



Ms. Rebekah Reams  
Alaska Department of Environmental Conservation  
Spill Prevention and Response, Contaminated Sites Program  
P.O. Box 1535  
Haines, Alaska 99827

Date: May 30, 2024

Our Ref: 30063668

Subject: First Half 2024 Groundwater Monitoring Report  
Chevron #8557 (Chevron-Branded Service Station #98557)  
415 Muldoon Road, Anchorage, Alaska  
ADEC File No.: 2100.26.006  
ADEC Hazard ID: 23831

Arcadis U.S., Inc.  
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Middletown  
Connecticut 06457  
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Dear Ms. Reams,

On behalf of Chevron Environmental Management Company, Arcadis U.S., Inc. (Arcadis), has prepared this report to document the first half 2024 groundwater monitoring activities of for Chevron #8557, located at 415 Muldoon Road, Anchorage, Alaska (site). This work was conducted under the direction of a "Qualified Environmental Professional" by a "Qualified Sampler" (18 Alaska Administrative Code [AAC] 75.333).

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

Sincerely,

Arcadis U.S., Inc.

A handwritten signature in blue ink that reads "Jill M. Settle".

Jill M. Settle  
Certified Project Manager  
Email: [jill.settle@arcadis.com](mailto:jill.settle@arcadis.com)  
Direct Line: 860.503.1427

Copies

James Kiernan, Chevron Environmental Management Company (*electronic copy*)  
Mark Engelke, Cook Inlet Marketing Group, Inc. (*electronic copy*)

## FIRST HALF 2024 GROUNDWATER MONITORING REPORT

### Work Conducted This Period [First Half 2024]:

1. Conducted first half 2024 groundwater monitoring activities on April 2, 2024.
2. Prepared the *First Half 2024 Groundwater Monitoring Report*.
3. Submitted a *Site Investigation Work Plan* on May 17, 2024.

### Work Proposed Next Period [Second Half 2024]:

1. Conduct the second half 2024 groundwater monitoring activities.
2. Prepare the *Second Half 2024 Groundwater Monitoring Report*.

## Site Description

Chevron #8557 (the site) is located at 415 Muldoon Road in Anchorage, Alaska. The site is in south central Alaska, between the Knik Arm of Cook Inlet to the north and the Turnagain Arm to the south. The regional area is dominated by glacial deposits from middle or older Pleistocene as well as alluvial deposits. Argillite, greywacke, chert, basic igneous rocks, and metamorphosed limestone make up most of the pre-Cretaceous rocks in the area (U.S. Department of the Interior 1959). Subsurface activities completed at the site indicate the geology at the site consists of alluvium from a series of abandoned stream channels consisting of sandy gravel to gravely sand with scattered cobbles, fill material such as pea gravel, and trace silt (RZA 1990 and RZA AGRA 1992). Static groundwater depths have historically ranged between approximately 16.5 and 20 feet below top of casing. Historic groundwater flow is to the northwest. 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 site 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 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 cubic yards of impacted soil was removed and thermally treated or transported off site for disposal.

On March 23, 2023, the Alaska Department of Environmental Conservation (ADEC) approved a *Groundwater Sampling Analyte Reduction Request – Groundwater Sampling Work Plan Addendum*, which included monitoring and sampling of monitoring wells MW-1, MW-3, MW-13, MW-14, and RW-1 on a semi-annual basis. The surrounding land use is commercial and residential. The site is bordered by businesses to the north, south, and west and by residences to the east. A site location map and site plan are shown as Figures 1 and 2, respectively.

## Site Activities this Reporting Period

Current phase of project:	Monitoring
Frequency of monitoring and sampling:	Semi-annual
Monitoring wells containing light non-aqueous phase liquid (LNAPL):	None
Cumulative LNAPL recovered to date: (gallons)	0.00
Approximate depth to groundwater: (feet below top of casing)	17.52 (MW-14) to 18.44 (MW-13)
Approximate groundwater elevation: (feet relative to NAVD88)	234.28 (MW-1) to 234.42 (MW-13)
Groundwater flow direction	West-southwest (on the south side of the site) to West-northwest (on the north side of the site)
Groundwater gradient (feet per foot)	0.004
Current remediation techniques:	None
Summary of unusual activity:	None
Agency directive requirements:	None

## Groundwater Gauging and Sampling Methods

On April 2, 2024, the first half 2024 groundwater monitoring and sampling activities were conducted. Groundwater monitoring wells scheduled to be gauged and/or sampled are summarized in Table 1. Monitoring wells were gauged with an oil/water interface probe in the order of lowest to highest historical petroleum hydrocarbon concentrations in groundwater to determine groundwater elevations and ascertain if LNAPL was present. Following gauging, groundwater was purged and sampled using low flow purge technology via bladder pump in accordance with the Field Sampling Guidance (ADEC 2022a) and *Arcadis Standard Groundwater Sampling and Monitoring Wells* (Arcadis 2022a). Non-disposable groundwater gauging equipment was decontaminated prior to and after each use with a detergent solution and rinsed in potable water. Groundwater table drawdown was continuously monitored during purging with an oil/water interface probe and the flow rate of the pump was adjusted to limit drawdown to 0.3 feet. Groundwater quality parameters were monitored during purging with a Horiba U-52 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. Groundwater quality parameters were considered stable when three successive readings were within the following ADEC limits:

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

Following well stabilization, the flow rate was reduced to approximately 200 milliliters per minute and groundwater samples were collected into laboratory sample bottles. Groundwater samples were collected from the top foot of the groundwater column in monitoring wells per the sampling schedule (Table 1). The groundwater potentiometric surface elevation and a rose diagram of historical groundwater flow directions are illustrated on Figure 3.

In the letter dated March 23, 2023, ADEC approved a reduction of analytes for the site. Groundwater samples collected were analyzed by Pace Analytical National Center for Testing & Innovation (Pace) of Mt. Juliet, Tennessee for the following constituents:

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

A groundwater duplicate sample (BD-1) was collected from monitoring well MW-13 and submitted blind to Pace. Additionally, an equipment blank sample (EQB-1) was collected and included in sample coolers for quality assurance purposes. Field notes collected during groundwater monitoring activities including monitoring well purge rates and drawdown are presented in Attachment A.

## Groundwater Sampling Results

Groundwater analytical results obtained during this event indicate constituents of potential concern (COPCs) do not exceed the ADEC Oil Pollution Prevention Requirements (18 AAC 75) identified in Table C - Groundwater Cleanup Levels (GCLs). Laboratory analytical data from the most recent monitoring event are summarized in Table 2. The laboratory report is included as Attachment B.

- The COPCs analyzed were reported as not detected above ADEC GCLs.

Historical analytical results (pre-2023) are presented in Attachment C.

## Laboratory Data Review

As required by the ADEC Guidelines for Data Reporting (ADEC 2022b), Arcadis completed a laboratory data review checklist for the laboratory report generated for this event. The data review checklist is included as Attachment D. Quality assurance and quality control parameters related to the precision, accuracy, representativeness, comparability, completeness, and sensitivity of the data presented in this report suggest that the data quality objectives have been met with the following exceptions:

- Accuracy:
  - Surrogate recovery was less than the control limit in sample location MW-1 for Alaska method AK102. Target compound in the associated sample location was qualified as estimated.

- Precision:
  - Based on the laboratory control sample and laboratory control sample duplicate relative percent differences, the data meets precision objectives.
- Comparability:
  - Compound DRO was detected above the laboratory reporting limit in the equipment blank for Alaska Method AK102. Based on blank evaluation, the results for DRO in sample locations MW-1, MW-13, and BD-1 were qualified as non-detect.
- Sensitivity:
  - The laboratory detection limit for lead exceeded the ADEC GCL in sample location MW-1.
- Representativeness:
  - The data appears to be representative of site conditions and are generally consistent with expected groundwater concentrations.
- Completeness:
  - The results appear to be valid and usable, and thus, the laboratory results have 100 percent completeness.

## 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 labelled 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.

## Conclusion and Recommendations

The observed groundwater flow direction and hydraulic gradient during this event are generally consistent with historical data, with the exception of the southern portion of the site where groundwater flow appears to shift in a west-southwesterly direction. Laboratory analytical results from the monitoring wells are generally consistent with historical data.

Arcadis recommends groundwater sampling continues in accordance with the current semi-annual schedule. The second half sampling event will be conducted in fall of 2024.

Ms. Rebekah Reams  
Alaska Department of Environmental Conservation  
Date: May 30, 2024

## References

- ADEC. 2022a Field Sampling Guidance. ADEC, Division of Spill Prevention and Response Contaminated Sites Program. August.
- ADEC. 2022b. Technical Memorandum 22-001; Guidelines for Data Reporting. ADEC, Division of Spill Prevention and Response Contaminated Sites Program. August 15.
- ADEC. 2023. 18-AAC-75 Oil and Other Hazardous Substances Pollution Control. ADEC. Amended February 5th.
- Arcadis. 2022a. Standard Groundwater Sampling for Monitoring Well. April
- RZA. 1990. Supplemental Subsurface Petroleum Hydrocarbon Evaluation, Chevron Service Station No. 8557, January.
- RZA AGRA. 1992. Remediation Workplan for Chevron Station No. 8557. April.
- U.S. Department of the Interior. 1959. Surficial Geology of Anchorage and Vicinity Alaska.

Ms. Rebekah Reams  
Alaska Department of Environmental Conservation  
Date: May 30, 2024

Should you have any questions or concerns regarding this submittal please do not hesitate to contact us.

Sincerely,

Arcadis U.S., Inc.



