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

Arcadis U.S., Inc.
500 Ala Moana Blvd.,
Suite 7400
Honolulu
Hawaii 96813
Phone: 808 522 0321

www.arcadis.com

Date: October 24, 2024
Our Ref: 30064227
Subject: Second Quarter 2024 Remediation System Operations and Maintenance Report

Dear Rebekah Reams,

On behalf of Chevron Environmental Management Company, Arcadis US, Inc. has prepared the attached Second Quarter 2024 Remediation System Operations and Maintenance Report for the following facility:

Chevron Branded Station No.	ADEC File No.	Hazard ID:	Location
309152	100.38.206	4314	6201 Old Airport Road, Fairbanks, Alaska

If you have any questions, please do not hesitate to contact me at one of the methods below.

Sincerely,
Arcadis U.S., Inc.

Nicholas Wood, P.E.
Project Manager

Email: nick.wood@arcadis.com
Direct Line: 808 522-0342

CC.
James Kiernan, CEMC (electronic copy)
Robert Burgess, ADEC (electronic copy)
Elise N. Thomas, Environmental Manager, Fairbanks International Airport (electronic copy)
Ben Roth (electronic copy)

Chevron Environmental Management Company

Second Quarter 2024 Remediation System Operations and Maintenance Report

Former Chevron Facility 309152
6223 Old Airport Road
Fairbanks, Alaska 99701
ADEC File No.: 100.38.206
ADEC Site Name: FIA – Block 3 Lot 12 – Saupe Enterprises
Hazard ID: 4314

October 24, 2024

Second Quarter 2024 Remediation System Operations and Maintenance Report

Former Chevron Facility 309152
6223 Oil Airport Road
Fairbanks, Alaska 99701
ADEC File No.: 100.38.206
ADEC Site Name: FIA – Block 3 Lot 12 – Saupe Enterprises
Hazard ID: 4314

Prepared By:
Arcadis U.S., Inc.
500 Ala Moana Boulevard, Suite
Honolulu Hawaii 96813
Phone: 808 522 0321

Prepared For:
Chevron Environmental Management Company

Our Ref:
30064227

Kama Mayne
Project Task Manager

Nicholas Wood, P.E.
Project Manager

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Acronyms and Abbreviations

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
Arcadis	Arcadis U.S., Inc.
AS	Air Sparge
BTEX	benzene, toluene, ethylbenzene, and total xylenes
GRO	gasoline range organics
HMI	human-machine interface
lbs	Pounds
MTBE	methyl tert-butyl ether
O&M	operations and maintenance
Pace	Pace Analytical Laboratories
PFAS	per- and polyfluorinated substances
PID	photoionization detector
ppmv	part per million by volume
ROI	radius of influence
SCFM	standard cubic feet per minute
site	former Chevron facility 309152, located at 6223 Old Airport Road in Fairbanks, Alaska
SVE	soil vapor extraction
work plan	2019 Shallow Soil Excavation and System Installation Work Plan

1 Introduction

On behalf of Chevron Environmental Management Company, Arcadis U.S., Inc. (Arcadis) has prepared this Second Quarter 2024 Remediation System Operations and Maintenance (O&M) Report for the former Chevron facility 309152, located at 6223 Old Airport Road in Fairbanks, Alaska (site), file number 100.38.206, This report documents the activities completed at the site in accordance with the monthly O&M plan as stated in the 2019 Shallow Soil Excavation and System Installation Work Plan (work plan; Arcadis 2019) submitted by Arcadis to Alaska Department of Environmental Conservation (ADEC).

The air sparge/soil vapor extraction (AS/SVE) system was first operated, starting in October 2022. Due to winter conditions within the Fairbanks region, the system is shut down and winterized in the fourth quarter of each year and restarted in the following spring. The system was restarted for the 2024 season on May 28, 2024.This O&M report summarizes the monitoring activities of the AS/SVE system from May 2024 to June 2024 and presents the SVE effluent sampling results recorded on May 28, 2024.

2 Site Description

The site is located at 6223 Old Airport Road in Fairbanks, Alaska (**Figure 1** and **2**). The latitude and longitude are 64.822811º north and 147.859151º west. The property is approximately 0.21 acres and is occupied by a warehouse building in the central portion along the road. The lot is unpaved with wooded area in the northwest portion of the property. The Site is bounded by Old Airport Road to the southeast, a warehouse company to the southwest, wooded area and a pond/marsh area to the northwest, and a wooded area owned by National Rent-a-Car to the northeast.

According to available information, Standard Oil Company of California (Chevron's predecessor), leased the site from 1962 until 1985 for operation of a bulk fuel terminal. Eight aboveground storage tanks (ASTs), a fueling island, and a warehouse/office building were located onsite, for the storage and distribution of petroleum products supplying the airport. The tank farm was dismantled in approximately 1973, with the exception of the building. The Site is currently vacant, except for the warehouse building and the AS/SVE system compound. The State of Alaska, Department of Transportation and Public Facilities, Fairbanks International Airport currently owns the property and CEMC has leased that portion of the property surrounding the warehouse since April 2020. The warehouse is currently leased by The Toy Company for car parts storage. There are no known plans to redevelop the site. Various site investigations and assessments have been conducted since fall of 2006 to characterize and delineate hydrocarbon impacts within soil vapor, indoor and outdoor air, soil, and groundwater media at the site. Site plan details are shown on **Figure 3.**

3 Remediation System Background

As proposed in the work plan, an AS/SVE system was installed at the site to address onsite petroleum hydrocarbon related impacts to soil and groundwater stemming from historical site operations (Arcadis 2019). Installation activities were spilt into 3 phases; phase 1 was completed in 2018, phase 2 was completed in 2019, and phase 3 was completed in 2020. Phase 1 included the geophysical site survey and borehole clearance, the installation of SVE wells, the well surveying activities, and the identification and refurbishment of the AS/SVE remediation system. Five monitoring wells that have been converted to vapor extraction wells (RW-1, MW-2, MW-3, MW-4, and MW-9) are connected to the AS/SVE system. Phase 2 included shallow soil excavation activities, the geophysical site survey and borehole clearance, and the installation for the fifteen AS wells (AS-1 to AS-15). Phase 3 included the concrete pad installation, the AS/SVE system demobilization in Anchorage, Alaska and transport to Fairbanks, Alaska, the SVE system and conveyance piping installation, fence installation, site survey, and system startup activities. The aboveground AS piping was not installed and AS activities are currently on hold due to potential concerns regarding per- and polyfluorinated substances (PFAS) volatilization due to the compounds' presence in the subsurface from an FIA source (ADEC field number 100.38.277, ADEC Hazard Identification Number 26816). Details of system installation activities are reported within the *Air Sparge/SVE System Installation Report* submitted to ADEC on June 26, 2023 (Arcadis 2023).

Installation of the AS/SVE system began in September 2020 and was completed in September 2021. The system startup activities were performed from September through November 2022, with an initial attempt in September 2022, Due to technical malfunctions, repairs were needed, and startup was finally completed in October 2022.

4 Remediation System O&M Methods

Work associated with this O&M report was conducted under the direction of a “qualified person” as defined in ADEC documentation 18 Alaska Administrative Code (AAC) 75.990 (100) and 18 AAC 78.995 (118). Scheduled O&M activities were conducted on a monthly basis during the reporting period. Once a quarter during system operation, a soil vapor effluent sample was collected from the effluent stack using SUMMA™ canisters. SUMMA™ canister vacuum readings were recorded before and after sampling. An effluent vapor sample was collected during the second quarter on May 28, 2024. The sample was submitted to Pace Analytical Laboratories (Pace) of Mount Juliet, Tennessee for the following chemical analyses:

- Total Petroleum Hydrocarbons (low fraction), benzene, toluene, ethylbenzene, and xylenes (BTEX), and methyl tert-butyl ether (MTBE) by EPA method TO-15

For this submittal, results for total petroleum hydrocarbons (low fraction) are assumed to be equivalent to gasoline-range organics (GRO).

To assess remediation system performance, the SVE effluent air flow rate was reported based on output from a flow indicator installed in the effluent header pipe; measurements are displayed on the human-machine interface (HMI) screen on the control panel (located in control room).

Organic vapor concentrations were measured at the effluent stack by a calibrated photoionization detector (PID) during monthly O&M field events for comparison with laboratory data.

GRO recovery rates were calculated based on the SVE system flow rate, the total operational time of the system, and the GRO concentrations detected in effluent samples submitted to Pace. If laboratory analysis did not detect concentrations above the laboratory detection limit in the sample, the Reporting Limit/Reported Detection Limit was used. Net GRO mass recovery is tracked to determine the cumulative mass of GRO removed from the subsurface since system startup.

5 Soil Vapor Extraction Effluent Analytical Results

The second quarter 2024 remedial system O&M activities were conducted on May 28 and June 03, 2024. Data collected during system O&M activities are included on the data sheets and field notes contained in **Appendix A**. On May 28, 2024, SVE system effluent sampling was conducted. Ethylbenzene, total xylenes and GRO were detected at concentrations of 0.497 part per million by volume (ppmv), 5.018 ppmv and 750 ppmv, respectively. Laboratory analytical data are included in **Appendix B**. The analytical results are summarized in **Table 1**. Historical GRO and BTEX concentration data are illustrated on **Figure 4**.

6 Remediation System Operation and Performance Results

The SVE system was restarted for the 2024 operational season on May 28, 2024. From May 28, 2024, to June 03, 2024, the SVE system operated 117 hours with a run time of approximately 81%.

The SVE system effluent flow rate measured during the second quarter 2024 ranged from 160 to 171 standard cubic feet per minute (SCFM). Mass removal calculations based upon the system flow rates and system effluent concentration data indicate that approximately 215 pounds of GRO were removed from the subsurface by the SVE system during the second quarter 2024. The cumulative mass of GRO removed from the subsurface since system startup is approximately 3,400 pounds. Mass removal calculations based upon the system flow rates and system effluent concentration data indicate that approximately 2.1 pounds of cumulative BTEX were removed from the subsurface by the SVE system during the second quarter 2024. The cumulative mass of BTEX removed from the subsurface since system startup is approximately 20.6 pounds. SVE system performance results and mass removal calculations through the second quarter 2024 O&M events are included in **Table 1**. Cumulative GRO and BTEX mass removal is illustrated on **Figure 5**.

7 Laboratory Data Quality Assurance

As required by ADEC Technical Memorandum, October 2019, Arcadis filled out laboratory data review checklists for the Pace Analytical laboratory reports from the second quarter 2024 O&M event. The following list summarizes the quality and usability of the data presented in this Second Quarter 2024 Remediation System O&M Report based on six quality assurance parameters:

- Precision - Based on the laboratory control sample and laboratory control sample duplicate relative percent differences, the data meets precision objectives; however, LCS/LCSD recoveries exhibited an RPD greater than the control limit for compound ethanol by TO-15 and thus is qualified as estimated.
- Accuracy - The percent recoveries reported were within method or laboratory detection limits and project specified objectives.
- Representativeness - The data appears to be representative of site conditions and are generally consistent with expected effluent air concentrations.
- Comparability – Only one set of effluent laboratory results was collected through the Second Quarter 2024, therefore, comparability is not applicable to these laboratory results.
- Completeness - The results appear to be valid and usable, and thus, the laboratory results have 100% completeness.
- Sensitivity - The sensitivity of the analyses was adequate for the sample.

These parameters were evaluated in the ADEC checklist and included in **Appendix C**.

8 Summary

The AS/SVE system was shut down for winterization on November 2, 2023. The system was restarted on May 28, 2024, for continuous operation during the warmer months. System flow rates and laboratory analytical effluent data were used to calculate mass removal rates and total mass removed. During continuous operation between May 28, 2024, and June 03, 2024, the average GRO and BTEX mass recovery rate was approximately 45.6 lbs/day and 0.45 lbs/day respectively. The GRO and BTEX mass removed during this period was approximately 215 lbs and 2.1 lbs respectively. Cumulative mass removed since system re-startup was approximately 3,400 lbs for GRO and 20.6 lbs for BTEX. From May 28, 2024, to June 03, 2024, the SVE system operated 117 hours with a run time of approximately 81%.

