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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 First Semi-Annual Groundwater Monitoring Report

Date:
June 2, 2022

Contact:
Gerald Robinson

Phone:
724.934.9507

Email:
gerald.robinson@arcadis.com

Our ref:
30063667

Dear Ms. Reams,

On behalf of Chevron Environmental Management Company (Chevron), Arcadis US, Inc. (Arcadis) has prepared the attached *2022 First Semi-Annual Groundwater Monitoring Report* for the first semi-annual groundwater sampling event of 2022 for the following facility:

Chevron Facility No.	ADEC File No.	Hazard ID	Location
97324	2100.26.008	23885	4417 Lake Otis Parkway Anchorage, Alaska

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

Sincerely,

Arcadis U.S., Inc.

Gerald A. Robinson
Project Manager

Copies:
Susan Erickson, Chevron (*electronic copy*)
Mark Engelke, Cook Inlet Marketing Group, Inc. (*electronic copy*)
Emma Giboney, Municipality of Anchorage (*electronic copy*)

ARCADIS Design & Consultancy for natural and built assets

Chevron Environmental Management Company

2022 FIRST SEMI-ANNUAL GROUNDWATER MONITORING REPORT

Former Chevron-Branded
Service Station No. 97324
4417 Lake Otis Parkway
Anchorage, Alaska
ADEC File No. 2100.26.008

June 02, 2022

2022 FIRST SEMI-ANNUAL GROUNDWATER MONITORING REPORT

Former Chevron-Branded Service Station No. 97324

4417 Lake Otis Parkway
Anchorage, Alaska

ADEC File No: 2100.26.008
HAZARD ID No: 23885

Sydney Clark, E.I.T.
Environmental Engineer

Gerald A. Robinson.
Project Manager

Prepared for:

Chevron Environmental Management Company

Prepared by:

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Our Ref.:

30063667 Date:
June 2, 2022

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SEMI-ANNUAL GROUNDWATER MONITORING REPORT
FIRST HALF 2022
June 2, 2022

Facility No:	Former Chevron-Branded Station No. 97324	Address:	4417 Lake Otis Parkway Anchorage, Alaska

Arcadis Contact Person / Phone No.:	Gerald Robinson / (724) 934-9507
Arcadis Project No.:	30063667
Primary Agency/Regulatory ID No.:	Alaska Department of Conservation (ADEC) / Rebekah Reams /ADEC File ID: 2100.26.008

WORK CONDUCTED THIS PERIOD [First Half 2022]:

1. Conducted semi-annual groundwater monitoring activities on April 4, 2022.
2. Prepared the *2022 First Semi-Annual Groundwater Monitoring Report.*

WORK PROPOSED NEXT PERIOD [Second Half 2022]:

1. Conduct semi-annual groundwater monitoring activities in the Second half of 2022
2. Conduct the soil assessment activities outlined in the *System Removal, Well Decommissioning, and Soil Assessment Work Plan* submitted to ADEC on July 14, 2021.
3. Prepare the *2022 Second Semi-Annual Groundwater Monitoring Report*.

Current Phase of Project:	Monitoring	
Frequency of Monitoring / Sampling:	Semi-annual	
Are Light Non-Aqueous Phase Liquid (LNAPL) Present On-site:	No	
Cumulative LNAPL Recovered to Date:	0.00	(gallons)
Approximate Depth to Groundwater:	15.50 to 24.58	(feet below top of casing)
Approximate Groundwater Elevation:	143.67 to 143.74	(feet relative to NAVD88)
Groundwater Flow Direction	North-Northwest (historically)	

Groundwater Gradient	Not Calculated	(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 first semi-annual groundwater sampling event of 2022 for Chevron facility 97324, located at 4417 Lake Otis Parkway in Anchorage, Alaska (site). The site location map and site plan are presented 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 First semi-annual groundwater gauging event was conducted on April 4, 2022. Monitoring wells MW-1R, MW-2R, MW-8RR, and MW-9 were gauged with an oil/water interface probe to determine depth-to-water and to ascertain if light non-aqueous phase liquid (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 First semi-annual event, monitoring wells MW-1R, MW-2R, MW-8RR, and MW-9 were 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 second semi-annual 2022 monitoring event not calculated, however historic groundwater flow at the site has been observed to the north-northwest. Current and historical groundwater gauging and analytical results are summarized in Table 1 and Table 4, respectively. A groundwater elevation map with a rose diagram of historical flow directions is presented as Figure 3.

2.3 Groundwater Sampling Methods

The second semi-annual groundwater monitoring event was conducted on April 4, 2022. Groundwater samples were collected from monitoring wells MW-1R, MW-2R, MW-8RR, and MW-9 using a low flow purge sampling method.

Sampling procedures were conducted in accordance with ADEC *Field Sampling Guidance* (ADEC, 2019). Monitoring well caps were removed to allow groundwater levels to stabilize and equilibrate before using an oil/water interface probe 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 Center for Testing & Innovation) Laboratory in Mount Juliet, Tennessee, under proper chain-of-custody procedures.

Groundwater samples collected from monitoring wells MW-1R, MW-2R, MW-8RR, and MW-9 were submitted to the analytical laboratory for the following analyses:

- Full-scan volatile organic compounds (VOCs) including benzene, toluene, ethylbenzene, total xylenes (collectively BTEX), methyl-t-butyl ether (MTBE), and naphthalene by United States Environmental Protection Agency (USEPA) Method 8260D
- Total petroleum hydrocarbons as gasoline range organics (TPH-g) by Alaska Method AK101
- Total petroleum hydrocarbons as diesel range organics (TPH-d) by Alaska Method AK102

Additionally, groundwater samples were collected from MW-2R are analyzed for polycyclic aromatic hydrocarbons (PAHs) by USEPA Method 8270E-SIM.

A groundwater duplicate sample was collected from monitoring well MW-2R. The duplicate sample was analyzed for full-scan VOCs, TPH-g, TPH-d, and PAHs. The duplicate sample was submitted blind with the sample set to Pace Analytical.

2.4 Groundwater Analytical Results

Routine analytical results for BTEX, MTBE, naphthalene, TPH-g, and TPH-d from the first semi-annual 2022 groundwater monitoring event are summarized in Table 1 and additional VOCs analyzed by USEPA Method 8260D are summarized in Table 2. Current and historic analytical data for PAHs are summarized in Table 3. Historical groundwater gauging and analytical data are summarized in Table 4. Historical additional VOCs analyzed by USEPA Method 8260D are summarized in Tables 5a, 5b, 5c and 5d.

Current analytical results for BTEX, MTBE, naphthalene, TPH-g, and TPH-d are summarized in Figure 4. Current analytical results for the solvents 1,2-dichloroethane, trichloroethene, tetrachloroethylene, cis-1,2-dichloroethene, and methylene chloride are summarized in Figure 5.

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 2020 semi-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 RPD between field duplicated (FD) were within the control limits.

The RPD between the matrix spike and matrix spike duplicate (MS/MSD) exceeded control limits for compound TPH-g in sample location MW-1R for method AK101. The compound result was qualified as estimated.

The RPD between laboratory control sample/laboratory control sample duplicate (LCS/LCSD) exceeded the control limits for several compounds in sample locations MW-2R, MW-8RR, MW-1R, MW-9, the blind duplicate (BD-1), the equipment blank (EQB-1) and the trip blank for method USEPA 8260D. The compounds 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 recovery for surrogates were within the control limits.

MS/MSD recovery exceeded control limits for compounds TPH-g for method AK101 in sample location MW-1R. The compound in the associated sample location was qualified as estimated.

Continuing calibration for compound acrolein exhibited a low bias recovery. Associated result in sample locations MW-2R, MW-8RR, MW-1R, MW-9, 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, equipment blank and method blank.

4.5 Completeness

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

4.6 Sensitivity

The concentrations of TPH-d, benzene, ethylbenzene and naphthalene exceeded the ADEC groundwater cleanup levels (GCLs) in the sample from MW-2R.

The concentration of 1,2-dichloroethane exceeded ADEC GCLs in samples from MW-1R and MW-2R.

The concentrations of trichloroethene exceeded ADEC GCLs in the sample from MW-9.

The laboratory reported detection limit for compounds trichloroethene, 1,1,2,2-tetrachloroethane, 1,1,2-trichloroethane, 1,2-dibromoethane, chloroform, trans-1,3-dichloropropene and vinyl chloride exceeded the ADEC groundwater cleanup level; however, the laboratory method detection limit is below the ADEC groundwater cleanup level. As most samples were reported as not detected for the mentioned constituents, except where mentioned above.

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 first semi-annual 2022 event indicate groundwater the groundwater table is relatively flat with no predominate flow direction. During the first semi-annual 2022 groundwater monitoring event, groundwater samples were collected for analysis from monitoring wells MW-1R, MW-2R, MW-8RR, and MW-9. Analytical results from the monitoring wells are generally consistent with historical data.

Groundwater monitoring will continue in accordance with the current semi-annual schedule. The next groundwater sampling event will be conducted in the fall of 2022.

6 REFERENCES

ADEC. *Field Sampling Guidance*. Division of Spill Prevention and Response Contaminated Sites Program. 2019.

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 1SA22
Former Chevron-Branded Service Station 97324
4417 Lake Otis Parkway
Anchorage, Alaska

Well ID	Sample Date	TOC (ft)	Datum	DTW (ft bTOC)	LNAPL Thickness (ft)	GW Elev (ft)	TPH-d (mg/L)	TPH-g (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)	Naphthalene (mg/L)
ADEC Groundwater Cleanup Levels							**1.5**	**2.2**	**0.0046**	**1.1**	**0.015**	**0.19**	**0.14**	**0.0017**
MW-1R	4/4/2022	167.56	NAVD88	23.85	0.00	143.71	<0.8	<0.1 J	<0.00100	<0.00100	<0.00100	<0.00300	<0.00100 J	***<0.00500 J***
MW-2R	4/4/2022	168.25	NAVD88	24.58	0.00	143.67	**1.61 [1.61]**	**1.22 [1.36]**	**0.00629 [0.00654]**	**0.00132 [0.00161]**	**0.0723 [0.087]**	**0.0227 [0.0294]**	**<0.00100 J [<0.00100 J]**	**0.0310 J [0.0315 J]**
MW-8RR	4/4/2022	166.43	NAVD88	22.73	0.00	143.70	<0.8	<0.1	<0.00100	<0.00100	<0.00100	<0.00300	<0.00100 J	***<0.00500 J***
MW-9	4/4/2022	159.24	NAVD88	15.50	0.00	143.74	<0.8	**0.0445 J**	<0.00100	<0.00100	<0.00100	<0.00300	<0.00100 J	***<0.00500 J***
Trip Blank	4/4/2022	--	--	--	--	--	--	<0.1	<0.00100	<0.00100	<0.00100	<0.00300	<0.00100 J	***<0.00500 J***
Equipment Blank	4/4/2022	--	--	--	--	--	<0.8	<0.1	<0.00100	<0.00100	<0.00100	<0.00300	<0.00100 J	***<0.00500 J***

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
mg/L = Milligrams per liter
GW Elev = Groundwater elevation
<0.00100 = Not detected at or above the reported detection limit (RDL)
Bold and Shaded = Value exceeds ADEC Groundwater Cleanup Level
Bold = Detected above laboratory method detection limit (MDL)
Bold and *Italicized* : Constituent considered non-detect, however Laboratory RDL is greater than the ADEC Groundwater Cleanup Level
J = The compound was positively identified; however, the associated numerical value is an estimated concentration only.

TPH-g = Total petroleum hydrocarbons, gasoline range by LUFT GC/MS according to United States Environmental Protection Agency (USEPA) Method AK101
TPH-d = Total petroleum hydrocarbons, diesel range by LUFT GC/MS according to State of Alaska Method AK102.
Samples analytes by USEPA Method 8260D:
Benzene, Toluene, Ethylbenzene and Total Xylenes (collectively BTEX)
MTBE = Methyl-tert-butyl ether
Naphthalene
LUFT = Leaking Underground Fuel Tank
GC/MS = Gas chromatography/Mass Spectrometry
ADEC = Alaska Department of Environmental Conservation
NAVD88 = North American Vertical Datum of 1988
LNAPL = Light Non-Aqueous Phase Liquid
-- = Not Measured/Not analyzed
[ ] = Blind Duplicate Sample Result

Table 2. Current Groundwater Analytical Results – Additional VOCs
Former Chevron-Branded Service Station 97324
4417 Lake Otis Parkway
Anchorage, Alaska

Constituents	ADEC Groundwater Cleanup Levels (mg/L)	Location ID	MW-1R	MW-2R	MW-8RR	MW-9	Trip Blank	Equipment Blank
		Sample Date	04/04/2022	04/04/2022	04/04/2022	04/04/2022	04/04/2022	04/04/2022
1,2-Dichloroethane	**0.0017**	mg/L	**0.00191**	**0.0064 [0.00642]**	**0.000622 J**	<0.00100	<0.00100	<0.00100
Trichloroethene (Trichloroethylene)	**0.0028**	mg/L	***<0.00100***	***<0.00100 [<0.00100]***	***<0.00100***	**0.0101**	***<0.00100***	***<0.00100***
Tetrachloroethylene	**0.041**	mg/L	0.000905 J	<0.00100 [<0.00100]	**0.00183**	**0.0373**	<0.00100	<0.00100
cis-1,2-Dichloroethene	**0.036**	mg/L	<0.00100	<0.00100 [<0.00100]	<0.00100	**0.0263**	<0.00100	<0.00100
Methylene chloride (Dichloromethane)	**0.1**	mg/L	<0.00500	<0.00500 [<0.00500]	<0.00500	<0.00500	<0.00500	<0.00500
1,1,1-Trichloroethane	**8**	mg/L	<0.00100	<0.00100 [<0.00100]	<0.00100	<0.00100	<0.00100	<0.00100
1,1,2,2-Tetrachloroethane	**0.00076**	mg/L	***<0.00100***	***<0.00100 J [<0.00100 J]***	***<0.00100 J***	***<0.00100 J***	***<0.00100 J***	***<0.00100 J***
1,1,2-Trichloroethane	**0.00041**	mg/L	***<0.00100***	***<0.00100 [<0.00100]***	***<0.00100***	***<0.00100***	***<0.00100***	***<0.00100***
1,1,2-Trichlorotrifluoroethane (Freon 113)	**10**	mg/L	<0.00100	<0.00100 [<0.00100]	<0.00100	<0.00100	<0.00100	<0.00100
1,1-Dichloroethane	**0.028**	mg/L	<0.00100	<0.00100 [<0.00100]	<0.00100	<0.00100	<0.00100	<0.00100
1,1-Dichloroethene (Dichloroethylene)	**0.28**	mg/L	<0.00100	<0.00100 [<0.00100]	<0.00100 J	<0.00100	<0.00100	<0.00100
1,2,3-Trichlorobenzene	**0.007**	mg/L	<0.00100 J	<0.00100 J [<0.00100 J]	<0.00100 J	<0.00100 J	<0.00100 J	<0.00100 J
1,2,4-Trichlorobenzene	**0.004**	mg/L	<0.00100 J	**0.0178 J [0.0195 J]**	<0.00100 J	<0.00100 J	<0.00100 J	<0.00100 J
1,2,4-Trimethylbenzene	**0.056**	mg/L	<0.00100 J	**0.0178 J [0.0195 J]**	<0.00100 J	<0.00100 J	<0.00100 J	<0.00100 J
1,2-Dibromoethane	**0.000075**	mg/L	<0.00000500	***<0.000125 [<0.000125]***	**0.000012**	***<0.000125***	<0.00000500	<0.00000500
1,2-Dichlorobenzene (o-Dichlorobenzene)	**0.3**	mg/L	<0.00100 J	<0.00100 J [<0.00100 J]	<0.00100 J	<0.00100 J	<0.00100 J	<0.00100 J
1,2-Dichloropropane	**0.0082**	mg/L	<0.00100	<0.00100 [<0.00100]	<0.00100	<0.00100	<0.00100	<0.00100
1,3-Dichlorobenzene	**0.0047**	mg/L	<0.00100 J	<0.00100 J [<0.00100 J]	<0.00100 J	<0.00100 J	<0.00100 J	<0.00100 J
1,4-Dichlorobenzene	**0.0048**	mg/L	<0.00100 J	<0.00100 J [<0.00100 J]	<0.00100 J	<0.00100 J	<0.00100 J	<0.00100 J
2-Butanone (Methyl ethyl ketone)	**--**	mg/L	<0.0100 J	<0.0100 J [<0.0100 J]	<0.0100 J	<0.0100 J	<0.0100 J	<0.0100 J
4-Methyl-2-pentanone	**6.3**	mg/L	<0.0100 J	<0.0100 J [<0.0100 J]	<0.0100 J	<0.0100 J	<0.0100 J	<0.0100 J
Acetone	**14**	mg/L	<0.0500 J	<0.0500 J [<0.0500 J]	<0.0500 J	<0.0500 J	<0.0500 J	<0.0500 J
Bromochloromethane	**--**	mg/L	<0.00100	<0.00100 [<0.00100]	<0.00100	<0.00100	<0.00100	<0.00100
Bromodichloromethane	**0.0013**	mg/L	<0.00100	<0.00100 [<0.00100]	<0.00100	<0.00100	<0.00100	<0.00100
Bromoform	**0.033**	mg/L	<0.00100 J	<0.00100 J [<0.00100 J]	<0.00100 J	<0.00100 J	<0.00100 J	<0.00100 J
Bromomethane (Methyl bromide)	**0.0075**	mg/L	<0.00500	<0.00500 [<0.00500]	<0.00500	<0.00500	<0.00500	<0.00500
Carbon Disulfide	**0.81**	mg/L	<0.00100	<0.00100 [<0.00100]	<0.00100	<0.00100	<0.00100	<0.00100
Carbon Tetrachloride	**0.0046**	mg/L	<0.00100	<0.00100 [<0.00100]	<0.00100	<0.00100	<0.00100	<0.00100
Chlorobenzene	**0.078**	mg/L	<0.00100	<0.00100 [<0.00100]	<0.00100	<0.00100	<0.00100	<0.00100
Chloroethane	**--**	mg/L	<0.00500	<0.00500 [<0.00500]	<0.00500	<0.00500	<0.00500	<0.00500
Chloroform	**0.0022**	mg/L	***<0.00500***	***<0.00500 [<0.00500]***	***<0.00500***	***<0.00500***	***<0.00500***	***<0.00500***
Chloromethane (Methyl chloride)	**0.19**	mg/L	<0.00250	<0.00250 [<0.00250]	<0.00250	<0.00250	<0.00250	<0.00250
cis-1,3-Dichloropropene	**0.0047**	mg/L	<0.00100	<0.00100 [<0.00100]	<0.00100	<0.00100	<0.00100	<0.00100
Dibromochloromethane	**0.0087**	mg/L	<0.00100	<0.00100 [<0.00100]	<0.00100	<0.00100	<0.00100	<0.00100
Dichlorodifluoromethane (Freon 12)	**0.2**	mg/L	<0.00500	<0.00500 [<0.00500]	<0.00500	<0.00500	<0.00500	<0.00500
Isopropylbenzene	**--**	mg/L	<0.00100	**0.0377 [0.0435]**	<0.00100	<0.00100	<0.00100	<0.00100
Styrene	**1.2**	mg/L	<0.00100	<0.00100 [<0.00100]	<0.00100	<0.00100	<0.00100	<0.00100
trans-1,2-Dichloroethene	**0.36**	mg/L	<0.00100	<0.00100 [<0.00100]	<0.00100	<0.00100	<0.00100	<0.00100
trans-1,3-Dichloropropene	**0.0047**	mg/L	***<0.00100***	***<0.00100 [<0.00100]***	***<0.00100***	***<0.00100***	***<0.00100***	***<0.00100***
Trichlorofluoromethane (Freon 11)	**5.2**	mg/L	<0.00500	<0.00500 [<0.00500]	<0.00500	<0.00500	<0.00500	<0.00500
Vinyl chloride (Chloroethene)	**0.00019**	mg/L	***<0.00100***	***<0.00100 [<0.00100]***	***<0.00100***	***<0.00100***	***<0.00100***	***<0.00100***

Notes:
ID = Identification
MW = Groundwater monitoring well
mg/L = Milligrams per liter
<0.00500 = Not detected at or above the Reported Detection Limit
Bold and Shaded = Value exceeds ADEC Groundwater Cleanup Level
Bold = Value exceeds Method Detection Limit (MDL)
Bold and *Italicized* : Constituent considered non-detect, however Laboratory RDL is greater than the ADEC Groundwater Cleanup Level
[ ] = Blind Duplicate Result
J = Results are greater than the method detection limit and less than the reporting limit and considered estimated value
Constituents analyzed by United States Environmental Protection Agency Method 8260D

Table 3. Current and Historical Groundwater Analytical Results - PAHs
Former Chevron-Branded Service Station 97324
4417 Lake Otis Parkway
Anchorage, Alaska

Well ID	Sample Date	1-Methynaphthalene µg/L	2-Methnaphthalene µg/L	Acenaphthene µg/L	Acenaphthylene µg/L	Anthracene µg/L	Benzo(a)anthracene µg/L	Benzo(a)pyrene µg/L	Benzo(b)fluoranthene µg/L	Benzo(g,h,i)perylene µg/L	Benzo(k)fluoranthene µg/L	Chrysene µg/L	Dibenz(a,h) anthracene µg/L	Fluoranthene µg/L	Fluorene µg/L	Indeno(1,2,3-cd)pyrene µg/L	Naphthalene µg/L	Phenanthrene µg/L	Pyrene µg/L
ADEC Groundwater Cleanup Levels		**11**	**36**	**530**	**260**	**43**	**0.3**	**0.25**	**2.5**	**0.26**	**0.8**	**2**	**0.25**	**260**	**290**	**0.19**	**1.7**	**170**	**120**
MW-2R	9/11/2019	**0.17**	**0.058 J**	<0.11	<0.0503	<0.11	<0.053	<0.11	<0.053	<0.053	<0.053	<0.11	<0.11	<0.21	<0.11	<0.053	**1.8**	<0.11	<0.11
MW-2R	4/22/2020	**0.360 J**	<0.0510	<0.0510	<0.0510	<0.0510	<0.0510	<0.0510	<0.0510	<0.0510	<0.255	<0.0510	<0.0510	<0.0510	<0.0510	<0.0510	**0.256 J**	<0.0510	<0.0510
MW-2R	10/9/2020	**12.0 [11.4]**	**0.922 [0.893]**	**0.0792 [0.0753]**	<0.0500 [<0.0500]	<0.0500 [<0.0500]	<0.0500 [<0.0500]	<0.0500 **[0.0260 J]**	<0.0500 **[0.0413 J]**	<0.0500 **[0.0245 J]**	<0.250 [<0.250]	<0.0500 **[0.0305 J]**	<0.0500 [<0.0500]	<0.0500 **[0.0909]**	<0.0500 **[0.0190 J]**	<0.0500 **[0.0184 J]**	**0.0273 [0.0261]**	<0.0500 **[0.0839]**	<0.0500 **[0.0668]**
MW-2R	8/26/2021	**0.0117 [0.011]**	**0.0074 [0.00679]**	**0.0000726 [0.0000692]**	<0.0000515 [<0.0000510]	<0.0000515 [<0.0000510]	<0.0000515 B [<0.0000510]	**0.0000381 J** [<0.0000510]	**0.0000402 J** [<0.0000510]	**0.0000425 J** [<0.0000510]	**0.0000347 J** [<0.000255]	**0.0000315 J** [<0.0000510]	**0.0000384 J** [<0.0000510]	<0.0000515 B [<0.0000510]	**0.0000228 J** [<0.0000510]	**0.0000380 J** [<0.0000510]	**0.036 [0.0349]**	**0.0000243 J** [<0.0000510]	<0.0000515 B [<0.0000510]
MW-2R	04/04/2022	**0.00811 [0.00959]**	--	**0.0000560 J [0.0000643]**	<0.0000625 [<0.0000625]	<0.0000625 [<0.0000625]	<0.0000625 [<0.0000625]	<0.0000625 [<0.0000625]	<0.0000625 [<0.0000625]	<0.0000625 [<0.0000625]	<0.000313 [<0.000313]	<0.0000625 [<0.0000625]	<0.0000625 [<0.0000625]	**0.0000223 J** [<0.0000625]	<0.0000625 [<0.0000625]	<0.0000625 [<0.0000625]	**0.0191 [0.0222]**	<0.0000625 [<0.0000625]	<0.0000625 [<0.0000625]
Equipment Blank	10/9/2020	**0.0208 J**	<0.500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.250	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	<0.500	<0.0500	<0.0500
Equipment Blank	04/04/2022	<0.000625	--	<0.0000625	<0.0000625	<0.0000625	<0.0000625	<0.0000625	<0.0000625	<0.0000625	<0.000313	<0.0000625	<0.0000625	<0.0000625	<0.0000625	<0.0000625	<0.000625	<0.0000625	<0.0000625

Notes:
PAHs = Polycyclic Aromatic Hydrocarbons by United States Environmental Protection Agency Method EPA 8270E-SIM.
ADEC = Alaska Department of Environmental Conservation
µg/L = micrograms per liter
<0.000500 = 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
J = The compound was positively identified; however, the associated numerical value is an estimated concentration only
The laboratory for this site was changed from Eurofins Calscience to Pace Analytical prior to the second quarter 2020 groundwater monitoring event.

Table 4. Historical Groundwater Gauging and Analytical Results
First Quarter 1992 to Current
Former Chevron-Branded Service Station 97324
4417 Lake Otis Parkway
Anchorage, Alaska

Well ID	Sample Date	TOC (ft amsl)	DTW (ft bTOC)	LNAPL Thickness (ft)	GW Elev (ft amsl)	TPH-d (mg/L)	TPH-g (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)	Naphthalene (mg/L)	Comments
ADEC Groundwater Cleanup Levels						**1.5**	**2.2**	**0.0046**	**1.1**	**0.015**	**0.19**	**0.14**	**0.0017**	
														Sample date accurate to month and year only
MW-1	2/1/1992	--	--	--	--	**--**	**--**	**0.25**	**0.2**	**5.1**	**0.14**	**--**	**--**	Sample date accurate to month and year only
MW-1	5/1/1992	99.13	23.38	--	75.75	**--**	**--**	**0.19**	**0.18**	**0.4**	**0.13**	**--**	**--**	Sample date accurate to month and year only
MW-1	9/1/1992	99.13	23.56	--	75.57	**--**	**--**	**0.23**	**0.2**	**3.3**	**0.1**	**--**	**--**	Sample date accurate to month and year only
MW-1	11/1/1992	99.13	23.55	--	75.58	**--**	**--**	**0.23**	**0.27**	**0.3**	**0.11**	**--**	**--**	Sample date accurate to month and year only
MW-1	5/1/1993	99.13	23.87	--	75.26	**--**	**--**	**2.0**	**33.0**	**4.4**	**15.0**	**--**	**--**	Sample date accurate to month and year only
MW-1	8/1/1993	99.13	23.84	--	75.29	**--**	**--**	**17.0**	**40.0**	**4.5**	**16.0**	**--**	**--**	Sample date accurate to month and year only
MW-1	11/1/1993	99.13	23.83	--	75.30	**--**	**--**	**2.4**	**6.6**	**8.4**	**31.0**	**--**	**--**	Sample date accurate to month and year only
MW-1	3/1/1994	99.13	23.68	--	75.45	**--**	**--**	**10.0**	**35.0**	**4.2**	**14.0**	**--**	**--**	Sample date accurate to month and year only
MW-1	6/1/1994	99.13	23.6	--	75.53	**--**	**--**	**11.0**	**47.0**	**4.8**	**17.0**	**--**	**--**	Sample date accurate to month and year only
MW-1	8/1/1994	99.13	24.09	--	75.04	**--**	**--**	**11.0**	**34.0**	**4.7**	**18.0**	**--**	**--**	Sample date accurate to month and year only
MW-1	12/22/1994	99.13	23.83	--	75.30	**--**	**--**	**13.0**	**31.0**	**3.6**	**11.0**	**--**	**--**	
MW-1	3/31/1995	99.13	23.72	--	75.41	**--**	**--**	**11.0**	**22.0**	**4.2**	**12.0**	**--**	**--**	
MW-1	6/20/1995	99.13	23.39	--	75.74	**--**	**--**	**7.9**	**20.0**	**3.1**	**9.4**	**--**	**--**	
MW-1	8/23/1995	99.13	23.67	--	75.46	**--**	**--**	**8.4**	**22.0**	**3.2**	**11.0**	**--**	**--**	
MW-1	11/16/1995	99.13	23.68	--	75.45	**--**	**--**	**7.2**	**17.0**	**3.0**	**9.3**	**--**	**--**	
MW-1	1/30/1996	99.13	23.92	--	75.21	**--**	**--**	**10.0 / 11.0**	**26.0 / 26.0**	**3.9 / 3.8**	**12.0 / 11.0**	**--**	**--**	
MW-1	6/2/1996	99.13	23.62	--	75.51	**--**	**--**	**8.91**	**24.4**	**3.59**	**12.8**	**--**	**--**	
MW-1	8/26/1996	99.13	24.06	--	75.07	**--**	**--**	**8.75**	**29.3**	**3.49**	**14.0**	**--**	**--**	
MW-1	10/16/1996	99.13	24.59	--	74.54	**--**	**--**	**9.34**	**30.2**	**4.02**	**15.1**	**--**	**--**	
MW-1	4/28/1997	99.13	23.96	--	75.17	**--**	**--**	**8.2**	**21.9**	**3.98**	**16.9**	**--**	**--**	
MW-1	9/10/1997	99.13	23.31	--	75.82	**--**	**--**	**4.43 / 4.38**	**18.7 / 17.6**	**2.84 / 2.82**	**11.2 / 10.8**	**--**	**--**	
MW-1	4/19/1998	99.13	22.9	--	76.23	**--**	**--**	**3.86**	**17.3**	**3.44**	**12.9**	**--**	**--**	
MW-1	9/23/1998	99.13	23.19	--	75.94	**--**	**--**	**2.92 / 3.06**	**9.96 / 10.5**	**2.29 / 2.46**	**7.0 / 7.49**	**--**	**--**	
MW-1	4/28/1999	99.13	23.68	--	75.45	**--**	**--**	**1.22 / 1.24**	**4.86 / 4.86**	**1.96 / 1.96**	**5.96 / 5.89**	<0.5 / <0.5	**--**	
MW-1	5/5/2001	99.13	24.38	--	74.75	**--**	**--**	**0.576**	**4.92**	**1.83**	**7.1**	<0.5 / 0.005	**--**	
MW-1	8/2/2001	99.13	23.81	--	75.32	**0.123**	**71.3**	**3.41**	**8.37**	**3.32**	**8.79**	**--**	**--**	Sample date defaulted to first date listed in historical data table
MW-1	10/2/2001	99.13	24.12	--	75.01	**--**	**--**	**0.19**	**17.6 / 18.5**	**3.92**	**17.3 / 17.5**	**51.9 /** <0.005	**--**	
MW-1	5/1/2002	161.02	24.14	--	136.88	**--**	**--**	**0.355**	**5.66**	**4.24**	**20.4**	**42.8 /** <0.005	**--**	
MW-1	9/20/2002	161.02	24	--	137.02	**--**	**--**	**0.231**	**2.28**	**1.4**	**5.09**	<0.05 / <0.002	**--**	
MW-1	5/20/2003	161.02	24.47	--	136.55	**--**	**--**	**0.91**	**4.3**	**2.6**	**8.4**	**0.003**	**--**	
MW-1	10/2/2003	161.02	24.25	--	136.77	**--**	**--**	**0.56**	**4.7**	**2.3**	**8.2**	<0.005	**--**	
MW-1	5/1/2004	--	--	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Destroyed May 2004
MW-1R	9/24/2006	160.69	23.2	--	137.49	**8.3**	**49.0**	**0.14**	**0.46**	**2.1**	**13.1**	**--**	**--**	
MW-1R	5/14/2007	160.69	23.68	--	137.01	**4.0**	**42.0**	**0.5**	**1.4**	**2.3**	**8.6**	<0.001	**--**	
MW-1R	9/21/2007	160.69	23.61	--	137.08	**4.9**	**30.0**	**0.2**	**0.94**	**1.5**	**6.4**	**--**	**--**	
MW-1R	5/1/2008	160.69	23.77	--	136.92	**3.92**	**53.2**	**0.43**	**3.88**	**3.46**	**14.4**	**--**	**--**	
MW-1R	7/15/2008	160.69	23.59	--	137.10	**5.50**	**65.0**	**0.32**	**5.20**	**2.40**	**11.90**	**--**	**--**	
MW-1R	5/14/2009	160.69	23.69	--	137.00	**3.8 / 3.9**	**50 / 47**	**0.14 / 0.13**	**1.7 / 1.9**	**2.5 / 2.6**	**12.5 / 11.3**	**--**	**--**	
MW-1R	8/26/2009	160.69	23.93	--	136.76	**4.9 J / 4.4 J**	**53 / 51**	**0.23 / 0.23**	**3.9 / 3.8**	**2.7 / 2.7**	**11.7/11.7**	**--**	**--**	
MW-1R	6/15/2010	160.69	23.66	--	137.03	**4.6 J / 4.5 J**	**43 / 38**	**0.13 J / 0.083 J**	**1.9 J / 1.2 J**	**2.2 / 2.4**	**9.7 / 11.8**	**--**	**--**	
MW-1R	9/5/2010	160.69	23.66	--	137.03	**5.6 / 5.4**	**48 / 47**	**0.070 / 0.068**	**1.2 / 1.1**	**2.7 / 2.1**	**12.3 / 10.3**	**--**	**--**	
MW-1R	5/24/2011	160.69	24.08	--	136.61	**2.2**	**6.1**	**0.066**	**0.005**	**0.49**	**0.71**	**--**	**--**	
MW-1R	11/10/2011	160.69	23.92	--	136.77	**2.4 / 2.6**	**0.83 J / 0.80 J**	<0.0005 / <0.0005	<0.0005 / <0.0005	**0.004 J / 0.0005 J**	**0.012 J / 0.001 J**	**--**	**--**	Car parked over well
MW-1R	6/20/2012	160.69	23.35	--	137.34	**2.3 / 1.7**	**0.070 J / 0.055 J**	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0005 / <0.0005	0.0006 J / <0.0005	**--**	**--**	
MW-1R	11/5/2012	160.69	22.7	--	137.99	**0.31 J / 0.47 J**	**0.012 J / 0.019 J**	<0.0005 / <0.0005	<0.0005 / 0.0005 J	<0.0005 / <0.0005	**0.0018 J / 0.0016 J**	**--**	**--**	
MW-1R	4/30/2013	160.69	23.76	--	136.93	**1.2 / 1.1**	**5.1 / 3.7**	**0.0131 / 0.0115**	**0.0022 / 0.0021**	**0.686 / 0.668**	**0.361 / 0.336**	**--**	**--**	
MW-1R	4/30/2013	160.69	23.76	--	136.93	**0.93 / 1.4**	**5.6 / 3.4**	**0.0112 / 0.0116**	**0.0028 / 0.0018**	**0.779 J / 0.36 J**	**0.459 / 0.281**	**--**	**--**	Collected via hydrasleeve
MW-1R	11/7/2013	160.69	23.02	--	137.67	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-1R	11/8/2013	--	--	--	--	**2.6 / 2.6**	**7.9 / 8.7**	**0.021 / 0.018**	**0.0043 J / 0.0065**	**0.57 / 0.76**	**0.85 J / 1.5 J**	**--**	**--**	
MW-1R	4/28/2014	160.69	23.47	--	137.22	**1.9 / 1.7**	**8.7 / 9.8**	**0.017 / 0.017**	**0.0043 / 0.0039**	**0.86 / 0.85**	**1.5 / 1.4**	**--**	**--**	
MW-1R	4/28/2014	160.69	23.47	--	137.22	**1.7 / 1.9**	**5.2 J / 8.8 J**	**0.014 / 0.017**	**0.0042 J / 0.0033**	**0.72 / 0.98**	**1.3 / 2.0**	**--**	**--**	Collected via hydrasleeve
MW-1R	11/7/2014	160.69	23.88	--	136.81	**1.8/2.0**	**5.8/5.5**	**0.0076/0.0070**	**0.0040 J/0.0043 J**	**0.38/0.36**	**0.65/0.60**	**--**	**--**	
MW-1R	4/29/2015	160.69	24.26	--	136.43	**0.31**	**0.025 J**	<0.0005	<0.0005	**0.002**	**0.001**	**--**	**--**	
MW-1R	11/6/2015	160.69	23.42	--	137.27	**0.42**	<0.010	<0.001	<0.001	<0.001	<0.001	**--**	**--**	
MW-1R	4/21/2016	160.69	24.11	--	136.58	**0.66**	**0.039 J**	**0.003**	<0.0005	<0.0005	<0.0005	**--**	**--**	
MW-1R	11/1/2016	160.69	23.72	--	136.97	**0.27 J**	**0.015 J**	<0.0005	<0.0005	<0.0005	<0.0005	**--**	**--**	
MW-1R	5/1/2017	160.69	23.59	--	137.10	**0.085 J**	**0.013 J**	**0.0006 J**	<0.0005	<0.0005	<0.0005	**--**	**--**	
MW-1R	10/17/2017	160.69	23.49	--	137.20	**0.069 J**	<0.010	<0.0005	<0.0005	<0.0005	<0.0005	**--**	**--**	
MW-1R	4/27/2018	160.69	23.84	--	136.85	**0.24 J**	**0.017 J**	**0.0007 J**	<0.0005	<0.0005	<0.0005	<0.0005	**--**	
MW-1R	10/18/2018	160.69	23.80	--	136.89	**0.069 J**	<0.014	<0.0002	<0.0002	<0.0002	<0.0005	**-**	**--**	
MW-1R	4/9/2019	167.56	23.63[2]	0.00	143.93	<0.28 B [<0.25 B]	<0.014 [<0.014]	**0.001 [0.001]**	<0.0002 [<0.0002]	<0.0004 [<0.0004]	<0.001 [<0.001]	<0.0002 [<0.0002]	<0.001 [<0.001]	TPH-d Non detect reported to LOQ
MW-1R	9/11/2019	167.56	24.21	0.00	143.35	**0.16**	<0.100	**0.0022**	<0.00039	<0.00050	<0.00114	<0.00044	**0.000026 J*B**	TPH-d Non detect reported to LOQ
MW-1R	4/22/2020	167.56	23.73	0.00	143.83	--	--	--	--	--	--	--	--	Well obstructed by ice, could not sample
MW-1R	10/9/2020	167.56	23.86	0.00	143.70	<0.832	<0.100	<0.00100	<0.00100	<0.00100	<0.00300	<0.00100	***<0.00500***	Well obstructed by ice, could not sample