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Nathan Polen  
Associate Project Manager



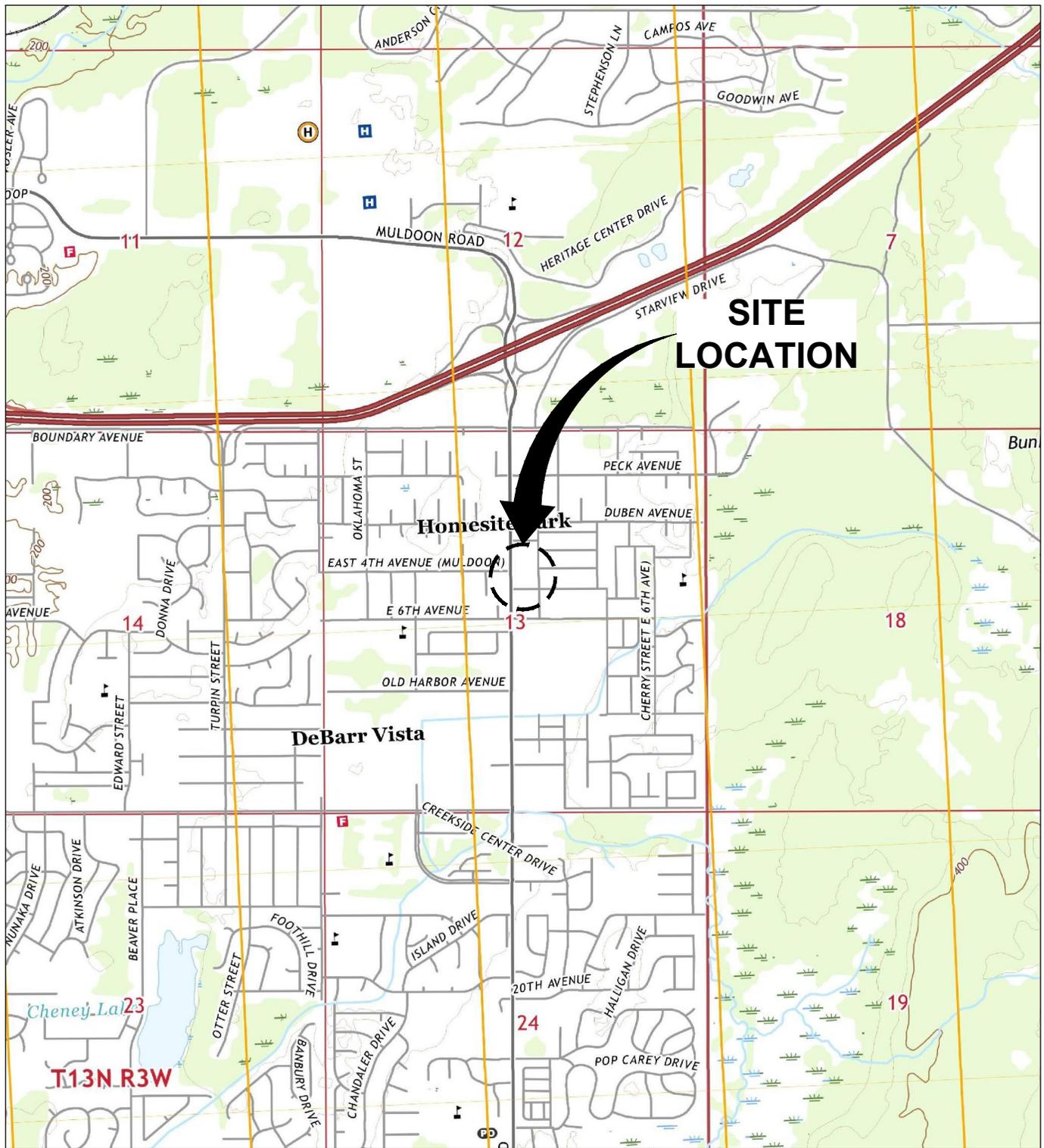
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Jill M. Settle  
Certified Project Manager

Enclosures:

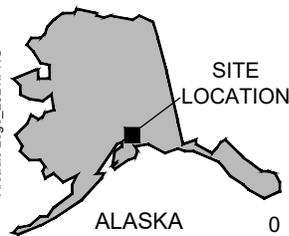
- Figure 1. Site Location Map
- Figure 2. Site Plan
- Figure 3. Groundwater Elevation Map
- Table 1. Groundwater Monitoring Schedule
- Table 2. Current Groundwater Gauging and Primary Analytical Results
- Table 3. Historical Groundwater Gauging and Primary Analytical Results
- Attachment A. Field Notes
- Attachment B. Laboratory Analytical Results
- Attachment C. Historical Groundwater Analytical Results Second Quarter 2003 through 2022
- Attachment D. ADEC Data Review Checklist

# Figures



MAP SOURCE: BASE MAP USGS 7.5. MIN. TOPO. QUAD., ANCHORAGE A-8, ALASKA, 2021.

PROJECTNAME: ---  
 AK Anchorage A-8 NE 20210730\_TM.jpg  
 Arcadis Logo\_2021.PNG



SITE LOCATION

ALASKA

N



0 2,000' 4,000'

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

CHEVRON #8557  
 415 MULDOON ROAD  
 ANCHORAGE, ALASKA

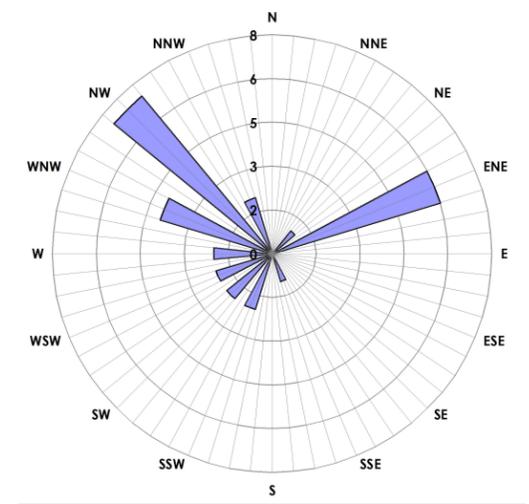
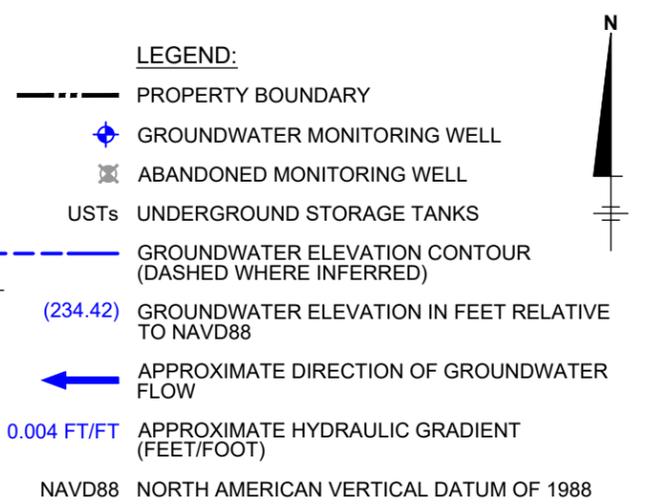
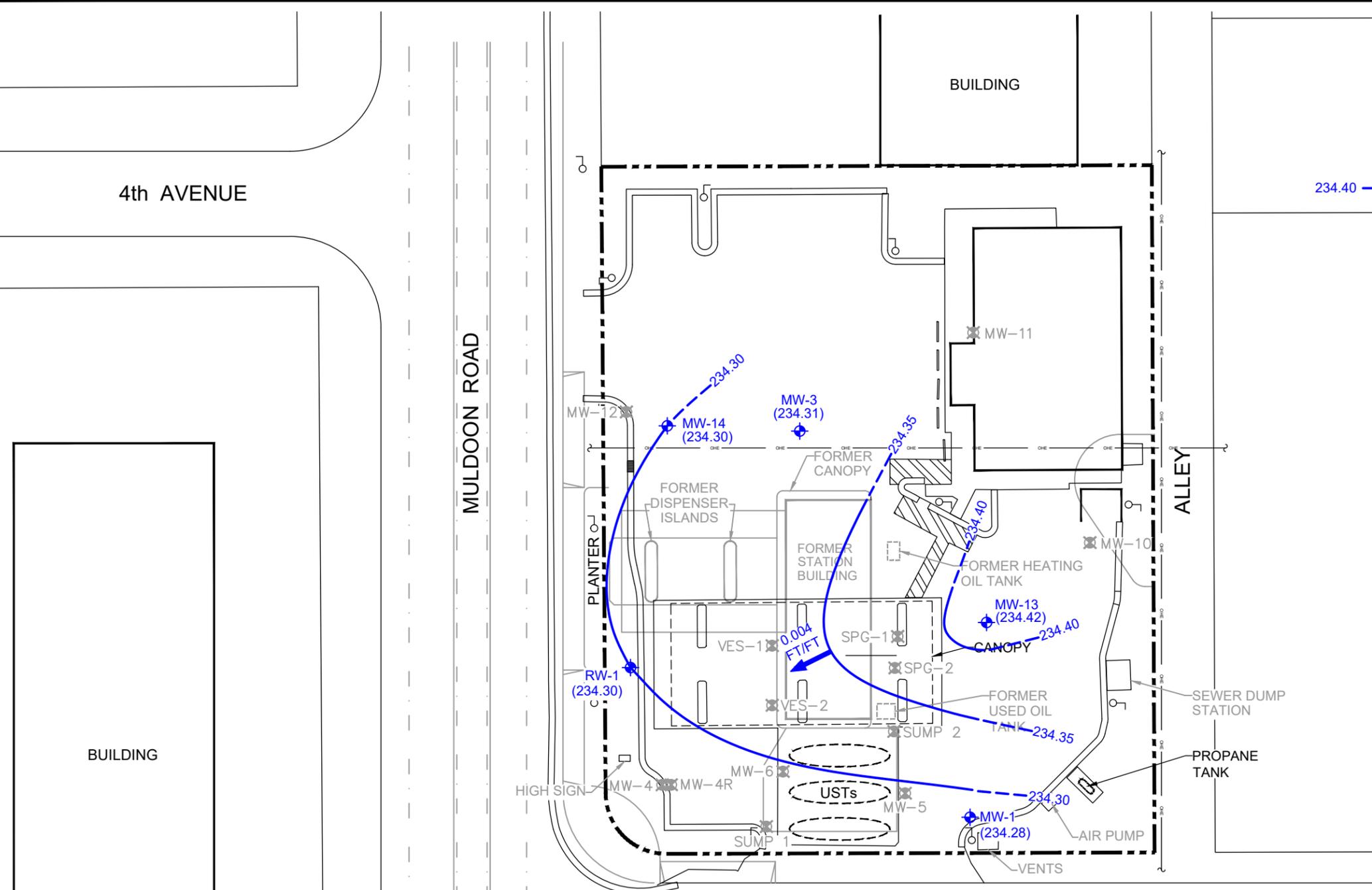
**SITE LOCATION MAP**



FIGURE

**1**





CHEVRON #8557  
 415 MULDOON ROAD  
 ANCHORAGE, ALASKA

**GROUNDWATER ELEVATION MAP**  
 APRIL 2, 2024

**ARCADIS**

FIGURE  
**3**

# Tables

**Table 1**  
**Groundwater Monitoring Schedule**  
**First Half 2024**  
**Chevron #8557**  
**415 Muldoon Road,**  
**Anchorage, Alaska**

Well ID	Sample Schedule	Gauge	Sample	Comment
MW-1	Semi- Annual	Y	Y	
MW-3	Semi- Annual	Y	Y	
MW-13	Semi- Annual	Y	Y	
MW-14	Semi- Annual	Y	Y	
RW-1	Semi- Annual	Y	Y	
BD-1	Semi- Annual	N	Y	

**Note:**

Wells sampled for Total Lead and Dissolved Lead by United States Environmental Protection Agency (USEPA) Method 6010D and total petroleum hydrocarbons diesel range organics by Alaska AK102.