SVE system O&M will continue on a monthly basis from spring through fall seasons annually to ensure that the system effectively removes volatile compound mass from the subsurface within the radius of influence (ROI) of the system.

9 References

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

Arcadis. 2019. Shallow Soil Excavation and System Installation Work Plan, Former Chevron Facility 309152. September.

Arcadis. 2023. Air Sparge/SVE System Installation Report, Former Chevron Facility 309152. June.

Add in new lab report reference here?

Table

Table 1
Soil Vapor Extraction System Analytical Data and Remediation System Performance Results
Former Chevron Facility 309152
6223 Old Airport Road
Fairbanks, Alaska

Date Sampled	Cumulative Hours	Hour Meter Reading	Hours of Operation During Period	Flow Rate	MTBE[1]	Benzene[1]	Toluene[1]	Ethylbenzene[1]	Total Xylenes[1]	GRO[1]	BTEX Recovery Rate	Sampling Period BTEX Removed	Cumulative BTEX Recovery	GRO Recovery Rate	Sampling Period GRO Removed	Cumulative GRO Recovery	Notes
	(hours)	(hours)	(hours)	(scfm)	(ppmv)	(ppmv)	(ppmv)	(ppmv)	(ppmv)	(ppmv)	(lbs/day)	(lbs)	(lbs)	(lbs/day)	(lbs)	(lbs)	
10/12/22	0	3438	0.0	144.0	--	--	--	--	--	--	--	--	--	--	--	--	Mass removal not calculated without effluent laboratory analytical results.
10/20/22	153	3591	153.0	138.0	--	--	--	--	--	--	--	--	--	--	--	--	
11/14/22	734	4172	581.0	120.0	--	--	--	--	--	--	--	--	--	--	--	--	
05/26/23	757	4195	23.0	179.0	*1.9*	0.57	3.8	*0.46*	*1.44*	920	0.4	0.4	0.4	60.56	58	58	
06/08/23	1045	4483	288.0	168.0	--	--	--	--	--	--	0.4	4.4	4.8	56.84	682	740	
07/11/23	1838	5276	793.0	159.0	--	--	--	--	--	--	0.3	11.5	16.3	53.79	1,777	2,517	
08/14/23	2104	5542	266.0	178.0	*0.04*	0.042	*0.1*	0.0434	0.332	155	0.03	0.4	16.7	10.15	112	2,630	
09/25/23	3107	6545	1003.0	171.0	--	--	--	--	--	--	0.03	1.4	18.1	9.75	407	3,037	
10/05/23	3351	6789	244.0	177.0	--	--	--	--	--	--	0.03	0.3	18.4	10.09	103	3,140	
11/02/23	3384	6822	33.0	194.0	*0.02*	*0.02*	0.298	0.0411	0.4399	459	0.06	0.1	18.5	32.74	45	3,185	
05/28/24	3386	6824	2.0	171.0	*0.400*	*0.400*	*1.000*	0.4970	5.0180	750	0.45	0.0	18.5	47.16	4	3,189	
06/03/24	3501	6939	115.0	160.0							0.42	2.0	20.5	44.13	211	3,400	

Table 1
Soil Vapor Extraction System Analytical Data and Remediation System Performance Results
Former Chevron Facility 309152
6223 Old Airport Road
Fairbanks, Alaska

TABLE 1 EXPLANATIONS

REPORTING PERIOD:	**2Q2024**
GRO POUNDS REMOVED DURING PERIOD:	**215**
GRO POUNDS REMOVED TO DATE:	**3,400**
BTEX POUNDS REMOVED DURING PERIOD:	**2.0**
BTEX POUNDS REMOVED TO DATE:	**20.5**
PERIOD AVERAGE FLOW RATE (SCFM):	**160.2**
PERIOD OPERATIONAL HOURS:	**117**
PERIOD PERCENT OPERATIONAL:	**81%**
PERIOD AVERAGE GRO MASS RECOVERY RATE (lbs/day	**45.6**

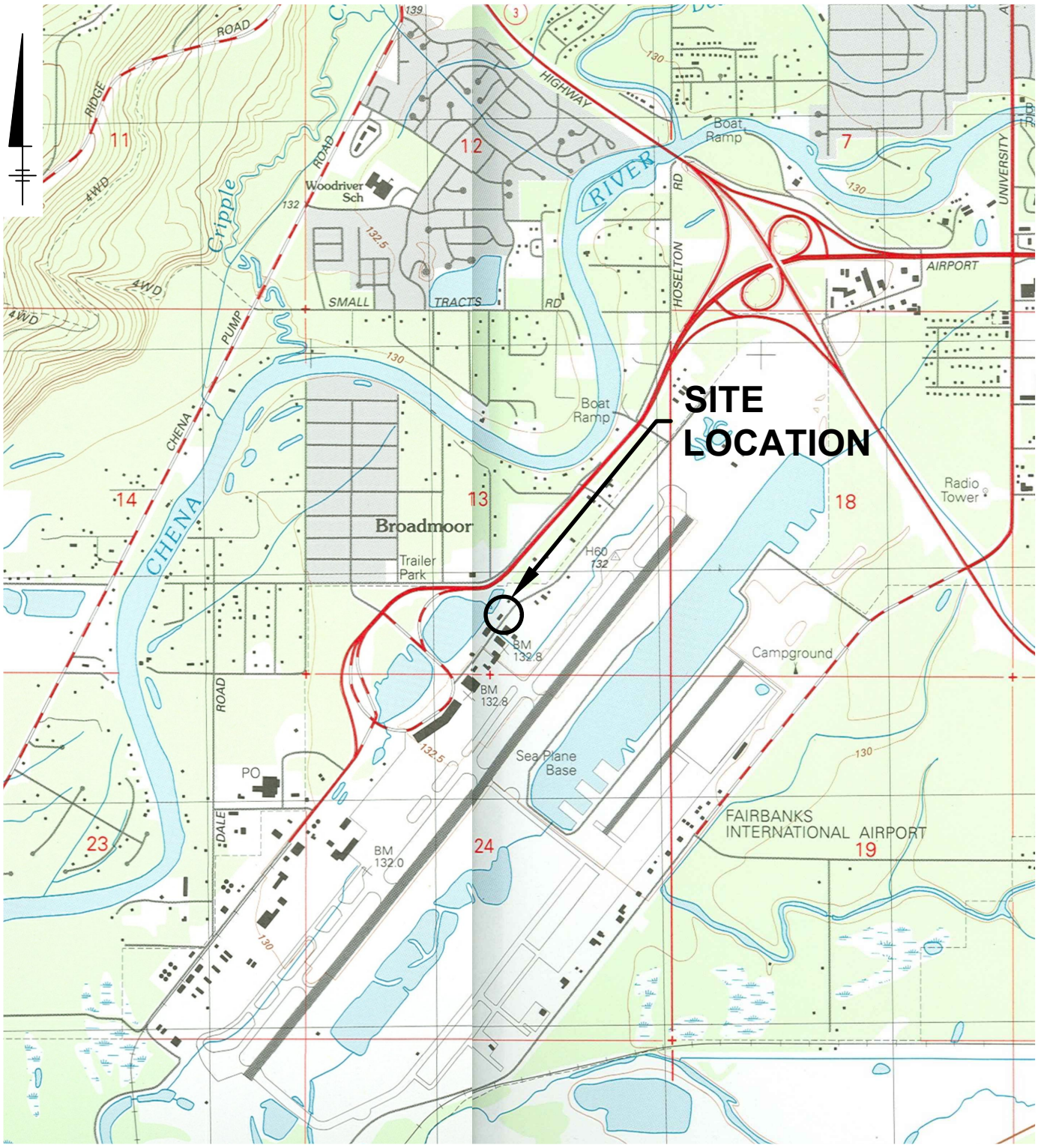
Assumptions:
a) The Reporting Limit / Reported Detection Limit is used for calculations when concentrations are less than the laboratory detection limits.
b) GRO Recovery (lb) = Effluent (ppmv) * (change hours (hr))* Flow (scfm) *(1 mole/379 scf) * (86.2 lb/mole)* (60 min/hr)
c) Cumulative GRO Recovery = Sum of GRO Recovery
d) Molecular weight of GRO (hexane) is approximately 100 grams per mole.

Notes:
[1] Analyzed by USEPA Method TO-15.
italicized indicates the results that are non-detect, but for calculation purposes is listed as the reporting limit*/reported detection limit*

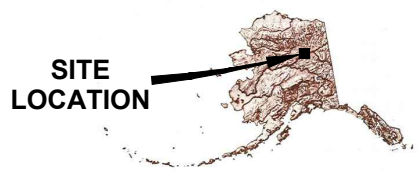
Acronyms and Abbreviations:

-- =	not calculated or not measured
< =	not detected or below method detection limits
BTEX =	Benzene, toluene, ethylbenzene and total xylenes collectivity
GRO =	gasoline range organics
hr =	hour
J =	results are an estimated value; the result is between the method detection limit and the limit of quantitation
lb =	pound
lb/day =	pound per day
lb/mole =	pound per mole
min/hr =	minute per hour
NA =	not available or not applicable
NS =	not sampled
O&M =	operations and maintenance
ppmv =	part per million by volume
scf =	standard cubic feet
scfm =	standard cubic feet per minute
SVE =	soil vapor extraction
USEPA =	United States Environmental Protection Agency

Figures



SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE: FAIRBANKS (D-2) SW, AK., 1992, FAIRBANKS NORTH STAR BOROUGH, SECTION: 13, TOWNSHIP: 1S, RANGE: 2W



0 2,000' 4,000'

APPROXIMATE GRAPHIC SCALE

FORMER CHEVRON FACILITY 309152
6223 OLD AIRPORT ROAD, FAIRBANKS, ALASKA
SECOND QUARTER 2024
OPERATIONS AND MAINTENANCE REPORT

SITE LOCATION MAP

ARCADIS

FIGURE
1

XREFS:
AGAR2022-X-TITLE

IMAGES:
ALASKA.jpg
Fairbanks-SW.jpg
Fairbanks-SW2.jpg
Arcadis Logo.png

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LEGEND:

SITE BOUNDARY

0' 200' 400'