Table 4. Historical Groundwater Gauging and Analytical Results
First Quarter 1992 to Current
Former Chevron-Branded Service Station 97324
4417 Lake Otis Parkway
Anchorage, Alaska

Well ID	Sample Date	TOC (ft amsl)	DTW (ft bTOC)	LNAPL Thickness (ft)	GW Elev (ft amsl)	TPH-d (mg/L)	TPH-g (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)	Naphthalene (mg/L)	Comments
ADEC Groundwater Cleanup Levels						**1.5**	**2.2**	**0.0046**	**1.1**	**0.015**	**0.19**	**0.14**	**0.0017**	
MW-1R	8/26/2021	167.56	23.77	0.00	143.79	<0.800 B	<0.100 B	<0.00100	<0.00100	<0.00100	<0.00300	<0.00100	***<0.00500***	
MW-1R	4/4/2022	167.56	23.85	0.00	143.71	<0.8	<0.1 J	<0.00100	<0.00100	<0.00100	<0.00300	<0.00100 J	***<0.00500 J***	
														Car parked over well
MW-2R	9/24/2006	161.29	23.76	--	137.53	**4.2**	**47.0**	**0.36**	**4.3**	**2.1**	**10.7**	--	--	
MW-2R	5/14/2007	161.29	24.24	--	137.05	**2.8 / 4.90**	**28.0 / 28.0**	**0.19 / 0.18**	**0.39 / 0.35**	**1.5 / 1.5**	**6.8 / 6.5**	<0.001 / <0.001	--	
MW-2R	9/21/2007	161.29	24.28	--	137.01	**4.0**	**24.0**	**0.08**	**0.14**	**0.88**	**5.7**	--	--	
MW-2R	5/1/2008	161.29	24.38	--	136.91	**5.25 / 7.51**	**25.2 / 23.7**	**0.121 / 0.109**	<0.05 / 0.051	**1.99 / 1.92**	**6.2 / 6.6**	--	--	
MW-2R	7/15/2008	161.29	24.23	--	137.06	**6.40 / 6.40**	**18.0 / 10.0**	**0.095 / 0.095**	**0.069 / 0.079**	**1.3 / 1.3**	**5.70 / 5.20**	--	--	
MW-2R	5/14/2009	161.29	24.34	--	136.95	**5.0**	**26**	**0.059**	**0.031**	**1.3**	**4.7**	--	--	
MW-2R	8/26/2009	161.29	24.61	--	136.68	**4.1 J**	**21**	**0.077**	**0.049**	**1.1**	**4.0**	--	--	
MW-2R	6/15/2010	161.29	24.29	--	137.00	**5.4**	**8.8**	**0.026**	**0.011**	**0.32**	**1.46**	--	--	
MW-2R	9/5/2010	161.29	24.32	--	136.97	**6.0**	**7.9**	**0.017**	**0.008**	**0.67**	**3.06**	--	--	
MW-2R	5/24/2011	161.29	24.78	--	136.51	**4.8 / 4.8**	**13 / 13**	**0.031 / 0.029**	**0.015 / 0.014**	**0.76 / 0.76**	**2.6 / 2.6**	--	--	
MW-2R	11/10/2011	161.29	24.63	--	136.66	**0.85**	**0.071 J**	<0.0005	<0.0005	<0.0005	<0.0005	--	--	
MW-2R	6/20/2012	161.29	24.06	--	137.23	**1.2**	**0.030 J**	<0.0005	<0.0005	<0.0005	<0.0005	--	--	
MW-2R	11/5/2012	161.29	23.38	--	137.91	**--**	**--**	**--**	**--**	**--**	**--**	--	--	
MW-2R	11/8/2012	--	--	--	--	**0.37**	<0.010	<0.0005	<0.0005	<0.0005	<0.0005	--	--	
MW-2R	4/30/2013	161.29	24.48	--	136.81	**1.2**	**2.3**	**0.0105**	**0.0016**	**0.0406**	**0.469**	--	--	
MW-2R	4/30/2013	161.29	24.48	--	136.81	**1.3**	**1.5**	**0.0057**	**0.00096 J**	**0.0015**	**0.283**	--	--	Collected via hydrasleeve
MW-2R	11/7/2013	161.29	23.67	--	137.62	**--**	**--**	**--**	**--**	**--**	**--**	--	--	
MW-2R	11/8/2013	--	--	--	--	**1.7**	**0.49**	**0.00084 J**	<0.00023	<0.00024	**0.0047**	--	--	
MW-2R	4/28/2014	161.29	24.11	--	137.18	**1.7**	**4.5**	**0.012**	**0.0021**	**0.37**	**0.64**	--	--	
MW-2R	4/28/2014	161.29	24.11	--	137.18	**0.88**	**0.39**	**0.0018**	**0.00020 J**	**0.030**	**0.037**	--	--	Collected via hydrasleeve
MW-2R	11/7/2014	161.29	24.55	--	136.74	**1.7**	**5.1**	**0.0068**	<0.0017 J	**0.25**	**0.37**	--	--	
MW-2R	4/29/2015	161.29	24.85	--	136.44	**0.34 / 0.40**	**0.011 J / 0.013 J**	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0005 / <0.0005	--	--	
MW-2R	11/6/2015	161.29	24.12	--	137.17	**0.99 J / 0.63 J**	<0.010 / <0.010	<0.001 / <0.003	<0.001 / <0.003	<0.001 / <0.003	<0.001 / <0.003	--	--	
MW-2R	4/21/2016	161.29	24.79	--	136.50	**2.7 / 2.6**	**2.2 / 2.2**	**0.01 / 0.009 J**	0.0009 J / <0.005	**0.15 / 0.12**	**0.231 / 0.18**	--	--	
MW-2R	11/1/2016	161.29	24.45	--	136.84	**2.5 J / 2.3 J**	**2.8 J / 2.9 J**	**0.010 / 0.010**	**0.001 J / 0.001 J**	**0.14 / 0.14**	**0.272 / 0.272**	--	--	
MW-2R	5/1/2017	161.29	24.3	--	136.99	**0.87 / 0.84**	**0.82 / 0.82**	**0.006 / 0.006**	<0.0005 / <0.0005	**0.078 / 0.084**	**0.046 / 0.054**	--	--	
MW-2R	10/17/2017	161.29	24.18	--	137.11	**1.5 J/ 1.5 J**	**2.0 / 2.1**	**0.009 / 0.01**	<0.0005 /< 0.0005	**0.16 / 0.16**	**0.153 / 0.153**	--	--	
MW-2R	4/27/2018	161.29	24.55	--	136.74	**1.4 / 1.3**	**1.4 / 1.4**	**0.007 / 0.006**	**0.0006 J / 0.0005 J**	**0.14 / 0.13**	**0.12 / 0.11**	<0.0005 / <0.0005	--	
MW-2R	10/18/2018	161.29	24.53	--	136.76	**0.38 / 0.35**	<0.014 / <0.014	<0.0002 / <0.0002	<0.0002 / <0.0002	<0.0002 / <0.0002	<0.0005 / <0.0005	-	--	
MW-2R	4/9/2019	168.25	24.35[2]	0.00	143.90	**1.2**	**0.025 J**	**0.004**	<0.0002	**0.0005 J**	<0.001	<0.0002	<0.001	
MW-2R	9/11/2019	168.25	24.93	0.00	143.32	**0.67**	**0.25**	**0.005**	<0.00039	**0.016**	**0.0020 J**	<0.00044	**0.0062 *B**	
MW-2R	4/22/2020	168.25	24.46	0.00	143.79	**0.938**	**0.207**	**0.00324**	<0.00100	**0.00921**	<0.00300	<0.00100	***<0.00500***	
MW-2R	10/9/2020	168.25	24.55	0.00	143.70	**1.90 [1.89]**	**0.924 [0.867]**	**0.00905 [0.00881]**	**0.00236 [0.00232]**	**0.113 [0.107]**	**0.0793 [0.0767]**	<0.00100 [<0.00100]	**0.0222 J [0.0248 J]**	
MW-2R	8/26/2021	168.25	24.48	0.00	143.77	**2.62 [1.9]**	**3.01 [3.06]**	**0.0105 [0.0105]**	**0.0026 [0.00248]**	**0.113 [0.106]**	**0.114 [0.106]**	<0.00100 [<0.00100]	**0.0624 [0.0633]**	
MW-2R	4/4/2022	168.25	24.58	0.00	143.67	**1.61 [1.61]**	**1.22 [1.36]**	**0.00629 [0.00654]**	**0.00132 [0.00161]**	**0.0723 [0.087]**	**0.0227 [0.0294]**	**<0.00100 J [<0.00100 J]**	**0.0310 J [0.0315 J]**	
MW-3	2/1/1992	--	--	--	--	**--**	**--**	**0.006**	ND	ND	ND	--	--	Sample date accurate to month and year only
MW-3	5/1/1992	98.64	22.87	--	75.77	**--**	**--**	**0.006**	ND	ND	ND	--	--	Sample date accurate to month and year only
MW-3	9/1/1992	98.64	23.12	--	75.52	**--**	**--**	**0.21**	ND	ND	ND	--	--	Sample date accurate to month and year only
MW-3	11/1/1992	98.64	23.1	--	75.54	**--**	**--**	**0.012**	ND	ND	ND	--	--	Sample date accurate to month and year only
MW-3	5/1/1993	98.64	23.45	--	75.19	**--**	**--**	ND	ND	ND	ND	--	--	Sample date accurate to month and year only
MW-3	8/1/1993	98.64	23.35	--	75.29	**--**	**--**	ND	ND	ND	ND	--	--	Sample date accurate to month and year only
MW-3	11/1/1993	98.64	23.21	--	75.43	**--**	**--**	ND	**0.042**	ND	ND	--	--	Sample date accurate to month and year only
MW-3	3/1/1994	98.64	23.16	--	75.48	**--**	**--**	ND	ND	ND	**0.005**	--	--	Sample date accurate to month and year only
MW-3	6/1/1994	98.64	23.49	--	75.15	**--**	**--**	ND	ND	ND	ND	--	--	Sample date accurate to month and year only
MW-3	8/1/1994	98.64	23.65	--	74.99	**--**	**--**	ND	ND	ND	ND	--	--	Sample date accurate to month and year only
MW-3	12/22/1994	98.64	23.42	--	75.22	**--**	**--**	ND	ND	ND	ND	--	--	
MW-3	4/10/1995	98.64	--	--	--	**--**	**--**	ND	ND	ND	ND	--	--	
MW-3	6/20/1995	98.64	22.95	--	75.69	**--**	**--**	ND	ND	ND	ND	--	--	
MW-3	6/21/1995	98.64	--	--	--	**--**	**--**	**--**	**--**	**--**	**--**	--	--	
MW-3	8/23/1995	98.64	23.19	--	75.45	**--**	**--**	ND	ND	ND	ND	--	--	
MW-3	11/16/1995	98.64	23.23	--	75.41	**--**	**--**	ND	ND	ND	ND	--	--	
MW-3	1/30/1996	98.64	23.48	--	75.16	**--**	**--**	ND	ND	ND	ND	--	--	
MW-3	6/2/1996	98.64	23.22	--	75.42	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	--	--	
MW-3	8/26/1996	98.64	23.56	--	75.08	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	--	--	
MW-3	10/16/1996	98.64	24.05	--	74.59	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	--	--	
MW-3	4/28/1997	98.64	23.73	--	74.91	**--**	**--**	<0.0005	**0.00111**	<0.0005	**0.00169**	--	--	
MW-3	9/10/1997	98.64	22.96	--	75.68	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	--	--	
MW-3	4/19/1998	98.64	23.55	--	75.09	**--**	**--**	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.001 / <0.001	--	--	
MW-3	9/23/1998	98.64	22.9	--	75.74	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	--	--	
MW-3	4/28/1999	98.64	23.24	--	75.40	**--**	**--**	**0.00089**	<0.0005	<0.0005	<0.0005	<0.01	--	
MW-3	10/13/1999	98.64	23.22	--	75.42	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	--	
MW-3	5/19/2000	98.64	23.6	--	75.04	**--**	**--**	<0.001	<0.001	<0.001	<0.002	<0.002	--	

Table 4. Historical Groundwater Gauging and Analytical Results
First Quarter 1992 to Current
Former Chevron-Branded Service Station 97324
4417 Lake Otis Parkway
Anchorage, Alaska

Well ID	Sample Date	TOC (ft amsl)	DTW (ft bTOC)	LNAPL Thickness (ft)	GW Elev (ft amsl)	TPH-d (mg/L)	TPH-g (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)	Naphthalene (mg/L)	Comments
ADEC Groundwater Cleanup Levels						**1.5**	**2.2**	**0.0046**	**1.1**	**0.015**	**0.19**	**0.14**	**0.0017**	
MW-3	9/27/2000	98.64	23.52	--	75.12	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	<0.005	**--**	
MW-3	5/5/2001	98.64	23.88	--	74.76	**--**	**--**	**0.000656**	<0.0005	<0.0005	<0.001	<0.005	**--**	
MW-3	8/2/2001	98.64	23.36	--	75.28	**0.00136**	<0.05	<0.001	<0.001	<0.001	<0.003	**--**	**--**	Sample date defaulted to first date listed in historical data table
MW-3	10/2/2001	98.64	23.72	--	74.92	**--**	**--**	**0.0011 / 0.000854**	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.001 / <0.001	<0.001 / <0.001	**--**	
MW-3	5/1/2002	160.51	23.72	--	136.79	**--**	**--**	**0.099 / 0.286**	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.001 / <0.001	<0.001 / <0.001	**--**	
MW-3	9/20/2003	160.51	23.55	--	136.96	**--**	**--**	**0.000709**	<0.0005	<0.0005	<0.001	<0.001	**--**	
MW-3	5/20/2003	160.51	24.02	--	136.49	**--**	**--**	**0.0006 / 0.0006**	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.002 / <0.002	**--**	Sample date defaulted to first date listed in historical data table
MW-3	10/2/2003	160.51	23.84	--	136.67	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	**--**	
MW-3	5/1/2004	--	--	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Destroyed May 2004
MW-4	2/1/1992	--	--	--	--	**--**	**--**	**0.032**	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-4	5/1/1992	98.45	21.72	--	76.73	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Sample date accurate to month and year only
MW-4	9/1/1992	98.45	22.89	--	75.56	**--**	**--**	**0.005**	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-4	11/1/1992	98.45	22.85	--	75.60	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Sample date accurate to month and year only
MW-4	5/1/1993	98.45	23.18	--	75.27	**--**	**--**	ND	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-4	8/1/1993	98.45	23.17	--	75.28	**--**	**--**	ND	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-4	11/1/1993	98.45	23.02	--	75.43	**--**	**--**	ND	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-4	3/1/1994	98.45	--	--	--	**--**	**--**	ND	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-4	6/1/1994	98.45	23.24	--	75.21	**--**	**--**	ND	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-4	8/1/1994	98.45	23.43	--	75.02	**--**	**--**	ND	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-4	12/22/1994	98.45	--	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-4	3/31/1995	98.45	--	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-4	6/20/1995	98.45	22.7	--	75.75	**--**	**--**	ND	ND	ND	ND	**--**	**--**	
MW-4	8/23/1995	98.45	22.99	--	75.46	**--**	**--**	ND	ND	ND	ND	**--**	**--**	
MW-4	11/16/1995	98.45	23.02	--	75.43	**--**	**--**	ND	ND	ND	ND	**--**	**--**	
MW-4	1/30/1996	98.45	23.25	--	75.20	**--**	**--**	ND	ND	ND	ND	**--**	**--**	
MW-4	6/2/1996	98.45	22.97	--	75.48	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	**--**	**--**	
MW-4	8/26/1996	98.45	23.37	--	75.08	**--**	**--**	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.001 / <0.001	**--**	**--**	
MW-4	4/28/1997	98.45	23.52	--	74.93	**--**	**--**	<0.0005	**0.00166**	<0.0005	**0.00159**	**--**	**--**	
MW-4	9/10/1997	98.45	22.74	--	75.71	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	**--**	**--**	
MW-4	4/19/1998	98.45	23.3	--	75.15	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	**--**	**--**	
MW-4	9/23/1998	98.45	22.68	--	75.77	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	**--**	**--**	
MW-4	5/2/1999	98.45	23.1	--	75.35	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.0005	**0.626 / <0.005**	**--**	
MW-4	10/13/1999	98.45	23.02	--	75.43	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	**--**	
MW-4	5/19/2000	98.45	23.39	--	75.06	**--**	**--**	<0.001	<0.001	<0.001	<0.002	<0.002	**--**	
MW-4	9/27/2000	98.45	23.32	--	75.13	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	<0.005	**--**	
MW-4	5/5/2001	98.45	23.71	--	74.74	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	<0.005	**--**	
MW-4	8/2/2001	98.45	23.14	--	75.31	**0.00106**	<0.05	<0.001	<0.001	<0.001	<0.003	**--**	**--**	Sample date defaulted to first date listed in historical data table
MW-4	10/2/2001	98.45	23.54	--	74.91	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	<0.001	**--**	
MW-4	5/1/2002	160.3	--	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-4	9/20/2002	160.3	23.39	--	136.91	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	<0.001	**--**	
MW-4	5/20/2003	160.3	23.8	--	136.50	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	**--**	Sample date defaulted to first date listed in historical data table
MW-4	10/2/2003	160.3	23.59	--	136.71	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	**--**	
MW-4	5/1/2004	--	--	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Destroyed May 2004
MW-5	2/1/1992	--	--	--	--	**--**	**--**	**7.2**	**4.8**	**2.0**	**2.9**	**--**	**--**	Sample date accurate to month and year only
MW-5	5/1/1992	99.13	22.5	--	76.63	**--**	**--**	**2.5**	**0.14**	**0.05**	**1.8**	**--**	**--**	Sample date accurate to month and year only
MW-5	9/1/1992	99.13	23.57	--	75.56	**--**	**--**	**5.9**	**6.5**	**2.4**	**5.3**	**--**	**--**	Sample date accurate to month and year only
MW-5	11/1/1992	99.13	22.53	--	76.60	**--**	**--**	**1.3**	**0.59**	**0.48**	**1.7**	**--**	**--**	Sample date accurate to month and year only
MW-5	5/1/1993	99.13	23.86	--	75.27	**--**	**--**	**0.066**	ND	**0.032**	**0.005**	**--**	**--**	Sample date accurate to month and year only
MW-5	8/1/1993	99.13	23.85	--	75.28	**--**	**--**	**0.058**	ND	**0.005**	ND	**--**	**--**	Sample date accurate to month and year only
MW-5	11/1/1993	99.13	23.7	--	75.43	**--**	**--**	**0.006**	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-5	3/1/1994	99.13	--	--	--	**--**	**--**	ND	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-5	6/1/1994	99.13	23.89	--	75.24	**--**	**--**	ND	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-5	8/1/1994	99.13	24.14	--	74.99	**--**	**--**	ND	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-5	12/22/1994	99.13	--	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-5	3/31/1995	99.13	--	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-5	6/20/1995	99.13	23.4	--	75.73	**--**	**--**	ND	ND	ND	ND	**--**	**--**	
MW-5	8/23/1995	99.13	23.7	--	75.43	**--**	**--**	ND	ND	ND	ND	**--**	**--**	
MW-5	11/16/1995	99.13	23.71	--	75.42	**--**	**--**	ND	ND	ND	ND	**--**	**--**	
MW-5	1/30/1996	99.13	23.95	--	75.18	**--**	**--**	ND	ND	ND	ND	**--**	**--**	
MW-5	6/2/1996	99.13	23.63	--	75.50	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	**--**	**--**	
MW-5	8/26/1996	99.13	24.19	--	74.94	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	**--**	**--**	
MW-5	10/16/1996	99.13	24.66	--	74.47	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	**--**	**--**	
MW-5	4/28/1997	99.13	24.24	--	74.89	**--**	**--**	**0.000617**	**0.000756**	<0.0005	<0.001	**--**	**--**	
MW-5	9/10/1997	99.13	23.43	--	75.70	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	**--**	**--**	

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Well ID	Sample Date	TOC (ft amsl)	DTW (ft bTOC)	LNAPL Thickness (ft)	GW Elev (ft amsl)	TPH-d (mg/L)	TPH-g (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)	Naphthalene (mg/L)	Comments
ADEC Groundwater Cleanup Levels						**1.5**	**2.2**	**0.0046**	**1.1**	**0.015**	**0.19**	**0.14**	**0.0017**	
MW-5	4/19/1998	99.13	24	--	75.13	--	--	<0.0005	<0.0005	<0.0005	<0.001	--	--	
MW-5	9/23/1998	99.13	23.2	--	75.93	--	--	<0.0005	<0.0005	<0.0005	<0.001	--	--	
MW-5	4/28/1999	99.13	23.67	--	75.46	--	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.01	--	
MW-5	10/13/1999	99.13	23.72	--	75.41	--	--	<0.0005	**0.00139**	<0.0005	<0.0005	<0.005	--	
MW-5	5/19/2000	99.13	24.08	--	75.05	--	--	<0.001	<0.001	<0.001	<0.002	<0.002	--	
MW-5	9/27/2000	99.13	23.95	--	75.18	--	--	--	--	--	--	--	--	
MW-5	5/5/2001	99.13	--	--	--	--	--	--	--	--	--	--	--	
MW-5	8/2/2001	99.13	23.84	--	75.29	--	--	--	--	--	--	--	--	Sample date defaulted to first date listed in historical data table
MW-5	10/2/2001	99.13	--	--	--	--	--	--	--	--	--	--	--	
MW-5	5/1/2002	161.01	24.1	--	136.91	--	--	--	--	--	--	--	--	
MW-5	9/20/2002	161.01	24.09	--	136.92	--	--	--	--	--	--	--	--	
MW-5	5/20/2003	161.01	--	--	--	--	--	--	--	--	--	--	--	Sample date defaulted to first date listed in historical data table
MW-5	10/2/2003	161.01	24.23	--	136.78	--	--	--	--	--	--	--	--	
MW-5	5/1/2004	--	--	--	--	--	--	--	--	--	--	--	--	Destroyed May 2004
MW-6	2/1/1992	--	--	--	--	--	--	ND	ND	ND	ND	--	--	Sample date accurate to month and year only
MW-6	5/1/1992	--	--	--	--	--	--	ND	ND	ND	ND	--	--	Sample date accurate to month and year only
MW-6	9/1/1992	--	--	--	75.22	--	--	--	--	--	--	--	--	Sample date accurate to month and year only
MW-6	8/1/1993	--	--	--	-	--	--	ND	ND	ND	ND	--	--	Sample date accurate to month and year only
MW-6	11/1/1993	--	--	--	75.29	--	--	--	--	--	--	--	--	Sample date accurate to month and year only
MW-6	8/2/2001		23.98	--	--	**0.00025**	<0.05	<0.001	<0.001	<0.001	<0.003	--	--	Sample date defaulted to first date listed in historical data table
MW-6	09/21/2001	161.14	--	--	--	--	--	--	--	--	--	--	--	
MW-6	05/01/2004	--	--	--	--	--	--	--	--	--	--	--	--	Destroyed May 2004
MW-7	2/1/1992	97.82	--	--	--	--	--	**0.047**	ND	ND	ND	--	--	Sample date accurate to month and year only
MW-7	5/1/1992	97.82	22.06	--	75.76	--	--	ND	ND	ND	**0.006**	--	--	Sample date accurate to month and year only
MW-7	9/1/1992	97.82	22.36	--	75.46	--	--	ND	ND	ND	ND	--	--	Sample date accurate to month and year only
MW-7	11/1/1992	97.82	22.41	--	75.41	--	--	ND	ND	ND	ND	--	--	Sample date accurate to month and year only
MW-7	5/1/1993	97.82	22.75	--	75.07	--	--	ND	ND	ND	ND	--	--	Sample date accurate to month and year only
MW-7	8/1/1993	97.82	22.64	--	75.18	--	--	ND	ND	ND	ND	--	--	Sample date accurate to month and year only
MW-7	11/1/1993	97.82	22.49	--	75.33	--	--	ND	ND	ND	ND	--	--	Sample date accurate to month and year only
MW-7	3/1/1994	97.82	22.43	--	75.39	--	--	ND	**0.011**	ND	**0.093**	--	--	Sample date accurate to month and year only
MW-7	6/1/1994	97.82	22.79	--	75.03	--	--	ND	ND	ND	ND	--	--	Sample date accurate to month and year only
MW-7	8/1/1994	97.82	22.88	--	74.94	--	--	ND	ND	ND	ND	--	--	Sample date accurate to month and year only
MW-7	12/22/1994	97.82	22.72	--	75.10	--	--	ND	ND	ND	**0.0026**	--	--	
MW-7	3/31/1995	97.82	--	--	--	--	--	--	--	--	--	--	--	
MW-7	6/20/1995	97.82	22.27	--	75.55	--	--	ND	ND	ND	ND	--	--	
MW-7	8/23/1995	97.82	22.46	--	75.36	--	--	**0.00073**	ND	ND	**0.00073**	--	--	
MW-7	11/16/1995	97.82	22.6	--	75.22	--	--	**0.00051**	ND	ND	**0.0024**	--	--	
MW-7	1/30/1996	97.82	22.75	--	75.07	--	--	ND	ND	ND	**0.0017**	--	--	
MW-7	6/2/1996	97.82	--	--	--	--	--	--	--	--	--	--	--	
MW-7	8/26/1996	97.82	22.78	--	75.04	--	--	<0.0005	<0.0005	**0.00059**	**0.0083**	--	--	
MW-7	10/16/1996	97.82	23.44	--	74.38	--	--	<0.0005	<0.0005	**0.001**	**0.0063**	--	--	
MW-7	4/28/1997	97.82	23.08	--	74.74	--	--	--	--	--	--	--	--	
MW-7	9/10/1997	97.82	22.36	--	75.46	--	--	**0.0017**	<0.0005	<0.0005	**0.00294**	--	--	
MW-7	4/19/1998	97.82	22.9	--	74.92	--	--	<0.0005	<0.0005	<0.005	<0.002	--	--	
MW-7	9/23/1998	97.82	22.12	--	75.70	--	--	**0.000731**	<0.0005	**0.00568**	<0.0015	--	--	
MW-7	4/28/1999	97.82	22.71	--	75.11	--	--	**0.00091**	**0.00078**	**0.00197**	**0.00104**	<0.01	--	
MW-7	10/13/1999	97.82	22.64	--	75.18	--	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	--	
MW-7	5/19/2000	97.82	22.99	--	74.83	--	--	<0.001	<0.001	<0.001	<0.002	<0.002	--	
MW-7	9/27/2000	97.82	22.98	--	74.84	--	--	<0.0005	<0.0005	**0.00619**	<0.002	<0.005	--	
MW-7	5/5/2001	97.82	23.29	--	74.53	--	--	<0.0005	<0.0005	**0.0006**	<0.001	<0.005	--	
MW-7	8/2/2001	97.82	22.75	--	75.07	**0.00211**	**0.0654**	<0.001	<0.001	<0.001	<0.003	--	--	Sample date defaulted to first date listed in historical data table
MW-7	10/2/2001	97.82	23.14	--	74.68	--	--	<0.0005	<0.0005	**0.00109**	<0.001	<0.001	--	
MW-7	5/1/2002	159.86	23.09	--	136.77	--	--	<0.0005	<0.0005	<0.0005	**0.00127**	<0.001	--	
MW-7	9/20/2002	159.86	22.95	--	136.91	--	--	<0.0005	<0.0005	<0.0005	<0.001	<0.001 / 0.002	--	
MW-7	5/20/2003	159.86	23.44	--	136.42	--	--	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	--	Sample date defaulted to first date listed in historical data table
MW-7	10/2/2003	159.86	23.3	--	136.56	--	--	<0.0005	<0.0007	<0.0008	<0.0016	<0.002	--	
MW-7	5/1/2004	--	--	--	--	--	--	--	--	--	--	--	--	Destroyed May 2004
MW-8	2/1/1992	--	--	--	--	--	--	**0.16**	**0.28**	**3.4**	**0.12**	--	--	Sample date accurate to month and year only
MW-8	5/1/1992	98.09	22.24	--	75.85	--	--	**0.11**	**0.2**	**2.3**	**9.9**	--	--	Sample date accurate to month and year only
MW-8	9/1/1992	98.09	22.43	--	75.66	--	--	**0.13**	**0.26**	**2.6**	**0.11**	--	--	Sample date accurate to month and year only
MW-8	11/1/1992	98.09	22.5	--	75.59	--	--	**0.9**	**0.17**	**1.3**	**7.5**	--	--	Sample date accurate to month and year only
MW-8	5/1/1993	98.09	22.84	--	75.25	--	--	**9.3**	**23.0**	**1.8**	**8.5**	--	--	Sample date accurate to month and year only
MW-8	8/1/1993	98.09	22.8	--	75.29	--	--	**11.0**	**25.0**	**1.7**	**12.0**	--	--	Sample date accurate to month and year only

