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Date: October 28, 2024

Our Ref: 30064227

Subject: Third Quarter 2024 Remediation System Operations and Maintenance Report

www.arcadis.com

Dear Rebekah Reams,

On behalf of Chevron Environmental Management Company, Arcadis US, Inc. has prepared the attached Third 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

Third 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 28, 2024

Third 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:
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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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Laboratory Data Review Checklist

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 Third 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 July 2024 to September 2024 and presents the SVE effluent sampling results recorded on July 24, 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 64.822811° north and 147.859151° 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 split 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 July 24, 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 third quarter 2024 remedial system O&M activities were conducted on July 24 and September 16, 2024. Data collected during system O&M activities are included on the data sheets and field notes contained in **Appendix A**. On July 24, 2024, SVE system effluent sampling was conducted. Benzene and total xylenes were detected at concentrations of 0.00809 part per million by volume (ppmv) and 1.461 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 July 24, 2024, to September 16, 2024, the SVE system operated 1,603 hours with a run time of approximately 64%.

The SVE system effluent flow rate measured during the third quarter 2024 ranged from 151 to 165 standard cubic feet per minute (SCFM). Mass removal calculations based upon the system flow rates and system effluent concentration data indicate that 766 pounds of GRO were removed from the subsurface by the SVE system during the third quarter 2024. The cumulative mass of GRO removed from the subsurface since system startup is approximately 4,166 pounds. Mass removal calculations based upon the system flow rates and system effluent concentration data indicate that approximately 8.5 pounds of cumulative BTEX were removed from the subsurface by the SVE system during the third quarter 2024. The cumulative mass of BTEX removed from the subsurface since system startup is approximately 29.1 pounds. SVE system performance results and mass removal calculations through the third 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 third quarter 2024 O&M event. The following list summarizes the quality and usability of the data presented in this Third 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.
- Accuracy - The percent recoveries reported were above the upper control limit for 1,4-bromofluorobenzene; however, the data meets the accuracy 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 Third 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 July 24, 2024, and September 16, 2024, the average BTEX mass recovery rate was approximately 0.13 lbs/day and the average GRO mass recovery rate was approximately 11.5 lbs/day. The BTEX mass removed during this period was approximately 8.5 lbs and the GRO mass removed during this period was approximately 766 lbs. Cumulative mass removed since system startup in 2022 was approximately 4,166 lbs for GRO and 29.1 lbs for BTEX. From July 24, 2024, to September 16, 2024, the SVE system operated 1,603 hours with a run time of approximately 64%.

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.

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	
07/24/24	3956	7394	455.0	151.0	0.0002	0.00809	0.500	0.2000	1.4610	200	0.12	2.3	22.9	11.11	211	3,611	
08/16/24	4349	7787	393.0	165.0							0.14	2.2	25.1	12.13	199	3,809	
09/16/24	5104	8542	755.0	154.0							0.13	4.0	29.1	11.33	356	4,166	

TABLE 1 EXPLANATIONS

REPORTING PERIOD:	3Q2024
GRO POUNDS REMOVED DURING PERIOD:	766
GRO POUNDS REMOVED TO DATE:	4,166
BTEX POUNDS REMOVED DURING PERIOD:	8.5
BTEX POUNDS REMOVED TO DATE:	29.1
PERIOD AVERAGE FLOW RATE (SCFM):	115.4
PERIOD OPERATIONAL HOURS:	1,603
PERIOD PERCENT OPERATIONAL:	64%
PERIOD AVERAGE GRO MASS RECOVERY RATE (lbs/day)	11.5

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:

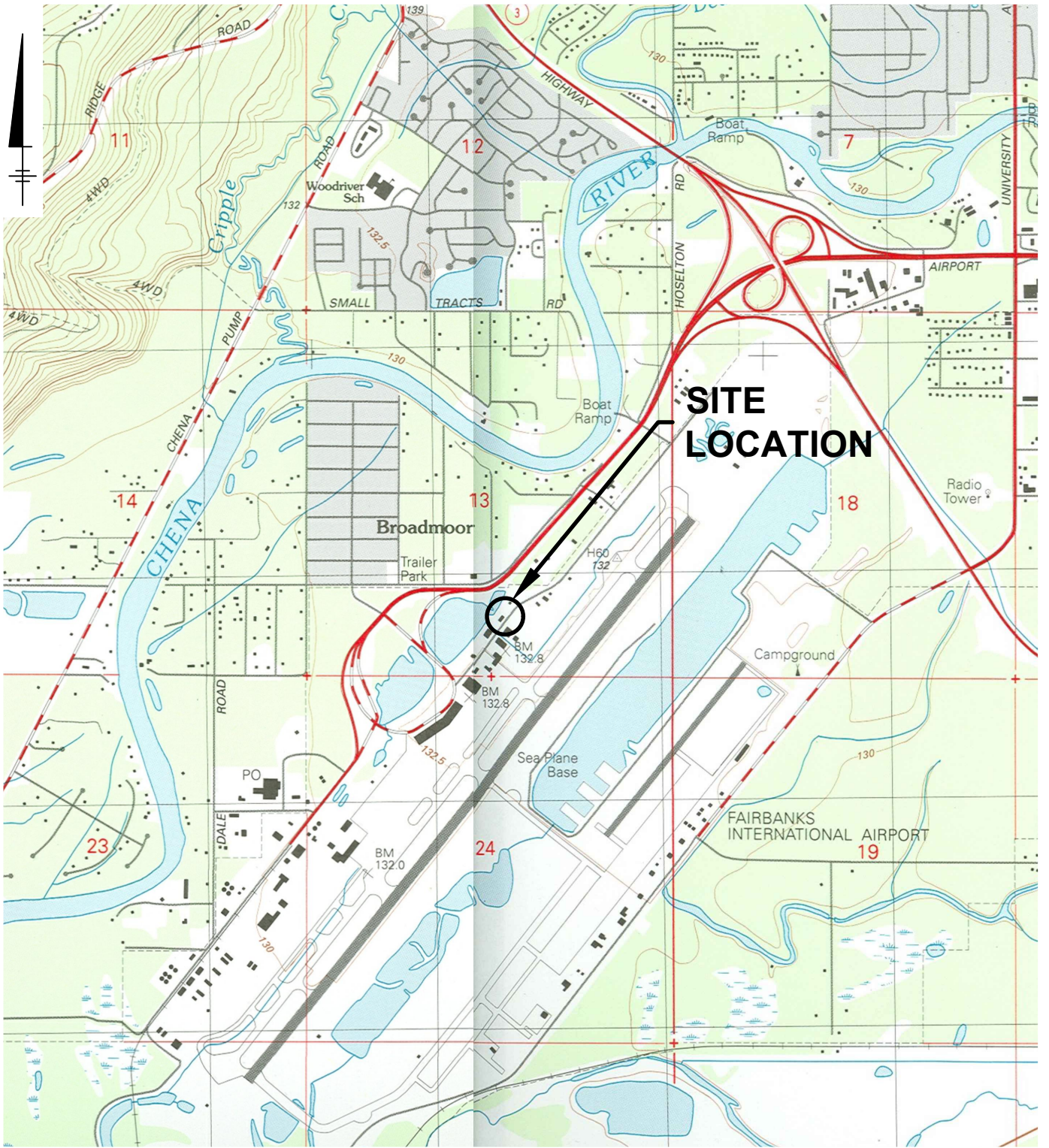
¹ Analyzed by USEPA Method TO-15.

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

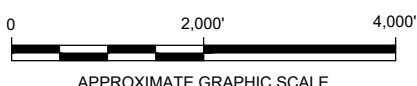
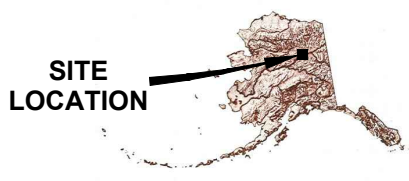
Figures



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

XREFS:
 AGAR2022-X-TITLE

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



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

SITE LOCATION MAP

FIGURE
1



XREFS:
WP-X00-FAP

IMAGES:
Aerial.jpg
Arcadis Logo.png

LEGEND:

--- SITE BOUNDARY



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

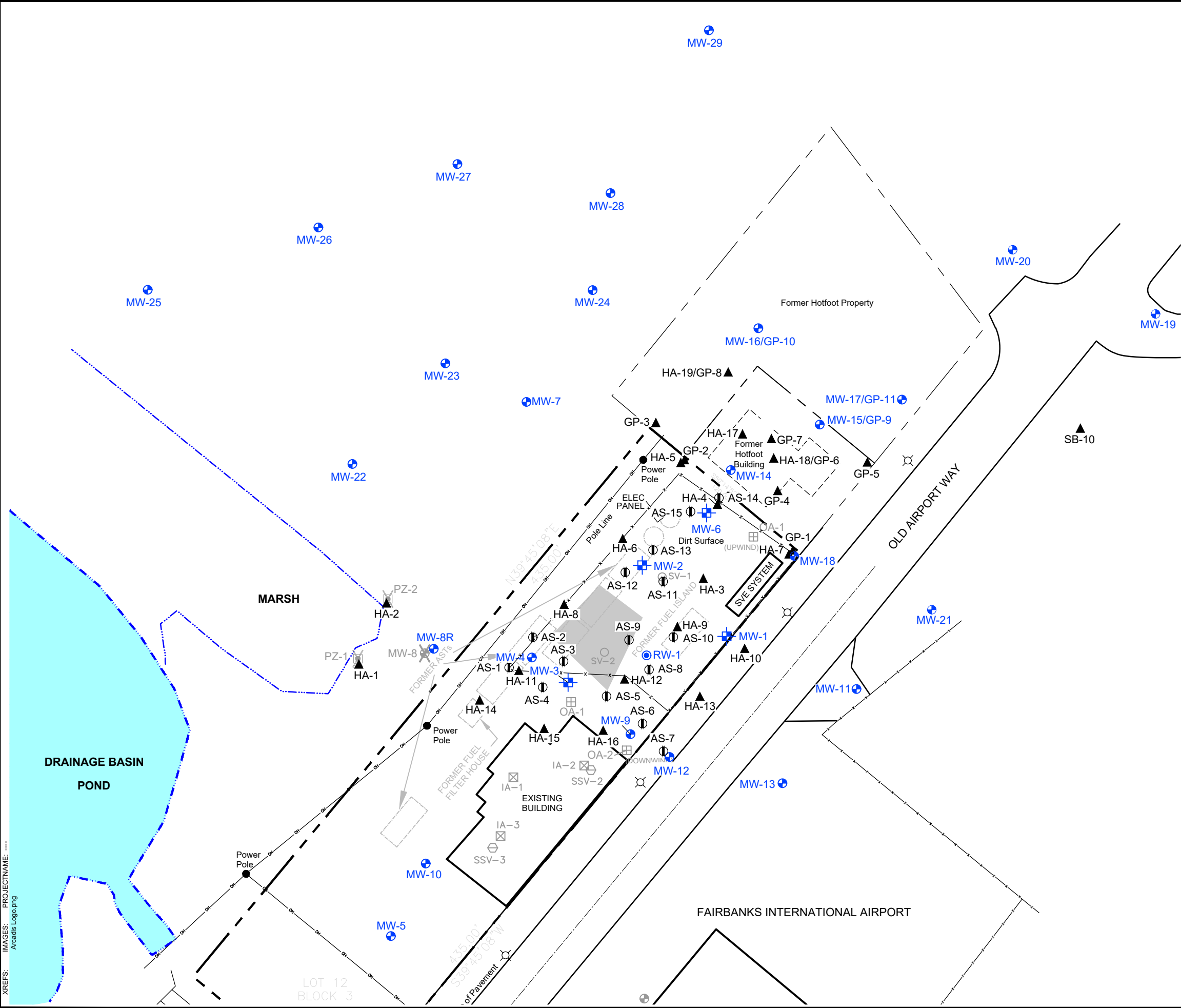
AERIAL PHOTOGRAPH



FIGURE

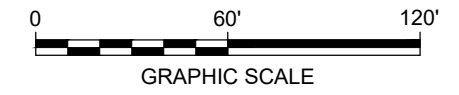
2

C:\Users\bra1276\OneDrive\Arcadis\ACC_US\AUS-99999999-CHEV_309152_FAIRBANKS_ALI\ProjectFiles\10_WIP\101T_ARC_ENV\2024\101-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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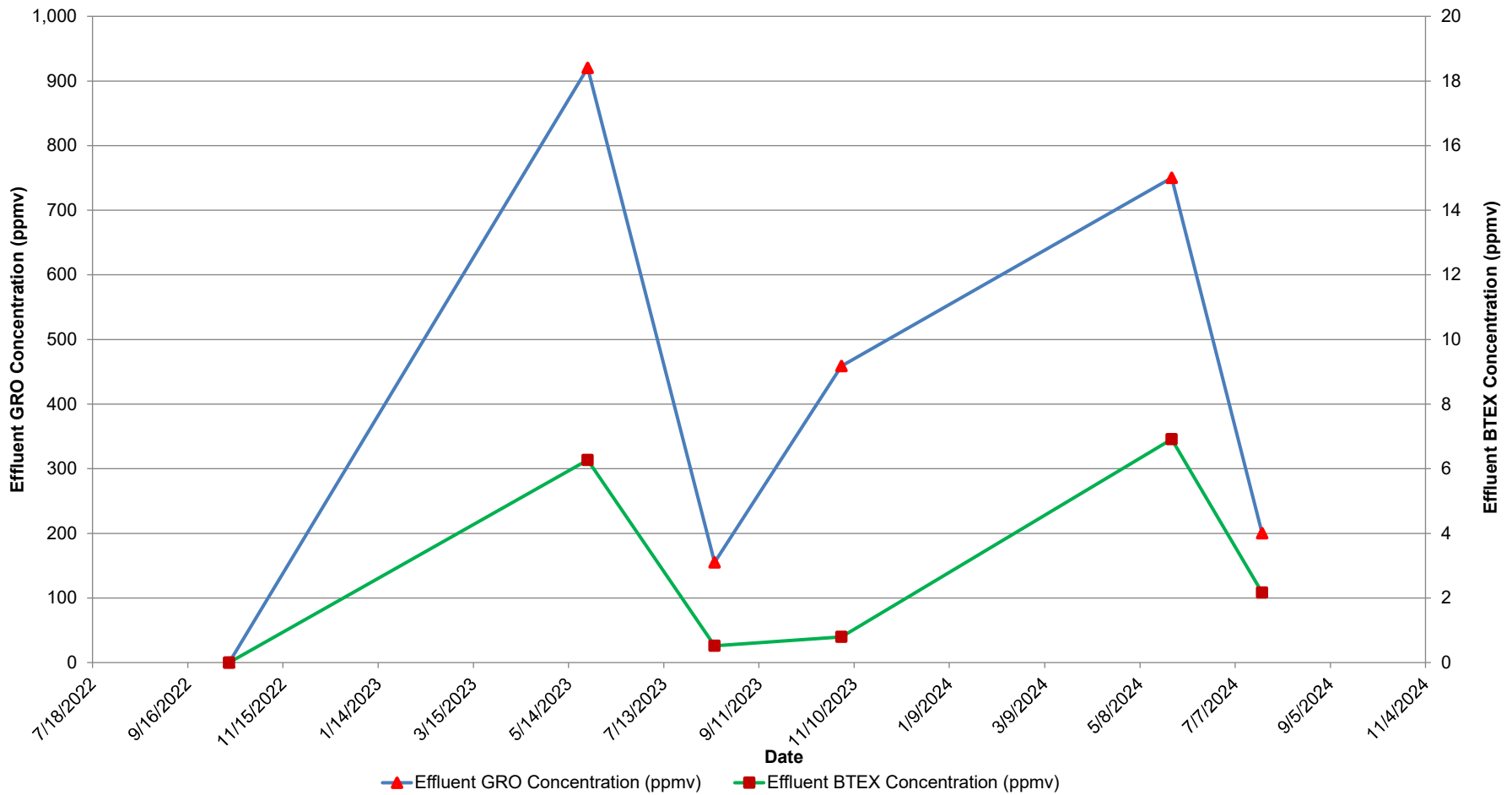
LEGEND