APPROXIMATE GRAPHIC SCALE

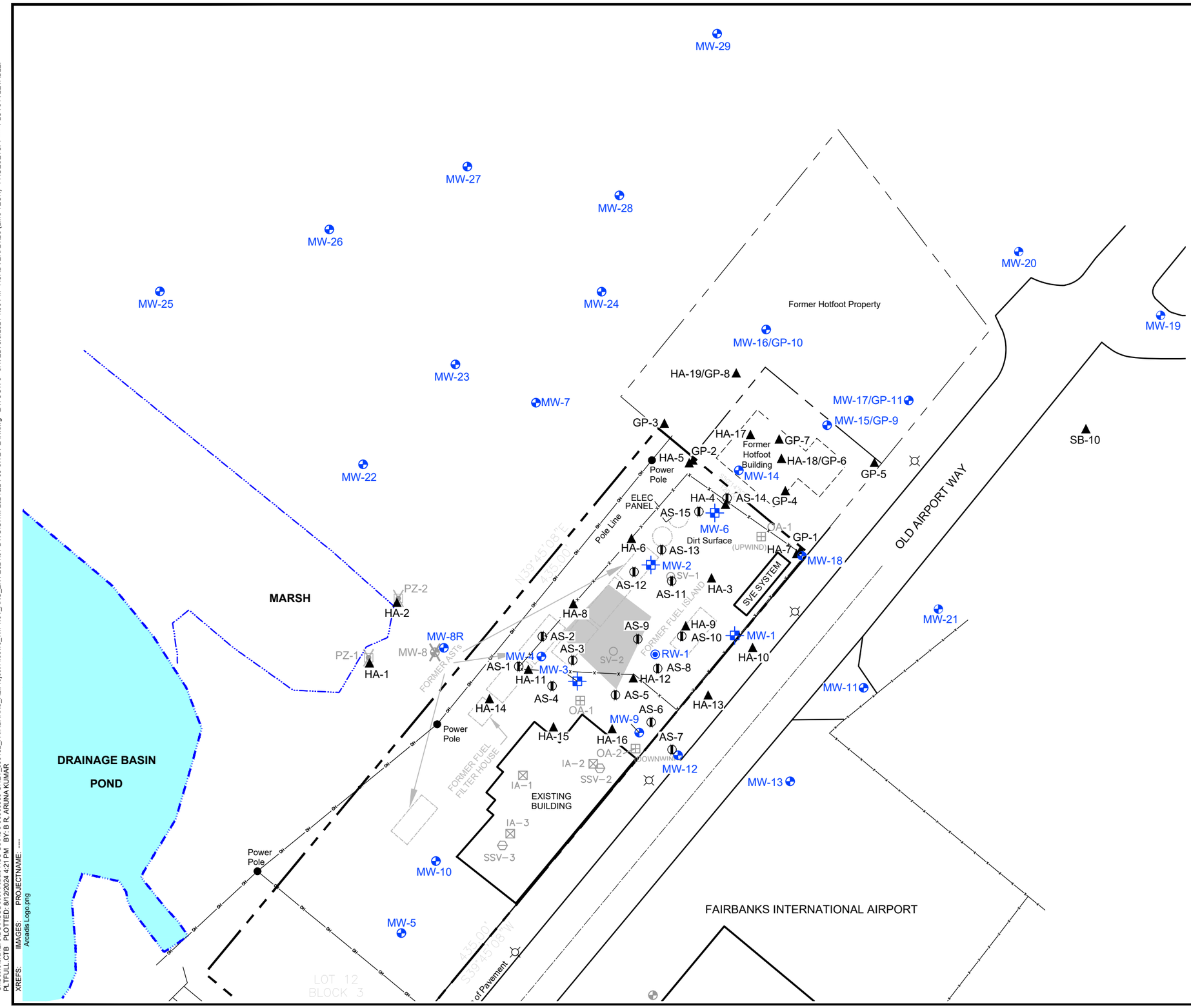
Source: Aerial photograph provided by Google Earth Pro, 2009.

FORMER CHEVRON FACILITY 309152
6223 OLD AIRPORT ROAD, FAIRBANKS, ALASKA
SECOND QUARTER 2024
OPERATIONS AND MAINTENANCE REPORT

AERIAL PHOTOGRAPH

ARCADIS

FIGURE
2



LEGEND

- PROPERTY BOUNDARY
- MW-7 GROUNDWATER MONITORING WELL
- RW-1 RECOVERY WELL
- MW-8 DECOMMISSIONED
- AS-11 AIR SPARGE WELL
- PZ-2 DESTROYED PIEZOMETER
- GP-5 SOIL BORING
- MW-2 BAILDOWN TEST LOCATION
- SV–1 SOIL VAPOR PROBE LOCATIONS (SV)
- SSV–2 SUB-SLAB SOIL VAPOR PROBE LOCATION (SSV)
- AI–3 INDOOR AMBIENT AIR LOCATIONS (IA)
- OA-1 OUTDOOR AMBIENT AIR LOCATIONS (OA)
- USPS SITE MONITORING WELLS: ADEC FILE NO. 100.38.277
- LIGHT POLE
- 2019 EXCAVATED AREA (DEPTH: 2 FT)
- OH OVERHEAD LINES
- USPS UNITED STATES POSTAL SERVICE
- ASTs ABOVEGROUND SURFACE TANKS
- SVE SOIL VAPOR EXTRACTION

N

0 60' 120'

GRAPHIC SCALE

SOURCE:

1. Base map provided by 'KARABELNIKOFF SURVEYING' (904) 337-3434. Survey date Sept. 17, 2007, drawing date Sept. 26, 2007, map full scale. Offsite well and boring survey information provided by McClane Consulting Inc. Field work date Aug. 6, 2014.
2. Former Hotfoot property and boring locations digitized from 'OASIS ENVIRONMENTAL', 825 W 8th Ave. #200, Anchorage, AK. Map drawn 1"=50', map date Jan. 2007.
3. Remediation lines connecting the recovery wells to the SVE s ystem are installed above-grade and not shown.

FORMER CHEVRON FACILITY 309152
6223 OLD AIRPORT ROAD, FAIRBANKS, ALASKA
SECOND QUARTER 2024
OPERATIONS AND MAINTENANCE REPORT

SITE PLAN

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FIGURE
3

C:\Users\bra1276\DC\ACCDocs\Arcadis ACC US\AUS-99999999-CHEV_309152_FAIRBANKS_ALL\Project Files\10_WIP\10T_ARC_ENV\2024\01-DWG\GWM-2024Q2-F03-SITE PLAN.dwg LAYOUT: 3 SAVED: 8/6/2024 1:06 PM ACADVER: 24.2S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 8/12/2024 4:21 PM BY: B R. ARUNA KUMAR
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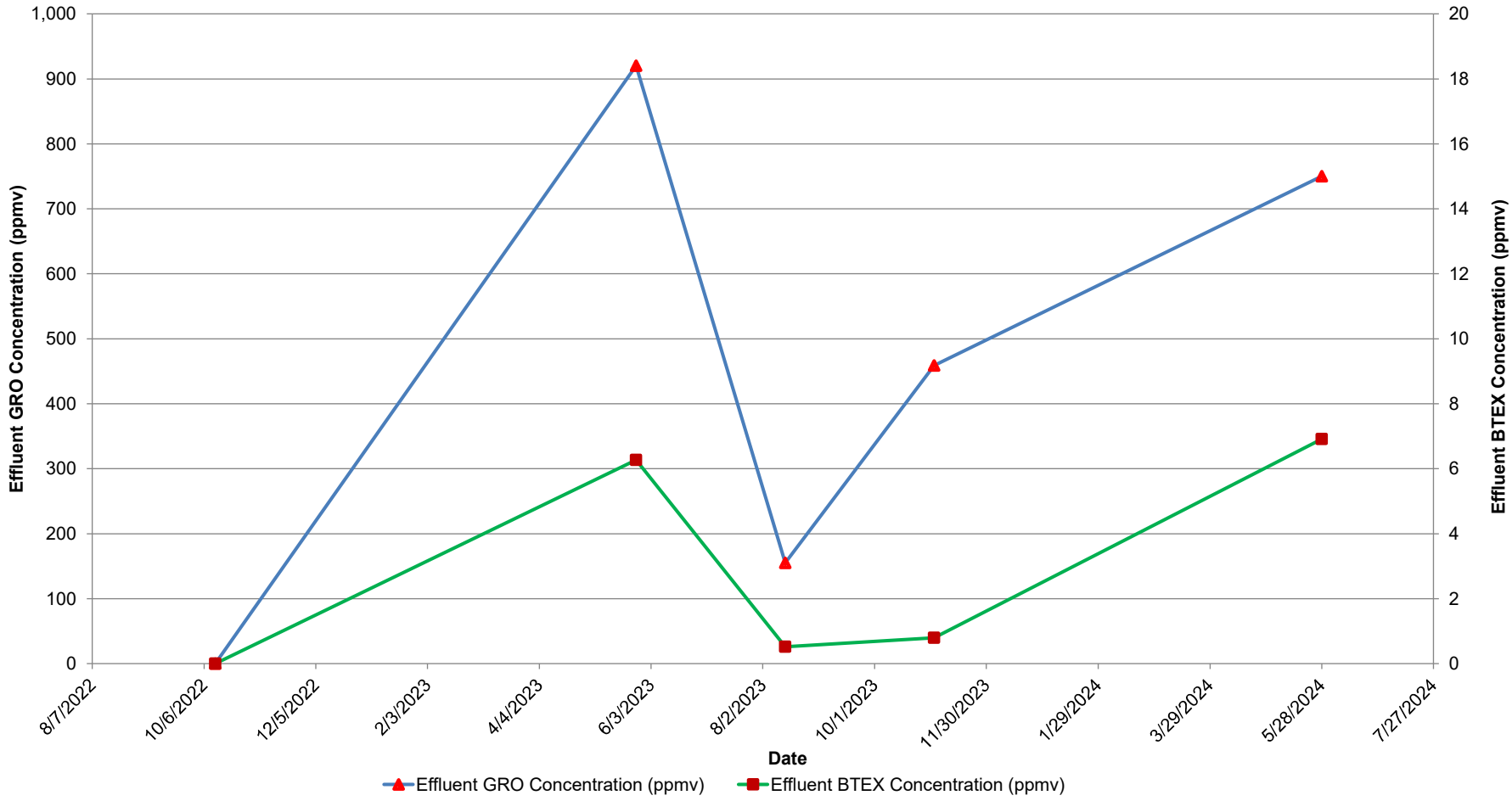

Notes:

GRO = Gasoline range organics
BTEX = Benzene, toluene, ethylbenzene and total xylenes
ppmv = parts per million by volume

FORMER CHEVRON FACILITY 309152
6223 OLD AIRPORT ROAD, FAIRBANKS, ALASKA
SECOND QUARTER 2024
OPERATIONS AND MAINTENANCE REPORT

EFFLUENT GRO AND BTEX CONCENTRATIONS

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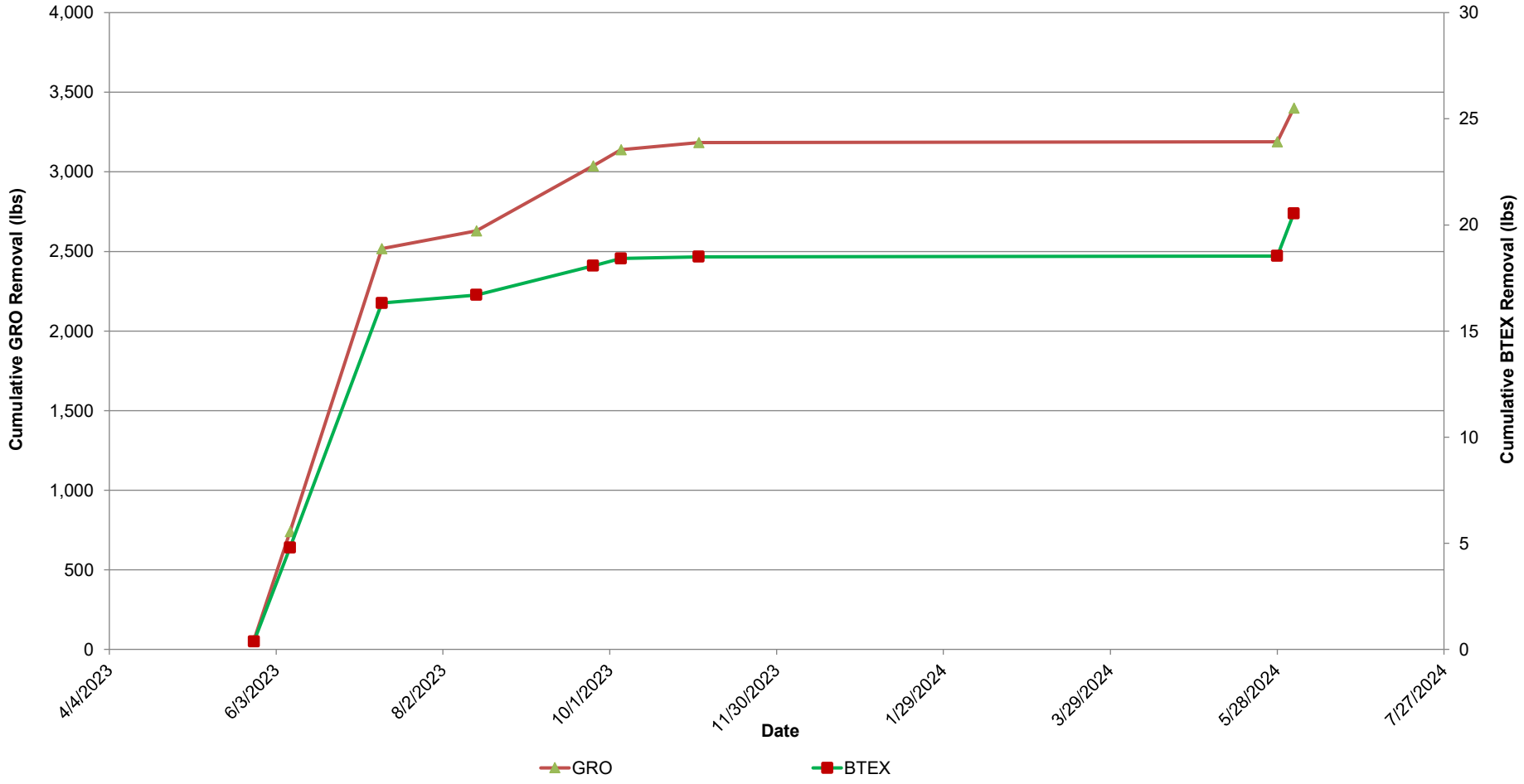
FIGURE
4