Table 4. Historical Groundwater Gauging and Analytical Results
First Quarter 1992 to Current
Former Chevron-Branded Service Station 97324
4417 Lake Otis Parkway
Anchorage, Alaska

Well ID	Sample Date	TOC (ft amsl)	DTW (ft bTOC)	LNAPL Thickness (ft)	GW Elev (ft amsl)	TPH-d (mg/L)	TPH-g (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)	Naphthalene (mg/L)	Comments
ADEC Groundwater Cleanup Levels						**1.5**	**2.2**	**0.0046**	**1.1**	**0.015**	**0.19**	**0.14**	**0.0017**	
MW-8	11/1/1993	98.09	22.54	--	75.55	**--**	**--**	**9.7**	**26.0**	**2.0**	**14.0**	**--**	**--**	Sample date accurate to month and year only
MW-8	3/1/1994	98.09	22.43	--	75.66	**--**	**--**	**6.4**	**25.0**	**1.8**	**13.0**	**--**	**--**	Sample date accurate to month and year only
MW-8	6/1/1994	98.09	22.43	--	75.66	**--**	**--**	**10.0**	**33.0**	**2.9**	**22.0**	**--**	**--**	Sample date accurate to month and year only
MW-8	8/1/1994	98.09	22.92	--	75.17	**--**	**--**	**8.4**	**39.0**	**2.7**	**19.0**	**--**	**--**	Sample date accurate to month and year only
MW-8	12/22/1994	98.09	22.74	--	75.35	**--**	**--**	**3.9**	**13.0**	**0.8**	**12.0**	**--**	**--**	
MW-8	3/31/1995	98.09	22.76	--	75.33	**--**	**--**	**4.8**	**13.0**	**1.4**	**9.6**	**--**	**--**	
MW-8	6/20/1995	98.09	22.32	--	75.77	**--**	**--**	**4.1**	**20.0**	**1.3**	**15.0**	**--**	**--**	
MW-8	8/23/1995	98.09	22.51	--	75.58	**--**	**--**	**3.6**	**21.0**	**1.9**	**20.0**	**--**	**--**	
MW-8	11/16/1995	98.09	22.59	--	75.50	**--**	**--**	**3.2**	**18.0**	**1.7**	**16.0**	**--**	**--**	
MW-8	1/30/1996	98.09	22.71	--	75.38	**--**	**--**	**3.4**	**23.0**	**2.0**	**20.0**	**--**	**--**	
MW-8	6/2/1996	98.09	22.57	--	75.52	**--**	**--**	**3.4**	**15.9**	**1.47**	**12.7**	**--**	**--**	
MW-8	8/26/1996	98.09	22.75	--	75.34	**--**	**--**	**2.43 / 2.86**	**16.8 / 18.8**	**1.44 / 1.63**	**18.4 / 20.5**	**--**	**--**	
MW-8	10/16/1996	98.09	23.42	--	74.67	**--**	**--**	**6.79**	**24.3**	**2.04**	**15.1**	**--**	**--**	
MW-8	4/28/1997	98.09	23.14	--	74.95	**--**	**--**	**4.27 / 4.54**	**9.78 / 13.9**	**1.29 / 1.37**	**8.56 / 9.29**	**--**	**--**	
MW-8	9/10/1997	98.09	22.43	--	75.66	**--**	**--**	**2.35**	**6.52**	**0.814**	**7.48**	**--**	**--**	
MW-8	4/19/1998	98.09	22.93	--	75.16	**--**	**--**	**1.14**	**6.79**	**0.571**	**12.9**	**--**	**--**	
MW-8	9/23/1998	98.09	22.36	--	75.73	**--**	**--**	**0.683**	**4.2**	**0.539**	**9.23**	**--**	**--**	
MW-8	9/21/2001	159.68	--	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-8R	9/24/2006	159.71	22.06	--	137.65	**2.3**	**22.0**	**0.075**	**1.8**	**0.72**	**4.1**	**--**	**--**	
MW-8R	5/14/2007	159.71	22.57	--	137.14	**4.1**	**49.0**	**0.16**	**4.5**	**2.1**	**10.0**	<0.001	**--**	
MW-8R	9/21/2007	159.71	22.6	--	137.11	**4.9**	**57.0**	**0.12**	**7.4**	**1.8**	**11.0**	**--**	**--**	
MW-8R	5/1/2008	159.71	22.79	--	136.92	**3.67**	**55.6**	**0.128**	**3.59**	**3.0**	**14.9**	**--**	**--**	
MW-8R	7/15/2008	159.71	22.49	--	137.22	**5.30**	**18.0**	**0.060**	**4.6**	**2.1**	**12.50**	**--**	**--**	
MW-8R	5/14/2009	159.71	22.71	--	137.00	**4.1**	**51**	**0.079**	**3.9**	**2.4**	**12.0**	**--**	**--**	
MW-8R	8/26/2009	159.71	22.9	--	136.81	**3.3 J**	**49**	**0.072**	**2.9**	**2.0**	**11.4**	**--**	**--**	
MW-8R	4/20/2010	159.71	22.89	--	136.82	**6.7 / 6.4**	**40 J / 18 J**	**0.017 J / 0.017 J**	**0.50 / 0.51**	**1.1 / 1.2**	**6.3 / 6.7**	**--**	**--**	
MW-8RR	7/26/2011	159.55	22.84	--	136.71	**6.7**	**17**	**0.15**	**2.1**	**0.49**	**3.4**	**--**	**--**	
MW-8RR	11/10/2011	159.55	22.8	--	136.75	**0.78**	**0.030 J**	<0.0005	<0.0005	<0.0005	<0.0005	**--**	**--**	
MW-8RR	6/20/2012	159.55	22.21	--	137.34	**0.56**	**0.019 J**	<0.0005	<0.0005	<0.0005	<0.0005	**--**	**--**	
MW-8RR	11/5/2012	159.55	21.57	--	137.98	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-8RR	11/8/2012	159.55	--	--	--	**0.22 J**	<0.010	<0.0005	<0.0005	<0.0005	<0.0005	**--**	**--**	
MW-8RR	4/30/2013	159.55	22.61	--	136.94	<0.56	**0.048 J**	**0.0017**	**0.0029**	**0.0016**	**0.0117**	**--**	**--**	
MW-8RR	4/30/2013	159.55	22.61	--	136.94	**0.66**	<0.10	**0.000078 J**	**0.000084 J**	<0.000081	<0.00022	**--**	**--**	Collected via hydrasleeve
MW-8RR	11/7/2013	159.55	21.9	--	137.65	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-8RR	11/8/2013	159.55	--	--	--	**0.75**	<0.050	<0.00024	<0.00023	<0.00024	<0.00072	**--**	**--**	
MW-8RR	4/28/2014	159.55	22.32	--	137.23	**0.12 J**	<0.050	<0.00015	<0.00011	**0.00035 J**	<0.00040	**--**	**--**	
MW-8RR	4/28/2014	159.55	22.32	--	137.23	**0.37**	<0.050	<0.00015	<0.00011	<0.00016	<0.00040	**--**	**--**	Collected via hydrasleeve
MW-8RR	11/7/2014	159.55	22.73	--	136.82	**0.33 J**	<0.050	<0.00015	<0.00011	<0.00016	<0.00040	**--**	**--**	
MW-8RR	4/29/2015	159.55	23.03	--	136.52	**0.22 J**	<0.010	<0.0005	<0.0005	<0.0005	<0.0005	**--**	**--**	
MW-8RR	11/6/2015	159.55	22.32	--	137.23	**0.13 J**	<0.010	<0.001	<0.001	<0.001	<0.001	**--**	**--**	
MW-8RR	4/21/2016	159.55	22.96	--	136.59	**0.31**	<0.010	<0.0005	<0.0005	<0.0005	<0.0005	**--**	**--**	
MW-8RR	11/1/2016	159.55	22.6	--	136.95	**0.37 J**	**0.013 J**	<0.0005	<0.0005	<0.0005	<0.0005	**--**	**--**	
MW-8RR	5/1/2017	159.55	22.46	--	137.09	**0.60**	**0.014 J**	<0.0005	<0.0005	<0.0005	<0.0005	**--**	**--**	
MW-8RR	10/17/2017	159.55	23.35	--	136.20	**0.24 J**	<0.010	<0.0005	<0.0005	<0.0005	<0.0005	**--**	**--**	
MW-8RR	4/27/2018	159.55	22.72	--	136.83	**0.12 J**	<0.010	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	**--**	
MW-8RR	10/18/2018	159.55	22.67	--	136.88	**0.11 J**	<0.014	<0.0002	<0.0002	**0.0002 J**	**0.0009**	-	**--**	
MW-8RR	4/9/2019	166.43	22.51[2]	0.00	143.92	<0.25 B	<0.014	<0.0002	<0.0002	<0.0004	<0.001	<0.0002	<0.001	TPH-d Non detect reported to LOQ
MW-8RR	9/11/2019	166.43	23.03	0.00	143.40	<0.1/ <0.1	**0.16/0.16**	<0.00050B /<0.00050B	<0.00039 /<0.00039	<0.00050 / <0.00050	<0.00114 /<0.00114	<0.00044 /<0.00044	**0.000023 J*B / 0.00010 J*B**	TPH-d Non detect reported to LOQ
MW-8RR	4/22/2020	166.43	22.61	0.00	143.82	<0.824 J	<0.100	<0.00100	<0.00100	<0.00100	<0.00300	<0.00100	***<0.00500***	
MW-8RR	10/9/2020	166.43	22.72	0.00	143.71	<0.808	<0.100	<0.00100	<0.00100	<0.00100	<0.00300	<0.00100	***<0.00500***	
MW-8RR	8/26/2021	166.43	22.65	0.00	143.78	<0.840 B	<0.100 B	<0.00100 J	<0.00100 J	**0.000321 J**	<0.00300 J	<0.00100	***<0.00500 B***	
MW-8RR	4/4/2022	166.43	22.73	0.00	143.70	<0.8	<0.1	<0.00100	<0.00100	<0.00100	<0.00300	<0.00100 J	***<0.00500 J***	
MW-9	2/1/1992	--	--	--	--	**--**		**0.03**	**0.059**	**0.074**	**0.027**	**--**	**--**	Sample date accurate to month and year only
MW-9	5/1/1992	90.3	14.57	--	75.73	**--**	**--**	ND	**0.003**	**0.013**	**0.002**	**--**	**--**	Sample date accurate to month and year only
MW-9	9/1/1992	90.3	14.74	--	75.56	**--**	**--**	ND	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-9	11/1/1992	90.3	14.66	--	75.64	**--**	**--**	**0.003**	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-9	5/1/1993	90.3	15.11	--	75.19	**--**	**--**	ND	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-9	8/1/1993	90.3	15.12	--	75.18	**--**	**--**	ND	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-9	11/1/1993	90.3	14.96	--	75.34	**--**	**--**	ND	**0.011**	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-9	3/1/1994	90.3	14.99	--	75.31	**--**	**--**	ND	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-9	6/1/1994	90.3	15.23	--	75.07	**--**	**--**	ND	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-9	8/1/1994	90.3	15.48	--	74.82	**--**	**--**	ND	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-9	12/22/1994	90.3	15.13	--	75.17	**--**	**--**	ND	ND	ND	ND	**--**	**--**	

Table 4. Historical Groundwater Gauging and Analytical Results
First Quarter 1992 to Current
Former Chevron-Branded Service Station 97324
4417 Lake Otis Parkway
Anchorage, Alaska

Well ID	Sample Date	TOC (ft amsl)	DTW (ft bTOC)	LNAPL Thickness (ft)	GW Elev (ft amsl)	TPH-d (mg/L)	TPH-g (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)	Naphthalene (mg/L)	Comments
ADEC Groundwater Cleanup Levels						**1.5**	**2.2**	**0.0046**	**1.1**	**0.015**	**0.19**	**0.14**	**0.0017**	
MW-9	3/31/1995	90.3	14.98	--	75.32	**--**	**--**	ND	ND	ND	ND	**--**	**--**	
MW-9	6/20/1995	90.3	14.68	--	75.62	**--**	**--**	ND	ND	ND	ND	**--**	**--**	
MW-9	8/23/1995	90.3	15.02	--	75.28	**--**	**--**	ND	**0.00067**	ND	**0.0022**	**--**	**--**	
MW-9	11/16/1995	90.3	15	--	75.30	**--**	**--**	ND	ND	ND	ND	**--**	**--**	
MW-9	1/30/1996	90.3	15.22	--	75.08	**--**	**--**	ND	ND	ND	ND	**--**	**--**	
MW-9	6/2/1996	90.3	14.93	--	75.37	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	**--**	**--**	
MW-9	8/26/1996	90.3	15.5	--	74.80	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	**--**	**--**	
MW-9	10/16/1996	90.3	15.81	--	74.49	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	**--**	**--**	
MW-9	4/28/1997	90.3	15.5	--	74.80	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	**--**	**--**	
MW-9	9/10/1997	90.3	14.76	--	75.54	**--**	**--**	<0.001	<0.001	<0.001	<0.001	**--**	**--**	
MW-9	4/19/1998	90.3	15.35	--	74.95	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	**--**	**--**	
MW-9	9/23/1998	90.3	14.39	--	75.91	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	**--**	**--**	
MW-9	4/28/1999	90.3	14.98	--	75.32	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.0005	<0.01	**--**	
MW-9	10/13/1999	90.3	15.02	--	75.28	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	**--**	
MW-9	5/19/2000	90.3	15.4	--	74.90	**--**	**--**	<0.001 / <0.001	<0.001 / <0.001	<0.001 / <0.001	<0.002 / <0.002	<0.002 / <0.002	**--**	
MW-9	9/27/2000	90.3	15.24	--	75.06	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	<0.005	**--**	
MW-9	5/5/2001	90.3	15.69	--	74.61	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	<0.005	**--**	
MW-9	8/2/2001	90.3	15.16	--	75.14	<0.001	**--**	<0.001	<0.001	<0.001	<0.003	**--**	**--**	Sample date defaulted to first date listed in historical data table
MW-9	10/2/2001	90.3	--	--	--	**--**	<0.05	**--**	**--**	**--**	**--**	**--**	**--**	
MW-9	5/1/2002	152.33	15.38	--	136.95	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	<0.001	**--**	
MW-9	9/20/2002	152.33	15.32	--	137.01	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	<0.001 / 0.002	**--**	
MW-9	5/20/2003	152.33	15.77	--	136.56	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	**--**	Sample date defaulted to first date listed in historical data table
MW-9	10/2/2003	152.33	15.54	--	136.79	**--**	**--**	<0.0005	<0.0007	<0.0008	<0.0016	<0.002	**--**	
MW-9	6/1/2004	152.33	15.11	--	137.22	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	<0.002	**--**	
MW-9	9/21/2004	152.33	15.58	--	136.75	**--**	**--**	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.001 / <0.001	<0.002 / <0.002	**--**	Sample date defaulted to first date listed in historical data table
MW-9	5/12/2005	152.33	15.26	--	137.07	**--**	**--**	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0015 / <0.0015	<0.0025 / <0.0025	**--**	
MW-9	9/19/2005	152.33	14.8	--	137.53	**--**	**--**	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.001 / <0.001	<0.0025 / <0.0025	**--**	
MW-9	5/8/2006	152.33	15.74	--	136.59	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	**--**	**--**	
MW-9	9/24/2006	152.34	14.88	--	137.46	**--**	**--**	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.001 / <0.001	**--**	**--**	
MW-9	5/14/2007	152.34	15.31	--	137.03	**--**	**--**	<0.0005	<0.0007	<0.0008	<0.0016	<0.0005	**--**	
MW-9	9/21/2007	152.34	15.23	--	137.11	**--**	**--**	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.001 / <0.001	**--**	**--**	
MW-9	5/1/2008	152.34	15.37	--	136.97	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.0015	**--**	**--**	
MW-9	7/15/2008	152.34	15.27	--	137.07	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.0001	**--**	**--**	
MW-9	5/14/2009	152.34	16.37	--	135.97	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	**--**	**--**	
MW-9	8/26/2009	152.34	15.61	--	136.73	**--**	**0.12**	<0.0005	<0.0005	<0.0005	<0.001	**--**	**--**	
MW-9	4/20/2010	152.34	15.6	--	136.74	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.0005	**--**	**--**	
MW-9	9/5/2010	152.34	15.35	--	136.99	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.0015	**--**	**--**	
MW-9	5/24/2011	152.34	15.74	--	136.60	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.0005	**--**	**--**	
MW-9	11/10/2011	152.34	15.6	--	136.74	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.0005	**--**	**--**	
MW-9	6/20/2012	152.34	15.02	--	137.32	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.0005	**--**	**--**	
MW-9	11/5/2012	152.34	14.41	--	137.93	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.0005	**--**	**--**	
MW-9	4/30/2013	152.34	15.37	--	136.97	**--**	**--**	<0.000062	<0.000077	<0.000081	<0.00022	**--**	**--**	
MW-9	4/30/2013	152.34	15.37	--	136.97	**--**	**--**	<0.000062	<0.000077	<0.000081	<0.00022	**--**	**--**	Collected via hydrasleeve
MW-9	11/7/2013	152.34	14.75	--	137.59	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-9	11/8/2013	--	--	--	--	**--**	**--**	<0.00024	<0.00023	<0.00024	<0.00072	**--**	**--**	
MW-9	4/28/2014	152.34	15.17	--	137.17	**--**	**--**	<0.00015	<0.00011	<0.00016	<0.00040	**--**	**--**	
MW-9	4/28/2014	152.34	15.17	--	137.17	**--**	**--**	<0.00015	<0.00011	<0.00016	<0.00040	**--**	**--**	Collected via hydrasleeve
MW-9	11/7/2014	152.34	15.56	--	136.78	**--**	**--**	<0.00015	<0.00011	<0.00016	<0.00040	**--**	**--**	
MW-9	4/29/2015	152.34	15.84	--	136.50	**-**	**--**	<0.0005	<0.0005	<0.0005	<0.0005	**--**	**--**	
MW-9	11/6/2015	152.34	15.16	--	137.18	**--**	**-**	<0.001	<0.001	<0.001	<0.001	**--**	**--**	
MW-9	4/21/2016	152.34	15.79	--	136.55	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.0005	**--**	**--**	
MW-9	11/1/2016	152.34	15.43	--	136.91	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.0005	**--**	**--**	
MW-9	5/1/2017	152.34	15.27	--	137.07	**--**	**--**	<0.003	<0.003	<0.003	<0.003	**--**	**--**	
MW-9	10/17/2017	152.34	15.15	--	137.19	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.0005	**--**	**--**	
MW-9	4/27/2018	152.34	15.52	--	136.82	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	**--**	
MW-9	10/18/2018	152.34	15.44	--	136.90	**--**	**--**	<0.0002	<0.0002	<0.0002	<0.0005	**-**	**--**	
MW-9	4/9/2019	159.24	15.36[2]	0.00	143.88	<0.25 B	**--**	<0.0002	<0.0002	<0.0004	<0.001	<0.0002	<0.001	TPH-d Non detect reported to LOQ
MW-9	9/11/2019	159.24	15.87	0.00	143.37	<0.1	<0.076	<0.00050B	<0.00039	<0.00050	<0.00114	<0.00044	**0.00032 J*B**	TPH-d Non detect reported to LOQ
MW-9	4/22/2020	159.24	15.39	0.00	143.85	<0.800 [<0.800]	**0.0456 J [0.0465 J]**	<0.00100 [<0.00100]	<0.00100 [<0.00100]	<0.00100 [<0.00100]	<0.00300 [<0.00300]	<0.00100 [<0.00100]	***<0.00500 [<0.00500]***	
MW-9	10/9/2020	159.24	15.54	0.00	143.70	<0.800	**0.0168 J**	<0.00100	<0.00100	<0.00100	<0.00300	<0.00100	***<0.00500***	
MW-9	8/26/2021	159.24	15.45	0.00	143.79	<0.800 B	<0.100 B	<0.00100	<0.00100	<0.00100	<0.00300	<0.00100	***<0.00500***	
MW-9	4/4/2022	159.24	15.50	0.00	143.74	<0.8	**0.0445 J**	<0.00100	<0.00100	<0.00100	<0.00300	<0.00100 J	***<0.00500 J***	
MW-10	2/1/1992	--	--	--	--	**--**		ND	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-10	9/1/1992	--	--	--	79.61	**--**	**--**	ND	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-10	8/1/1993	--	--	--	79.29	**--**	**--**	ND	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only

Table 4. Historical Groundwater Gauging and Analytical Results
First Quarter 1992 to Current
Former Chevron-Branded Service Station 97324
4417 Lake Otis Parkway
Anchorage, Alaska

Well ID	Sample Date	TOC (ft amsl)	DTW (ft bTOC)	LNAPL Thickness (ft)	GW Elev (ft amsl)	TPH-d (mg/L)	TPH-g (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)	Naphthalene (mg/L)	Comments
ADEC Groundwater Cleanup Levels						**1.5**	**2.2**	**0.0046**	**1.1**	**0.015**	**0.19**	**0.14**	**0.0017**	
MW-10	8/2/2001	--	20.64	--	--	**0.00282**	--	**0.00116**	<0.001	<0.001	<0.003	--	--	Sample date defaulted to first date listed in historical data table
MW-10	9/21/2001	160.9	--	--	--	**--**	<0.05	**--**	**--**	**--**	**--**	**--**	**--**	
MW-10	5/1/2004	--	--	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Destroyed May 2004
MW-11	2/1/1992	98.38	--	--	--	**--**		**0.08**	**ND**	**0.02**	**0.01**	**--**	**--**	Sample date accurate to month and year only
MW-11	5/1/1992	98.38	22.65	--	75.73	**--**	**--**	**1.6**	**8.7**	**1.2**	**0.20**	**--**	**--**	Sample date accurate to month and year only
MW-11	9/1/1992	98.38	22.76	--	75.62	**--**	**--**	**0.36**	**--**	**0.03**	**0.061**	**--**	**--**	Sample date accurate to month and year only
MW-11	11/1/1992	98.38	22.73	--	75.65	**--**	**--**	**1.2**	**0.074**	**0.02**	**0.004**	**--**	**--**	Sample date accurate to month and year only
MW-11	5/1/1993	98.38	23.06	--	75.32	**--**	**--**	**0.03**	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-11	8/1/1993	98.38	23.05	--	75.33	**--**	**--**	**0.042**	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-11	11/1/1993	98.38	22.87	--	75.51	**--**	**--**	**0.11**	ND	**0.11**	**0.1**	**--**	**--**	Sample date accurate to month and year only
MW-11	3/1/1994	98.38	22.82	--	75.56	**--**	**--**	ND	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-11	6/1/1994	98.38	23.09	--	75.29	**--**	**--**	**0.012**	ND	**0.011**	**0.019**	**--**	**--**	Sample date accurate to month and year only
MW-11	8/1/1994	98.38	23.32	--	75.06	**--**	**--**	ND	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-11	12/22/1994	98.38	23.02	--	75.36	**--**	**--**	ND	ND	ND	ND	**--**	**--**	
MW-11	3/31/1995	98.38	22.91	--	75.47	**--**	**--**	ND	ND	ND	ND	**--**	**--**	
MW-11	6/20/1995	98.38	22.57	--	75.81	**--**	**--**	**0.00072**	ND	ND	ND	**--**	**--**	
MW-11	8/23/1995	98.38	22.89	--	75.49	**--**	**--**	**0.0013**	ND	ND	ND	**--**	**--**	
MW-11	11/16/1995	98.38	22.88	--	75.50	**--**	**--**	**0.0016**	ND	ND	ND	**--**	**--**	
MW-11	1/30/1996	98.38	23.14	--	75.24	**--**	**--**	**0.00068**	ND	ND	ND	**--**	**--**	
MW-11	6/2/1996	98.38	22.82	--	75.56	**--**	**--**	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0005 / 0.00063	<0.001 / <0.001	**--**	**--**	
MW-11	8/26/1996	98.38	23.31	--	75.07	**--**	**--**	**0.0016**	<0.0005	<0.0005	<0.001	**--**	**--**	
MW-11	10/16/1996	98.38	23.69	--	74.69	**--**	**--**	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.001 / <0.001	**--**	**--**	
MW-11	4/28/1997	98.38	23.38	--	75.00	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	**--**	**--**	
MW-11	9/10/1997	98.38	22.62	--	75.76	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	**--**	**--**	
MW-11	4/19/1998	98.38	23.22	--	75.16	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	**--**	**--**	
MW-11	9/23/1998	98.38	22.41	--	75.97	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	**--**	**--**	
MW-11	4/28/1999	98.38	22.86	--	75.52	**--**	**--**	<0.0005	**0.00063**	<0.0005	<0.0005	<0.01	**--**	
MW-11	10/13/1999	98.38	22.93	--	75.45	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	**--**	
MW-11	5/19/2000	98.38	23.27	--	75.11	**--**	**--**	<0.001	<0.001	<0.001	<0.002	<0.002	**--**	
MW-11	9/27/2000	98.38	23.14	--	75.24	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	<0.005	**--**	
MW-11	5/5/2001	98.38	23.59	--	74.79	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	<0.005	**--**	
MW-11	8/0/2001	98.38	23.05	--	75.33	<0.001	**--**	<0.001	<0.001	<0.001	<0.003	**--**	**--**	Sample date defaulted to first date listed in historical data table
MW-11	10/2/2001	98.38	23.46	--	74.92	**--**	<0.05	<0.0005	<0.0005	<0.0005	<0.001	<0.001	**--**	
MW-11	5/1/2002	160.22	23.32	--	136.90	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	<0.001	**--**	
MW-11	9/20/2002	160.22	23.21	--	137.01	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	<0.001 / 0.002	**--**	
MW-11	5/20/2003	160.22	--	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Sample date defaulted to first date listed in historical data table
MW-11	10/02/2003	160.22	--	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-11	5/1/2004	--	--	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Destroyed May 2004
MW-12	2/1/1992	--	--	--	--	**--**		**0.0033**	ND	ND	**0.0038**	**--**	**--**	Sample date accurate to month and year only
MW-12	9/1/1992	--	--	--	77.00	**--**	**--**	ND	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-12	8/1/1993	--	--	--	76.58	**--**	**--**	ND	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-12	8/2/2001	--	22.51	--	--	**0.000252**	**--**	<0.001	<0.001	<0.001	<0.003	**--**	**--**	Sample date defaulted to first date listed in historical data table
MW-12	9/21/2001	160.78	--	--	--	**--**	<0.05	**--**	**--**	**--**	**--**	**--**	**--**	
MW-12	5/1/2004	--	--	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Destroyed May 2004
MW-14A	5/1/1992	--	--	--	75.72	**--**		ND	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-14A	9/1/1992	--	--	--	75.59	**--**	**--**	ND	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-14A	11/1/1992	--	--	--	75.64	**--**	**--**	ND	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-14A	5/1/1993	--	--	--	75.29	**--**	**--**	ND	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-14A	8/1/1993	--	--	--	75.29	**--**	**--**	ND	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-14A	11/1/1993	--	--	--	75.43	**--**	**--**	ND	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-14A	6/1/1994	--	--	--	75.23	**--**	**--**	ND	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-14A	8/1/1994	--	--	--	74.95	**--**	**--**	ND	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-14A	8/2/2001	--	23.03	--	--	**0.000321**	**--**	<0.001	<0.001	<0.001	<0.003	**--**	**--**	Sample date defaulted to first date listed in historical data table
MW-14A	9/21/2001	160.21	--	--	--	**--**	<0.05	**--**	**--**	**--**	**--**	**--**	**--**	
MW-14A	5/1/2004	--	--	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Destroyed May 2004
MW-14B	9/1/1992	--	--	--	--	**--**		ND	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-14B	8/1/1993	--	--	--	75.32	**--**	**--**	ND	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only
MW-14B	8/2/2001	--	23.11	--	--	<0.001	**--**	<0.001	<0.001	<0.001	<0.003	**--**	**--**	Sample date defaulted to first date listed in historical data table
MW-14B	09/21/2001	160.2	--	--	--	**--**	<0.05	**--**	**--**	**--**	**--**	**--**	**--**	
MW-14B	05/01/2004	--	--	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Destroyed May 2004
MW-15	9/1/1992	--	--	--	--	**--**	**--**	ND	ND	ND	ND	**--**	**--**	Sample date accurate to month and year only

Table 4. Historical Groundwater Gauging and Analytical Results
First Quarter 1992 to Current
Former Chevron-Branded Service Station 97324
4417 Lake Otis Parkway
Anchorage, Alaska