- 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-10 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



- 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 system are installed above-grade and not shown.

FORMER CHEVRON FACILITY 309152 6223 OLD AIRPORT ROAD, FAIRBANKS, ALASKA SECOND QUARTER 2024 OPERATIONS AND MAINTENANCE REPORT	
<h2 style="margin: 0;">SITE PLAN</h2>	
	FIGURE <h1 style="margin: 0;">3</h1>



Notes:

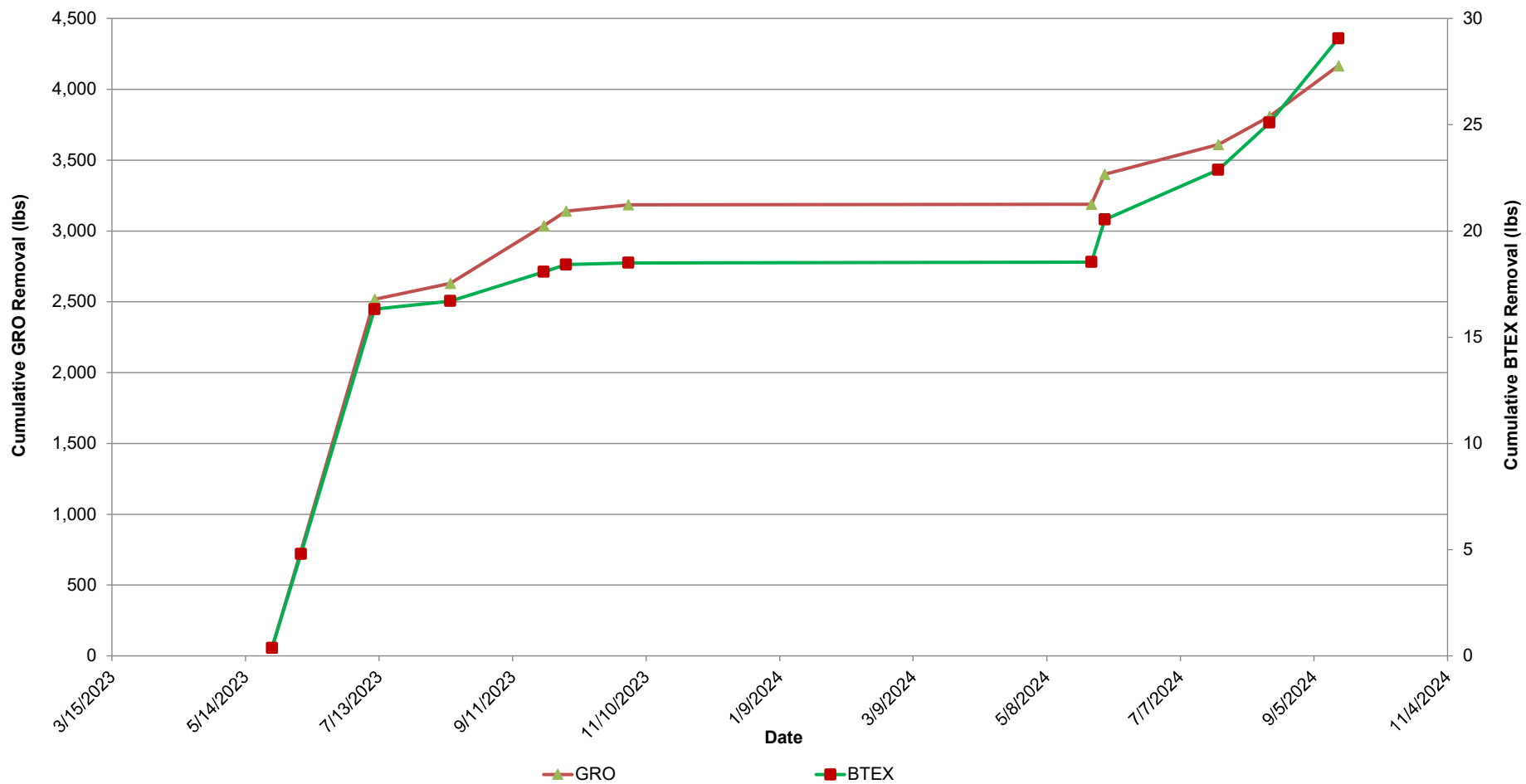
GRO = Gasoline range organics
 BTEX = Benzene, toluene, ethylbenzene and total xylenes
 ppmv = parts per million by volume