Notes:

BTEX = Benzene, toluene, ethylbenzene and total xylenes
GRO = Gasoline range organics
lbs = pounds

FORMER CHEVRON FACILITY 309152
6223 OLD AIRPORT ROAD, FAIRBANKS, ALASKA
SECOND QUARTER 2024
OPERATIONS AND MAINTENANCE REPORT

CUMULATIVE GRO AND BTEX MASS REMOVAL

ARCADIS

FIGURE 5

Appendix A

O&M Data Sheets and Field Notes

Daily Log

Project Number : 30064227

Prepared By: Evan Wujcik

Site ID: 309152

Site Name: 309152-Saupe

City: Fairbanks

State: Alaska

Project Manager: Wood, Nicholas

Portfolio: COP 5.0

Subportfolio: West

Inside Chevron Operational Control? Yes ☑ No ☐

Staff on Site
Evan Wujcik

Weather(°F)	PPE	Equipment
RAIN, T:61.57 °F, rH:50%, Clouds: 75%, Wind:5.75mph SW		Interface Probe (IP), Photoionization Detector (PID), 4-gas Meter

Date	Time	Description of Activities
05/28/2024	17:30	Arrive on site Open permit to work
05/28/2024	18:00	System down upon arrival. Site inspected before gauging. System started.
05/28/2024	19:00	System gauged Effluent sample collected E stops functioning
05/28/2024	20:00	Load vehicle Mobilize offsite

Signature

Daily Log

Project Number : 30064227

Prepared By: Evan Wujcik

Site ID: 309152

Site Name: 309152-Saupe

City: Fairbanks

State: Alaska

Project Manager: Wood, Nicholas

Portfolio: COP 5.0

Subportfolio: West

Inside Chevron Operational Control? Yes ☑ No ☐

Staff on Site
Evan Wujcik

Weather(°F)	PPE	Equipment
CLOUDS, T:56.21 °F, rH:43%, Clouds: 100%, Wind:11.01mph W		Water Quality Meter (i.e. YSI), Water Level Meter (WLM), Bladder Pump, Photoionization Detector (PID)

Date	Time	Description of Activities
05/28/2024	9:00	Arrive onsite Locate wells
05/28/2024	11:00	Sample MW20 DECON equipment See COC for analysis
05/28/2024	11:45	Sample MW28 DECON equipment See COC for analysis
05/28/2024	12:30	Sample MW11 Decon equipment See COC for analysis
05/28/2024	13:15	Sample MW25 DECON equipment See COC for analysis
05/28/2024	14:00	Sample MW13 Decon equipment See COC for analysis
05/28/2024	14:45	Sample MW10 Decon equipment See COC for analysis
05/28/2024	15:30	Sample MW5 MS/MSD1 samples collected from this location DECON equipment See COC for analysis
05/28/2024	16:15	Sample MW29 BD1 samples collected from this location DECON equipment See COC for analysis
05/28/2024	17:00	Sample MW24 DECON equipment See COC for analysis

Daily Log

05/28/2024	17:30	MW17, RW1, MW3 had LNAPL. No samples. Load vehicle Mobilize offsite

Signature

SVE SYSTEM
Field Data Sheet

PART A: GENERAL INFORMATION

Site Location: 309152 - Saupe

1. Date & Time: 5.28.24 @ 1730

2. Technician: E. Wyrick

3. Outside Ambient Temperature: 58°F

SVE Blower:	Busch Type MI 1502 BV	AS Compressor:	Busch Type MM 1102.BP02VKJK
Serial #:	90038993	Model #:	1341.915.851
Elecrical Power:	V 580 60 Hz	Serial #:	U093704426

4. Meter Base Reading: 790 kwh
5. SVE System up/down upon arrival? Down
6. AS System up/down upon arrival? Not in use
7. Heat Exchanger up/down upon arrival? Not in use

8. Knockout Drum on Site: Full ____ Half Full ____ Empty X

9. Field Instruments Used:

RKI Eagle II	Last Calibrated: 5/20/24	Serial #:	32916
Velocicalc	Last Calibrated: 5/20/24	Serial #:	25093
manometer	Last Calibrated: 5/28/24	Serial #:	N/A

10. AMBIENT BACKGROUND DATA	
CH_4 (ppm)	0
O_2 (%)	20.9
CO_2 (%)	0
PID (ppm)	0

11. ALARM CODES		Alarm Status	
		Arrival	Departure
LSHH-101	level switch high high Moinsture Separator	OK	
VIT-101	vacuum switch low		
PIT-102 High	SVE blower discharge high pressure		
TIT-102 High	SVE blower discharge high temperature		
TT-301 Low	Non-Hazardous Room low temperature		
TT-301 High	Non-Hazardous Room high temperature		
TT-302 Low	Hazardous Room low temperature		
TT-302 High	Hazardous Room high temperature		
PIT 201	AS Heat Exchanger High Pressure discharge		
TIT-201	AS Heat Exchanger High Temperature discharge		
LSHH-401	Floor Sump		
Voltage Fault	Voltage Fault		
Instrusion	Instrusion Alarm		
E-stop Non-Haz	E-stop Non-Hazardous Room		
E-stop Haz	E-stop Hazardous Room		
E-stop enclosure	E-stop remediation enclosure exterior		
E-stop fence	E-stop fence enclosure exterior		
LEL-101	LEL meter High - SVE effluent		
LEL-102	LEL meter high - Hazardous room		

PART B: SVE SYSTEM DATA

12. Hour Meter Reading: SVE 6824 At Time: 1730

A	Previous hourmeter reading / Date	6822
B	Current hourmeter reading	6824
C	Current reading minus previous reading	4
D	Total hours since last O&M event	0
E	C/D X 100 = Percent Operability	0%

Startup

13. SVE Header Data

Flow Data	Influent Arrival	Effluent Arrival	Influent Departure	Effluent Departure	Target Values
Dillution Valve (% open)	10	10	10	10	0 to 5
Exhaust Temperature (degrees F)	62	125	68	164	150 to 200
Total Flow (SCFM)	156	190	152	171	225 to 275
System Vacuum (inHg)	3.9	–	3.8	–	1.5 to 2.5
Exhaust Stack Pressure (psig)	–	0	–	0	<0.5
Knockout Drum (in WC)	4.0	–	4.0	–	20 to 35
Variable Frequency Drive (VFD) Setting	41.7	41.7	41.7	41.7	0 to 75

14. SVE WELL DATA SHEET

Well ID	Flow Rate (cfm)	Methane ~~ppm~~ % LEL	Oxygen (%)	CO_2 (%)	PID (ppm)	Initial Vacuum Manifold (in H2O)	Final Vacuum Manifold (in H2O)	Initial Vacuum Well Head (in H2O)	Final Vacuum Well Head (in H2O)
MW-9	7.88	2	12.9	0	160	2.2		1.3	
RW-1	90.3	9	11.3	0	249	29		12.7	
MW-3	19.5	12	5.3	0	360	27.9		4.0	
MW-4	53.4	1	16.2	0	131	19.6		5.0	
MW-2	93.2	0	20.2	0	60	4.3		1.1	
Exhaust Stack	~~87.3~~ 89.3	6	12.6	0	232	0.8		1.5	
Target Values	70 to 110	0.0	20.9	0 to 3	0 to 200	0 to 15		0 to 10	

Montiroing Well ID	Vacuum (in H20)	Methane ppm	Oxygen (%)	CO_2 (%)	PID (ppm)	Depth to LNAPL (ft)	Depth to Water (ft)
MW-1	1.1	0	20.9	0	0	–	14.52
MW-8R	0	0	20.9	0	0	–	6.88
MW-12	1.0	0	20.9	0	0	–	14.50
MW-14	0	0	20.9	0	3.4	–	11.38

Comments:

15. SUMMA SAMPLE INFORMATION		
Effluent Sample ID:	Effluent - 4 - 20240528	"
Summa Canister #:	013783	028354
Date & Time:	05/28/24 @ 1830	5/28/24 @ 1850
Initial Vac (inHg):	-28	-26
Final Vac (inHg):	-5	-5
AS Group in Operation:	—	—

* Guages are differential pressure magnehelics connected to pitot tubes (2" Pipe).
Use 60 F for conversion to cfm (conversion sheet located in connex)
Exhaust stack is 3" and SVE wells are 2" diameter

PART D: ADDITIONAL COMMENTS

System down upon arrival / system start up
MW-3 and MW-4 turned down 10% closed → pulling water
MW-3 from 50% open to 40% open
MW-4 from 55% open to 45% open

PART E: MAINTENANCE RECORD

MONTHLY

Shutdown Time:
Startup Time: ~~07~~ 1730

	Yes	No	Action
Any leaks?		X	
Any rattles?		X	
Excessive noise?		X	
Indicator lights out?		X	
Abnormal wear & tear?		X	
Blower oil low?		X	
Heat trace circuit breakers all on?		X	
Any faulty gauges?		X	
Other?		X	

QUARTERLY

	Yes	No	Date Last Performed	Action
Air sparge compressor oil changed?		X		
Linkage and bearings greased?		X		
Inspected/cleaned flow gauges?	X			
Air sparge intake filter changed?		X		
SVE intake filter changed?	X			Cleaned
Dilution value intake filter changed?	X			Cleaned

PART F: TREATMENT COMPOUND

MONTHLY

	Yes	No	Action
Fence/Gate inspected?	X		
Doors/Locks inspected?	X		
Emergency sign posted?	X		
Fire extinguisher on site?	X		
Other?		X	

PART G: PLANNED ACTIVITIES FOR NEXT TRIP

O + M

Daily Log

Project Number : 30064227

Prepared By: Evan Wujcik

Site ID: 309152

Site Name: 309152-Saupe

City: Fairbanks

State: Alaska

Project Manager: Wood, Nicholas

Portfolio: COP 5.0

Subportfolio: West

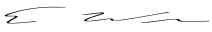
Inside Chevron Operational Control? Yes ☑ No ☐

Staff on Site
Evan Wujcik

Weather(°F)	PPE	Equipment
CLOUDS, T:66.85 °F, rH:41%, Clouds: 75%, Wind:9.22mph S-SW		Interface Probe (IP), Photoionization Detector (PID), 4-gas Meter

Date	Time	Description of Activities
06/03/2024	4:00	System gauged E stops functioning
06/03/2024	14:30	Arrive on site Open permit to work
06/03/2024	15:00	System up upon arrival. Site inspected before gauging.
06/03/2024	17:00	Load vehicle Mobilize offsite

Signature



SVE SYSTEM
Field Data Sheet

PART A: GENERAL INFORMATION

Site Location: 309152 - Saupe

1. Date & Time: 6.3.24 @ 1500

2. Technician: E. Wyrick

3. Outside Ambient Temperature: 60°F

SVE Blower:	Busch Type MI 1502 BV	AS Compressor:	Busch Type MM 1102 BP02VKJK
Serial #:	90038993	Model #:	1341.915.851
Elecrical Power:	V 580 60 Hz	Serial #:	U093704426

4. Meter Base Reading: 799 kwh
5. SVE System up/down upon arrival? up
6. AS System up/down upon arrival? Not in use
7. Heat Exchanger up/down upon arrival? Not in use

8. Knockout Drum on Site: Full ____ Half Full ____ Empty X

9. Field Instruments Used:

RKI Eagle II	Last Calibrated: 5/20/24	Serial #:	32911
velocicalc	Last Calibrated: 5/20/24	Serial #:	25093
manometer	Last Calibrated: 6/3/24	Serial #:	N/A

