.00	1	07/17/2022 12:48	WG1896375
Toluene	U		0.278	1.00	1	07/17/2022 12:48	WG1896375
1,2,3-Trichlorobenzene	U	C4	0.230	1.00	1	07/17/2022 12:48	WG1896375
1,2,4-Trichlorobenzene	U	C4	0.481	1.00	1	07/17/2022 12:48	WG1896375
1,1,1-Trichloroethane	U		0.149	1.00	1	07/17/2022 12:48	WG1896375
1,1,2-Trichloroethane	U		0.158	1.00	1	07/17/2022 12:48	WG1896375
Trichloroethene	U		0.190	1.00	1	07/17/2022 12:48	WG1896375
Trichlorofluoromethane	U		0.160	5.00	1	07/17/2022 12:48	WG1896375
1,2,4-Trimethylbenzene	U		0.322	1.00	1	07/17/2022 12:48	WG1896375
1,2,3-Trimethylbenzene	U		0.104	1.00	1	07/17/2022 12:48	WG1896375
1,3,5-Trimethylbenzene	U		0.104	1.00	1	07/17/2022 12:48	WG1896375
Vinyl chloride	U		0.234	1.00	1	07/17/2022 12:48	WG1896375
Xylenes, Total	U		0.174	3.00	1	07/17/2022 12:48	WG1896375
o-Xylene	U		0.174	1.00	1	07/17/2022 12:48	WG1896375
m&p-Xylene	U		0.430	2.00	1	07/17/2022 12:48	WG1896375
(S) Toluene-d8	*112*			*80.0-120*		*07/17/2022 12:48*	WG1896375
(S) 4-Bromofluorobenzene	*114*			*77.0-126*		*07/17/2022 12:48*	WG1896375
(S) 1,2-Dichloroethane-d4	*114*			*70.0-130*		*07/17/2022 12:48*	WG1896375

Method Blank (MB)

(MB) R3818555-2 07/19/22 05:24

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
TPHGAK C6 to C10	U		28.7	100
(S) a,a,a-Trifluorotoluene(FID)	*89.8*			*60.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3818555-1 07/19/22 04:31 • (LCSD) R3818555-5 07/19/22 10:50

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPHGAK C6 to C10	5000	5480	5280	110	106	60.0-120			3.72	20
(S) a,a,a-Trifluorotoluene(FID)				*103*	*105*	*60.0-120*				

L1514959-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1514959-02 07/19/22 08:11 • (MS) R3818555-3 07/19/22 09:31 • (MSD) R3818555-4 07/19/22 09:57

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPHGAK C6 to C10	5000	U	1170	1960	23.4	39.2	1	70.0-130	J6	J3 J6	50.5	20
(S) a,a,a-Trifluorotoluene(FID)					*92.5*	*96.7*		*50.0-150*				

Method Blank (MB)

(MB) R3817401-3 07/20/22 09:13

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
TPHGAK C6 to C10	32.2	J	28.7	100
(S) a,a,a-Trifluorotoluene(FID)	*93.7*			*60.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3817401-1 07/20/22 08:09 • (LCSD) R3817401-2 07/20/22 08:30

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPHGAK C6 to C10	5000	5230	5300	105	106	60.0-120			1.33	20
(S) a,a,a-Trifluorotoluene(FID)				*104*	*102*	*60.0-120*				

L1515010-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1515010-05 07/20/22 10:39 • (MS) R3817401-4 07/20/22 13:10 • (MSD) R3817401-5 07/20/22 13:31

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPHGAK C6 to C10	5000	85.5	5160	5260	101	103	1	70.0-130			1.92	20
(S) a,a,a-Trifluorotoluene(FID)					*87.5*	*88.1*		*50.0-150*				

Method Blank (MB)

(MB) R3818802-3 07/21/22 05:45

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
TPHGAK C6 to C10	U		28.7	100
(S) a,a,a-Trifluorotoluene(FID)	*95.9*			*60.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3818802-1 07/21/22 04:21 • (LCSD) R3818802-2 07/21/22 04:47

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPHGAK C6 to C10	5000	4690	5260	93.8	105	60.0-120			11.5	20
(S) a,a,a-Trifluorotoluene(FID)				*111*	*110*	*60.0-120*				

L1514935-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1514935-01 07/21/22 06:37 • (MS) R3818802-4 07/21/22 07:04 • (MSD) R3818802-5 07/21/22 07:30

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPHGAK C6 to C10	25000	5940	30500	30400	98.2	97.8	5	70.0-130			0.328	20
(S) a,a,a-Trifluorotoluene(FID)					*111*	*112*		*50.0-150*				

Method Blank (MB)

(MB) R3815915-2 07/17/22 13:45

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
1,2,3-Trichloropropane	U		0.00200	0.00500
1,2-Dibromoethane	U		0.00410	0.00500

Laboratory Control Sample (LCS)

(LCS) R3815915-1 07/17/22 11:52

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
1,2,3-Trichloropropane	0.0500	0.0510	102	70.0-130	
1,2-Dibromoethane	0.0500	0.0400	80.0	70.0-130	

Method Blank (MB)

(MB) R3816467-3 07/16/22 20:57

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.0941	1.00
Toluene	U		0.278	1.00
Ethylbenzene	U		0.137	1.00
Xylenes, Total	U		0.174	3.00
(S) Toluene-d8	*99.1*			*80.0-120*
(S) 4-Bromofluorobenzene	*108*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*124*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3816467-1 07/16/22 20:00 • (LCSD) R3816467-2 07/16/22 20:19

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Benzene	5.00	5.22	5.39	104	108	70.0-123			3.20	20
Toluene	5.00	4.68	5.04	93.6	101	79.0-120			7.41	20
Ethylbenzene	5.00	4.61	4.99	92.2	99.8	79.0-123			7.92	20
Xylenes, Total	15.0	14.2	15.2	94.7	101	79.0-123			6.80	20
(S) Toluene-d8				*102*	*102*	*80.0-120*				
(S) 4-Bromofluorobenzene				*106*	*103*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*124*	*121*	*70.0-130*				

L1514935-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1514935-01 07/17/22 02:20 • (MS) R3816467-4 07/17/22 03:37 • (MSD) R3816467-5 07/17/22 03:56

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Benzene	100	U	54.4	102	54.4	102	20	17.0-158		J3	60.9	27
Toluene	100	6.31	51.2	96.8	44.9	90.5	20	26.0-154		J3	61.6	28
Ethylbenzene	100	158	208	274	50.0	116	20	30.0-155		J3	27.4	27
Xylenes, Total	300	1500	1650	1880	50.0	127	20	29.0-154			13.0	28
(S) Toluene-d8					*98.6*	*99.4*		*80.0-120*				
(S) 4-Bromofluorobenzene					*103*	*104*		*77.0-126*				
(S) 1,2-Dichloroethane-d4					*123*	*123*		*70.0-130*				

Method Blank (MB)

