Arcadis U.S., Inc.
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ENVIRONMENT

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

Subject:
2022 Second Semi-Annual Groundwater Monitoring Report

Date:
November 23, 2022

Contact:
Gerald Robinson

Phone:
724.934.9507

Email:
Gerald.Robinson@arcadis.com

Our ref:
30063668

Dear Ms. Reams,

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

Chevron Branded Station No.	**ADEC File No.**	**Hazard ID:**	**Location**
98557	2100.26.006	23831	415 Muldoon Road 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, CEMC (electronic copy)
Mark Engelke, Cook Inlet Marketing Group, Inc (electronic copy)

Chevron Environmental Management Company

2022 SECOND SEMI-ANNUAL GROUNDWATER MONITORING REPORT

Chevron Service Station No. 98557
415 Muldoon Road
Anchorage, Alaska
ADEC File No. 2100.26.006

November 23, 2022

2022 SECOND SEMI-ANNUAL GROUNDWATER MONITORING REPORT

Chevron Service Station No. 98557

415 Muldoon Road
Anchorage, Alaska

ADEC File No: 2100.26.006
HAZARD ID No: 23831

Jesse Wood
Project Task Manager

Gerald A. Robinson
Project Manager

Prepared for:

Chevron Environmental Management Company

Prepared by:

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Our Ref.:
30063668

Date:
November 23, 2022

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SEMI-ANNUAL GROUNDWATER MONITORING REPORT
SECOND HALF 2022
November 23, 2022

Facility No:	Chevron Service Station 98557	Address:	415 Muldoon Road, Anchorage, Alaska

Arcadis Contact Person / Phone No.:	Gerald Robinson / 724-934-9507
Arcadis Project No.:	30063668
Primary Agency/Regulatory ID No.:	State of Alaska Department of Environmental Conservation / Rebekah Reams / Case No. 2100.26.006

WORK CONDUCTED THIS PERIOD [Second Half 2022]:

1. Conducted semi-annual groundwater monitoring activities on August 17, 2022.
2. Prepared the 2022 *Second Semi-Annual Groundwater Monitoring Report.*

WORK PROPOSED NEXT PERIOD [First Half 2023]:

1. Conduct semi-annual groundwater monitoring activities in the First half of 2023.
2. Prepare the 2023 *First Semi-Annual Groundwater Monitoring Report.*

Current Phase of Project:	Monitoring	
Frequency of Monitoring / Sampling:	Semi-Annual	
Is Light Non-Aqueous Phase Liquid (LNAPL) Present On-site:	No	
Cumulative LNAPL Recovered to Date:	0.0	(gallons)
Approximate Depth to Groundwater:	17.08 (MW-14) to 18.08 (MW-13)	(feet below top of casing)
Approximate Groundwater Elevation:	234.58 (MW-1) to 234.79 (MW-3)	(feet relative to NAVD88)
Groundwater Flow Direction	South - Southwest	
Groundwater Gradient	0.002	(feet per foot)

Current Remediation Techniques:	None
Permits for Discharge:	None
Summary of Unusual Activity:	Monitoring well MW-3 and RW-1 were not sampled.
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 second semi-annual groundwater sampling event of 2022 for Chevron Service Station 98557, located at 415 Muldoon Road in Anchorage, Alaska (the site). The site location map and site plan is shown on Figure 1 and Figure 2.

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

2 GROUNDWATER MONITORING

2.1 Groundwater Gauging Methods

The second semi-annual 2022 groundwater gauging event was conducted on August 17, 2022. Site monitoring wells 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.

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 second semi-annual 2022event, monitoring wells MW-1, MW-3, MW-13, MW-14, and RW-1 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 events is to the south southwest. The flow direction has ranged historically from the southwest, northwest and northeast. There are two historical predominate flow directions east-northeast and northwest. Current and historical

groundwater gauging and analytical results are summarized in Table 1 and Table 2 respectively. A groundwater elevation contour map is presented as Figure 3.

2.3 Groundwater Sampling Methods

The second semi-annual 2022 groundwater monitoring event was conducted on August 17, 2022. Groundwater samples were collected from monitoring wells MW-1, MW-13 and MW-14 using a low flow sampling method. Monitoring well MW-3 and RW-1 were only gauged in accordance with the long term monitoring plan;

Sampling procedures were conducted in accordance with ADEC *Field Sampling Guidance* (ADEC, 2022). Monitoring well caps were removed to allow groundwater levels to stabilize and equilibrate before using an electronic interface probe (EIP) meter capable of 0.01-foot accuracy to measure the depth to groundwater and total well depth. A bladder pump with compressor & control unit with clean/disposable Teflon lined tubing and bladders was used to purge groundwater from the wells and collect samples to minimize the risk of volatile contaminant absorption by the sampling equipment. Water table drawdown was continuously monitored during purging with a water level meter and the flow rate of the pump was adjusted to limit drawdown to 0.1 meter. The intake of the pump was set as close as possible to the soil groundwater interface. Water quality parameters were monitored during purging with a multi-parameter water quality meter equipped with a flow through cell and Turbidity meter. Parameters were recorded every 3 to 5 minutes until a minimum of three (minimum of four if using temperature as an indicator) of the parameters listed below stabilized. The flow rate was reduced between 100 to150 milliliter per minute (ml/minute) and samples were collected from the discharge line into laboratory sample bottles. Water quality parameters were considered stable when three successive readings were within the following ADEC limits:

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

Sample bottles were labeled, stored in a cooler packed with ice, and submitted to Pace Analytical National Centre for Testing & Innovation (Pace Analytical), Mount Juliet, Tennessee, under proper chain-of-custody procedures. Field notes documenting the second semi-annual 2022 event is presented in Appendix B.

Groundwater samples collected from monitoring wells MW-1, MW-13 and MW-14 were submitted to Pace Analytical for the following analyses:

- Total petroleum hydrocarbons as diesel range organics (DRO) by Alaska Method AK102
- Lead by United States Environmental Protection Agency (USEPA) Method 6010D

A groundwater duplicate sample was collected from monitoring well MW-13. The duplicate sample was analyzed for DRO, and Lead. The duplicate sample was submitted blind with the sample set to Pace Analytical.

2.4 Groundwater Analytical Results

Routine analytical results for DRO and Lead obtained from the second semi-annual 2022 groundwater monitoring event are summarized in Table 1 and are shown on Figure 4. Historic groundwater monitoring data are summarized in Table 2. Additional Historical Groundwater data is available in Appendix C.

3 INVESTIGATION DERIVED WASTE

Purge and decontamination water was collected and is currently stored in U.S. Department of Transportation-approved 55-gallon steel drums onsite. Each drum was labeled with the contents, generator, date generated, and generator contact information. Following waste characterization and ADEC approval, the investigation derived waste will be transported offsite for treatment and/or disposal.

4 LABORATORY DATA QUALITY ASSURANCE SUMMARY

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

4.1 Precision

The relative percent difference (RPD) for laboratory control sample and laboratory control sample duplicate (LCS/LCSD), matrix spike (MS) and matrix spike duplicate (MSD), and field duplicate (FD) were within the control limits.

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

4.2 Accuracy

The percent recoveries for LCS/LCSD, MS/MSD and surrogates were within the control limits.

The accuracy of the data, as measured by laboratory 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.

4.5 Completeness

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

4.6 Sensitivity

The sensitivity of the analyses was adequate. The sensitivity for the tested analytes was adequate as the detection limits were less than the ADEC groundwater cleanup levels.

Lead concentrations exceeded the ADEC groundwater cleanup levels in sample locations MW-13 and MW-14.

5 CONCLUSIONS AND RECOMMENDATIONS

The groundwater data collected during the second semi-annual 2022 event indicates that the groundwater flow direction, south southwest, is consistent with previously observed groundwater flow directions. During the second semi-annual 2022 groundwater monitoring event, groundwater samples were collected for analysis from monitoring wells MW-1, MW-13, and MW-14. 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 first semi-annual sampling event will be conducted in the spring of 2023.

6 REFERENCES

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

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

TABLES

Table 1. Current Groundwater Gauging and Analytical Results
Chevron Service Station 9-8557
415 Muldoon Road,
Anchorage, Alaska

Well ID	Sample Date	Screen Interval (ft bTOC)	TOC (ft)	Datum	DTW (ft bTOC)	LNAPL thickness (ft)	GW Elev (ft)	DRO (µg/L)	Lead (µg/L)	Comments
ADEC Groundwater Cleanup Levels								**1,500**	**15**	
MW-1	8/17/2022	16-26	252.38	NAVD88	17.80	0.00	234.58	**573 J**	**3.57 J**	
MW-3	8/17/2022	14-24	252.69	NAVD88	17.90	0.00	234.79	--	--	Not sampled
MW-13	8/17/2022	--	252.86	NAVD88	18.08	0.00	234.78	**606 J [400 J]**	**25.2 [25.2]**	
MW-14	8/17/2022	--	251.82	NAVD88	17.08	0.00	234.74	**201 J**	**20.4**	
RW-1	8/17/2022	15-29.5	252.55	NAVD88	17.81	0.00	234.74	--	--	Not sampled
QA (EQB)	8/17/2022	--	--	--	--	--	--	<800	<6.00	

Notes:

ID = Identification
MW = Groundwater monitoring well
TOC = Top of casing
DTW = Depth to groundwater
ft bTOC = Feet below top of casing
ft = Feet relative to NAVD88
GW Elev = Groundwater elevation
µg/L = Micrograms per liter
Bold = Value exceeds Method Detection Limit (MDL)
Bold and Shaded = Value exceeds ADEC Groundwater Cleanup Level
<6.00 = Not detected at or above the Reported Detection Limit (RDL)
J = The associated numerical value is an estimated concentration only
B = Compound considered non-detect at the listed value due to associated blank contamination.
DRO = Total petroleum hydrocarbons, diesel range by LUFT GC/MS according to USEPA Method AK 102
Lead analyzed by EPA Method 6010D
-- = Not analyzed/ Not measured/ Not Available
[ ] = Duplicate Result
QA (EQB) = Quality Assurance (Equipment Blank)
LUFT = Leaking Underground Fuel Tank
GC/MS = Gas chromatography/Mass Spectrometry
NAVD 88 = North American Vertical Datum of 1988
LNAPL = Light Non-Aqueous Phase Liquid
ADEC = Alaska Department of Environmental Conservation

Table 2. Historical Groundwater Gauging and Analytical Results
Second Quarter 2003 to Current
Chevron Service Station 9-8557
415 Muldoon Road,
Anchorage, Alaska

Well ID	Sample Date	Screen Interval (ft bTOC)	TOC (ft amsl)	DTW (ft bTOC)	LNAPL thickness (ft)	GW Elev (ft amsl)	DRO (µg/L)	GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Lead (µg/L)	HVOCs (µg/L)	SVOC's (µg/L)	Naphthalene (µg/L)	Comments
ADEC Groundwater Cleanup Levels							**1,500**	**2,200**	**4.6**	**1,100**	**15**	**190**	**140.0**	**15**	**--**	**--**	**1.7**	
MW-1	5/23/2003	16-26	98.73	19.00	0.00	79.73	**550**	--	--	--	--	--	--	--	<0.5-<2	--	--	
MW-1	10/8/2003	16-26	98.73	19.38	0.00	79.35	**280**	--	--	--	--	--	--	--	<0.5-<2	--	--	Laboratory report indicates the observed sample pattern is not typical of diesel/#2 fuel oil.
MW-1	6/4/2004	16-26	98.73	19.61	0.00	79.12	**1,900**	--	--	--	--	--	--	--	<0.5-<2	--	--	
MW-1	9/28/2004	16-26	98.73	19.50	0.00	79.23	**740 [670]**	--	--	--	--	--	--	--	<0.5-<2 [<0.5-<2]	--	--	
MW-1	5/13/2005	16-26	98.73	18.54	0.00	80.19	**830**	--	--	--	--	--	--	--	<0.5-<2	--	--	
MW-1	9/26/2005	16-26	98.73	18.67	0.00	80.06	<24	--	--	--	--	--	--	--	<0.5-<2	--	--	
MW-1	5/17/2006	16-26	98.73	19.54	0.00	79.19	**140**	--	--	--	--	--	--	--	<0.8-<2	--	--	
MW-1	9/25/2006	16-26	98.73	18.76	0.00	79.97	**8,500**	--	--	--	--	--	--	--	<0.8-<2	--	--	
MW-1	5/15/2007	16-26	98.73	18.91	0.00	79.82	**500**	--	--	--	--	--	--	--	<0.8-<2.0	<1-<21	--	
MW-1	9/24/2007	16-26	98.73	18.40	0.00	80.33	**3,500**	--	--	--	--	--	--	--	<0.8-<2.0	<1-<19	--	
MW-1	5/14/2008	16-26	98.73	18.37	0.00	80.36	**350**	--	--	--	--	--	--	--	<0.8-<2.0	<1-<19	--	HVOCs and SVOCs: TPH-d Laboratory report indiactes that the LCS/LCSD recoveries are outside the OC limits. The LCS result fron the reextraction is also outisde the OC limits. Similar results
MW-1	9/16/2008	16-26	98.73	18.02	0.00	80.71	**1,600**	--	--	--	--	--	--	--	<0.1-<0.3	<1-<0.20	--	
MW-1	6/18/2009	16-26	98.73	18.53	0.00	80.20	**270**	--	--	--	--	--	--	--	- ND	ND	--	
MW-1	9/7/2009	16-26	98.73	18.76	0.00	79.97	**2,500**	--	--	--	--	--	--	--	- ND	0.012	--	
MW-1	4/21/2010	16-26	98.73	19.46	0.00	79.27	**1,500**	--	--	--	--	--	--	--	- ND	0.21	--	
MW-1	7/22/2010	16-26	98.73	19.08	0.00	79.65	**1,400**	--	--	--	--	--	--	--	- ND	ND	--	
MW-1	4/19/2011	16-26	98.73	19.35	0.00	79.38	**1,600**	--	--	--	--	--	--	--	- ND	0.040 J	--	
MW-1	8/22/2011	16-26	252.78	19.09	0.00	233.69	**170 J**	--	--	--	--	--	--	< 4.7 J	- ND	ND	--	
MW-1	5/22/2012	16-26	252.78	18.22	0.00	234.56	**200 J**	--	--	--	--	--	--	< 2.2	- ND	ND	--	
MW-1	7/30/2012	16-26	252.78	17.55	0.00	235.23	**100 J**	--	--	--	--	--	--	**7.1 J**	- ND	ND	--	
MW-1	5/14/2013	16-26	252.78	17.90	0.00	234.88	**620**	--	--	--	--	--	--	< 1.9	--	--	--	
MW-1	5/14/2013	16-26	252.78	17.90	0.00	234.88	**1,600**	--	--	--	--	--	--	< 1.9	--	--	--	Sample Collected via hydrasleeve
MW-1	9/17/2013	16-26	252.78	17.57	0.00	235.21	-	--	--	--	--	--	--	-	--	--	--	
MW-1	9/18/2013	16-26	-	-	0.00	-	**380 J**	--	--	--	--	--	--	**9.6 J**	--	--	--	
MW-1	5/2/2014	16-26	252.78	19.95	0.00	232.83	**130 J**	--	--	--	--	--	--	**1**	--	--	--	
MW-1	11/8/2014	16-26	252.78	18.48	0.00	234.10	**260 J**	--	--	--	--	--	--	**7.7 J**	--	--	--	
MW-1	5/6/2015	16-26	252.78	19.12	0.00	233.66	**370 J**	--	--	--	--	--	--	**4.7**	--	--	--	
MW-1	10/21/2015	16-26	252.78	18.68	0.00	234.10	**350**	--	--	--	--	--	--	**26**	--	--	--	
MW-1	6/3/2016	16-26	252.78	18.69	0.00	234.09	**3,700**	--	--	--	--	--	--	**29.3 J**	--	--	--	
MW-1	10/14/2016	16-26	252.78	18.57	0.00	234.21	**2,400**	--	--	--	--	--	--	**13.7**	--	--	--	
MW-1	5/23/2017	16-26	252.78	18.29	0.00	234.49	**3,500**	--	--	--	--	--	--	**98.3**	--	--	--	
MW-1	9/1/2017	16-26	252.78	18.85	0.00	233.93	**800 J / 520 J**	--	--	--	--	--	--	**10.3 J / 15.1 J**	--	--	--	
MW-1	5/21/2018	16-26	252.78	19.10	0.00	233.68	**1,900 J / 1,500 J**	--	--	--	--	--	--	**48.4**	--	--	--	
MW-1	9/25/2018	16-26	252.58*	19.02	0.00	233.76	**1,000**	--	--	--	--	--	--	**24.1**	--	--	--	
MW-1	4/10/2019	16-26	252.38	18.30	0.00	234.08	<260 B	--	--	--	--	--	--	<7.1	--	--	--	Depth to water taken from Recent Survey Notes dated 6/6/2019, TOC Data from Survey report by McLane Consulting dated 6/14/19 (Rev 2)
MW-1	9/10/2019	16-26	252.38	18.51	0.00	233.87	**320**	--	--	--	--	--	--	**8.3 J**	--	--	--	
MW-1	4/3/2020	16-26	252.38	18.66	0.00	233.72	**1,110**	--	<1.00	<1.00	<1.00	<3.00	<1.00	**9.35**	--	--	***<5.00 J***	
MW-1	9/30/2020	16-26	252.38	18.10	0.00	234.28	**392 J [359 J]**	--	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<3.00 [<3.00]	<1.00 [<1.00]	<9.09 B [<6.00 B]	--	--	<0.500 [<0.500]	
MW-1	4/8/2021	16-26	252.38	18.55	0.00	233.83	<800	--	--	--	--	--	--	**8.90 B**	--	--	--	
MW-1	8/27/2021	16-26	252.38	17.62	0.00	234.76	<800 B [<800 B]	--	--	--	--	--	--	**7.40 [7.69]**	--	--	--	
MW-1	4/5/2022	16-26	252.38	18.25	0.00	234.13	<800 B	--	--	--	--	--	--	**4.99 J**	--	--	--	
MW-1	8/17/2022	16-26	252.38	17.80	0.00	234.58	**573 J**	--	--	--	--	--	--	**3.57 J**	--	--	--	
MW-3	5/23/2003	14-24	98.52	19.19	0.00	79.33	<24	--	--	--	--	--	--	--	<0.5-<2	--	--	
MW-3	10/8/2003	14-24	98.52	19.55	0.00	78.97	**43 [45]**	--	--	--	--	--	--	--	<0.5-<2 [<0.5-<2]	--	--	
MW-3	6/4/2004	14-24	98.52	19.78	0.00	78.74	**62**	--	--	--	--	--	--	--	<0.5-<2	--	--	
MW-3	9/28/2004	14-24	98.52	19.88	0.00	78.64	<20	--	--	--	--	--	--	--	<0.5-<2	--	--	
MW-3	5/13/2005	14-24	98.52	18.86	0.00	79.66	**84 [67]**	--	--	--	--	--	--	--	<0.5-<2 [<0.5-<2]	--	--	TPH-d: Laboratory report indicates the observed sample pattern is not typical of diesel/#2 fuel oil.
MW-3	9/26/2005	14-24	98.52	18.52	0.00	80.00	<24 [<24]	--	--	--	--	--	--	--	<0.5-<2 [<0.5-<2]	--	--	
MW-3	5/17/2006	14-24	98.52	19.63	0.00	78.89	<25	--	--	--	--	--	--	--	<0.8-<2	--	--	
MW-3	9/25/2006	14-24	98.52	18.73	0.00	79.79	**220**	--	--	--	--	--	--	--	<0.8-<2	--	--	
MW-3	5/15/2007	14-24	98.52	18.78	0.00	79.74	**130**	--	--	--	--	--	--	--	<0.8-<2.0	<1-<21	--	
MW-3	9/24/2007	14-24	98.52	18.43	0.00	80.09	**1,600**	--	--	--	--	--	--	--	<0.5-<2.0	<1-<20	--	
MW-3	5/14/2008	14-24	98.52	18.42	0.00	80.10	**84 [87]**	--	--	--	--	--	--	--	<0.8-<2.0 [<0.8-<2.0]	<1-<21	--	HVOCs and SVOCs: TPH-d Laboratory report indiactes that the LCS/LCSD recoveries are outside the QC limits, The LCS result fron the reextraction is also outisde the QC limits. Similar results were obtained in both sample extracts.
MW-3	9/16/2008	14-24	98.52	18.06	0.00	80.46	<50 **[53]**	--	--	--	--	--	--	--	<0.1-<0.3 [<0.1-<0.3]	<1-<0.20	--	
MW-3	6/18/2009	14-24	98.52	18.65	0.00	79.87	<50	--	--	--	--	--	ND	--	--	--	--	
MW-3	9/7/2009	14-24	98.52	18.88	0.00	79.64	<48	--	--	--	--	--	ND	--	--	--	--	
MW-3	4/21/2010	14-24	98.52	19.60	0.00	78.92	<53 J	--	<0.5	<0.5	<0.5	--	ND	--	--	--	--	
MW-3	7/22/2010	14-24	98.52	19.18	0.00	79.34	**55 J**	--	--	--	--	--	ND	--	--	--	--	
MW-3	4/19/2011	14-24	98.52	19.47	0.00	79.05	**84 J**	--	--	--	--	--	ND	--	--	--	--	
MW-3	8/22/2011	14-24	253.02	19.17	0.00	233.85	**120 J**	--	--	--	--	--	ND	<2.2	--	--	--	
MW-3	5/22/2012	14-24	253.02	18.34	0.00	234.68	<48	--	--	--	--	--	ND	<2.2	--	--	--	
MW-3	7/30/2012	14-24	253.02	17.69	0.00	235.33	**96 J**	--	--	--	--	--	ND	<5.1	--	--	--	
MW-3	5/14/2013	14-24	253.02	18.04	0.00	234.98	--	--	--	--	--	--	--	--	--	--	--	
MW-3	9/17/2013	14-24	253.02	17.69	0.00	235.33	--	--	--	--	--	--	--	--	--	--	--	
MW-3	5/2/2014	14-24	253.02	18.06	0.00	234.96	--	--	--	--	--	--	--	--	--	--	--	
MW-3	11/8/2014	14-24	253.02	18.60	0.00	234.42	--	--	--	--	--	--	--	--	--	--	--	
MW-3	5/6/2015	14-24	253.02	19.24	0.00	233.78	--	--	--	--	--	--	--	--	--	--	--	
MW-3	10/21/2015	14-24	253.02	18.79	0.00	234.23	--	--	--	--	--	--	--	--	--	--	--	
MW-3	6/3/2016	14-24	253.02	18.81	0.00	234.21	--	--	--	--	--	--	--	--	--	--	--	
MW-3	10/14/2016	14-24	253.02	18.69	0.00	234.33	--	--	--	--	--	--	--	--	--	--	--	
MW-3	5/23/2017	14-24	253.02	18.35	0.00	234.67	--	--	--	--	--	--	--	--	--	--	--	
MW-3	9/1/2017	14-24	253.02	18.84	0.00	234.18	--	--	--	--	--	--	--	--	--	--	--	
MW-3	5/21/2018	14-24	253.02	19.11	0.00	233.91	--	--	--	--	--	--	--	--	--	--	--	
MW-3	9/25/2018	14-24	252.92*	19.12	0.00	233.90	--	--	--	--	--	--	--	--	--	--	--	
MW-3	4/10/2019	14-24	252.69	18.63	0.00	234.06	--	--	--	--	--	--	--	--	--	--	--	Depth to water taken from Recent Survey Notes dated 6/6/2019, TOC Data from Survey report by McLane Consulting dated 6/14/19 (Rev 2)
MW-3	9/10/2019	14-24	252.69	18.86	0.00	233.83	--	--	--	--	--	--	--	--	--	--	--	
MW-3	4/3/2020	14-24	252.69	19.00	0.00	233.69	--	--	--	--	--	--	--	--	--	--	--	
MW-3	10/1/2020	14-24	252.69	18.46	0.00	234.23	--	--	--	--	--	--	--	--	--	--	--	
MW-3	4/8/2021	14-24	252.69	18.82	0.00	233.87	--	--	--	--	--	--	--	--	--	--	--	
MW-3	8/27/2021	14-24	252.69	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Could not gauge due to continuous flooding.
MW-3	4/5/2022	14-24	252.69	18.34	0.00	234.35	--	--	--	--	--	--	--	--	--	--	--	
MW-3	8/17/2022	14-24	252.69	17.90	0.00	234.79	--	--	--	--	--	--	--	--	--	--	--	Not sampled