10. AMBIENT BACKGROUND DATA	
CH_4 (ppm)	0
O_2 (%)	20.9
CO_2 (%)	0
PID (ppm)	0

11. ALARM CODES		Alarm Status	
		Arrival	Departure
LSHH-101	level switch high high Moinsture Separator	OK	
VIT-101	vacuum switch low		
PIT-102 High	SVE blower discharge high pressure		
TIT-102 High	SVE blower discharge high temperature		
TT-301 Low	Non-Hazardous Room low temperature		
TT-301 High	Non-Hazardous Room high temperature		
TT-302 Low	Hazardous Room low temperature		
TT-302 High	Hazardous Room high temperature		
PIT 201	AS Heat Exchanger High Pressure discharge		
TIT-201	AS Heat Exchanger High Temperature discharge		
LSHH-401	Floor Sump		
Voltage Fault	Voltage Fault		
Instrusion	Instrusion Alarm		
E-stop Non-Haz	E-stop Non-Hazardous Room		
E-stop Haz	E-stop Hazardous Room		
E-stop enclosure	E-stop remediation enclosure exterior		
E-stop fence	E-stop fence enclosure exterior		
LEL-101	LEL meter High - SVE effluent		
LEL-102	LEL meter high - Hazardous room	↓	

PART B: SVE SYSTEM DATA

12. Hour Meter Reading: SVE 6939 At Time: 1530

A	Previous hourmeter reading / Date	6824
B	Current hourmeter reading	6939
C	Current reading minus previous reading	115
D	Total hours since last O&M event	115
E	C/D X 100 = Percent Operability	100 %

13. SVE Header Data

Flow Data	Influent Arrival	Effluent Arrival	Influent Departure	Effluent Departure	Target Values
Dillution Valve (% open)	10	10			0 to 5
Exhaust Temperature (degrees F)	77	159			150 to 200
Total Flow (SCFM)	143	160			225 to 275
System Vacuum (inHg)	4.7	—			1.5 to 2.5
Exhaust Stack Pressure (psig)	—	0			<0.5
Knockout Drum (in WC)	6	—			20 to 35
Variable Frequency Drive (VFD) Setting	41.7	41.7			0 to 75

14. SVE WELL DATA SHEET

Well ID	Flow Rate (cfm)	Methane ~~ppm~~ % LEL	Oxygen (%)	CO_2 (%)	~~PID (ppm)~~ VAC	Initial Vacuum Manifold (in H2O) PID	Final Vacuum Manifold (in H2O)	Initial Vacuum Well Head (in H2O)	Final Vacuum Well Head (in H2O)
MW-9	7.4	6	17.2	0	2.1	383		1.3	
RW-1	58.4	4	17.0	0	26.0	360		12.5	
MW-3	8.4	10	17.5	0	3.1	440		4.1	
MW-4	19.0	1	19.6	0	4.9	156		5.2	
MW-2	134.5	0	19.7	0	6.0	36		1.1	
Exhaust Stack	202.4	6	16.4	0	0.6	415		1.0	
Target Values	70 to 110	0.0	20.9	0 to 3	0 to 200	0 to 15		0 to 10	

Montiroing Well ID	Vacuum (in H20)	Methane ppm	Oxygen (%)	CO_2 (%)	PID (ppm)	Depth to LNAPL (ft)	Depth to Water (ft)
MW-1	1.0	0	20.9	0	0	—	14.5
MW-8R	0	0	20.9	0	0	—	6.78
MW-12	1.0	0	20.9	0	0	—	14.49
MW-14	0	0	20.9	0	2.0	—	11.38

Comments:

15. SUMMA SAMPLE INFORMATION			
Effluent Sample ID:	No Sample		
Summa Canister #:			
Date & Time:			
Initial Vac (inHg):			
Final Vac (inHg):			
AS Group in Operation:			

* Guages are differential pressure magnehelics connected to pitot tubes (2" Pipe).
Use 60 F for conversion to cfm (conversion sheet located in connex)
Exhaust stack is 3" and SVE wells are 2" diameter

PART D: ADDITIONAL COMMENTS

PART E: MAINTENANCE RECORD

MONTHLY

Shutdown Time:
Startup Time:

	Yes	No	Action
Any leaks?		X	
Any rattles?		X	
Excessive noise?		X	
Indicator lights out?		X	
Abnormal wear & tear?		X	
Blower oil low?		X	
Heat trace circuit breakers all on?		X	
Any faulty gauges?		X	
Other?		X	

QUARTERLY

	Yes	No	Date Last Performed	Action
Air sparge compressor oil changed?		X		
Linkage and bearings greased?		X		
Inspected/cleaned flow gauges?		X		
Air sparge intake filter changed?		X		
SVE intake filter changed?		X		
Dilution value intake filter changed?		X		

PART F: TREATMENT COMPOUND

MONTHLY

	Yes	No	Action
Fence/Gate inspected?	X		
Doors/Locks inspected?	X		
Emergency sign posted?	X		
Fire extinguisher on site?	X		
Other?		X	

PART G: PLANNED ACTIVITIES FOR NEXT TRIP

O+M

Appendix B

Laboratory Analytical Report

ANALYTICAL REPORT

June 10, 2024

Arcadis - Chevron - AK

Sample Delivery Group:	L1741262
Samples Received:	05/30/2024
Project Number:	30064227.21.41
Description:	309152
Site:	6223 OLD AIRPORT ROAD, FAIRBAN
Report To:	Nick Wood 880 H St. Anchorage, AK 99501

Entire Report Reviewed By:

Brian Ford

Project Manager

Pace Analytical National

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

TABLE OF CONTENTS

SAMPLE SUMMARY

EFFLUENT-A-20240528 L1741262-01 Air

Collected by	Collected date/time	Received date/time
	05/28/24 18:30	05/30/24 09:00

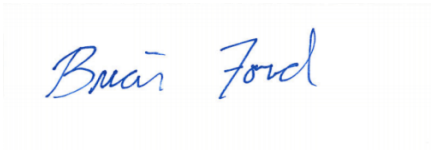
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2298186	2000	06/04/24 21:28	06/04/24 21:28	SDS	Mt. Juliet, TN

EFFLUENT-A-20240528 L1741262-02 Air

Collected by	Collected date/time	Received date/time
	05/28/24 18:50	05/30/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2299022	2000	06/06/24 04:54	06/06/24 04:54	SDS	Mt. Juliet, TN

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



Brian Ford
Project Manager

Volatile Organic Compounds (MS) by Method TO-15

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

Batch	Lab Sample ID	Analytes
WG2298186	(LCS) R4077379-1, (LCSD) R4077379-2, L1741262-01	Carbon disulfide and Styrene

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

Batch	Lab Sample ID	Analytes
WG2298186	(LCSD) R4077379-2, L1741262-01	Ethanol

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2500	5940	ND	ND		2000	WG2298186
Allyl chloride	107-05-1	76.53	400	1250	ND	ND		2000	WG2298186
Benzene	71-43-2	78.10	400	1280	ND	ND		2000	WG2298186
Benzyl Chloride	100-44-7	127	400	2080	ND	ND		2000	WG2298186
Bromodichloromethane	75-27-4	164	400	2680	ND	ND		2000	WG2298186
Bromoform	75-25-2	253	1200	12400	ND	ND		2000	WG2298186
Bromomethane	74-83-9	94.90	400	1550	ND	ND		2000	WG2298186
1,3-Butadiene	106-99-0	54.10	4000	8850	ND	ND		2000	WG2298186
Carbon disulfide	75-15-0	76.10	800	2490	ND	ND	J4	2000	WG2298186
Carbon tetrachloride	56-23-5	154	400	2520	ND	ND		2000	WG2298186
Chlorobenzene	108-90-7	113	400	1850	ND	ND		2000	WG2298186
Chloroethane	75-00-3	64.50	400	1060	ND	ND		2000	WG2298186
Chloroform	67-66-3	119	400	1950	ND	ND		2000	WG2298186
Chloromethane	74-87-3	50.50	400	826	ND	ND		2000	WG2298186
2-Chlorotoluene	95-49-8	126	400	2060	ND	ND		2000	WG2298186
Cyclohexane	110-82-7	84.20	400	1380	17800	61300		2000	WG2298186
Dibromochloromethane	124-48-1	208	400	3400	ND	ND		2000	WG2298186
1,2-Dibromoethane	106-93-4	188	400	3080	ND	ND		2000	WG2298186
1,2-Dichlorobenzene	95-50-1	147	400	2400	ND	ND		2000	WG2298186
1,3-Dichlorobenzene	541-73-1	147	400	2400	ND	ND		2000	WG2298186
1,4-Dichlorobenzene	106-46-7	147	400	2400	ND	ND		2000	WG2298186
1,2-Dichloroethane	107-06-2	99	400	1620	ND	ND		2000	WG2298186
1,1-Dichloroethane	75-34-3	98	400	1600	ND	ND		2000	WG2298186
1,1-Dichloroethene	75-35-4	96.90	400	1590	ND	ND		2000	WG2298186
cis-1,2-Dichloroethene	156-59-2	96.90	400	1590	ND	ND		2000	WG2298186
trans-1,2-Dichloroethene	156-60-5	96.90	400	1590	ND	ND		2000	WG2298186
1,2-Dichloropropane	78-87-5	113	400	1850	ND	ND		2000	WG2298186
cis-1,3-Dichloropropene	10061-01-5	111	400	1820	ND	ND		2000	WG2298186
trans-1,3-Dichloropropene	10061-02-6	111	400	1820	ND	ND		2000	WG2298186
1,4-Dioxane	123-91-1	88.10	1260	4540	ND	ND		2000	WG2298186
Ethanol	64-17-5	46.10	5000	9430	ND	ND	J3	2000	WG2298186
Ethylbenzene	100-41-4	106	400	1730	ND	ND		2000	WG2298186
4-Ethyltoluene	622-96-8	120	400	1960	ND	ND		2000	WG2298186
Trichlorofluoromethane	75-69-4	137.40	400	2250	ND	ND		2000	WG2298186
Dichlorodifluoromethane	75-71-8	120.92	400	1980	ND	ND		2000	WG2298186
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	400	3070	ND	ND		2000	WG2298186
1,2-Dichlorotetrafluoroethane	76-14-2	171	400	2800	ND	ND		2000	WG2298186
Heptane	142-82-5	100	400	1640	8250	33700		2000	WG2298186
Hexachloro-1,3-butadiene	87-68-3	261	1260	13500	ND	ND		2000	WG2298186
n-Hexane	110-54-3	86.20	1260	4440	15900	56100		2000	WG2298186
Isopropylbenzene	98-82-8	120.20	400	1970	ND	ND		2000	WG2298186
Methylene Chloride	75-09-2	84.90	400	1390	ND	ND		2000	WG2298186
Methyl Butyl Ketone	591-78-6	100	2500	10200	ND	ND		2000	WG2298186
2-Butanone (MEK)	78-93-3	72.10	2500	7370	ND	ND		2000	WG2298186
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2500	10200	ND	ND		2000	WG2298186
Methyl methacrylate	80-62-6	100.12	400	1640	ND	ND		2000	WG2298186
MTBE	1634-04-4	88.10	400	1440	ND	ND		2000	WG2298186
Naphthalene	91-20-3	128	1260	6600	ND	ND		2000	WG2298186
2-Propanol	67-63-0	60.10	2500	6150	ND	ND		2000	WG2298186
Propene	115-07-1	42.10	2500	4300	ND	ND		2000	WG2298186
Styrene	100-42-5	104	800	3400	ND	ND	J4	2000	WG2298186
1,1,2,2-Tetrachloroethane	79-34-5	168	400	2750	ND	ND		2000	WG2298186
Tetrachloroethylene	127-18-4	166	400	2720	ND	ND		2000	WG2298186
Tetrahydrofuran	109-99-9	72.10	400	1180	ND	ND		2000	WG2298186
Toluene	108-88-3	92.10	1000	3770	ND	ND		2000	WG2298186
1,2,4-Trichlorobenzene	120-82-1	181	1260	9330	ND	ND		2000	WG2298186