Well ID	Sample Date	TOC (ft amsl)	DTW (ft bTOC)	LNAPL Thickness (ft)	GW Elev (ft amsl)	TPH-d (mg/L)	TPH-g (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)	Naphthalene (mg/L)	Comments
ADEC Groundwater Cleanup Levels						**1.5**	**2.2**	**0.0046**	**1.1**	**0.015**	**0.19**	**0.14**	**0.0017**	
MW-15	11/1/1992	87.01	11.37	--	75.64	--	--	**0.002**	ND	ND	ND	--	--	Sample date accurate to month and year only
MW-15	5/1/1993	87.01	11.71	--	75.30	--	--	ND	ND	ND	ND	--	--	Sample date accurate to month and year only
MW-15	8/1/1993	87.01	11.71	--	75.30	--	--	ND	ND	ND	ND	--	--	Sample date accurate to month and year only
MW-15	11/1/1993	87.01	11.54	--	75.47	--	--	ND	ND	ND	ND	--	--	Sample date accurate to month and year only
MW-15	3/1/1994	87.01	11.52	--	75.49	--	--	ND	ND	ND	ND	--	--	Sample date accurate to month and year only
MW-15	6/1/1994	87.01	11.77	--	75.24	--	--	ND	ND	ND	ND	--	--	Sample date accurate to month and year only
MW-15	8/1/1994	87.01	12.02	--	74.99	--	--	ND	ND	ND	ND	--	--	
MW-15	12/22/1994	87.01	11.68	--	75.33	--	--	ND	ND	ND	ND	--	--	
MW-15	3/31/1995	87.01	11.53	--	75.48	--	--	ND	ND	ND	ND	--	--	
MW-15	6/20/1995	87.01	11.23	--	75.78	--	--	ND	ND	ND	ND	--	--	Trace NAPL
MW-15	8/23/1995	87.01	11.55	--	75.46	--	--	ND	ND	ND	ND	--	--	
MW-15	11/16/1995	87.01	11.55	--	75.46	--	--	ND	ND	ND	ND	--	--	
MW-15	1/30/1996	87.01	11.78	--	75.23	--	--	ND	ND	ND	ND	--	--	
MW-15	6/2/1996	87.01	11.48	--	75.53	--	--	<0.0005	<0.0005	<0.0005	<0.001	--	--	Insufficient recharge
MW-15	8/26/1996	87.01	12.03	--	74.98	--	--	<0.0005	<0.0005	<0.0005	<0.001	--	--	
MW-15	10/16/1996	87.01	12.5	--	74.51	--	--	<0.0005	<0.0005	<0.0005	<0.001	--	--	
MW-15	4/28/1997	87.01	12.04	--	74.97	--	--	<0.0005	**0.000527**	<0.0005	<0.001	--	--	
MW-15	9/10/1997	87.01	11.29	--	75.72	--	--	<0.002	<0.002	<0.002	<0.002	--	--	
MW-15	4/19/1998	87.01	11.9	--	75.11	--	--	<0.0005	<0.0005	<0.0005	<0.001	--	--	
MW-15	9/23/1998	87.01	11.06	--	75.95	--	--	<0.0005	<0.0005	<0.0005	<0.001	--	--	
MW-15	4/28/1999	87.01	11.52	--	75.49	--	--	<0.0005	**0.00059**	<0.0005	<0.0005	<0.01	--	
MW-15	10/13/1999	87.01	11.57	--	75.44	--	--	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	--	
MW-15	5/19/2000	87.01	11.95	--	75.06	--	--	<0.001	<0.001	<0.001	<0.002	<0.002	--	
MW-15	9/27/2000	87.01	11.8	--	75.21	--	--	<0.0005	<0.0005	<0.0005	<0.001	<0.005	--	
MW-15	5/5/2001	87.01	--	--	--	--	--	--	--	--	--	--	--	
MW-15	10/20/2001	87.01	--	--	--	--	--	--	--	--	--	--	--	
MW-15	5/1/2002	148.9	--	--	--	--	--	--	--	--	--	--	--	
MW-15	9/20/2002	148.9	--	--	--	--	--	--	--	--	--	--	--	
MW-15	5/20/2003	148.9	--	--	--	--	--	--	--	--	--	--	--	Sample date defaulted to first date listed in historical data table
MW-15	10/2/2003	148.9	8.58	--	140.32	--	--	<0.0005	<0.0007	<0.0008	<0.0016	<0.002	--	
MW-15	6/1/2004	148.9	--	--	--	--	--	--	--	--	--	--	--	
MW-15	9/21/2004	148.9	--	--	--	--	--	--	--	--	--	--	--	Sample date defaulted to first date listed in historical data table
MW-15	5/12/2005	148.9	--	--	--	--	--	--	--	--	--	--	--	
MW-15	9/19/2005	148.9	--	--	--	--	--	--	--	--	--	--	--	
MW-15	5/8/2006	148.9	--	--	--	--	--	--	--	--	--	--	--	
MW-16	8/2/2001	--	13.92	--	--	<0.0001	--	<0.001	<0.001	<0.001	<0.003	--	--	Sample date defaulted to first date listed in historical data table
MW-16	10/2/2001	--	14.33	--	--	--	<0.05	<0.0005	<0.0005	<0.0005	<0.001	<0.001	--	Car parked over well
MW-16	5/1/2002	151.08	14.12	--	136.96	--	--	<0.0005	<0.0005	<0.0005	<0.001	<0.001	--	Car parked over well
MW-16	9/20/2002	151.08	14.04	--	137.04	--	--	<0.0005	<0.0005	<0.0005	<0.001	<0.001 / 0.002	--	
MW-16	5/20/2003	151.08	14.51	--	136.57	--	--	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	--	Sample date defaulted to first date listed in historical data table
MW-16	10/2/2003	151.08	14.3	--	136.78	--	--	<0.0005	<0.0007	<0.0008	<0.0016	<0.002	--	
MW-16	6/1/2004	151.08	13.86	--	137.22	--	--	<0.0005	<0.0005	<0.0005	<0.001	<0.002	--	
MW-16	9/21/2004	151.08	14.32	--	136.76	--	--	<0.0005	<0.0005	<0.0005	<0.001	<0.002	--	Sample date defaulted to first date listed in historical data table
MW-16	5/12/2005	151.08	14.04	--	137.04	--	--	<0.0005	<0.0005	<0.0005	<0.0015	<0.0025	--	
MW-16	9/19/2005	151.08	13.53	--	137.55	--	--	<0.0005	<0.0005	<0.0005	<0.001	**0.0025**	--	
MW-16	5/8/2006	151.08	14.53	--	136.55	--	--	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.001 / <0.001	--	--	
MW-16	9/24/2006	152.13	13.69	--	138.44	--	--	<0.0005	<0.0005	<0.0005	<0.001	--	--	
MW-16	5/14/2007	152.13	14.13	--	138.00	--	--	<0.0005	<0.0007	<0.0008	<0.0016	<0.0005	--	
MW-16	9/12/2007	152.13	14.01	--	138.12	--	--	<0.0005	<0.0005	<0.0005	<0.001	--	--	
MW-16	5/1/2008	152.13	14.18	--	137.95	--	--	<0.0005	<0.0005	<0.0005	<0.0015	--	--	
MW-16	5/14/2009	152.13	--	--	--	--	--	--	--	--	--	--	--	Unable to Access - behind fenced area
MW-17	8/2/2001	--	11.7	--	--	**0.000118**		<0.0001	<0.001	<0.001	<0.003	--	--	Sample date defaulted to first date listed in historical data table
MW-17	10/2/2001	--	12.12	--	--	--	<0.05	<0.0005	<0.005	<0.005	<0.001	<0.001	--	
MW-17	5/1/2002	148.89	11.91	--	136.98	--	--	<0.0005	<0.005	<0.005	<0.001	<0.001	--	
MW-17	9/20/2002	148.89	11.86	--	137.03	--	--	<0.0005	<0.005	<0.005	<0.001	<0.001 / 0.002	--	
MW-17	5/20/2003	148.89	12.3	--	136.59	--	--	<0.0005	<0.005	<0.005	<0.001	<0.0005	--	Sample date defaulted to first date listed in historical data table
MW-17	10/2/2003	148.89	12.07	--	136.82	--	--	<0.0005	<0.0007	<0.0008	<0.0016	<0.002	--	
MW-17	6/1/2004	148.89	11.65	--	137.24	--	--	<0.0005 / <0.0005	<0.0005 / <0.0007	<0.0005 / <0.0008	<0.001 / <0.0008	<0.002 / <0.002	--	
MW-17	9/21/2004	148.89	12.13	--	136.76	--	--	<0.0005	<0.0005	<0.0005	<0.001	<0.002	--	Sample date defaulted to first date listed in historical data table
MW-17	5/12/2005	148.89	11.81	--	137.08	--	--	--	--	--	--	--	--	
MW-17	9/19/2005	148.89	11.45	--	137.44	--	--	--	--	--	--	--	--	
MW-17	5/8/2006	148.89	13.56	--	135.33	--	--	--	--	--	--	--	--	
MW-17	9/24/2006	148.91	12.69	--	136.22	--	--	--	--	--	--	--	--	
MW-17	5/14/2007	148.91	13.27	--	135.64	--	--	--	--	--	--	--	--	

Table 4. Historical Groundwater Gauging and Analytical Results
First Quarter 1992 to Current
Former Chevron-Branded Service Station 97324
4417 Lake Otis Parkway
Anchorage, Alaska

Well ID	Sample Date	TOC (ft amsl)	DTW (ft bTOC)	LNAPL Thickness (ft)	GW Elev (ft amsl)	TPH-d (mg/L)	TPH-g (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)	Naphthalene (mg/L)	Comments
ADEC Groundwater Cleanup Levels						**1.5**	**2.2**	**0.0046**	**1.1**	**0.015**	**0.19**	**0.14**	**0.0017**	
MW-17	9/21/2007	148.91	11.77	--	137.14	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-17	5/1/2008	148.91	11.9	--	137.01	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-17	5/14/2009	148.91	--	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	Unable to Access - behind fenced area
MW-18	8/2/2001	--	13.3	--	--	**0.0132**	**--**	<0.001	<0.001	<0.001	<0.003	**--**	**--**	Sample date defaulted to first date listed in historical data table
MW-18	10/2/2001	--	13.46	--	--	**--**	**0.162**	<0.0005	<0.0005	**0.00139**	**0.0112**	<0.001	**--**	
MW-18	5/1/2002	150.5	12.88	--	137.62	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	<0.001	**--**	
MW-18	9/20/2002	150.5	13.17	--	137.33	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	<0.001 / 0.002	**--**	
MW-18	5/20/2003	150.5	13.6	--	136.90	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	**--**	Sample date defaulted to first date listed in historical data table
MW-18	10/2/2003	150.5	14.23	--	136.27	**--**	**--**	<0.0005	<0.0007	<0.0008	<0.0016	<0.002	**--**	
MW-18	6/1/2004	150.5	12.96	--	137.54	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	<0.002	**--**	
MW-18	9/21/2004	150.5	14.01	--	136.49	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	<0.002	**--**	Sample date defaulted to first date listed in historical data table
MW-18	5/12/2005	150.5	13.06	--	137.44	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-18	9/19/2005	150.5	12.74	--	137.76	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
MW-18	05/08/2006	150.78	--	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
Trip Blank	1/30/1996	--	--	--	--	**--**	**--**	ND	ND	ND	ND	**--**	**--**	
Trip Blank	6/2/1996	--	--	--	--	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	**--**	**--**	
Trip Blank	8/26/1996	--	--	--	--	**--**	**--**	<0.0005	**0.00061**	<0.0005	<0.001	**--**	**--**	
Trip Blank	10/16/1996	--	--	--	--	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	**--**	**--**	
Trip Blank	4/28/1997	--	--	--	--	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	**--**	**--**	
Trip Blank	9/10/1997	--	--	--	--	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	**--**	**--**	
Trip Blank	4/19/1998	--	--	--	--	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	**--**	**--**	
Trip Blank	9/23/1998	--	--	--	--	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	**--**	**--**	
Trip Blank	4/28/1999	--	--	--	--	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.0005	<0.01	**--**	
Trip Blank	10/13/1999	--	--	--	--	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	**--**	
Trip Blank	9/27/2000	--	--	--	--	**--**	**--**	<0.0005	**0.000572**	<0.0005	<0.001	<0.005	**--**	
Trip Blank	5/5/2001	--	--	--	--	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	<0.005	**--**	
Trip Blank	10/2/2001	--	--	--	--	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	<0.001	**--**	
Trip Blank	5/1/2002	--	--	--	--	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	<0.001	**--**	
Trip Blank	9/20/2002	--	--	--	--	**--**	**--**	<0.0005	**0.000518**	<0.0005	<0.001	<0.001	**--**	
Trip Blank	5/20/2003	--	--	--	--	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	**--**	Sample date defaulted to first date listed in historical data table
Trip Blank	10/2/2003	--	--	--	--	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	**--**	
Trip Blank	6/1/2004	--	--	--	--	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	**--**	
Trip Blank	9/21/2004	--	--	--	--	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	**--**	Sample date defaulted to first date listed in historical data table
Trip Blank	5/12/2005	--	--	--	--	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.0015	<0.0025	**--**	
Trip Blank	9/19/2005	--	--	--	--	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.0015	<0.0025	**--**	
Trip Blank	5/8/2006	--	--	--	--	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.0005	**--**	**--**	
Trip Blank	9/24/2006	--	--	--	--	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	**--**	**--**	
Trip Blank	5/14/2007	--	--	--	--	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	**--**	
Trip Blank	9/21/2007	--	--	--	--	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.001	**--**	**--**	
Trip Blank	5/1/2008	--	--	--	--	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.0015	**--**	**--**	
Trip Blank	7/15/2008	--	--	--	--	**--**	<0.05	<0.0005	<0.0005	<0.0005	<0.001	**--**	**--**	
Trip Blank	4/30/2009	--	--	--	--	**--**	<0.01	<0.0005	<0.0005	<0.0005	<0.001	**--**	**--**	
Trip Blank	8/19/2009	--	--	--	--	**--**	<0.010	<0.0005	<0.0005	<0.0005	<0.001	**--**	**--**	
Trip Blank	4/20/2010	--	--	--	--	**--**	<0.010	<0.0005	<0.0005	<0.0005	<0.001	**--**	**--**	
Trip Blank	6/10/2010	--	--	--	--	**--**	<0.010	<0.0005	<0.0005	<0.0005	<0.001	**--**	**--**	
Trip Blank	8/27/2010	--	--	--	--	**--**	<0.010	<0.010	<0.0005	<0.0005	<0.0005	**--**	**--**	
Trip Blank	5/24/2011	--	--	--	--	**--**	**--**	<0.0005	<0.0005	<0.0005	<0.0005	**--**	**--**	
Trip Blank	7/26/2011	--	--	--	--	**--**	<0.010	<0.0005	<0.0005	<0.0005	<0.0005	**--**	**--**	
Trip Blank	11/10/2011	--	--	--	--	**--**	<0.010	<0.0005	<0.0005	<0.0005	<0.0005	**--**	**--**	
Trip Blank	6/20/2012	--	--	--	--	**--**	<0.010	<0.0005	<0.0005	<0.0005	<0.0005	**--**	**--**	
Trip Blank	11/5/2012	--	--	--	--	**--**	<0.010	<0.0005	<0.0005	<0.0005	<0.0005	**--**	**--**	
Trip Blank	4/30/2013	--	--	--	--	**--**	<0.010	<0.000062	<0.000077	<0.000081	<0.00022	**--**	**--**	
Trip Blank	11/08/2013	--	--	--	--	**--**	<0.10	<0.00024	<0.00023	<0.00024	<0.00072	**--**	**--**	
Trip Blank	4/28/2014	--	--	--	--	**--**	<0.050	<0.00015	<0.00011	<0.00016	<0.00040	**--**	**--**	Car parked over well
Trip Blank	11/7/2014	--	--	--	--	**--**	<0.050	<0.00015	**0.00012 J**	<0.00016	<0.00040	**--**	**--**	
Trip Blank	4/29/2015	--	--	--	--	**--**	<0.050	<0.0005	<0.0005	<0.0005	<0.0005	**--**	**--**	
Trip Blank	11/6/2015	--	--	--	--	**--**	<0.010	<0.0005	<0.0005	<0.0005	<0.0005	**--**	**--**	
Trip Blank	4/21/2016	--	--	--	--	**--**	<0.010	<0.0005	<0.0005	<0.0005	<0.0005	**--**	**--**	
Trip Blank	11/1/2016	--	--	--	--	**--**	<0.010	<0.0005	<0.0005	<0.0005	<0.0005	**--**	**--**	
Trip Blank	10/17/2017	--	--	--	--	**--**	<0.010	<0.0005	<0.0005	<0.0005	<0.0005	**--**	**--**	
Trip Blank	4/27/2018	--	--	--	--	**--**	<0.010	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	**--**	
Trip Blank	10/18/2018	--	--	--	--	**--**	<0.010	<0.0002	<0.0002	<0.0002	<0.0005	**--**	**--**	
Trip Blank	4/3/2019	--	--	--	--	**--**	<0.014	<0.0002	<0.0002	<0.0004	<0.001	<0.0002	<0.001	
Trip Blank	9/11/2019	--	--	--	--	<0.014	<0.100	<0.0000090	<0.00039	<0.00050	<0.00114	<0.00044	**0.000095 J*B**	

Table 4. Historical Groundwater Gauging and Analytical Results
First Quarter 1992 to Current
Former Chevron-Branded Service Station 97324
4417 Lake Otis Parkway
Anchorage, Alaska

Well ID	Sample Date	TOC (ft amsl)	DTW (ft bTOC)	LNAPL Thickness (ft)	GW Elev (ft amsl)	TPH-d (mg/L)	TPH-g (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	MTBE (mg/L)	Naphthalene (mg/L)	Comments
ADEC Groundwater Cleanup Levels						**1.5**	**2.2**	**0.0046**	**1.1**	**0.015**	**0.19**	**0.14**	**0.0017**	
Trip Blank	4/22/2020	--	--	--	--	--	<0.100	<0.00100	<0.00100	<0.00100	<0.00300	<0.00100	***<0.00500***	
Trip Blank	10/9/2020	--	--	--	--	--	<0.100	<0.00100	<0.00100	<0.00100	<0.00300	<0.00100	***<0.00500***	
Trip Blank	8/26/2021	--	--	--	--	--	**0.0429 J**	<0.00100	<0.00100	<0.00100	<0.00300	<0.00100	**0.00124 J**	
Trip Blank	4/4/2022	--	--	--	--	--	<0.1	<0.00100	<0.00100	<0.00100	<0.00300	<0.00100 J	***<0.00500 J***	
Tudor Motel	9/21/2007	--	--	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
Tudor Motel	5/1/2008	--	--	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
Tudor Motel	7/15/2008	--	--	--	--	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	
Equipment Blank	9/11/2019	--	--	--	--	<0.076	<0.100	**0.000013 J**	**0.0011 J**	<0.00050	<0.00114	<0.00044	**0.000030 J*B**	
Equipment Blank	4/22/2020	--	--	--	--	<0.800	<0.100	<0.00100	<0.00100	<0.00100	<0.00300	<0.00100	***<0.00500***	
Equipment Blank	10/9/2020	--	--	--	--	<0.800	<0.100	<0.00100	<0.00100	<0.00100	<0.00300	<0.00100	***<0.00500***	
Equipment Blank	8/26/2021	--	--	--	--	0.624 J	<0.100	<0.00100	<0.00100	<0.00100	<0.00300	<0.00100	***<0.00500***	
Equipment Blank	4/4/2022	--	--	--	--	<0.8	<0.1	<0.00100	<0.00100	<0.00100	<0.00300	<0.00100 J	***<0.00500 J***	

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
mg/L = Milligrams per liter
GW Elev = Groundwater elevation
<0.00100 = Not detected at or above the reported detection limit (RDL)
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
[ ] = Blind Duplicate Sample Result
* = LCS or LCSD is outside acceptance limits.
ND = Constituent considered non detect at the MDL

TPH-g = Total petroleum hydrocarbons, gasoline range by LUFT GC/MS according to United States Environmental Protection Agency (USEPA) Method AK101
TPH-d = Total petroleum hydrocarbons, diesel range by LUFT GC/MS according to State of Alaska Method AK102.
Samples analytes by USEPA Method 8260D:
Benzene, Toluene, Ethylbenzene and Total Xylenes (collectively BTEX)
MTBE = Methyl-tert-butyl ether
Naphthalene
LUFT = Leaking Underground Fuel Tank
GC/MS = Gas chromatography/Mass Spectrometry
J = The compound was positively identified; however, the associated numerical value is an estimated concentration only.
B = Compound considered non-detect at the listed value due to associated blank contamination.
ADEC = Alaska Department of Environmental Conservation
NAVD 88 = North American Vertical Datum of 1988
LNAPL = Light Non-Aqueous Phase Liquid
-- = Not Measured/Not analysed
The laboratory for this site was changed from Eurofins Calscience to Pace Analytical prior to the second quarter 2020 groundwater monitoring event. Prior to this date, Eurofins Calscience was using the carbon ranges as follows: TPH-g as C6-C10; TPH-d as C13-C22. Pace Analytical reports the following carbon ranges: TPH-g as C5-C12; TPH-d as C12-C22.

Table 5a. Historical Groundwater Analytical Results - Additional VOCs
First Quarter 1992 to Current
Former Chevron-Branded Service Station 97324
4417 Lake Otis Parkway
Anchorage, Alaska

Well ID	Sample Date	EDC (mg/L)	TCE (mg/L)	PCE (mg/L)	cis-1,2-DCE (mg/L)	Methylene chloride (mg/L)	Isopropylbenzene mg/L	1,2-Dichlorobenzene (o-Dichlorobenzene) mg/L	trans-1,2-Dichloroethene mg/L	1,1,1-Trichloroethane mg/L	1,1,2,2-Tetrachloroethane mg/L	1,1,2-Trichloroethane mg/L	1,1,2-Trichlorotrifluoroethane (Freon 113) mg/L	Comments
ADEC Groundwater Cleanup Levels		**0.0017**	**0.0028**	**0.041**	**0.036**	**0.11**	**--**	**0.3**	**0.36**	**8**	**0.00076**	**0.00041**	**10**	
MW-1R	8/26/2021	**0.00311 J**	<0.00100	<0.00100 J	<0.00100	<0.00500	<0.00100 J	<0.00100	<0.00100	<0.00100	***<0.00100***	***<0.00100***	<0.00100	
MW-1R	04/04/2022	**0.00191**	<0.00100	**0.000905 J**	<0.00100	<0.00500	<0.00100	<0.00100 J	<0.00100	<0.00100	***<0.00100***	***<0.00100***	<0.00100	<0.00000500
MW-2R	8/26/2021	**0.0105 J [0.0106 J]**	<0.00100 [<0.00100]	<0.00100 J [<0.00100 J]	<0.00100 [<0.00100]	<0.00500 [<0.00500]	<0.0433 J [<0.0426 J]	<0.00100 [<0.00100]	<0.00100 [<0.00100]	<0.00100 [<0.00100]	***<0.00100 [<0.00100]***	***<0.00100 [<0.00100]***	<0.00100 [<0.00100]	
MW-2R	04/04/2022	**0.0064 [0.00642]**	<0.00100 [<0.00100]	<0.00100 [<0.00100]	<0.00100 [<0.00100]	<0.00500 [<0.00500]	**0.0377 [0.0435]**	<0.00100 J [<0.00100 J]	<0.00100 [<0.00100]	<0.00100 [<0.00100]	***<0.00100 J [<0.00100 J]***	***<0.00100 [<0.00100]***	<0.00100 [<0.00100]	<0.000125 [<0.000125]
MW-8RR	8/26/2021	<0.00100	<0.00100 J	**0.00159 J**	<0.00100 J	<0.00500	**0.000295 J**	<0.00100	<0.00100	<0.00100	***<0.00100***	***<0.00100***	<0.00100 J	
MW-8RR	04/04/2022	**0.000622 J**	<0.00100	**0.00183**	<0.00100	<0.00500	<0.00100	<0.00100 J	<0.00100	<0.00100	***<0.00100 J***	***<0.00100***	<0.00100	**0.000012**
MW-9	8/26/2021	<0.00100	**0.0135**	**0.0452 J**	**0.0376**	<0.00500	<0.00100 J	<0.00100	**0.000275 J**	<0.00100	***<0.00100***	***<0.00100***	<0.00100	
MW-9	04/04/2022	<0.00100	**0.0101**	**0.0373**	**0.0263**	<0.00500	<0.00100	<0.00100 J	<0.00100	<0.00100	***<0.00100 J***	***<0.00100***	<0.00100	<0.000125
Trip Blank	8/26/2021	<0.00100	<0.00100	<0.00100 J	<0.00100	<0.00500	<0.00100 J	<0.00100	<0.00100	<0.00100	***<0.00100***	***<0.00100***	<0.00100	
Trip Blank	04/04/2022	<0.00100	<0.00100	<0.00100	<0.00100	<0.00500	<0.00100	<0.00100 J	<0.00100	<0.00100	***<0.00100 J***	***<0.00100***	<0.00100	<0.00000500
Equipment Blank	8/26/2021	<0.00100	<0.00100	<0.00100 J	<0.00100	<0.00500	<0.00100 J	<0.00100	<0.00100	<0.00100	***<0.00100***	***<0.00100***	<0.00100	
Equipment Blank	04/04/2022	<0.00100	<0.00100	<0.00100	<0.00100	<0.00500	<0.00100	<0.00100 J	<0.00100	<0.00100	***<0.00100 J***	***<0.00100***	<0.00100	<0.00000500

Notes:
ID = Identification
MW = Groundwater monitoring well
mg/L = Milligrams per liter
<0.00500 = 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
[ ] = Blind Duplicate Sample Result
ADEC = Alaska Department of Environmental Conservation
Constituents analyzed by United States Environmental Protection Agency Method 8260D
EDB-1,2 Dibromoethane
EDC-1,2-Dichloroethane
TCE = Trichloroethylene
PCE = Tetrachloroethylene

Table 5b. Historical Groundwater Analytical Results - Additional VOCs
First Quarter 1992 to Current
Former Chevron-Branded Service Station 97324
4417 Lake Otis Parkway
Anchorage, Alaska

Well ID	Sample Date	1,1-Dichloroethane mg/L	1,1-Dichloroethene (Dichloroethylene) mg/L	1,2,3-Trichlorobenzene mg/L	1,2,4-Trichlorobenzene mg/L	1,2,4-Trimethylbenzene mg/L	1,2-Dibromoethane mg/L	1,2-Dichloropropane mg/L	1,3-Dichlorobenzene mg/L	1,4-Dichlorobenzene mg/L	2-Butanone (Methyl ethyl ketone) mg/L	4-Methyl-2-pentanone mg/L	Acetone mg/L	Comments
ADEC Groundwater Cleanup Levels		**0.028**	**0.28**	**0.007**	**0.004**	**0.056**	**0.000075**	**0.0082**	**0.0047**	**0.0048**	**--**	**6.3**	**14**	
MW-1R	8/26/2021	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00000500	<0.00100	<0.00100	<0.00100	<0.0100	<0.0100	<0.0500	
MW-1R	04/04/2022	<0.00100	<0.00100	<0.00100 J	<0.00100 J	<0.00100 J	<0.00000500	<0.00100	<0.00100 J	<0.00100 J	<0.0100 J	<0.0100 J	<0.0500 J	
MW-2R	8/26/2021	<0.00100 [<0.00100]	<0.00100 [<0.00100]	<0.00100 [<0.00100]	<0.00100 [<0.00100]	**0.092 [0.0853]**	***<0.000125 [<0.000125]***	<0.00100 [<0.00100]	<0.00100 [<0.00100]	<0.00100 [<0.00100]	<0.0100 [<0.0100]	<0.0100 [<0.0100]	<0.0500 [<0.0500]	
MW-2R	04/04/2022	<0.00100 [<0.00100]	<0.00100 [<0.00100]	<0.00100 J [<0.00100 J]	<0.00100 J [<0.00100 J]	**0.0178 J [0.0195 J]**	***<0.000125 [<0.000125]***	<0.00100 [<0.00100]	<0.00100 J [<0.00100 J]	<0.00100 J [<0.00100 J]	<0.0100 J [<0.0100 J]	<0.0100 J [<0.0100 J]	<0.0500 J [<0.0500 J]	
MW-8RR	8/26/2021	<0.00100 J	<0.00100 J	<0.00100	<0.00100	**0.000995 J**	**0.000006**	<0.00100	<0.00100	<0.00100	<0.0100	<0.0100	<0.0500	
MW-8RR	04/04/2022	<0.00100	<0.00100	<0.00100 J	<0.00100 J	<0.00100 J	**0.000012**	<0.00100	<0.00100 J	<0.00100 J	<0.0100 J	<0.0100 J	<0.0500 J	
MW-9	8/26/2021	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	***<0.000125***	<0.00100	<0.00100	<0.00100	<0.0100	<0.0100	<0.0500	
MW-9	04/04/2022	<0.00100	<0.00100	<0.00100 J	<0.00100 J	<0.00100 J	<0.000125	<0.00100	<0.00100 J	<0.00100 J	<0.0100 J	<0.0100 J	<0.0500 J	
Trip Blank	8/26/2021	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00000500	<0.00100	<0.00100	<0.00100	<0.0100	<0.0100	<0.0500	
Trip Blank	04/04/2022	<0.00100	<0.00100	<0.00100 J	<0.00100 J	<0.00100 J	<0.00000500	<0.00100	<0.00100 J	<0.00100 J	<0.0100 J	<0.0100 J	<0.0500 J	
Equipment Blank	8/26/2021	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<0.00000500	<0.00100	<0.00100	<0.00100	<0.0100	<0.0100	<0.0500	
Equipment Blank	04/04/2022	<0.00100	<0.00100	<0.00100 J	<0.00100 J	<0.00100 J	<0.00000500	<0.00100	<0.00100 J	<0.00100 J	<0.0100 J	<0.0100 J	<0.0500 J	

Notes:
ID = Identification
MW = Groundwater monitoring well
mg/L = Milligrams per liter
<0.00500 = 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
[ ] = Blind Duplicate Sample Result
ADEC = Alaska Department of Environmental Conservation
Constituents analyzed by United States Environmental Protection Agency Method 8260D

Table 5c. Historical Groundwater Analytical Results - Additional VOCs
First Quarter 1992 to Current
Former Chevron-Branded Service Station 97324
4417 Lake Otis Parkway
Anchorage, Alaska

Well ID	Sample Date	Bromochloromethane mg/L	Bromodichloromethane mg/L	Bromoform mg/L	Bromomethane (Methyl bromide) mg/L	Carbon Disulfide mg/L	Carbon Tetrachloride mg/L	Chlorobenzene mg/L	Chloroethane mg/L	Chloroform mg/L	Chloromethane (Methyl chloride) mg/L	cis-1,3-Dichloropropene mg/L	Dibromochloromethane mg/L	Comments
ADEC Groundwater Cleanup Levels		**--**	**0.0013**	**0.033**	**0.0075**	**0.81**	**0.0046**	**0.078**	**--**	**0.0022**	**0.19**	**0.0047**	**0.0087**	
MW-1R	8/26/2021	<0.00100	<0.00100	<0.00100 J	<0.00500 J	<0.00100	<0.00100	<0.00100	<0.00500	***<0.00500***	<0.00250	<0.00100	<0.00100	
MW-1R	04/04/2022	<0.00100	<0.00100	<0.00100 J	<0.00500	<0.00100	<0.00100	<0.00100	<0.00500	<0.00500	<0.00250	<0.00100	<0.00100	
MW-2R	8/26/2021	<0.00100 [<0.00100]	<0.00100 [<0.00100]	<0.00100 J [<0.00100 J]	<0.00500 J [<0.00500 J]	<0.00100 [<0.00100]	<0.00100 [<0.00100]	<0.00100 [<0.00100]	<0.00500 [<0.00500]	***<0.00500 [<0.00500]***	<0.00250 [<0.00250]	<0.00100 [<0.00100]	<0.00100 [<0.00100]	
MW-2R	04/04/2022	<0.00100 [<0.00100]	<0.00100 [<0.00100]	<0.00100 J [<0.00100 J]	<0.00500 [<0.00500]	<0.00100 [<0.00100]	<0.00100 [<0.00100]	<0.00100 [<0.00100]	<0.00500 [<0.00500]	***<0.00500 [<0.00500]***	<0.00250 [<0.00250]	<0.00100 [<0.00100]	<0.00100 [<0.00100]	
MW-8RR	8/26/2021	<0.00100	<0.00100	<0.00100 J	<0.00500 J	<0.00100 J	<0.00100 J	<0.00100	<0.00500 J	***<0.00500 J***	<0.00250 J	<0.00100	<0.00100	
MW-8RR	04/04/2022	<0.00100	<0.00100	<0.00100 J	<0.00500	<0.00100	<0.00100	<0.00100	<0.00500	***<0.00500***	<0.00250	<0.00100	<0.00100	
MW-9	8/26/2021	<0.00100	<0.00100	<0.00100 J	<0.00500 J	<0.00100	<0.00100	<0.00100	<0.00500	***<0.00500***	<0.00250	<0.00100	<0.00100	
MW-9	04/04/2022	<0.00100	<0.00100	<0.00100 J	<0.00500	<0.00100	<0.00100	<0.00100	<0.00500	***<0.00500***	<0.00250	<0.00100	<0.00100	
Trip Blank	8/26/2021	<0.00100	<0.00100	<0.00100 J	<0.00500 J	<0.00100	<0.00100	<0.00100	<0.00500	***<0.00500***	<0.00250	<0.00100	<0.00100	
Trip Blank	04/04/2022	<0.00100	<0.00100	<0.00100 J	<0.00500	<0.00100	<0.00100	<0.00100	<0.00500	***<0.00500***	<0.00250	<0.00100	<0.00100	
Equipment Blank	8/26/2021	<0.00100	<0.00100	<0.00100 J	<0.00500 J	<0.00100	<0.00100	<0.00100	<0.00500	***<0.00500***	<0.00250	<0.00100	<0.00100	
Equipment Blank	04/04/2022	<0.00100	<0.00100	<0.00100 J	<0.00500	<0.00100	<0.00100	<0.00100	<0.00500	***<0.00500***	<0.00250	<0.00100	<0.00100	

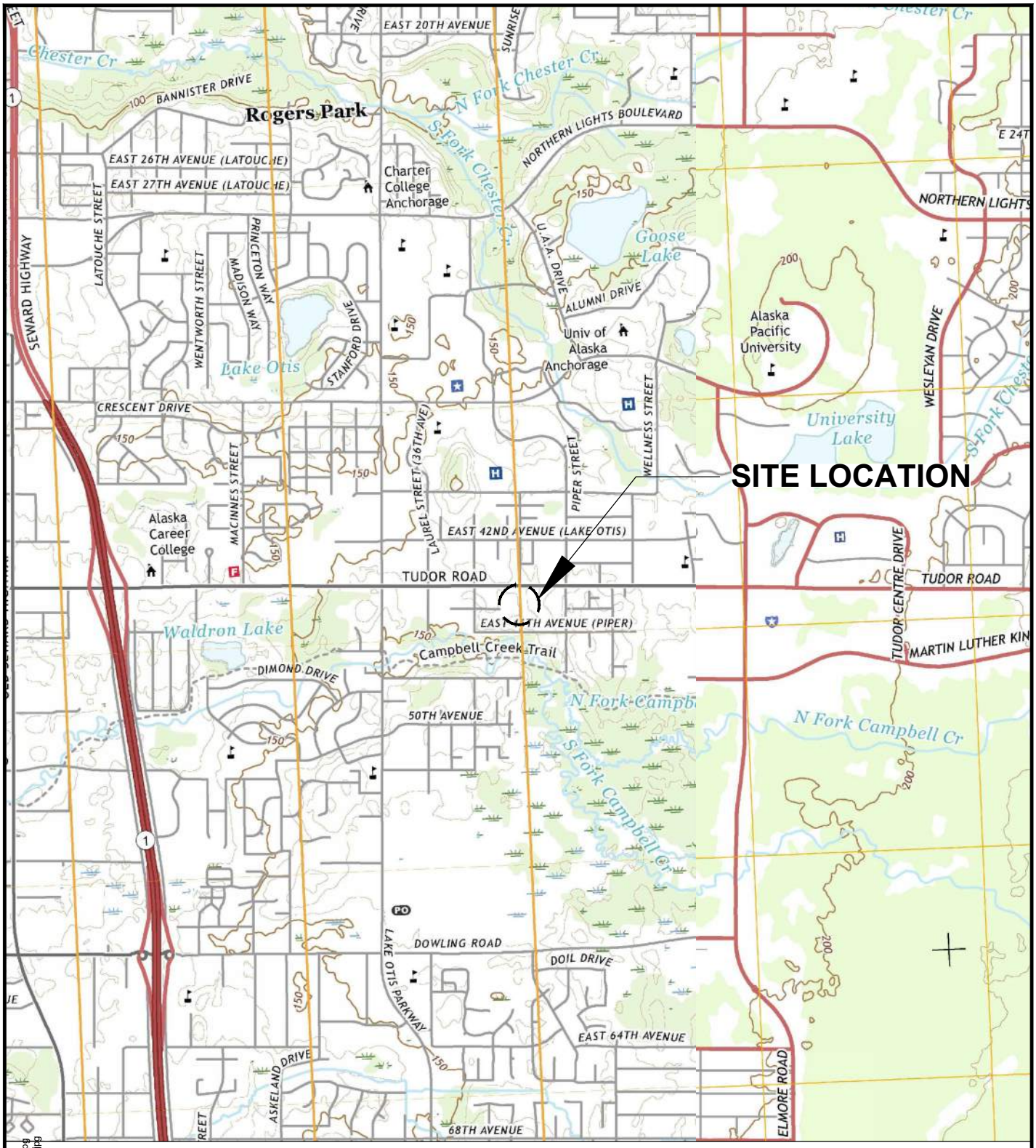
Notes:
ID = Identification
MW = Groundwater monitoring well
mg/L = Milligrams per liter
<0.00500 = Not detected at or above the Reported Detection Limit
Bold = Detected above laboratory method detection limit (MDL)
Bold and Shaded = Value exceeds ADEC Groundwater Cleanup Level
Bold and *Italicized* : Constituent considered non-detect, however Laboratory RDL is greater than the ADEC Groundwater Cleanup Level
[ ] = Blind Duplicate Sample Result
ADEC = Alaska Department of Environmental Conservation
Constituents analyzed by United States Environmental Protection Agency Method 8260D

Table 5d. Historical Groundwater Analytical Results - Additional VOCs
First Quarter 1992 to Current
Former Chevron-Branded Service Station 97324
4417 Lake Otis Parkway
Anchorage, Alaska

Well ID	Sample Date	Dichlorodifluoromethane (Freon 12) mg/L	Styrene mg/L	trans-1,3-Dichloropropene mg/L	Trichlorofluoromethane (Freon 11) mg/L	Vinyl chloride (Chloroethene) mg/L	Comments
ADEC Groundwater Cleanup Levels		**0.2**	**1.2**	**0.0047**	**5.2**	**0.00019**	
MW-1R	8/26/2021	<0.00500	<0.00100	<0.00100	<0.00500	***<0.00100***	
MW-1R	04/04/2022	<0.00500	<0.00100	<0.00100	<0.00500	***<0.00100***	
MW-2R	8/26/2021	<0.00500 [<0.00500]	<0.00100 [<0.00100]	<0.00100 [<0.00100]	<0.00500 [<0.00500]	***<0.00100 [<0.00100]***	
MW-2R	04/04/2022	<0.00500 [<0.00500]	<0.00100 [<0.00100]	<0.00100 [<0.00100]	<0.00500 [<0.00500]	***<0.00100 [<0.00100]***	
MW-8RR	8/26/2021	<0.00500 J	<0.00100	<0.00100	<0.00500	***<0.00100 J***	
MW-8RR	04/04/2022	<0.00500	<0.00100	<0.00100	<0.00500	***<0.00100***	
MW-9	8/26/2021	<0.00500	<0.00100	<0.00100	<0.00500	***<0.00100***	
MW-9	04/04/2022	<0.00500	<0.00100	<0.00100	<0.00500	***<0.00100***	
Trip Blank	8/26/2021	<0.00500	<0.00100	<0.00100	<0.00500	***<0.00100***	
Trip Blank	04/04/2022	<0.00500	<0.00100	<0.00100	<0.00500	***<0.00100***	
Equipment Blank	8/26/2021	<0.00500	<0.00100	<0.00100	<0.00500	***<0.00100***	
Equipment Blank	04/04/2022	<0.00500	<0.00100	<0.00100	<0.00500	***<0.00100***	

Notes:
ID = Identification
MW = Groundwater monitoring well
mg/L = Milligrams per liter
<0.00500 = 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
[ ] = 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 ANCHORAGE A-8 NW QUADRANGLE, ALASKA.