Table 2. Historical Groundwater Gauging and Analytical Results
Second Quarter 2003 to Current
Chevron Service Station 9-8557
415 Muldoon Road,
Anchorage, Alaska

Well ID	Sample Date	Screen Interval (ft bTOC)	TOC (ft amsl)	DTW (ft bTOC)	LNAPL thickness (ft)	GW Elev (ft amsl)	DRO (µg/L)	GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Lead (µg/L)	HVOCs (µg/L)	SVOC's (µg/L)	Naphthalene (µg/L)	Comments
ADEC Groundwater Cleanup Levels							**1,500**	**2,200**	**4.6**	**1,100**	**15**	**190**	**140.0**	**15**	**--**	**--**	**1.7**	
MW-4R	5/23/2003	15-24.5	--	18.17	0.00	--	--	<80 **[220]**	<0.5	<0.5	<0.5	<1	<2	--	<1-<5.00 [<0.5-<2]	--	--	
MW-4R	10/8/2003	15-24.5	--	18.55	0.00	--	--	**200**	<0.5	<0.5	<0.5	<1.0	<0.5	--	<0.5-<2	--	--	
MW-4R	6/4/2004	15-24.5	--	18.76	0.00	--	--	**120**	<0.5	<0.5	<0.5	<1.0	<2	--	<0.5-<2	--	--	
MW-4R	9/28/2004	15-24.5	--	18.65	0.00	--	--	**30**	<0.5	<0.5	<0.5	<1.0	<2	--	<0.5-<2	--	--	
MW-4R	5/13/2005	15-24.5	--	17.69	0.00	--	--	<10	<0.5	<0.5	<0.5	<1.0	<2	--	<0.5-<2	--	--	
MW-4R	9/26/2005	15-24.5	--	17.50	0.00	--	--	**30**	<0.5	<0.5	<0.5	<1.0	<2	--	<0.5-<2	--	--	
MW-4R	5/17/2006	15-24.5	--	18.61	0.00	--	--	<10	<0.5	<0.5	<0.5	<1.0	<2	--	<0.5-<2	--	--	
MW-4R	9/25/2006	15-24.5	--	17.85	0.00	--	--	**340**	<0.5	<0.7	<0.8	<1.6	<2	--	<0.8-<2	--	--	
MW-4R	5/15/2007	15-24.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4R	9/24/2007	15-24.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Unable to locate
MW-4R	5/14/2008	15-24.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Unable to locate
MW-4R	9/16/2008	15-24.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Unable to locate
														--			--	
MW-11	10/8/2003	14-24	97.76	79.23	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-11	6/4/2004	14-24	97.76	79.00	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-11	9/28/2004	14-24	97.76	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible due to flooding
MW-11	5/13/2005	14-24	97.76	80.11	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-11	9/26/2005	14-24	97.76	DRY	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-11	5/17/2006	14-24	97.76	DRY	--	--	--	--	--	--	--	--	--	--	--	--	--	Abandoned July 2006
																	--	
MW-12	5/23/2003	15-24.5	98.52	18.71	0.00	79.81	--	<10	<0.5	<0.5	<0.5	<1	<0.5	--	<0.5-<2	--	--	
MW-12	10/8/2003	15-24.5	98.52	19.06	0.00	79.46	--	<10	<0.5	<0.5	<0.5	<1	<2	--	<0.5-<2	--	--	
MW-12	6/4/2004	15-24.5	98.52	19.28	0.00	79.24	--	<10 [<10]	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<1 [<1]	<2 [<2]	--	<0.5-<2 [<0.5-<2]	--	--	
MW-12	9/28/2004	15-24.5	98.52	19.23	0.00	79.29	--	<10	<0.5	<0.5	<0.5	<1	<2	--	<0.5-<2	--	--	
MW-12	5/13/2005	15-24.5	98.52	18.27	0.00	80.25	--	<10	<0.5	<0.5	<0.5	<1	<2	--	<0.5-<2	--	--	
MW-12	9/26/2005	15-24.5	98.52	DRY	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-12	5/17/2006	15-24.5	98.52	19.23	0.00	79.29	--	<10	<0.5	<0.7	<0.8	<1.6	<2	--	<0.8-<2	--	--	
																	--	
MW-13	7/30/2012	--	252.83	17.86	0.00	234.97	**6,600 J / 17,000 J**	**1,700 / 1,500**	**9.8 / 10**	**12.0 / 12.0**	**3.6 / 3.7**	**190 / 190**	**4.0 / 4.0**	**490 / 443**	--	**0.126 J / 0.176 J**	--	
MW-13	5/14/2013	--	252.83	18.15	0.00	234.68	**1,000 / 730**	**380 / 370**	**1.2 / 1.2**	**0.87 J / 0.88 J**	**9.8 / 10**	**28 / 30**	ND / ND	**740 / 570**	--	--	--	
MW-13	5/14/2013	--	252.83	18.15	0.00	234.68	**3,500 J / 1,600 J**	**270 / 310**	**1.2 / 1.2**	**0.93 J / 0.97 J**	**8.7 / 8.5**	**26 / 26**	--	**1400 / 970**	--	--	--	
MW-13	9/17/2013	--	252.83	17.82	0.00	235.01	-	-	-	-	-	-	--	--	--	--	--	
MW-13	9/18/2013	--	252.83	--	0.00	--	**710 / 770**	**170 / 180**	**0.98 J / 0.97 J**	**0.59 J / 0.63 J**	**5.7 / 5.7**	**15 / 15**	--	**210 J / 1,200 J**	--	--	--	
MW-13	5/2/2014	--	252.83	18.20	0.00	234.63	**620 / 540**	**160 / 140**	**0.90 J / 0.77 J**	**0.41 J** / <0.36	**4.9 / 4.1**	**3.4 / 2.8 J**	--	**25 / 18**	--	--	--	
MW-13	11/8/2014	--	252.83	18.70	0.00	234.13	**550 J / 500 J**	**89 J / 87 J**	**0.54 J / 0.46 J**	<0.19 J / <0.18 J	**1.8 / 1.8**	**1.1 J / 1.2 J**	--	**33 / 20**	--	--	--	
MW-13	5/6/2015	--	252.83	19.38	0.00	233.45	**390 J / 350 J**	--	--	--	--	--	--	**673 / 875**	--	--	--	
MW-13	10/21/2015	--	252.83	18.93	0.00	233.90	**1,100 / 4,100 J**	--	--	--	--	--	--	**74.8 / 53.9**	--	--	--	
MW-13	6/3/2016	--	252.83	18.94	0.00	233.89	**5,300 J / 5,200 J**	--	--	--	--	--	--	**223 / 219**	--	--	--	
MW-13	10/14/2016	--	252.83	18.83	0.00	234.00	**710 / 650**	--	--	--	--	--	--	**74.7 / 69.6**	--	--	--	
MW-13	5/23/2017	--	252.83	18.53	0.00	234.30	**360 J / 1900 J**	--	--	--	--	--	--	**298 J / 226 J**	--	--	--	
MW-13	9/1/2017	--	252.83	19.11	0.00	233.72	**590 J**	--	--	--	--	--	--	**137**	--	--	--	
MW-13	5/21/2018	--	252.83	19.23	0.00	233.60	**5,100 J**	--	--	--	--	--	--	**1,240 / 910**	--	--	--	
MW-13	9/25/2018	--	252.83	19.27	0.00	233.56	**9,100 / 7,400**	--	--	--	--	--	--	**193 / 265**	--	--	--	
MW-13	4/10/2019	--	252.86	18.76	0.00	234.10	**5,100**	--	--	--	--	--	--	**90.7**	--	--	--	Depth to water taken from Recent Survey Notes dated 6/6/2019, TOC Data from Survey report by McLane Consulting dated 6/14/19 (Rev 2)
MW-13	9/10/2019	--	252.86	19.00	0.00	233.86	**2,800 [2,800]**	--	--	--	--	--	--	**48 [50]**	--	--	--	
MW-13	4/3/2020	--	252.86	19.13	0.00	233.73	**1,240**	--	**2.14**	**0.495 J**	**4.55**	**3.39**	<1.00	**83.4**	--	--	***<5.00***	
MW-13	10/1/2020	--	252.86	18.61	0.00	234.25	**536 J [627 J]**	--	**1.40 [1.26]**	<1.00 [<1.00]	**2.23 [2.10]**	**0.195 J** [<3.00]	<1.00 [<1.00]	**25.3 [28.6]**	--	--	<0.500 [<0.500]	
MW-13	4/8/2021	--	252.86	19.03	0.00	233.83	**567 J [526 J]**	--	--	--	--	--	--	**23.5 B [17.8 B]**	--	--	--	
MW-13	8/27/2021	--	252.86	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Could not gauge due to continuous flooding. Oil observed on surface water entering.
MW-13	4/5/2022	--	252.86	18.70	0.00	234.16	--	--	--	--	--	--	--	--	--	--	--	Could not sample due to ice down well and could not pump down well.
MW-13	8/17/2022	--	252.86	18.08	0.00	234.78	**606 J [400 J]**	--	--	--	--	--	--	**25.2 [25.2]**	--	--	--	
MW-14	08/22/2011	--	251.41	17.99	0.00	233.42	<49	**43 J**	<0.5	<0.5	<0.5	<1.5	- ND	<0.0026 J	--	ND	--	
MW-14	5/22/2012	--	251.41	17.11	0.00	234.30	<49 J	<10	<0.5	<0.5	<0.5	<1.5	- ND	<0.0022	--	**0.0003**	--	
MW-14	7/30/2012	--	251.41	16.51	0.00	234.90	<48	<10	<0.5	<0.5	<0.5	<1.5	- ND	<0.0051	--	ND	--	
MW-14	5/14/2013	--	251.41	16.81	0.00	234.60	<63 J	<50	<0.24	<0.23	<0.24	<0.72	--	**0.020**	--	--	--	
MW-14	5/14/2013	--	251.41	16.81	0.00	234.60	<120 J	<50	<0.24	<0.23	<0.24	<0.72	--	**0.10**	--	--	--	Sample Collected via hydrasleeve
MW-14	9/17/2013	--	251.41	16.45	0.00	234.96	-	-	-	-	-	-	--	--	--	--	--	
MW-14	9/18/2013	--	--	--	0.00	--	<230	<50	<0.24	<0.23	<0.24	<0.72	--	**18**	--	--	--	
MW-14	5/2/2014	--	251.41	16.88	0.00	234.53	<68	<50	<0.15	<0.11	<0.16	<0.40	--	**0.18**	--	--	--	
MW-14	11/8/2014	--	251.41	17.37	0.00	234.04	**91 J**	<50 J	<0.15	<0.11	<0.16	<0.40	--	**0.18 J**	--	--	--	
MW-14	5/6/2015	--	251.41	18.01	0.00	233.40	<51 J	--	--	--	--	--	--	**5.3 J**	--	--	--	
MW-14	10/21/2015	--	251.87	18.04	0.00	233.83	<51 J	--	--	--	--	--	--	**56.1 J**	--	--	--	
MW-14	6/3/2016	--	251.41	18.07	0.00	233.34	<51	--	--	--	--	--	--	<5.1	--	--	--	
MW-14	10/14/2016	--	251.41	17.98	0.00	233.43	**1,200**	--	--	--	--	--	--	<6.2	--	--	--	
MW-14	5/23/2017	--	251.41	17.65	0.00	233.76	<53	--	--	--	--	--	--	<6.2	--	--	--	
MW-14	9/1/2017	--	251.41	18.23	0.00	233.18	<50 J	--	--	--	--	--	--	**12.5 J**	--	--	--	
MW-14	5/21/2018	--	251.41	19.36	0.00	232.05	<50 J	--	--	--	--	--	--	**30**	--	--	--	
MW-14	9/25/2018	--	251.41	18.41	0.00	233.00	<51	--	--	--	--	--	--	<7.1	--	--	--	
MW-14	4/10/2019	--	251.82	17.79	0.00	234.03	<250 B [<260 B]	--	--	--	--	--	--	**9 J [9.2 J]**	--	--	--	Depth to water taken from Recent Survey Notes dated 6/6/2019, TOC Data from Survey report by McLane Consulting dated 6/14/19 (Rev 2)
MW-14	9/10/2019	--	251.82	18.02	0.00	233.80	< 78	--	--	--	--	--	--	**2.7 J**	--	--	--	
MW-14	4/3/2020	--	251.82	18.20	0.00	233.62	<800 B [<872 B]	--	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<3.00 [<3.00]	<1.00 [<1.00]	**12.2 [11.1]**	--	--	***<5.00 [<5.00]***	
MW-14	9/30/2020	--	251.82	17.65	0.00	234.17	<800	--	<1.00	<1.00	<1.00	<3.00	<1.00	<6.00	--	--	<0.500	
MW-14	4/8/2021	--	251.82	18.02	0.00	233.80	<800	--	--	--	--	--	--	<6.00	--	--	--	
MW-14	8/27/2021	--	251.82	17.52	0.00	234.30	<800 B	--	--	--	--	--	--	**14.6**	--	--	--	
MW-14	4/5/2022	--	251.82	17.70	0.00	234.12	<800 [<800]	--	--	--	--	--	--	<6.00 [<6.00]	--	--	--	
MW-14	8/17/2022	--	251.82	17.08	0.00	234.74	**201 J**	--	--	--	--	--	--	**20.4**	--	--	--	
RW-1	5/23/2003	15-29.5	--	18.71	0.00	--	--	**56**	<0.5	<0.5	<0.5	<1	<0.5	--	<0.5-<2	--	--	
RW-1	10/8/2003	15-29.5	--	19.09	0.00	--	--	**19**	<0.5	<0.5	<0.5	<1	<2	--	<0.5-<2	--	--	
RW-1	6/4/2004	15-29.5	--	19.30	0.00	--	--	**34**	<0.5	<0.5	<0.5	<1	<2	--	<0.5-<2	--	--	
RW-1	9/28/2004	15-29.5	--	19.27	0.00	--	--	<10	<0.5	<0.5	<0.5	<1	<2	--	<0.5-<2	--	--	
RW-1	5/13/2005	15-29.5	--	18.20	0.00	--	--	**23**	<0.5	<0.5	<0.5	<1	<2	--	<0.5-<2	--	--	
RW-1	9/26/2005	15-29.5	--	18.04	0.00	--	--	**14 [57]**	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<1 [<1]	<2 [<2]	--	<0.5-<2 [<0.5-<2]	--	--	
RW-1	5/15/2007	15-29.5	--	18.56	0.00	--	<120 [<120]	<10 [<10]	<0.5 [<0.5]	<0.7 [<0.7]	<0.8 [<0.8]	<1.6 [<1.6]	<2 [<2]	--	<0.8-<2 [<0.8-<2]	<1-<21 [<1-<21]	--	
RW-1	9/24/2007	15-29.5	--	18.57	0.00	--	**83 [98]**	**20 [20]**	<0.5 [<0.5]	<0.5 [<0.5]	<0.5 [<0.5]	<1 [<1]	<2 [<2]	--	<0.5-<2 [<0.5-<2]	<1-<19 [<1-<20]	--	

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Second Quarter 2003 to Current
Chevron Service Station 9-8557
415 Muldoon Road,
Anchorage, Alaska