(MB) R3816764-4 07/17/22 10:44

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acetone	U		11.3	50.0
Acrolein	U		2.54	50.0
Acrylonitrile	U		0.671	10.0
Benzene	U		0.0941	1.00
Bromobenzene	U		0.118	1.00
Bromochloromethane	U		0.128	1.00
Bromodichloromethane	U		0.136	1.00
Bromoform	U		0.129	1.00
Bromomethane	U		0.605	5.00
n-Butylbenzene	U		0.157	1.00
sec-Butylbenzene	U		0.125	1.00
tert-Butylbenzene	U		0.127	1.00
Carbon disulfide	U		0.0962	1.00
Carbon tetrachloride	U		0.128	1.00
Chlorobenzene	U		0.116	1.00
Chlorodibromomethane	U		0.140	1.00
Chloroethane	U		0.192	5.00
Chloroform	U		0.111	5.00
Chloromethane	U		0.960	2.50
2-Chlorotoluene	U		0.106	1.00
4-Chlorotoluene	U		0.114	1.00
1,2-Dibromo-3-Chloropropane	U		0.276	5.00
Dibromomethane	U		0.122	1.00
1,2-Dichlorobenzene	U		0.107	1.00
1,3-Dichlorobenzene	U		0.110	1.00
1,4-Dichlorobenzene	U		0.120	1.00
Dichlorodifluoromethane	U		0.374	5.00
1,1-Dichloroethane	U		0.100	1.00
1,2-Dichloroethane	U		0.0819	1.00
1,1-Dichloroethene	U		0.188	1.00
cis-1,2-Dichloroethene	U		0.126	1.00
trans-1,2-Dichloroethene	U		0.149	1.00
1,2-Dichloropropane	U		0.149	1.00
1,1-Dichloropropene	U		0.142	1.00
1,3-Dichloropropane	U		0.110	1.00
cis-1,3-Dichloropropene	U		0.111	1.00
trans-1,3-Dichloropropene	U		0.118	1.00
2,2-Dichloropropane	U		0.161	1.00
Di-isopropyl ether	U		0.105	1.00
Ethylbenzene	U		0.137	1.00

Method Blank (MB)

(MB) R3816764-4 07/17/22 10:44

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Hexachloro-1,3-butadiene	U		0.337	1.00
Isopropylbenzene	U		0.105	1.00
p-Isopropyltoluene	U		0.120	1.00
2-Butanone (MEK)	U		1.19	10.0
Methylene Chloride	U		0.430	5.00
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0
Methyl tert-butyl ether	U		0.101	1.00
Naphthalene	2.24	J	1.00	5.00
n-Propylbenzene	U		0.0993	1.00
Styrene	U		0.118	1.00
1,1,1,2-Tetrachloroethane	U		0.147	1.00
1,1,2,2-Tetrachloroethane	U		0.133	1.00
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00
Tetrachloroethene	U		0.300	1.00
Toluene	U		0.278	1.00
1,2,3-Trichlorobenzene	U		0.230	1.00
1,2,4-Trichlorobenzene	U		0.481	1.00
1,1,1-Trichloroethane	U		0.149	1.00
1,1,2-Trichloroethane	U		0.158	1.00
Trichloroethene	U		0.190	1.00
Trichlorofluoromethane	U		0.160	5.00
1,2,4-Trimethylbenzene	U		0.322	1.00
1,2,3-Trimethylbenzene	U		0.104	1.00
1,3,5-Trimethylbenzene	U		0.104	1.00
Vinyl chloride	U		0.234	1.00
Xylenes, Total	U		0.174	3.00
o-Xylene	U		0.174	1.00
m&p-Xylenes	U		0.430	2.00
(S) Toluene-d8	*113*			*80.0-120*
(S) 4-Bromofluorobenzene	*113*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*114*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3816764-1 07/17/22 09:21 • (LCSD) R3816764-2 07/17/22 09:42

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	25.0	27.3	25.2	109	101	19.0-160			8.00	27
Acrolein	25.0	21.1	17.0	84.4	68.0	10.0-160			21.5	26

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3816764-1 07/17/22 09:21 • (LCSD) R3816764-2 07/17/22 09:42

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acrylonitrile	25.0	27.0	25.1	108	100	55.0-149			7.29	20
Benzene	5.00	5.62	4.96	112	99.2	70.0-123			12.5	20
Bromobenzene	5.00	5.23	4.74	105	94.8	73.0-121			9.83	20
Bromochloromethane	5.00	6.17	5.69	123	114	76.0-122	J4		8.09	20
Bromodichloromethane	5.00	5.32	4.81	106	96.2	75.0-120			10.1	20
Bromoform	5.00	4.93	4.77	98.6	95.4	68.0-132			3.30	20
Bromomethane	5.00	7.51	7.33	150	147	10.0-160			2.43	25
n-Butylbenzene	5.00	4.60	4.14	92.0	82.8	73.0-125			10.5	20
sec-Butylbenzene	5.00	5.46	4.89	109	97.8	75.0-125			11.0	20
tert-Butylbenzene	5.00	5.54	5.02	111	100	76.0-124			9.85	20
Carbon disulfide	5.00	5.20	4.71	104	94.2	61.0-128			9.89	20
Carbon tetrachloride	5.00	5.90	5.33	118	107	68.0-126			10.2	20
Chlorobenzene	5.00	5.43	5.09	109	102	80.0-121			6.46	20
Chlorodibromomethane	5.00	5.24	4.90	105	98.0	77.0-125			6.71	20
Chloroethane	5.00	5.36	4.76	107	95.2	47.0-150			11.9	20
Chloroform	5.00	5.57	4.94	111	98.8	73.0-120			12.0	20
Chloromethane	5.00	5.80	5.21	116	104	41.0-142			10.7	20
2-Chlorotoluene	5.00	5.52	5.06	110	101	76.0-123			8.70	20
4-Chlorotoluene	5.00	5.41	4.89	108	97.8	75.0-122			10.1	20
1,2-Dibromo-3-Chloropropane	5.00	4.59	4.80	91.8	96.0	58.0-134			4.47	20
Dibromomethane	5.00	5.23	4.96	105	99.2	80.0-120			5.30	20
1,2-Dichlorobenzene	5.00	5.09	4.85	102	97.0	79.0-121			4.83	20
1,3-Dichlorobenzene	5.00	5.01	4.67	100	93.4	79.0-120			7.02	20
1,4-Dichlorobenzene	5.00	5.35	4.74	107	94.8	79.0-120			12.1	20
Dichlorodifluoromethane	5.00	6.50	6.02	130	120	51.0-149			7.67	20
1,1-Dichloroethane	5.00	5.54	4.91	111	98.2	70.0-126			12.1	20
1,2-Dichloroethane	5.00	5.45	5.03	109	101	70.0-128			8.02	20
1,1-Dichloroethene	5.00	5.85	5.09	117	102	71.0-124			13.9	20
cis-1,2-Dichloroethene	5.00	5.65	5.20	113	104	73.0-120			8.29	20
trans-1,2-Dichloroethene	5.00	5.62	5.03	112	101	73.0-120			11.1	20
1,2-Dichloropropane	5.00	5.20	4.82	104	96.4	77.0-125			7.58	20
1,1-Dichloropropene	5.00	5.88	5.25	118	105	74.0-126			11.3	20
1,3-Dichloropropane	5.00	5.32	5.03	106	101	80.0-120			5.60	20
cis-1,3-Dichloropropene	5.00	5.31	4.87	106	97.4	80.0-123			8.64	20
trans-1,3-Dichloropropene	5.00	4.93	4.62	98.6	92.4	78.0-124			6.49	20
2,2-Dichloropropane	5.00	5.10	4.30	102	86.0	58.0-130			17.0	20
Di-isopropyl ether	5.00	5.51	4.98	110	99.6	58.0-138			10.1	20
Ethylbenzene	5.00	5.41	4.91	108	98.2	79.0-123			9.69	20
Hexachloro-1,3-butadiene	5.00	5.30	5.13	106	103	54.0-138			3.26	20
Isopropylbenzene	5.00	5.55	5.10	111	102	76.0-127			8.45	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3816764-1 07/17/22 09:21 • (LCSD) R3816764-2 07/17/22 09:42