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

EFFLUENT GRO AND BTEX CONCENTRATIONS



**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**



FIGURE
5

Appendix A

O&M Data Sheets and Field Notes

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 , Chris Metz

Weather(°F)	PPE	Equipment
CLOUDS, T:62.49 °F, rH:78%, Clouds: 100%, Wind:8.05mph W-NW		Interface Probe (IP), Photoionization Detector (PID), 4-gas Meter

Date	Time	Description of Activities
07/24/2024	2:00	System restarted and dilution set from 10% to 35% to minimize water pull. System gauged
07/24/2024	3:30	Load vehicle Mobilize offsite
07/24/2024	12:30	Arrive on site Open permit to work
07/24/2024	13:00	System down upon arrival. Drained KO tank. Roughly 70 gallons drummed. Site inspected before gauging.
07/24/2024	15:00	Effluent samples collected. E stops functioning

Signature



**SVE SYSTEM
Field Data Sheet**

PART A: GENERAL INFORMATION

Site Location: 309152 - Saupe 1. Date & Time: 7/24/24 1130

2. Technician E. Wejritz / C. Metz 3. Outside Ambient Temperature: 75°F

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

4. Meter Base Reading 834 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

9. Field Instruments Used: RKI Eagle II Last Calibrated: 7/18/24 Serial #: 32916
M.M. RAE 3000 Last Calibrated: 7/18/24 Serial #: 39399
velocicalk Last Calibrated: 6/20/24 Serial #: 14141

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 Moisture Separator	Alarm	OK
VIT-101	vacuum switch low	OK	
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		
Intrusion	Intrusion 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 7399 At Time: ~~11:30~~ 11:30

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

13. SVE Header Data

Flow Data	Influent Arrival	Effluent Arrival	Influent Departure	Effluent Departure	Target Values
Dilution Valve (% open)	10	10	35	35	0 to 5
Exhaust Temperature (degrees F)	172	151			150 to 200
Total Flow (SCFM)	105	815			225 to 275
System Vacuum (inHg)	7.5	—			1.5 to 2.5
Exhaust Stack Pressure (psig)	—	0			<0.5
Knockout Drum (in WC)	8	—			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	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	22.8	3	12.7	0	270	15.7	NM	4.2	NM
RW-1	20	4-9	8.8	0	222	81.1	19.8	12.0	
MW-3	30.7	3	9.8	0	269	28.3		14.5	
MW-4	17.6	0	16.3	0	71	10.6		3.3	
MW-2	5.8	0	20.2	0	47	0.8		0.0	
Exhaust Stack	110	0	16.6	0	128	0.6		—	
Target Values	70 to 110	0.0	20.9	0 to 3	0 to 200	0 to 15		0 to 10	

Monitoring Well ID	Vacuum (in H2O)	Methane ppm	Oxygen (%)	CO ₂ (%)	PID (ppm)	Depth to LNAPL (ft)	Depth to Water (ft)
MW-1	1.0	0	20.9	0	14	+	11.96
MW-8R	0.5	0	20.9	0	0	—	4.30
MW-12	1.2	0	20.9	0	3	—	11.95
MW-14	0	0	20.9	0	0	—	8.81

Comments: Exhaust temp 159°F velocity calc

15. SUMMA SAMPLE INFORMATION

Effluent Sample ID:	Effluent F-A - 2024 07 24	Effluent F-A - 2024 07 24
Summa Canister #:	015166	009216
Date & Time:	7/24/24 C	7/24/24 C
Initial Vac (inHg):	-30	-28
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 → KO half full. Drained
 KO water

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 valve 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



Scan QR code for instructions

Air CHAIN-OF-CUSTODY Analytical Request Document
Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

Pace® Location Requested (City/State):



Company Name: **Arcadis - Chevron - AK**
Street Address: **880 H St, Anchorage, AK 99501**
City, State Zip: **ANCHORAGE, AK**
Contact/Report To: **Nick Wood**
Phone #: **907-276-8095**
E-Mail: **Nick.Wood@arcadis.com; environmentDM-India@arcadis.com; moliv.whitcomb@arcadis.com; matthew.woo**
Cc E-Mail:

Invoice to: **30064227.21.41**
Invoice #: **309152**
Purchase Order # (if applicable):
Quote #:
State original sample(s): **Permit # as applicable: 582-145-d**

Regulatory Program (CAA, RCRA, etc.) as applicable:
Rush (Pre-approval required):
Date Results Requested:
Permit # as applicable:
Units for Reporting: **ug/m³ PPBV mg/m³ PPMV**

Customer Project #: **30064227.21.41**
Project Name: **309152**
Site Collection Info/Facility ID (as applicable):
CHEVARCAK-309152 6223 OLD AIRPORT ROAD, FAI
Time Zone Collected: AK MT CT ET

Data Deliverables: Level II Level III Level IV Other: _____
 EQUIS Other: _____
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
E Client - A - 20210724	Air	01216	07007	7/24	11:00	7/24	14:10
E Client - A - 20210724	Air	02007	02948	7/24	11:10	7/24	14:20
		00921					