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	400	2180	ND	ND		2000	WG2298186
1,1,2-Trichloroethane	79-00-5	133	400	2180	ND	ND		2000	WG2298186
Trichloroethylene	79-01-6	131	400	2140	ND	ND		2000	WG2298186
1,2,4-Trimethylbenzene	95-63-6	120	400	1960	ND	ND		2000	WG2298186
1,3,5-Trimethylbenzene	108-67-8	120	400	1960	ND	ND		2000	WG2298186
2,2,4-Trimethylpentane	540-84-1	114.22	400	1870	112000	523000		2000	WG2298186
Vinyl chloride	75-01-4	62.50	400	1020	ND	ND		2000	WG2298186
Vinyl Bromide	593-60-2	106.95	400	1750	ND	ND		2000	WG2298186
Vinyl acetate	108-05-4	86.10	1260	4440	ND	ND		2000	WG2298186
m&p-Xylene	179601-23-1	106	800	3470	2930	12700		2000	WG2298186
o-Xylene	95-47-6	106	400	1730	620	2690		2000	WG2298186
TPH (GC/MS) Low Fraction	8006-61-9	101	400000	1650000	616000	2540000		2000	WG2298186
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*101*				WG2298186

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2500	5940	ND	ND		2000	WG2299022
Allyl chloride	107-05-1	76.53	400	1250	ND	ND		2000	WG2299022
Benzene	71-43-2	78.10	400	1280	ND	ND		2000	WG2299022
Benzyl Chloride	100-44-7	127	400	2080	ND	ND		2000	WG2299022
Bromodichloromethane	75-27-4	164	400	2680	ND	ND		2000	WG2299022
Bromoform	75-25-2	253	1200	12400	ND	ND		2000	WG2299022
Bromomethane	74-83-9	94.90	400	1550	ND	ND		2000	WG2299022
1,3-Butadiene	106-99-0	54.10	4000	8850	ND	ND		2000	WG2299022
Carbon disulfide	75-15-0	76.10	800	2490	ND	ND		2000	WG2299022
Carbon tetrachloride	56-23-5	154	400	2520	ND	ND		2000	WG2299022
Chlorobenzene	108-90-7	113	400	1850	ND	ND		2000	WG2299022
Chloroethane	75-00-3	64.50	400	1060	ND	ND		2000	WG2299022
Chloroform	67-66-3	119	400	1950	ND	ND		2000	WG2299022
Chloromethane	74-87-3	50.50	400	826	ND	ND		2000	WG2299022
2-Chlorotoluene	95-49-8	126	400	2060	ND	ND		2000	WG2299022
Cyclohexane	110-82-7	84.20	400	1380	25300	87100		2000	WG2299022
Dibromochloromethane	124-48-1	208	400	3400	ND	ND		2000	WG2299022
1,2-Dibromoethane	106-93-4	188	400	3080	ND	ND		2000	WG2299022
1,2-Dichlorobenzene	95-50-1	147	400	2400	ND	ND		2000	WG2299022
1,3-Dichlorobenzene	541-73-1	147	400	2400	ND	ND		2000	WG2299022
1,4-Dichlorobenzene	106-46-7	147	400	2400	ND	ND		2000	WG2299022
1,2-Dichloroethane	107-06-2	99	400	1620	ND	ND		2000	WG2299022
1,1-Dichloroethane	75-34-3	98	400	1600	ND	ND		2000	WG2299022
1,1-Dichloroethene	75-35-4	96.90	400	1590	ND	ND		2000	WG2299022
cis-1,2-Dichloroethene	156-59-2	96.90	400	1590	ND	ND		2000	WG2299022
trans-1,2-Dichloroethene	156-60-5	96.90	400	1590	ND	ND		2000	WG2299022
1,2-Dichloropropane	78-87-5	113	400	1850	ND	ND		2000	WG2299022
cis-1,3-Dichloropropene	10061-01-5	111	400	1820	ND	ND		2000	WG2299022
trans-1,3-Dichloropropene	10061-02-6	111	400	1820	ND	ND		2000	WG2299022
1,4-Dioxane	123-91-1	88.10	1260	4540	ND	ND		2000	WG2299022
Ethanol	64-17-5	46.10	5000	9430	ND	ND		2000	WG2299022
Ethylbenzene	100-41-4	106	400	1730	497	2150		2000	WG2299022
4-Ethyltoluene	622-96-8	120	400	1960	ND	ND		2000	WG2299022
Trichlorofluoromethane	75-69-4	137.40	400	2250	ND	ND		2000	WG2299022
Dichlorodifluoromethane	75-71-8	120.92	400	1980	ND	ND		2000	WG2299022
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	400	3070	ND	ND		2000	WG2299022
1,2-Dichlorotetrafluoroethane	76-14-2	171	400	2800	ND	ND		2000	WG2299022
Heptane	142-82-5	100	400	1640	10200	41700		2000	WG2299022
Hexachloro-1,3-butadiene	87-68-3	261	1260	13500	ND	ND		2000	WG2299022
n-Hexane	110-54-3	86.20	1260	4440	24300	85700		2000	WG2299022
Isopropylbenzene	98-82-8	120.20	400	1970	ND	ND		2000	WG2299022
Methylene Chloride	75-09-2	84.90	400	1390	ND	ND		2000	WG2299022
Methyl Butyl Ketone	591-78-6	100	2500	10200	ND	ND		2000	WG2299022
2-Butanone (MEK)	78-93-3	72.10	2500	7370	ND	ND		2000	WG2299022
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2500	10200	ND	ND		2000	WG2299022
Methyl methacrylate	80-62-6	100.12	400	1640	ND	ND		2000	WG2299022
MTBE	1634-04-4	88.10	400	1440	ND	ND		2000	WG2299022
Naphthalene	91-20-3	128	1260	6600	ND	ND		2000	WG2299022
2-Propanol	67-63-0	60.10	2500	6150	ND	ND		2000	WG2299022
Propene	115-07-1	42.10	2500	4300	ND	ND		2000	WG2299022
Styrene	100-42-5	104	800	3400	ND	ND		2000	WG2299022
1,1,2,2-Tetrachloroethane	79-34-5	168	400	2750	ND	ND		2000	WG2299022
Tetrachloroethylene	127-18-4	166	400	2720	ND	ND		2000	WG2299022
Tetrahydrofuran	109-99-9	72.10	400	1180	ND	ND		2000	WG2299022
Toluene	108-88-3	92.10	1000	3770	ND	ND		2000	WG2299022
1,2,4-Trichlorobenzene	120-82-1	181	1260	9330	ND	ND		2000	WG2299022

Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	400	2180	ND	ND		2000	WG2299022
1,1,2-Trichloroethane	79-00-5	133	400	2180	ND	ND		2000	WG2299022
Trichloroethylene	79-01-6	131	400	2140	ND	ND		2000	WG2299022
1,2,4-Trimethylbenzene	95-63-6	120	400	1960	ND	ND		2000	WG2299022
1,3,5-Trimethylbenzene	108-67-8	120	400	1960	ND	ND		2000	WG2299022
2,2,4-Trimethylpentane	540-84-1	114.22	400	1870	143000	668000		2000	WG2299022
Vinyl chloride	75-01-4	62.50	400	1020	ND	ND		2000	WG2299022
Vinyl Bromide	593-60-2	106.95	400	1750	ND	ND		2000	WG2299022
Vinyl acetate	108-05-4	86.10	1260	4440	ND	ND		2000	WG2299022
m&p-Xylene	179601-23-1	106	800	3470	4150	18000		2000	WG2299022
o-Xylene	95-47-6	106	400	1730	868	3760		2000	WG2299022
TPH (GC/MS) Low Fraction	8006-61-9	101	400000	1650000	750000	3100000		2000	WG2299022
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*102*				WG2299022

Method Blank (MB)

(MB) R4077379-3 06/04/24 10:02

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Acetone	U		0.584	1.25
Allyl chloride	U		0.114	0.200
Benzene	U		0.0715	0.200
Benzyl Chloride	U		0.0598	0.200
Bromodichloromethane	U		0.0702	0.200
Bromoform	U		0.0732	0.600
Bromomethane	U		0.0982	0.200
1,3-Butadiene	U		0.104	2.00
Carbon disulfide	U		0.102	0.400
Carbon tetrachloride	U		0.0732	0.200
Chlorobenzene	U		0.0832	0.200
Chloroethane	U		0.0996	0.200
Chloroform	U		0.0717	0.200
Chloromethane	U		0.103	0.200
2-Chlorotoluene	U		0.0828	0.200
Cyclohexane	U		0.0753	0.200
Dibromochloromethane	U		0.0727	0.200
1,2-Dibromoethane	U		0.0721	0.200
1,2-Dichlorobenzene	U		0.128	0.200
1,3-Dichlorobenzene	U		0.182	0.200
1,4-Dichlorobenzene	U		0.0557	0.200
1,2-Dichloroethane	U		0.0700	0.200
1,1-Dichloroethane	U		0.0723	0.200
1,1-Dichloroethene	U		0.0762	0.200
cis-1,2-Dichloroethene	U		0.0784	0.200
trans-1,2-Dichloroethene	U		0.0673	0.200
1,2-Dichloropropane	U		0.0760	0.200
cis-1,3-Dichloropropene	U		0.0689	0.200
trans-1,3-Dichloropropene	U		0.0728	0.200
1,4-Dioxane	U		0.0833	0.630
Ethanol	U		0.265	2.50
Ethylbenzene	U		0.0835	0.200
4-Ethyltoluene	U		0.0783	0.200
Trichlorofluoromethane	U		0.0819	0.200
Dichlorodifluoromethane	U		0.137	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0793	0.200
1,2-Dichlorotetrafluoroethane	U		0.0890	0.200
Heptane	U		0.104	0.200
Hexachloro-1,3-butadiene	U		0.105	0.630
n-Hexane	U		0.206	0.630

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

Method Blank (MB)

(MB) R4077379-3 06/04/24 10:02

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Isopropylbenzene	U		0.0777	0.200
Methylene Chloride	U		0.0979	0.200
Methyl Butyl Ketone	U		0.133	1.25
2-Butanone (MEK)	U		0.0814	1.25
4-Methyl-2-pentanone (MIBK)	U		0.0765	1.25
Methyl methacrylate	U		0.0876	0.200
MTBE	U		0.0647	0.200
Naphthalene	U		0.350	0.630
2-Propanol	U		0.264	1.25
Propene	U		0.0932	1.25
Styrene	U		0.0788	0.400
1,1,2,2-Tetrachloroethane	U		0.0743	0.200
Tetrachloroethylene	U		0.0814	0.200
Tetrahydrofuran	U		0.0734	0.200
Toluene	U		0.0870	0.500
1,2,4-Trichlorobenzene	U		0.148	0.630
1,1,1-Trichloroethane	U		0.0736	0.200
1,1,2-Trichloroethane	U		0.0775	0.200
Trichloroethylene	U		0.0680	0.200
1,2,4-Trimethylbenzene	U		0.0764	0.200
1,3,5-Trimethylbenzene	U		0.0779	0.200
2,2,4-Trimethylpentane	U		0.133	0.200
Vinyl chloride	U		0.0949	0.200
Vinyl Bromide	U		0.0852	0.200
Vinyl acetate	U		0.116	0.630
m&p-Xylene	U		0.135	0.400
o-Xylene	U		0.0828	0.200
TPH (GC/MS) Low Fraction	U		39.7	200
(S) 1,4-Bromofluorobenzene	*96.1*			*60.0-140*

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

(LCS) R4077379-1 06/04/24 08:52 • (LCSD) R4077379-2 06/04/24 09:28

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	3.75	3.23	3.34	86.1	89.1	70.0-130			3.35	25
Allyl chloride	3.75	3.24	3.30	86.4	88.0	70.0-130			1.83	25
Benzene	3.75	3.38	3.36	90.1	89.6	70.0-130			0.593	25
Benzyl Chloride	3.75	3.24	3.46	86.4	92.3	70.0-152			6.57	25