Table 2  
 Current Groundwater Gauging and Primary Analytical Results  
 First Half 2024  
 Chevron #8557  
 415 Muldoon Road,  
 Anchorage, Alaska

Well ID	Sample Date	TOC (feet bTOC)	DTW (feet bTOC)	GW Elev. (feet)	DRO	Lead	Dissolved Lead	Comments
<b>ADEC Groundwater Cleanup Levels</b>					<b>1,500</b>	<b>15</b>	<b>15</b>	
<b>MW-1</b>	04/02/24	252.38	18.10	234.28	<872 B J	<b>&lt;30.0</b>	<b>&lt;30.0</b>	
<b>MW-3</b>	04/02/24	252.69	18.38	234.31	--	<6.00	<6.00	
<b>MW-13</b>	04/02/24	252.86	18.44	234.42	<864 B	<b>9.35</b>	<6.00	
<b>Duplicate (MW-13)</b>	04/02/24	--	--	--	<912 B	<b>8.84</b>	<6.00	
<b>MW-14</b>	04/02/24	251.82	17.52	234.30	<800	<b>8.27</b>	<6.00	
<b>RW-1</b>	04/02/24	252.55	18.25	234.30	--	<6.00	<6.00	

**Notes:**

- DRO analyzed by Alaska Method AK102.
- Lead and Lead, Dissolved analyzed by United States Environmental Protection Agency (USEPA) Method 6010D.
- ADEC Groundwater Cleanup Levels and constituent concentrations reported in µg/L.  
**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

**Acronyms and Abbreviations:**

- = Not Available or Not Analyzed
- [ ] = Blind Duplicate Sample Result
- <1.00 = Not detected at or above the reported detection limit (RDL)
- µg/L = Micrograms per liter
- ADEC = Alaska Department of Environmental Conservation
- B = The same analyte is found in the associated blank
- bTOC = Below top of casing
- DTW = Depth to groundwater
- DRO = Total petroleum hydrocarbons, diesel range organics
- GW Elev. = Groundwater elevation
- ID = Identification
- J = The associated numerical value is an estimated concentration only
- MW = Groundwater monitoring well
- NAVD 88= North American Vertical Datum of 1988
- TOC = Top of casing
- USEPA = United States Environmental Protection Agency

**Reference:**

18 AAC 75. Department of Environmental Conservation, State of Alaska, Oil and Other Hazardous Substances Pollution Control, Table C. Groundwater Cleanup Levels, as amended through February 5, 2023.

Table 3  
 Historical Groundwater Gauging and Primary Analytical Results  
 First Half 2023 through First Half 2024  
 Chevron #8557  
 415 Muldoon Road,  
 Anchorage, Alaska

Well ID	Sample Date	TOC (feet bTOC)	DTW (feet bTOC)	GW Elev. (feet)	DRO	Lead	Lead, Dissolved	Comments
<b>ADEC Groundwater Cleanup Levels</b>					<b>1,500</b>	<b>15</b>	<b>15</b>	
MW-1	04/10/23	252.38	18.35	234.03	<b>1,590</b>	<6.00	--	
MW-1	08/17/23	252.38	17.34	235.04	<800	<6.00 B	--	
MW-1	04/02/24	252.38	18.10	234.28	<872 B J	<b>&lt;30.0</b>	<b>&lt;30.0</b>	
MW-3	04/10/23	252.69	18.64	234.05	--	<b>15.6</b>	--	
MW-3	08/17/23	252.69	17.72	234.97	--	<6.97 B	--	
MW-3	04/02/24	252.69	18.38	234.31	--	<6.00	<6.00	
MW-13	04/10/23	252.86	18.81	234.05	<800 B	<b>7.94</b>	--	
MW-13	08/17/23	252.86	17.84	235.02	<800	<13.2 B	--	
MW-13	04/02/24	252.86	18.44	234.42	<864 B	<b>9.35</b>	<6.00	
Duplicate (MW-13)	04/02/24	--	--	--	<912 B	<b>8.84</b>	<6.00	
MW-14	04/10/23	251.82	17.80	234.02	<800 B	<b>10.6</b>	--	
Duplicate (MW-14)	04/10/23	--	--	--	<840 B J	<b>6.37</b>	--	
MW-14	08/17/23	251.82	16.84	234.98	<840 J	<6.39 B	--	
Duplicate (MW-14)	08/17/23	--	--	--	<800 J	<6.00 B	--	
MW-14	04/02/24	251.82	17.52	234.30	<800	<b>8.27</b>	<6.00	
RW-1	04/10/23	252.55	19.53	233.02	--	<6.00	--	
RW-1	08/17/23	252.55	17.57	234.98	--	<6.00	--	
RW-1	04/02/24	252.55	18.25	234.30	--	<6.00	<6.00	

**Notes:**

- DRO analyzed by Alaska Method AK102.
- Lead and Lead, Dissolved analyzed by United States Environmental Protection Agency (USEPA) Method 6010D.
- ADEC Groundwater Cleanup Levels and constituent concentrations reported in µg/L.

**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

**Bold and Shaded** = Value exceeds ADEC Groundwater Cleanup Level

feet = Relative to NAVD88 for TOC and GW Elevation

**Acronyms and Abbreviations:**

- = Not Available or Not Analyzed
- [ ] = Blind Duplicate Sample Result
- <1.00 = Not detected at or above the reported detection limit (RDL)
- µg/L = Micrograms per liter
- ADEC = Alaska Department of Environmental Conservation
- B = The same analyte is found in the associated blank
- bTOC = Below top of casing
- DTW = Depth to groundwater
- DRO = Total petroleum hydrocarbons, diesel range organics
- GW Elev. = Groundwater elevation
- ID = Identification
- J = The associated numerical value is an estimated concentration only
- MW = Groundwater monitoring well
- NAVD 88 = North American Vertical Datum of 1988
- TOC = Top of casing
- USEPA = United States Environmental Protection Agency

**Reference:**

18 AAC 75. Department of Environmental Conservation, State of Alaska, Oil and Other Hazardous Substances Pollution Control, Table C. Groundwater Cleanup Levels, as amended through October 18, 2023.

# Attachment A

## Field Notes

**Project Number :** 30063668

**Prepared By:** Evan Wujcik

**Site ID:** 98557

**Site Name:** Retail Outlet 98557

**City:** Anchorage

**State:** Alaska

**Project Manager:** Jill Settle

**Portfolio:** COP 3.0

**Subportfolio:** West

**Inside Chevron Operational Control? Yes  No**

**Staff on Site**

Evan Wujcik

Weather(°F)	PPE	Equipment
SNOW, T:23.27 °F, rH:67%, Clouds: 100%, Wind:6.91mph SW		Water Quality Meter (i.e. YSI), Water Level Meter (WLM), Bladder Pump, Photoionization Detector (PID)

Date	Time	Description of Activities
04/02/2024	6:30	Arrive on site Locate Wells
04/02/2024	7:30	Sample MW1 Decon equipment See COC for analysis
04/02/2024	8:15	Sample MW3 Decon equipment See COC for analysis
04/02/2024	9:00	Sample RW1 Decon equipment See COC for analysis
04/02/2024	9:45	Sample MW14 MS/MSD samples collected at this location Decon equipment See COC for analysis
04/02/2024	10:30	Sample MW13 BD samples collected at this location Decon equipment See COC for analysis
04/02/2024	11:00	Load vehicle Mobilize offsite

**Signature**





## Groundwater Gauging Log

<b>Project Number</b>		30063668						
<b>Client:</b>		Chevron						
<b>Site ID:</b>		98557						
<b>Site Location:</b>		Anchorage, Alaska						
<b>Measuring Point:</b>		Top of Casing						
<b>Date(s):</b>		04/02/2024						
<b>Sampler(s):</b>		Evan Wujcik						
<b>Gauging Equipment:</b>		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-1	04/02/2024	06:54	18.10	ND	24.00	0	--	--
RW-1	04/02/2024	06:55	18.25	ND	26.00	0	--	--
MW-3	04/02/2024	06:46	18.38	ND	23.70	0	--	--
MW-13	04/02/2024	06:51	18.44	ND	27.10	0	--	None.
MW-14	04/02/2024	06:39	17.52	ND	27.10	0	--	--

ft-bmp = feet below measuring point

ND = Not Detected

PID = Photoionization Detector Reading

ppm = parts per million

-- = Not Recorded

<b>Project Number</b>	30063668	<b>Well ID</b>	RW-1	<b>Date</b>	4/2/2024				
<b>Site Location</b>	Anchorage, Alaska	<b>Site ID</b>	98557	<b>Weather (°F)</b>	Clear	<b>Sampled by</b>	Evan Wujcik		
<b>Measuring Point Description</b>	Top of Casing	<b>Screen Depth Interval (ft-bmp)</b>	-- to --	<b>Casing Diameter (in.)</b>	2	<b>Well Casing Material</b>	PVC		
<b>Static Water Level (ft-bmp)</b>	18.25	<b>Total Depth (ft-bmp)</b>	26	<b>Water Column (ft)</b>	7.75	<b>Gallons in Well</b>	1.26		
<b>Water Quality Meter Make/Model</b>	Horiba U-52	<b>Purge Method</b>	Low-Flow	<b>Collection Type</b>	Grab				
<b>Sample Time</b>	09:00	<b>Well Volumes Purged</b>	0.50	<b>Sample ID</b>	RW-1-W-20240402	<b>Purge Equipment</b>	Bladder		
<b>Purge Start</b>	08:30	<b>Gallons Purged</b>	0.63	<b>Duplicate ID</b>	--	<b>Sample Equipment</b>	Bladder		
<b>Purge End</b>	08:50	<b>Total Purge Time (h:m)</b>	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)	Color
08:33	200	18.25	7.89	1.01	8.1	4.54	2.66	-27	--
08:36	200	18.25	7.78	0.907	2.2	4.84	2.97	-12	--
08:39	200	18.25	7.69	0.878	2.1	5.00	3.15	-8	--
08:42	200	18.25	7.63	0.871	2.0	5.04	3.22	-4	--

**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:           RW-1-W-20240402           Sample Time:           09:00           Sample Depth (ft-bmp) (e.g. pump intake):           18.5            
 Analytes and Methods:           See Chain-of-Custody.           Depth to Water at Time of Sampling:           18.25          

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

<b>Project Number</b>	30063668	<b>Well ID</b>	MW-3	<b>Date</b>	4/2/2024	
<b>Site Location</b>	Anchorage, Alaska	<b>Site ID</b>	98557	<b>Weather (°F)</b>	Clear	<b>Sampled by</b> Evan Wujcik
<b>Measuring Point Description</b>	Top of Casing	<b>Screen Depth Interval (ft-bmp)</b>	-- to --	<b>Casing Diameter (in.)</b>	2	<b>Well Casing Material</b> PVC
<b>Static Water Level (ft-bmp)</b>	18.38	<b>Total Depth (ft-bmp)</b>	23.7	<b>Water Column (ft)</b>	5.32	<b>Gallons in Well</b> 0.86
<b>Water Quality Meter Make/Model</b>	Horiba U-52	<b>Purge Method</b>	Low-Flow	<b>Collection Type</b>	Grab	
<b>Sample Time</b>	08:15	<b>Well Volumes Purged</b>	0.74	<b>Sample ID</b>	MW-3-W-20240402	<b>Purge Equipment</b> Bladder
<b>Purge Start</b>	07:50	<b>Gallons Purged</b>	0.63	<b>Duplicate ID</b>	--	<b>Sample Equipment</b> Bladder
<b>Purge End</b>	08:10	<b>Total Purge Time (h:m)</b>	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)	Color
07:53	200	18.38	7.73	9.57	61.2	9.29	2.55	-41	--
07:56	200	18.38	7.83	4.54	50.9	8.98	2.78	-48	--
07:59	200	18.38	7.85	2.81	46.4	8.73	2.82	-70	--
08:02	200	18.38	7.81	2.16	43.0	8.48	2.86	-74	--
08:05	200	18.38	7.76	1.75	44.4	8.56	2.88	-78	--