Customer Remarks / Special Conditions / Possible Hazards:
Collected By: **C. Wynn**
Printed Name:
Signature: *[Signature]*
Received by/Company: (Signature)
309152 / Arcadis
Date/Time: **7/24/21 1600**
Relinquished by/Company: (Signature)
Relinquished by/Company: (Signature)
Relinquished by/Company: (Signature)
Relinquished by/Company: (Signature)

Field Information	Canister Pressure / Vacuum	End Pressure / Vacuum (in Hg)	Duration (minutes)	Flow Rate m³/min or L/min	Total Volume Sampled m³ or L	Analyses Requested	Lab Use Only	
							PUF / FILTER	Sample Comment
						VOCs/GRO TO-15 Summa		
			10			X		
			10			X		

Proj. Manager: **110 - Brian Ford**
ActNum / Client ID: **CHEVARCAK**
Table #: **T234281**
Profile / Template: **P1087330**

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:66.54 °F, rH:56%, Clouds: 75%, Wind:23.02mph SE		Interface Probe (IP), Photoionization Detector (PID), 4- gas Meter

Date	Time	Description of Activities
08/16/2024	7:30	Arrive on site Open permit to work
08/16/2024	8:00	System down running arrival. Site inspected before gauging.
08/16/2024	10:00	E stops functioning
08/16/2024	21:00	System gauged
08/16/2024	22:30	Load vehicle Mobilize offsite

Signature



**SVE SYSTEM
Field Data Sheet**

PART A: GENERAL INFORMATION

Site Location: 309152 - Saupe 1. Date & Time: 8/16/24 @ 0800

2. Technician E. Wojcik 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
 Electrical Power: V 580 60 Hz Serial #: U093704426

4. Meter Base Reading 862 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

9. Field Instruments Used: Vaporical Last Calibrated: 8/12/24 Serial #: 048 664
RKI Edge II Last Calibrated: 8/12/24 Serial #: 32916
Mini-PAC 3000 Last Calibrated: 8/12/24 Serial #: 39399

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 Moisture 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		
Intrusion	Intrusion 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 7787 At Time: 0830

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

13. SVE Header Data

Flow Data	Influent Arrival	Effluent Arrival	Influent Departure	Effluent Departure	Target Values
Dilution Valve (% open)	33	33			0 to 5
Exhaust Temperature (degrees F)	74	161.50			150 to 200
Total Flow (SCFM)	52	165			225 to 275
System Vacuum (inHg)	4.5	-			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	Oxygen (%)	CO ₂ (%)	PID (ppm)	Initial Vacuum Manifold (in H ₂ O)	Final Vacuum Manifold (in H ₂ O)	Initial Vacuum Well Head (in H ₂ O)	Final Vacuum Well Head (in H ₂ O)
MW-9	25.2	1	20.1	0	175	13.4		4.6	
RW-1	14.4	3	14.6	0	310	4.8		12.0	
MW-3	20.8	1	19.0	0	153	29.3		27.2	
MW-4	29.6	0	20.7	0	65	8.4		5.3	
MW-2	16.0	0	20.9	0	38	0.1		0.1	
Exhaust Stack	204.5	0	20.1	0	81	0.6			
Target Values	70 to 110	0.0	20.9	0 to 3	0 to 200	0 to 15		0 to 10	

Monitoring Well ID	Vacuum (in H ₂ O)	Methane ppm	Oxygen (%)	CO ₂ (%)	PID (ppm)	Depth to LNAPL (ft)	Depth to Water (ft)
MW-1	0.6	0	20.9	0	0	-	10.63
MW-8R	0	0	20.9	0	0	-	2.98
MW-12	0	0	20.9	0	0	-	10.62
MW-14	0	0	20.9	0	0	-	7.5

Comments:

15. SUMMA SAMPLE INFORMATION

Effluent Sample ID:

Summa Canister #:

Date & Time:

Initial Vac (inHg):

Final Vac (inHg):

AS Group in Operation:

No Sample

* 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 running upon arrival

PART E: MAINTENANCE RECORD

MONTHLY

Shutdown Time:
 Startup Time:

	Yes	No	Action
Any leaks?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
Any rattles?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
Excessive noise?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
Indicator lights out?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
Abnormal wear & tear?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
Blower oil low?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
Heat trace circuit breakers all on?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
Any faulty gauges?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>
Other?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>

QUARTERLY

	Yes	No	Date Last Performed	Action
Air sparge compressor oil changed?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>
Linkage and bearings greased?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>
Inspected/cleaned flow gauges?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>
Air sparge intake filter changed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>
SVE intake filter changed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>
Dilution value intake filter changed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>	<input type="text"/>

PART F: TREATMENT COMPOUND

MONTHLY

	Yes	No	Action
Fence/Gate inspected?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Doors/Locks inspected?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Emergency sign posted?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Fire extinguisher on site?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Other?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="text"/>

PART G: PLANNED ACTIVITIES FOR NEXT TRIP

C.M.