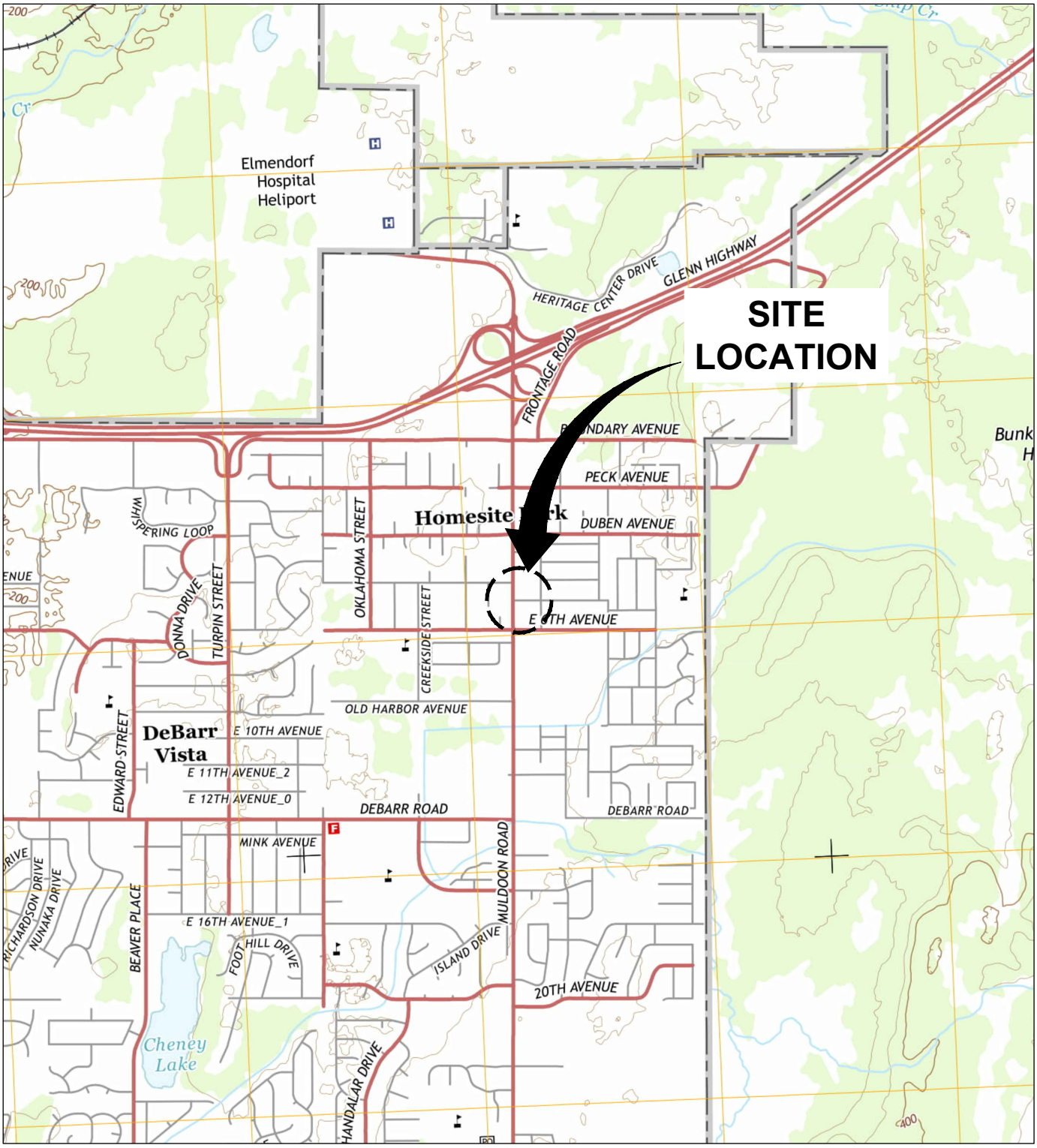
Well ID	Sample Date	Screen Interval (ft bTOC)	TOC (ft amsl)	DTW (ft bTOC)	LNAPL thickness (ft)	GW Elev (ft amsl)	DRO (µg/L)	GRO (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Lead (µg/L)	HVOCs (µg/L)	SVOC's (µg/L)	Naphthalene (µg/L)	Comments
ADEC Groundwater Cleanup Levels							**1,500**	**2,200**	**4.6**	**1,100**	**15**	**190**	**140.0**	**15**	**--**	**--**	**1.7**	
RW-1	5/14/2008	15-29.5	--	18.52	--	--	**83**	**20**	<0.5	<0.7	<0.8	<1.6	<2	--	<0.8-<2	<1-<21	--	HVOCs and SVOCs: TPH-d Laboratory report indiactes that the LCS/LCSD recoveries are outside the QC limits, The LCS result fron the reextraction is also outisde the QC limits. Similar results were obtained in both sample extracts.
RW-1	9/16/2008	15-29.5	--	18.19	0.00	--	**61**	**60**	<0.5	<0.5	<0.5	<0.5	<2	--	<0.1-<0.3	<1-<0.20	--	
RW-1	6/18/2009	15-29.5	--	18.54	0.00	--	**200 J / 130 J**	**39 J / 34 J**	<0.5 / <0.5	<0.5 / <0.5	<0.5 / <0.5	<1.5 / <1.5	--	--	ND / ND	ND / ND	--	
RW-1	9/7/2009	15-29.5	--	18.77	0.00	--	**180 J / 140 J**	**53 J / 54 J**	<0.5 / <0.5	<0.5 / <0.5	<0.5 / <0.5	<1.5 / <1.5	--	--	ND / ND	ND / ND	--	
RW-1	4/21/2010	15-29.5	--	19.49	0.00	--	**520 J / <510**	--	<0.5 / <0.5	<0.5 / <0.5	<0.5 / <0.5	<0.5	--	--	ND	ND	--	
RW-1	7/22/2010	15-29.5	--	19.11	0.00	--	**<510 / <510**	**10 J** / <10	<0.5 / <0.5	<0.5 / <0.5	<0.5 / <0.5	<1.5 / <1.5	--	--	ND	ND	--	
RW-1	4/19/2011	15-29.5	--	19.41	0.00	--	**99 J / 89 J**	**19 J** / <10	<0.5 / <0.5	<0.5 / <0.5	<0.5 / <0.5	<1.5 / <1.5	--	--	ND / ND	ND / ND	--	
RW-1	8/22/2011	15-29.5	252.85	19.09	0.00	233.76	<48 / <49	**19 J / 11 J**	<0.5 / <0.5	<0.5 / <0.5	<0.5 / <0.5	<1.5 / <1.5	--	<2.6 J/<2.2	ND / ND	ND / ND	--	
RW-1	5/22/2012	15-29.5	252.85	18.23	0.00	234.62	**51 J / 56 J**	<10 / <10	<0.5 / <0.5	<0.5 / <0.5	<0.5 / <0.5	<1.5 / <1.5	--	<2.2/<2.2	ND / ND	ND / ND	--	
RW-1	7/30/2012	15-29.5	252.85	17.63	0.00	235.22	<51	<10	<0.5	<0.5	<0.5	<1.5	--	<5.1	ND	ND	--	
RW-1	5/14/2013	15-29.5	252.85	17.95	0.00	234.90	--	--	--	--	--	--	--	--	--	--	--	
RW-1	9/17/2013	15-29.5	252.85	17.58	0.00	235.27	--	--	--	--	--	--	--	--	--	--	--	
RW-1	5/2/2014	15-29.5	252.85	18.00	0.00	234.85	--	--	--	--	--	--	--	--	--	--	--	
RW-1	11/8/2014	15-29.5	252.85	18.47	0.00	234.38	--	--	--	--	--	--	--	--	--	--	--	
RW-1	5/6/2015	15-29.5	252.85	20.13	0.00	232.72	--	--	--	--	--	--	--	--	--	--	--	
RW-1	10/21/2015	15-29.5	252.85	18.87	0.00	233.98	--	--	--	--	--	--	--	--	--	--	--	
RW-1	6/3/2016	15-29.5	252.85	18.71	0.00	234.14	--	--	--	--	--	--	--	--	--	--	--	
RW-1	10/14/2016	15-29.5	252.85	18.61	0.00	234.24	--	--	--	--	--	--	--	--	--	--	--	
RW-1	5/23/2017	15-29.5	252.85	18.28	0.00	234.57	--	--	--	--	--	--	--	--	--	--	--	
RW-1	9/1/2017	15-29.5	252.85	18.87	0.00	233.98	--	--	--	--	--	--	--	--	--	--	--	
RW-1	5/21/2018	15-29.5	252.85	18.48	0.00	234.37	--	--	--	--	--	--	--	--	--	--	--	
RW-1	9/25/2018	15-29.5	252.85	19.03	0.00	233.82	--	--	--	--	--	--	--	--	--	--	--	
RW-1	4/10/2019	15-29.5	252.55	18.51	0.00	234.04	--	--	--	--	--	--	--	--	--	--	--	Depth to water taken from Recent Survey Notes dated 6/6/2019, TOC Data from Survey report by McLane Consulting dated 6/14/19 (Rev 2)
RW-1	9/10/2019	15-29.5	252.55	18.41	0.00	234.14	--	--	--	--	--	--	--	--	--	--	--	
RW-1	4/3/2020	15-29.5	252.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Unable to locate well
RW-1	9/30/2020	15-29.5	252.55	18.34	0.00	234.21	--	--	--	--	--	--	--	--	--	--	--	
RW-1	4/8/2021	15-29.5	252.55	--	--	--	--	--	--	--	--	--	--	--	--	--	--	Not located due to ice
RW-1	8/27/2021	15-29.5	252.55	18.24	0.00	234.31	--	--	--	--	--	--	--	--	--	--	--	
RW-1	4/5/2022	15-29.5	252.55	18.46	0.00	234.09	--	--	--	--	--	--	--	--	--	--	--	
RW-1	8/17/2022	15-29.5	252.55	17.81	0.00	234.74	--	--	--	--	--	--	--	--	--	--	--	Not sampled
QA	10/8/2003	--	--	--	--	--	--	<10	<0.5	<0.5	<0.5	<0.5	<2	--	--	--	--	
QA	6/4/2004	--	--	--	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<2	--	--	--	--	
QA	9/28/2004	--	--	--	--	--	--	<10	<0.5	<0.5	<0.5	<0.5	<2	--	--	--	--	
QA	5/13/2005	--	--	--	--	--	--	<10	<0.5	<0.5	<0.5	<0.5	<2	--	--	--	--	
QA	9/26/2005	--	--	--	--	--	--	<10	<0.5	<0.5	<0.5	<0.5	<2	--	--	--	--	
QA	5/15/2007	--	--	--	--	--	--	<10	<0.5	<0.7	<0.8	<1.6	<2	--	<0.8-<2.0	--	--	
QA	9/24/2007	--	--	--	--	--	--	<10	<0.5	<0.5	<0.5	<0.5	<2	--	--	--	--	
QA	5/14/2008	--	--	--	--	--	--	<10	<0.5	<0.5	<0.5	<0.5	<2	--	--	--	--	
QA	5/14/2008	--	--	--	--	--	--	<10	<0.5	<0.5	<0.5	<0.5	<2	--	--	--	--	
QA	9/16/2008	--	--	--	--	--	--	<10	--	--	--	--	--	--	--	--	--	
QA	9/16/2008	--	--	--	--	--	--	<10	--	--	--	--	--	--	--	--	--	
QA (EQB)	4/3/2020	--	--	--	--	--	**174 J**	--	<1.00	<1.00	<1.00	<3.00	<1.00	<6.00	--	--	***<5.00***	
QA (EQB)	9/30/2020	--	--	--	--	--	<800	--	<1.00	<1.00	<1.00	<3.00	<1.00	**4.45 J**	--	--	<0.500	
QA (EQB)	4/8/2021	--	--	--	--	--	<800	--	--	--	--	--	--	**6.40 B**	--	--	--	
QA (EQB)	8/27/2021	--	--	--	--	--	**695 J**	--	--	--	--	--	--	<6.00	--	--	--	
QA (EQB)	4/5/2022	--	--	--	--	--	**231 J**	<6.00	--	--	--	--	--	--	--	--	--	
QA (EQB)	8/17/2022	--	--	--	--	--	<800	--	--	--	--	--	--	<6.00	--	--	--	
Trip Blank	4/3/2020	--	--	--	--	--	--	--	<1.00	<1.00	<1.00	<3.00	<1.00	--	--	--	***<5.00***	
Trip Blank	9/30/2020	--	--	--	--	--	--	--	<1.00	<1.00	<1.00	<3.00	<1.00	--	--	--	--	

Notes:

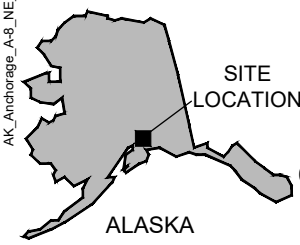
ID = Identification
MW, RW = Groundwater monitoring well
TOC = Top of casing
DTW = Depth to groundwater
ft bTOC = Feet below top of casing
ft = Feet relative to NAVD88
GW Elev = Groundwater elevation
µg/L = Micrograms per liter
-- = Not analyzed/ Not available
QA (EQB) = Quality Assurance (Equipment Blank)
[ ] = Duplicate Result
<6.00 = Not detected at or above the Reported Detection Limit (RDL)
Bold = Value exceeds Method Detection Limit (MDL)
Bold and Shaded = Value exceeds ADEC Groundwater Cleanup Level
Bold and *Italicized* : Constituent considered non-detect, however Laboratory RDL is greater than the ADEC Groundwater Cleanup Level
J = The associated numerical value is an estimated concentration only
B = Compound considered non-detect at the listed value due to associated blank contamination.
The laboratory for this site was changed from Eurofins Calscience to Pace Analytical prior to the first quarter 2020 groundwater monitoring event. Prior to this date, Eurofins Calscience was using the carbon ranges as follows: TPH-d as C13-C22. Pace Analytical reports the following carbon ranges: TPH-d as C12-C22.

GRO = Total petroleum hydrocarbons, gasoline range by LUFT GC/MS according to AK 102-SV 4/8/02
DRO = Total petroleum hydrocarbons, diesel range by LUFT GC/MS according to USEPA Method AK 102
Samples analyzed by United States Environmental Protection Agency (USEPA) Method 8260C
Benzene, Toluene, Ethylbenzene and Total xylenes (collectively BTEX)
MTBE = Methyl tert-butyl ether
Naphthalene analyzed by EPA Method 8270E-SIM
Lead analyzed by EPA Method 6010D
HVOCs = Halogenated Volatiles
SVOCs = Semi Volatile Organic Compound
ADEC = Alaska Department of Environmental Conservation
NAVD88 = North American Vertical Datum of 1988
LUFT = Leaking Underground Fuel Tank
LNAPL = Light non-aqueous phase liquid
ND = Not detected

FIGURES



MAP SOURCE: BASE MAP USGS 7.5. MIN. TOPO. QUAD., ANCHORAGE A-8, ALASKA, 2016



N

0 2,000' 4,000'

Approximate Scale: 1 in. = 2,000 ft.

CHEVRON SERVICE STATION 9-8557
415 MULDOON ROAD
ANCHORAGE, ALASKA

SITE LOCATION MAP

ARCADIS

FIGURE
1

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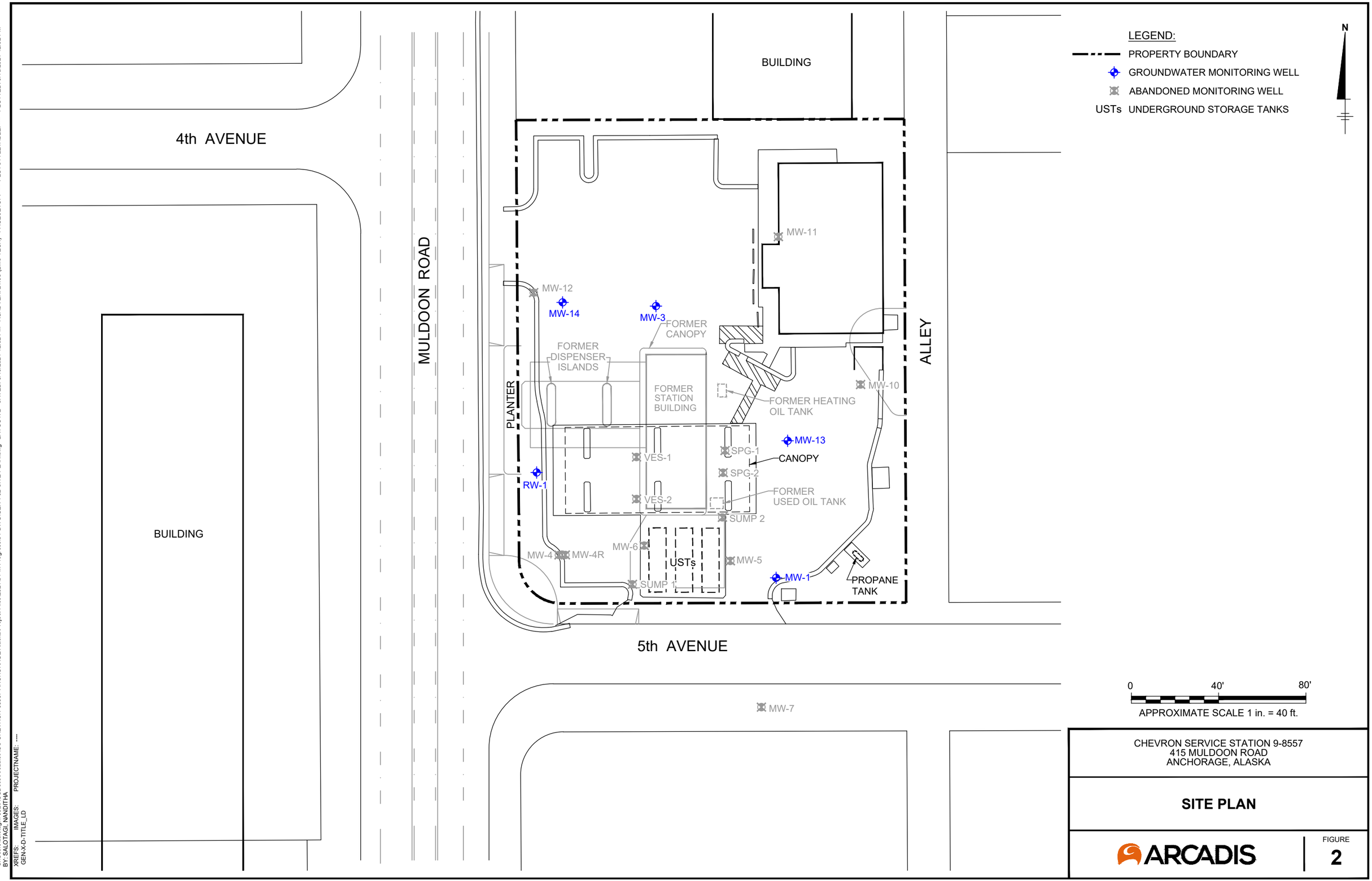
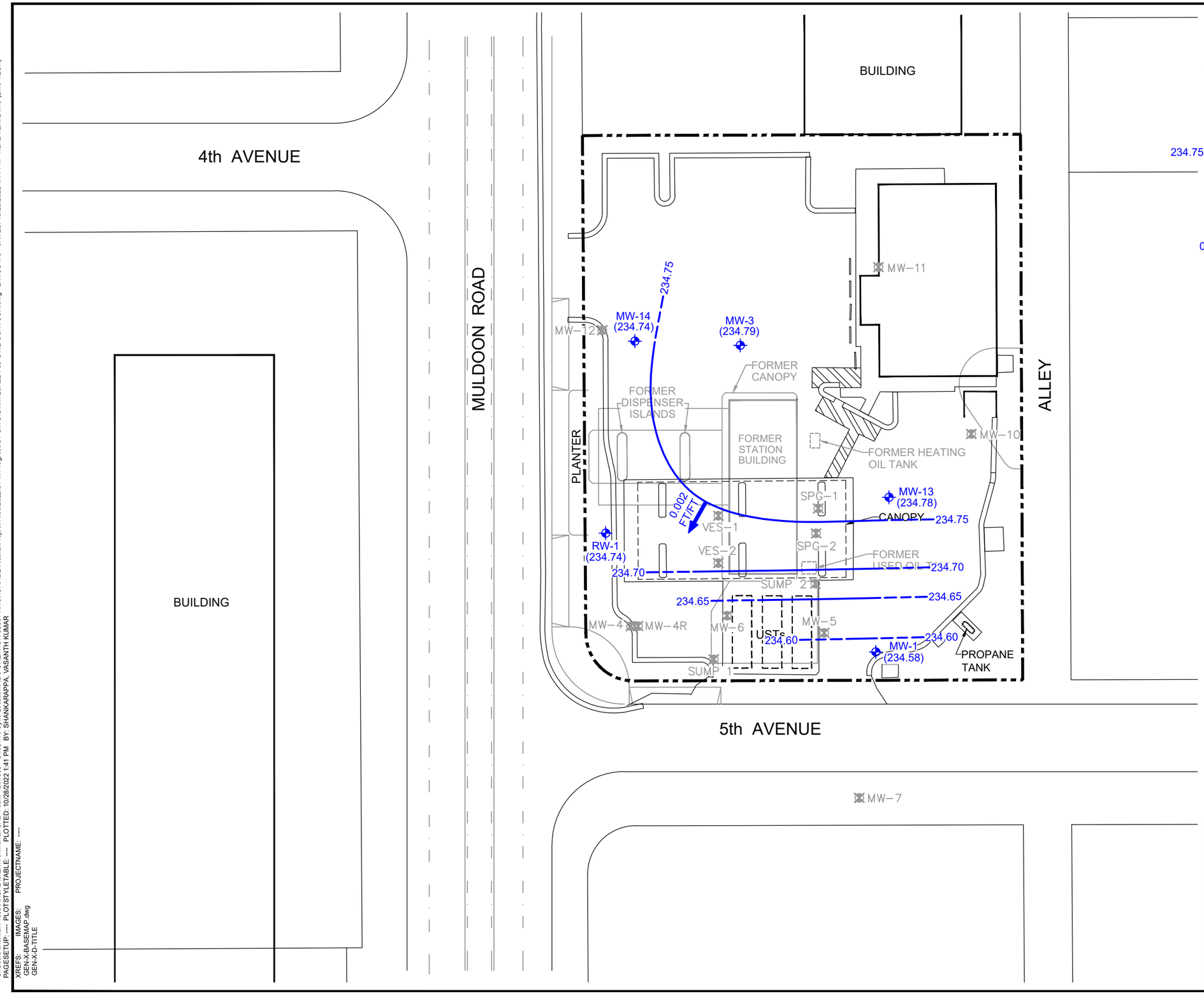


CHEVRON SERVICE STATION 9-8557
415 MULDOON ROAD
ANCHORAGE, ALASKA

SITE PLAN

ARCADIS

FIGURE
2



CHEVRON SERVICE STATION 9-8557
415 MULDOON ROAD
ANCHORAGE, ALASKA

GROUNDWATER ELEVATION MAP
AUGUST 17, 2022

ARCADIS

FIGURE
3

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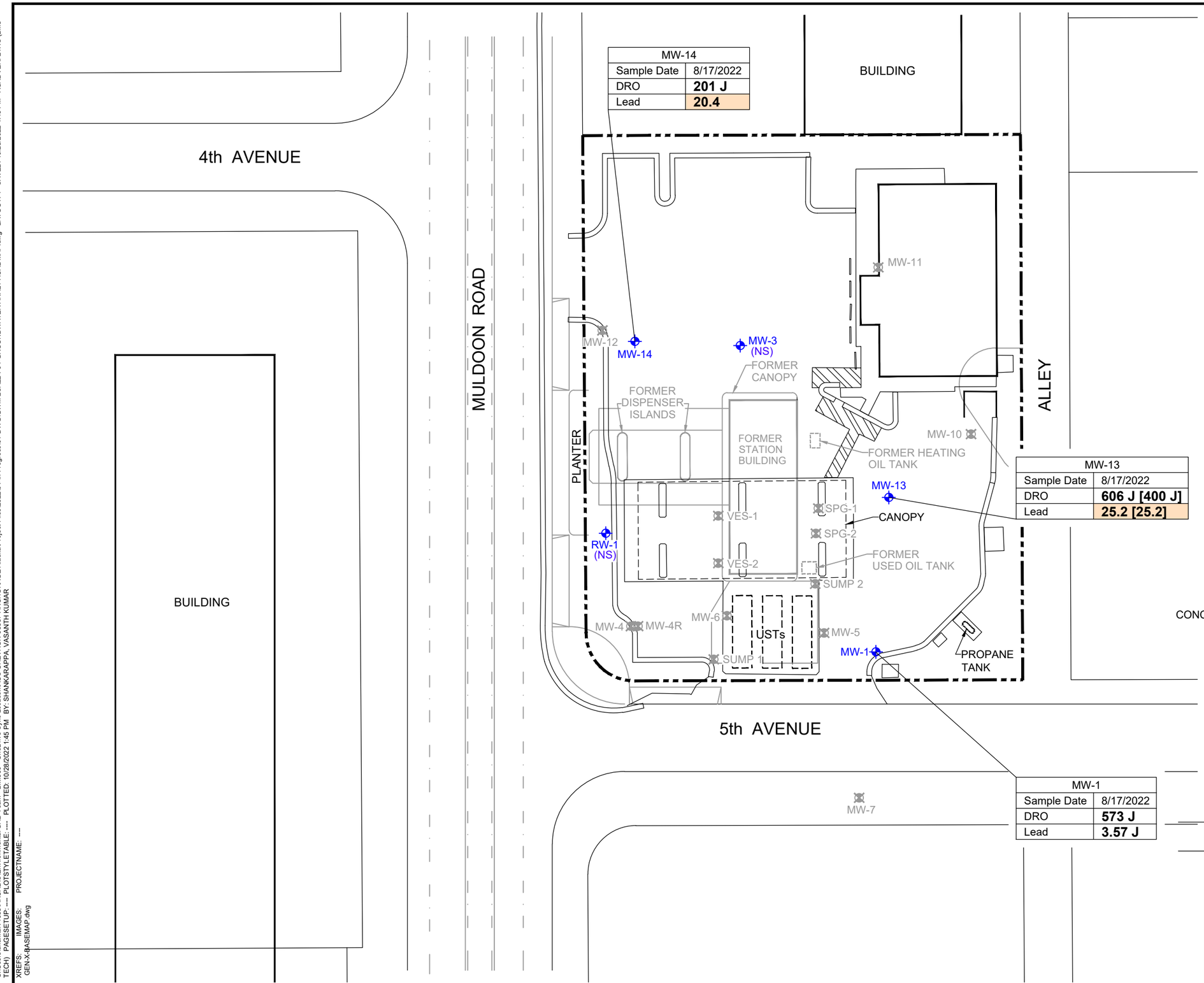

LEGEND:

- PROPERTY BOUNDARY
- GROUNDWATER MONITORING WELL
- ABANDONED MONITORING WELL
- DRO — TOTAL PETROLEUM HYDROCARBONS, DIESEL RANGE
- <800 — NOT DETECTED AT OR ABOVE REPORTED DETECTION LIMIT (RDL)
- J — THE ASSOCIATED NUMERICAL VALUE IS AN ESTIMATED CONCENTRATION ONLY
- (NS) — NOT SAMPLED
- [ ] — DUPLICATE SAMPLE
- **BOLD** — VALUE EXCEEDS METHOD DETECTION LIMIT (MDL)
- **BOLD** — VALUE EXCEEDS ADEC GROUNDWATER CLEANUP LEVEL
- ADEC — ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
- USTs — UNDERGROUND STORAGE TANKS
- µg/L — MICROGRAMS PER LITER

N

CONCENTRATION IN µg/L

Analyte	ADEC Groundwater Cleanup Levels
DRO	1,500
Lead	15

0 40' 80'

APPROXIMATE SCALE 1 in. = 40 ft.