N

0 2000' 4000'

APPROXIMATE GRAPHIC SCALE

AREA LOCATION

ALASKA

FORMER CHEVRON-BRANDED SERVICE STATION 97324
4417 LAKE OTIS PARKWAY
ANCHORAGE, ALASKA

SITE LOCATION MAP

ARCADIS

FIGURE 1

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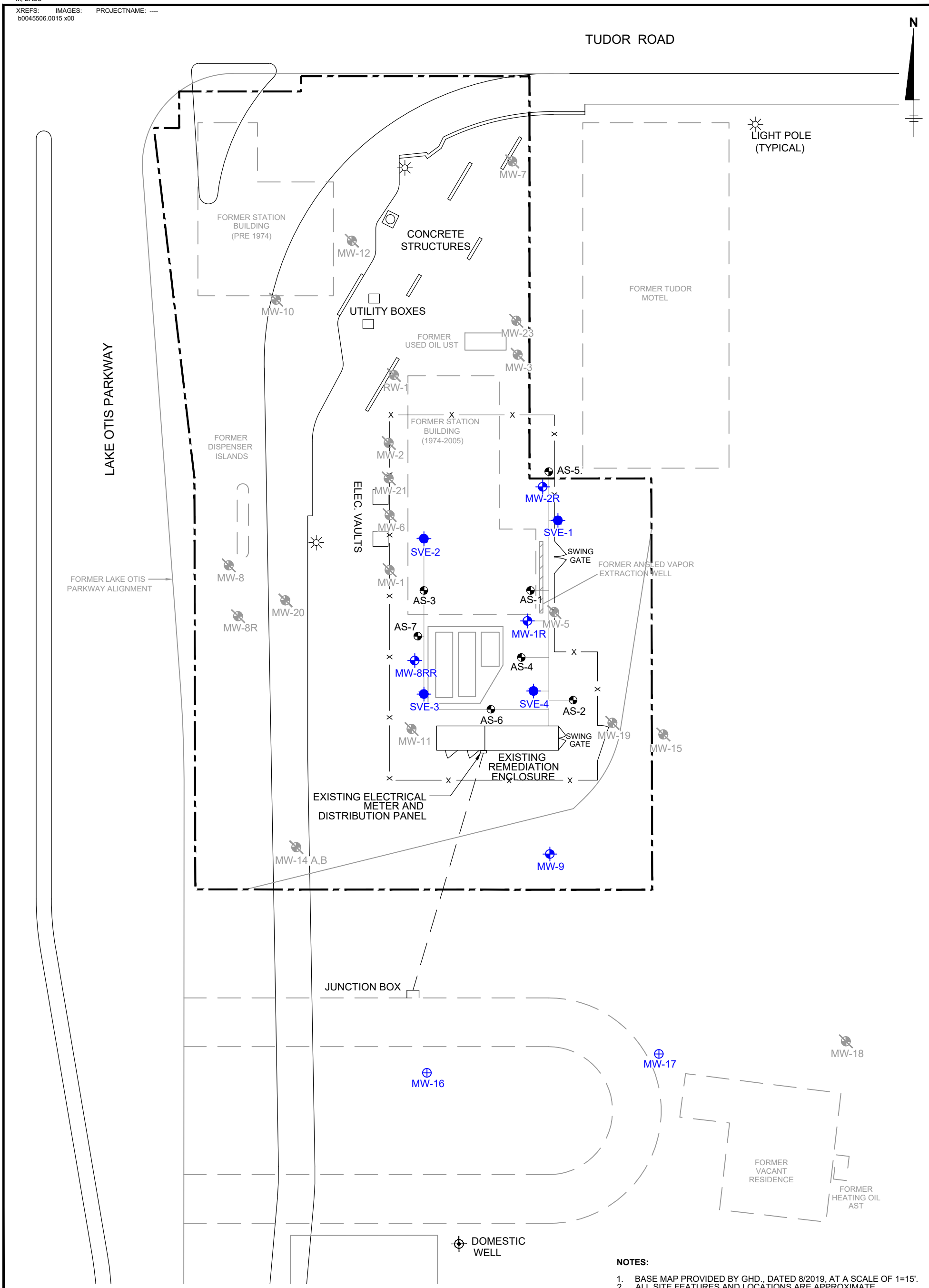


LEGEND:

- APPROXIMATE PROPERTY BOUNDARY
- GROUNDWATER MONITORING WELL
- VAPOR EXTRACTION WELL
- AIR SPARGE WELL
- OFFSITE WELL LOCATION
- DESTROYED WELL
- DOMESTIC WELL

UST UNDERGROUND STORAGE TANK

0 50' 100'
APPROXIMATE SCALE: 1" = 50'

NOTES:

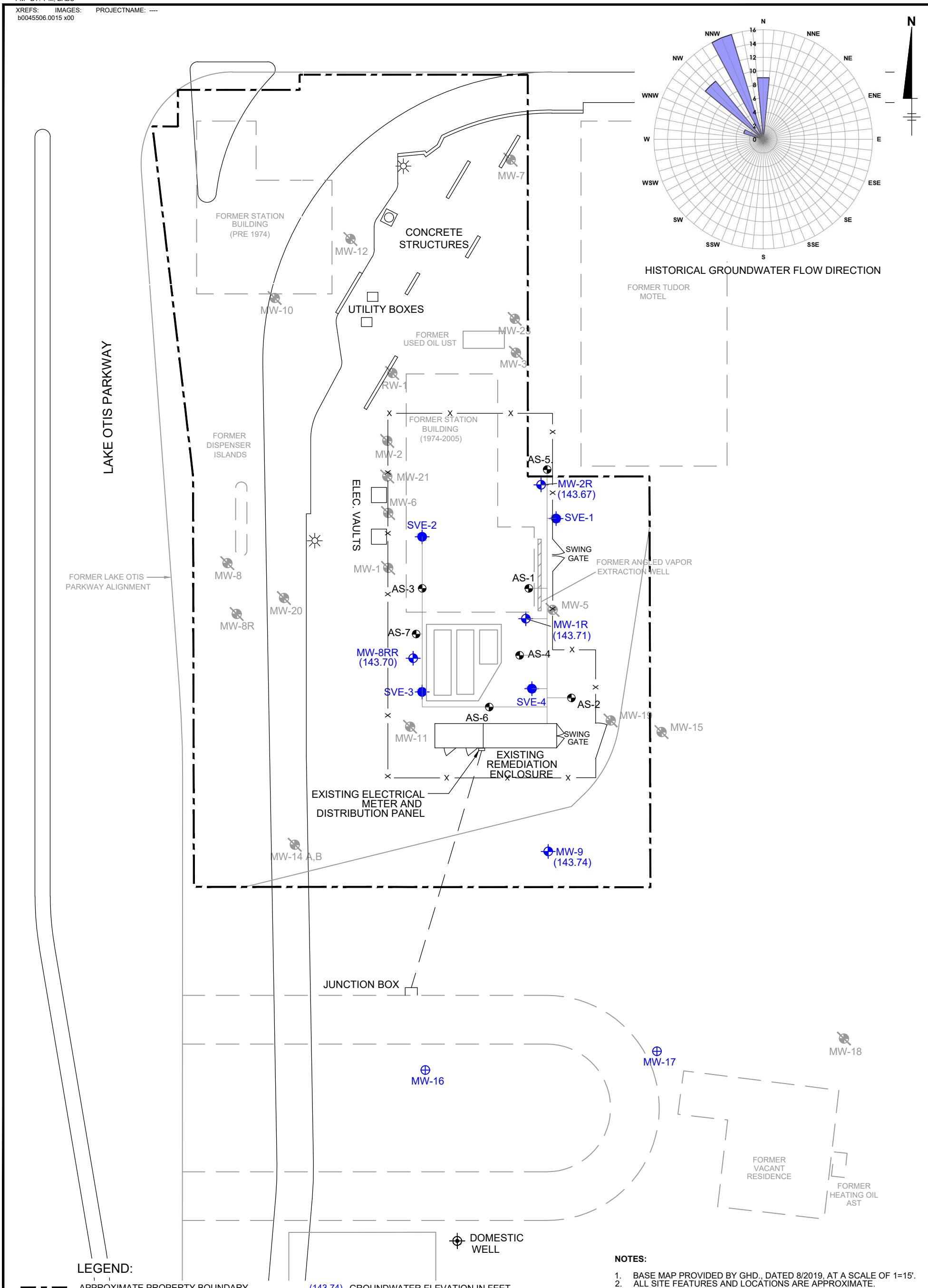
1. BASE MAP PROVIDED BY GHD., DATED 8/2019, AT A SCALE OF 1=15'.
2. ALL SITE FEATURES AND LOCATIONS ARE APPROXIMATE.

FORMER CHEVRON-BRANDED SERVICE STATION 97324
4417 LAKE OTIS PARKWAY
ANCHORAGE, ALASKA

SITE PLAN

ARCADIS

FIGURE
2



NOTES:

1. BASE MAP PROVIDED BY GHD., DATED 8/2019, AT A SCALE OF 1=15'.
2. ALL SITE FEATURES AND LOCATIONS ARE APPROXIMATE.

FORMER CHEVRON-BRANDED SERVICE STATION 97324
4417 LAKE OTIS PARKWAY
ANCHORAGE, ALASKA

GROUNDWATER ELEVATION MAP APRIL 4, 2022

ARCADIS

FIGURE 3

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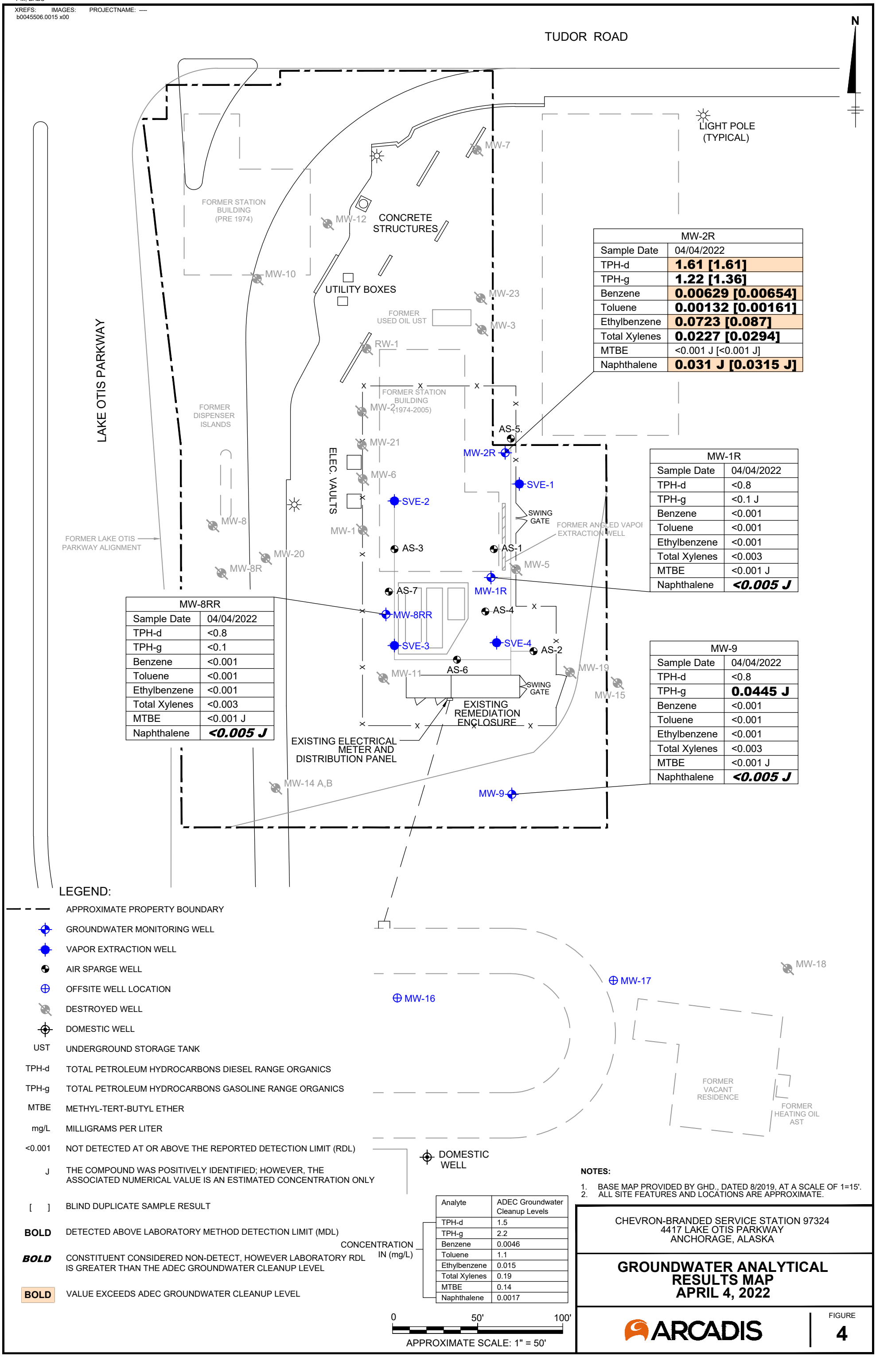


MW-2R	
Sample Date	04/04/2022
TPH-d	**1.61 [1.61]**
TPH-g	**1.22 [1.36]**
Benzene	**0.00629 [0.00654]**
Toluene	**0.00132 [0.00161]**
Ethylbenzene	**0.0723 [0.087]**
Total Xylenes	**0.0227 [0.0294]**
MTBE	<0.001 J [<0.001 J]
Naphthalene	**0.031 J [0.0315 J]**

MW-1R	
Sample Date	04/04/2022
TPH-d	<0.8
TPH-g	<0.1 J
Benzene	<0.001
Toluene	<0.001
Ethylbenzene	<0.001
Total Xylenes	<0.003
MTBE	<0.001 J
Naphthalene	***<0.005 J***

MW-8RR	
Sample Date	04/04/2022
TPH-d	<0.8
TPH-g	<0.1
Benzene	<0.001
Toluene	<0.001
Ethylbenzene	<0.001
Total Xylenes	<0.003
MTBE	<0.001 J
Naphthalene	***<0.005 J***

MW-9	
Sample Date	04/04/2022
TPH-d	<0.8
TPH-g	**0.0445 J**
Benzene	<0.001
Toluene	<0.001
Ethylbenzene	<0.001
Total Xylenes	<0.003
MTBE	<0.001 J
Naphthalene	***<0.005 J***

LEGEND:

- APPROXIMATE PROPERTY BOUNDARY
- GROUNDWATER MONITORING WELL
- VAPOR EXTRACTION WELL
- AIR SPARGE WELL
- OFFSITE WELL LOCATION
- DESTROYED WELL
- DOMESTIC WELL
- UST — UNDERGROUND STORAGE TANK
- TPH-d — TOTAL PETROLEUM HYDROCARBONS DIESEL RANGE ORGANICS
- TPH-g — TOTAL PETROLEUM HYDROCARBONS GASOLINE RANGE ORGANICS
- MTBE — METHYL-TERT-BUTYL ETHER
- mg/L — MILLIGRAMS PER LITER
- <0.001 — NOT DETECTED AT OR ABOVE THE REPORTED DETECTION LIMIT (RDL)
- J — THE COMPOUND WAS POSITIVELY IDENTIFIED; HOWEVER, THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION ONLY
- [ ] — BLIND DUPLICATE SAMPLE RESULT
- **BOLD** — DETECTED ABOVE LABORATORY METHOD DETECTION LIMIT (MDL)
- ***BOLD*** — CONSTITUENT CONSIDERED NON-DETECT, HOWEVER LABORATORY RDL IS GREATER THAN THE ADEC GROUNDWATER CLEANUP LEVEL
- **BOLD** (shaded) — VALUE EXCEEDS ADEC GROUNDWATER CLEANUP LEVEL

CONCENTRATION IN (mg/L)

Analyte	ADEC Groundwater Cleanup Levels
TPH-d	1.5
TPH-g	2.2
Benzene	0.0046
Toluene	1.1
Ethylbenzene	0.015
Total Xylenes	0.19
MTBE	0.14
Naphthalene	0.0017

0 50' 100'
APPROXIMATE SCALE: 1" = 50'

NOTES:

1. BASE MAP PROVIDED BY GHD., DATED 8/2019, AT A SCALE OF 1=15'.
2. ALL SITE FEATURES AND LOCATIONS ARE APPROXIMATE.

CHEVRON-BRANDED SERVICE STATION 97324
4417 LAKE OTIS PARKWAY
ANCHORAGE, ALASKA

GROUNDWATER ANALYTICAL RESULTS MAP APRIL 4, 2022

ARCADIS

FIGURE 4

APPENDIX A

ARCADIS Design & Consultancy for natural and built assets

Chevron Environmental Management Company

Appendix A:

Site History and Background

Former Chevron Facility 97324
4417 Lake Otis Parkway
Anchorage, Alaska
ADEC File No: 2100.26.008
HAZARD ID No: 23885

June 19, 2020

Appendix A: 97324 Site Description and Background

1 97324 SITE BACKGROUND AND HISTORY

1.1 Site Description and Vicinity

Former Chevron Facility 97324 is located at 4417 Lake Otis Parkway in Anchorage, Alaska. The site was formerly operated as a Chevron-branded service station with three underground storage tanks (UST), two dispenser islands, and a station building with an auto service bay. The surrounding properties are mixed commercial and industrial; the site is bordered to the north, west, and south by former or current ADEC contaminated sites.

1.2 Site History

In 2004, the facility building, three petroleum underground storage tanks (USTs) equipped with dispenser pumps, and product lines were removed from the property. A remediation system consisting of seven air sparge (AS) wells and four soil vapor extraction (SVE) wells was operated seasonally until 2017, when it was shut down.

2 SITE CHARACTERIZATIONS

A soil and groundwater remediation system which included seven air sparge (AS) wells and four soil vapor extraction (SVE) wells was shut down in 2017. Currently, six groundwater monitoring wells remain in place, four of which are sampled and monitored semiannually.

3 CURRENT SITE MONITORING ACTIVITIES

The site currently has a network of six monitoring wells; four wells are monitored and sampled semiannually (MW-1R, MW-2R, MW-8RR, and MW-9). Historically, concentrations of volatile organic compounds (VOCs), gasoline range organics (GRO), and diesel range organics (DRO) have exceeded their respective ADEC Method 2 groundwater cleanup levels in several monitoring wells.

4 GEOLOGY AND HYDROGEOLOGY

4.1 Site Hydrogeology

The site is in south central Alaska, south of the Knik Arm and north of the Turnagain Arm of Cook Inlet. From 1992 until present, static groundwater depths at the site have ranged between 8.58 to 24.53 feet below top of casing (ft btoc). Historic ground water flow is to the northwest.

5 REFERENCES

GHD Inc. 2018. Second Semiannual 2018 Groundwater Monitoring Report Former Chevron-Branded Service Station 97324, 4417 Lake Otis Parkway , Anchorage, AK. December 5

APPENDIX B

Daily Log

Project Name : 97324
Project Number : 30063667
Purpose : Gw sampling
PPE : Level D
Equipment: Water Quality Meter (i.e. YSI), Water Level Meter (WLM), Bladder Pump, Photoionization Detector (PID)

Weather(°F) : Clear
Prepared By: Evan Wujcik

Date	Time	Description of Activities
04/04/2022	07:00	Arrive on site Open permit to work Locate Wells
04/04/2022	09:00	Sample MW-2R Decon equipment Blind duplicate Samples collected at this location See chain of custody for analytes
04/04/2022	10:00	Sample MW-8RR Decon equipment See chain of custody for analytes
04/04/2022	11:00	Sample MW-1R Decon equipment MS/MSD Samples collected at this location See chain of custody for analytes
04/04/2022	12:00	Sample MW-9 Decon equipment See chain of custody for analytes
04/04/2022	12:30	Load vehicle Mobilize offsite

Signature:

Waste Management:

Drums On Site										
Date	Are there any waste drums on site?	Number of Drums upon Arrival	Size of Drums	Type of Drums	Condition of Drums	Waste Drummed Today?	Number of drums Created	Size of drums	Condition of Drums	General Waste Comments
04/04/2022	no					no				

Daily Log

Equipment and Calibration Information:

Supplier: Pine

Model:

Rental Number:

Calibrated:

Bump Checked:

Calibration Passed:

Water Quality Meter SN:

Date	Time	Calibrated Fulid and Value	Lot #	Expiration Date	Initial Reading	Final Reading
04/04/2022						

Equipment and Calibration Information:

Supplier: Pine

Model:

Rental Number:

Calibrated:

Bump Checked:

Calibration Passed:

PIDSN:

Date	Time	Calibrated Fulid and Value	Lot #	Expiration Date	Initial Reading	Final Reading
04/04/2022	--					

Groundwater Gauging Log

Project Number	30063667
Client:	Chevron
Site ID:	97324
Site Location:	Anchorage, Alaska
Measuring Point:	Top of Casing
Date(s):	04/04/2022
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
MW-1R	04/04/2022	09:12	23.85	ND	31.00	0	--	--
MW-2R	04/04/2022	08:12	24.58	ND	31.20	0	--	--
MW-8RR	04/04/2022	08:59	22.73	ND	32.50	0	--	--
MW-9	04/04/2022	10:09	15.5	ND	19.30	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	30063667	**Well ID**	MW-1R	**Date**	4/4/2022		
Site Location	Anchorage, Alaska	**Site ID**	97324	**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)	23.85	**Total Depth (ft-bmp)**	31	**Water Column (ft)**	7.15	**Gallons in Well**	1.16
Water Quality Meter Make/Model	Horiba U-52	**Purge Method**	Low-Flow	**Sample Method**			Grab
Sample Time	11:00	**Well Volumes Purged**	0.68	**Sample ID**	MW-1R-W-20220404	**Evacuation Equipment**	Bladder
Purge Start	10:30	**Gallons Purged**	0.79	**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	23.85	6.56	0.431	60.0	3.43	4.13	122	--	--
10:36	200	23.85	6.48	0.352	49.7	4.59	4.13	132	--	--
10:39	200	23.85	6.39	0.300	40.6	5.39	4.12	140	--	--
10:42	200	23.85	6.35	0.292	35.7	5.55	4.12	144	--	--
10:45	200	23.85	6.32	0.282	33.4	5.51	4.12	146	--	--

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-1R-W-20220404 Sample Time: 11:00 Sample Depth (ft-bmp): 24.5

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	30063667	**Well ID**	MW-2R	**Date**	4/4/2022		
Site Location	Anchorage, Alaska	**Site ID**	97324	**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)	24.58	**Total Depth (ft-bmp)**	31.2	**Water Column (ft)**	6.62	**Gallons in Well**	1.08
Water Quality Meter Make/Model	Horiba U-52	**Purge Method**	Low-Flow	**Sample Method**			Grab
Sample Time	09:00	**Well Volumes Purged**	0.59	**Sample ID**	MW-2R-W-20220404	**Evacuation Equipment**	Bladder
Purge Start	08:30	**Gallons Purged**	0.63	**Duplicate ID**	BD		
Purge End	08:50	**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
08:33	200	24.60	7.26	1.13	16.8	0.95	3.55	31	--	--
08:36	200	24.60	7.28	1.10	16.0	0.80	3.50	27	--	--
08:39	200	24.60	7.30	1.09	15.6	0.76	3.48	25	--	--
08:42	200	24.60	7.29	1.08	15.0	0.73	3.45	24	--	--

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-2R-W-20220404 Sample Time: 09:00 Sample Depth (ft-bmp): 25

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	30063667	**Well ID**	MW-8RR	**Date**	4/4/2022		
Site Location	Anchorage, Alaska	**Site ID**	97324	**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)	22.73	**Total Depth (ft-bmp)**	32.5	**Water Column (ft)**	9.77	**Gallons in Well**	1.59
Water Quality Meter Make/Model	Horiba U-52	**Purge Method**	Low-Flow	**Sample Method**			Grab
Sample Time	10:00	**Well Volumes Purged**	0.50	**Sample ID**	MW-8RR-W-20220404	**Evacuation Equipment**	Bladder
Purge Start	09:30	**Gallons Purged**	0.79	**Duplicate ID**	--		
Purge End	09:50	**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
09:33	200	22.73	6.96	0.831	92.0	3.83	3.88	54	--	--
09:36	200	22.73	6.88	0.828	75.6	4.05	4.00	72	--	--
09:39	200	22.73	6.81	0.827	60.7	4.15	4.05	82	--	--
09:42	200	22.73	6.76	0.825	40.4	4.09	4.08	85	--	--
09:45	200	22.73	6.74	0.822	39.0	4.02	4.11	87	--	--

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-8RR-W-20220404 Sample Time: 10:00 Sample Depth (ft-bmp): 23

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	30063667	**Well ID**	MW-9	**Date**	4/4/2022		
Site Location	Anchorage, Alaska	**Site ID**	97324	**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)	15.5	**Total Depth (ft-bmp)**	19.3	**Water Column (ft)**	3.80	**Gallons in Well**	0.62
Water Quality Meter Make/Model	Horiba U-52	**Purge Method**	Low-Flow	**Sample Method**		Grab	
Sample Time	12:00	**Well Volumes Purged**	1.02	**Sample ID**	MW-9-W-20220404	**Evacuation Equipment**	Bladder
Purge Start	11:30	**Gallons Purged**	0.63	**Duplicate ID**	--		
Purge End	11:50	**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
11:33	200	15.50	6.39	0.317	114	6.26	3.30	152	--	--
11:36	200	15.50	6.27	0.321	99.4	5.52	3.32	161	--	--
11:39	200	15.50	6.24	0.324	80.4	4.81	3.33	164	--	--
11:42	200	15.50	6.21	0.325	72.3	4.60	3.30	166	--	--

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-20220404 Sample Time: 12:00 Sample Depth (ft-bmp): 16

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

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:

Elysha Nygaard — 5/24/2022
Elysha Nygaard — Date

Reviewed by:

Nick Wood, P.E. — 5/24/2022
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:

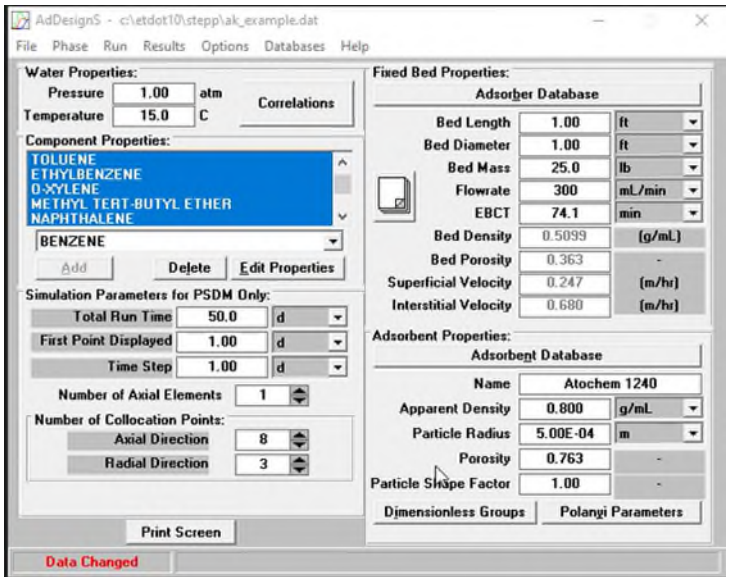
- 26 Sites in Arcadis' Chevron Alaska Portfolio are sampled utilizing portable GAC vessels to purge treated groundwater to surface. There are 18 Sites across Anchorage that utilize one portable GAC vessel and 8 Sites across Fairbanks that utilize a second portable GAC vessel. For the purpose of applying 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

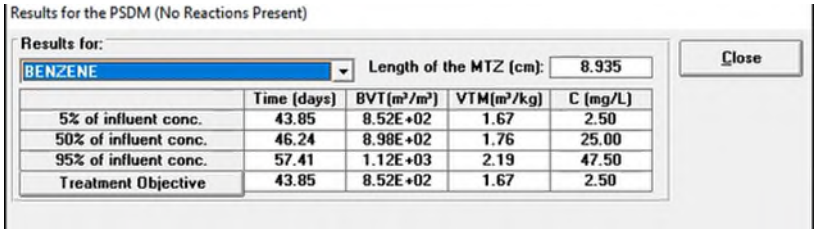
Figure A-1 PDSM Parameters, Fixed Bed and Adsorbent Properties



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

Results for the PSDM (No Reactions Present)

Results for: TOLUENE — Length of the MTZ (cm): 1.761 — Close

	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

Results for the PSDM (No Reactions Present)

Results for: ETHYLBENZENE — Length of the MTZ (cm): N/A — Close

	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

Results for the PSDM (No Reactions Present)

Results for: O-XYLENE — Length of the MTZ (cm): N/A — Close

	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

Results for the PSDM (No Reactions Present)

Results for: NAPHTHALENE — Length of the MTZ (cm): N/A — Close

	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

Results for the PSDM (No Reactions Present)

Results for: METHYL TERT-BUTYL ETHER — Length of the MTZ (cm): 4.737 — Close

	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)