**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-3-W-20240402 Sample Time: 08:15 Sample Depth (ft-bmp) (e.g. pump intake): 18.5  
 Analytes and Methods: See Chain-of-Custody. Depth to Water at Time of Sampling: 18.38

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

<b>Project Number</b>	30063668	<b>Well ID</b>	MW-1	<b>Date</b>	4/2/2024				
<b>Site Location</b>	Anchorage, Alaska	<b>Site ID</b>	98557	<b>Weather (°F)</b>	Clear	<b>Sampled by</b>	Evan Wujcik		
<b>Measuring Point Description</b>	Top of Casing	<b>Screen Depth Interval (ft-bmp)</b>	-- to --	<b>Casing Diameter (in.)</b>	4	<b>Well Casing Material</b>	PVC		
<b>Static Water Level (ft-bmp)</b>	18.1	<b>Total Depth (ft-bmp)</b>	24	<b>Water Column (ft)</b>	5.9	<b>Gallons in Well</b>	3.83		
<b>Water Quality Meter Make/Model</b>	Horiba U-52	<b>Purge Method</b>	Low-Flow	<b>Collection Type</b>	Grab				
<b>Sample Time</b>	07:30	<b>Well Volumes Purged</b>	0.17	<b>Sample ID</b>	MW-1-W-20240402	<b>Purge Equipment</b>	Bladder		
<b>Purge Start</b>	07:00	<b>Gallons Purged</b>	0.63	<b>Duplicate ID</b>	--	<b>Sample Equipment</b>	Bladder		
<b>Purge End</b>	07:20	<b>Total Purge Time (h:m)</b>	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)	Color
07:03	200	18.1	7.53	59.2	15.9	6.46	2.96	167	--
07:06	200	18.1	7.46	58.6	9.9	5.72	3.25	184	--
07:09	200	18.1	7.42	58.6	10.5	5.45	3.37	179	--
07:12	200	18.1	7.38	58.4	14.5	5.09	3.41	175	--

**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-20240402 Sample Time: 07:30 Sample Depth (ft-bmp) (e.g. pump intake): 18.5  
 Analytes and Methods: See Chain-of-Custody. Depth to Water at Time of Sampling: 18.1

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

<b>Project Number</b>	30063668	<b>Well ID</b>	MW-14	<b>Date</b>	4/2/2024				
<b>Site Location</b>	Anchorage, Alaska	<b>Site ID</b>	98557	<b>Weather (°F)</b>	Clear	<b>Sampled by</b>	Evan Wujcik		
<b>Measuring Point Description</b>	Top of Casing	<b>Screen Depth Interval (ft-bmp)</b>	-- to --	<b>Casing Diameter (in.)</b>	2	<b>Well Casing Material</b>	PVC		
<b>Static Water Level (ft-bmp)</b>	17.52	<b>Total Depth (ft-bmp)</b>	27.1	<b>Water Column (ft)</b>	9.58	<b>Gallons in Well</b>	1.56		
<b>Water Quality Meter Make/Model</b>	Horiba U-52	<b>Purge Method</b>	Low-Flow	<b>Collection Type</b>	Grab				
<b>Sample Time</b>	09:45	<b>Well Volumes Purged</b>	0.41	<b>Sample ID</b>	MW-14-W-20240402	<b>Purge Equipment</b>	Bladder		
<b>Purge Start</b>	09:20	<b>Gallons Purged</b>	0.63	<b>Duplicate ID</b>	MS/MSD	<b>Sample Equipment</b>	Bladder		
<b>Purge End</b>	09:40	<b>Total Purge Time (h:m)</b>	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)	Color
09:23	200	17.54	7.82	0.267	1000	7.19	3.81	64	--
09:26	200	17.55	7.76	0.262	1000	7.17	3.87	70	--
09:29	200	17.56	7.74	0.257	1000	7.21	3.95	76	--
09:32	200	17.57	7.70	0.254	730	7.20	3.98	78	--

**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-14-W-20240402 Sample Time: 09:45 Sample Depth (ft-bmp) (e.g. pump intake): 18  
Analytes and Methods: See Chain-of-Custody. Depth to Water at Time of Sampling: 17.57

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

<b>Project Number</b>	30063668	<b>Well ID</b>	MW-13	<b>Date</b>	4/2/2024				
<b>Site Location</b>	Anchorage, Alaska	<b>Site ID</b>	98557	<b>Weather (°F)</b>	Clear	<b>Sampled by</b>	Evan Wujcik		
<b>Measuring Point Description</b>	Top of Casing	<b>Screen Depth Interval (ft-bmp)</b>	-- to --	<b>Casing Diameter (in.)</b>	2	<b>Well Casing Material</b>	PVC		
<b>Static Water Level (ft-bmp)</b>	18.44	<b>Total Depth (ft-bmp)</b>	27.1	<b>Water Column (ft)</b>	8.66	<b>Gallons in Well</b>	1.41		
<b>Water Quality Meter Make/Model</b>	Horiba U-52	<b>Purge Method</b>	Low-Flow	<b>Collection Type</b>	Grab				
<b>Sample Time</b>	10:30	<b>Well Volumes Purged</b>	0.67	<b>Sample ID</b>	MW-13-W-20240402	<b>Purge Equipment</b>	Bladder		
<b>Purge Start</b>	10:00	<b>Gallons Purged</b>	0.95	<b>Duplicate ID</b>	BD	<b>Sample Equipment</b>	Bladder		
<b>Purge End</b>	10:20	<b>Total Purge Time (h:m)</b>	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)	Color
10:03	200	18.46	7.14	11.5	32.4	2.93	2.41	140	--
10:06	200	18.46	7.25	11.2	34.4	2.46	2.37	142	--
10:09	200	18.47	7.29	10.5	19.0	2.28	2.38	138	--
10:12	200	18.48	7.31	9.81	10.6	10.18	2.34	136	--
10:15	200	18.48	7.32	9.55	9.9	10.24	2.36	133	--
10:18	200	18.48	7.32	9.28	8.9	10.09	2.37	129	--

**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-13-W-20240402 Sample Time: 10:30 Sample Depth (ft-bmp) (e.g. pump intake): 19  
 Analytes and Methods: See Chain-of-Custody. Depth to Water at Time of Sampling: 18.48

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

# Attachment B

## Laboratory Analytical Results

**Arcadis - Chevron - AK**

Sample Delivery Group: L1722866  
Samples Received: 04/05/2024  
Project Number: 30063668.19.45  
Description: 98557  
Site: 415 MULDOON RD,  
ANCHORAGE, AK  
Report To: Jill Settle  
880 H St.  
Anchorage, AK 99501

Entire Report Reviewed By:



Brian Ford  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

**Pace Analytical National**12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)

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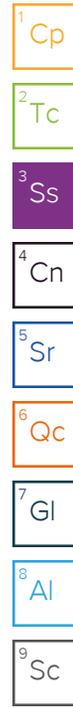
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# SAMPLE SUMMARY

## MW-1-W-20240402 L1722866-01 GW

Collected by E. Wujcik      Collected date/time 04/02/24 07:30      Received date/time 04/05/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010D	WG2263311	5	04/10/24 08:35	04/11/24 12:17	JTM	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2268774	5	04/18/24 10:37	04/18/24 13:37	JTM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG2262054	1.09	04/08/24 16:01	04/09/24 14:17	KAP	Mt. Juliet, TN



## MW-3-W-20240402 L1722866-02 GW

Collected by E. Wujcik      Collected date/time 04/02/24 08:15      Received date/time 04/05/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010D	WG2263311	1	04/10/24 08:35	04/11/24 00:46	DJS	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2268774	1	04/18/24 10:37	04/18/24 13:19	JTM	Mt. Juliet, TN

## RW-1-W-20240402 L1722866-03 GW

Collected by E. Wujcik      Collected date/time 04/02/24 09:00      Received date/time 04/05/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010D	WG2263311	1	04/10/24 08:35	04/11/24 00:47	DJS	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2268774	1	04/18/24 10:37	04/18/24 13:22	JTM	Mt. Juliet, TN

## MW-14-W-20240402 L1722866-04 GW

Collected by E. Wujcik      Collected date/time 04/02/24 09:45      Received date/time 04/05/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010D	WG2263313	1	04/10/24 08:41	04/11/24 01:23	DJS	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2268774	1	04/18/24 10:37	04/18/24 13:01	JTM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG2266304	1	04/13/24 20:17	04/16/24 00:19	DMG	Mt. Juliet, TN

## MW-13-W-20240402 L1722866-05 GW

Collected by E. Wujcik      Collected date/time 04/02/24 10:30      Received date/time 04/05/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010D	WG2263311	1	04/10/24 08:35	04/11/24 00:49	DJS	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2268774	1	04/18/24 10:37	04/18/24 13:26	JTM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG2262054	1.08	04/08/24 16:01	04/09/24 14:37	KAP	Mt. Juliet, TN

## BD-1-W-20240402 L1722866-06 GW

Collected by E. Wujcik      Collected date/time 04/02/24 00:00      Received date/time 04/05/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010D	WG2263311	1	04/10/24 08:35	04/11/24 00:54	DJS	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2268774	1	04/18/24 10:37	04/18/24 12:40	JTM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG2262054	1.14	04/08/24 16:01	04/09/24 14:58	KAP	Mt. Juliet, TN

## EQB-1-W-20240402 L1722866-07 GW

Collected by E. Wujcik      Collected date/time 04/02/24 11:00      Received date/time 04/05/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010D	WG2263311	1	04/10/24 08:35	04/11/24 00:56	DJS	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG2268774	1	04/18/24 10:37	04/18/24 12:43	JTM	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method AK102	WG2262054	1.15	04/08/24 16:01	04/09/24 15:18	KAP	Mt. Juliet, TN

# CASE NARRATIVE

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



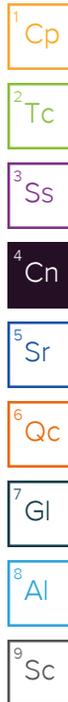
Brian Ford  
Project Manager

## Semi-Volatile Organic Compounds (GC) by Method AK102

---

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

Batch	Analyte	Lab Sample ID
WG2262054	o-Terphenyl	L1722866-01
WG2266304	o-Terphenyl	(LCS) R4057997-2



Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Lead	U		15.0	30.0	5	04/11/2024 12:17	<a href="#">WG2263311</a>
Lead,Dissolved	U		15.0	30.0	5	04/18/2024 13:37	<a href="#">WG2268774</a>

Semi-Volatile Organic Compounds (GC) by Method AK102

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	376	<u>J</u>	185	872	1.09	04/09/2024 14:17	<a href="#">WG2262054</a>
(S) o-Terphenyl	44.9	<u>J2</u>		50.0-150		04/09/2024 14:17	<a href="#">WG2262054</a>

Sample Narrative:

L1722866-01 WG2262054: Sample produced emulsion during Extraction process, low surr/spike recoveries due to matrix.