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

(LCS) R4077379-1 06/04/24 08:52 • (LCSD) R4077379-2 06/04/24 09:28

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Bromodichloromethane	3.75	3.36	3.38	89.6	90.1	70.0-130			0.593	25
Bromoform	3.75	3.30	3.39	88.0	90.4	70.0-130			2.69	25
Bromomethane	3.75	3.26	3.38	86.9	90.1	70.0-130			3.61	25
1,3-Butadiene	3.75	3.55	3.50	94.7	93.3	70.0-130			1.42	25
Carbon disulfide	3.75	6.46	6.64	172	177	70.0-130	J4	J4	2.75	25
Carbon tetrachloride	3.75	3.33	3.34	88.8	89.1	70.0-130			0.300	25
Chlorobenzene	3.75	3.44	3.37	91.7	89.9	70.0-130			2.06	25
Chloroethane	3.75	3.17	3.27	84.5	87.2	70.0-130			3.11	25
Chloroform	3.75	3.35	3.37	89.3	89.9	70.0-130			0.595	25
Chloromethane	3.75	3.30	3.46	88.0	92.3	70.0-130			4.73	25
2-Chlorotoluene	3.75	3.46	3.53	92.3	94.1	70.0-130			2.00	25
Cyclohexane	3.75	3.30	3.35	88.0	89.3	70.0-130			1.50	25
Dibromochloromethane	3.75	3.35	3.38	89.3	90.1	70.0-130			0.892	25
1,2-Dibromoethane	3.75	3.26	3.33	86.9	88.8	70.0-130			2.12	25
1,2-Dichlorobenzene	3.75	3.25	3.36	86.7	89.6	70.0-130			3.33	25
1,3-Dichlorobenzene	3.75	3.27	3.57	87.2	95.2	70.0-130			8.77	25
1,4-Dichlorobenzene	3.75	3.27	3.62	87.2	96.5	70.0-130			10.2	25
1,2-Dichloroethane	3.75	3.45	3.41	92.0	90.9	70.0-130			1.17	25
1,1-Dichloroethane	3.75	3.36	3.46	89.6	92.3	70.0-130			2.93	25
1,1-Dichloroethene	3.75	3.25	3.30	86.7	88.0	70.0-130			1.53	25
cis-1,2-Dichloroethene	3.75	3.31	3.37	88.3	89.9	70.0-130			1.80	25
trans-1,2-Dichloroethene	3.75	3.35	3.34	89.3	89.1	70.0-130			0.299	25
1,2-Dichloropropane	3.75	3.47	3.44	92.5	91.7	70.0-130			0.868	25
cis-1,3-Dichloropropene	3.75	3.33	3.40	88.8	90.7	70.0-130			2.08	25
trans-1,3-Dichloropropene	3.75	3.38	3.53	90.1	94.1	70.0-130			4.34	25
1,4-Dioxane	3.75	3.49	3.31	93.1	88.3	70.0-140			5.29	25
Ethanol	3.75	4.74	3.66	126	97.6	55.0-148		J3	25.7	25
Ethylbenzene	3.75	3.38	3.42	90.1	91.2	70.0-130			1.18	25
4-Ethyltoluene	3.75	3.39	3.38	90.4	90.1	70.0-130			0.295	25
Trichlorofluoromethane	3.75	3.40	3.52	90.7	93.9	70.0-130			3.47	25
Dichlorodifluoromethane	3.75	3.36	3.62	89.6	96.5	64.0-139			7.45	25
1,1,2-Trichlorotrifluoroethane	3.75	3.14	3.25	83.7	86.7	70.0-130			3.44	25
1,2-Dichlorotetrafluoroethane	3.75	3.25	3.41	86.7	90.9	70.0-130			4.80	25
Heptane	3.75	3.51	3.48	93.6	92.8	70.0-130			0.858	25
Hexachloro-1,3-butadiene	3.75	3.21	3.49	85.6	93.1	70.0-151			8.36	25
n-Hexane	3.75	3.37	3.42	89.9	91.2	70.0-130			1.47	25
Isopropylbenzene	3.75	3.37	3.49	89.9	93.1	70.0-130			3.50	25
Methylene Chloride	3.75	3.28	3.34	87.5	89.1	70.0-130			1.81	25
Methyl Butyl Ketone	3.75	3.34	3.37	89.1	89.9	70.0-149			0.894	25
2-Butanone (MEK)	3.75	3.34	3.37	89.1	89.9	70.0-130			0.894	25

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

(LCS) R4077379-1 06/04/24 08:52 • (LCSD) R4077379-2 06/04/24 09:28

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
4-Methyl-2-pentanone (MIBK)	3.75	3.40	3.45	90.7	92.0	70.0-139			1.46	25
Methyl methacrylate	3.75	3.34	3.38	89.1	90.1	70.0-130			1.19	25
MTBE	3.75	3.26	3.29	86.9	87.7	70.0-130			0.916	25
Naphthalene	3.75	3.46	3.72	92.3	99.2	70.0-159			7.24	25
2-Propanol	3.75	3.32	3.38	88.5	90.1	70.0-139			1.79	25
Propene	3.75	3.41	3.57	90.9	95.2	64.0-144			4.58	25
Styrene	3.75	6.72	6.95	179	185	70.0-130	J4	J4	3.37	25
1,1,2,2-Tetrachloroethane	3.75	3.31	3.38	88.3	90.1	70.0-130			2.09	25
Tetrachloroethylene	3.75	3.38	3.38	90.1	90.1	70.0-130			0.000	25
Tetrahydrofuran	3.75	3.29	3.34	87.7	89.1	70.0-137			1.51	25
Toluene	3.75	3.52	3.46	93.9	92.3	70.0-130			1.72	25
1,2,4-Trichlorobenzene	3.75	3.27	3.54	87.2	94.4	70.0-160			7.93	25
1,1,1-Trichloroethane	3.75	3.31	3.37	88.3	89.9	70.0-130			1.80	25
1,1,2-Trichloroethane	3.75	3.37	3.45	89.9	92.0	70.0-130			2.35	25
Trichloroethylene	3.75	3.40	3.44	90.7	91.7	70.0-130			1.17	25
1,2,4-Trimethylbenzene	3.75	3.33	3.42	88.8	91.2	70.0-130			2.67	25
1,3,5-Trimethylbenzene	3.75	3.46	3.45	92.3	92.0	70.0-130			0.289	25
2,2,4-Trimethylpentane	3.75	3.39	3.49	90.4	93.1	70.0-130			2.91	25
Vinyl chloride	3.75	3.52	3.68	93.9	98.1	70.0-130			4.44	25
Vinyl Bromide	3.75	3.37	3.41	89.9	90.9	70.0-130			1.18	25
Vinyl acetate	3.75	3.53	3.78	94.1	101	70.0-130			6.84	25
m&p-Xylene	7.50	6.70	6.91	89.3	92.1	70.0-130			3.09	25
o-Xylene	3.75	3.26	3.42	86.9	91.2	70.0-130			4.79	25
TPH (GC/MS) Low Fraction	188	167	171	88.8	91.0	70.0-130			2.37	25
(S) 1,4-Bromofluorobenzene				*96.4*	*99.5*	*60.0-140*				

Method Blank (MB)

(MB) R4078035-3 06/05/24 10:20

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Acetone	U		0.584	1.25
Allyl chloride	U		0.114	0.200
Benzene	U		0.0715	0.200
Benzyl Chloride	U		0.0598	0.200
Bromodichloromethane	U		0.0702	0.200
Bromoform	U		0.0732	0.600
Bromomethane	U		0.0982	0.200
1,3-Butadiene	U		0.104	2.00
Carbon disulfide	U		0.102	0.400
Carbon tetrachloride	U		0.0732	0.200
Chlorobenzene	U		0.0832	0.200
Chloroethane	U		0.0996	0.200
Chloroform	U		0.0717	0.200
Chloromethane	U		0.103	0.200
2-Chlorotoluene	U		0.0828	0.200
Cyclohexane	U		0.0753	0.200
Dibromochloromethane	U		0.0727	0.200
1,2-Dibromoethane	U		0.0721	0.200
1,2-Dichlorobenzene	U		0.128	0.200
1,3-Dichlorobenzene	U		0.182	0.200
1,4-Dichlorobenzene	U		0.0557	0.200
1,2-Dichloroethane	U		0.0700	0.200
1,1-Dichloroethane	U		0.0723	0.200
1,1-Dichloroethene	U		0.0762	0.200
cis-1,2-Dichloroethene	U		0.0784	0.200
trans-1,2-Dichloroethene	U		0.0673	0.200
1,2-Dichloropropane	U		0.0760	0.200
cis-1,3-Dichloropropene	U		0.0689	0.200
trans-1,3-Dichloropropene	U		0.0728	0.200
1,4-Dioxane	U		0.0833	0.630
Ethanol	0.321	J	0.265	2.50
Ethylbenzene	U		0.0835	0.200
4-Ethyltoluene	U		0.0783	0.200
Trichlorofluoromethane	U		0.0819	0.200
Dichlorodifluoromethane	U		0.137	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0793	0.200
1,2-Dichlorotetrafluoroethane	U		0.0890	0.200
Heptane	U		0.104	0.200
Hexachloro-1,3-butadiene	U		0.105	0.630
n-Hexane	U		0.206	0.630

Method Blank (MB)

(MB) R4078035-3 06/05/24 10:20

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Isopropylbenzene	U		0.0777	0.200
Methylene Chloride	U		0.0979	0.200
Methyl Butyl Ketone	U		0.133	1.25
2-Butanone (MEK)	U		0.0814	1.25
4-Methyl-2-pentanone (MIBK)	U		0.0765	1.25
Methyl methacrylate	U		0.0876	0.200
MTBE	U		0.0647	0.200
Naphthalene	U		0.350	0.630
2-Propanol	U		0.264	1.25
Propene	U		0.0932	1.25
Styrene	U		0.0788	0.400
1,1,2,2-Tetrachloroethane	U		0.0743	0.200
Tetrachloroethylene	U		0.0814	0.200
Tetrahydrofuran	U		0.0734	0.200
Toluene	U		0.0870	0.500
1,2,4-Trichlorobenzene	U		0.148	0.630
1,1,1-Trichloroethane	U		0.0736	0.200
1,1,2-Trichloroethane	U		0.0775	0.200
Trichloroethylene	U		0.0680	0.200
1,2,4-Trimethylbenzene	U		0.0764	0.200
1,3,5-Trimethylbenzene	U		0.0779	0.200
2,2,4-Trimethylpentane	U		0.133	0.200
Vinyl chloride	U		0.0949	0.200
Vinyl Bromide	U		0.0852	0.200
Vinyl acetate	U		0.116	0.630
m&p-Xylene	U		0.135	0.400
o-Xylene	U		0.0828	0.200
TPH (GC/MS) Low Fraction	U		39.7	200
(S) 1,4-Bromofluorobenzene	*100*			*60.0-140*

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

(LCS) R4078035-1 06/05/24 09:03 • (LCSD) R4078035-2 06/05/24 09:42

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	3.75	3.49	3.54	93.1	94.4	70.0-130			1.42	25
Allyl chloride	3.75	3.61	3.68	96.3	98.1	70.0-130			1.92	25
Benzene	3.75	3.76	3.78	100	101	70.0-130			0.531	25
Benzyl Chloride	3.75	3.92	3.94	105	105	70.0-152			0.509	25