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
p-Isopropyltoluene	5.00	5.34	4.90	107	98.0	76.0-125			8.59	20
2-Butanone (MEK)	25.0	26.1	24.2	104	96.8	44.0-160			7.55	20
Methylene Chloride	5.00	4.91	4.56	98.2	91.2	67.0-120			7.39	20
4-Methyl-2-pentanone (MIBK)	25.0	26.1	24.1	104	96.4	68.0-142			7.97	20
Methyl tert-butyl ether	5.00	5.30	5.10	106	102	68.0-125			3.85	20
Naphthalene	5.00	5.48	5.95	110	119	54.0-135			8.22	20
n-Propylbenzene	5.00	5.30	4.79	106	95.8	77.0-124			10.1	20
Styrene	5.00	4.77	4.35	95.4	87.0	73.0-130			9.21	20
1,1,1,2-Tetrachloroethane	5.00	5.55	5.19	111	104	75.0-125			6.70	20
1,1,2,2-Tetrachloroethane	5.00	4.70	4.55	94.0	91.0	65.0-130			3.24	20
1,1,2-Trichlorotrifluoroethane	5.00	5.90	5.31	118	106	69.0-132			10.5	20
Tetrachloroethene	5.00	5.71	5.28	114	106	72.0-132			7.83	20
Toluene	5.00	5.49	4.99	110	99.8	79.0-120			9.54	20
1,2,3-Trichlorobenzene	5.00	4.68	4.81	93.6	96.2	50.0-138			2.74	20
1,2,4-Trichlorobenzene	5.00	4.41	4.47	88.2	89.4	57.0-137			1.35	20
1,1,1-Trichloroethane	5.00	5.78	5.20	116	104	73.0-124			10.6	20
1,1,2-Trichloroethane	5.00	5.34	5.08	107	102	80.0-120			4.99	20
Trichloroethene	5.00	6.17	5.48	123	110	78.0-124			11.8	20
Trichlorofluoromethane	5.00	5.36	4.86	107	97.2	59.0-147			9.78	20
1,2,4-Trimethylbenzene	5.00	5.63	4.99	113	99.8	76.0-121			12.1	20
1,2,3-Trimethylbenzene	5.00	5.36	4.93	107	98.6	77.0-120			8.36	20
1,3,5-Trimethylbenzene	5.00	5.54	4.93	111	98.6	76.0-122			11.7	20
Vinyl chloride	5.00	5.44	4.99	109	99.8	67.0-131			8.63	20
Xylenes, Total	15.0	16.4	14.9	109	99.3	79.0-123			9.58	20
o-Xylene	5.00	5.43	5.04	109	101	80.0-122			7.45	20
m&p-Xylenes	10.0	11.0	9.86	110	98.6	80.0-122			10.9	20
(S) Toluene-d8				*111*	*110*	*80.0-120*				
(S) 4-Bromofluorobenzene				*115*	*114*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*115*	*113*	*70.0-130*				

L1514959-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1514959-02 07/17/22 13:29 • (MS) R3816764-5 07/17/22 18:36 • (MSD) R3816764-6 07/17/22 18:56

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	25.0	U	23.7	24.5	94.8	98.0	1	10.0-160			3.32	35
Acrolein	25.0	U	20.8	21.7	83.2	86.8	1	10.0-160			4.24	39
Acrylonitrile	25.0	U	24.7	25.6	98.8	102	1	21.0-160			3.58	32
Benzene	5.00	0.916	8.65	6.82	155	118	1	17.0-158			23.7	27

L1514959-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1514959-02 07/17/22 13:29 • (MS) R3816764-5 07/17/22 18:36 • (MSD) R3816764-6 07/17/22 18:56

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Bromobenzene	5.00	U	4.92	5.10	98.4	102	1	30.0-149			3.59	28
Bromochloromethane	5.00	U	5.48	5.93	110	119	1	38.0-142			7.89	26
Bromodichloromethane	5.00	U	4.99	5.22	99.8	104	1	31.0-150			4.51	27
Bromoform	5.00	U	4.55	4.92	91.0	98.4	1	29.0-150			7.81	29
Bromomethane	5.00	U	7.04	7.70	141	154	1	10.0-160			8.96	38
n-Butylbenzene	5.00	U	4.16	4.47	83.2	89.4	1	31.0-150			7.18	30
sec-Butylbenzene	5.00	U	5.15	5.38	103	108	1	33.0-155			4.37	29
tert-Butylbenzene	5.00	U	5.14	5.37	103	107	1	34.0-153			4.38	28
Carbon disulfide	5.00	U	4.37	4.76	87.4	95.2	1	10.0-156			8.54	28
Carbon tetrachloride	5.00	U	5.58	5.95	112	119	1	23.0-159			6.42	28
Chlorobenzene	5.00	U	5.06	5.24	101	105	1	33.0-152			3.50	27
Chlorodibromomethane	5.00	U	4.74	5.04	94.8	101	1	37.0-149			6.13	27
Chloroethane	5.00	U	4.90	5.24	98.0	105	1	10.0-160			6.71	30
Chloroform	5.00	0.768	5.85	6.25	102	110	1	29.0-154			6.61	28
Chloromethane	5.00	U	12.4	12.7	248	254	1	10.0-160	J5	J5	2.39	29
2-Chlorotoluene	5.00	U	5.05	5.32	101	106	1	32.0-153			5.21	28
4-Chlorotoluene	5.00	U	5.03	5.17	101	103	1	32.0-150			2.75	28
1,2-Dibromo-3-Chloropropane	5.00	U	4.45	4.44	89.0	88.8	1	22.0-151			0.225	34
Dibromomethane	5.00	U	4.90	5.06	98.0	101	1	30.0-151			3.21	27
1,2-Dichlorobenzene	5.00	U	4.76	4.98	95.2	99.6	1	34.0-149			4.52	28
1,3-Dichlorobenzene	5.00	U	4.75	4.84	95.0	96.8	1	36.0-146			1.88	27
1,4-Dichlorobenzene	5.00	U	4.88	4.91	97.6	98.2	1	35.0-142			0.613	27
Dichlorodifluoromethane	5.00	U	7.85	8.19	157	164	1	10.0-160		J5	4.24	29
1,1-Dichloroethane	5.00	U	5.20	5.41	104	108	1	25.0-158			3.96	27
1,2-Dichloroethane	5.00	U	5.32	5.12	106	102	1	29.0-151			3.83	27
1,1-Dichloroethene	5.00	U	5.57	5.76	111	115	1	11.0-160			3.35	29
cis-1,2-Dichloroethene	5.00	U	5.00	5.63	100	113	1	10.0-160			11.9	27
trans-1,2-Dichloroethene	5.00	18.2	23.5	24.0	106	116	1	17.0-153			2.11	27
1,2-Dichloropropane	5.00	U	4.88	5.15	97.6	103	1	30.0-156			5.38	27
1,1-Dichloropropene	5.00	U	5.53	5.82	111	116	1	25.0-158			5.11	27
1,3-Dichloropropane	5.00	U	4.89	5.15	97.8	103	1	38.0-147			5.18	27
cis-1,3-Dichloropropene	5.00	U	4.75	4.97	95.0	99.4	1	34.0-149			4.53	28
trans-1,3-Dichloropropene	5.00	U	4.47	4.77	89.4	95.4	1	32.0-149			6.49	28
2,2-Dichloropropane	5.00	U	5.26	5.51	105	110	1	24.0-152			4.64	29
Di-isopropyl ether	5.00	U	5.07	5.25	101	105	1	21.0-160			3.49	28
Ethylbenzene	5.00	U	4.98	5.10	99.6	102	1	30.0-155			2.38	27
Hexachloro-1,3-butadiene	5.00	U	5.11	5.77	102	115	1	20.0-154			12.1	34
Isopropylbenzene	5.00	U	5.15	5.35	103	107	1	28.0-157			3.81	27
p-Isopropyltoluene	5.00	U	5.13	5.20	103	104	1	30.0-154			1.36	29
2-Butanone (MEK)	25.0	U	23.7	25.2	94.8	101	1	10.0-160			6.13	32