CHEVRON SERVICE STATION 9-8557
415 MULDOON ROAD
ANCHORAGE, ALASKA

GROUNDWATER ANALYTICAL RESULTS MAP
AUGUST 17, 2022

ARCADIS

FIGURE
4

APPENDIX A

Site Background and History

Chevron Environmental Management Company

Appendix A:

Site History and Background

Chevron-Branded Service Station 98557
415 Muldoon Road
Anchorage, Alaska
ADEC File No: 2100.26.006
HAZARD ID No: 23831

December 31, 2019

Appendix A: 98557 Site Description and Background

1 98557 SITE BACKGROUND AND HISTORY

1.1 Site Description and Vicinity

The Chevron-Branded Service Station 98557 (the site) is located at 415 Muldoon Road in Anchorage, Alaska. The Site is an active service station with four underground storage tanks (USTs) and six dispenser islands with product piping, and a station building. The surrounding land use is commercial and residential; the site is bordered by business to the north, south, and west and by residences to the east.

1.2 Site History

The Site was formerly operated as a small bulk fuel storage facility until 1965, when it was converted to a service station. In 1991, four USTs were excavated and replaced at the southern edge of the property. During the excavation, approximately 2,100 cubic yards (cy) of impacted soil was removed and thermally treated. In 2006, the existing USTs and station building were removed and replaced with the current facilities. Approximately 3,390 cy of impacted soil was removed and thermally treated or transported off site for disposal.

2 SITE CHARACTERIZATION

There are currently five groundwater monitoring wells located onsite (MW-1, MW-3, MW-13, MW-14, and RW-1).

3 CURRENT SITE MONITORING ACTIVITIES

Three monitoring wells (MW-1, MW-13, and MW-14) are monitored and sampled semiannually. Monitoring wells MW-3 and RW-1 are monitored for depth-to-water only during these sampling events.

In recent historic sampling, concentrations of diesel-range organics (DRO) have exceeded ADEC Groundwater Cleanup Levels in wells MW-1 and MW-13. Concentrations of lead have exceeded ADEC Cleanup Levels in MW-1, MW-13, and MW-14.

4 GEOLOGY AND HYDROGEOLOGY

4.1 Site Hydrogeology

The Site is in south central Alaska, between the Knik Arm of Cook Inlet to the north and the Turnagain Arm to the south. Static groundwater depths have historically ranged between 9.26 and 21.46 feet below top of casing (ft btoc). Historic groundwater flow is to the northwest.

5 REFERENCES

Alaska Department of Environmental Conservation. 2019. Site Report: Chevron #8557. Available online at: https://dec.alaska.gov/Applications/SPAR/PublicMVC/CSP/SiteReport/23831. Retrieved December 27, 2019.

GHD Inc. 2018. Second Semiannual 2018 Groundwater Monitoring Report: Chevron-Branded Service Station 98557, 415 Muldoon Rd, Anchorage, AK. November 12

APPENDIX B

Field Data Sheets

Daily Log

Project Number : 30063668

Prepared By: Evan Wujcik

Site ID: 98557

Site Name: Retail Outlet 98557

City: Anchorage

State: Alaska

Project Manager: Robinson, Gerald

Portfolio: COP 3.0

Subportfolio: West

Inside Chevron Operational Control? Yes ☐ No ☑

Staff on Site
Evan Wujcik

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

Date	Time	Description of Activities
08/17/2022	06:00	Arrive on site Locate Wells
08/17/2022	07:00	Sample MW1 MS/MSD samples collected at this location Decon equipment See COC for analysis
08/17/2022	08:00	Sample MW13 BD samples collected at this location Decon equipment See COC for analysis
08/17/2022	09:00	Sample MW14 Decon equipment See COC for analysis
08/17/2022	10:00	Load vehicle Mobilize offsite

Daily Log

Equipment and Calibration Information:

Supplier: Pine

Model:

Rental Number:

Calibrated:

Bump Checked:

Calibration Passed: yes

Water Quality Meter SN:

Date	Time	Calibrated Fulid and Value	Lot #	Expiration Date	Initial Reading	Final Reading
08/17/2022	15:14:00					

Equipment and Calibration Information:

Supplier: Pine

Model:

Rental Number:

Calibrated:

Bump Checked:

Calibration Passed: yes

PIDSN:

Date	Time	Calibrated Fulid and Value	Lot #	Expiration Date	Initial Reading	Final Reading
08/17/2022	15:14					

End of Day Questions	Yes	No	Comments	
Was waste generated?	☑	☐	Approximate volume of waste	4
			Container type	55 gallon drum
			Confirm container is not leaking	Yes ☑ No ☐
Have you performed work in accordance with the applicable QP/TGI?	☑	☐		
Change in plans (project delays)?	☐	☑		
Discovery of significant new site characteristics?	☐	☑		
Upcoming regulatory, community, or other stakeholder views change?	☐	☑		
Incident at the site?	☐	☑		
Is there a potential dispute?	☐	☐		
Identification of strategic opportunity?	☐	☑		
New application, renewal, or permit modifcation?	☐	☑		

Signature

Daily Log

Groundwater Gauging Log

Project Number	30063668
Client:	Chevron
Site ID:	98557
Site Location:	Anchorage, Alaska
Measuring Point:	Top of Casing
Date(s):	08/17/2022
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-3	08/17/2022	07:27	17.9	ND	23.70	0	--	--
RW-1	08/17/2022	07:52	17.81	ND	26.00	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	30063668	**Well ID**	MW-1	**Date**		8/17/2022	
Site Location	Anchorage, Alaska	**Site ID**	98557	**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)	17.8	**Total Depth (ft-bmp)**	24	**Water Column (ft)**	6.20	**Gallons in Well**	1.01
Water Quality Meter Make/Model	Horiba U-52	**Purge Method**	Low-Flow	**Sample Method**		Grab	

Sample Time	07:00	**Well Volumes Purged**	0.63	**Sample ID**	MW-1-W-20220817	**Evacuation Equipment**	Bladder
Purge Start	06:30	**Gallons Purged**	0.63	**Duplicate ID**	MS/MSD		
Purge End	06:50	**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
06:33	200	17.80	7.13	0.184	141	0.00	8.18	191	--	--
06:36	200	17.80	7.09	0.186	137	0.00	7.94	195	--	--
06:39	200	17.80	7.03	0.223	130	0.00	7.83	198	--	--
06:42	200	17.80	7.00	0.279	124	0.00	7.78	190	--	--

Comments: None

Well Casing Volume Conversion

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

Sample Information

Sample ID: MW-1-W-20220817 Sample Time: 07:00 Sample Depth (ft-bmp): 18.5

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	30063668	**Well ID**	MW-13	**Date**		8/17/2022	
Site Location	Anchorage, Alaska	**Site ID**	98557	**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)	18.08	**Total Depth (ft-bmp)**	27.1	**Water Column (ft)**	9.02	**Gallons in Well**	1.47
Water Quality Meter Make/Model	Horiba U-52	**Purge Method**	Low-Flow	**Sample Method**		Grab	

Sample Time	08:00	**Well Volumes Purged**	0.43	**Sample ID**	MW-13-W-20220817	**Evacuation Equipment**	Bladder
Purge Start	07:30	**Gallons Purged**	0.63	**Duplicate ID**	BD		
Purge End	07:50	**Total Purge Time (h:m)**	0:20				

Time	Rate (ml/min)	Depth to Water (ft)	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature (°C)	Redox (mV)	Appearance	
									Color	Odor
07:33	200	18.10	6.50	4.15	351	0.00	8.71	236	--	--
07:36	200	18.10	6.47	4.50	320	0.00	8.20	228	--	--
07:39	200	18.10	6.45	4.55	317	0.00	8.04	225	--	--
07:42	200	18.10	6.44	4.56	306	0.00	7.98	229	--	--

Comments: Ice in well. Could not get pump down well.

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-13-W-20220817 Sample Time: 08:00 Sample Depth (ft-bmp): 18.5

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	30063668	**Well ID**	MW-14	**Date**		8/17/2022	
Site Location	Anchorage, Alaska	**Site ID**	98557	**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)	17.08	**Total Depth (ft-bmp)**	27.1	**Water Column (ft)**	10.02	**Gallons in Well**	1.63
Water Quality Meter Make/Model	Horiba U-52	**Purge Method**	Low-Flow	**Sample Method**		Grab	

Sample Time	09:00	**Well Volumes Purged**	0.49	**Sample ID**	MW-14-W-20220817	**Evacuation Equipment**	Bladder
Purge Start	08:30	**Gallons Purged**	0.79	**Duplicate ID**	--		
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	17.10	6.93	0.327	0.0	0.00	7.90	179	--	--
08:36	200	17.10	6.86	0.307	0.0	0.00	7.58	195	--	--
08:39	200	17.10	6.88	0.292	0.0	0.00	7.27	199	--	--
08:42	200	17.10	6.80	0.290	0.0	0.00	7.17	205	--	--
08:45	200	17.10	6.81	0.289	0.0	0.00	7.09	209	--	--

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-14-W-20220817 Sample Time: 09:00 Sample Depth (ft-bmp): 17.5

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

APPENDIX C

Additional Historic Groundwater Gauging and Analytical Results

Appendix E.1. Current Groundwater Analytical Results - PAHs
Chevron Service Station 9-8557
415 Muldoon Road,
Anchorage, Alaska

Well ID	Sample Date	1-Methylnaphthlalene µg/L	2-Methylnaphthlalene 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	Comments
ADEC Groundwater Cleanup Levels		**6.2**	**6.1**	**2,200**	**2,200**	**11,000**	**1.2**	**0.2**	**1.2**	**1,100**	**12**	**120**	**0.12**	**1,500**	**1,500**	**1.2**	**730**	**11,000**	**1,100**	
MW-1	4/3/2020	<0.500	<0.500	<0.0500	<0.0500	<0.0500	**0.0309 J**	<0.0500	<0.0500	**0.0251 J**	<0.250	<0.0500	<0.0500	**0.0286 J**	<0.0500	<0.0500	<0.500	**0.0457 J**	**0.0351 J**	
MW-1	9/30/2020	**0.0226 J** [<0.500]	<0.500 [<0.500]	<0.0500 [<0.0500]	<0.0500 [<0.0500]	<0.0500 [<0.0500]	<0.0500 [<0.0500]	<0.0500 [<0.0500]	<0.0500 [<0.0500]	**0.0185 J** [<0.0500]	<0.250 [<0.250]	<0.0500 [<0.0500]	<0.0500 [<0.0500]	<0.0500 [<0.0500]	<0.0500 [<0.0500]	<0.0500 [<0.0500]	,000500 [<0.00050	<0.0500 [<0.0500]	<0.0500 [<0.0500 B]	
MW-13	4/3/2020	**1.12**	**0.0544 J**	**0.0609**	<0.0500	**0.0358 J**	**0.0576**	**0.0182 J**	**0.0185 J**	**0.0664**	<0.250	**0.0382 J**	<0.0500	**0.0601**	**0.0825**	<0.0500	**0.379 J**	**0.165**	**0.177**	
MW-13	10/1/2020	**0.472 J [0.524]**	<0.500 [<0.500]	**0.0276 J [0.0296 J]**	<0.0500 [<0.0500]	<0.0500 [<0.0500]	**0.0289 J [0.0362 J]**	<0.0500 [<0.0500]	<0.0500 [<0.0500]	<0.0500 [<0.0500]	<0.250 [<0.250]	**0.0265 J [0.0278 J]**	<0.0500 [<0.0500]	**0.0355 J [0.0458 J]**	**0.0310 J [0.0354 J]**	<0.0500 [<0.0500]	<0.500 [<0.500]	**0.0593 [0.0736]**	**0.0756 [0.0863]**	
MW-14	4/3/2020	<0.500 [<0.500]	<0.500 [<0.500]	<0.0500 [<0.0500]	<0.0500 [<0.0500]	<0.0500 [<0.0500]	<0.0500 [<0.0500]	***<0.0500 [<0.0500]***	<0.0500 [<0.0500]	<0.0500 [<0.0500]	<0.250 [<0.250]	<0.0500 [<0.0500]	<0.0500 [<0.0500]	<0.0500 [<0.0500]	<0.0500 [<0.0500]	<0.0500 [<0.0500]	<0.500 [<0.500]	<0.0500 [<0.0500]	<0.0500 [<0.0500]	
MW-14	9/30/2020	<0.500	<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	<0.000500	<0.0500 B	<0.0500 B	
QA (EQB)	4/3/2020	<0.500	<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	
QA (EQB)	9/30/2020	<0.500	**0.0298 J**	<0.0500	<0.0500	<0.0500	<0.0500	<0.0500	**0.0222 J**	<0.0500	<0.250	<0.0500	<0.0500	**0.068**	<0.0500	<0.0500	<0.000500	**0.0363 J**	**0.0000668**	
Trip Blank	9/30/2020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	

Notes:
ADEC GCL = Alaska Department of Environmental Conservation groundwater cleanup level
(µg/L) = micrograms per liter
LNAPL = Light Non-aqueous Phase Liquids
<0.500 = Not detected at or above the reported detection limit (RDL)
Bold = Detections above the 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.
B = Compound considered non-detect at the listed value due to associated blank contamination.
Constituents analyzed by United States Environmental Protection Agency Method EPA 8270E-SIM
[ ] = Duplicate Result

Appendiz E.2a. Historical Groundwater Analytical Results - Additional VOCs
First Quarter 2020 to Current
Chevron Service Station 9-8557
415 Muldoon Road,
Anchorage, Alaska

Well ID	Sample Date	Acetone (µg/L)	1,2,4-Trimethylbenzene (µg/L)	1,2-Dichlorobenzene (o-Dichlorobenzene) (µg/L)	1,4-Dichlorobenzene (µg/L)	cis-1,2-Dichloroethene (µg/L)	Isopropylbenzene µg/L	1,1,2,2-Tetrachloroethane µg/L	1,1,2-Trichloroethane µg/L	Chloroform µg/L	Vinyl chloride (Chloroethene) µg/L	4-Methyl-2-pentanone µg/L	1,1,1-Trichloroethane µg/L	Comments
ADEC Groundwater Cleanup Levels		**14,000**	**56**	**300**	**4.8**	**36**	**--**	**0.76**	**0.41**	**2.2**	**0.19**	**6,300**	**8,000**	
MW-1	4/3/2020	**14.1 J**	<1.00	<1.00	<1.00	<1.00	<1.00	***<1.00***	***<1.00***	***<5.00***	***<1.00***	<10.0	<1.00	
MW-1	9/30/2020	<50.0 [<50.0]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	***<1.00 [<1.00]***	***<1.00 [<1.00]***	<5.00 [<5.00]	***<1.00 [<1.00]***	**0.603 J [0.606 J]**	<1.00 [<1.00]	
MW-13	4/3/2020	<50.0	**7.77**	**0.482 J**	**0.340 J**	**0.326 J**	**1.15**	***<1.00***	***<1.00***	***<5.00***	***<1.00***	<10.0	<1.00	
MW-13	10/1/2020	<50.0 [<50.0]	**1.03 [0.971 J]**	**0.275 J [0.267 J]**	<1.00 [<1.00]	**0.164 J [0.164 J]**	**0.806 J [0.705 J]**	***<1.00 [<1.00]***	***<1.00 [<1.00]***	***<5.00 [<5.00]***	***<1.00 [<1.00]***	<10.0 [<10.0]	<1.00 [<1.00]	
MW-14	4/3/2020	<50.0 [<50.0]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	***<1.00 [<1.00]***	***<1.00 [<1.00]***	***<5.00 B [<5.00 B]***	***<1.00 [<1.00]***	<10.0 [<10.0]	<1.00 [<1.00]	
MW-14	9/30/2020	<50.0	<1.00	<1.00	<1.00	<1.00	<1.00	***<1.00***	***<1.00***	**0.772 J**	***<1.00***	<0.0100	<1.00	
QA (EQB)	4/3/2020	<50.0	<1.00	<1.00	<1.00	<1.00	<1.00	***<1.00***	***<1.00***	**0.428 J**	***<1.00***	<10.0	<1.00	
QA (EQB)	9/30/2020	<50.0	<1.00	<1.00	<1.00	<1.00	<1.00	***<1.00***	***<1.00***	<5.00	***<1.00***	<0.0100	<1.00	
TRIP BLANK	4/3/2020	<50.0	<1.00	<1.00	<1.00	<1.00	<1.00	***<1.00***	***<1.00***	***<5.00***	***<1.00***	<10.0	<1.00	
TRIP BLANK	9/30/2020	<50.0	<1.00	<1.00	<1.00	<1.00	<1.00	***<1.00***	***<1.00***	<5.00	***<1.00***	<0.0100	<1.00	

Notes:
ID = Identification
MW = Groundwater monitoring well
µg/L = Milligrams per liter
<1.00 = Not detected at or above the Reported Detection Limit
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.
[ ] = Blind Duplicate Sample Result
ADEC = Alaska Department of Environmental Conservation
Constituents analyzed by United States Environmental Protection Agency Method 8260D

Appendix E.2b. Historical Groundwater Analytical Results - Additional VOCs
First Quarter 2020 to Current
Chevron Service Station 9-8557
415 Muldoon Road,
Anchorage, Alaska

Well ID	Sample Date	1,1,2-Trichlorotrifluoroethane (Freon 113) µg/L	1,1-Dichloroethane µg/L	1,1 Dichloroethene µg/L	1,2,3-Trichlorobenzene µg/L	1,2,4-Trichlorobenzene µg/L	1,2-Dibromoethane µg/L	1,2-Dichloroethane µg/L	1,2-Dichloropropane µg/L	1,3-Dichlorobenzene µg/L	2-Butanone (Methyl ethyl ketone) µg/L	Bromochloromethane µg/L	Bromodichloromethane µg/L	Comments
ADEC Groundwater Cleanup Levels		**10,000**	**28**	**280**	**7.0**	**4.0**	**0.075**	**1.7**	**8**	**4.7**	**--**	**--**	**1.3**	
MW-1	4/3/2020	<1.00	<1.00	<1.00	<1.00 J	<1.00	<0.00500	<1.00	<1.00	<1.00	<10.0	<5.00	<1.00	
MW-1	9/30/2020	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<0.005 [<0.005]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<10.00 [<10.00]	<1.00 [<1.00]	<1.00 [<1.00]	
MW-13	4/3/2020	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00500	<1.00	<1.00	<1.00	<10.0	<5.00	<1.00	
MW-13	10/1/2020	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<0.0500 [<0.00500]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<10.0 [<10.0]	<1.00 [<1.00]	<1.00 [<1.00]	
MW-14	4/3/2020	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<0.00500 [<0.00500]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<10.0 [<10.0]	<5.00 [<5.00]	<1.00 [<1.00]	
MW-14	9/30/2020	<1.00	<1.00	<1.00	<1.00	<1.00	<0.005	<1.00	<1.00	<1.00	<10.00	<1.00	<1.00	
QA (EQB)	4/3/2020	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00500	<1.00	<1.00	<1.00	<10.0	<5.00	<1.00	
QA (EQB)	9/30/2020	<1.00	<1.00	<1.00	<1.00	<1.00	<0.005	<1.00	<1.00	<1.00	<10.00	<1.00	<1.00	
TRIP BLANK	4/3/2020	<1.00	<1.00	<1.00	<1.00	<1.00	<0.00500	<1.00	<1.00	<1.00	<10.0	<5.00	<1.00	
TRIP BLANK	9/30/2020	<1.00	<1.00	<1.00	<1.00	<1.00	<0.005	<1.00	<1.00	<1.00	<10.00	<1.00	<1.00	