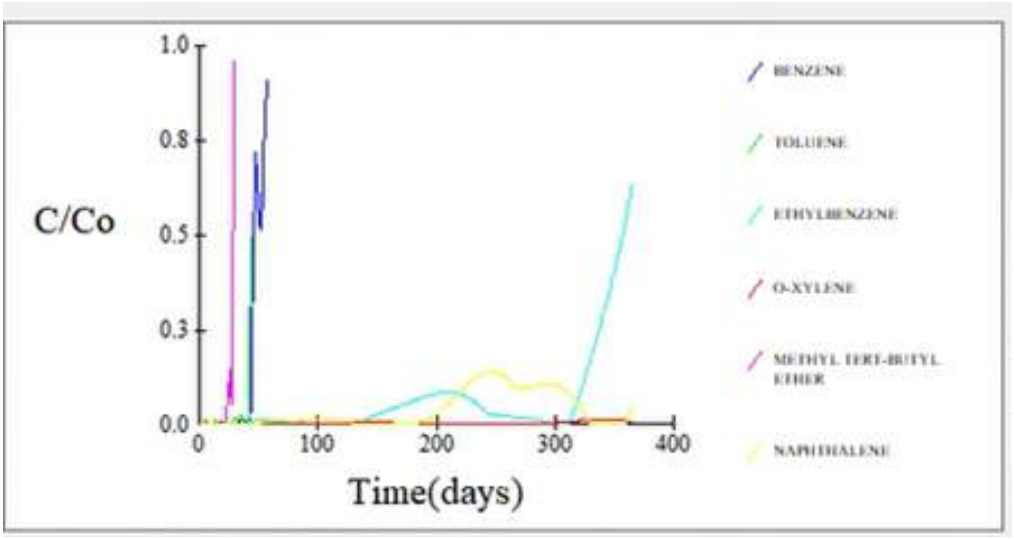
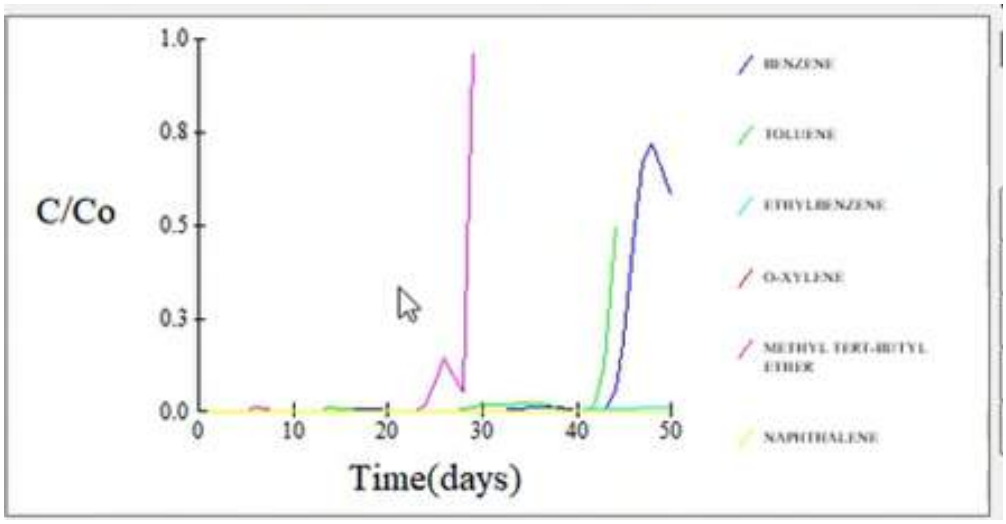


Figure A-9 COPC Breakthrough (Monthly)



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

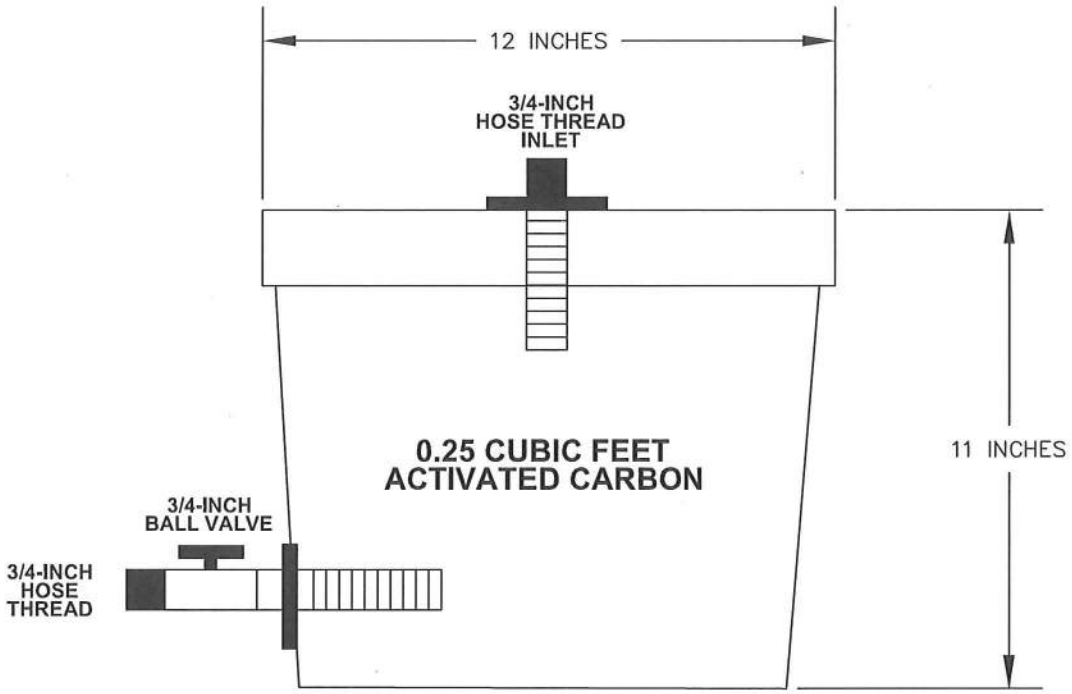
ARCADIS

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

ANALYTICAL REPORT

April 15, 2022

Arcadis - Chevron - AK

Sample Delivery Group:	L1479046
Samples Received:	04/06/2022
Project Number:	30063667.19.21
Description:	97324
Site:	4417 LAKE OTIS PKWY, ANCHORAGE
Report To:	Sydney Clark/Erika Midkiff 880 H St. Anchorage, AK 99501

Entire Report Reviewed By:

Jordan N Zito
Project Manager

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

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MW-2R-W-20220404 L1479046-01 GW

Collected by: E Wujcik | Collected date/time: 04/04/22 09:00 | Received date/time: 04/06/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method AK101	WG1846884	1	04/13/22 19:44	04/13/22 19:44	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1844497	25	04/07/22 15:06	04/07/22 15:06	BRA	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1844554	1	04/07/22 11:51	04/07/22 11:51	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG1847788	1	04/13/22 14:26	04/13/22 20:33	DMG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1844094	1.25	04/07/22 04:03	04/08/22 01:32	AGW	Mt. Juliet, TN

MW-8RR-W-20220404 L1479046-02 GW

Collected by: E Wujcik | Collected date/time: 04/04/22 10:00 | Received date/time: 04/06/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method AK101	WG1846884	1	04/13/22 20:10	04/13/22 20:10	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1844497	1	04/07/22 14:42	04/07/22 14:42	BRA	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1844554	1	04/07/22 12:10	04/07/22 12:10	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG1847788	1	04/13/22 14:26	04/13/22 20:54	DMG	Mt. Juliet, TN

MW-1R-W-20220404 L1479046-03 GW

Collected by: E Wujcik | Collected date/time: 04/04/22 11:00 | Received date/time: 04/06/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method AK101	WG1846884	1	04/13/22 20:37	04/13/22 20:37	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1844497	1	04/07/22 14:18	04/07/22 14:18	BRA	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1844554	1	04/07/22 12:29	04/07/22 12:29	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG1847788	1	04/13/22 14:26	04/13/22 21:14	DMG	Mt. Juliet, TN

MW-9-W-20220404 L1479046-04 GW

Collected by: E Wujcik | Collected date/time: 04/04/22 12:00 | Received date/time: 04/06/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method AK101	WG1846884	1	04/13/22 21:03	04/13/22 21:03	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1844497	25	04/07/22 15:29	04/07/22 15:29	BRA	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1844554	1	04/07/22 12:48	04/07/22 12:48	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG1847788	1	04/13/22 14:26	04/13/22 22:14	DMG	Mt. Juliet, TN

BD-1-W-20220404 L1479046-05 GW

Collected by: E Wujcik | Collected date/time: 04/04/22 00:00 | Received date/time: 04/06/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method AK101	WG1846884	1	04/13/22 21:30	04/13/22 21:30	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1844497	25	04/07/22 15:53	04/07/22 15:53	BRA	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1844554	1	04/07/22 13:07	04/07/22 13:07	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG1847788	1	04/13/22 14:26	04/13/22 22:35	DMG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1844094	1.25	04/07/22 04:03	04/08/22 01:52	SHG	Mt. Juliet, TN

EQB-1-W-20220404 L1479046-06 GW

Collected by: E Wujcik | Collected date/time: 04/04/22 13:00 | Received date/time: 04/06/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method AK101	WG1846884	1	04/13/22 18:51	04/13/22 18:51	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1844497	1	04/07/22 13:54	04/07/22 13:54	BRA	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1844554	1	04/07/22 10:34	04/07/22 10:34	BMB	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG1847788	1	04/13/22 14:26	04/13/22 22:55	DMG	Mt. Juliet, TN

EQB-1-W-20220404 L1479046-06 GW

Collected by: E Wujcik
Collected date/time: 04/04/22 13:00
Received date/time: 04/06/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM	WG1844094	1.25	04/07/22 04:03	04/08/22 00:52	AGW	Mt. Juliet, TN

TRIP BLANK-W-20220404 L1479046-07 GW

Collected by: E Wujcik
Collected date/time: 04/04/22 00:00
Received date/time: 04/06/22 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC) by Method AK101	WG1846884	1	04/13/22 17:58	04/13/22 17:58	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1844497	1	04/07/22 13:30	04/07/22 13:30	BRA	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1844554	1	04/07/22 10:15	04/07/22 10:15	BMB	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.

Jordan N Zito
Project Manager

Sample Delivery Group (SDG) Narrative

Analyzed from headspace vial.

Batch	Method	Lab Sample ID
WG1846884	AK101	L1479046-07

Volatile Organic Compounds (GC) by Method AK101

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

Batch	Lab Sample ID	Analytes
WG1846884	(MS) R3781213-3, (MS) R3781213-5, (MSD) R3781213-6, (MSD) R3781213-4, L1479046-03	TPHGAK C6 to C10

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

Batch	Lab Sample ID	Analytes
WG1846884	(MSD) R3781213-4, (MSD) R3781213-6, L1479046-03	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. Method sensitivity check is acceptable.

Batch	Lab Sample ID	Analytes
WG1844554	L1479046-01	Acrolein
WG1844554	L1479046-02	Acrolein
WG1844554	L1479046-03	Acrolein
WG1844554	L1479046-04	Acrolein
WG1844554	L1479046-05	Acrolein
WG1844554	L1479046-06	Acrolein
WG1844554	L1479046-07	Acrolein

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

Batch	Lab Sample ID	Analytes
WG1844554	(LCSD) R3778810-2, L1479046-01, 02, 03, 04, 05, 06, 07	1,2-Dibromo-3-Chloropropane, Acetone and Methyl tert-butyl ether

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

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

Batch	Lab Sample ID	Analytes
WG1844554	(LCSD) R3778810-2, L1479046-01, 02, 04, 05, 06, 07	27 analytes

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

Batch	Lab Sample ID	Analytes
WG1844554	(MS) R3778810-4, (MSD) R3778810-5, L1479046-03	1,2-Dibromo-3-Chloropropane, 2-Butanone (MEK), 4-Methyl-2-pentanone (MIBK), Acetone and Methyl tert-butyl ether

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	1220		28.7	100	1	04/13/2022 19:44	WG1846884
(S) a,a,a-Trifluorotoluene(FID)	*98.2*			*50.0-150*		*04/13/2022 19:44*	WG1846884

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		0.0500	0.125	25	04/07/2022 15:06	WG1844497
Acetone	U	J3 J4	11.3	50.0	1	04/07/2022 11:51	WG1844554
1,2-Dibromoethane	U		0.103	0.125	25	04/07/2022 15:06	WG1844497
Acrolein	U	C3 J3	2.54	50.0	1	04/07/2022 11:51	WG1844554
Acrylonitrile	U	J3	0.671	10.0	1	04/07/2022 11:51	WG1844554
Benzene	6.29		0.0941	1.00	1	04/07/2022 11:51	WG1844554
Bromobenzene	U	J3	0.118	1.00	1	04/07/2022 11:51	WG1844554
Bromochloromethane	U		0.128	1.00	1	04/07/2022 11:51	WG1844554
Bromodichloromethane	U		0.136	1.00	1	04/07/2022 11:51	WG1844554
Bromoform	U	J3	0.129	1.00	1	04/07/2022 11:51	WG1844554
Bromomethane	U		0.605	5.00	1	04/07/2022 11:51	WG1844554
n-Butylbenzene	7.41	J3	0.157	1.00	1	04/07/2022 11:51	WG1844554
sec-Butylbenzene	11.3	J3	0.125	1.00	1	04/07/2022 11:51	WG1844554
tert-Butylbenzene	13.9	J3	0.127	1.00	1	04/07/2022 11:51	WG1844554
Carbon disulfide	U		0.0962	1.00	1	04/07/2022 11:51	WG1844554
Carbon tetrachloride	U		0.128	1.00	1	04/07/2022 11:51	WG1844554
Chlorobenzene	U		0.116	1.00	1	04/07/2022 11:51	WG1844554
Chlorodibromomethane	U		0.140	1.00	1	04/07/2022 11:51	WG1844554
Chloroethane	U		0.192	5.00	1	04/07/2022 11:51	WG1844554
Chloroform	U		0.111	5.00	1	04/07/2022 11:51	WG1844554
Chloromethane	U		0.960	2.50	1	04/07/2022 11:51	WG1844554
2-Chlorotoluene	U	J3	0.106	1.00	1	04/07/2022 11:51	WG1844554
4-Chlorotoluene	U	J3	0.114	1.00	1	04/07/2022 11:51	WG1844554
1,2-Dibromo-3-Chloropropane	U	J3 J4	0.276	5.00	1	04/07/2022 11:51	WG1844554
Dibromomethane	U		0.122	1.00	1	04/07/2022 11:51	WG1844554
1,2-Dichlorobenzene	U	J3	0.107	1.00	1	04/07/2022 11:51	WG1844554
1,3-Dichlorobenzene	U	J3	0.110	1.00	1	04/07/2022 11:51	WG1844554
1,4-Dichlorobenzene	U	J3	0.120	1.00	1	04/07/2022 11:51	WG1844554
Dichlorodifluoromethane	U		0.374	5.00	1	04/07/2022 11:51	WG1844554
1,1-Dichloroethane	U		0.100	1.00	1	04/07/2022 11:51	WG1844554
1,2-Dichloroethane	6.40		0.0819	1.00	1	04/07/2022 11:51	WG1844554
1,1-Dichloroethene	U		0.188	1.00	1	04/07/2022 11:51	WG1844554
cis-1,2-Dichloroethene	U		0.126	1.00	1	04/07/2022 11:51	WG1844554
trans-1,2-Dichloroethene	U		0.149	1.00	1	04/07/2022 11:51	WG1844554
1,2-Dichloropropane	U		0.149	1.00	1	04/07/2022 11:51	WG1844554
1,1-Dichloropropene	U		0.142	1.00	1	04/07/2022 11:51	WG1844554
1,3-Dichloropropane	U		0.110	1.00	1	04/07/2022 11:51	WG1844554
cis-1,3-Dichloropropene	U		0.111	1.00	1	04/07/2022 11:51	WG1844554
trans-1,3-Dichloropropene	U		0.118	1.00	1	04/07/2022 11:51	WG1844554
2,2-Dichloropropane	U		0.161	1.00	1	04/07/2022 11:51	WG1844554
Di-isopropyl ether	U		0.105	1.00	1	04/07/2022 11:51	WG1844554
Ethylbenzene	72.3		0.137	1.00	1	04/07/2022 11:51	WG1844554
Hexachloro-1,3-butadiene	U	J3	0.337	1.00	1	04/07/2022 11:51	WG1844554
Isopropylbenzene	37.7		0.105	1.00	1	04/07/2022 11:51	WG1844554
p-Isopropyltoluene	2.73	J3	0.120	1.00	1	04/07/2022 11:51	WG1844554
2-Butanone (MEK)	U	J3	1.19	10.0	1	04/07/2022 11:51	WG1844554
Methylene Chloride	U		0.430	5.00	1	04/07/2022 11:51	WG1844554
4-Methyl-2-pentanone (MIBK)	U	J3	0.478	10.0	1	04/07/2022 11:51	WG1844554
Methyl tert-butyl ether	U	J3 J4	0.101	1.00	1	04/07/2022 11:51	WG1844554

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	31.0	J3	1.00	5.00	1	04/07/2022 11:51	WG1844554
n-Propylbenzene	81.0	J3	0.0993	1.00	1	04/07/2022 11:51	WG1844554
Styrene	U		0.118	1.00	1	04/07/2022 11:51	WG1844554
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	04/07/2022 11:51	WG1844554
1,1,2,2-Tetrachloroethane	U	J3	0.133	1.00	1	04/07/2022 11:51	WG1844554
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	04/07/2022 11:51	WG1844554
Tetrachloroethene	U		0.300	1.00	1	04/07/2022 11:51	WG1844554
Toluene	1.32		0.278	1.00	1	04/07/2022 11:51	WG1844554
1,2,3-Trichlorobenzene	U	J3	0.230	1.00	1	04/07/2022 11:51	WG1844554
1,2,4-Trichlorobenzene	U	J3	0.481	1.00	1	04/07/2022 11:51	WG1844554
1,1,1-Trichloroethane	U		0.149	1.00	1	04/07/2022 11:51	WG1844554
1,1,2-Trichloroethane	U		0.158	1.00	1	04/07/2022 11:51	WG1844554
Trichloroethene	U		0.190	1.00	1	04/07/2022 11:51	WG1844554
Trichlorofluoromethane	U		0.160	5.00	1	04/07/2022 11:51	WG1844554
1,2,4-Trimethylbenzene	17.8	J3	0.322	1.00	1	04/07/2022 11:51	WG1844554
1,2,3-Trimethylbenzene	2.94	J3	0.104	1.00	1	04/07/2022 11:51	WG1844554
1,3,5-Trimethylbenzene	1.08	J3	0.104	1.00	1	04/07/2022 11:51	WG1844554
Vinyl chloride	U		0.234	1.00	1	04/07/2022 11:51	WG1844554
Xylenes, Total	22.7		0.174	3.00	1	04/07/2022 11:51	WG1844554
o-Xylene	1.76		0.174	1.00	1	04/07/2022 11:51	WG1844554
m&p-Xylene	20.9		0.430	2.00	1	04/07/2022 11:51	WG1844554
(S) Toluene-d8	*96.3*			*80.0-120*		*04/07/2022 11:51*	WG1844554
(S) 4-Bromofluorobenzene	*96.4*			*77.0-126*		*04/07/2022 11:51*	WG1844554
(S) 1,2-Dichloroethane-d4	*108*			*70.0-130*		*04/07/2022 11:51*	WG1844554

Sample Narrative:

L1479046-01 WG1844497: Non-target compounds too high to run at a lower dilution.

Semi-Volatile Organic Compounds (GC) by Method AK102

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	1610		229	800	1	04/13/2022 20:33	WG1847788
(S) o-Terphenyl	*71.2*			*50.0-150*		*04/13/2022 20:33*	WG1847788

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Anthracene	U		0.0238	0.0625	1.25	04/08/2022 01:32	WG1844094
Acenaphthene	0.0560	J	0.0238	0.0625	1.25	04/08/2022 01:32	WG1844094
Acenaphthylene	U		0.0213	0.0625	1.25	04/08/2022 01:32	WG1844094
Benzo(a)anthracene	U		0.0250	0.0625	1.25	04/08/2022 01:32	WG1844094
Benzo(a)pyrene	U		0.0225	0.0625	1.25	04/08/2022 01:32	WG1844094
Benzo(b)fluoranthene	U		0.0213	0.0625	1.25	04/08/2022 01:32	WG1844094
Benzo(g,h,i)perylene	U		0.0225	0.0625	1.25	04/08/2022 01:32	WG1844094
Benzo(k)fluoranthene	U		0.0250	0.313	1.25	04/08/2022 01:32	WG1844094
Chrysene	U		0.0225	0.0625	1.25	04/08/2022 01:32	WG1844094
Dibenz(a,h)anthracene	U		0.0225	0.0625	1.25	04/08/2022 01:32	WG1844094
Fluoranthene	0.0223	J	0.0137	0.0625	1.25	04/08/2022 01:32	WG1844094
Fluorene	U		0.0213	0.0625	1.25	04/08/2022 01:32	WG1844094
Indeno(1,2,3-cd)pyrene	U		0.0225	0.0625	1.25	04/08/2022 01:32	WG1844094
Naphthalene	19.1		0.160	0.625	1.25	04/08/2022 01:32	WG1844094
Phenanthrene	U		0.0225	0.0625	1.25	04/08/2022 01:32	WG1844094
Pyrene	U		0.0213	0.0625	1.25	04/08/2022 01:32	WG1844094
1-Methylnaphthalene	8.11		0.0250	0.625	1.25	04/08/2022 01:32	WG1844094
2-Methylnaphthalene	2.04		0.0350	0.625	1.25	04/08/2022 01:32	WG1844094

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
2-Chloronaphthalene	U		0.0150	0.625	1.25	04/08/2022 01:32	WG1844094
(S) Nitrobenzene-d5	*79.6*			*11.0-135*		*04/08/2022 01:32*	WG1844094
(S) 2-Fluorobiphenyl	*85.2*			*32.0-120*		*04/08/2022 01:32*	WG1844094
(S) p-Terphenyl-d14	*86.8*			*23.0-122*		*04/08/2022 01:32*	WG1844094

Sample Narrative:

L1479046-01 WG1844094: Dilution due to sample volume.

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	04/13/2022 20:10	WG1846884
(S) a,a,a-Trifluorotoluene(FID)	*94.8*			*50.0-150*		*04/13/2022 20:10*	WG1846884

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	04/07/2022 14:42	WG1844497
Acetone	U	J3 J4	11.3	50.0	1	04/07/2022 12:10	WG1844554
1,2-Dibromoethane	0.0120		0.00410	0.00500	1	04/07/2022 14:42	WG1844497
Acrolein	U	C3 J3	2.54	50.0	1	04/07/2022 12:10	WG1844554
Acrylonitrile	U	J3	0.671	10.0	1	04/07/2022 12:10	WG1844554
Benzene	U		0.0941	1.00	1	04/07/2022 12:10	WG1844554
Bromobenzene	U	J3	0.118	1.00	1	04/07/2022 12:10	WG1844554
Bromochloromethane	U		0.128	1.00	1	04/07/2022 12:10	WG1844554
Bromodichloromethane	U		0.136	1.00	1	04/07/2022 12:10	WG1844554
Bromoform	U	J3	0.129	1.00	1	04/07/2022 12:10	WG1844554
Bromomethane	U		0.605	5.00	1	04/07/2022 12:10	WG1844554
n-Butylbenzene	U	J3	0.157	1.00	1	04/07/2022 12:10	WG1844554
sec-Butylbenzene	U	J3	0.125	1.00	1	04/07/2022 12:10	WG1844554
tert-Butylbenzene	U	J3	0.127	1.00	1	04/07/2022 12:10	WG1844554
Carbon disulfide	U		0.0962	1.00	1	04/07/2022 12:10	WG1844554
Carbon tetrachloride	U		0.128	1.00	1	04/07/2022 12:10	WG1844554
Chlorobenzene	U		0.116	1.00	1	04/07/2022 12:10	WG1844554
Chlorodibromomethane	U		0.140	1.00	1	04/07/2022 12:10	WG1844554
Chloroethane	U		0.192	5.00	1	04/07/2022 12:10	WG1844554
Chloroform	U		0.111	5.00	1	04/07/2022 12:10	WG1844554
Chloromethane	U		0.960	2.50	1	04/07/2022 12:10	WG1844554
2-Chlorotoluene	U	J3	0.106	1.00	1	04/07/2022 12:10	WG1844554
4-Chlorotoluene	U	J3	0.114	1.00	1	04/07/2022 12:10	WG1844554
1,2-Dibromo-3-Chloropropane	U	J3 J4	0.276	5.00	1	04/07/2022 12:10	WG1844554
Dibromomethane	U		0.122	1.00	1	04/07/2022 12:10	WG1844554
1,2-Dichlorobenzene	U	J3	0.107	1.00	1	04/07/2022 12:10	WG1844554
1,3-Dichlorobenzene	U	J3	0.110	1.00	1	04/07/2022 12:10	WG1844554
1,4-Dichlorobenzene	U	J3	0.120	1.00	1	04/07/2022 12:10	WG1844554
Dichlorodifluoromethane	U		0.374	5.00	1	04/07/2022 12:10	WG1844554
1,1-Dichloroethane	U		0.100	1.00	1	04/07/2022 12:10	WG1844554
1,2-Dichloroethane	0.622	J	0.0819	1.00	1	04/07/2022 12:10	WG1844554
1,1-Dichloroethene	U		0.188	1.00	1	04/07/2022 12:10	WG1844554
cis-1,2-Dichloroethene	U		0.126	1.00	1	04/07/2022 12:10	WG1844554
trans-1,2-Dichloroethene	U		0.149	1.00	1	04/07/2022 12:10	WG1844554
1,2-Dichloropropane	U		0.149	1.00	1	04/07/2022 12:10	WG1844554
1,1-Dichloropropene	U		0.142	1.00	1	04/07/2022 12:10	WG1844554
1,3-Dichloropropane	U		0.110	1.00	1	04/07/2022 12:10	WG1844554
cis-1,3-Dichloropropene	U		0.111	1.00	1	04/07/2022 12:10	WG1844554
trans-1,3-Dichloropropene	U		0.118	1.00	1	04/07/2022 12:10	WG1844554
2,2-Dichloropropane	U		0.161	1.00	1	04/07/2022 12:10	WG1844554
Di-isopropyl ether	U		0.105	1.00	1	04/07/2022 12:10	WG1844554
Ethylbenzene	U		0.137	1.00	1	04/07/2022 12:10	WG1844554
Hexachloro-1,3-butadiene	U	J3	0.337	1.00	1	04/07/2022 12:10	WG1844554
Isopropylbenzene	U		0.105	1.00	1	04/07/2022 12:10	WG1844554
p-Isopropyltoluene	U	J3	0.120	1.00	1	04/07/2022 12:10	WG1844554
2-Butanone (MEK)	U	J3	1.19	10.0	1	04/07/2022 12:10	WG1844554
Methylene Chloride	U		0.430	5.00	1	04/07/2022 12:10	WG1844554
4-Methyl-2-pentanone (MIBK)	U	J3	0.478	10.0	1	04/07/2022 12:10	WG1844554
Methyl tert-butyl ether	U	J3 J4	0.101	1.00	1	04/07/2022 12:10	WG1844554

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	J3	1.00	5.00	1	04/07/2022 12:10	WG1844554
n-Propylbenzene	0.124	J J3	0.0993	1.00	1	04/07/2022 12:10	WG1844554
Styrene	U		0.118	1.00	1	04/07/2022 12:10	WG1844554
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	04/07/2022 12:10	WG1844554
1,1,2,2-Tetrachloroethane	U	J3	0.133	1.00	1	04/07/2022 12:10	WG1844554
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	04/07/2022 12:10	WG1844554
Tetrachloroethene	1.83		0.300	1.00	1	04/07/2022 12:10	WG1844554
Toluene	U		0.278	1.00	1	04/07/2022 12:10	WG1844554
1,2,3-Trichlorobenzene	U	J3	0.230	1.00	1	04/07/2022 12:10	WG1844554
1,2,4-Trichlorobenzene	U	J3	0.481	1.00	1	04/07/2022 12:10	WG1844554
1,1,1-Trichloroethane	U		0.149	1.00	1	04/07/2022 12:10	WG1844554
1,1,2-Trichloroethane	U		0.158	1.00	1	04/07/2022 12:10	WG1844554
Trichloroethene	U		0.190	1.00	1	04/07/2022 12:10	WG1844554
Trichlorofluoromethane	U		0.160	5.00	1	04/07/2022 12:10	WG1844554
1,2,4-Trimethylbenzene	U	J3	0.322	1.00	1	04/07/2022 12:10	WG1844554
1,2,3-Trimethylbenzene	U	J3	0.104	1.00	1	04/07/2022 12:10	WG1844554
1,3,5-Trimethylbenzene	U	J3	0.104	1.00	1	04/07/2022 12:10	WG1844554
Vinyl chloride	U		0.234	1.00	1	04/07/2022 12:10	WG1844554
Xylenes, Total	U		0.174	3.00	1	04/07/2022 12:10	WG1844554
o-Xylene	U		0.174	1.00	1	04/07/2022 12:10	WG1844554
m&p-Xylene	U		0.430	2.00	1	04/07/2022 12:10	WG1844554
(S) Toluene-d8	*105*			*80.0-120*		*04/07/2022 12:10*	WG1844554
(S) 4-Bromofluorobenzene	*110*			*77.0-126*		*04/07/2022 12:10*	WG1844554
(S) 1,2-Dichloroethane-d4	*109*			*70.0-130*		*04/07/2022 12:10*	WG1844554

Semi-Volatile Organic Compounds (GC) by Method AK102

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
AK102 DRO C10-C25	U		229	800	1	04/13/2022 20:54	WG1847788
(S) o-Terphenyl	*56.2*			*50.0-150*		*04/13/2022 20:54*	WG1847788

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	J3 J6	28.7	100	1	04/13/2022 20:37	WG1846884
(S) a,a,a-Trifluorotoluene(FID)	*94.0*			*50.0-150*		*04/13/2022 20:37*	WG1846884

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	04/07/2022 14:18	WG1844497
Acetone	U	J4 J5	11.3	50.0	1	04/07/2022 12:29	WG1844554
1,2-Dibromoethane	U		0.00410	0.00500	1	04/07/2022 14:18	WG1844497
Acrolein	U	C3	2.54	50.0	1	04/07/2022 12:29	WG1844554
Acrylonitrile	U		0.671	10.0	1	04/07/2022 12:29	WG1844554
Benzene	U		0.0941	1.00	1	04/07/2022 12:29	WG1844554
Bromobenzene	U		0.118	1.00	1	04/07/2022 12:29	WG1844554
Bromochloromethane	U		0.128	1.00	1	04/07/2022 12:29	WG1844554
Bromodichloromethane	U		0.136	1.00	1	04/07/2022 12:29	WG1844554
Bromoform	U		0.129	1.00	1	04/07/2022 12:29	WG1844554
Bromomethane	U		0.605	5.00	1	04/07/2022 12:29	WG1844554
n-Butylbenzene	U		0.157	1.00	1	04/07/2022 12:29	WG1844554
sec-Butylbenzene	U		0.125	1.00	1	04/07/2022 12:29	WG1844554
tert-Butylbenzene	U		0.127	1.00	1	04/07/2022 12:29	WG1844554
Carbon disulfide	U		0.0962	1.00	1	04/07/2022 12:29	WG1844554
Carbon tetrachloride	U		0.128	1.00	1	04/07/2022 12:29	WG1844554
Chlorobenzene	U		0.116	1.00	1	04/07/2022 12:29	WG1844554
Chlorodibromomethane	U		0.140	1.00	1	04/07/2022 12:29	WG1844554
Chloroethane	U		0.192	5.00	1	04/07/2022 12:29	WG1844554
Chloroform	U		0.111	5.00	1	04/07/2022 12:29	WG1844554
Chloromethane	U		0.960	2.50	1	04/07/2022 12:29	WG1844554
2-Chlorotoluene	U		0.106	1.00	1	04/07/2022 12:29	WG1844554
4-Chlorotoluene	U		0.114	1.00	1	04/07/2022 12:29	WG1844554
1,2-Dibromo-3-Chloropropane	U	J4 J5	0.276	5.00	1	04/07/2022 12:29	WG1844554
Dibromomethane	U		0.122	1.00	1	04/07/2022 12:29	WG1844554
1,2-Dichlorobenzene	U		0.107	1.00	1	04/07/2022 12:29	WG1844554
1,3-Dichlorobenzene	U		0.110	1.00	1	04/07/2022 12:29	WG1844554
1,4-Dichlorobenzene	U		0.120	1.00	1	04/07/2022 12:29	WG1844554
Dichlorodifluoromethane	U		0.374	5.00	1	04/07/2022 12:29	WG1844554
1,1-Dichloroethane	U		0.100	1.00	1	04/07/2022 12:29	WG1844554
1,2-Dichloroethane	1.91		0.0819	1.00	1	04/07/2022 12:29	WG1844554
1,1-Dichloroethene	U		0.188	1.00	1	04/07/2022 12:29	WG1844554
cis-1,2-Dichloroethene	U		0.126	1.00	1	04/07/2022 12:29	WG1844554
trans-1,2-Dichloroethene	U		0.149	1.00	1	04/07/2022 12:29	WG1844554
1,2-Dichloropropane	U		0.149	1.00	1	04/07/2022 12:29	WG1844554
1,1-Dichloropropene	U		0.142	1.00	1	04/07/2022 12:29	WG1844554
1,3-Dichloropropane	U		0.110	1.00	1	04/07/2022 12:29	WG1844554
cis-1,3-Dichloropropene	U		0.111	1.00	1	04/07/2022 12:29	WG1844554
trans-1,3-Dichloropropene	U		0.118	1.00	1	04/07/2022 12:29	WG1844554
2,2-Dichloropropane	U		0.161	1.00	1	04/07/2022 12:29	WG1844554
Di-isopropyl ether	U		0.105	1.00	1	04/07/2022 12:29	WG1844554
Ethylbenzene	U		0.137	1.00	1	04/07/2022 12:29	WG1844554
Hexachloro-1,3-butadiene	U		0.337	1.00	1	04/07/2022 12:29	WG1844554
Isopropylbenzene	U		0.105	1.00	1	04/07/2022 12:29	WG1844554
p-Isopropyltoluene	U		0.120	1.00	1	04/07/2022 12:29	WG1844554
2-Butanone (MEK)	U	J5	1.19	10.0	1	04/07/2022 12:29	WG1844554
Methylene Chloride	U		0.430	5.00	1	04/07/2022 12:29	WG1844554
4-Methyl-2-pentanone (MIBK)	U	J5	0.478	10.0	1	04/07/2022 12:29	WG1844554
Methyl tert-butyl ether	U	J4 J5	0.101	1.00	1	04/07/2022 12:29	WG1844554