L1514959-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1514959-02 07/17/22 13:29 • (MS) R3816764-5 07/17/22 18:36 • (MSD) R3816764-6 07/17/22 18:56

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Methylene Chloride	5.00	U	4.39	4.65	87.8	93.0	1	23.0-144			5.75	28
4-Methyl-2-pentanone (MIBK)	25.0	U	24.3	25.2	97.2	101	1	29.0-160			3.64	29
Methyl tert-butyl ether	5.00	U	4.99	5.37	99.8	107	1	28.0-150			7.34	29
Naphthalene	5.00	U	4.59	5.18	91.8	104	1	12.0-156			12.1	35
n-Propylbenzene	5.00	U	5.16	5.22	103	104	1	31.0-154			1.16	28
Styrene	5.00	U	4.35	4.52	87.0	90.4	1	33.0-155			3.83	28
1,1,1,2-Tetrachloroethane	5.00	U	5.11	5.28	102	106	1	36.0-151			3.27	29
1,1,2,2-Tetrachloroethane	5.00	U	5.12	5.21	102	104	1	33.0-150			1.74	28
1,1,2-Trichlorotrifluoroethane	5.00	U	5.85	6.07	117	121	1	23.0-160			3.69	30
Tetrachloroethene	5.00	U	5.42	5.68	108	114	1	10.0-160			4.68	27
Toluene	5.00	U	4.95	5.22	99.0	104	1	26.0-154			5.31	28
1,2,3-Trichlorobenzene	5.00	U	3.89	4.43	77.8	88.6	1	17.0-150			13.0	36
1,2,4-Trichlorobenzene	5.00	U	3.43	4.40	68.6	88.0	1	24.0-150			24.8	33
1,1,1-Trichloroethane	5.00	U	5.43	5.86	109	117	1	23.0-160			7.62	28
1,1,2-Trichloroethane	5.00	U	4.88	5.14	97.6	103	1	35.0-147			5.19	27
Trichloroethene	5.00	U	5.10	5.38	102	108	1	10.0-160			5.34	25
Trichlorofluoromethane	5.00	6.65	11.9	12.3	105	113	1	17.0-160			3.31	31
1,2,4-Trimethylbenzene	5.00	U	5.50	5.27	110	105	1	26.0-154			4.27	27
1,2,3-Trimethylbenzene	5.00	U	4.92	5.07	98.4	101	1	32.0-149			3.00	28
1,3,5-Trimethylbenzene	5.00	U	5.32	5.30	106	106	1	28.0-153			0.377	27
Vinyl chloride	5.00	U	5.30	5.62	106	112	1	10.0-160			5.86	27
Xylenes, Total	15.0	U	15.3	15.8	102	105	1	29.0-154			3.22	28
o-Xylene	5.00	U	5.14	5.27	103	105	1	45.0-144			2.50	26
m&p-Xylenes	10.0	U	10.2	10.5	102	105	1	43.0-146			2.90	26
(S) Toluene-d8					*110*	*110*		*80.0-120*				
(S) 4-Bromofluorobenzene					*115*	*114*		*77.0-126*				
(S) 1,2-Dichloroethane-d4					*118*	*117*		*70.0-130*				

L1515010-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1515010-05 07/17/22 15:32 • (MS) R3816764-7 07/17/22 19:17 • (MSD) R3816764-8 07/17/22 19:37

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	25.0	U	25.0	26.3	100	105	1	10.0-160			5.07	35
Acrolein	25.0	U	19.8	22.5	79.2	90.0	1	10.0-160			12.8	39
Acrylonitrile	25.0	U	26.2	26.8	105	107	1	21.0-160			2.26	32
Benzene	5.00	3.58	7.96	8.91	87.6	107	1	17.0-158			11.3	27
Bromobenzene	5.00	U	5.32	5.31	106	106	1	30.0-149			0.188	28
Bromochloromethane	5.00	U	5.84	5.76	117	115	1	38.0-142			1.38	26

L1515010-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1515010-05 07/17/22 15:32 • (MS) R3816764-7 07/17/22 19:17 • (MSD) R3816764-8 07/17/22 19:37