Notes:
ID = Identification
MW = Groundwater monitoring well
µg/L = Milligrams per liter
<1.00 = Not detected at or above the Reported Detection Limit
Bold = Detected above laboratory method detection limit (MDL)
[ ] = Blind Duplicate Sample Result
ADEC = Alaska Department of Environmental Conservation
Constituents analyzed by United States Environmental Protection Agency Method 8260D

Appendix E.2c. Historical Groundwater Analytical Results - Additional VOCs
First Quarter 2020 to Current
Chevron Service Station 9-8557
415 Muldoon Road,
Anchorage, Alaska

Well ID	Sample Date	Bromoform µg/L	Bromomethane (Methyl bromide) µg/L	Carbon disulfide µg/L	Carbon Tetrachloride µg/L	Chlorobenzene µg/L	Chloroethane µg/L	Chloromethane (Methyl chloride) µg/L	cis-1,3-Dichloropropene µg/L	Dibromochloromethane µg/L	Dichlorodifluoromethane (Freon 12) µg/L	Methylene chloride (Dichloromethane) µg/L	Styrene µg/L	Comments
ADEC Groundwater Cleanup Levels		**33**	**7.5**	**810**	**4.6**	**78**	**--**	**190**	**4.7**	**8.7**	**200**	**100**	**1,200**	
MW-1	4/3/2020	<1.00	<5.00	<1.00	<1.00	<1.00	<5.00	<2.50	<1.00	<1.00	<5.00	<5.00	<1.00	
MW-1	9/30/2020	<1.00 [<1.00]	<5.00 [<5.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<5.00 [<5.00]	<2.50 [<2.50]	<1.00 [<1.00]	<1.00 [<1.00]	<5.00 [<5.00]	<5.00 [<5.00]	<1.00 [<1.00]	
MW-13	4/3/2020	<1.00	<5.00	<1.00	<1.00	<1.00	<5.00	<2.50	<1.00	<1.00	<5.00	<5.00	<1.00	
MW-13	10/1/2020	<1.00 [<1.00]	<5.00 [<5.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<5.00 [<5.00]	<2.50 [<2.50]	<1.00 [<1.00]	<1.00 [<1.00]	<5.00 [<5.00]	<5.00 [<5.00]	<1.00 [<1.00]	
MW-14	4/3/2020	<1.00 [<1.00]	<5.00 [<5.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<5.00 [<5.00]	<2.50 [<2.50]	<1.00 [<1.00]	<1.00 [<1.00]	<5.00 [<5.00]	<5.00 [<5.00]	<1.00 [<1.00]	
MW-14	9/30/2020	<1.00	<5.00	<1.00	<1.00	<1.00	<5.00	<2.50	<1.00	<1.00	<5.00	<5.00	<1.00	
QA (EQB)	4/3/2020	<1.00	<5.00	<1.00	<1.00	<1.00	<5.00	<2.50	<1.00	<1.00	<5.00	<5.00	<1.00	
QA (EQB)	9/30/2020	<1.00	<5.00	<1.00	<1.00	<1.00	<5.00	<2.50	<1.00	<1.00	<5.00	<5.00	<1.00	
TRIP BLANK	4/3/2020	<1.00	<5.00	<1.00	<1.00	<1.00	<5.00	<2.50	<1.00	<1.00	<5.00	<5.00	<1.00	
TRIP BLANK	9/30/2020	<1.00	<5.00	<1.00	<1.00	<1.00	<5.00	<2.50	<1.00	<1.00	<5.00	<5.00	<1.00	

Notes:
ID = Identification
MW = Groundwater monitoring well
µg/L = Milligrams per liter
<1.00 = Not detected at or above the Reported Detection Limit
Bold = Detected above laboratory method detection limit (MDL)
[ ] = Blind Duplicate Sample Result
ADEC = Alaska Department of Environmental Conservation
Constituents analyzed by United States Environmental Protection Agency Method 8260D

Appendix E.2d. Historical Groundwater Analytical Results - Additional VOCs
First Quarter 2020 to Current
Chevron Service Station 9-8557
415 Muldoon Road,
Anchorage, Alaska

Well ID	Sample Date	Tetrachloroethene µg/L	trans-1,2-Dichloroethene µg/L	trans-1,3-Dichloropropene µg/L	Trichloroethene (Trichloroethylene) µg/L	Trichlorofluoromethane (Freon 11) µg/L	Comments
ADEC Groundwater Cleanup Levels		**41**	**360**	**4.7**	**2.8**	**5,200**	
MW-1	4/3/2020	<1.00	<1.00	<1.00	<1.00	<5.00	
MW-1	9/30/2020	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<5.00 [<5.00]	
MW-13	4/3/2020	<1.00	<1.00	<1.00	<1.00	<5.00	
MW-13	10/1/2020	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<5.00 [<5.00]	
MW-14	4/3/2020	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<1.00 [<1.00]	<5.00 [<5.00]	
MW-14	9/30/2020	<1.00	<1.00	<1.00	<1.00	<5.00	
QA (EQB)	4/3/2020	<1.00	<1.00	<1.00	<1.00	<5.00	
QA (EQB)	9/30/2020	<1.00	<1.00	<1.00	<1.00	<5.00	
TRIP BLANK	4/3/2020	<1.00	<1.00	<1.00	<1.00	<5.00	
TRIP BLANK	9/30/2020	<1.00	<1.00	<1.00	<1.00	<5.00	

Notes:
ID = Identification
MW = Groundwater monitoring well
µg/L = Milligrams per liter
<1.00 = Not detected at or above the Reported Detection Limit
Bold = Detected above laboratory method detection limit (MDL)
[ ] = Blind Duplicate Sample Result
ADEC = Alaska Department of Environmental Conservation
Constituents analyzed by United States Environmental Protection Agency Method 8260D

Table 2

Historical Groundwater Analytical Results
Chevron-Branded Service Station 98557
415 Muldoon Road
Anchorage, Alaska

					HYDROCARBONS			PRIMARY VOCS					ADDITIONAL VOCS		Metals
Location	Date	TOC	DTW	GWE	TPH	DRO	GRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	HVOC	SVOC	Lead
	Units	ft msl	ft btoc	ft msl	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
ADEC Groundwater Cleanup Levels					**1.1**	**1.5**	**2.2**	**0.0046**	**1.1**	**0.015**	**0.19**	**0.14**			**0.015**
MW-1	02/01/1991**	98.73	9.26	89.47	**14**	ND	-	0.001	ND	ND	0.003	-	-	-	-
MW-1	06/01/1991**	98.73	18.86	79.87	**15**	**7.5**	0.12	ND	ND	ND	ND	-	0.002	-	-
MW-1	07/01/1991**	98.73	19.00	79.73	-	-	-	-	-	-	-	-	-	-	-
MW-1	09/01/1991**	98.73	18.65	80.08	**14**	**26**	0.6	**0.005**	0.001	ND	0.024	-	-	-	-
MW-1	11/01/1991**	98.73	18.39	80.34	-	-	-	-	-	-	-	-	-	-	-
MW-1	12/01/1991**	98.73	19.13	79.60	**9.6**	**4.7**	0.18	ND	ND	ND	0.005	-	-	-	-
MW-1	01/01/1992**	98.73	18.52	80.21	-	-	-	-	-	-	-	-	-	-	-
MW-1	03/01/1992**	98.73	19.65	79.08	**2.9**	**6.8**	0.18	**0.006**	0.01	ND	0.022	-	-	-	-
MW-1	04/01/1992**	98.73	18.12	80.61	-	-	-	-	-	-	-	-	-	-	-
MW-1	05/01/1992**	98.73	18.58	80.15	-	-	-	-	-	-	-	-	-	-	-
MW-1	06/01/1992**	98.73	18.82	79.91	**8.6**	**5**	ND	ND	0.005	ND	ND	-	-	-	-
MW-1	07/01/1992**	98.73	18.32	80.41	-	-	-	-	-	-	-	-	-	-	-
MW-1	08/01/1992**	98.73	18.21	80.52	-	-	-	-	-	-	-	-	-	-	-
MW-1	09/01/1992**	98.73	18.19	80.54	-	ND	ND	ND	ND	ND	0.001	-	-	-	-
MW-1	10/01/1992**	98.73	18.50	80.23	-	-	-	-	-	-	-	-	-	-	-
MW-1	11/01/1992**	98.73	18.44	80.29	-	-	-	-	-	-	-	-	-	-	-
MW-1	12/01/1992**	98.73	18.31	80.42	**3.4**	**8.7**	ND	ND	ND	ND	0.004	-	-	-	-
MW-1	05/01/1993**	98.73	18.90	79.83	ND	ND	0.11	ND	ND	ND	0.001	-	-	-	-
MW-1	08/01/1993**	98.73	18.47	80.26	ND	0.16	0.095	ND	ND	ND	ND	-	-	-	-
MW-1	11/01/1993**	98.73	18.57	80.16	-	0.4	0.065	ND	ND	ND	0.002	-	0.004	-	-
MW-1	03/01/1994**	98.73	19.04	79.69	-	0.24	0.07	-	-	-	-	-	ND	-	-
MW-1	06/01/1994**	98.73	18.78	79.95	-	0.4	0.13	-	-	-	-	-	ND	-	-
MW-1	08/18/1994	98.73	18.52	80.21	-	0.38	0.11	-	-	-	-	-	0.0007	-	-
MW-1	12/13/1994	98.73	19.16	79.57	ND	ND	ND	ND	ND	ND	ND	-	ND	-	-
MW-1	03/24/1995	98.73	19.74	78.99	-	1.1	ND	ND	ND	ND	ND	-	ND	-	-
MW-1	04/24/1995	98.73	-	-	-	-	0.099	ND	ND	ND	0.0012	-	-	-	-
MW-1	06/19/1995	98.73	18.21	80.52	-	1.5	0.11	-	-	-	-	-	ND	-	-
MW-1	09/06/1995	98.73	18.09	80.64	-	**2**	0.084	ND	ND	ND	ND	-	0.0026	-	-
MW-1	11/14/1995	98.73	18.43	80.30	-	**4.5**	0.1	-	-	-	-	-	ND	-	-
MW-1	02/14/1996	98.73	19.18	79.55	-	1.5	0.11	-	-	-	-	-	ND	-	-
MW-1	06/01/1996	98.73	20.68	78.05	-	**8.09**	-	-	-	-	-	-	<0.0005 / <0.005	-	-
MW-1	08/23/1996	98.73	20.96	77.77	-	0.59 / 0.96	-	-	-	-	-	-	<0.0005 / <0.001 / <0.0005 / <0.001	-	-
MW-1	10/21/1996	98.73	20.97	77.76	-	**1.79** / **2.61**	-	-	-	-	-	-	<0.0005 / <0.005 / <0.0005 / <0.005	-	-
MW-1	04/27/1997	98.73	21.25	77.48	-	0.73 / **2.88**	-	-	-	-	-	-	<0.001 / <0.005 / <0.001 / <0.005	-	-
MW-1	09/08/1997	98.73	19.45	79.28	-	**1.74**	-	-	-	-	-	-	<0.001 / <0.005	-	-
MW-1	04/22/1998	98.73	19.25	79.48	-	0.496	-	-	-	-	-	-	<0.001 / <0.01	-	-
MW-1	09/17/1998	98.73	19.00	79.73	-	0.139	-	-	-	-	-	-	<0.001 / <0.005	-	-
MW-1	04/26/1999	98.73	19.11	79.62	-	0.45	-	-	-	-	-	-	<0.0005 / <0.002	-	-
MW-1	10/13/1999	98.73	19.28	79.45	-	<0.1	-	-	-	-	-	-	<0.001 / <0.01	-	-
MW-1	05/17/2000	98.73	19.16	79.57	-	0.157	-	-	-	-	-	-	<0.0005 / <0.005	-	-
MW-1	09/22/2000	98.73	18.64	80.09	-	<0.1	-	-	-	-	-	-	<0.001 / <0.005	-	-
MW-1	05/01/2001	98.73	19.48	79.25	-	0.149	-	-	-	-	-	-	<0.001 / <0.005	-	-
MW-1	09/25/2001	98.73	18.99	79.74	-	0.339	-	-	-	-	-	-	<0.001 / <0.005	-	-
MW-1	05/02/2002	98.73	19.40	79.33	-	-	-	-	-	-	-	-	<0.001 / <0.005	-	-
MW-1	09/27/2002	98.73	18.60	80.13	-	0.42	-	-	-	-	-	-	<0.001 / <0.005	-	-
MW-1	05/23/2003	98.73	19.00	79.73	-	0.55	-	-	-	-	-	-	<0.0005 / <0.002	-	-
MW-1	10/08/2003	98.73	19.38	79.35	-	0.28	-	-	-	-	-	-	<0.0005 / <0.002	-	-
MW-1	06/04/2004	98.73	19.61	79.12	-	**1.9**	-	-	-	-	-	-	<0.0005 / <0.002	-	-
MW-1	09/28/2004	98.73	19.50	79.23	-	0.74 / 0.67	-	-	-	-	-	-	<0.0005 / <0.002 / <0.0005 / <0.002	-	-

Table 2

Historical Groundwater Analytical Results
Chevron-Branded Service Station 98557
415 Muldoon Road
Anchorage, Alaska

					HYDROCARBONS			PRIMARY VOCS					ADDITIONAL VOCS		Metals
Location	Date	TOC	DTW	GWE	TPH	DRO	GRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	HVOC	SVOC	Lead
	Units	ft msl	ft btoc	ft msl	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
ADEC Groundwater Cleanup Levels					**1.1**	**1.5**	**2.2**	**0.0046**	**1.1**	**0.015**	**0.19**	**0.14**			**0.015**
MW-1	05/13/2005	98.73	18.54	80.19	-	0.83	-	-	-	-	-	-	<0.0005 / <0.002	-	-
MW-1	09/26/2005	98.73	18.67	80.06	-	<0.024	-	-	-	-	-	-	<0.0005 / <0.002	-	-
MW-1	05/17/2006	98.73	19.54	79.19	-	0.14	-	-	-	-	-	-	<0.0008 / <0.002	-	-
MW-1	09/25/2006	98.73	18.76	79.97	-	**8.5**	-	-	-	-	-	-	<0.0008 / <0.002	-	-
MW-1	05/15/2007	98.73	18.91	79.82	-	0.5	-	-	-	-	-	-	<0.0008 / <0.002	<0.001 / <0.021	-
MW-1	09/24/2007	98.73	18.40	80.33	-	**3.5**	-	-	-	-	-	-	<0.0008 / <0.002	<0.001 / <0.019	-
MW-1	05/14/2008	98.73	18.37	80.36	-	0.35	-	-	-	-	-	-	<0.0008 / <0.002	<0.001 / <0.019	-
MW-1	09/16/2008	98.73	18.02	80.71	-	**1.6**	-	-	-	-	-	-	<0.0001 / <0.0003	<0.001 / <0.0002	-
MW-1	06/18/2009	98.73	18.53	80.20	-	0.27	-	-	-	-	-	-	ND	ND	-
MW-1	09/07/2009	98.73	18.76	79.97	-	**2.5**	-	-	-	-	-	-	ND	0.012	-
MW-1	04/21/2010	98.73	19.46	79.27	-	1.5	-	<0.0005	<0.0005	<0.0005	<0.0005	-	ND	0.21	-
MW-1	07/22/2010	98.73	19.08	79.65	-	1.4	-	-	-	-	-	-	ND	ND	-
MW-1	04/19/2011	98.73	19.35	79.38	-	**1.6**	-	-	-	-	-	-	ND	0.040 J	-
MW-1	08/22/2011	252.78	19.09	233.69	-	0.17 J	-	-	-	-	-	-	ND	ND	<0.0047 UJ
MW-1	05/22/2012	252.78	18.22	234.56	-	0.20 J	-	-	-	-	-	-	ND	ND	<0.0022
MW-1	07/30/2012	252.78	17.55	235.23	-	0.10 J	-	-	-	-	-	-	ND	ND	0.0071 J
MW-1	05/14/2013	252.78	17.90	234.88	-	0.62	-	-	-	-	-	-	-	-	<0.0019
MW-1[HS]	05/14/2013	252.78	17.90	234.88	-	**1.6**	-	-	-	-	-	-	-	-	<0.0019
MW-1	09/17/2013	252.78	17.57	235.21	-	-	-	-	-	-	-	-	-	-	
MW-1	09/18/2013	-	-	-	-	0.38 J	-	-	-	-	-	-	-	-	0.0096 J
MW-1	05/02/2014	252.78	19.95	232.83	-	0.13 J	-	-	-	-	-	-	-	-	0.0010
MW-1	11/08/2014	252.78	18.48	234.10	-	0.26 J	-	-	-	-	-	-	-	-	0.0077 J
MW-1	05/06/2015	252.78	19.12	233.66	-	0.37 J	-	-	-	-	-	-	-	-	<0.0047
MW-1	10/21/2015	252.78	18.68	234.10	-	0.35	-	-	-	-	-	-	-	-	**0.0260**
MW-1	06/03/2016	252.78	18.69	234.09	-	**3.7**	-	-	-	-	-	-	-	-	**0.0293 J**
MW-1	10/14/2016	252.78	18.57	234.21	-	**2.4**	-	-	-	-	-	-	-	-	0.0137 J
MW-1	05/23/2017	252.78	18.29	234.49	-	**3.5**	-	-	-	-	-	-	-	-	**0.0983**
MW-1	09/01/2017	252.78	18.85	233.93	-	0.80 J / 0.52 J	-	-	-	-	-	-	-	-	0.0103 J / **0.0151 J**
MW-1	05/21/2018	252.78	19.10	233.68	-	**1.9 J** / 1.5 J	-	-	-	-	-	-	-	-	**0.0484**
MW-1	09/25/2018	252.58*	19.02	233.76	-	1.0	-	-	-	-	-	-	-	-	**0.0241**
MW-3	02/01/1991**	98.52	19.21	79.31	**7.9**	ND	-	ND	ND	ND	ND	-	-	-	-
MW-3	06/01/1991**	98.52	19.10	79.42	ND	ND	ND	ND	ND	ND	ND	-	-	-	-
MW-3	07/01/1991**	98.52	19.19	79.33	-	-	-	-	-	-	-	-	-	-	-
MW-3	09/01/1991**	98.52	18.82	79.70	ND	ND	0.1	ND	ND	ND	ND	-	-	-	-
MW-3	11/01/1991**	98.52	18.83	79.69	-	-	-	-	-	-	-	-	-	-	-
MW-3	12/01/1991**	98.52	19.26	79.26	ND	0.1	ND	ND	ND	ND	ND	-	-	-	-
MW-3	01/01/1992**	98.52	18.63	79.89	-	-	-	-	-	-	-	-	-	-	-
MW-3	03/01/1992**	98.52	19.62	78.90	ND	**1.8**	ND	ND	0.011	ND	ND	-	-	-	-
MW-3	04/01/1992**	98.52	18.30	80.22	-	-	-	-	-	-	-	-	-	-	-
MW-3	05/01/1992**	98.52	19.24	79.28	-	-	-	-	-	-	-	-	-	-	-
MW-3	06/01/1992**	98.52	19.00	79.52	**1.2**	ND	ND	ND	ND	ND	0.006	-	-	-	-
MW-3	07/01/1992**	98.52	18.50	80.02	-	-	-	-	-	-	-	-	-	-	-
MW-3	08/01/1992**	98.52	18.37	80.15	-	-	-	-	-	-	-	-	-	-	-
MW-3	09/01/1992**	98.52	18.35	80.17	-	ND	ND	ND	ND	ND	ND	-	-	-	-
MW-3	10/01/1992**	98.52	18.66	79.86	-	-	-	-	-	-	-	-	-	-	-
MW-3	11/01/1992**	98.52	18.59	79.93	-	-	-	-	-	-	-	-	-	-	-
MW-3	12/01/1992**	98.52	18.46	80.06	**6.3**	ND	ND	ND	ND	ND	ND	-	-	-	-
MW-3	05/01/1993**	98.52	19.06	79.46	-	ND	ND	ND	ND	ND	ND	-	ND	-	-

Table 2

Historical Groundwater Analytical Results
Chevron-Branded Service Station 98557
415 Muldoon Road
Anchorage, Alaska