**SVE SYSTEM
Field Data Sheet**

PART A. GENERAL INFORMATION

Site Location 309152 - Saube 1 Date & Time 9/16/24 1945
 2 Technician Chris Meta 3 Outside Ambient Temperature 48-F
 SVE Blower Busch Type MI 1502 BV AS Compressor Busch Type MM 1102 BP02VKJK
 Serial # 90038993 Model # 1341 915 851
 Electrical Power V 580 60 Hz Serial # U093704426

4 Meter Base Reading 915 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

9 Field Instruments Used RKI Eagle Last Calibrated 9/4/24 Serial #
VELOCITE Last Calibrated 9/4/24 Serial #
 Last Calibrated Serial #

10 AMBIENT BACKGROUND DATA	
CH ₄ (ppm)	<u>0</u>
O ₂ (%)	<u>20.6</u>
CO ₂ (%)	<u>0</u>
PID (ppm)	<u>0</u>

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

PART B. SVE SYSTEM DATA

12 Hour Meter Reading SVE

8542

At Time

1955

A	Previous hourmeter reading / Date	6939
B	Current hourmeter reading	8542
C	Current reading minus previous reading	1603
D	Total hours since last O&M event	1603
E	C/D X 100 = Percent Operability	100%

13 SVE Header Data

Flow Data	Influent Arrival	Effluent Arrival	Influent Departure	Effluent Departure	Target Values
Dilution Valve (% open)	33%	50%			0 to 5
Exhaust Temperature (degrees F)	65	133			150 to 200
Total Flow (SCFM)	18	154			225 to 275
System Vacuum (inHg)	0.2	0.0			1.5 to 2.5
Exhaust Stack Pressure (psig)	-	0			<0.5
Knockout Drum (in WC)	0	-			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)	Initial Vacuum Manifold (in H ₂ O)	Final Vacuum Manifold (in H ₂ O)	Initial Vacuum Well Head (in H ₂ O)	Final Vacuum Well Head (in H ₂ O)
MW-9	81.47	7.7	19.4	0	188	17.1		4.4	
RW-1	33.95	10.8	13.4	0	401	10.8		3.2	
MW-3	105.14	38.6	18.1	0	277	33.3		2.9	
MW-4	124.7	0.0	20.4	0	84	10.3		5.7	
MW-2	79.97	-	20.9	0	41	-		0.0	
Exhaust Stack	12.00	15.57	20.2	0	98	155.9		1.0	
Target Values	70 to 110	0.0	20.9	0 to 3	0 to 200	0 to 15		0 to 10	

Monitoring Well ID	Vacuum (in H ₂ O)	Methane ppm	Oxygen (%)	CO ₂ (%)	PID (ppm)	Depth to LNAPL (ft)	Depth to Water (ft)
MW-1	0.0	0	20.9	0	0	-	11.79
MW-8R	0.0	0	20.9	0	0	-	4.16
MW-12	0.0	0	20.9	0	0	-	11.78
MW-14	0.0	0	20.9	0	0	-	8.67

Comments

PART D: ADDITIONAL COMMENTS

N/A

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 valve 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

CM

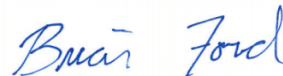
Appendix B

Laboratory Analytical Report

Arcadis - Chevron - AK

Sample Delivery Group: L1760698
Samples Received: 07/26/2024
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

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.

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Cn: Case Narrative	4	
Sr: Sample Results	5	³Ss
EFFLUENT-A-20240724 L1760698-01	5	
EFFLUENT-A-20240724 L1760698-02	7	⁴Cn
Qc: Quality Control Summary	9	⁵Sr
Volatile Organic Compounds (MS) by Method TO-15	9	
Gl: Glossary of Terms	14	⁶Qc
Al: Accreditations & Locations	15	⁷Gl
Sc: Sample Chain of Custody	16	⁸Al
		⁹Sc

SAMPLE SUMMARY

EFFLUENT-A-20240724 L1760698-01 Air

Collected by: E. Wujcik
 Collected date/time: 07/24/24 14:10
 Received date/time: 07/26/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2331932	1	07/29/24 14:10	07/29/24 14:10	MNP	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method TO-15	WG2333667	1000	07/31/24 20:48	07/31/24 20:48	MNP	Mt. Juliet, TN

EFFLUENT-A-20240724 L1760698-02 Air


Collected by: E. Wujcik
 Collected date/time: 07/24/24 14:20
 Received date/time: 07/26/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2331932	1	07/29/24 14:38	07/29/24 14:38	MNP	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method TO-15	WG2333667	1000	07/31/24 21:29	07/31/24 21:29	MNP	Mt. Juliet, TN