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Bromodichloromethane	5.00	U	5.29	5.36	106	107	1	31.0-150			1.31	27
Bromoform	5.00	U	4.96	5.00	99.2	100	1	29.0-150			0.803	29
Bromomethane	5.00	U	7.60	7.79	152	156	1	10.0-160			2.47	38
n-Butylbenzene	5.00	U	4.64	4.66	92.8	93.2	1	31.0-150			0.430	30
sec-Butylbenzene	5.00	U	5.64	5.62	113	112	1	33.0-155			0.355	29
tert-Butylbenzene	5.00	U	5.53	5.46	111	109	1	34.0-153			1.27	28
Carbon disulfide	5.00	U	4.61	4.77	92.2	95.4	1	10.0-156			3.41	28
Carbon tetrachloride	5.00	U	5.87	6.10	117	122	1	23.0-159			3.84	28
Chlorobenzene	5.00	U	5.28	5.36	106	107	1	33.0-152			1.50	27
Chlorodibromomethane	5.00	U	5.06	5.22	101	104	1	37.0-149			3.11	27
Chloroethane	5.00	U	5.15	5.18	103	104	1	10.0-160			0.581	30
Chloroform	5.00	U	5.43	5.62	109	112	1	29.0-154			3.44	28
Chloromethane	5.00	U	6.03	6.09	121	122	1	10.0-160			0.990	29
2-Chlorotoluene	5.00	U	5.68	5.63	114	113	1	32.0-153			0.884	28
4-Chlorotoluene	5.00	U	5.61	5.26	112	105	1	32.0-150			6.44	28
1,2-Dibromo-3-Chloropropane	5.00	U	4.88	4.90	97.6	98.0	1	22.0-151			0.409	34
Dibromomethane	5.00	U	5.40	5.47	108	109	1	30.0-151			1.29	27
1,2-Dichlorobenzene	5.00	U	5.26	5.16	105	103	1	34.0-149			1.92	28
1,3-Dichlorobenzene	5.00	U	5.06	4.99	101	99.8	1	36.0-146			1.39	27
1,4-Dichlorobenzene	5.00	U	5.35	4.97	107	99.4	1	35.0-142			7.36	27
Dichlorodifluoromethane	5.00	U	8.16	8.33	163	167	1	10.0-160	J5	J5	2.06	29
1,1-Dichloroethane	5.00	U	5.41	5.62	108	112	1	25.0-158			3.81	27
1,2-Dichloroethane	5.00	U	5.52	5.52	110	110	1	29.0-151			0.000	27
1,1-Dichloroethene	5.00	U	5.60	5.78	112	116	1	11.0-160			3.16	29
cis-1,2-Dichloroethene	5.00	U	5.47	5.67	109	113	1	10.0-160			3.59	27
trans-1,2-Dichloroethene	5.00	U	5.46	5.59	109	112	1	17.0-153			2.35	27
1,2-Dichloropropane	5.00	U	5.30	5.24	106	105	1	30.0-156			1.14	27
1,1-Dichloropropene	5.00	U	5.72	5.96	114	119	1	25.0-158			4.11	27
1,3-Dichloropropane	5.00	U	5.21	5.32	104	106	1	38.0-147			2.09	27
cis-1,3-Dichloropropene	5.00	U	5.16	5.21	103	104	1	34.0-149			0.964	28
trans-1,3-Dichloropropene	5.00	U	4.71	4.87	94.2	97.4	1	32.0-149			3.34	28
2,2-Dichloropropane	5.00	U	5.47	5.65	109	113	1	24.0-152			3.24	29
Di-isopropyl ether	5.00	U	5.27	5.46	105	109	1	21.0-160			3.54	28
Ethylbenzene	5.00	1.31	6.04	6.59	94.6	106	1	30.0-155			8.71	27
Hexachloro-1,3-butadiene	5.00	U	6.01	5.69	120	114	1	20.0-154			5.47	34
Isopropylbenzene	5.00	0.671	5.74	6.01	101	107	1	28.0-157			4.60	27
p-Isopropyltoluene	5.00	U	5.48	5.58	110	112	1	30.0-154			1.81	29
2-Butanone (MEK)	25.0	U	25.3	25.9	101	104	1	10.0-160			2.34	32
Methylene Chloride	5.00	U	4.60	4.72	92.0	94.4	1	23.0-144			2.58	28
4-Methyl-2-pentanone (MIBK)	25.0	U	25.5	26.0	102	104	1	29.0-160			1.94	29

L1515010-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1515010-05 07/17/22 15:32 • (MS) R3816764-7 07/17/22 19:17 • (MSD) R3816764-8 07/17/22 19:37

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Methyl tert-butyl ether	5.00	U	5.21	5.41	104	108	1	28.0-150			3.77	29
Naphthalene	5.00	U	5.71	5.75	114	115	1	12.0-156			0.698	35
n-Propylbenzene	5.00	1.44	5.97	6.51	90.6	101	1	31.0-154			8.65	28
Styrene	5.00	U	4.59	4.99	91.8	99.8	1	33.0-155			8.35	28
1,1,1,2-Tetrachloroethane	5.00	U	5.42	5.50	108	110	1	36.0-151			1.47	29
1,1,2,2-Tetrachloroethane	5.00	U	5.38	5.33	108	107	1	33.0-150			0.934	28
1,1,2-Trichlorotrifluoroethane	5.00	U	6.27	6.17	125	123	1	23.0-160			1.61	30
Tetrachloroethene	5.00	U	5.60	5.63	112	113	1	10.0-160			0.534	27
Toluene	5.00	U	5.24	5.40	105	108	1	26.0-154			3.01	28
1,2,3-Trichlorobenzene	5.00	U	4.46	4.26	89.2	85.2	1	17.0-150			4.59	36
1,2,4-Trichlorobenzene	5.00	U	4.35	4.45	87.0	89.0	1	24.0-150			2.27	33
1,1,1-Trichloroethane	5.00	U	5.89	5.85	118	117	1	23.0-160			0.681	28
1,1,2-Trichloroethane	5.00	U	5.32	5.39	106	108	1	35.0-147			1.31	27
Trichloroethene	5.00	U	5.44	5.55	109	111	1	10.0-160			2.00	25
Trichlorofluoromethane	5.00	3.18	8.94	8.99	115	116	1	17.0-160			0.558	31
1,2,4-Trimethylbenzene	5.00	10.2	9.52	13.6	0.000	68.0	1	26.0-154	J6	J3	35.3	27
1,2,3-Trimethylbenzene	5.00	U	5.57	5.68	111	114	1	32.0-149			1.96	28
1,3,5-Trimethylbenzene	5.00	3.91	6.54	8.24	52.6	86.6	1	28.0-153			23.0	27
Vinyl chloride	5.00	U	5.72	5.94	114	119	1	10.0-160			3.77	27
Xylenes, Total	15.0	3.17	17.9	19.0	98.2	106	1	29.0-154			5.96	28
o-Xylene	5.00	0.227	5.32	5.42	102	104	1	45.0-144			1.86	26
m&p-Xylenes	10.0	2.94	12.6	13.6	96.6	107	1	43.0-146			7.63	26
(S) Toluene-d8					*109*	*109*		*80.0-120*				
(S) 4-Bromofluorobenzene					*114*	*114*		*77.0-126*				
(S) 1,2-Dichloroethane-d4					*113*	*117*		*70.0-130*				

Method Blank (MB)

(MB) R3816947-2 07/19/22 11:29

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
1,2,3-Trichloropropane	U		0.00200	0.00500
1,2-Dibromoethane	U		0.00410	0.00500

Laboratory Control Sample (LCS)

(LCS) R3816947-1 07/19/22 11:06

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
1,2,3-Trichloropropane	0.0500	0.0470	94.0	70.0-130	
1,2-Dibromoethane	0.0500	0.0410	82.0	70.0-130	

L1515010-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1515010-05 07/19/22 13:43 • (MS) R3816947-3 07/19/22 16:06 • (MSD) R3816947-4 07/19/22 16:30

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
1,2,3-Trichloropropane	0.500	U	0.430	0.500	86.0	100	10	70.0-130			15.1	20
1,2-Dibromoethane	0.500	U	0.420	0.430	84.0	86.0	10	70.0-130			2.35	20

Sample Narrative:

OS: Non-target compounds too high to run at a lower dilution.