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	04/07/2022 12:29	WG1844554
n-Propylbenzene	U		0.0993	1.00	1	04/07/2022 12:29	WG1844554
Styrene	U		0.118	1.00	1	04/07/2022 12:29	WG1844554
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	04/07/2022 12:29	WG1844554
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	04/07/2022 12:29	WG1844554
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	04/07/2022 12:29	WG1844554
Tetrachloroethene	0.905	J	0.300	1.00	1	04/07/2022 12:29	WG1844554
Toluene	U		0.278	1.00	1	04/07/2022 12:29	WG1844554
1,2,3-Trichlorobenzene	U		0.230	1.00	1	04/07/2022 12:29	WG1844554
1,2,4-Trichlorobenzene	U		0.481	1.00	1	04/07/2022 12:29	WG1844554
1,1,1-Trichloroethane	U		0.149	1.00	1	04/07/2022 12:29	WG1844554
1,1,2-Trichloroethane	U		0.158	1.00	1	04/07/2022 12:29	WG1844554
Trichloroethene	U		0.190	1.00	1	04/07/2022 12:29	WG1844554
Trichlorofluoromethane	U		0.160	5.00	1	04/07/2022 12:29	WG1844554
1,2,4-Trimethylbenzene	U		0.322	1.00	1	04/07/2022 12:29	WG1844554
1,2,3-Trimethylbenzene	U		0.104	1.00	1	04/07/2022 12:29	WG1844554
1,3,5-Trimethylbenzene	U		0.104	1.00	1	04/07/2022 12:29	WG1844554
Vinyl chloride	U		0.234	1.00	1	04/07/2022 12:29	WG1844554
Xylenes, Total	U		0.174	3.00	1	04/07/2022 12:29	WG1844554
o-Xylene	U		0.174	1.00	1	04/07/2022 12:29	WG1844554
m&p-Xylene	U		0.430	2.00	1	04/07/2022 12:29	WG1844554
(S) Toluene-d8	*104*			*80.0-120*		*04/07/2022 12:29*	WG1844554
(S) 4-Bromofluorobenzene	*109*			*77.0-126*		*04/07/2022 12:29*	WG1844554
(S) 1,2-Dichloroethane-d4	*111*			*70.0-130*		*04/07/2022 12:29*	WG1844554

Semi-Volatile Organic Compounds (GC) by Method AK102

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	U		229	800	1	04/13/2022 21:14	WG1847788
(S) o-Terphenyl	*60.9*			*50.0-150*		*04/13/2022 21:14*	WG1847788

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	44.5	J	28.7	100	1	04/13/2022 21:03	WG1846884
(S) a,a,a-Trifluorotoluene(FID)	*95.3*			*50.0-150*		*04/13/2022 21:03*	WG1846884

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		0.0500	0.125	25	04/07/2022 15:29	WG1844497
Acetone	U	J3 J4	11.3	50.0	1	04/07/2022 12:48	WG1844554
1,2-Dibromoethane	U		0.103	0.125	25	04/07/2022 15:29	WG1844497
Acrolein	U	C3 J3	2.54	50.0	1	04/07/2022 12:48	WG1844554
Acrylonitrile	U	J3	0.671	10.0	1	04/07/2022 12:48	WG1844554
Benzene	U		0.0941	1.00	1	04/07/2022 12:48	WG1844554
Bromobenzene	U	J3	0.118	1.00	1	04/07/2022 12:48	WG1844554
Bromochloromethane	U		0.128	1.00	1	04/07/2022 12:48	WG1844554
Bromodichloromethane	U		0.136	1.00	1	04/07/2022 12:48	WG1844554
Bromoform	U	J3	0.129	1.00	1	04/07/2022 12:48	WG1844554
Bromomethane	U		0.605	5.00	1	04/07/2022 12:48	WG1844554
n-Butylbenzene	U	J3	0.157	1.00	1	04/07/2022 12:48	WG1844554
sec-Butylbenzene	U	J3	0.125	1.00	1	04/07/2022 12:48	WG1844554
tert-Butylbenzene	U	J3	0.127	1.00	1	04/07/2022 12:48	WG1844554
Carbon disulfide	U		0.0962	1.00	1	04/07/2022 12:48	WG1844554
Carbon tetrachloride	U		0.128	1.00	1	04/07/2022 12:48	WG1844554
Chlorobenzene	U		0.116	1.00	1	04/07/2022 12:48	WG1844554
Chlorodibromomethane	U		0.140	1.00	1	04/07/2022 12:48	WG1844554
Chloroethane	U		0.192	5.00	1	04/07/2022 12:48	WG1844554
Chloroform	U		0.111	5.00	1	04/07/2022 12:48	WG1844554
Chloromethane	U		0.960	2.50	1	04/07/2022 12:48	WG1844554
2-Chlorotoluene	U	J3	0.106	1.00	1	04/07/2022 12:48	WG1844554
4-Chlorotoluene	U	J3	0.114	1.00	1	04/07/2022 12:48	WG1844554
1,2-Dibromo-3-Chloropropane	U	J3 J4	0.276	5.00	1	04/07/2022 12:48	WG1844554
Dibromomethane	U		0.122	1.00	1	04/07/2022 12:48	WG1844554
1,2-Dichlorobenzene	U	J3	0.107	1.00	1	04/07/2022 12:48	WG1844554
1,3-Dichlorobenzene	U	J3	0.110	1.00	1	04/07/2022 12:48	WG1844554
1,4-Dichlorobenzene	U	J3	0.120	1.00	1	04/07/2022 12:48	WG1844554
Dichlorodifluoromethane	U		0.374	5.00	1	04/07/2022 12:48	WG1844554
1,1-Dichloroethane	U		0.100	1.00	1	04/07/2022 12:48	WG1844554
1,2-Dichloroethane	U		0.0819	1.00	1	04/07/2022 12:48	WG1844554
1,1-Dichloroethene	U		0.188	1.00	1	04/07/2022 12:48	WG1844554
cis-1,2-Dichloroethene	26.3		0.126	1.00	1	04/07/2022 12:48	WG1844554
trans-1,2-Dichloroethene	U		0.149	1.00	1	04/07/2022 12:48	WG1844554
1,2-Dichloropropane	U		0.149	1.00	1	04/07/2022 12:48	WG1844554
1,1-Dichloropropene	U		0.142	1.00	1	04/07/2022 12:48	WG1844554
1,3-Dichloropropane	U		0.110	1.00	1	04/07/2022 12:48	WG1844554
cis-1,3-Dichloropropene	U		0.111	1.00	1	04/07/2022 12:48	WG1844554
trans-1,3-Dichloropropene	U		0.118	1.00	1	04/07/2022 12:48	WG1844554
2,2-Dichloropropane	U		0.161	1.00	1	04/07/2022 12:48	WG1844554
Di-isopropyl ether	U		0.105	1.00	1	04/07/2022 12:48	WG1844554
Ethylbenzene	U		0.137	1.00	1	04/07/2022 12:48	WG1844554
Hexachloro-1,3-butadiene	U	J3	0.337	1.00	1	04/07/2022 12:48	WG1844554
Isopropylbenzene	U		0.105	1.00	1	04/07/2022 12:48	WG1844554
p-Isopropyltoluene	U	J3	0.120	1.00	1	04/07/2022 12:48	WG1844554
2-Butanone (MEK)	U	J3	1.19	10.0	1	04/07/2022 12:48	WG1844554
Methylene Chloride	U		0.430	5.00	1	04/07/2022 12:48	WG1844554
4-Methyl-2-pentanone (MIBK)	U	J3	0.478	10.0	1	04/07/2022 12:48	WG1844554
Methyl tert-butyl ether	U	J3 J4	0.101	1.00	1	04/07/2022 12:48	WG1844554

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	J3	1.00	5.00	1	04/07/2022 12:48	WG1844554
n-Propylbenzene	U	J3	0.0993	1.00	1	04/07/2022 12:48	WG1844554
Styrene	U		0.118	1.00	1	04/07/2022 12:48	WG1844554
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	04/07/2022 12:48	WG1844554
1,1,2,2-Tetrachloroethane	U	J3	0.133	1.00	1	04/07/2022 12:48	WG1844554
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	04/07/2022 12:48	WG1844554
Tetrachloroethene	37.3		0.300	1.00	1	04/07/2022 12:48	WG1844554
Toluene	U		0.278	1.00	1	04/07/2022 12:48	WG1844554
1,2,3-Trichlorobenzene	U	J3	0.230	1.00	1	04/07/2022 12:48	WG1844554
1,2,4-Trichlorobenzene	U	J3	0.481	1.00	1	04/07/2022 12:48	WG1844554
1,1,1-Trichloroethane	U		0.149	1.00	1	04/07/2022 12:48	WG1844554
1,1,2-Trichloroethane	U		0.158	1.00	1	04/07/2022 12:48	WG1844554
Trichloroethene	10.1		0.190	1.00	1	04/07/2022 12:48	WG1844554
Trichlorofluoromethane	U		0.160	5.00	1	04/07/2022 12:48	WG1844554
1,2,4-Trimethylbenzene	U	J3	0.322	1.00	1	04/07/2022 12:48	WG1844554
1,2,3-Trimethylbenzene	U	J3	0.104	1.00	1	04/07/2022 12:48	WG1844554
1,3,5-Trimethylbenzene	U	J3	0.104	1.00	1	04/07/2022 12:48	WG1844554
Vinyl chloride	U		0.234	1.00	1	04/07/2022 12:48	WG1844554
Xylenes, Total	U		0.174	3.00	1	04/07/2022 12:48	WG1844554
o-Xylene	U		0.174	1.00	1	04/07/2022 12:48	WG1844554
m&p-Xylene	U		0.430	2.00	1	04/07/2022 12:48	WG1844554
(S) Toluene-d8	*102*			*80.0-120*		*04/07/2022 12:48*	WG1844554
(S) 4-Bromofluorobenzene	*106*			*77.0-126*		*04/07/2022 12:48*	WG1844554
(S) 1,2-Dichloroethane-d4	*109*			*70.0-130*		*04/07/2022 12:48*	WG1844554

Sample Narrative:

L1479046-04 WG1844497: Non-target compounds too high to run at a lower dilution.

Semi-Volatile Organic Compounds (GC) by Method AK102

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
AK102 DRO C10-C25	U		229	800	1	04/13/2022 22:14	WG1847788
(S) o-Terphenyl	*57.9*			*50.0-150*		*04/13/2022 22:14*	WG1847788

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	1360		28.7	100	1	04/13/2022 21:30	WG1846884
(S) a,a,a-Trifluorotoluene(FID)	*99.7*			*50.0-150*		*04/13/2022 21:30*	WG1846884

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		0.0500	0.125	25	04/07/2022 15:53	WG1844497
Acetone	U	J3 J4	11.3	50.0	1	04/07/2022 13:07	WG1844554
1,2-Dibromoethane	U		0.103	0.125	25	04/07/2022 15:53	WG1844497
Acrolein	U	C3 J3	2.54	50.0	1	04/07/2022 13:07	WG1844554
Acrylonitrile	U	J3	0.671	10.0	1	04/07/2022 13:07	WG1844554
Benzene	6.54		0.0941	1.00	1	04/07/2022 13:07	WG1844554
Bromobenzene	U	J3	0.118	1.00	1	04/07/2022 13:07	WG1844554
Bromochloromethane	U		0.128	1.00	1	04/07/2022 13:07	WG1844554
Bromodichloromethane	U		0.136	1.00	1	04/07/2022 13:07	WG1844554
Bromoform	U	J3	0.129	1.00	1	04/07/2022 13:07	WG1844554
Bromomethane	U		0.605	5.00	1	04/07/2022 13:07	WG1844554
n-Butylbenzene	7.78	J3	0.157	1.00	1	04/07/2022 13:07	WG1844554
sec-Butylbenzene	11.6	J3	0.125	1.00	1	04/07/2022 13:07	WG1844554
tert-Butylbenzene	14.0	J3	0.127	1.00	1	04/07/2022 13:07	WG1844554
Carbon disulfide	U		0.0962	1.00	1	04/07/2022 13:07	WG1844554
Carbon tetrachloride	U		0.128	1.00	1	04/07/2022 13:07	WG1844554
Chlorobenzene	U		0.116	1.00	1	04/07/2022 13:07	WG1844554
Chlorodibromomethane	U		0.140	1.00	1	04/07/2022 13:07	WG1844554
Chloroethane	U		0.192	5.00	1	04/07/2022 13:07	WG1844554
Chloroform	U		0.111	5.00	1	04/07/2022 13:07	WG1844554
Chloromethane	U		0.960	2.50	1	04/07/2022 13:07	WG1844554
2-Chlorotoluene	U	J3	0.106	1.00	1	04/07/2022 13:07	WG1844554
4-Chlorotoluene	U	J3	0.114	1.00	1	04/07/2022 13:07	WG1844554
1,2-Dibromo-3-Chloropropane	U	J3 J4	0.276	5.00	1	04/07/2022 13:07	WG1844554
Dibromomethane	U		0.122	1.00	1	04/07/2022 13:07	WG1844554
1,2-Dichlorobenzene	U	J3	0.107	1.00	1	04/07/2022 13:07	WG1844554
1,3-Dichlorobenzene	U	J3	0.110	1.00	1	04/07/2022 13:07	WG1844554
1,4-Dichlorobenzene	U	J3	0.120	1.00	1	04/07/2022 13:07	WG1844554
Dichlorodifluoromethane	U		0.374	5.00	1	04/07/2022 13:07	WG1844554
1,1-Dichloroethane	U		0.100	1.00	1	04/07/2022 13:07	WG1844554
1,2-Dichloroethane	6.42		0.0819	1.00	1	04/07/2022 13:07	WG1844554
1,1-Dichloroethene	U		0.188	1.00	1	04/07/2022 13:07	WG1844554
cis-1,2-Dichloroethene	U		0.126	1.00	1	04/07/2022 13:07	WG1844554
trans-1,2-Dichloroethene	U		0.149	1.00	1	04/07/2022 13:07	WG1844554
1,2-Dichloropropane	U		0.149	1.00	1	04/07/2022 13:07	WG1844554
1,1-Dichloropropene	U		0.142	1.00	1	04/07/2022 13:07	WG1844554
1,3-Dichloropropane	U		0.110	1.00	1	04/07/2022 13:07	WG1844554
cis-1,3-Dichloropropene	U		0.111	1.00	1	04/07/2022 13:07	WG1844554
trans-1,3-Dichloropropene	U		0.118	1.00	1	04/07/2022 13:07	WG1844554
2,2-Dichloropropane	U		0.161	1.00	1	04/07/2022 13:07	WG1844554
Di-isopropyl ether	U		0.105	1.00	1	04/07/2022 13:07	WG1844554
Ethylbenzene	87.0		0.137	1.00	1	04/07/2022 13:07	WG1844554
Hexachloro-1,3-butadiene	U	J3	0.337	1.00	1	04/07/2022 13:07	WG1844554
Isopropylbenzene	43.5		0.105	1.00	1	04/07/2022 13:07	WG1844554
p-Isopropyltoluene	3.00	J3	0.120	1.00	1	04/07/2022 13:07	WG1844554
2-Butanone (MEK)	U	J3	1.19	10.0	1	04/07/2022 13:07	WG1844554
Methylene Chloride	U		0.430	5.00	1	04/07/2022 13:07	WG1844554
4-Methyl-2-pentanone (MIBK)	U	J3	0.478	10.0	1	04/07/2022 13:07	WG1844554
Methyl tert-butyl ether	U	J3 J4	0.101	1.00	1	04/07/2022 13:07	WG1844554

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	31.5	J3	1.00	5.00	1	04/07/2022 13:07	WG1844554
n-Propylbenzene	85.4	J3	0.0993	1.00	1	04/07/2022 13:07	WG1844554
Styrene	U		0.118	1.00	1	04/07/2022 13:07	WG1844554
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	04/07/2022 13:07	WG1844554
1,1,2,2-Tetrachloroethane	U	J3	0.133	1.00	1	04/07/2022 13:07	WG1844554
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	04/07/2022 13:07	WG1844554
Tetrachloroethene	U		0.300	1.00	1	04/07/2022 13:07	WG1844554
Toluene	1.61		0.278	1.00	1	04/07/2022 13:07	WG1844554
1,2,3-Trichlorobenzene	U	J3	0.230	1.00	1	04/07/2022 13:07	WG1844554
1,2,4-Trichlorobenzene	U	J3	0.481	1.00	1	04/07/2022 13:07	WG1844554
1,1,1-Trichloroethane	U		0.149	1.00	1	04/07/2022 13:07	WG1844554
1,1,2-Trichloroethane	U		0.158	1.00	1	04/07/2022 13:07	WG1844554
Trichloroethene	U		0.190	1.00	1	04/07/2022 13:07	WG1844554
Trichlorofluoromethane	U		0.160	5.00	1	04/07/2022 13:07	WG1844554
1,2,4-Trimethylbenzene	19.5	J3	0.322	1.00	1	04/07/2022 13:07	WG1844554
1,2,3-Trimethylbenzene	3.12	J3	0.104	1.00	1	04/07/2022 13:07	WG1844554
1,3,5-Trimethylbenzene	1.86	J3	0.104	1.00	1	04/07/2022 13:07	WG1844554
Vinyl chloride	U		0.234	1.00	1	04/07/2022 13:07	WG1844554
Xylenes, Total	29.4		0.174	3.00	1	04/07/2022 13:07	WG1844554
o-Xylene	2.09		0.174	1.00	1	04/07/2022 13:07	WG1844554
m&p-Xylene	27.3		0.430	2.00	1	04/07/2022 13:07	WG1844554
(S) Toluene-d8	*98.3*			*80.0-120*		*04/07/2022 13:07*	WG1844554
(S) 4-Bromofluorobenzene	*103*			*77.0-126*		*04/07/2022 13:07*	WG1844554
(S) 1,2-Dichloroethane-d4	*108*			*70.0-130*		*04/07/2022 13:07*	WG1844554

Sample Narrative:

L1479046-05 WG1844497: Non-target compounds too high to run at a lower dilution.

Semi-Volatile Organic Compounds (GC) by Method AK102

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	1610		229	800	1	04/13/2022 22:35	WG1847788
(S) o-Terphenyl	*78.8*			*50.0-150*		*04/13/2022 22:35*	WG1847788

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Anthracene	U		0.0238	0.0625	1.25	04/08/2022 01:52	WG1844094
Acenaphthene	0.0643		0.0238	0.0625	1.25	04/08/2022 01:52	WG1844094
Acenaphthylene	U		0.0213	0.0625	1.25	04/08/2022 01:52	WG1844094
Benzo(a)anthracene	U		0.0250	0.0625	1.25	04/08/2022 01:52	WG1844094
Benzo(a)pyrene	U		0.0225	0.0625	1.25	04/08/2022 01:52	WG1844094
Benzo(b)fluoranthene	U		0.0213	0.0625	1.25	04/08/2022 01:52	WG1844094
Benzo(g,h,i)perylene	U		0.0225	0.0625	1.25	04/08/2022 01:52	WG1844094
Benzo(k)fluoranthene	U		0.0250	0.313	1.25	04/08/2022 01:52	WG1844094
Chrysene	U		0.0225	0.0625	1.25	04/08/2022 01:52	WG1844094
Dibenz(a,h)anthracene	U		0.0225	0.0625	1.25	04/08/2022 01:52	WG1844094
Fluoranthene	U		0.0137	0.0625	1.25	04/08/2022 01:52	WG1844094
Fluorene	U		0.0213	0.0625	1.25	04/08/2022 01:52	WG1844094
Indeno(1,2,3-cd)pyrene	U		0.0225	0.0625	1.25	04/08/2022 01:52	WG1844094
Naphthalene	22.2		0.160	0.625	1.25	04/08/2022 01:52	WG1844094
Phenanthrene	U		0.0225	0.0625	1.25	04/08/2022 01:52	WG1844094
Pyrene	U		0.0213	0.0625	1.25	04/08/2022 01:52	WG1844094
1-Methylnaphthalene	9.59		0.0250	0.625	1.25	04/08/2022 01:52	WG1844094
2-Methylnaphthalene	3.37		0.0350	0.625	1.25	04/08/2022 01:52	WG1844094

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
2-Chloronaphthalene	U		0.0150	0.625	1.25	04/08/2022 01:52	WG1844094
(S) Nitrobenzene-d5	*73.2*			*11.0-135*		*04/08/2022 01:52*	WG1844094
(S) 2-Fluorobiphenyl	*82.0*			*32.0-120*		*04/08/2022 01:52*	WG1844094
(S) p-Terphenyl-d14	*95.2*			*23.0-122*		*04/08/2022 01:52*	WG1844094

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	04/13/2022 18:51	WG1846884
(S) a,a,a-Trifluorotoluene(FID)	*97.9*			*50.0-150*		*04/13/2022 18:51*	WG1846884

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

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,2,3-Trichloropropane	U		0.00200	0.00500	1	04/07/2022 13:54	WG1844497
Acetone	U	J3 J4	11.3	50.0	1	04/07/2022 10:34	WG1844554
1,2-Dibromoethane	U		0.00410	0.00500	1	04/07/2022 13:54	WG1844497
Acrolein	U	C3 J3	2.54	50.0	1	04/07/2022 10:34	WG1844554
Acrylonitrile	U	J3	0.671	10.0	1	04/07/2022 10:34	WG1844554
Benzene	U		0.0941	1.00	1	04/07/2022 10:34	WG1844554
Bromobenzene	U	J3	0.118	1.00	1	04/07/2022 10:34	WG1844554
Bromochloromethane	U		0.128	1.00	1	04/07/2022 10:34	WG1844554
Bromodichloromethane	U		0.136	1.00	1	04/07/2022 10:34	WG1844554
Bromoform	U	J3	0.129	1.00	1	04/07/2022 10:34	WG1844554
Bromomethane	U		0.605	5.00	1	04/07/2022 10:34	WG1844554
n-Butylbenzene	U	J3	0.157	1.00	1	04/07/2022 10:34	WG1844554
sec-Butylbenzene	U	J3	0.125	1.00	1	04/07/2022 10:34	WG1844554
tert-Butylbenzene	U	J3	0.127	1.00	1	04/07/2022 10:34	WG1844554
Carbon disulfide	U		0.0962	1.00	1	04/07/2022 10:34	WG1844554
Carbon tetrachloride	U		0.128	1.00	1	04/07/2022 10:34	WG1844554
Chlorobenzene	U		0.116	1.00	1	04/07/2022 10:34	WG1844554
Chlorodibromomethane	U		0.140	1.00	1	04/07/2022 10:34	WG1844554
Chloroethane	U		0.192	5.00	1	04/07/2022 10:34	WG1844554
Chloroform	U		0.111	5.00	1	04/07/2022 10:34	WG1844554
Chloromethane	U		0.960	2.50	1	04/07/2022 10:34	WG1844554
2-Chlorotoluene	U	J3	0.106	1.00	1	04/07/2022 10:34	WG1844554
4-Chlorotoluene	U	J3	0.114	1.00	1	04/07/2022 10:34	WG1844554
1,2-Dibromo-3-Chloropropane	U	J3 J4	0.276	5.00	1	04/07/2022 10:34	WG1844554
Dibromomethane	U		0.122	1.00	1	04/07/2022 10:34	WG1844554
1,2-Dichlorobenzene	U	J3	0.107	1.00	1	04/07/2022 10:34	WG1844554
1,3-Dichlorobenzene	U	J3	0.110	1.00	1	04/07/2022 10:34	WG1844554
1,4-Dichlorobenzene	U	J3	0.120	1.00	1	04/07/2022 10:34	WG1844554
Dichlorodifluoromethane	U		0.374	5.00	1	04/07/2022 10:34	WG1844554
1,1-Dichloroethane	U		0.100	1.00	1	04/07/2022 10:34	WG1844554
1,2-Dichloroethane	U		0.0819	1.00	1	04/07/2022 10:34	WG1844554
1,1-Dichloroethene	U		0.188	1.00	1	04/07/2022 10:34	WG1844554
cis-1,2-Dichloroethene	U		0.126	1.00	1	04/07/2022 10:34	WG1844554
trans-1,2-Dichloroethene	U		0.149	1.00	1	04/07/2022 10:34	WG1844554
1,2-Dichloropropane	U		0.149	1.00	1	04/07/2022 10:34	WG1844554
1,1-Dichloropropene	U		0.142	1.00	1	04/07/2022 10:34	WG1844554
1,3-Dichloropropane	U		0.110	1.00	1	04/07/2022 10:34	WG1844554
cis-1,3-Dichloropropene	U		0.111	1.00	1	04/07/2022 10:34	WG1844554
trans-1,3-Dichloropropene	U		0.118	1.00	1	04/07/2022 10:34	WG1844554
2,2-Dichloropropane	U		0.161	1.00	1	04/07/2022 10:34	WG1844554
Di-isopropyl ether	U		0.105	1.00	1	04/07/2022 10:34	WG1844554
Ethylbenzene	U		0.137	1.00	1	04/07/2022 10:34	WG1844554
Hexachloro-1,3-butadiene	U	J3	0.337	1.00	1	04/07/2022 10:34	WG1844554
Isopropylbenzene	U		0.105	1.00	1	04/07/2022 10:34	WG1844554
p-Isopropyltoluene	U	J3	0.120	1.00	1	04/07/2022 10:34	WG1844554
2-Butanone (MEK)	U	J3	1.19	10.0	1	04/07/2022 10:34	WG1844554
Methylene Chloride	U		0.430	5.00	1	04/07/2022 10:34	WG1844554
4-Methyl-2-pentanone (MIBK)	U	J3	0.478	10.0	1	04/07/2022 10:34	WG1844554
Methyl tert-butyl ether	U	J3 J4	0.101	1.00	1	04/07/2022 10:34	WG1844554

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	J3	1.00	5.00	1	04/07/2022 10:34	WG1844554
n-Propylbenzene	U	J3	0.0993	1.00	1	04/07/2022 10:34	WG1844554
Styrene	U		0.118	1.00	1	04/07/2022 10:34	WG1844554
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	04/07/2022 10:34	WG1844554
1,1,2,2-Tetrachloroethane	U	J3	0.133	1.00	1	04/07/2022 10:34	WG1844554
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	04/07/2022 10:34	WG1844554
Tetrachloroethene	U		0.300	1.00	1	04/07/2022 10:34	WG1844554
Toluene	U		0.278	1.00	1	04/07/2022 10:34	WG1844554
1,2,3-Trichlorobenzene	U	J3	0.230	1.00	1	04/07/2022 10:34	WG1844554
1,2,4-Trichlorobenzene	U	J3	0.481	1.00	1	04/07/2022 10:34	WG1844554
1,1,1-Trichloroethane	U		0.149	1.00	1	04/07/2022 10:34	WG1844554
1,1,2-Trichloroethane	U		0.158	1.00	1	04/07/2022 10:34	WG1844554
Trichloroethene	U		0.190	1.00	1	04/07/2022 10:34	WG1844554
Trichlorofluoromethane	U		0.160	5.00	1	04/07/2022 10:34	WG1844554
1,2,4-Trimethylbenzene	U	J3	0.322	1.00	1	04/07/2022 10:34	WG1844554
1,2,3-Trimethylbenzene	U	J3	0.104	1.00	1	04/07/2022 10:34	WG1844554
1,3,5-Trimethylbenzene	U	J3	0.104	1.00	1	04/07/2022 10:34	WG1844554
Vinyl chloride	U		0.234	1.00	1	04/07/2022 10:34	WG1844554
Xylenes, Total	U		0.174	3.00	1	04/07/2022 10:34	WG1844554
o-Xylene	U		0.174	1.00	1	04/07/2022 10:34	WG1844554
m&p-Xylene	U		0.430	2.00	1	04/07/2022 10:34	WG1844554
(S) Toluene-d8	*103*			*80.0-120*		*04/07/2022 10:34*	WG1844554
(S) 4-Bromofluorobenzene	*108*			*77.0-126*		*04/07/2022 10:34*	WG1844554
(S) 1,2-Dichloroethane-d4	*106*			*70.0-130*		*04/07/2022 10:34*	WG1844554

Semi-Volatile Organic Compounds (GC) by Method AK102

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	U		229	800	1	04/13/2022 22:55	WG1847788
(S) o-Terphenyl	*62.0*			*50.0-150*		*04/13/2022 22:55*	WG1847788

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Anthracene	U		0.0238	0.0625	1.25	04/08/2022 00:52	WG1844094
Acenaphthene	U		0.0238	0.0625	1.25	04/08/2022 00:52	WG1844094
Acenaphthylene	U		0.0213	0.0625	1.25	04/08/2022 00:52	WG1844094
Benzo(a)anthracene	U		0.0250	0.0625	1.25	04/08/2022 00:52	WG1844094
Benzo(a)pyrene	U		0.0225	0.0625	1.25	04/08/2022 00:52	WG1844094
Benzo(b)fluoranthene	U		0.0213	0.0625	1.25	04/08/2022 00:52	WG1844094
Benzo(g,h,i)perylene	U		0.0225	0.0625	1.25	04/08/2022 00:52	WG1844094
Benzo(k)fluoranthene	U		0.0250	0.313	1.25	04/08/2022 00:52	WG1844094
Chrysene	U		0.0225	0.0625	1.25	04/08/2022 00:52	WG1844094
Dibenz(a,h)anthracene	U		0.0225	0.0625	1.25	04/08/2022 00:52	WG1844094
Fluoranthene	U		0.0137	0.0625	1.25	04/08/2022 00:52	WG1844094
Fluorene	U		0.0213	0.0625	1.25	04/08/2022 00:52	WG1844094
Indeno(1,2,3-cd)pyrene	U		0.0225	0.0625	1.25	04/08/2022 00:52	WG1844094
Naphthalene	U		0.160	0.625	1.25	04/08/2022 00:52	WG1844094
Phenanthrene	U		0.0225	0.0625	1.25	04/08/2022 00:52	WG1844094
Pyrene	U		0.0213	0.0625	1.25	04/08/2022 00:52	WG1844094
1-Methylnaphthalene	U		0.0250	0.625	1.25	04/08/2022 00:52	WG1844094
2-Methylnaphthalene	U		0.0350	0.625	1.25	04/08/2022 00:52	WG1844094
2-Chloronaphthalene	U		0.0150	0.625	1.25	04/08/2022 00:52	WG1844094
(S) Nitrobenzene-d5	*90.0*			*11.0-135*		*04/08/2022 00:52*	WG1844094
(S) 2-Fluorobiphenyl	*85.6*			*32.0-120*		*04/08/2022 00:52*	WG1844094

Semi Volatile Organic Compounds (GC/MS) by Method 8270E-SIM

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
(S) p-Terphenyl-d14	*114*			*23.0-122*		*04/08/2022 00:52*	WG1844094

Sample Narrative:

L1479046-06 WG1844094: Dilution due to sample volume.