					HYDROCARBONS			PRIMARY VOCS					ADDITIONAL VOCS		Metals
Location	Date	TOC	DTW	GWE	TPH	DRO	GRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	HVOC	SVOC	Lead
	Units	ft msl	ft btoc	ft msl	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
ADEC Groundwater Cleanup Levels					**1.1**	**1.5**	**2.2**	**0.0046**	**1.1**	**0.015**	**0.19**	**0.14**			**0.015**
MW-3	08/01/1993**	98.52	18.63	79.89	-	ND	ND	ND	ND	ND	ND	-	0.001	-	-
MW-3	11/01/1993**	98.52	18.63	79.89	-	ND	ND	ND	ND	ND	0.006	-	0.004	-	-
MW-3	03/01/1994**	98.52	19.18	79.34	-	ND	-	-	-	-	-	-	ND	-	-
MW-3	06/01/1994**	98.52	18.93	79.59	-	ND	-	-	-	-	-	-	ND	-	-
MW-3	08/18/1994	98.52	18.67	79.85	-	ND	-	-	-	-	-	-	ND	-	-
MW-3	03/24/1995	98.52	20.02	78.50	-	-	-	-	-	-	-	-	ND	-	-
MW-3	03/31/1995	98.52	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	09/06/1995	98.52	18.36	80.16	-	0.53	-	-	-	-	-	-	0.0036	-	-
MW-3	02/14/1996	98.52	19.45	79.07	-	0.17	-	-	-	-	-	-	ND	-	-
MW-3	06/01/1996	98.52	21.01	77.51						SAMPLED SEMI-ANNUALLY					-
MW-3	08/23/1996	98.52	21.17	77.35	-	0.193	-	-	-	-	-	-	<0.0005 / <0.001	-	-
MW-3	10/21/1996	98.52	21.25	77.27	-	-	-	-	-	-	-	-	-	-	-
MW-3	04/27/1997	98.52	21.46	77.06	-	0.229	-	-	-	-	-	-	<0.001 / <0.005	-	-
MW-3	09/08/1997	98.52	19.68	78.84	-	0.221	-	-	-	-	-	-	<0.001 / <0.005	-	-
MW-3	04/22/1998	98.52	19.25	79.27	-	0.125 / 0.125	-	-	-	-	-	-	<0.001 / <0.01 / <0.001 / <0.01	-	-
MW-3	09/17/1998	98.52	18.88	79.64	-	0.144 / 0.106	-	-	-	-	-	-	<0.001 / <0.005 / <0.001 / <0.005	-	-
MW-3	04/26/1999	98.52	19.31	79.21	-	<0.1	-	-	-	-	-	-	<0.0005 / <0.002	-	-
MW-3	10/13/1999	98.52	19.47	79.05	-	-	-	-	-	-	-	-	<0.001 / <0.01	-	-
MW-3	05/17/2000	98.52	19.33	79.19	-	<0.1	-	-	-	-	-	-	<0.0005 / <0.005	-	-
MW-3	09/22/2000	98.52	18.80	79.72	-	<0.1	-	-	-	-	-	-	<0.001 / <0.005	-	-
MW-3	05/01/2001	98.52	19.61	78.91	-	0.126	-	-	-	-	-	-	<0.001 / <0.005	-	-
MW-3	09/25/2001	98.52	19.15	79.37	-	0.102	- / <0.05	- / <0.0002	- / <0.0005	- / <0.0005	- / <0.001	- / <0.001	<0.001 / <0.005 / -	-	-
MW-3	05/02/2002	98.52	19.48	79.04	-	-	-	-	-	-	-	-	<0.001 / <0.005 / <0.001 / <0.005	-	-
MW-3	09/27/2002	98.52	18.79	79.73	-	<0.1	-	-	-	-	-	-	<0.001 / <0.005	-	-
MW-3	05/23/2003	98.52	19.19	79.33	-	<0.024	-	-	-	-	-	-	<0.0005 / <0.002	-	-
MW-3	10/08/2003	98.52	19.55	78.97	-	0.043 / 0.045	-	-	-	-	-	-	<0.0005 / <0.002 / <0.0005 / <0.002	-	-
MW-3	06/04/2004	98.52	19.78	78.74	-	0.062	-	-	-	-	-	-	<0.0005 / <0.002	-	-
MW-3	09/28/2004	98.52	19.88	78.64	-	<0.02	-	-	-	-	-	-	<0.0005 / <0.002	-	-
MW-3	05/13/2005	98.52	18.86	79.66	-	0.084 / 0.067	-	-	-	-	-	-	<0.0005 / <0.002 / <0.0005 / <0.002	-	-
MW-3	09/26/2005	98.52	18.52	80.00	-	<0.024 / <0.024	-	-	-	-	-	-	<0.0005 / <0.002 / <0.0005 / <0.002	-	-
MW-3	05/17/2006	98.52	19.63	78.89	-	<0.025	-	-	-	-	-	-	<0.0008 / <0.002	-	-
MW-3	09/25/2006	98.52	18.73	79.79	-	0.22	-	-	-	-	-	-	<0.0008 / <0.002	-	-
MW-3	05/15/2007	98.52	18.78	79.74	-	0.13	-	-	-	-	-	-	<0.0008 / <0.002	<0.001 / <0.021	-
MW-3	09/24/2007	98.52	18.43	80.09	-	**1.6**	-	-	-	-	-	-	<0.0005 / <0.002	<0.001 / <0.020	-
MW-3	05/14/2008	98.52	18.42	80.10	-	0.084 / 0.087	<0.01	<0.0005	<0.0007	<0.0008	<0.0016	<0.002	<0.0008 / <0.002 / <0.0008 / <0.002	<0.001 / <0.021 / <0.001 / <0.021	-
MW-3	09/16/2008	98.52	18.06	80.46	-	<0.05 / <0.053	0.01	<0.0005	0.003	<0.0005	0.0008	<0.002	<0.0001 / <0.0003 / <0.0001 / <0.0003	<0.001 / <0.020 / <0.001 / <0.020	-
MW-3	06/18/2009	98.52	18.65	79.87	-	<0.050	-	-	-	-	-	-	ND	ND	-
MW-3	09/07/2009	98.52	18.88	79.64	-	<0.048	-	-	-	-	-	-	ND	ND	-
MW-3	04/21/2010	98.52	19.60	78.92	-	<0.053 UJ	-	<0.0005	<0.0005	<0.0005	<0.0005	-	ND	ND	-
MW-3	07/22/2010	98.52	19.18	79.34	-	0.055 J	-	-	-	-	-	-	ND	ND	-
MW-3	04/19/2011	98.52	19.47	79.05	-	0.084 J	-	-	-	-	-	-	ND	ND	-
MW-3	08/22/2011	253.02	19.17	233.85	-	0.12 J	-	-	-	-	-	-	ND	ND	<0.0022
MW-3	05/22/2012	253.02	18.34	234.68	-	<0.048	-	-	-	-	-	-	ND	ND	<0.0022
MW-3	07/30/2012	253.02	17.69	235.33	-	0.096 J	-	-	-	-	-	-	ND	ND	<0.0051
MW-3	05/14/2013	253.02	18.04	234.98	-	-	-	-	-	-	-	-	-	-	-
MW-3	09/17/2013	253.02	17.69	235.33	-	-	-	-	-	-	-	-	-	-	-
MW-3	05/02/2014	253.02	18.06	234.96	-	-	-	-	-	-	-	-	-	-	-
MW-3	11/08/2014	253.02	18.60	234.42	-	-	-	-	-	-	-	-	-	-	-
MW-3	05/06/2015	253.02	19.24	233.78	-	-	-	-	-	-	-	-	-	-	-

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					HYDROCARBONS			PRIMARY VOCS					ADDITIONAL VOCS		Metals
Location	Date	TOC	DTW	GWE	TPH	DRO	GRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	HVOC	SVOC	Lead
	Units	ft msl	ft btoc	ft msl	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
ADEC Groundwater Cleanup Levels					**1.1**	**1.5**	**2.2**	**0.0046**	**1.1**	**0.015**	**0.19**	**0.14**			**0.015**
MW-3	10/21/2015	253.02	18.79	234.23	-	-	-	-	-	-	-	-	-	-	-
MW-3	06/03/2016	253.02	18.81	234.21	-	-	-	-	-	-	-	-	-	-	-
MW-3	10/14/2016	253.02	18.69	234.33	-	-	-	-	-	-	-	-	-	-	-
MW-3	05/23/2017	253.02	18.35	234.67	-	-	-	-	-	-	-	-	-	-	-
MW-3	09/01/2017	253.02	18.84	234.18	-	-	-	-	-	-	-	-	-	-	-
MW-3	05/21/2018	253.02	19.11	233.91	-	-	-	-	-	-	-	-	-	-	-
MW-3	09/25/2018	252.92*	19.12	233.90	-	-	-	-	-	-	-	-	-	-	-
MW-3-FB	05/14/2008	-	-	-	-	<0.024	<0.01	<0.0005	<0.0007	<0.0008	<0.0016	<0.002	<0.0008 / <0.002	<0.001 / <0.020	-
MW-3-FB	09/16/2008	-	-	-	-	<0.050	0.01	<0.0005	0.003	<0.0005	0.0008	<0.002	<0.0001 / <0.0003	<0.001 / <0.00021	-
MW-4R	05/01/1993**	-	-	-	-	-	**2.9**	0.003	0.02	0.016	0.048	-	ND	-	-
MW-4R	08/01/1993**	-	-	-	-	0.44	1.2	0.005	ND	0.006	0.019	-	0.0008	-	-
MW-4R	11/01/1993**	-	-	-	-	0.36	0.52	0.001	0.016	0.003	0.008	-	0.003	-	-
MW-4R	03/01/1994**	-	-	-	-	0.07	0.3	0.0015	0.015	0.0068	0.015	-	ND	-	-
MW-4R	06/01/1994**	-	-	-	-	0.7	2	0.0014	0.014	0.0031	0.019	-	ND	-	-
MW-4R	08/18/1994	-	17.71	-	-	0.3	0.53	0.002	ND	0.0024	0.0055	-	ND	-	-
MW-4R	03/24/1995	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4R	04/24/1995	-	17.90	-	-	-	0.51	ND	0.0005	0.001	0.0037	-	-	-	-
MW-4R	09/06/1995	-	17.37	-	**3.3**	1.1	1.2	ND	0.0014	0.0024	0.0028	-	0.0023	-	-
MW-4R	02/14/1996	-	18.44	-	-	0.57	**3.2**	0.00063	0.0039	0.0066	0.012	-	ND	-	-
MW-4R	06/01/1996	-	20.05							SAMPLED SEMI-ANNUALLY					
MW-4R	08/23/1996	-	20.19	-	-	**1.57**	0.586	<0.0025	0.0147	0.0041	0.0254	-	<0.0005 / <0.001	-	-
MW-4R	10/21/1996	-	20.22	-	-	-	-	-	-	-	-	-	-	-	-
MW-4R	04/27/1997	-	20.45	-	-	**2.57**	0.199	<0.0005	<0.0005	<0.0005	0.00228	-	<0.001 / <0.005	-	-
MW-4R	09/08/1997	-	18.67	-	-	**2.24 / 2.33**	0.227 / 0.267	0.000577 / 0.000665	0.00146 / 0.00166	<0.0005 / <0.0005	0.00293 / 0.00324	-	<0.001 / <0.005 / <0.001 / <0.005	-	-
MW-4R	04/22/1998	-	18.50	-	-	0.326	0.324	<0.0006	<0.0012	<0.0005	<0.0012	-	<0.001 / <0.01	-	-
MW-4R	09/17/1998	-	18.22	-	-	0.23	0.17	<0.0005	<0.0085	<0.0005	<0.001	-	<0.001 / <0.005	-	-
MW-4R	04/26/1999	-	18.28	-	-	0.11	<0.05	<0.0005	0.00062	<0.0005	<0.0005	<0.005	<0.0005 / <0.002	-	-
MW-4R	10/13/1999	-	18.45	-	-	0.21	0.119 / <0.05	**0.0163**	<0.0005	<0.0005	<0.0005	<0.005	<0.001 / <0.01	-	-
MW-4R	05/17/2000	-	18.30	-	-	0.155	<0.08	0.000718	<0.0005	<0.0005	<0.001	<0.002	<0.0005 / <0.005	-	-
MW-4R	09/22/2000	-	17.79	-	-	0.18	0.0622	<0.00093	<0.0005	<0.0005	<0.001	<0.001	<0.001 / <0.005	-	-
MW-4R	05/01/2001	-	18.60	-	-	0.208	<0.05	0.000392	<0.0005	<0.0005	<0.001	<0.001	<0.001 / <0.005	-	-
MW-4R	09/25/2001	-	18.11	-	-	-	0.17	0.00433	0.000978	<0.0005	0.00113	0.00172	<0.001 / <0.005	-	-
MW-4R	05/02/2002	-	18.45	-	-	-	0.0547	0.000266	<0.0005	<0.0005	<0.001	<0.001	<0.001 / <0.005	-	-
MW-4R	09/27/2002	-	17.80	-	-	-	<0.08	<0.0005	<0.0005	<0.0005	<0.001	<0.002	<0.001 / <0.005	-	-
MW-4R	05/23/2003	-	18.17	-	-	-	0.22 / 0.2	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.001 / <0.001	<0.0005 / <0.0005	<0.0005 / <0.002 / <0.0005 / <0.002	-	-
MW-4R	10/08/2003	-	18.55	-	-	-	0.12	<0.0005	<0.0005	<0.0005	<0.001	<0.002	<0.0005 / <0.002	-	-
MW-4R	06/04/2004	-	18.76	-	-	-	0.03	<0.0005	<0.0005	<0.0005	<0.001	<0.002	<0.0005 / <0.002	-	-
MW-4R	09/28/2004	-	18.65	-	-	-	<0.01	<0.0005	<0.0005	<0.0005	<0.001	<0.002	<0.0005 / <0.002	-	-
MW-4R	05/13/2005	-	17.69	-	-	-	0.03	<0.0005	<0.0005	<0.0005	<0.001	<0.002	<0.0005 / <0.002	-	-
MW-4R	09/26/2005	-	17.50	-	-	-	<0.01	<0.0005	<0.0005	<0.0005	<0.001	<0.002	<0.0005 / <0.002	-	-
MW-4R	05/17/2006	-	18.61	-	-	-	<0.01	<0.0005	<0.0007	<0.0008	<0.0016	<0.002	<0.0008 / <0.002	-	-
MW-4R	09/25/2006	-	17.85	-	-	-	0.34	<0.0005	<0.0007	<0.0008	<0.0016	<0.002	<0.0008 / <0.002	-	-
MW-4R	05/15/2007	-								UNABLE TO LOCATE					
MW-4R	09/24/2007	-								UNABLE TO LOCATE					
MW-4R	05/14/2008	-								UNABLE TO LOCATE					
MW-4R	09/16/2008	-								UNABLE TO LOCATE					

Table 2

Historical Groundwater Analytical Results
Chevron-Branded Service Station 98557
415 Muldoon Road
Anchorage, Alaska

					HYDROCARBONS			PRIMARY VOCS					ADDITIONAL VOCS		Metals
Location	Date	TOC	DTW	GWE	TPH	DRO	GRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	HVOC	SVOC	Lead
	Units	ft msl	ft btoc	ft msl	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
ADEC Groundwater Cleanup Levels					**1.1**	**1.5**	**2.2**	**0.0046**	**1.1**	**0.015**	**0.19**	**0.14**			**0.015**
MW-7	02/01/1991**		-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	06/01/1991**	98.98	19.18	79.80	**2**	ND	ND	ND	ND	ND	ND	-	-	-	-
MW-7	07/01/1991**	98.98	19.25	79.73	-	-	-	-	-	-	-	-	-	-	-
MW-7	09/01/1991**	98.98	18.80	80.18	ND	1.1	0.1	0.004	ND	ND	0.012	-	-	-	-
MW-7	11/01/1991**	98.98	18.90	80.08	-	-	-	-	-	-	-	-	-	-	-
MW-7	12/01/1991**	98.98	19.32	79.66	ND	1.2	ND	ND	ND	ND	ND	-	-	-	-
MW-7	01/01/1992**	98.98	18.72	80.26	-	-	-	-	-	-	-	-	-	-	-
MW-7	03/01/1992**	98.98	19.65	79.33	ND	1.1	ND	ND	0.01	0.009	ND	-	-	-	-
MW-7	04/01/1992**	98.98	18.34	80.64	-	-	-	-	-	-	-	-	-	-	-
MW-7	05/01/1992**	98.98	18.77	80.21	-	-	-	-	-	-	-	-	-	-	-
MW-7	06/01/1992**	98.98	19.01	79.97	ND	0.32	ND	**0.006**	0.004	ND	ND	-	-	-	-
MW-7	07/01/1992**	98.98	18.53	80.45	-	-	-	-	-	-	-	-	-	-	-
MW-7	08/01/1992**	98.98	18.41	80.57	-	-	-	-	-	-	-	-	-	-	-
MW-7	09/01/1992**	98.98	18.41	80.57	-	ND	ND	ND	ND	ND	ND	-	-	-	-
MW-7	10/01/1992**	98.98	18.72	80.26	-	-	-	-	-	-	-	-	-	-	-
MW-7	11/01/1992**	98.98	18.63	80.35	-	-	-	-	-	-	-	-	-	-	-
MW-7	12/01/1992**	98.98	18.50	80.48	**3.8**	ND	ND	ND	ND	ND	ND	-	-	-	-
MW-7	05/01/1993**	98.98	19.11	79.87	-	ND	ND	ND	ND	ND	ND	-	ND	-	-
MW-7	08/01/1993**	98.98	18.68	80.30	-	ND	ND	ND	ND	ND	ND	-	ND	-	-
MW-7	11/01/1993**	98.98	18.68	80.30	-	0.09	ND	ND	ND	ND	ND	-	0.0005	-	-
MW-7	06/01/1994**	98.98	18.94	80.04	-	ND	-	-	-	-	-	-	ND	-	-
MW-7	08/18/1994	98.98	18.78	80.20	-	ND	-	-	-	-	-	-	ND	-	-
MW-11	02/01/1991**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-11	06/01/1991**	98.14	18.70	79.44	**1.2**	ND	ND	ND	ND	ND	ND	-	-	-	-
MW-11	09/01/1991**	98.14	18.04	80.10	**1.7**	0.67	0.6	0.004	ND	ND	0.022	-	-	-	-
MW-11	12/01/1991**	98.14	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-11	06/01/1992**	98.14	18.31	79.83	**2.9**	0.92	ND	ND	0.008	ND	0.008	-	-	-	-
MW-11	09/01/1992**	98.14	17.63	80.51	-	ND	ND	ND	ND	ND	ND	-	-	-	-
MW-11	12/01/1992**	98.14	17.78	80.36	**2.1**	ND	ND	ND	ND	ND	ND	-	-	-	-
MW-11	05/01/1993**	98.14	18.39	79.75	-	0.094	ND	ND	ND	ND	ND	-	ND	-	-
MW-11	08/01/1993**	98.14	17.96	80.18	-	ND	ND	ND	ND	ND	ND	-	ND	-	-
MW-11	11/01/1993**	98.14	17.95	80.19	-	0.06	ND	ND	ND	ND	ND	-	ND	-	-
MW-11	03/01/1994**	98.14	18.52	79.62	-	ND	-	-	-	-	-	-	ND	-	-
MW-11	06/01/1994**	98.14	18.25	79.89	-	ND	-	-	-	-	-	-	ND	-	-
MW-11	08/18/1994	98.14	18.00	80.14	-	ND	-	-	-	-	-	-	ND	-	-
MW-11	03/24/1995	98.14	19.38	78.76	-	-	-	-	-	-	-	-	-	-	-
MW-11	06/19/1995	98.14	17.88	80.26	-	-	-	-	-	-	-	-	-	-	-
MW-11	09/06/1995	97.76	17.73	80.03	-	-	-	-	-	-	-	-	-	-	-
MW-11	11/14/1995	97.76	17.59	80.17	-	-	-	-	-	-	-	-	-	-	-
MW-11	02/14/1996	97.76	15.48	82.28	-	-	-	-	-	-	-	-	-	-	-
MW-11	06/01/1996	97.76	19.94	77.82	-	-	-	-	-	-	-	-	-	-	-
MW-11	08/23/1996	97.76	20.08	77.68	-	-	-	-	-	-	-	-	-	-	-
MW-11	10/21/1996	97.76	20.17	77.59	-	-	-	-	-	-	-	-	-	-	-
MW-11	04/27/1997	97.76	20.31	77.45	-	-	-	-	-	-	-	-	-	-	-
MW-11	09/08/1997	97.76	18.62	79.14	-	-	-	-	-	-	-	-	-	-	-
MW-11	04/22/1998	97.76	18.40	79.36	-	-	-	-	-	-	-	-	-	-	-
MW-11	09/17/1998	97.76	18.00	79.76	-	-	-	-	-	-	-	-	-	-	-
MW-11	04/26/1999	97.76								UNABLE TO LOCATE					

Table 2

Historical Groundwater Analytical Results
Chevron-Branded Service Station 98557
415 Muldoon Road
Anchorage, Alaska