Method Blank (MB)

(MB) R3818324-3 07/19/22 21:31

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Benzene	0.0960	J	0.0941	1.00
Ethylbenzene	U		0.137	1.00
Xylenes, Total	U		0.174	3.00
(S) Toluene-d8	*101*			*80.0-120*
(S) 4-Bromofluorobenzene	*103*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*115*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3818324-1 07/19/22 20:34 • (LCSD) R3818324-2 07/19/22 20:53

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	5.00	5.82	5.48	116	110	70.0-123			6.02	20
Ethylbenzene	5.00	5.20	4.86	104	97.2	79.0-123			6.76	20
Xylenes, Total	15.0	16.3	15.3	109	102	79.0-123			6.33	20
(S) Toluene-d8				*106*	*105*	*80.0-120*				
(S) 4-Bromofluorobenzene				*107*	*105*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*111*	*115*	*70.0-130*				

QUALITY CONTROL SUMMARY

L1515010-01,02,03,06,10

Method Blank (MB)

(MB) R3815748-1 07/15/22 17:41

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Ethylene Dibromide	U		0.00536	0.0200

L1514380-13 Original Sample (OS) • Duplicate (DUP)

(OS) L1514380-13 07/15/22 18:30 • (DUP) R3815748-3 07/15/22 18:17

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ethylene Dibromide	0.151	0.147	1.03	2.68		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3815748-4 07/15/22 20:33 • (LCSD) R3815748-5 07/15/22 23:14

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethylene Dibromide	0.250	0.321	0.333	128	133	60.0-140			3.67	20

L1514935-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1514935-01 07/15/22 18:05 • (MS) R3815748-2 07/15/22 17:53

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Ethylene Dibromide	0.102	U	0.129	126	1.02	64.0-159	

QUALITY CONTROL SUMMARY

L1515010-05,11

Method Blank (MB)

(MB) R3818038-1 07/21/22 16:54

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Ethylene Dibromide	U		0.00536	0.0200

L1514736-15 Original Sample (OS) • Duplicate (DUP)

(OS) L1514736-15 07/21/22 17:46 • (DUP) R3818038-3 07/21/22 17:34

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ethylene Dibromide	U	U	1.02	0.000		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3818038-4 07/21/22 19:48 • (LCSD) R3818038-5 07/21/22 22:25

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethylene Dibromide	0.250	0.306	0.325	122	130	60.0-140			6.02	20

L1515010-05 Original Sample (OS) • Matrix Spike (MS)

(OS) L1515010-05 07/21/22 17:22 • (MS) R3818038-2 07/21/22 17:06

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Ethylene Dibromide	0.103	U	0.101	98.1	1.03	64.0-159	

Method Blank (MB)

(MB) R3819599-1 07/26/22 06:57

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
AK102 DRO C10-C25	U		229	800
AK103 RRO C25-C36	536	J	403	800
(S) o-Terphenyl	*103*			*60.0-120*
(S) n-Triacontane d62	*125*	J1		*60.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3819599-2 07/26/22 07:18 • (LCSD) R3819599-3 07/26/22 07:38

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
AK102 DRO C10-C25	6000	6820	6850	114	114	75.0-125			0.439	20
(S) o-Terphenyl				*105*	*105*	*60.0-120*				
(S) n-Triacontane d62				*130*	*132*	*60.0-120*	J1	J1		

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3819599-4 07/26/22 07:58 • (LCSD) R3819599-5 07/26/22 08:19

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
AK103 RRO C25-C36	6000	7220	7280	120	121	60.0-120		J4	0.828	20
(S) o-Terphenyl				*110*	*112*	*60.0-120*				
(S) n-Triacontane d62				*119*	*123*	*60.0-120*		J1		

L1514918-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1514918-01 07/27/22 00:58 • (MS) R3819599-6 07/26/22 11:05 • (MSD) R3819599-7 07/26/22 11:25

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
AK102 DRO C10-C25	6000	1700	20500	25400	313	356	1	75.0-125	J5	J3 J5	21.4	20
(S) o-Terphenyl					*104*	*109*		*50.0-150*				
(S) n-Triacontane d62					*126*	*132*		*50.0-150*				

L1514918-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1514918-01 07/27/22 00:58 • (MS) R3819599-8 07/26/22 11:45 • (MSD) R3819599-9 07/26/22 12:05

Analyte	Spike Amount ug/l	Original Result	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
AK103 RRO C25-C36	6000		8170	8180	136	136	1	60.0-120	J5	J5	0.122	20
(S) o-Terphenyl					*121*	*121*		*50.0-150*				
(S) n-Triacontane d62					*123*	*128*		*50.0-150*				

Method Blank (MB)

(MB) R3819601-1 07/26/22 05:15

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
AK102 DRO C10-C25	U		229	800
AK103 RRO C25-C36	492	J	403	800
(S) o-Terphenyl	*117*			*60.0-120*
(S) n-Triacontane d62	*128*	J1		*60.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3819601-2 07/26/22 05:35 • (LCSD) R3819601-3 07/26/22 05:57

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
AK102 DRO C10-C25	6000	7390	7050	123	118	75.0-125			4.71	20
(S) o-Terphenyl				*119*	*111*	*60.0-120*				
(S) n-Triacontane d62				*141*	*132*	*60.0-120*	J1	J1		

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3819601-4 07/26/22 06:17 • (LCSD) R3819601-5 07/26/22 06:37

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
AK103 RRO C25-C36	6000	7640	7520	127	125	60.0-120	J4	J4	1.58	20
(S) o-Terphenyl				*114*	*111*	*60.0-120*				
(S) n-Triacontane d62				*151*	*118*	*60.0-120*	J1			

L1515010-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1515010-05 07/26/22 18:10 • (MS) R3819601-8 07/26/22 20:12 • (MSD) R3819601-9 07/26/22 20:32

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
AK102 DRO C10-C25	6000	2280	11300	9360	150	118	1	75.0-125	J5		18.8	20
(S) o-Terphenyl					*111*	*106*		*50.0-150*				
(S) n-Triacontane d62					*131*	*129*		*50.0-150*				

L1515010-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1515010-05 07/26/22 18:10 • (MS) R3819601-10 07/26/22 20:52 • (MSD) R3819601-13 07/26/22 21:13

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
AK103 RRO C25-C36	6000	1130	7910	8060	113	116	1	60.0-120			1.88	20
(S) o-Terphenyl					*109*	*113*		*50.0-150*				
(S) n-Triacontane d62					*115*	*119*		*50.0-150*				

L1515770-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1515770-04 07/27/22 02:19 • (MS) R3819601-11 07/27/22 02:39 • (MSD) R3819601-12 07/27/22 03:00