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

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Lead	U		2.99	6.00	1	04/11/2024 00:46	<a href="#">WG2263311</a>
Lead,Dissolved	U		2.99	6.00	1	04/18/2024 13:19	<a href="#">WG2268774</a>

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

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Lead	U		2.99	6.00	1	04/11/2024 00:47	<a href="#">WG2263311</a>
Lead,Dissolved	U		2.99	6.00	1	04/18/2024 13:22	<a href="#">WG2268774</a>

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Lead	8.27		2.99	6.00	1	04/11/2024 01:23	<a href="#">WG2263313</a>
Lead,Dissolved	U		2.99	6.00	1	04/18/2024 13:01	<a href="#">WG2268774</a>

Semi-Volatile Organic Compounds (GC) by Method AK102

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	U		170	800	1	04/16/2024 00:19	<a href="#">WG2266304</a>
(S) o-Terphenyl	60.0			50.0-150		04/16/2024 00:19	<a href="#">WG2266304</a>

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

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Lead	9.35		2.99	6.00	1	04/11/2024 00:49	<a href="#">WG2263311</a>
Lead,Dissolved	U		2.99	6.00	1	04/18/2024 13:26	<a href="#">WG2268774</a>

Semi-Volatile Organic Compounds (GC) by Method AK102

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	266	J	184	864	1.08	04/09/2024 14:37	<a href="#">WG2262054</a>
(S) o-Terphenyl	64.4			50.0-150		04/09/2024 14:37	<a href="#">WG2262054</a>

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

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Lead	8.84		2.99	6.00	1	04/11/2024 00:54	<a href="#">WG2263311</a>
Lead,Dissolved	U		2.99	6.00	1	04/18/2024 12:40	<a href="#">WG2268774</a>

Semi-Volatile Organic Compounds (GC) by Method AK102

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	332	J	194	912	1.14	04/09/2024 14:58	<a href="#">WG2262054</a>
(S) o-Terphenyl	68.8			50.0-150		04/09/2024 14:58	<a href="#">WG2262054</a>

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

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
Lead	U		2.99	6.00	1	04/11/2024 00:56	<a href="#">WG2263311</a>
Lead,Dissolved	U		2.99	6.00	1	04/18/2024 12:43	<a href="#">WG2268774</a>

Semi-Volatile Organic Compounds (GC) by Method AK102

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis date / time	Batch
AK102 DRO C10-C25	254	J	196	920	1.15	04/09/2024 15:18	<a href="#">WG2262054</a>
(S) o-Terphenyl	64.2			50.0-150		04/09/2024 15:18	<a href="#">WG2262054</a>

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

Method Blank (MB)

(MB) R4056331-6 04/11/24 00:34

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

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

Laboratory Control Sample (LCS)

(LCS) R4056331-7 04/11/24 00:36

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Lead	1000	968	96.8	80.0-120	

<sup>4</sup>Cn

<sup>5</sup>Sr

L1722876-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1722876-02 04/11/24 00:37 • (MS) R4056331-9 04/11/24 00:41 • (MSD) R4056331-10 04/11/24 00:42

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	957	951	95.7	95.1	1	75.0-125			0.699	20

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R4056334-1 04/11/24 01:20

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Lead	U		2.99	6.00

1 Cp

2 Tc

3 Ss

Laboratory Control Sample (LCS)

(LCS) R4056334-2 04/11/24 01:22

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Lead	1000	949	94.9	80.0-120	

4 Cn

5 Sr

L1722866-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1722866-04 04/11/24 01:23 • (MS) R4056334-4 04/11/24 01:27 • (MSD) R4056334-5 04/11/24 01:29

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Lead	1000	8.27	947	952	93.9	94.4	1	75.0-125			0.509	20

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R4059272-1 04/18/24 12:54

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Lead,Dissolved	U		2.99	6.00

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

Laboratory Control Sample (LCS)

(LCS) R4059272-2 04/18/24 12:57

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Lead,Dissolved	1000	953	95.3	80.0-120	

<sup>4</sup>Cn

<sup>5</sup>Sr

L1722866-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1722866-04 04/18/24 13:01 • (MS) R4059272-4 04/18/24 13:08 • (MSD) R4059272-5 04/18/24 13:11

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
Lead,Dissolved	1000	U	972	944	97.2	94.4	1	75.0-125			2.93	20

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Method Blank (MB)

(MB) R4055785-1 04/09/24 10:35

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
AK102 DRO C10-C25	U		170	800
(S) o-Terphenyl	63.0			60.0-120

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

(LCS) R4055785-2 04/09/24 10:55 • (LCSD) R4055785-3 04/09/24 11:16

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
AK102 DRO C10-C25	6000	5240	5430	87.3	90.5	75.0-125			3.56	20
(S) o-Terphenyl				73.5	72.5	60.0-120				

L1720691-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1720691-01 04/09/24 11:36 • (MS) R4055785-4 04/09/24 11:56 • (MSD) R4055785-5 04/09/24 12:16

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
AK102 DRO C10-C25	7220	856	7380	6510	90.4	80.1	1.2	75.0-125			12.5	20
(S) o-Terphenyl					63.8	55.0		50.0-150				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R4057997-1 04/15/24 23:17

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
AK102 DRO C10-C25	U		170	800
<i>(S) o-Terphenyl</i>	60.5			60.0-120

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

(LCS) R4057997-2 04/15/24 23:39 • (LCSD) R4057997-3 04/15/24 23:59

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
AK102 DRO C10-C25	6000	5060	5180	84.3	86.3	75.0-125			2.34	20
<i>(S) o-Terphenyl</i>				59.4	60.8	60.0-120	J2			

L1722866-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1722866-04 04/16/24 00:19 • (MS) R4057997-4 04/16/24 00:39 • (MSD) R4057997-5 04/16/24 00:59

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
AK102 DRO C10-C25	6600	U	5460	5150	82.7	78.0	1.1	75.0-125			5.84	20
<i>(S) o-Terphenyl</i>					62.5	57.0		50.0-150				

L1722917-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1722917-06 04/16/24 01:19 • (MS) R4057997-6 04/16/24 01:40 • (MSD) R4057997-7 04/16/24 02:00

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
AK102 DRO C10-C25	6740	394	6340	5970	88.2	85.5	1.12	75.0-125			6.01	20
<i>(S) o-Terphenyl</i>					64.0	54.9		50.0-150				

L1722876-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1722876-02 04/16/24 02:20 • (MS) R4057997-8 04/16/24 02:40 • (MSD) R4057997-9 04/16/24 03:00

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
AK102 DRO C10-C25	7220	686	6620	7270	82.2	89.9	1.2	75.0-125			9.36	20
<i>(S) o-Terphenyl</i>					53.7	56.1		50.0-150				

Sample Narrative:

OS: Dilution due to sample volume.

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

# GLOSSARY OF TERMS

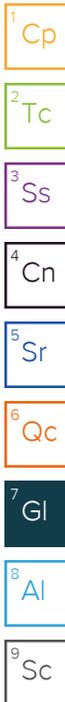
## Guide to Reading and Understanding Your Laboratory Report

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

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

### Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.
Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.



# ACCREDITATIONS & LOCATIONS

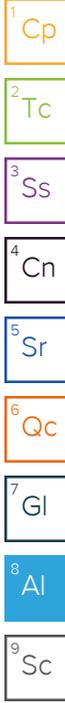
## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	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	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	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 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> 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.



# Arcadis - Chevron - AK

880 H St.  
Anchorage, AK 99501

Attn: Accounts Payable  
630 Plaza Dr Ste 600  
Highlands Ranch, CO 80129

Report to:  
**Gerald Robinson**

Email To:  
Alaura.Gonzalez@arcadis.com;jesse.wood@arc

Project Description:  
98557

City/State Collected: **Anchorage, AK**

Please Circle:  
PT MT CT ET  
**AK**

Phone: 907-276-8095

Client Project #  
30063668.19.45

Lab Project #  
CHEVARCAK-98557

Collected by (print):  
**E. Wojcik**

Site/Facility ID #  
415 MULDOON RD,

P.O. #

Collected by (signature):  
*E. Wojcik*

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

Quote #

Date Results Needed

No. of Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
MW-1-W-20240402	Grab	GW	-	4.2.24	0730	4
MW-3-W-20240402	↓	GW	-	↓	0915	4
RW-1-W-20240402		GW	-		0900	4
MW-14-W-20240402		GW	-		0945	12
MW-13-W-20240402		GW	-		1030	4
BD-1-W-20240402		GW	-		-	4
EQB-1-W-20240402		GW	-		-	4
Trip Blank		-	GW		-	-
		GW				

Analysis / Container / Preservative	Pres Chk
AK102 100ml Amb HCl	
Diss Lead 250mlHDPE-NoPres	
Total Lead 6010 250mlHDPE-HNO3	



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/hubs/pas-standard-terms.pdf>

SDG # **L1722866**

**H042**

Acctnum: **CHEVARCAK**

Template: **T234772**

Prelogin: **P1062622**

PM: **110 - Brian Ford**

PB:

Shipped Via:

Remarks	Sample # (lab only)
	- 01
	- 02
	- 03
MS/MSD	- 04
	- 05
	- 06
	- 07

\* Matrix:  
 S - Soil AIR - Air F - Filter  
 GW - Groundwater B - Bioassay  
 WW - WasteWater  
 DW - Drinking Water  
 OT - Other

Remarks:

Samples returned via:  
 UPS  FedEx  Courier  
 Tracking # **791438386491**

pH \_\_\_\_\_ Temp \_\_\_\_\_  
 Flow \_\_\_\_\_ Other \_\_\_\_\_

Sample Receipt Checklist	
COC Seal Present/Intact:	<input type="checkbox"/> NP <input checked="" type="checkbox"/> Y <input type="checkbox"/> N
COC Signed/Accurate:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Bottles arrive intact:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Correct bottles used:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
Sufficient volume sent:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
If Applicable	
VOA Zero Headspace:	<input type="checkbox"/> Y <input type="checkbox"/> N
Preservation Correct/Checked:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N
RAD Screen <0.5 mR/hr:	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N

Relinquished by: (Signature)

Date: **4.9.24** Time: **1200**

Received by: (Signature)

Trip Blank Received: Yes/NO  
 HCL / MeOH  
 TBR

Relinquished by: (Signature)

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Received by: (Signature)

Temp: **24.7 °C** Bottles Received: **36**  
**3.10.1=3.2**

Relinquished by: (Signature)