					HYDROCARBONS			PRIMARY VOCS					ADDITIONAL VOCS		Metals
Location	Date	TOC	DTW	GWE	TPH	DRO	GRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	HVOC	SVOC	Lead
	Units	ft msl	ft btoc	ft msl	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
ADEC Groundwater Cleanup Levels					**1.1**	**1.5**	**2.2**	**0.0046**	**1.1**	**0.015**	**0.19**	**0.14**			**0.015**
MW-11	10/13/1999	97.76	18.42	79.34	-	-	-	-	-	-	-	-	-	-	-
MW-11	05/17/2000	97.76	18.28	79.48	-	-	-	-	-	-	-	-	-	-	-
MW-11	09/22/2000	97.76	17.75	80.01	-	-	-	-	-	-	-	-	-	-	-
MW-11	05/01/2001	97.76	18.56	79.20	-	-	-	-	-	-	-	-	-	-	-
MW-11	09/25/2001	97.76	18.09	79.67	-	-	-	-	-	-	-	-	-	-	-
MW-11	05/02/2002	97.76	18.52	79.24	-	-	-	-	-	-	-	-	-	-	-
MW-11	09/27/2002	97.76								INACCESSIBLE - DUE TO FLOODING					
MW-11	05/23/2003	97.76	18.14	79.62	-	-	-	-	-	-	-	-	-	-	-
MW-11	10/08/2003	97.76	18.53	79.23	-	-	-	-	-	-	-	-	-	-	-
MW-11	06/04/2004	97.76	18.76	79.00	-	-	-	-	-	-	-	-	-	-	-
MW-11	09/28/2004	97.76								INACCESSIBLE - DUE TO FLOODING					
MW-11	05/13/2005	97.76	17.65	80.11	-	-	-	-	-	-	-	-	-	-	-
MW-11	09/26/2005	97.76								DRY					
MW-11	05/17/2006	97.76								DRY					
MW-12	05/01/1993**	-	-	-	-	**3.1**	0.62	ND	0.0005	ND	0.002	-	ND	-	-
MW-12	08/01/1993**	98.52	-	-	-	0.38	0.42	ND	ND	ND	ND	-	ND	-	-
MW-12	11/01/1993**	98.52	-	-	-	0.06	0.18	ND	0.011	0.001	0.001	-	0.0038	-	-
MW-12	03/01/1994**	98.52	-	-	-	0.076	0.18	ND	0.0045	0.001	0.0016	-	ND	-	-
MW-12	06/01/1994**	98.52	-	-	-	0.45	ND	ND	ND	ND	ND	-	ND	-	-
MW-12	08/18/1994	98.52	18.26	80.26	-	ND	0.12	ND	ND	ND	ND	-	0.0007	-	-
MW-12	03/31/1995	98.52	19.53	78.99	0.014	**7**	0.14	0.0012	0.0011	ND	0.0011	-	ND	-	-
MW-12	06/19/1995	98.52	18.08	80.44	-	-	-	-	-	-	-	-	-	-	-
MW-12	09/06/1995	98.52	17.94	80.58	**9.2**	**8.4**	0.23	ND	0.00052	ND	ND	-	0.0017	-	-
MW-12	11/14/1995	98.52	18.25	80.27	-	-	-	-	-	-	-	-	-	-	-
MW-12	02/14/1996	98.52	19.01	79.51	-	**5.6**	**3.5**	ND	0.0045	ND	0.0025	-	ND	-	-
MW-12	06/01/1996	98.52	20.58	77.94						SAMPLED SEMI-ANNUALLY					-
MW-12	08/23/1996	98.52	20.69	77.83	-	**7.72**	0.657	<0.0005	0.00109	<0.0005	0.00252	-	<0.00051 / <0.001	-	-
MW-12	10/21/1996	98.52	20.76	77.76	-	-	-	-	-	-	-	-	-	-	-
MW-12	04/27/1997	98.52	20.99	77.53	-	**5.6**	0.365	<0.0005	<0.0005	<0.0005	0.00371	-	<0.001 / <0.005	-	-
MW-12	09/08/1997	98.52	19.22	79.30	-	1.48	0.0598	<0.0005	<0.0005	<0.0005	<0.001	-	<0.001 / <0.005	-	-
MW-12	04/22/1998	98.52	19.00	79.52	-	0.559	<0.05	<0.0005	<0.0005	<0.0005	<0.001	-	<0.001 / <0.01	-	-
MW-12	09/17/1998	98.52	19.00	79.52	-	0.239	<0.05	<0.0005	<0.0005	<0.0005	<0.001	-	<0.001 / <0.005	-	-
MW-12	04/26/1999	98.52	18.81	79.71	-	0.14	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005 / <0.002	-	-
MW-12	10/13/1999	98.52	18.98	79.54	-	0.2	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.001 / <0.01	-	-
MW-12	05/17/2000	98.52	18.86	79.66	-	0.103	<0.08	<0.0005	<0.0005	<0.0005	<0.001	<0.002	<0.0005 / <0.005	-	-
MW-12	09/22/2000	98.52	18.34	80.18	-	0.106 / <0.1	<0.05 / <0.05	<0.0002 / <0.0002	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.001 / <0.001	<0.001 / <0.001	<0.001 / <0.005 / <0.001 / <0.005	-	-
MW-12	05/01/2001	98.52	19.14	79.38	-	0.113	<0.05	0.000213	<0.0005	<0.0005	<0.001	<0.001	<0.001 / <0.005	-	-
MW-12	09/25/2001	98.52	18.67	79.85	-	-	<0.05	<0.0002	<0.0005	<0.0005	<0.001	<0.001	<0.001 / <0.005	-	-
MW-12	05/02/2002	98.52	18.98	79.54	-	-	<0.05	<0.0002	<0.0005	<0.0005	<0.001	<0.001	<0.001 / <0.005	-	-
MW-12	09/27/2002	98.52	18.31	80.21	-	-	<0.08	<0.0005	<0.0005	<0.0005	<0.001	<0.002	<0.001 / <0.005	-	-
MW-12	05/23/2003	98.52	18.71	79.81	-	-	<0.01	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.0005 / <0.002	-	-
MW-12	10/08/2003	98.52	19.06	79.46	-	-	<0.01	<0.0005	<0.0005	<0.0005	<0.001	<0.002	<0.0005 / <0.002	-	-
MW-12	06/04/2004	98.52	19.28	79.24	-	-	<0.01 / <0.01	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.001 / <0.001	<0.002 / <0.002	<0.0005 / <0.002 / <0.0005 / <0.002	-	-
MW-12	09/28/2004	98.52	19.23	79.29	-	-	<0.01	<0.0005	<0.0005	<0.0005	<0.001	<0.002	<0.0005 / <0.002	-	-
MW-12	05/13/2005	98.52	18.27	80.25	-	-	<0.01	<0.0005	<0.0005	<0.0005	<0.001	<0.002	<0.0005 / <0.002	-	-
MW-12	09/26/2005	98.52								DRY					
MW-12	05/17/2006	98.52	19.23	79.29	-	-	<0.01 / <0.01	<0.0005 / <0.0005	<0.0007 / <0.0007	<0.0008 / <0.0008	<0.0016 / <0.0016	<0.002 / <0.002	<0.0008 / <0.002 / <0.0008 / <0.002	-	-

Table 2

Historical Groundwater Analytical Results
Chevron-Branded Service Station 98557
415 Muldoon Road
Anchorage, Alaska

					HYDROCARBONS			PRIMARY VOCS					ADDITIONAL VOCS		Metals
Location	Date	TOC	DTW	GWE	TPH	DRO	GRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	HVOC	SVOC	Lead
	Units	ft msl	ft btoc	ft msl	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
ADEC Groundwater Cleanup Levels					**1.1**	**1.5**	**2.2**	**0.0046**	**1.1**	**0.015**	**0.19**	**0.14**			**0.015**
MW-13	07/30/2012	252.83	17.86	234.97	-	**6.6 J / 17 J**	1.7 / 1.5	**0.0098 / 0.010**	0.012 / 0.012	**0.036 / 0.037**	0.19 / 0.19	-	0.004 / 0.004	0.126 J / 0.176 J	**0.490 / 0.443**
MW-13	05/14/2013	252.83	18.15	234.68	-	1.0 / 0.73	0.38 / 0.37	0.0012 / 0.0012	0.00087 J / 0.00088 J	0.0098 / 0.010	0.028 / 0.030	-	ND / ND	-	**0.74 / 0.57**
MW-13[HS]	05/14/2013	252.83	18.15	234.68	-	**3.5 J / 1.6 J**	0.27 / 0.31	0.0012 / 0.0012	0.00093 J / 0.00097 J	0.0087 / 0.0085	0.026 / 0.026	-	-	-	**1.4 / 0.97**
MW-13	09/17/2013	252.83	17.82	235.01	-	-	-	-	-	-	-	-	-	-	-
MW-13	09/18/2013	252.83	-	-	-	0.71 / 0.77	0.17 / 0.18	0.00098 J / 0.00097 J	0.00059 J / 0.00063 J	0.0057 / 0.0057	0.015 / 0.015	-	-	-	**0.21 J / 1.2 J**
MW-13	05/02/2014	252.83	18.20	234.63	-	0.62 / 0.54	0.16 / 0.14	0.00090 J / 0.00077 J	0.00041 J / <0.00036	0.0049 / 0.0041	0.0034 / 0.0028 J	-	-	-	**0.025 / 0.018**
MW-13	11/08/2014	252.83	18.70	234.13	-	0.55 J/0.50 J	0.089 J/0.087 J	0.00054 J/0.00046 J	<0.00019 J/<0.00018 J	0.0018/0.0018	0.0011 J/0.0012 J	-	-	-	**0.033/0.020**
MW-13	05/06/2015	252.83	19.38	233.45	-	0.39 J / 0.35 J	-	-	-	-	-	-	-	-	**0.673 / 0.875**
MW-13	10/21/2015	252.83	18.93	233.90	-	**11 / 4.1 J**	-	-	-	-	-	-	-	-	**0.0748 / 0.0539**
MW-13	06/03/2016	252.83	18.94	233.89	-	0.53 J / **5.2 J**	-	-	-	-	-	-	-	-	**0.223 / 0.219**
MW-13	10/14/2016	252.83	18.83	234.00	-	0.71 / 0.65	-	-	-	-	-	-	-	-	**0.0747 / 0.0696**
MW-13	05/23/2017	252.83	18.53	234.30	-	0.36 J / **1.9 J**	-	-	-	-	-	-	-	-	**0.0298 J / 0.226 J**
MW-13	09/01/2017	252.83	19.11	233.72	-	0.59 J	-	-	-	-	-	-	-	-	**0.137**
MW-13	05/21/2018	252.83	19.23	233.60	-	**5.1 J**	-	-	-	-	-	-	-	-	**1.24 / 0.910**
MW-13	09/25/2018	252.83	19.27	233.56	-	**9.1 / 7.4**	-	-	-	-	-	-	-	-	**0.193 / 0.265**
MW-14	08/22/2011	251.41	17.99	233.42	-	<0.049	0.043 J	<0.0005	<0.0005	<0.0005	<0.0015	-	ND	ND	<0.0026 UJ
MW-14	05/22/2012	251.41	17.11	234.30	-	<0.049 UJ	<0.010	<0.0005	<0.0005	<0.0005	<0.0015	-	ND	0.0003	<0.0022
MW-14	07/30/2012	251.41	16.51	234.90	-	<0.048	<0.010	<0.0005	<0.0005	<0.0005	<0.0015	-	ND	ND	<0.0051
MW-14	05/14/2013	251.41	16.81	234.60	-	<0.063 J	<0.050	<0.00024	<0.00023	<0.00024	<0.00072	-	-	-	**0.020**
MW-14[HS]	05/14/2013	251.41	16.81	234.60	-	<0.12 J	<0.050	<0.00024	<0.00023	<0.00024	<0.00072	-	-	-	**0.10**
MW-14	09/17/2013	251.41	16.45	234.96	-	-	-	-	-	-	-	-	-	-	-
MW-14	09/18/2013	-	-	-	-	<0.23	<0.050	<0.00024	<0.00023	<0.00024	<0.00072	-	-	-	**0.018**
MW-14	05/02/2014	251.41	16.88	234.53	-	<0.068	<0.050	<0.00015	<0.00011	<0.00016	<0.00040	-	-	-	0.00018
MW-14	11/08/2014	251.41	17.37	234.04	-	0.091 J	<0.050 J	<0.00015	<0.00011	<0.00016	<0.00040	-	-	-	0.0018 J
MW-14	05/06/2015	251.41	18.01	233.40	-	<0.051 J	-	-	-	-	-	-	-	-	0.0053 J
MW-14	10/21/2015	251.87	18.04	233.83	-	<0.051 J	-	-	-	-	-	-	-	-	**0.0561 J**
MW-14	06/03/2016	251.41	18.07	233.34	-	<0.051	-	-	-	-	-	-	-	-	<0.0051
MW-14	10/14/2016	251.41	17.98	233.43	-	1.2	-	-	-	-	-	-	-	-	<0.0062
MW-14	05/23/2017	251.41	17.65	233.76	-	<0.053	-	-	-	-	-	-	-	-	<0.0062
MW-14	09/01/2017	251.41	18.23	233.18	-	<0.050 J	-	-	-	-	-	-	-	-	0.0125 J
MW-14	05/21/2018	251.41	19.36	232.05	-	<0.050 J	-	-	-	-	-	-	-	-	**0.0300**
MW-14	09/25/2018	251.41	18.41	233.00	-	<0.051	-	-	-	-	-	-	-	-	<0.0071
RW-1	05/01/1993**	-	-	-	-	ND	**3.3**	0.003	0.019	**0.021**	0.15	-	ND	-	-
RW-1	08/01/1993**	-	-	-	-	**2.3**	**3.2**	**0.01**	0.009	**0.018**	0.11	-	ND	-	-
RW-1	11/01/1993**	-	-	-	-	**2.7**	1.5	0.001	0.012	0.009	0.049	-	ND	-	-
RW-1	03/01/1994**	-	-	-	-	0.31	**3.9**	0.0017	0.017	**0.015**	0.099	-	ND	-	-
RW-1	06/01/1994**	-	-	-	-	**2.5**	**3.6**	0.0017	0.013	0.011	0.073	-	ND	-	-
RW-1	08/18/1994	-	18.25	-	-	1.4	1.7	0.0047	0.0052	0.0071	0.033	-	ND	-	-
RW-1	12/13/1994	-	18.86	-	ND	**2.1**	**3.8**	**0.012**	0.013	**0.016**	0.071	-	ND	-	-
RW-1	03/24/1995	-	19.59	-	**12**	**2.3**	0.99	0.0023	0.0027	0.003	0.0096	-	ND	-	-
RW-1	04/24/1995	-	-	-	-	-	1.3	0.0018	0.0019	0.0024	0.039	-	-	-	-
RW-1	06/19/1995	-	18.08	-	**5.7**	**2.9**	0.41	0.0007	0.00062	0.00072	0.016	-	ND	-	-
RW-1	09/06/1995	-	18.01	-	**2.2**	1.1	0.095	0.0006	0.00098	0.0016	0.012	-	0.003	-	-
RW-1	11/14/1995	-	18.25	-	**7.2**	**3.4**	**2.3 / 3.3**	0.0016 / 0.0013	0.0025 / 0.004	0.0039 / 0.0067	0.013 / 0.02	-	ND	-	-
RW-1	02/14/1996	-	19.02	-	-	0.9	**2.7**	0.0026	0.0033	0.0049	0.026	-	ND	-	-
RW-1	06/01/1996	-	20.59	-	-	1.38 / **1.54**	1.06 / 1.14	0.000847 / 0.000909	0.00201 / 0.00203	0.00219 / 0.00243	0.00666 / 0.00745	-	<0.0005 / <0.005 / <0.0005 / <0.005	-	-
RW-1	08/23/1996	-	20.69	-	-	1.2	0.082	0.000742	0.00204	0.00263	0.00666	-	<0.0005 / <0.001	-	-

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					HYDROCARBONS			PRIMARY VOCS					ADDITIONAL VOCS		Metals
Location	Date	TOC	DTW	GWE	TPH	DRO	GRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	HVOC	SVOC	Lead
	Units	ft msl	ft btoc	ft msl	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
ADEC Groundwater Cleanup Levels					**1.1**	**1.5**	**2.2**	**0.0046**	**1.1**	**0.015**	**0.19**	**0.14**			**0.015**
RW-1	10/21/1996	-	20.76	-	-	0.842	0.586	0.000828	0.00172	0.00187	0.00352	-	<0.0005 / <0.005	-	-
RW-1	04/27/1997	-	21.02	-	-	0.864	0.459	0.000617	0.000904	0.000862	0.00212	-	<0.001 / <0.005	-	-
RW-1	09/08/1997	-	19.22	-	-	**4.77**	0.791	0.00404	0.00271	0.00207	0.00622	-	<0.001 / <0.005	-	-
RW-1	04/22/1998	-	19.22	-	-	0.651	0.484	<0.0016	<0.0017	<0.0016	<0.0021	-	<0.001 / <0.01	-	-
RW-1	09/17/1998	-	18.96	-	-	0.232	0.352	<0.0005	<0.0165	<0.0015	<0.001	-	<0.001 / <0.005	-	-
RW-1	04/26/1999	-	18.81	-	-	**1.53**	0.167 / 0.168	0.0009 / 0.00093	0.00093 / 0.00106	0.00202 / 0.00237	0.00081 / 0.00159	<0.005 / <0.005	<0.0005 / <0.002 / <0.0005 / <0.002	-	-
RW-1	10/13/1999	-	19.00	-	-	0.39	0.209	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.001 / <0.01	-	-
RW-1	05/17/2000	-	18.85	-	-	0.164 / 0.225	<0.08 / <0.08	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.001 / <0.001	<0.002 / <0.002	<0.0005 / <0.005 / <0.0005 / <0.005	-	-
RW-1	09/22/2000	-	18.33	-	-	0.333	0.0675	<0.0002	<0.0005	<0.0005	<0.00113	<0.001	<0.001 / <0.005	-	-
RW-1	05/01/2001	-	19.16	-	-	0.299	0.167	0.000487	<0.0005	<0.0005	0.0013	<0.001	<0.001 / <0.005	-	-
RW-1	09/25/2001	-	18.68	-	-	-	0.172	0.000351	<0.0005	<0.0005	0.00143	<0.001	<0.001 / <0.005	-	-
RW-1	05/02/2002	-	17.96	-	-	-	0.0876	<0.0002	<0.0005	<0.0005	<0.001	<0.001	<0.001 / <0.005	-	-
RW-1	09/27/2002	-	18.32	-	-	-	<0.08	<0.0005	<0.0005	<0.0005	<0.001	<0.002	<0.001 / <0.005	-	-
RW-1	05/23/2003	-	18.71	-	-	-	0.056	<0.0005	<0.0005	<0.0005	<0.001	<0.0005	<0.0005 / <0.002	-	-
RW-1	10/08/2003	-	19.09	-	-	-	0.019	<0.0005	<0.0005	<0.0005	<0.001	<0.002	<0.0005 / <0.002	-	-
RW-1	06/04/2004	-	19.30	-	-	-	0.034	<0.0005	<0.0005	<0.0005	<0.001	<0.002	<0.0005 / <0.002	-	-
RW-1	09/28/2004	-	19.27	-	-	-	<0.01	<0.0005	<0.0005	<0.0005	<0.001	<0.002	<0.0005 / <0.002	-	-
RW-1	05/13/2005	-	18.20	-	-	-	0.023	<0.0005	<0.0005	<0.0005	<0.001	<0.002	<0.0005 / <0.002	-	-
RW-1	09/26/2005	-	18.04	-	-	-	0.014	<0.0005	<0.0005	<0.0005	<0.001	<0.002	<0.0005 / <0.002	-	-
RW-1	09/25/2006	-	18.04	-	-	-	0.057	<0.0005	<0.0007	<0.0008	<0.0016	<0.002	<0.0008 / <0.002	-	-
RW-1	05/15/2007	-	18.56	-	-	<0.12 / <0.12	<0.01 / <0.01	<0.0005 / <0.0005	<0.0007 / <0.0007	<0.0008 / <0.0008	<0.0016 / <0.0016	<0.002 / <0.002	<0.0008 / <0.002 / <0.0008 / <0.002	<0.001 / <0.021 / <0.001 / <0.021	-
RW-1	09/24/2007	-	18.57	-	-	0.083 / 0.098	0.02 / 0.02	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.001 / <0.001	<0.002 / <0.002	<0.0005 / <0.002 / <0.0005 / <0.002	<0.001 / <0.019 / <0.001 / <0.020	-
RW-1	05/14/2008	-	18.52	-	-	0.083	0.02	<0.0005	<0.0007	<0.0008	<0.0016	<0.002	<0.0008 / <0.002	<0.001 / <0.021	-
RW-1	09/16/2008	-	18.19	-	-	0.061	0.06	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	<0.0001 / <0.0003	<0.001 / <0.00020	-
RW-1	06/18/2009	-	18.54	-	-	0.20 J / 0.13 J	0.039 J / 0.034 J	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0015 / <0.0015	-	ND / ND	ND / ND	-
RW-1	09/07/2009	-	18.77	-	-	0.18 J / 0.14 J	0.053 J / 0.054 J	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0015 / <0.0015	-	ND / ND	ND / ND	-
RW-1	04/21/2010	-	19.49	-	-	0.052 J / <0.051	-	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0005	-	ND	ND	-
RW-1	07/22/2010	-	19.11	-	-	<0.051 / <0.051	0.010 J / <0.010	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0015 / <0.0015	-	ND	ND	-
RW-1	04/19/2011	-	19.41	-	-	0.099 J / 0.089 J	0.019 J / <0.010	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0015 / <0.0015	-	ND / ND	ND / ND	-
RW-1	08/22/2011	252.85	19.09	233.76	-	<0.048 / <0.049	0.019 J / 0.011 J	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0015 / <0.0015	-	ND / ND	ND / ND	<0.0026 UJ/<0.0022
RW-1	05/22/2012	252.85	18.23	234.62	-	0.051 J / 0.056 J	<0.010 / <0.010	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0005 / <0.0005	<0.0015 / <0.0015	-	ND / ND	ND / ND	<0.0022/<0.0022
RW-1	07/30/2012	252.85	17.63	235.22	-	<0.051	<0.010	<0.0005	<0.0005	<0.0005	<0.0015	-	ND	ND	<0.0051
RW-1	05/14/2013	252.85	17.95	234.90	-	-	-	-	-	-	-	-	-	-	-
RW-1	09/17/2013	252.85	17.58	235.27	-	-	-	-	-	-	-	-	-	-	-
RW-1	05/02/2014	252.85	18.00	234.85	-	-	-	-	-	-	-	-	-	-	-
RW-1	11/08/2014	252.85	18.47	234.38	-	-	-	-	-	-	-	-	-	-	-
RW-1	05/06/2015	252.85	20.13	232.72	-	-	-	-	-	-	-	-	-	-	-
RW-1	10/21/2015	252.85	18.87	233.98	-	-	-	-	-	-	-	-	-	-	-
RW-1	06/03/2016	252.85	18.71	234.14	-	-	-	-	-	-	-	-	-	-	-
RW-1	10/14/2016	252.85	18.61	234.24	-	-	-	-	-	-	-	-	-	-	-
RW-1	05/23/2017	252.85	18.28	234.57	-	-	-	-	-	-	-	-	-	-	-
RW-1	09/01/2017	252.85	18.87	233.98	-	-	-	-	-	-	-	-	-	-	-
RW-1	05/21/2018	252.85	18.48	234.37	-	-	-	-	-	-	-	-	-	-	-
RW-1	09/25/2018	252.85	19.03	233.82	-	-	-	-	-	-	-	-	-	-	-
SUMP-1	06/01/1991**	-	-	79.82	**52**	**19**	1.1	ND	ND	ND	0.001	-	0.01	-	-
SUMP-1	07/01/1991**	-	-	79.70	-	-	-	-	-	-	-	-	-	-	-
SUMP-1	09/01/1991**	-	-	80.04	**47**	**43**	0.7	**0.007**	ND	ND	0.033	-	-	-	-
SUMP-1	11/01/1991**	-	-	80.13	-	-	-	-	-	-	-	-	-	-	-