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
AK102 DRO C10-C25	6000	7580	14300	14300	112	112	1	75.0-125			0.000	20
(S) o-Terphenyl					*109*	*110*		*50.0-150*				
(S) n-Triacontane d62					*131*	*129*		*50.0-150*				

Method Blank (MB)

(MB) R3819600-1 07/26/22 09:40

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
AK102 DRO C10-C25	U		229	800
(S) o-Terphenyl	*74.3*			*60.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3819600-2 07/26/22 10:00 • (LCSD) R3819600-3 07/26/22 10:20

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
AK102 DRO C10-C25	6000	5240	5600	87.3	93.3	75.0-125			6.64	20
(S) o-Terphenyl				*83.8*	*89.5*	*60.0-120*				

L1514918-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1514918-01 07/27/22 00:58 • (MS) R3819600-4 07/27/22 01:18 • (MSD) R3819600-5 07/27/22 01:38

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
AK102 DRO C10-C25	6000	1700	7360	7660	94.3	89.5	1	75.0-125			3.99	20
(S) o-Terphenyl					*84.8*	*87.2*		*50.0-150*				

Method Blank (MB)

(MB) R3819602-1 07/26/22 08:39

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
AK102 DRO C10-C25	U		229	800
(S) o-Terphenyl	*88.6*			*60.0-120*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3819602-2 07/26/22 08:59 • (LCSD) R3819602-3 07/26/22 09:19

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
AK102 DRO C10-C25	6000	6050	5470	101	91.2	75.0-125			10.1	20
(S) o-Terphenyl				*98.1*	*87.4*	*60.0-120*				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
C4	The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Data is likely to show a low bias concerning the result.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Arcadis - Chevron - AK

880 H St.
Anchorage, AK 99501

Billing Information:
Attn: Acounts Payable
630 Plaza Dr Ste 600
Highlands Ranch, CO 80129

Pres Chk

Report to:
Nicole Monroe/Sydney Clark/Erika Midkiff

Email To: **environmentDM-India@arcadis.com;Sydney.Clark@arcadis.com;j**

Project Description:
211815

City/State Collected: Fairbanks, AK

Please Circle: PT MT CT ET (AKST)

Phone: **907-276-8095**

Client Project #
30064222.19.21

Lab Project #
CHEVARCAK-211815

Collected by (print):
E. Wojcik

Site/Facility ID #
410 DRIVEWAY ST,

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day X Standard

Quote #

Date Results Needed

Analysis / Container / Preservative

Chain of Custody Page 1 of 2

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MT JULIET, TN

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Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

US150
1116

Acctnum: **CHEVARCAK**
Template: **T212015**
Prelogin: **P935160**
PM: **110 - Brian Ford**
PB: **LR 6-27-22**

Shipped Via:

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	8260D BTEX 40mlAmb-HCl	8260D Full VOCs 40mlAmb-HCl	AK101 40mlAmb HCl	AK102 w/SGT 100ml Amb HCl	AK102/103 no SGT 100ml Amb HCl	EDB 8011 40mlClr-NaThio	EDB/123TCP 524LL 40mlAmb-HCl			Remarks	Sample # (lab only)
MW-7-W-20220712	Grab	GW	—	7.12.22	0800	16		X	X	X	X	X	X				01
MW-8-W-20220712		GW	—		0845	16		X	X	X	X	X	X				02
MW-9-W-20220712		GW	—		0930	16		X	X	X	X	X	X				03
MW-5-W-20220712		GW	—		1015	10	X		X	X	X		X				04
MW-3-W-20220712		GW	—		1100	48		X	X	X	X	X	X			MS/MSD	05
MW-4-W-20220712		GW	—		1145	16		X	X	X	X	X	X				06
MW-1-W-20220712		GW	—		1230	10	X		X	X	X		X				07
AR-81-W-20220712		GW	—		1315	10	X		X	X	X		X				08
AR-85-W-20220712		GW	—		1400	10	X		X	X	X		X				09
BD-1-W-20220712	↓	GW	—	↓	—	16		X	X	X	X	X	X				10

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS X FedEx __ Courier _____

Tracking # See Attached

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH TBR	If preservation required by Login: Date/Time
	7.13.22	0800			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:	
				See Attached 184	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 7/14/22 Time: 0915	Hold: / Condition: NCF / OK

Company Name/Address:
Arcadis - Chevron - AK

880 H St.
Anchorage, AK 99501

Billing Information:
Attn: Acounts Payable
630 Plaza Dr Ste 600
Highlands Ranch, CO 80129

Pres Chk

Report to:
Nicole Monroe/Sydney Clark/Erika Midkiff

Email To: **environmentDM-India@arcadis.com;Sydney.Clark@arcadis.com;j**

Project Description:
211815

City/State Collected: Fairbanks, AK

Please Circle: PT MT CT ET (AK 51)

Phone: **907-276-8095**

Client Project #
30064222.19.21

Lab Project #
CHEVARCAK-211815

Collected by (print):
E. Wyjak

Site/Facility ID #
410 DRIVEWAY ST,

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day X Standard

Quote #

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	8260D BTEX 40mlAmb-HCl	8260D Full VOCs 40mlAmb-HCl	AK101 40mlAmb HCl	AK102 w/SGT 100ml Amb HCl	AK102/103 no SGT 100ml Amb HCl	EDB 8011 40mlClr-NaThio	EDB/123TCP 524LL 40mlAmb-HCl				Remarks	Sample # (lab only)
EQB-1-W-20220712	Grab	GW	—	7.12.22	1800	16		X	X	X	X	X	X					11
Trip Blank	—	GW	—	—	—	12	~~12~~	X	X				X					12
		GW																

Chain of Custody Page 2 of 2

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1515910

Table #

Acctnum: **CHEVARCAK**
Template: **T212015**
Prelogin: **P935160**
PM: **110 - Brian Ford**
PB: CR 6-27-22

Shipped Via:

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS X FedEx __ Courier _____

Tracking # See ATTACHED

Sample Receipt Checklist
COC Seal Present/Intact: __NP Y __N
COC Signed/Accurate: Y __N
Bottles arrive intact: Y __N
Correct bottles used: Y __N
Sufficient volume sent: Y __N
If Applicable
VOA Zero Headspace: Y __N
Preservation Correct/Checked: Y __N
RAD Screen <0.5 mR/hr: Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH TBR	If preservation required by Login: Date/Time
	7.13.22	0800		12 6	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:	
			See ATTACH	184	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:	Hold: / Condition: NCF / OK
				7/14/22 0915	

L1515010

Tracking Numbers	Temperature	
59296636 ?	1.8	NO COFC
5829 6696 4560	1.5	COFC = YES

APPENDIX E

ADEC Data Review Checklist

Laboratory Data Review Checklist

Completed By:

Bhagyashree A Fulzele

Title:

Project Chemist

Date:

August 05, 2022

Consultant Firm:

ARCADIS U.S., Inc

Laboratory Name:

Pace Analytical

Laboratory Report Number:

L1379853

Laboratory Report Date:

07/28/2022

CS Site Name:

Annual 2022 Groundwater Monitoring Report

ADEC File Number:

102.38.005

Hazard Identification Number:

287

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:

Yes.