Date: \_\_\_\_\_ Time: \_\_\_\_\_

Received for lab by: (Signature)  
**Charles Stevenson**

Date: **4-5-24** Time: **9:00**

PH-10BDH5021 TRC-2352357  
 CR6-20221V  
 Date/Time: \_\_\_\_\_  
 Hold: \_\_\_\_\_  
 Condition: **NCF 1/OK**

# Attachment C

**Historical Groundwater Analytical Results – Second Quarter  
2003 through 2022**

**Table 1. Historical Groundwater Gauging and Analytical Results  
Second Quarter 2003 through 2022**

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)	Naphthalene (µg/L)	Comments
ADEC Groundwater Cleanup Levels							1,500	2,200	4.6	1,100	15	190	140	15	1.7	
MW-1	05/23/03	16-26	98.73	19.00	0.00	79.73	550	--	--	--	--	--	--	--	--	
MW-1	10/08/03	16-26	98.73	19.38	0.00	79.35	280	--	--	--	--	--	--	--	--	
MW-1	06/04/04	16-26	98.73	19.61	0.00	79.12	1,900	--	--	--	--	--	--	--	--	Laboratory report indicates the observed sample pattern is not typical of diesel/#2 fuel oil.
MW-1	09/28/04	16-26	98.73	19.50	0.00	79.23	740 [670]	--	--	--	--	--	--	--	--	
MW-1	05/13/05	16-26	98.73	18.54	0.00	80.19	830	--	--	--	--	--	--	--	--	
MW-1	09/26/05	16-26	98.73	18.67	0.00	80.06	<24	--	--	--	--	--	--	--	--	
MW-1	05/17/06	16-26	98.73	19.54	0.00	79.19	140	--	--	--	--	--	--	--	--	
MW-1	09/25/06	16-26	98.73	18.76	0.00	79.97	8,500	--	--	--	--	--	--	--	--	
MW-1	05/15/07	16-26	98.73	18.91	0.00	79.82	500	--	--	--	--	--	--	--	--	
MW-1	09/24/07	16-26	98.73	18.40	0.00	80.33	3,500	--	--	--	--	--	--	--	--	
MW-1	05/14/08	16-26	98.73	18.37	0.00	80.36	350	--	--	--	--	--	--	--	--	
MW-1	09/16/08	16-26	98.73	18.02	0.00	80.71	1,600	--	--	--	--	--	--	--	--	
MW-1	06/18/09	16-26	98.73	18.53	0.00	80.20	270	--	--	--	--	--	--	--	--	
MW-1	09/07/09	16-26	98.73	18.76	0.00	79.97	2,500	--	--	--	--	--	--	--	--	
MW-1	04/21/10	16-26	98.73	19.46	0.00	79.27	1,500	--	--	--	--	--	--	--	--	
MW-1	07/22/10	16-26	98.73	19.08	0.00	79.65	1,400	--	--	--	--	--	--	--	--	
MW-1	04/19/11	16-26	98.73	19.35	0.00	79.38	1,600	--	--	--	--	--	--	--	--	
MW-1	08/22/11	16-26	252.78	19.09	0.00	233.69	170 J	--	--	--	--	--	--	< 4.7 J	--	
MW-1	05/22/12	16-26	252.78	18.22	0.00	234.56	200 J	--	--	--	--	--	--	< 2.2	--	
MW-1	07/30/12	16-26	252.78	17.55	0.00	235.23	100 J	--	--	--	--	--	--	7.1 J	--	
MW-1	05/14/13	16-26	252.78	17.90	0.00	234.88	620	--	--	--	--	--	--	< 1.9	--	
MW-1	05/14/13	16-26	252.78	17.90	0.00	234.88	1,600	--	--	--	--	--	--	< 1.9	--	Sample Collected via hydrasleeve
MW-1	09/17/13	16-26	252.78	17.57	0.00	235.21	-	--	--	--	--	--	--	-	--	
MW-1	09/18/13	16-26	-	-	0.00	-	380 J	--	--	--	--	--	--	9.6 J	--	
MW-1	05/02/14	16-26	252.78	19.95	0.00	232.83	130 J	--	--	--	--	--	--	1	--	
MW-1	11/08/14	16-26	252.78	18.48	0.00	234.10	260 J	--	--	--	--	--	--	7.7 J	--	
MW-1	05/06/15	16-26	252.78	19.12	0.00	233.66	370 J	--	--	--	--	--	--	4.7	--	
MW-1	10/21/15	16-26	252.78	18.68	0.00	234.10	350	--	--	--	--	--	--	26	--	
MW-1	06/03/16	16-26	252.78	18.69	0.00	234.09	3,700	--	--	--	--	--	--	29.3 J	--	
MW-1	10/14/16	16-26	252.78	18.57	0.00	234.21	2,400	--	--	--	--	--	--	13.7	--	
MW-1	05/23/17	16-26	252.78	18.29	0.00	234.49	3,500	--	--	--	--	--	--	98.3	--	
MW-1	09/01/17	16-26	252.78	18.85	0.00	233.93	800 J / 520 J	--	--	--	--	--	--	10.3 J / 15.1 J	--	
MW-1	05/21/18	16-26	252.78	19.10	0.00	233.68	1,900 J / 1,500 J	--	--	--	--	--	--	48.4	--	
MW-1	09/25/18	16-26	252.58*	19.02	0.00	233.76	1,000	--	--	--	--	--	--	24.1	--	
MW-1	04/10/19	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	09/10/19	16-26	252.38	18.51	0.00	233.87	320	--	--	--	--	--	--	8.3 J	--	
MW-1	04/03/20	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	09/30/20	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	04/08/21	16-26	252.38	18.55	0.00	233.83	<800	--	--	--	--	--	--	8.90 B	--	
MW-1	08/27/21	16-26	252.38	17.62	0.00	234.76	<800 B [<800 B]	--	--	--	--	--	--	7.40 [7.69]	--	
MW-1	04/05/22	16-26	252.38	18.25	0.00	234.13	<800 B	--	--	--	--	--	--	4.99 J	--	
MW-1	08/17/22	16-26	252.38	17.80	0.00	234.58	573 J	--	--	--	--	--	--	3.57 J	--	
MW-3	05/23/03	14-24	98.52	19.19	0.00	79.33	<24	--	--	--	--	--	--	--	--	
MW-3	10/08/03	14-24	98.52	19.55	0.00	78.97	43 [45]	--	--	--	--	--	--	--	--	
MW-3	06/04/04	14-24	98.52	19.78	0.00	78.74	62	--	--	--	--	--	--	--	--	
MW-3	09/28/04	14-24	98.52	19.88	0.00	78.64	<20	--	--	--	--	--	--	--	--	
MW-3	05/13/05	14-24	98.52	18.86	0.00	79.66	84 [67]	--	--	--	--	--	--	--	--	Laboratory report indicates the observed sample pattern is not typical of diesel/#2 fuel oil.
MW-3	09/26/05	14-24	98.52	18.52	0.00	80.00	<24 [<24]	--	--	--	--	--	--	--	--	
MW-3	05/17/06	14-24	98.52	19.63	0.00	78.89	<25	--	--	--	--	--	--	--	--	
MW-3	09/25/06	14-24	98.52	18.73	0.00	79.79	220	--	--	--	--	--	--	--	--	
MW-3	05/15/07	14-24	98.52	18.78	0.00	79.74	130	--	--	--	--	--	--	--	--	
MW-3	09/24/07	14-24	98.52	18.43	0.00	80.09	1,600	--	--	--	--	--	--	--	--	
MW-3	05/14/08	14-24	98.52	18.42	0.00	80.10	84 [87]	--	--	--	--	--	--	--	--	
MW-3	09/16/08	14-24	98.52	18.06	0.00	80.46	<50 [53]	--	--	--	--	--	--	--	--	
MW-3	06/18/09	14-24	98.52	18.65	0.00	79.87	<50	--	--	--	--	--	ND	--	--	
MW-3	09/07/09	14-24	98.52	18.88	0.00	79.64	<48	--	--	--	--	--	ND	--	--	
MW-3	04/21/10	14-24	98.52	19.60	0.00	78.92	<53 J	--	<0.5	<0.5	<0.5	--	ND	--	--	
MW-3	07/22/10	14-24	98.52	19.18	0.00	79.34	55 J	--	--	--	--	--	ND	--	--	