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	04/13/2022 17:58	WG1846884
(S) a,a,a-Trifluorotoluene(FID)	*91.6*			*50.0-150*		*04/13/2022 17:58*	WG1846884

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	04/07/2022 13:30	WG1844497
Acetone	U	J3 J4	11.3	50.0	1	04/07/2022 10:15	WG1844554
1,2-Dibromoethane	U		0.00410	0.00500	1	04/07/2022 13:30	WG1844497
Acrolein	U	C3 J3	2.54	50.0	1	04/07/2022 10:15	WG1844554
Acrylonitrile	U	J3	0.671	10.0	1	04/07/2022 10:15	WG1844554
Benzene	U		0.0941	1.00	1	04/07/2022 10:15	WG1844554
Bromobenzene	U	J3	0.118	1.00	1	04/07/2022 10:15	WG1844554
Bromochloromethane	U		0.128	1.00	1	04/07/2022 10:15	WG1844554
Bromodichloromethane	U		0.136	1.00	1	04/07/2022 10:15	WG1844554
Bromoform	U	J3	0.129	1.00	1	04/07/2022 10:15	WG1844554
Bromomethane	U		0.605	5.00	1	04/07/2022 10:15	WG1844554
n-Butylbenzene	U	J3	0.157	1.00	1	04/07/2022 10:15	WG1844554
sec-Butylbenzene	U	J3	0.125	1.00	1	04/07/2022 10:15	WG1844554
tert-Butylbenzene	U	J3	0.127	1.00	1	04/07/2022 10:15	WG1844554
Carbon disulfide	U		0.0962	1.00	1	04/07/2022 10:15	WG1844554
Carbon tetrachloride	U		0.128	1.00	1	04/07/2022 10:15	WG1844554
Chlorobenzene	U		0.116	1.00	1	04/07/2022 10:15	WG1844554
Chlorodibromomethane	U		0.140	1.00	1	04/07/2022 10:15	WG1844554
Chloroethane	U		0.192	5.00	1	04/07/2022 10:15	WG1844554
Chloroform	U		0.111	5.00	1	04/07/2022 10:15	WG1844554
Chloromethane	U		0.960	2.50	1	04/07/2022 10:15	WG1844554
2-Chlorotoluene	U	J3	0.106	1.00	1	04/07/2022 10:15	WG1844554
4-Chlorotoluene	U	J3	0.114	1.00	1	04/07/2022 10:15	WG1844554
1,2-Dibromo-3-Chloropropane	U	J3 J4	0.276	5.00	1	04/07/2022 10:15	WG1844554
Dibromomethane	U		0.122	1.00	1	04/07/2022 10:15	WG1844554
1,2-Dichlorobenzene	U	J3	0.107	1.00	1	04/07/2022 10:15	WG1844554
1,3-Dichlorobenzene	U	J3	0.110	1.00	1	04/07/2022 10:15	WG1844554
1,4-Dichlorobenzene	U	J3	0.120	1.00	1	04/07/2022 10:15	WG1844554
Dichlorodifluoromethane	U		0.374	5.00	1	04/07/2022 10:15	WG1844554
1,1-Dichloroethane	U		0.100	1.00	1	04/07/2022 10:15	WG1844554
1,2-Dichloroethane	U		0.0819	1.00	1	04/07/2022 10:15	WG1844554
1,1-Dichloroethene	U		0.188	1.00	1	04/07/2022 10:15	WG1844554
cis-1,2-Dichloroethene	U		0.126	1.00	1	04/07/2022 10:15	WG1844554
trans-1,2-Dichloroethene	U		0.149	1.00	1	04/07/2022 10:15	WG1844554
1,2-Dichloropropane	U		0.149	1.00	1	04/07/2022 10:15	WG1844554
1,1-Dichloropropene	U		0.142	1.00	1	04/07/2022 10:15	WG1844554
1,3-Dichloropropane	U		0.110	1.00	1	04/07/2022 10:15	WG1844554
cis-1,3-Dichloropropene	U		0.111	1.00	1	04/07/2022 10:15	WG1844554
trans-1,3-Dichloropropene	U		0.118	1.00	1	04/07/2022 10:15	WG1844554
2,2-Dichloropropane	U		0.161	1.00	1	04/07/2022 10:15	WG1844554
Di-isopropyl ether	U		0.105	1.00	1	04/07/2022 10:15	WG1844554
Ethylbenzene	U		0.137	1.00	1	04/07/2022 10:15	WG1844554
Hexachloro-1,3-butadiene	U	J3	0.337	1.00	1	04/07/2022 10:15	WG1844554
Isopropylbenzene	U		0.105	1.00	1	04/07/2022 10:15	WG1844554
p-Isopropyltoluene	U	J3	0.120	1.00	1	04/07/2022 10:15	WG1844554
2-Butanone (MEK)	U	J3	1.19	10.0	1	04/07/2022 10:15	WG1844554
Methylene Chloride	U		0.430	5.00	1	04/07/2022 10:15	WG1844554
4-Methyl-2-pentanone (MIBK)	U	J3	0.478	10.0	1	04/07/2022 10:15	WG1844554
Methyl tert-butyl ether	U	J3 J4	0.101	1.00	1	04/07/2022 10:15	WG1844554

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	J3	1.00	5.00	1	04/07/2022 10:15	WG1844554
n-Propylbenzene	U	J3	0.0993	1.00	1	04/07/2022 10:15	WG1844554
Styrene	U		0.118	1.00	1	04/07/2022 10:15	WG1844554
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	04/07/2022 10:15	WG1844554
1,1,2,2-Tetrachloroethane	U	J3	0.133	1.00	1	04/07/2022 10:15	WG1844554
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	04/07/2022 10:15	WG1844554
Tetrachloroethene	U		0.300	1.00	1	04/07/2022 10:15	WG1844554
Toluene	U		0.278	1.00	1	04/07/2022 10:15	WG1844554
1,2,3-Trichlorobenzene	U	J3	0.230	1.00	1	04/07/2022 10:15	WG1844554
1,2,4-Trichlorobenzene	U	J3	0.481	1.00	1	04/07/2022 10:15	WG1844554
1,1,1-Trichloroethane	U		0.149	1.00	1	04/07/2022 10:15	WG1844554
1,1,2-Trichloroethane	U		0.158	1.00	1	04/07/2022 10:15	WG1844554
Trichloroethene	U		0.190	1.00	1	04/07/2022 10:15	WG1844554
Trichlorofluoromethane	U		0.160	5.00	1	04/07/2022 10:15	WG1844554
1,2,4-Trimethylbenzene	U	J3	0.322	1.00	1	04/07/2022 10:15	WG1844554
1,2,3-Trimethylbenzene	U	J3	0.104	1.00	1	04/07/2022 10:15	WG1844554
1,3,5-Trimethylbenzene	U	J3	0.104	1.00	1	04/07/2022 10:15	WG1844554
Vinyl chloride	U		0.234	1.00	1	04/07/2022 10:15	WG1844554
Xylenes, Total	U		0.174	3.00	1	04/07/2022 10:15	WG1844554
o-Xylene	U		0.174	1.00	1	04/07/2022 10:15	WG1844554
m&p-Xylene	U		0.430	2.00	1	04/07/2022 10:15	WG1844554
(S) Toluene-d8	*106*			*80.0-120*		*04/07/2022 10:15*	WG1844554
(S) 4-Bromofluorobenzene	*109*			*77.0-126*		*04/07/2022 10:15*	WG1844554
(S) 1,2-Dichloroethane-d4	*110*			*70.0-130*		*04/07/2022 10:15*	WG1844554

Method Blank (MB)

(MB) R3781213-2 04/13/22 17:05

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)	*95.5*			*60.0-120*

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

(LCS) R3781213-1 04/13/22 15:50 • (LCSD) R3781213-7 04/14/22 16:13

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	4740	4370	94.8	87.4	60.0-120			8.12	20
(S) a,a,a-Trifluorotoluene(FID)				*106*	*107*	*60.0-120*				

L1480598-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1480598-01 04/13/22 21:56 • (MS) R3781213-3 04/14/22 14:01 • (MSD) R3781213-4 04/14/22 14:27

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	2350	3050	47.0	61.0	1	70.0-130	J6	J3 J6	25.9	20
(S) a,a,a-Trifluorotoluene(FID)					*103*	*102*		*50.0-150*				

L1479046-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1479046-03 04/13/22 20:37 • (MS) R3781213-5 04/14/22 14:54 • (MSD) R3781213-6 04/14/22 15:20

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	3250	2340	65.0	46.8	1	70.0-130	J6	J3 J6	32.6	20
(S) a,a,a-Trifluorotoluene(FID)					*104*	*102*		*50.0-150*				

Method Blank (MB)

(MB) R3778873-2 04/07/22 12:43

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

Laboratory Control Sample (LCS)

(LCS) R3778873-1 04/07/22 12:19

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
1,2,3-Trichloropropane	0.0500	0.0450	90.0	70.0-130	
1,2-Dibromoethane	0.0500	0.0410	82.0	70.0-130	

L1479046-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1479046-03 04/07/22 14:18 • (MS) R3778873-3 04/07/22 16:17 • (MSD) R3778873-4 04/07/22 16:41

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	%	%		%			%	%
1,2,3-Trichloropropane	0.0500	U	0.0520	0.0530	104	106	1	70.0-130			1.90	20
1,2-Dibromoethane	0.0500	U	0.0500	0.0520	100	104	1	70.0-130			3.92	20

Method Blank (MB)

(MB) R3778810-3 04/07/22 09:30

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) R3778810-3 04/07/22 09:30

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	U		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	*104*			*80.0-120*
(S) 4-Bromofluorobenzene	*104*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*106*			*70.0-130*

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

(LCS) R3778810-1 04/07/22 07:49 • (LCSD) R3778810-2 04/07/22 08:08

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	30.5	45.9	122	184	19.0-160		J3 J4	40.3	27
Acrolein	25.0	12.4	17.5	49.6	70.0	10.0-160		J3	34.1	26

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

(LCS) R3778810-1 04/07/22 07:49 • (LCSD) R3778810-2 04/07/22 08:08

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	21.2	29.8	84.8	119	55.0-149		J3	33.7	20
Benzene	5.00	4.48	5.03	89.6	101	70.0-123			11.6	20
Bromobenzene	5.00	4.55	5.62	91.0	112	73.0-121		J3	21.0	20
Bromochloromethane	5.00	4.61	5.60	92.2	112	76.0-122			19.4	20
Bromodichloromethane	5.00	4.45	5.12	89.0	102	75.0-120			14.0	20
Bromoform	5.00	4.30	5.27	86.0	105	68.0-132		J3	20.3	20
Bromomethane	5.00	4.22	4.43	84.4	88.6	10.0-160			4.86	25
n-Butylbenzene	5.00	4.35	5.42	87.0	108	73.0-125		J3	21.9	20
sec-Butylbenzene	5.00	4.53	5.89	90.6	118	75.0-125		J3	26.1	20
tert-Butylbenzene	5.00	4.69	5.81	93.8	116	76.0-124		J3	21.3	20
Carbon disulfide	5.00	4.66	5.32	93.2	106	61.0-128			13.2	20
Carbon tetrachloride	5.00	4.62	5.11	92.4	102	68.0-126			10.1	20
Chlorobenzene	5.00	4.49	5.23	89.8	105	80.0-121			15.2	20
Chlorodibromomethane	5.00	4.43	5.25	88.6	105	77.0-125			16.9	20
Chloroethane	5.00	4.14	4.62	82.8	92.4	47.0-150			11.0	20
Chloroform	5.00	4.34	4.94	86.8	98.8	73.0-120			12.9	20
Chloromethane	5.00	4.28	4.40	85.6	88.0	41.0-142			2.76	20
2-Chlorotoluene	5.00	4.58	5.71	91.6	114	76.0-123		J3	22.0	20
4-Chlorotoluene	5.00	4.45	5.76	89.0	115	75.0-122		J3	25.7	20
1,2-Dibromo-3-Chloropropane	5.00	4.60	6.73	92.0	135	58.0-134		J3 J4	37.6	20
Dibromomethane	5.00	4.72	5.38	94.4	108	80.0-120			13.1	20
1,2-Dichlorobenzene	5.00	4.39	5.71	87.8	114	79.0-121		J3	26.1	20
1,3-Dichlorobenzene	5.00	4.36	5.52	87.2	110	79.0-120		J3	23.5	20
1,4-Dichlorobenzene	5.00	4.20	5.44	84.0	109	79.0-120		J3	25.7	20
Dichlorodifluoromethane	5.00	4.85	4.81	97.0	96.2	51.0-149			0.828	20
1,1-Dichloroethane	5.00	4.38	5.00	87.6	100	70.0-126			13.2	20
1,2-Dichloroethane	5.00	4.57	5.27	91.4	105	70.0-128			14.2	20
1,1-Dichloroethene	5.00	4.60	4.93	92.0	98.6	71.0-124			6.93	20
cis-1,2-Dichloroethene	5.00	4.55	5.21	91.0	104	73.0-120			13.5	20
trans-1,2-Dichloroethene	5.00	4.33	4.89	86.6	97.8	73.0-120			12.1	20
1,2-Dichloropropane	5.00	4.60	5.37	92.0	107	77.0-125			15.4	20
1,1-Dichloropropene	5.00	4.29	4.90	85.8	98.0	74.0-126			13.3	20
1,3-Dichloropropane	5.00	4.37	5.25	87.4	105	80.0-120			18.3	20
cis-1,3-Dichloropropene	5.00	4.55	5.17	91.0	103	80.0-123			12.8	20
trans-1,3-Dichloropropene	5.00	4.33	5.25	86.6	105	78.0-124			19.2	20
2,2-Dichloropropane	5.00	4.88	5.54	97.6	111	58.0-130			12.7	20
Di-isopropyl ether	5.00	4.59	5.38	91.8	108	58.0-138			15.8	20
Ethylbenzene	5.00	4.65	5.42	93.0	108	79.0-123			15.3	20
Hexachloro-1,3-butadiene	5.00	4.02	5.23	80.4	105	54.0-138		J3	26.2	20
Isopropylbenzene	5.00	4.72	5.41	94.4	108	76.0-127			13.6	20

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

(LCS) R3778810-1 04/07/22 07:49 • (LCSD) R3778810-2 04/07/22 08:08

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	4.56	5.65	91.2	113	76.0-125		J3	21.4	20
2-Butanone (MEK)	25.0	27.1	35.5	108	142	44.0-160		J3	26.8	20
Methylene Chloride	5.00	4.65	5.47	93.0	109	67.0-120			16.2	20
4-Methyl-2-pentanone (MIBK)	25.0	25.2	32.7	101	131	68.0-142		J3	25.9	20
Methyl tert-butyl ether	5.00	5.10	6.42	102	128	68.0-125		J3 J4	22.9	20
Naphthalene	5.00	4.59	6.40	91.8	128	54.0-135		J3	32.9	20
n-Propylbenzene	5.00	4.85	6.01	97.0	120	77.0-124		J3	21.4	20
Styrene	5.00	4.26	4.96	85.2	99.2	73.0-130			15.2	20
1,1,1,2-Tetrachloroethane	5.00	4.54	5.34	90.8	107	75.0-125			16.2	20
1,1,2,2-Tetrachloroethane	5.00	4.56	6.06	91.2	121	65.0-130		J3	28.2	20
1,1,2-Trichlorotrifluoroethane	5.00	4.25	4.74	85.0	94.8	69.0-132			10.9	20
Tetrachloroethene	5.00	4.40	5.13	88.0	103	72.0-132			15.3	20
Toluene	5.00	4.60	5.20	92.0	104	79.0-120			12.2	20
1,2,3-Trichlorobenzene	5.00	4.23	5.65	84.6	113	50.0-138		J3	28.7	20
1,2,4-Trichlorobenzene	5.00	4.24	5.62	84.8	112	57.0-137		J3	28.0	20
1,1,1-Trichloroethane	5.00	4.65	5.31	93.0	106	73.0-124			13.3	20
1,1,2-Trichloroethane	5.00	4.39	5.18	87.8	104	80.0-120			16.5	20
Trichloroethene	5.00	4.52	5.16	90.4	103	78.0-124			13.2	20
Trichlorofluoromethane	5.00	4.73	5.33	94.6	107	59.0-147			11.9	20
1,2,4-Trimethylbenzene	5.00	4.71	5.90	94.2	118	76.0-121		J3	22.4	20
1,2,3-Trimethylbenzene	5.00	4.48	5.71	89.6	114	77.0-120		J3	24.1	20
1,3,5-Trimethylbenzene	5.00	4.85	5.96	97.0	119	76.0-122		J3	20.5	20
Vinyl chloride	5.00	4.38	4.79	87.6	95.8	67.0-131			8.94	20
Xylenes, Total	15.0	14.3	16.4	95.3	109	79.0-123			13.7	20
o-Xylene	5.00	4.78	5.52	95.6	110	80.0-122			14.4	20
m&p-Xylenes	10.0	9.47	10.9	94.7	109	80.0-122			14.0	20
(S) Toluene-d8				*102*	*103*	*80.0-120*				
(S) 4-Bromofluorobenzene				*107*	*101*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*105*	*105*	*70.0-130*				

L1479046-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1479046-03 04/07/22 12:29 • (MS) R3778810-4 04/07/22 18:32 • (MSD) R3778810-5 04/07/22 18:51

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	51.1	54.3	204	217	1	10.0-160	J5	J5	6.07	35
Acrolein	25.0	U	28.2	30.0	113	120	1	10.0-160			6.19	39
Acrylonitrile	25.0	U	39.4	40.0	158	160	1	21.0-160			1.51	32
Benzene	5.00	U	6.46	6.80	129	136	1	17.0-158			5.13	27

L1479046-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1479046-03 04/07/22 12:29 • (MS) R3778810-4 04/07/22 18:32 • (MSD) R3778810-5 04/07/22 18:51

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	6.67	6.82	133	136	1	30.0-149			2.22	28
Bromochloromethane	5.00	U	6.69	6.96	134	139	1	38.0-142			3.96	26
Bromodichloromethane	5.00	U	6.44	6.71	129	134	1	31.0-150			4.11	27
Bromoform	5.00	U	6.29	6.58	126	132	1	29.0-150			4.51	29
Bromomethane	5.00	U	5.63	5.89	113	118	1	10.0-160			4.51	38
n-Butylbenzene	5.00	U	6.61	6.77	132	135	1	31.0-150			2.39	30
sec-Butylbenzene	5.00	U	7.07	7.26	141	145	1	33.0-155			2.65	29
tert-Butylbenzene	5.00	U	7.06	6.99	141	140	1	34.0-153			0.996	28
Carbon disulfide	5.00	U	6.54	7.08	131	142	1	10.0-156			7.93	28
Carbon tetrachloride	5.00	U	7.14	7.43	143	149	1	23.0-159			3.98	28
Chlorobenzene	5.00	U	6.43	6.58	129	132	1	33.0-152			2.31	27
Chlorodibromomethane	5.00	U	6.09	6.49	122	130	1	37.0-149			6.36	27
Chloroethane	5.00	U	5.99	6.42	120	128	1	10.0-160			6.93	30
Chloroform	5.00	U	6.30	6.64	126	133	1	29.0-154			5.26	28
Chloromethane	5.00	U	5.95	6.17	119	123	1	10.0-160			3.63	29
2-Chlorotoluene	5.00	U	6.82	7.11	136	142	1	32.0-153			4.16	28
4-Chlorotoluene	5.00	U	6.65	6.82	133	136	1	32.0-150			2.52	28
1,2-Dibromo-3-Chloropropane	5.00	U	7.76	8.15	155	163	1	22.0-151	J5	J5	4.90	34
Dibromomethane	5.00	U	6.87	7.00	137	140	1	30.0-151			1.87	27
1,2-Dichlorobenzene	5.00	U	6.43	6.62	129	132	1	34.0-149			2.91	28
1,3-Dichlorobenzene	5.00	U	6.33	6.43	127	129	1	36.0-146			1.57	27
1,4-Dichlorobenzene	5.00	U	6.18	6.45	124	129	1	35.0-142			4.28	27
Dichlorodifluoromethane	5.00	U	6.54	7.15	131	143	1	10.0-160			8.91	29
1,1-Dichloroethane	5.00	U	6.34	6.81	127	136	1	25.0-158			7.15	27
1,2-Dichloroethane	5.00	1.91	8.09	8.50	124	132	1	29.0-151			4.94	27
1,1-Dichloroethene	5.00	U	6.55	7.04	131	141	1	11.0-160			7.21	29
cis-1,2-Dichloroethene	5.00	U	6.32	6.81	126	136	1	10.0-160			7.46	27
trans-1,2-Dichloroethene	5.00	U	6.37	6.73	127	135	1	17.0-153			5.50	27
1,2-Dichloropropane	5.00	U	6.95	7.25	139	145	1	30.0-156			4.23	27
1,1-Dichloropropene	5.00	U	6.32	6.69	126	134	1	25.0-158			5.69	27
1,3-Dichloropropane	5.00	U	6.16	6.59	123	132	1	38.0-147			6.75	27
cis-1,3-Dichloropropene	5.00	U	6.11	6.59	122	132	1	34.0-149			7.56	28
trans-1,3-Dichloropropene	5.00	U	6.17	6.39	123	128	1	32.0-149			3.50	28
2,2-Dichloropropane	5.00	U	7.22	7.54	144	151	1	24.0-152			4.34	29
Di-isopropyl ether	5.00	U	6.83	7.25	137	145	1	21.0-160			5.97	28
Ethylbenzene	5.00	U	6.61	6.71	132	134	1	30.0-155			1.50	27
Hexachloro-1,3-butadiene	5.00	U	6.33	6.59	127	132	1	20.0-154			4.02	34
Isopropylbenzene	5.00	U	6.94	7.31	139	146	1	28.0-157			5.19	27
p-Isopropyltoluene	5.00	U	6.96	7.12	139	142	1	30.0-154			2.27	29
2-Butanone (MEK)	25.0	U	44.9	45.9	180	184	1	10.0-160	J5	J5	2.20	32

L1479046-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1479046-03 04/07/22 12:29 • (MS) R3778810-4 04/07/22 18:32 • (MSD) R3778810-5 04/07/22 18:51

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	6.48	7.06	130	141	1	23.0-144			8.57	28
4-Methyl-2-pentanone (MIBK)	25.0	U	39.4	41.4	158	166	1	29.0-160		J5	4.95	29
Methyl tert-butyl ether	5.00	U	7.67	8.31	153	166	1	28.0-150	J5	J5	8.01	29
Naphthalene	5.00	U	6.85	7.28	137	146	1	12.0-156			6.09	35
n-Propylbenzene	5.00	U	7.41	7.61	148	152	1	31.0-154			2.66	28
Styrene	5.00	U	5.90	6.26	118	125	1	33.0-155			5.92	28
1,1,1,2-Tetrachloroethane	5.00	U	6.54	6.89	131	138	1	36.0-151			5.21	29
1,1,2,2-Tetrachloroethane	5.00	U	7.22	7.39	144	148	1	33.0-150			2.33	28
1,1,2-Trichlorotrifluoroethane	5.00	U	6.49	6.71	130	134	1	23.0-160			3.33	30
Tetrachloroethene	5.00	0.905	7.12	7.46	124	131	1	10.0-160			4.66	27
Toluene	5.00	U	6.33	6.62	127	132	1	26.0-154			4.48	28
1,2,3-Trichlorobenzene	5.00	U	6.15	6.39	123	128	1	17.0-150			3.83	36
1,2,4-Trichlorobenzene	5.00	U	6.14	6.68	123	134	1	24.0-150			8.42	33
1,1,1-Trichloroethane	5.00	U	6.97	7.50	139	150	1	23.0-160			7.33	28
1,1,2-Trichloroethane	5.00	U	6.28	6.65	126	133	1	35.0-147			5.72	27
Trichloroethene	5.00	U	6.28	6.79	126	136	1	10.0-160			7.80	25
Trichlorofluoromethane	5.00	U	3.67	4.75	73.4	95.0	1	17.0-160			25.7	31
1,2,4-Trimethylbenzene	5.00	U	6.80	7.02	136	140	1	26.0-154			3.18	27
1,2,3-Trimethylbenzene	5.00	U	6.63	6.80	133	136	1	32.0-149			2.53	28
1,3,5-Trimethylbenzene	5.00	U	6.99	7.41	140	148	1	28.0-153			5.83	27
Vinyl chloride	5.00	U	6.48	6.68	130	134	1	10.0-160			3.04	27
Xylenes, Total	15.0	U	20.3	21.1	135	141	1	29.0-154			3.86	28
o-Xylene	5.00	U	6.73	7.11	135	142	1	45.0-144			5.49	26
m&p-Xylenes	10.0	U	13.6	14.0	136	140	1	43.0-146			2.90	26
(S) Toluene-d8					*102*	*102*		*80.0-120*				
(S) 4-Bromofluorobenzene					*104*	*106*		*77.0-126*				
(S) 1,2-Dichloroethane-d4					*110*	*111*		*70.0-130*				

Method Blank (MB)

(MB) R3780795-1 04/13/22 19:32

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	*63.0*			*60.0-120*

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

(LCS) R3780795-2 04/13/22 19:53 • (LCSD) R3780795-3 04/13/22 20:13

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	5630	5510	93.8	91.8	75.0-125			2.15	20
(S) o-Terphenyl				*96.1*	*92.9*	*60.0-120*				

L1479046-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1479046-03 04/13/22 21:14 • (MS) R3780795-4 04/13/22 21:34 • (MSD) R3780795-5 04/13/22 21:54

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	U	5590	5750	93.2	95.8	1	75.0-125			2.82	20
(S) o-Terphenyl					*94.3*	*94.8*		*50.0-150*				

Method Blank (MB)

(MB) R3779023-3 04/07/22 17:56

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Anthracene	U		0.0190	0.0500
Acenaphthene	U		0.0190	0.0500
Acenaphthylene	U		0.0170	0.0500
Benzo(a)anthracene	U		0.0200	0.0500
Benzo(a)pyrene	U		0.0180	0.0500
Benzo(b)fluoranthene	U		0.0170	0.0500
Benzo(g,h,i)perylene	U		0.0180	0.0500
Benzo(k)fluoranthene	U		0.0200	0.250
Chrysene	U		0.0180	0.0500
Dibenz(a,h)anthracene	U		0.0180	0.0500
Fluoranthene	U		0.0110	0.0500
Fluorene	U		0.0170	0.0500
Indeno(1,2,3-cd)pyrene	U		0.0180	0.0500
Naphthalene	U		0.128	0.500
Phenanthrene	U		0.0180	0.0500
Pyrene	U		0.0170	0.0500
1-Methylnaphthalene	U		0.0200	0.500
2-Methylnaphthalene	U		0.0280	0.500
2-Chloronaphthalene	U		0.0120	0.500
(S) Nitrobenzene-d5	*96.0*			*11.0-135*
(S) 2-Fluorobiphenyl	*91.5*			*32.0-120*
(S) p-Terphenyl-d14	*110*			*23.0-122*

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

(LCS) R3779023-1 04/07/22 17:16 • (LCSD) R3779023-2 04/07/22 17:36

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 %
Anthracene	2.00	1.54	1.59	77.0	79.5	43.0-127			3.19	20
Acenaphthene	2.00	1.61	1.67	80.5	83.5	42.0-120			3.66	20
Acenaphthylene	2.00	1.68	1.77	84.0	88.5	43.0-120			5.22	20
Benzo(a)anthracene	2.00	1.72	1.80	86.0	90.0	46.0-120			4.55	20
Benzo(a)pyrene	2.00	1.46	1.58	73.0	79.0	44.0-122			7.89	20
Benzo(b)fluoranthene	2.00	1.69	1.80	84.5	90.0	43.0-122			6.30	20
Benzo(g,h,i)perylene	2.00	1.61	1.61	80.5	80.5	25.0-137			0.000	23
Benzo(k)fluoranthene	2.00	1.59	1.65	79.5	82.5	39.0-128			3.70	22
Chrysene	2.00	1.77	1.85	88.5	92.5	42.0-129			4.42	20
Dibenz(a,h)anthracene	2.00	1.55	1.59	77.5	79.5	25.0-139			2.55	22
Fluoranthene	2.00	1.61	1.67	80.5	83.5	48.0-131			3.66	20

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

(LCS) R3779023-1 04/07/22 17:16 • (LCSD) R3779023-2 04/07/22 17:36

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 %
Fluorene	2.00	1.61	1.68	80.5	84.0	42.0-120			4.26	20
Indeno(1,2,3-cd)pyrene	2.00	1.54	1.61	77.0	80.5	37.0-133			4.44	20
Naphthalene	2.00	1.70	1.77	85.0	88.5	30.0-120			4.03	22
Phenanthrene	2.00	1.59	1.66	79.5	83.0	42.0-120			4.31	20
Pyrene	2.00	1.82	1.91	91.0	95.5	38.0-124			4.83	20
1-Methylnaphthalene	2.00	1.62	1.69	81.0	84.5	43.0-120			4.23	20
2-Methylnaphthalene	2.00	1.55	1.63	77.5	81.5	40.0-120			5.03	20
2-Chloronaphthalene	2.00	1.57	1.64	78.5	82.0	39.0-120			4.36	20
(S) Nitrobenzene-d5				*90.0*	*92.5*	*11.0-135*				
(S) 2-Fluorobiphenyl				*85.5*	*89.0*	*32.0-120*				
(S) p-Terphenyl-d14				*108*	*111*	*23.0-122*				

GLOSSARY OF TERMS

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
C3	The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable.
J	The identification of the analyte is acceptable; the reported value is an estimate.
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:
Sydney Clark/Erika Midkiff

Email To:
Sydney.Clark@arcadis.com;Nicole.Monroe@arc

Project Description:
97324

City/State Collected: Anchorage, AK

Please Circle: PT MT CT ET

Phone: **907-276-8095**

Client Project #
30063667.19.21

Lab Project #
CHEVARCAK-97324 (AK-51)

Collected by (print):
E. Wujcik

Site/Facility ID #
4417 LAKE OTIS PKWY,

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	AK102 100ml Amb HCl	AK101 40mL Amb HCl	EDB/DBCP 504.1 TCP VOA 40mL Amb. HCl	PAH 8270SIM 100mL Amb No Pres	VOC 8260D 40mL Amb HCl					Remarks	Sample # (lab only)
MW-2R-W-20220404	Grab	GW	—	4.4.22	0900	13	X	X	X	X	X						-01
MW-8RR-W-20220404	Grab	GW	—	4.4.22	1000	11	X	X	X		X						-02
MW-1R-W-20220404	Grab	GW	—	4.4.22	1100	33	X	X	X		X					MS/MSD	-03
MW-9-W-20220404	Grab	GW	—	4.4.22	1200	11	X	X	X		X						-04
BD-1-W-20220404	Grab	GW	—	4.4.22	—	13	X	X	X	X	X						-05
EQB-1-W-20220404	Grab	GW	—	4.4.22	1300	13	X	X	X	X	X						-06
Trip Blank	—	GW	—	4.4.22	—	1		X	X		X						-07
		GW															
		GW															
		GW															

Chain of Custody Page 1 of 1

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 # L1479446
F190

Acctnum: **CHEVARCAK**
Template: **T205504**
Prelogin: **P911868**
PM: **110 - Brian Ford**
PB: **CR 3-16-22**

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 # 5671 5376 3015

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
	4.5.22	0800		1	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.1+0.2=2.3 DRAFT Bottles Received: 94	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 4/6/22 Time: 900	Hold: Condition: NCF / OK

APPENDIX E

Laboratory Data Review Checklist

Completed By:

Bhagyashree A Fulzele

Title:

Project Chemist

Date:

April 21, 2022

Consultant Firm:

ARCADIS U.S., Inc

Laboratory Name:

Pace Analytical

Laboratory Report Number:

L1479046

Laboratory Report Date:

04/15/2022

CS Site Name:

First Semi Annual 2022 Groundwater Monitoring Report

ADEC File Number:

2100.26.008

Hazard Identification Number:

23885

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:

No.

   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.

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:

Not applicable.

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:

Yes.

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

Comments:

None of the samples were affected.

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:

Data quality or usability was not affected.

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

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

Yes☒ No☐ N/A☐ Comments:

Yes.

ii. Metals/Inorganics – one LCS and one sample duplicate 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 SW846 8260D: LCSD recovery was greater than the control limit for compounds acetone, 1,2-dibromo-3-chloropropane and methyl tert-butyl ether in preparation batch WG1844554. The compounds were non-detected in any of the associated samples; therefore, 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:

Method SW846 8260D: LCS/LCSD RPD exceedances were observed for several compounds acetone, acrolein, acrylonitrile, bromobenzene, bromoform, n-butylbenzene, sec-butylbenzene, tert-butylbenzene, 2-chlorotoluene, 4-chlorotoluene, 1,2-dibromo-3-chloropropane, 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, hexachloro-1,3-butadiene, p-isopropyltoluene, 2-butanone (mek), 4-methyl-2-pentanone (mibk), methyl tert-butyl ether, naphthalene, n-propylbenzene, 1,1,2,2-tetrachloroethane, 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, 1,2,4-trimethylbenzene, 1,2,3-trimethylbenzene and 1,3,5-trimethylbenzene in preparation batch WG1844554. Compounds result in the associated samples were qualified as estimated (J/UJ).

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

Comments:

Precision: Compounds result in sample IDs MW-2R-W-20220404, MW-8RR-W-20220404, MW-1R-W-20220404, MW-9-W-20220404, BD-1-W-20220404, EQB-1-W-20220404 and TRIP BLANK-W-20220404 was qualified as estimated (J/UJ).

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 LCS/LCSD recovery and RPD exceedances are considered minor and would result in the estimation of the associated data. The reported data should still consider as usable.

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-1R-W-20220404 for Method AK101, AK102 and SW846 8260D.

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 SW846 8260D: MS and/or MSD recovery for compounds acetone, 1,2-dibromo-3-chloropropane, 2-butanone (MEK), 4-methyl-2-pentanone (MIBK) and methyl tert-butyl ether exceeded in sample ID MW-1R-W-20220404. Compounds were non-detected in the associated sample; hence no other qualification of the data was required.

Method AK101: MS/MSD recovery for compound TPHGAK C6 to C10 was less than the control limit in sample ID MW-1R-W-20220404. Compound result in the associated sample was qualified as estimated (UJ).

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 AK101: MS/MSD RPD for compound TPHGAK C6 to C10 was exceeded the control limit in sample MW-1R-W-20220404. The compound result in associated sample was qualified as estimated (UJ).

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

Comments:

The MS/MSD RPD exceedance was observed for compound acetone in sample ID MW-1R-W-20220404 and qualified as estimated (UJ/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:

MS/MSD recovery and RPD exceedance is considered minor and would result in the estimation of associated data. The reported data should still consider as usable.

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-W-20220404.

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-20220404 was collected from sample MW-2R-W-20220404.

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/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-20220404.

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 compound acrolein was exhibited a low bias recovery. Compound result in the associated sample IDs MW-2R-W-20220404, MW-8RR-W-20220404, MW-1R-W-20220404, MW-9-W-20220404, BD-1-W-20220404, EQB-1-W-20220404 and TRIP BLANK-W-20220404 was qualified as estimated (UJ).