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					HYDROCARBONS			PRIMARY VOCS					ADDITIONAL VOCS		Metals
Location	Date	TOC	DTW	GWE	TPH	DRO	GRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	HVOC	SVOC	Lead
	Units	ft msl	ft btoc	ft msl	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
ADEC Groundwater Cleanup Levels					**1.1**	**1.5**	**2.2**	**0.0046**	**1.1**	**0.015**	**0.19**	**0.14**			**0.015**
SUMP-1	12/01/1991**	-	-	79.64	**18**	**8.2**	0.27	**0.005**	0.001	0.004	0.007	-	-	-	-
SUMP-1	01/01/1992**	-	-	80.11	-	-	-	-	-	-	-	-	-	-	-
SUMP-1	03/01/1992**	-	-	79.29	**10**	**45**	0.39	**0.007**	0.011	0.009	0.024	-	-	-	-
SUMP-1	04/01/1992**	-	-	80.59	-	-	-	-	-	-	-	-	-	-	-
SUMP-1	05/01/1992**	-	-	80.16	-	-	-	-	-	-	-	-	-	-	-
SUMP-1	06/01/1992**	-	-	79.92	**7.4**	**5.1**	ND	**0.009**	0.007	ND	0.011	-	-	-	-
SUMP-1	07/01/1992**	-	-	80.42	-	-	-	-	-	-	-	-	-	-	-
SUMP-1	08/01/1992**	-	-	80.53	-	-	-	-	-	-	-	-	-	-	-
SUMP-1	09/01/1992**	-	-	80.56	-	ND	ND	ND	ND	ND	0.002	-	-	-	-
SUMP-1	11/01/1992**	-	-	80.34	-	-	-	-	-	-	-	-	-	-	-
SUMP-1	12/01/1992**	-	-	80.45	**6.2**	**2.3**	ND	0.003	0.001	0.002	0.007	-	-	-	-
SUMP-1	05/01/1993**	-	-	79.84	-	ND	0.12	**0.005**	0.001	0.002	0.005	-	ND	-	-
SUMP-1	08/01/1993**	-	-	80.24	-	0.38	0.16	0.004	0.001	0.002	0.004	-	ND	-	-
SUMP-1	11/01/1993**	-	-	80.20	-	1.3	0.093	0.002	0.002	0.002	0.004	-	ND	-	-
Trip Blank	02/14/1996	-	-	-	-	-	ND	ND	ND	ND	ND	-	-	-	-
Trip Blank	06/01/1996	-	-	-	-	-	<0.05	<0.0005	<0.0005	<0.0005	<0.001	-	-	-	-
Trip Blank	08/23/1996	-	-	-	-	-	<0.05	<0.0005	0.000513	<0.0005	<0.001	-	-	-	-
Trip Blank	10/21/1996	-	-	-	-	-	<0.05	<0.0005	<0.0005	<0.0005	<0.001	-	-	-	-
Trip Blank	04/27/1997	-	-	-	-	-	<0.05	<0.0005	<0.0005	<0.0005	<0.001	-	-	-	-
Trip Blank	09/08/1997	-	-	-	-	-	<0.05	<0.0005	<0.0005	<0.0005	<0.001	-	-	-	-
Trip Blank	04/22/1998	-	-	-	-	-	<0.05	<0.0005	<0.0005	<0.0005	<0.001	-	-	-	-
Trip Blank	09/17/1998	-	-	-	-	-	<0.05	<0.0005	<0.0005	<0.0005	<0.001	-	-	-	-
Trip Blank	04/26/1999	-	-	-	-	-	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	-	-	-
Trip Blank	10/13/1999	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-
Trip Blank	05/17/2000	-	-	-	-	-	<0.08	<0.0005	<0.0005	<0.0005	<0.001	<0.002	-	-	-
Trip Blank	09/22/2000	-	-	-	-	-	<0.05	<0.0002	<0.0005	<0.0005	<0.001	<0.001	-	-	-
Trip Blank	05/01/2001	-	-	-	-	-	<0.05	-	-	-	-	-	-	-	-
Trip Blank	09/25/2001	-	-	-	-	-	<0.05	<0.0002	<0.0005	<0.0005	<0.001	<0.001	-	-	-
Trip Blank	05/02/2002	-	-	-	-	-	<0.05	<0.0002	<0.0005	<0.0005	<0.001	<0.001	-	-	-
Trip Blank	09/27/2002	-	-	-	-	-	<0.08	<0.0005	<0.0005	<0.0005	<0.001	<0.002	-	-	-
Trip Blank	05/23/2003	-	-	-	-	-	<0.01	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	-	-	-
Trip Blank	10/08/2003	-	-	-	-	-	<0.01	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	-	-	-
Trip Blank	06/04/2004	-	-	-	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	-	-	-
Trip Blank	09/28/2004	-	-	-	-	-	<0.01	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	-	-	-
Trip Blank	05/13/2005	-	-	-	-	-	<0.01	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	-	-	-
Trip Blank	09/26/2005	-	-	-	-	-	<0.01	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	-	-	-
Trip Blank	05/15/2007	-	-	-	-	-	<0.01	<0.0005	<0.0007	<0.0008	<0.0016	<0.002	<0.0008 / <0.002	-	-
Trip Blank	09/24/2007	-	-	-	-	-	<0.01	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	-	-	-
Trip Blank	05/14/2008	-	-	-	-	-	<0.01	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	-	-	-
Trip Blank	09/16/2008	-	-	-	-	-	<0.01	-	-	-	-	-	-	-	-
Trip Blank	06/10/2009	-	-	-	-	-	<0.010	<0.0005	<0.0005	<0.0005	<0.0015	-	ND	-	-
Trip Blank	09/07/2009	-	-	-	-	-	<0.010	<0.0005	<0.0005	<0.0005	<0.0015	-	ND	-	-
Trip Blank	04/21/2010	-	-	-	-	-	-	<0.0005	<0.0005	<0.0005	<0.0005	-	ND	-	-
Trip Blank	07/22/2010	-	-	-	-	-	<0.010	<0.0005	<0.0005	<0.0005	<0.0015	-	ND	-	-
Trip Blank	04/19/2011	-	-	-	-	-	-	-	-	-	-	-	ND	-	-
Trip Blank	08/22/2011	-	-	-	-	-	<0.010	<0.0005	<0.0005	<0.0005	<0.0015	-	ND	-	-
Trip Blank	05/22/2012	-	-	-	-	-	<0.010	<0.0005	<0.0005	<0.0005	<0.0015	-	ND	-	-
Trip Blank	07/30/2012	-	-	-	-	-	<0.010	<0.0005	<0.0005	<0.0005	<0.0015	-	ND	-	-

Table 2

Historical Groundwater Analytical Results
Chevron-Branded Service Station 98557
415 Muldoon Road
Anchorage, Alaska

					HYDROCARBONS			PRIMARY VOCS					ADDITIONAL VOCS		Metals
Location	Date	TOC	DTW	GWE	TPH	DRO	GRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	HVOC	SVOC	Lead
	Units	ft msl	ft btoc	ft msl	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
ADEC Groundwater Cleanup Levels					**1.1**	**1.5**	**2.2**	**0.0046**	**1.1**	**0.015**	**0.19**	**0.14**			**0.015**
Trip Blank-1	05/14/2013	-	-	-	-	-	<0.050	<0.00024	<0.00023	<0.00024	<0.00072	-	ND	-	-
Trip Blank-2	05/14/2013	-	-	-	-	-	<0.050	<0.00024	<0.00023	<0.00024	<0.00072	-	ND	-	-
Trip Blank	09/18/2013	-	-	-	-	-	<0.050	<0.00024	<0.00023	<0.00024	<0.00072	-	-	-	-
Trip Blank	05/02/2014	-	-	-	-	-	<0.050	<0.00015	<0.00011	<0.00016	<0.00040	-	-	-	-
Trip Blank	11/08/2014	-	-	-	-	-	<0.050	<0.00015	0.00014 J	<0.00016	<0.00040	-	-	-	-

Notes and Abbreviations

VOCs = volatile organic compounds
TOC = top of casing
DTW = depth to water
GWE = groundwater elevation
TPH = total petroleum hydrocarbons
DRO = diesel range organics by Alaska Series Method AK 102 SV
GRO = gasoline range organics by Alaska Series Method AK101
Benzene, Toluene, Ethylbenzene, and Total Xylenes by Environmental Protection Agency (EPA) Method 8021B or 8260B
Total Xylenes = sum of m-, o-, and p-xylenes
MTBE = methyl tertiary-butyl ether
HVOC = halogenated volatile organic compounds by EPA Method 524.2
SVOC = semivolatile organic compounds by EPA Method TCL 8270
Lead by EPA Method SW-846 6010B
ft msl = feet above mean sea level
ft btoc = feet below top of casing
mg/L = milligrams per liter
ADEC = Alaska Department of Environmental Conservation
[a] = Levels established in ADEC Table C Groundwater Cleanup Levels (18 AAC 75.345)
Groundwater data from 1991 through 2008 provided by Gettler-Ryan, Inc.
BOLD = Indicates concentration above the ADEC Table C Groundwater Cleanup Level
ND = Not detected above laboratory method detection limits
- = Not measured / not analyzed
x / y = Sample results / blind duplicate results
<x = Constituent not detected above x milligrams per liter
J = Estimated value
* TOC adjusted by 0.2 ft cut for MW-1 and 0.1 ft for MW-3 after 9/25/2018 gauging.
** = Sample date accurate to month and year only

APPENDIX D

Laboratory Analytical Report

ANALYTICAL REPORT

August 29, 2022

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

Arcadis - Chevron - AK

Sample Delivery Group:	L1526901
Samples Received:	08/18/2022
Project Number:	30063668.19.21
Description:	98557
Site:	5210 OLD SEWARD HWY ANCHORAGE
Report To:	Sydney Clark/Erika Midkiff 880 H St. Anchorage, AK 99501

Entire Report Reviewed By:

Brian Ford

Brian Ford
Project Manager

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

TABLE OF CONTENTS

MW-1-W-20220817 L1526901-01 GW

Collected by: E. Wujcik | Collected date/time: 08/17/22 07:00 | Received date/time: 08/18/22 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010D	WG1915281	1	08/23/22 16:35	08/24/22 09:31	ZSA	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG1914591	1.06	08/24/22 07:57	08/26/22 06:48	HLJ	Mt. Juliet, TN

MW-13-W-20220817 L1526901-02 GW

Collected by: E. Wujcik | Collected date/time: 08/17/22 08:00 | Received date/time: 08/18/22 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010D	WG1914319	1	08/23/22 01:38	08/23/22 17:19	ABL	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG1914202	1.05	08/25/22 06:48	08/27/22 10:05	HLJ	Mt. Juliet, TN

MW-14-W-20220817 L1526901-03 GW

Collected by: E. Wujcik | Collected date/time: 08/17/22 09:00 | Received date/time: 08/18/22 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010D	WG1914319	1	08/23/22 01:38	08/23/22 17:22	ABL	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG1914202	1.05	08/25/22 06:48	08/27/22 10:28	HLJ	Mt. Juliet, TN

EQB-1-W-20220817 L1526901-04 GW

Collected by: E. Wujcik | Collected date/time: 08/17/22 10:00 | Received date/time: 08/18/22 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010D	WG1914319	1	08/23/22 01:38	08/23/22 17:25	ABL	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG1914202	1	08/25/22 06:48	08/27/22 10:51	HLJ	Mt. Juliet, TN

TRIP BLANK-20220817 L1526901-05 GW

Collected by: E. Wujcik | Collected date/time: 08/17/22 00:00 | Received date/time: 08/18/22 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location

BD-1-W-20220817 L1526901-06 GW

Collected by: E. Wujcik | Collected date/time: 08/17/22 00:00 | Received date/time: 08/18/22 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010D	WG1915281	1	08/23/22 16:35	08/24/22 09:43	ZSA	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG1914591	1	08/24/22 07:57	08/26/22 06:28	HLJ	Mt. Juliet, TN

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

Brian Ford

Brian Ford
Project Manager

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	3.57	J	2.99	6.00	1	08/24/2022 09:31	WG1915281

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	573	J	180	848	1.06	08/26/2022 06:48	WG1914591
(S) o-Terphenyl	*88.5*			*50.0-150*		*08/26/2022 06:48*	WG1914591

Sample Narrative:

L1526901-01 WG1914591: Dilution due to sample volume.

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	25.2		2.99	6.00	1	08/23/2022 17:19	WG1914319

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	606	J	179	840	1.05	08/27/2022 10:05	WG1914202
(S) o-Terphenyl	*86.6*			*50.0-150*		*08/27/2022 10:05*	WG1914202

Sample Narrative:

L1526901-02 WG1914202: Dilution due to sample volume.

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	20.4		2.99	6.00	1	08/23/2022 17:22	WG1914319

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	201	J	179	840	1.05	08/27/2022 10:28	WG1914202
(S) o-Terphenyl	*64.3*			*50.0-150*		*08/27/2022 10:28*	WG1914202

Sample Narrative:

L1526901-03 WG1914202: Dilution due to sample volume.

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	U		2.99	6.00	1	08/23/2022 17:25	WG1914319

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		170	800	1	08/27/2022 10:51	WG1914202
(S) o-Terphenyl	*73.3*			*50.0-150*		*08/27/2022 10:51*	WG1914202

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Lead	25.2		2.99	6.00	1	08/24/2022 09:43	WG1915281

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	400	J	170	800	1	08/26/2022 06:28	WG1914591
(S) o-Terphenyl	*85.8*			*50.0-150*		*08/26/2022 06:28*	WG1914591

QUALITY CONTROL SUMMARY

L1526901-02,03,04

Method Blank (MB)

(MB) R3829618-1 08/23/22 16:26

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Lead	U		2.99	6.00

Laboratory Control Sample (LCS)

(LCS) R3829618-2 08/23/22 16:29

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Lead	1000	935	93.5	80.0-120	

L1526481-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1526481-01 08/23/22 16:32 • (MS) R3829618-4 08/23/22 16:38 • (MSD) R3829618-5 08/23/22 16:41

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 %
Lead	1000	U	945	935	94.5	93.5	1	75.0-125			1.02	20

QUALITY CONTROL SUMMARY

L1526901-01,06

Method Blank (MB)

(MB) R3829921-1 08/24/22 09:26

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Lead	U		2.99	6.00

Laboratory Control Sample (LCS)

(LCS) R3829921-2 08/24/22 09:29

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Lead	1000	954	95.4	80.0-120	

L1526901-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1526901-01 08/24/22 09:31 • (MS) R3829921-4 08/24/22 09:37 • (MSD) R3829921-5 08/24/22 09:40

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 %
Lead	1000	3.57	969	963	96.6	96.0	1	75.0-125			0.620	20

Method Blank (MB)

(MB) R3831166-1 08/27/22 05:52

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
AK102 DRO C10-C25	U		170	800
(S) o-Terphenyl	*89.9*			*60.0-120*

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

(LCS) R3831166-2 08/27/22 06:15 • (LCSD) R3831166-3 08/27/22 06:38

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
AK102 DRO C10-C25	6000	5640	6200	94.0	103	75.0-125			9.46	20
(S) o-Terphenyl				*82.1*	*89.5*	*60.0-120*				

L1526897-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1526897-01 08/27/22 07:01 • (MS) R3831166-4 08/27/22 07:24 • (MSD) R3831166-5 08/27/22 07:47

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
AK102 DRO C10-C25	6000	193	6010	5210	97.0	83.6	1	75.0-125			14.3	20
(S) o-Terphenyl					*93.9*	*105*		*50.0-150*				

Sample Narrative:

OS: Dilution due to sample volume.

QUALITY CONTROL SUMMARY

L1526901-01,06

Method Blank (MB)

(MB) R3831011-1 08/26/22 01:18

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
AK102 DRO C10-C25	U		170	800
(S) o-Terphenyl	*101*			*60.0-120*

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

(LCS) R3831011-2 08/26/22 01:38 • (LCSD) R3831011-3 08/26/22 01:58

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
AK102 DRO C10-C25	6000	4990	4940	83.2	82.3	75.0-125			1.01	20
(S) o-Terphenyl				*97.1*	*107*	*60.0-120*				

L1526901-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1526901-01 08/26/22 06:48 • (MS) R3831011-4 08/26/22 07:08 • (MSD) R3831011-5 08/26/22 07:29

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
AK102 DRO C10-C25	6260	573	5550	5070	79.5	80.9	1.04	75.0-125			9.04	20
(S) o-Terphenyl					*89.7*	*91.4*		*50.0-150*				

Sample Narrative:

OS: Dilution due to sample volume.

L1527196-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1527196-03 08/26/22 11:12 • (MS) R3831011-6 08/26/22 11:32 • (MSD) R3831011-7 08/26/22 11:53

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
AK102 DRO C10-C25	5560	U	4770	5100	85.8	85.0	1	75.0-125			6.69	20
(S) o-Terphenyl					*94.9*	*106*		*50.0-150*				

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
J	The identification of the analyte is acceptable; the reported value is an estimate.

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

Analysis / Container / Preservative

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

Report to: Sydney Clark/Erika Midkiff

Email To: Sydney.Clark@arcadis.com;Gerald.Robinson@ar

Project Description: 98557

City/State Collected: Anchorage, AK

Please Circle: PT MT CT ET

Phone: 907-276-8095

Client Project # 30063668.19.21

Lab Project # CHEVARCAK-98557 AK SD

SDG # L1526901

B222

Collected by (print): E. Wujcik

Site/Facility ID # 5210 OLD SEWARD HWY

P.O. #

Collected by (signature): [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

Acctnum: CHEVARCAK
Template: T213142
Prelogin: P938865
PM: 110 - Brian Ford
PB: 7/21/22 mb
Shipped Via: FedEx 2nd Day

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	AK102 100ml Amb HCl	Total Pb 6010 250mlHDPE-HNO3	Remarks	Sample # (lab only)
MW-1-W-20220817	Grab	GW	–	8.17.22	0700	3	X	X	MS/MSD	-01
MW-13-W-20220817	Grab	GW	–	8.17.22	0800	3	X	X		-02
MW-14-W-20220817	Grab	GW	–	8.17.22	0900	3	X	X		-03
BD-1-W-20220817	Grab	GW	–	8.17.22	–	3	X	X		
EQB-1-W-20220817	Grab	GW	–	8.17.22	1000	3	X	X		-04
Trip Blank	–	GW	–	–	–	1				-05
		GW								

* 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 # 5882 7547 7762

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
[signature]	8.17.22	1100		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: 5.3 to 5.3
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) [signature]	Date: 8/18/22 Time: 0845

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

APPENDIX E

ADEC Data Review Checklist

Laboratory Data Review Checklist

Completed By:

Bhagyashree A Fulzele

Title:

Project Chemist

Date:

October 06, 2022

Consultant Firm:

ARCADIS U.S., Inc

Laboratory Name:

Pace Analytical

Laboratory Report Number:

L1526901

Laboratory Report Date:

08/29/2022

CS Site Name:

Second Semi Annual 2022 Groundwater Monitoring Report

ADEC File Number:

2100.26.001

Hazard Identification Number:

23595

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, no discrepancies.

e. Data quality or usability affected?

Comments:

Data quality/usability was not affected.

4. Case Narrative

a. Present and understandable?

Yes☒ No☐ N/A☐ Comments:

Yes.

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

Yes☒ No☐ N/A☐ Comments:

Yes.

c. Were all corrective actions documented?

Yes☒ No☐ N/A☐ Comments:

Yes.

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

Comments:

Data quality/usability was not affected.

5. Samples Results

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

Yes☒ No☐ N/A☐ Comments:

Yes.

b. All applicable holding times met?

Yes☒ No☐ N/A☐ Comments:

Yes.

c. All soils reported on a dry weight basis?

Yes☐ No☐ N/A☒ Comments:

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. <u>QC Samples</u>

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:

Yes.

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:

Yes.

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

Yes☒ No☐ N/A☐ Comments:

Yes.

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

Comments:

None of the samples were affected.

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

Yes☐ No☐ N/A☒ Comments:

Not applicable.

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

Comments:

Data quality or usability was not affected.

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

Note: Leave blank if not required for project

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

Yes☒ No☐ N/A☐ Comments:

The MS/MSD analysis was performed on sample ID MW-1-W-20220817 for Method AK102.

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

Yes☒ No☐ N/A☐ Comments:

The MS/MSD analysis was performed on sample MW-1-W-20220817.

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:

Yes.

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:

Yes.

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

Comments:

None of the samples were affected.

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

Yes☐ No☐ N/A☒ Comments:

Not applicable.

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

Comments:

Data quality or usability was not affected.

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

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

Yes☒ No☐ N/A☐ Comments:

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 not collected from this SDG.

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:

Not applicable.

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

Yes☐ No☐ N/A☒ Comments:

Not applicable.

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-20220817 was collected from sample MW-13-W-20220817.

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-20220817.

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.