**Table 1. Historical Groundwater Gauging and Analytical Results  
Second Quarter 2003 through 2022**

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)	Naphthalene (µg/L)	Comments
ADEC Groundwater Cleanup Levels							1,500	2,200	4.6	1,100	15	190	140	15	1.7	
MW-3	04/19/11	14-24	98.52	19.47	0.00	79.05	84 J	--	--	--	--	--	ND	--	--	
MW-3	08/22/11	14-24	253.02	19.17	0.00	233.85	120 J	--	--	--	--	--	ND	<2.2	--	
MW-3	05/22/12	14-24	253.02	18.34	0.00	234.68	<48	--	--	--	--	--	ND	<2.2	--	
MW-3	07/30/12	14-24	253.02	17.69	0.00	235.33	96 J	--	--	--	--	--	ND	<5.1	--	
MW-3	05/14/13	14-24	253.02	18.04	0.00	234.98	--	--	--	--	--	--	--	--	--	
MW-3	09/17/13	14-24	253.02	17.69	0.00	235.33	--	--	--	--	--	--	--	--	--	
MW-3	05/02/14	14-24	253.02	18.06	0.00	234.96	--	--	--	--	--	--	--	--	--	
MW-3	11/08/14	14-24	253.02	18.60	0.00	234.42	--	--	--	--	--	--	--	--	--	
MW-3	05/06/15	14-24	253.02	19.24	0.00	233.78	--	--	--	--	--	--	--	--	--	
MW-3	10/21/15	14-24	253.02	18.79	0.00	234.23	--	--	--	--	--	--	--	--	--	
MW-3	06/03/16	14-24	253.02	18.81	0.00	234.21	--	--	--	--	--	--	--	--	--	
MW-3	10/14/16	14-24	253.02	18.69	0.00	234.33	--	--	--	--	--	--	--	--	--	
MW-3	05/23/17	14-24	253.02	18.35	0.00	234.67	--	--	--	--	--	--	--	--	--	
MW-3	09/01/17	14-24	253.02	18.84	0.00	234.18	--	--	--	--	--	--	--	--	--	
MW-3	05/21/18	14-24	253.02	19.11	0.00	233.91	--	--	--	--	--	--	--	--	--	
MW-3	09/25/18	14-24	252.92*	19.12	0.00	233.90	--	--	--	--	--	--	--	--	--	
MW-3	04/10/19	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	09/10/19	14-24	252.69	18.86	0.00	233.83	--	--	--	--	--	--	--	--	--	
MW-3	04/03/20	14-24	252.69	19.00	0.00	233.69	--	--	--	--	--	--	--	--	--	
MW-3	10/01/20	14-24	252.69	18.46	0.00	234.23	--	--	--	--	--	--	--	--	--	
MW-3	04/08/21	14-24	252.69	18.82	0.00	233.87	--	--	--	--	--	--	--	--	--	
MW-3	08/27/21	14-24	252.69	--	--	--	--	--	--	--	--	--	--	--	--	Could not gauge due to continuous flooding.
MW-3	04/05/22	14-24	252.69	18.34	0.00	234.35	--	--	--	--	--	--	--	--	--	
MW-3	08/17/22	14-24	252.69	17.90	0.00	234.79	--	--	--	--	--	--	--	--	--	Not sampled
MW-4R	05/23/03	15-24.5	--	18.17	0.00	--	--	<80 [220]	<0.5	<0.5	<0.5	<1	<2	--	--	
MW-4R	10/08/03	15-24.5	--	18.55	0.00	--	--	200	<0.5	<0.5	<0.5	<1.0	<0.5	--	--	
MW-4R	06/04/04	15-24.5	--	18.76	0.00	--	--	120	<0.5	<0.5	<0.5	<1.0	<2	--	--	
MW-4R	09/28/04	15-24.5	--	18.65	0.00	--	--	30	<0.5	<0.5	<0.5	<1.0	<2	--	--	
MW-4R	05/13/05	15-24.5	--	17.69	0.00	--	--	<10	<0.5	<0.5	<0.5	<1.0	<2	--	--	
MW-4R	09/26/05	15-24.5	--	17.50	0.00	--	--	30	<0.5	<0.5	<0.5	<1.0	<2	--	--	
MW-4R	05/17/06	15-24.5	--	18.61	0.00	--	--	<10	<0.5	<0.5	<0.5	<1.0	<2	--	--	
MW-4R	09/25/06	15-24.5	--	17.85	0.00	--	--	340	<0.5	<0.7	<0.8	<1.6	<2	--	--	
MW-4R	05/15/07	15-24.5	--	--	--	--	--	--	--	--	--	--	--	--	--	
MW-4R	09/24/07	15-24.5	--	--	--	--	--	--	--	--	--	--	--	--	--	Unable to locate
MW-4R	05/14/08	15-24.5	--	--	--	--	--	--	--	--	--	--	--	--	--	Unable to locate
MW-4R	09/16/08	15-24.5	--	--	--	--	--	--	--	--	--	--	--	--	--	Unable to locate
MW-11	10/08/03	14-24	97.76	79.23	--	--	--	--	--	--	--	--	--	--	--	
MW-11	06/04/04	14-24	97.76	79.00	--	--	--	--	--	--	--	--	--	--	--	
MW-11	09/28/04	14-24	97.76	--	--	--	--	--	--	--	--	--	--	--	--	Inaccessible due to flooding
MW-11	05/13/05	14-24	97.76	80.11	--	--	--	--	--	--	--	--	--	--	--	
MW-11	09/26/05	14-24	97.76	DRY	--	--	--	--	--	--	--	--	--	--	--	
MW-11	05/17/06	14-24	97.76	DRY	--	--	--	--	--	--	--	--	--	--	--	Abandoned July 2006
MW-12	05/23/03	15-24.5	98.52	18.71	0.00	79.81	--	<10	<0.5	<0.5	<0.5	<1	<0.5	--	--	
MW-12	10/08/03	15-24.5	98.52	19.06	0.00	79.46	--	<10	<0.5	<0.5	<0.5	<1	<0.5	--	--	
MW-12	06/04/04	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]	--	--	
MW-12	09/28/04	15-24.5	98.52	19.23	0.00	79.29	--	<10	<0.5	<0.5	<0.5	<1	<2	--	--	
MW-12	05/13/05	15-24.5	98.52	18.27	0.00	80.25	--	<10	<0.5	<0.5	<0.5	<1	<2	--	--	
MW-12	09/26/05	15-24.5	98.52	DRY	--	--	--	--	--	--	--	--	--	--	--	
MW-12	05/17/06	15-24.5	98.52	19.23	0.00	79.29	--	<10	<0.5	<0.7	<0.8	<1.6	<2	--	--	
MW-13	07/30/12	--	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	--	
MW-13	05/14/13	--	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	05/14/13	--	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	09/17/13	--	252.83	17.82	0.00	235.01	--	--	--	--	--	--	--	--	--	
MW-13	09/18/13	--	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	05/02/14	--	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	11/08/14	--	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	--	

**Table 1. Historical Groundwater Gauging and Analytical Results  
Second Quarter 2003 through 2022**

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)	Naphthalene (µg/L)	Comments
ADEC Groundwater Cleanup Levels							1,500	2,200	4.6	1,100	15	190	140	15	1.7	
MW-13	05/06/15	--	252.83	19.38	0.00	233.45	390 J / 350 J	--	--	--	--	--	--	673 / 875	--	
MW-13	10/21/15	--	252.83	18.93	0.00	233.90	1,100 / 4,100 J	--	--	--	--	--	--	74.8 / 53.9	--	
MW-13	06/03/16	--	252.83	18.94	0.00	233.89	5,300 J / 5,200 J	--	--	--	--	--	--	223 / 219	--	
MW-13	10/14/16	--	252.83	18.83	0.00	234.00	710 / 650	--	--	--	--	--	--	74.7 / 69.6	--	
MW-13	05/23/17	--	252.83	18.53	0.00	234.30	360 J / 1900 J	--	--	--	--	--	--	298 J / 226 J	--	
MW-13	09/01/17	--	252.83	19.11	0.00	233.72	590 J	--	--	--	--	--	--	137	--	
MW-13	05/21/18	--	252.83	19.23	0.00	233.60	5,100 J	--	--	--	--	--	--	1,240 / 910	--	
MW-13	09/25/18	--	252.83	19.27	0.00	233.56	9,100 / 7,400	--	--	--	--	--	--	193 / 265	--	
MW-13	04/10/19	--	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	09/10/19	--	252.86	19.00	0.00	233.86	2,800 [2,800]	--	--	--	--	--	--	48 [50]	--	
MW-13	04/03/20	--	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	10/01/20	--	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	04/08/21	--	252.86	19.03	0.00	233.83	567 J [526 J]	--	--	--	--	--	--	23.5 B [17.8 B]	--	
MW-13	08/27/21	--	252.86	--	--	--	--	--	--	--	--	--	--	--	--	Could not gauge due to continuous flooding. Oil observed on surface water entering.
MW-13	04/05/22	--	252.86	18.70	0.00	234.16	--	--	--	--	--	--	--	--	--	Could not sample due to ice down well and could not pump down well.
MW-13	08/17/22	--	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	--	
MW-14	05/22/12	--	251.41	17.11	0.00	234.30	<49 J	<10	<0.5	<0.5	<0.5	<1.5	- ND	<0.0022	--	
MW-14	07/30/12	--	251.41	16.51	0.00	234.90	<48	<10	<0.5	<0.5	<0.5	<1.5	- ND	<0.0051	--	
MW-14	05/14/13	--	251.41	16.81	0.00	234.60	<63 J	<50	<0.24	<0.23	<0.24	<0.72	--	0.020	--	
MW-14	05/14/13	--	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	09/17/13	--	251.41	16.45	0.00	234.96	-	-	-	-	-	-	--	--	--	
MW-14	09/18/13	--	--	--	0.00	--	<230	<50	<0.24	<0.23	<0.24	<0.72	--	18	--	
MW-14	05/02/14	--	251.41	16.88	0.00	234.53	<68	<50	<0.15	<0.11	<0.16	<0.40	--	0.18	--	
MW-14	11/08/14	--	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	05/06/15	--	251.41	18.01	0.00	233.40	<51 J	--	--	--	--	--	--	5.3 J	--	
MW-14	10/21/15	--	251.87	18.04	0.00	233.83	<51 J	--	--	--	--	--	--	56.1 J	--	
MW-14	06/03/16	--	251.41	18.07	0.00	233.34	<51	--	--	--	--	--	--	<5.1	--	
MW-14	10/14/16	--	251.41	17.98	0.00	233.43	1,200	--	--	--	--	--	--	<6.2	--	
MW-14	05/23/17	--	251.41	17.65	0.00	233.76	<53	--	--	--	--	--	--	<6.2	--	
MW-14	09/01/17	--	251.41	18.23	0.00	233.18	<50 J	--	--	--	--	--	--	12.5 J	--	
MW-14	05/21/18	--	251.41	19.36	0.00	232.05	<50 J	--	--	--	--	--	--	30	--	
MW-14	09/25/18	--	251.41	18.41	0.00	233.00	<51	--	--	--	--	--	--	<7.1	--	
MW-14	04/10/19	--	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	09/10/19	--	251.82	18.02	0.00	233.80	< 78	--	--	--	--	--	--	2.7 J	--	
MW-14	04/03/20	--	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	09/30/20	--	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	04/08/21	--	251.82	18.02	0.00	233.80	<800	--	--	--	--	--	--	<6.00	--	
MW-14	08/27/21	--	251.82	17.52	0.00	234.30	<800 B	--	--	--	--	--	--	14.6	--	
MW-14	04/05/22	--	251.82	17.70	0.00	234.12	<800 [<800]	--	--	--	--	--	--	<6.00 [<6.00]	--	
MW-14	08/17/22	--	251.82	17.08	0.00	234.74	201 J	--	--	--	--	--	--	20.4	--	
RW-1	05/23/03	15-29.5	--	18.71	0.00	--	--	56	<0.5	<0.5	<0.5	<1	<0.5	--	--	
RW-1	10/08/03	15-29.5	--	19.09	0.00	--	--	19	<0.5	<0.5	<0.5	<1	<2	--	--	
RW-1	06/04/04	15-29.5	--	19.30	0.00	--	--	34	<0.5	<0.5	<0.5	<1	<2	--	--	
RW-1	09/28/04	15-29.5	--	19.27	0.00	--	--	<10	<0.5	<0.5	<0.5	<1	<2	--	--	
RW-1	05/13/05	15-29.5	--	18.20	0.00	--	--	23	<0.5	<0.5	<0.5	<1	<2	--	--	
RW-1	09/26/05	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]	--	--	
RW-1	05/15/07	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]	--	--	
RW-1	09/24/07	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]	--	--	
RW-1	05/14/08	15-29.5	--	18.52	--	--	83	20	<0.5	<0.7	<0.8	<1.6	<2	--	--	
RW-1	09/16/08	15-29.5	--	18.19	0.00	--	61	60	<0.5	<0.5	<0.5	<0.5	<2	--	--	
RW-1	06/18/09	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	--	--	--	
RW-1	09/07/09	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	--	--	--	
RW-1	04/21/10	15-29.5	--	19.49	0.00	--	520 J / <510	--	<0.5 / <0.5	<0.5 / <0.5	<0.5 / <0.5	<0.5	--	--	--	
RW-1	07/22/10	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	--	--	--	
RW-1	04/19/11	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	--	--	--	
RW-1	08/22/11	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	--	