   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:

Not applicable.

2. Chain of Custody (CoC)

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

   Yes☒ No☐ N/A☐ Comments:

Yes.

   b. Correct analyses requested?

   Yes☒ No☐ N/A☐ Comments:

Yes.

3. Laboratory Sample Receipt Documentation

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

   Yes☒ No☐ N/A☐ Comments:

Yes.

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

   Yes☒ No☐ N/A☐ Comments:

Yes.

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

   Yes☒ No☐ N/A☐ Comments:

Yes.

   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:

Yes, no discrepancies.

e. Data quality or usability affected?

Comments:

Data quality/usability was not affected.

4. Case Narrative

a. Present and understandable?

Yes☒ No☐ N/A☐ Comments:

Yes.

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

Yes☒ No☐ N/A☐ Comments:

Yes.

c. Were all corrective actions documented?

Yes☒ No☐ N/A☐ Comments:

Yes.

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

Comments:

Data quality/usability was not affected.

5. Samples Results

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

Yes☒ No☐ N/A☐ Comments:

Yes.

b. All applicable holding times met?

Yes☒ No☐ N/A☐ Comments:

Yes.

c. All soils reported on a dry weight basis?

Yes☐ No☒ N/A☐ Comments:

No soil samples were submitted for analysis.

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

Yes☒ No☐ N/A☐ Comments:

Yes.

e. Data quality or usability affected?

Data quality/usability was not affected.

6. QC Samples

a. Method Blank

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

Yes☒ No☐ N/A☐ Comments:

Yes.

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

Yes☐ No☒ N/A☐ Comments:

No.

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

Comments:

Method AK101: Compound TPHGAK C6 to C10 (32.2 J ug/L) was detected below the reporting limit in method blank batch WG1897900. A blank action level was established at five times of the reported blank concentration. Compound result in sample IDs MW-3-W-20220712 and MW-1-W-20220712 was qualified as non-detect (UB) at reporting limit. Method SW846 8260D: Compound naphthalene (2.24 J ug/L) was detected below the reporting limit in method blank batch WG1896375. A blank action level was established at five times of the reported blank concentration. Compound result in sample ID BD-1-W-20220712 was qualified as non-detect (UB) at reporting limit. Compound benzene (0.096 J ug/L) was detected below the reporting limit in method blank batch WG1897690. A blank action level was established at five times of the reported blank concentration. Compound result in sample ID MW-1-W-20220712 was qualified as non-detect (UB) at reporting limit. Method AK102/103: Compound AK103 RRO C25-C36 (536 J ug/L) was detected below the reporting limit in method blank batch WG1899409. A blank action level was established at five times of the reported blank concentration. Compound result in sample IDs MW-7-W-20220712, MW-8-W-20220712, MW-9-W-20220712, MW-5-W-20220712, MW-1-W-20220712, AR-81-W-20220712 and AR-85-W-20220712 was qualified as non-detect (UB) at reporting limit and in sample ID MW-4-W-20220712 and BD-1-W-20220712 was qualified as non-detect (UB) at sample detection. Compound AK103 RRO C25-C36 (492 J ug/L) was detected below the reporting limit in method blank batch WG1899415. A blank action level was established at five times of the reported blank concentration. Compound result in sample ID MW-3-W-20220712 was qualified as non-detect (UB) at reporting limit.

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

Yes☒ No☐ N/A☐ Comments:

Yes.

v. Data quality or usability affected?

Comments:

The method blank contamination considered as minor and would result in the non-detect of the associated data. The reported data should still consider as usable.

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:

Yes.

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

Yes☐ No☒ N/A☐ Comments:

Metals/Inorganics analysis was not requested for project samples.

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:

Method SW846 8260D: LCS recovery for compound bromochloromethane was less than the control limit in preparation batch WG1896375. Compound was non-detected in any of the associated samples hence no other qualification of the data was required. Method AK102/103: LCS/LCSD recovery for compound AK103 RRO C25-C36 was greater than the control limit in preparation batches WG1899409 and WG1899415. Compound was non-detected in any of the associated samples hence no other qualification of the data was required.

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:

Yes.

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

Comments:

None of the samples were affected.

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

Yes☒ No☐ N/A☐ Comments:

Yes.

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:

The MS/MSD analysis was performed on sample ID MW-3-W-20220712 for method AK101, SW846 8260D, AK102/103 and 8011.

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

Yes☐ No☐ N/A☒ Comments:

Not applicable.

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:

Method 846 8260D: MS/MSD recovery was less than the 10% for compound 1,2,4-trimethylbenzene in sample ID MW-3-W-20220712. Compound result in associated sample was qualified as estimated (J). MS/MSD recovery was greater than the control limit for compound dichlorodifluoromethane in sample ID MW-3-W-20220712. Compound was non-detected in associated sample hence no other qualification of the data was required. Method AK102/103: MS recovery was greater than the control limit for compound AK102 DRO C10-C25 in sample ID MW-3-W-20220712. Compound was non-detected in associated sample hence no other qualification of the data was required.

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. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

Yes☐ No☒ N/A☐ Comments:

Method SW846 8260D: MS/MSD RPD exceedances were observed for compound 1,2,4-trimethylbenzene in sample ID MW-3-W-20220712. Compound result in associated sample was qualified as estimated (J).

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

Comments:

The MS/MSD recoveries exceedances were observed in sample MW-3-W-20220712 and qualified as estimated (J).

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

Yes☒ No☐ N/A☐ Comments:

Yes.

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

Comments:

The MS/MSD recoveries and RPD exceedances is considered minor and would result in the estimation of associated data.

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:

Yes.

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; all other analyses see the laboratory report pages)

Yes☒ No☐ N/A☐ Comments:

Yes.

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:

Not applicable.

iv. Data quality or usability affected?

Comments:

Data quality or usability was not affected.

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:

Trip blank sample was collected as TRIP BLANK-20220712.

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:

Yes.

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

Yes☒ No☐ N/A☐ Comments:

Yes.

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

Comments:

None of the samples were affected.

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:

Yes.

ii. Submitted blind to lab?

Yes☒ No☐ N/A☐ Comments:

Field duplicate BD-1-W-20220712 was collected from parent sample MW-4-W-20220712.

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:

Yes.

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

Comments:

Data quality or usability was not affected.

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

Yes☒ No☐ N/A☐ Comments:

Equipment blank sample was collected as EQB-1-W-20220712.

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

Yes☒ No☐ N/A☐ Comments:

Yes.

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

Comments:

None of the samples were affected.

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:

Yes.

8. Additional Laboratory Data Qualification

Method SW846 8260D: Continuing calibration for compounds 1,2,3-trichlorobenzene and 1,2,4-trichlorobenzene exhibited a low bias recovery. Compounds in the sample IDs MW-7-W-20220712, MW-8-W-20220712, MW-9-W-20220712, MW-3-W-20220712, MW-4-W-20220712, BD-1-W-20220712, EQB-1-W-20220712 and TRIP BLANK-20220712 was qualified as estimated (UJ).