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

(LCS) R4078035-1 06/05/24 09:03 • (LCSD) R4078035-2 06/05/24 09:42

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Bromodichloromethane	3.75	3.74	3.78	99.7	101	70.0-130			1.06	25
Bromoform	3.75	3.75	3.74	100	99.7	70.0-130			0.267	25
Bromomethane	3.75	3.87	3.73	103	99.5	70.0-130			3.68	25
1,3-Butadiene	3.75	3.70	3.76	98.7	100	70.0-130			1.61	25
Carbon disulfide	75.0	7.60	7.65	10.1	102	70.0-130			0.656	25
Carbon tetrachloride	3.75	3.78	3.82	101	102	70.0-130			1.05	25
Chlorobenzene	3.75	3.77	3.82	101	102	70.0-130			1.32	25
Chloroethane	3.75	4.00	3.72	107	99.2	70.0-130			7.25	25
Chloroform	3.75	3.74	3.77	99.7	101	70.0-130			0.799	25
Chloromethane	3.75	3.78	3.77	101	101	70.0-130			0.265	25
2-Chlorotoluene	3.75	3.75	3.73	100	99.5	70.0-130			0.535	25
Cyclohexane	3.75	3.83	3.85	102	103	70.0-130			0.521	25
Dibromochloromethane	3.75	3.78	3.77	101	101	70.0-130			0.265	25
1,2-Dibromoethane	3.75	3.82	3.80	102	101	70.0-130			0.525	25
1,2-Dichlorobenzene	3.75	3.66	3.71	97.6	98.9	70.0-130			1.36	25
1,3-Dichlorobenzene	3.75	3.69	3.74	98.4	99.7	70.0-130			1.35	25
1,4-Dichlorobenzene	3.75	3.67	3.76	97.9	100	70.0-130			2.42	25
1,2-Dichloroethane	3.75	3.69	3.72	98.4	99.2	70.0-130			0.810	25
1,1-Dichloroethane	3.75	3.84	3.90	102	104	70.0-130			1.55	25
1,1-Dichloroethene	3.75	3.87	3.87	103	103	70.0-130			0.000	25
cis-1,2-Dichloroethene	3.75	3.81	3.85	102	103	70.0-130			1.04	25
trans-1,2-Dichloroethene	3.75	3.84	3.78	102	101	70.0-130			1.57	25
1,2-Dichloropropane	3.75	3.79	3.80	101	101	70.0-130			0.264	25
cis-1,3-Dichloropropene	3.75	3.86	3.85	103	103	70.0-130			0.259	25
trans-1,3-Dichloropropene	3.75	3.83	3.83	102	102	70.0-130			0.000	25
1,4-Dioxane	3.75	3.74	3.75	99.7	100	70.0-140			0.267	25
Ethanol	3.75	3.97	3.86	106	103	55.0-148			2.81	25
Ethylbenzene	3.75	3.85	3.93	103	105	70.0-130			2.06	25
4-Ethyltoluene	3.75	3.73	3.78	99.5	101	70.0-130			1.33	25
Trichlorofluoromethane	3.75	3.78	3.82	101	102	70.0-130			1.05	25
Dichlorodifluoromethane	3.75	3.88	3.84	103	102	64.0-139			1.04	25
1,1,2-Trichlorotrifluoroethane	3.75	3.81	3.83	102	102	70.0-130			0.524	25
1,2-Dichlorotetrafluoroethane	3.75	3.85	3.88	103	103	70.0-130			0.776	25
Heptane	3.75	3.87	3.87	103	103	70.0-130			0.000	25
Hexachloro-1,3-butadiene	3.75	3.65	3.75	97.3	100	70.0-151			2.70	25
n-Hexane	3.75	3.84	3.89	102	104	70.0-130			1.29	25
Isopropylbenzene	3.75	3.80	3.78	101	101	70.0-130			0.528	25
Methylene Chloride	3.75	3.70	3.70	98.7	98.7	70.0-130			0.000	25
Methyl Butyl Ketone	3.75	3.82	3.85	102	103	70.0-149			0.782	25
2-Butanone (MEK)	3.75	3.75	3.83	100	102	70.0-130			2.11	25

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

(LCS) R4078035-1 06/05/24 09:03 • (LCSD) R4078035-2 06/05/24 09:42

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
4-Methyl-2-pentanone (MIBK)	3.75	3.74	3.78	99.7	101	70.0-139			1.06	25
Methyl methacrylate	3.75	3.78	3.85	101	103	70.0-130			1.83	25
MTBE	3.75	3.79	3.80	101	101	70.0-130			0.264	25
Naphthalene	3.75	3.85	3.92	103	105	70.0-159			1.80	25
2-Propanol	3.75	3.68	3.72	98.1	99.2	70.0-139			1.08	25
Propene	3.75	3.73	3.67	99.5	97.9	64.0-144			1.62	25
Styrene	7.50	7.99	8.06	107	107	70.0-130			0.872	25
1,1,2,2-Tetrachloroethane	3.75	3.65	3.68	97.3	98.1	70.0-130			0.819	25
Tetrachloroethylene	3.75	3.75	3.75	100	100	70.0-130			0.000	25
Tetrahydrofuran	3.75	3.75	3.75	100	100	70.0-137			0.000	25
Toluene	3.75	3.79	3.83	101	102	70.0-130			1.05	25
1,2,4-Trichlorobenzene	3.75	3.69	3.77	98.4	101	70.0-160			2.14	25
1,1,1-Trichloroethane	3.75	3.85	3.84	103	102	70.0-130			0.260	25
1,1,2-Trichloroethane	3.75	3.79	3.80	101	101	70.0-130			0.264	25
Trichloroethylene	3.75	3.74	3.76	99.7	100	70.0-130			0.533	25
1,2,4-Trimethylbenzene	3.75	3.73	3.82	99.5	102	70.0-130			2.38	25
1,3,5-Trimethylbenzene	3.75	3.74	3.77	99.7	101	70.0-130			0.799	25
2,2,4-Trimethylpentane	3.75	3.91	3.90	104	104	70.0-130			0.256	25
Vinyl chloride	3.75	3.75	3.79	100	101	70.0-130			1.06	25
Vinyl Bromide	3.75	3.81	3.81	102	102	70.0-130			0.000	25
Vinyl acetate	3.75	3.98	3.94	106	105	70.0-130			1.01	25
m&p-Xylene	7.50	7.76	7.84	103	105	70.0-130			1.03	25
o-Xylene	3.75	3.82	3.85	102	103	70.0-130			0.782	25
TPH (GC/MS) Low Fraction	188	183	181	97.3	96.3	70.0-130			1.10	25
(S) 1,4-Bromofluorobenzene				*99.0*	*98.4*	*60.0-140*				

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.
ND	Not detected at the Reporting Limit (or MDL where applicable).
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.
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.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
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.

Pace® Location Requested (City/State):

Air CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY- Affix Workorder/Login Label Here

Scan QR code for instructions

L-110

Company Name: **Arcadis - Chevron - AK**	Contact/Report To: **Nick Wood**
Street Address: **880 H St. Anchorage, AK 99501**	Phone #: **907-276-8095**
	E-Mail: **Nick.Wood@arcadis.com;environmentDM-India@arcadis.com:molly.whitcomb@arcadis.com:matthew.woo**
City, State Zip:	Cc E-Mail:
Customer Project #: **30064227.21.41**	Invoice to:
Project Name: **309152**	Invoice E-Mail:
Site Collection Info/Facility ID (as applicable): **CHEVARCAK-309152 6223 OLD AIRPORT ROAD, FAI**	Purchase Order # (if applicable):
~~DRAN~~	Quote #:
Time Zone Collected: [X] AK [ ] PT [ ] MT [ ] CT [ ] ET	State origin of sample(s): Fairbanks, AK

Data Deliverables:
[ ] Level II [ ] Level III [ ] Level IV
[ ] EQUIS
[ ] Other_____

Regulatory Program (CAA, RCRA, etc.) as applicable:

Rush (Pre-approval required): 2 Day 3 day 5 day Other_____

Date Results Requested:

Permit # as applicable:

Units for Reporting: ug/m³ PPBV mg/m³ PPMV

Field Information

Analyses Requested

T45/19/24

Proj. Manager: **110 - Brian Ford**

AcctNum / Client ID: **CHEVARCAK**

Table #:

Profile / Template: **T234281**

Prelog / Bottle Ord. ID: **P1074395**

Lab Use Only

* Matrix Codes (Insert in Matrix box below): Ambient (A), Indoor (I), Soil Vapor (SV), Other (O)

Customer Sample ID	Matrix *	Summa Canister ID	Flow Controller ID	Begin Collection Date	Begin Collection Time	End Collection Date	End Collection Time	Canister Pressure / Vacuum: Start Pressure / Vacuum (in Hg)	Canister Pressure / Vacuum: End Pressure / Vacuum (in Hg)	PUF / FILTER: Duration (minutes)	PUF / FILTER: Flow Rate m^3/min or L/min	PUF / FILTER: Total Volume Sampled m^3 or L	VOCs/GRO TO-15 Summa				Sample Comment
Effluent-A-20240528	Air	013783	022441	5/28/24	1820	5/28/24	1830	-28	-5	10			X				L174262-01
Effluent-A-20240528	Air	028354	020840	5/28/24	1840	5/28/24	1850	-26	-5	10			X				R

Sample Receipt Checklist
COC Seal Present/Intact: Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Size: 2 Airs 1L 6L 1.4L
Tage Color: G W 2 P B
Tubing Shunt
Unused: 1
T/P#: —

Customer Remarks / Special Conditions / Possible Hazards:

Collected By:
Printed Name:
Signature:

Additional Instructions from Pace®:

Coolers: Thermometer ID: Correction Factor (°C): Obs. Temp. (°C): Corrected Temp. (°C):

Relinquished by/Company: (Signature) E Zn	Date/Time: 5/29/24	Received by/Company: (Signature)	Date/Time:	Tracking Number:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time: EW 5/30 0900	Delivered by: In- Person Courier
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature) Edward Wilson	Date/Time: 5/30	FedEx UPS Other
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	Page: ____ of: ____

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace® Terms and Conditions found at https://www.pacelabs.com/resource-library/resource/pace-terms-and-conditions/

Appendix C

Laboratory Data Review Checklist

Laboratory Data Review Checklist

Completed By:

Bhagyashree A Fulzele

Title:

Project Chemist

Date:

July 02, 2024

Consultant Firm:

ARCADIS U.S., Inc

Laboratory Name:

Pace Analytical

Laboratory Report Number:

L1741262

Laboratory Report Date:

06/10/2024

CS Site Name:

First Semi Annual 2024 Groundwater Monitoring Report

ADEC File Number:

100.38.206

Hazard Identification Number:

4314

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:

Not applicable to air matrix.

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

   Yes☐ No☐ N/A☒ Comments:

Not applicable to air matrix.

   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 or 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:

Not applicable.

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:

No.

Sample locations associated with the LCS/LCSD exhibiting recoveries outside of the control limits are presented in the following table.

Sample ID	Method	Compounds	LCS Recovery	LCSD Recovery
EFFLUENT-A-20240528	TO-15	Carbon disulfide	>UL	>UL
		Styrene	>UL	>UL

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:

No.

Sample locations associated with LCS/LCSD recoveries exhibiting an RPD greater than of the control limit presented in the following table.

Sample ID	Compound
EFFLUENT-A-20240528	Ethanol

The criteria used to evaluate the RPD between the LCS/LCSD recoveries are presented in the following table. In the case of an RPD deviation, the sample results are qualified as documented in the table below.

Control Limit	Sample Result	Qualification
> UL	Non-detect	UJ
	Detect	J

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

Comments:

RPD:
TO-15: Compound Ethanol result in sample ID EFFLUENT-A-20240528 was qualified as estimated (UJ).

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

Yes☒ No☐ N/A☐ Comments:

Yes.

vii. Is the data quality or usability affected? (Use comment box to explain.)

Comments:

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

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

Note: Leave blank if not required for project

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

Yes☐ No☐ N/A☒ Comments:

Not applicable.

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

Yes☐ No☐ N/A☒ Comments:

Not applicable.

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:

Not applicable.

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:

Not applicable.

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:

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. Is the data quality or usability affected?

Comments:

Data quality or usability was not affected.

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 samples 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:

No.

ii. Was the duplicate submitted blind to lab?

Yes☐ No☐ N/A☒ Comments:

Not applicable.

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

$$\text{RPD (\%)} = \text{Absolute value of: } \frac{(R1-R2)}{((R1+R2)/2)} \times 100$$

Where R1 = Sample Concentration
R2 = Field Duplicate Concentration

Yes☐ No☐ N/A☒ Comments:

Not applicable.

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 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, specify what samples are affected?

Comments:

None of the samples were affected.

iv. Are data quality or usability affected?

Comments:

Data quality or usability was not affected.

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

a. Are they defined and appropriate?

Yes☒ No☐ N/A☐ Comments:

Yes.

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