**Table 1. Historical Groundwater Gauging and Analytical Results  
Second Quarter 2003 through 2022**

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)	Naphthalene (µg/L)	Comments
ADEC Groundwater Cleanup Levels							1,500	2,200	4.6	1,100	15	190	140	15	1.7	
RW-1	05/22/12	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	--	
RW-1	07/30/12	15-29.5	252.85	17.63	0.00	235.22	<51	<10	<0.5	<0.5	<0.5	<1.5	--	<5.1	--	
RW-1	05/14/13	15-29.5	252.85	17.95	0.00	234.90	--	--	--	--	--	--	--	--	--	
RW-1	09/17/13	15-29.5	252.85	17.58	0.00	235.27	--	--	--	--	--	--	--	--	--	
RW-1	05/02/14	15-29.5	252.85	18.00	0.00	234.85	--	--	--	--	--	--	--	--	--	
RW-1	11/08/14	15-29.5	252.85	18.47	0.00	234.38	--	--	--	--	--	--	--	--	--	
RW-1	05/06/15	15-29.5	252.85	20.13	0.00	232.72	--	--	--	--	--	--	--	--	--	
RW-1	10/21/15	15-29.5	252.85	18.87	0.00	233.98	--	--	--	--	--	--	--	--	--	
RW-1	06/03/16	15-29.5	252.85	18.71	0.00	234.14	--	--	--	--	--	--	--	--	--	
RW-1	10/14/16	15-29.5	252.85	18.61	0.00	234.24	--	--	--	--	--	--	--	--	--	
RW-1	05/23/17	15-29.5	252.85	18.28	0.00	234.57	--	--	--	--	--	--	--	--	--	
RW-1	09/01/17	15-29.5	252.85	18.87	0.00	233.98	--	--	--	--	--	--	--	--	--	
RW-1	05/21/18	15-29.5	252.85	18.48	0.00	234.37	--	--	--	--	--	--	--	--	--	
RW-1	09/25/18	15-29.5	252.85	19.03	0.00	233.82	--	--	--	--	--	--	--	--	--	
RW-1	04/10/19	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	09/10/19	15-29.5	252.55	18.41	0.00	234.14	--	--	--	--	--	--	--	--	--	
RW-1	04/03/20	15-29.5	252.55	--	--	--	--	--	--	--	--	--	--	--	--	Unable to locate well
RW-1	09/30/20	15-29.5	252.55	18.34	0.00	234.21	--	--	--	--	--	--	--	--	--	
RW-1	04/08/21	15-29.5	252.55	--	--	--	--	--	--	--	--	--	--	--	--	Not located due to ice
RW-1	08/27/21	15-29.5	252.55	18.24	0.00	234.31	--	--	--	--	--	--	--	--	--	
RW-1	04/05/22	15-29.5	252.55	18.46	0.00	234.09	--	--	--	--	--	--	--	--	--	
RW-1	08/17/22	15-29.5	252.55	17.81	0.00	234.74	--	--	--	--	--	--	--	--	--	Not sampled
QA	10/08/03	--	--	--	--	--	--	<10	<0.5	<0.5	<0.5	<0.5	<2	--	--	
QA	06/04/04	--	--	--	--	--	--	--	<0.5	<0.5	<0.5	<0.5	<2	--	--	
QA	09/28/04	--	--	--	--	--	--	<10	<0.5	<0.5	<0.5	<0.5	<2	--	--	
QA	05/13/05	--	--	--	--	--	--	<10	<0.5	<0.5	<0.5	<0.5	<2	--	--	
QA	09/26/05	--	--	--	--	--	--	<10	<0.5	<0.5	<0.5	<0.5	<2	--	--	
QA	05/15/07	--	--	--	--	--	--	<10	<0.5	<0.7	<0.8	<1.6	<2	--	--	
QA	09/24/07	--	--	--	--	--	--	<10	<0.5	<0.5	<0.5	<0.5	<2	--	--	
QA	05/14/08	--	--	--	--	--	--	<10	<0.5	<0.5	<0.5	<0.5	<2	--	--	
QA	05/14/08	--	--	--	--	--	--	<10	<0.5	<0.5	<0.5	<0.5	<2	--	--	
QA	09/16/08	--	--	--	--	--	--	<10	--	--	--	--	--	--	--	
QA	09/16/08	--	--	--	--	--	--	<10	--	--	--	--	--	--	--	
QA (EQB)	04/03/20	--	--	--	--	--	174 J	--	<1.00	<1.00	<1.00	<3.00	<1.00	<6.00	<5.00	
QA (EQB)	09/30/20	--	--	--	--	--	<800	--	<1.00	<1.00	<1.00	<3.00	<1.00	4.45 J	<0.500	
QA (EQB)	04/08/21	--	--	--	--	--	<800	--	--	--	--	--	--	6.40 B	--	
QA (EQB)	08/27/21	--	--	--	--	--	695 J	--	--	--	--	--	--	<6.00	--	
QA (EQB)	04/05/22	--	--	--	--	--	231 J	<6.00	--	--	--	--	--	--	--	
QA (EQB)	08/17/22	--	--	--	--	--	<800	--	--	--	--	--	--	<6.00	--	
Trip Blank	04/03/20	--	--	--	--	--	--	--	<1.00	<1.00	<1.00	<3.00	<1.00	--	<5.00	
Trip Blank	09/30/20	--	--	--	--	--	--	--	<1.00	<1.00	<1.00	<3.00	<1.00	--	--	

**Table 1. Historical Groundwater Gauging and Analytical Results  
Second Quarter 2003 through 2022**

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)	Naphthalene (µg/L)	Comments
<b>ADEC Groundwater Cleanup Levels</b>							<b>1,500</b>	<b>2,200</b>	<b>4.6</b>	<b>1,100</b>	<b>15</b>	<b>190</b>	<b>140</b>	<b>15</b>	<b>1.7</b>	

**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  
 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

# Attachment D

## ADEC Data Review Checklist

## Laboratory Data Review Checklist

Completed By:

Bhagyashree A Fulzele

Title:

Project Chemist

Date:

April 25, 2024

Consultant Firm:

ARCADIS U.S., Inc

Laboratory Name:

Pace Analytical

Laboratory Report Number:

L1722866

Laboratory Report Date:

04/19/2024

CS Site Name:

First Half 2024 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 Contaminated Sites Laboratory Approval Program (CS-LAP) 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-LAP approved?

Yes  No  N/A  Comments:

Not applicable.

2. Chain of Custody (CoC)

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

Yes  No  N/A  Comments:

Yes.

- b. Were the correct analyses requested?

Yes  No  N/A  Comments:

Yes.

3. Laboratory Sample Receipt Documentation

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

Yes  No  N/A  Comments:

Yes.

- b. Is the sample preservation acceptable – acidified waters, methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

Yes  No  N/A  Comments:

Yes.

- c. Is the sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials); canister vacuum/pressure checked and no open valves etc?

Yes  No  N/A  Comments:

Yes.

- d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, canister not holding a vacuum, etc.?

Yes  No  N/A  Comments:

Yes, no discrepancies.

e. Is the data quality or usability affected?

Comments:

Data quality or usability was not affected.

4. Case Narrative

a. Is the case narrative present and understandable?

Yes  No  N/A  Comments:

Yes.

b. Are there 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. Are the correct analyses performed/reported as requested on COC?

Yes  No  N/A  Comments:

Yes.

b. Are all applicable holding times met?

Yes  No  N/A  Comments:

Yes.

c. Are all soils reported on a dry weight basis?

Yes  No  N/A  Comments:

No soil samples were submitted for analysis.

d. Are the reported limit of quantitation (LOQs) or limits of detection (LOD), or reporting limits (RL) less than the Cleanup Level for the project?

Yes  No  N/A  Comments:

Yes.

e. Is the data quality or usability affected?

Data quality/usability was not affected.

6. QC Samples

a. Method Blank

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

Yes  No  N/A  Comments:

Yes.

ii. Are all method blank results less than limit of quantitation LOQ (or RL)?

Yes  No  N/A  Comments:

Yes.

iii. If above LOQ or RL, 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:

Not applicable.

v. Data quality or usability affected?

Comments:

Data quality or usability was not affected.

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

i. Organics – Are 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 – Are one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

Yes  No  N/A  Comments:

Yes.

iii. Accuracy – Are 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 –Are all relative percent differences (RPD) reported and less than method or laboratory limits and project specified objectives, if applicable? Was the 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. Is the 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 – Are one MS/MSD reported per matrix, analysis and 20 samples?

Yes  No  N/A  Comments:

The MS/MSD analysis was performed on the sample ID MW-14-W-20240402.

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

Yes  No  N/A  Comments:

The MS/MSD analysis was performed on the sample ID MW-14-W-20240402.

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

Yes  No  N/A  Comments:

No.

Sample locations associated with surrogates exhibiting recoveries outside of the control limits presented in the following table.

Sample ID	Method	Surrogate	Recovery
MW-1-W-20240402	AK102	o-Terphenyl	< LL but > 10%

Notes:

UCL Upper control limit  
 LL Lower control limit  
 D Diluted  
 AC Acceptable

The criteria used to evaluate the surrogate recoveries are presented in the following table. In the case of a surrogate deviation, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> UL	Non-detect	No Action
	Detect	J
< LL but > 10%	Non-detect	UJ
	Detect	J
< 10%	Non-detect	R
	Detect	J
Surrogates diluted below the calibration curve due to the high concentration of a target compounds	Non-detect	UJ
	Detect	J

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:

Yes.

iv. Is the data quality or usability affected?

Comments:

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

e. Trip Blanks

i. Is 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. Are all results less than LOQ or RL?

Yes  No  N/A  Comments:

Not applicable.

iii. If above LOQ or RL, what samples are affected?

Comments:

None of the samples were affected.

iv. Is data quality or usability affected?

Comments:

Data quality or usability was not affected.

f. Field Duplicate

i. Are one field duplicate submitted per matrix, analysis and 10 project samples?

Yes  No  N/A  Comments:

Yes.

ii. Was the duplicate submitted blind to lab?

Yes  No  N/A  Comments:

Yes.

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

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

Where  $R_1$  = Sample Concentration  
 $R_2$  = Field Duplicate Concentration

Yes  No  N/A  Comments:

Results for duplicate samples are summarized in the following table.

Sample ID / Duplicate ID	Method	Compounds / Analytes	Sample Result	Duplicate Result	RPD
MW-13-W-20240402 / BD-1-W-20240402	6010D	Lead	9.35	8.84	AC

Notes:

AC Acceptable

The calculated RPDs between the parent sample and field duplicate were acceptable.

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

Comments:

Data quality or usability was not affected.

g. Decontamination or Equipment Blank

i. Were decontamination or equipment blanks collected?

Yes  No  N/A  Comments:

Equipment blank sample was collected as EQB-1-W-20240402.

ii. Are all results less than LOQ or RL?

Yes  No  N/A  Comments:

No.

iii. If above LOQ or RL, specify what samples are affected?

Comments:

Sample ID	Compound	Sample Result	Qualification
MW-1-W-20240402 MW-13-W-20240402 BD-1-W-20240402	AK102 DRO C10-C25	Detected sample results <RL and <BAL	“UB” at the RL

Note:

RL Reporting limit

iv. Are data quality or usability affected?

Comments:

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

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

a. Are they defined and appropriate?

Yes  No  N/A  Comments:

Not applicable.