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

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

Volatile Organic Compounds (MS) by Method TO-15

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

Batch	Analyte	Lab Sample ID
WG2331932	1,4-Bromofluorobenzene	L1760698-01, 02

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

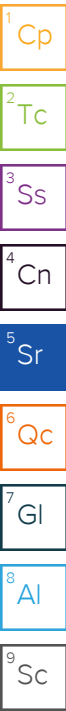
7 Gl

8 Al

9 Sc

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	1.25	2.97	7.81	18.6		1	WG2331932
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG2331932
Benzene	71-43-2	78.10	0.200	0.639	6.08	19.4		1	WG2331932
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG2331932
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG2331932
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG2331932
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG2331932
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG2331932
Carbon disulfide	75-15-0	76.10	0.400	1.24	10.5	32.7		1	WG2331932
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG2331932
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG2331932
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG2331932
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG2331932
Chloromethane	74-87-3	50.50	0.200	0.413	0.508	1.05		1	WG2331932
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG2331932
Cyclohexane	110-82-7	84.20	200	689	2960	10200		1000	WG2333667
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG2331932
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG2331932
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG2331932
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG2331932
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG2331932
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG2331932
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG2331932
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG2331932
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG2331932
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG2331932
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG2331932
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG2331932
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG2331932
1,4-Dioxane	123-91-1	88.10	0.630	2.27	ND	ND		1	WG2331932
Ethanol	64-17-5	46.10	2.50	4.71	7.10	13.4		1	WG2331932
Ethylbenzene	100-41-4	106	200	867	ND	ND		1000	WG2333667
4-Ethyltoluene	622-96-8	120	0.200	0.982	20.6	101		1	WG2331932
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	27.2	153		1	WG2331932
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	1.92	9.50		1	WG2331932
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG2331932
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG2331932
Heptane	142-82-5	100	200	818	1130	4620		1000	WG2333667
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG2331932
n-Hexane	110-54-3	86.20	630	2220	3510	12400		1000	WG2333667
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG2331932
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	WG2331932
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG2331932
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	2.24	6.61		1	WG2331932
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG2331932
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG2331932
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG2331932
Naphthalene	91-20-3	128	0.630	3.30	1.47	7.70		1	WG2331932
2-Propanol	67-63-0	60.10	1.25	3.07	ND	ND		1	WG2331932
Propene	115-07-1	42.10	1.25	2.15	28.2	48.6		1	WG2331932
Styrene	100-42-5	104	0.400	1.70	ND	ND		1	WG2331932
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG2331932
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG2331932
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG2331932
Toluene	108-88-3	92.10	500	1880	ND	ND		1000	WG2333667
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG2331932



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	0.200	1.09	ND	ND		1	WG2331932
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG2331932
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG2331932
1,2,4-Trimethylbenzene	95-63-6	120	0.200	0.982	58.5	287		1	WG2331932
1,3,5-Trimethylbenzene	108-67-8	120	0.200	0.982	51.2	251		1	WG2331932
2,2,4-Trimethylpentane	540-84-1	114.22	200	934	34400	161000		1000	WG2333667
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG2331932
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG2331932
Vinyl acetate	108-05-4	86.10	0.630	2.22	ND	ND		1	WG2331932
m&p-Xylene	179601-23-1	106	400	1730	487	2110		1000	WG2333667
o-Xylene	95-47-6	106	200	867	ND	ND		1000	WG2333667
TPH (GC/MS) Low Fraction	8006-61-9	101	200000	826000	ND	ND		1000	WG2333667
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		610		J1		WG2331932
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		96.5				WG2333667

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Cp

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Tc

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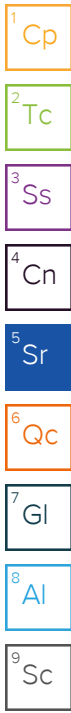
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Sample Narrative:

L1760698-01 WG2331932: Surrogate failure due to matrix interference

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	1.25	2.97	9.65	22.9		1	WG2331932
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	WG2331932
Benzene	71-43-2	78.10	0.200	0.639	8.09	25.8		1	WG2331932
Benzyl Chloride	100-44-7	127	0.200	1.04	ND	ND		1	WG2331932
Bromodichloromethane	75-27-4	164	0.200	1.34	ND	ND		1	WG2331932
Bromoform	75-25-2	253	0.600	6.21	ND	ND		1	WG2331932
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	WG2331932
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	WG2331932
Carbon disulfide	75-15-0	76.10	0.400	1.24	14.2	44.2		1	WG2331932
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	WG2331932
Chlorobenzene	108-90-7	113	0.200	0.924	ND	ND		1	WG2331932
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	WG2331932
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	WG2331932
Chloromethane	74-87-3	50.50	0.200	0.413	0.754	1.56		1	WG2331932
2-Chlorotoluene	95-49-8	126	0.200	1.03	ND	ND		1	WG2331932
Cyclohexane	110-82-7	84.20	200	689	2830	9750		1000	WG2333667
Dibromochloromethane	124-48-1	208	0.200	1.70	ND	ND		1	WG2331932
1,2-Dibromoethane	106-93-4	188	0.200	1.54	ND	ND		1	WG2331932
1,2-Dichlorobenzene	95-50-1	147	0.200	1.20	ND	ND		1	WG2331932
1,3-Dichlorobenzene	541-73-1	147	0.200	1.20	ND	ND		1	WG2331932
1,4-Dichlorobenzene	106-46-7	147	0.200	1.20	ND	ND		1	WG2331932
1,2-Dichloroethane	107-06-2	99	0.200	0.810	ND	ND		1	WG2331932
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	WG2331932
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	WG2331932
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	WG2331932
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	WG2331932
1,2-Dichloropropane	78-87-5	113	0.200	0.924	ND	ND		1	WG2331932
cis-1,3-Dichloropropene	10061-01-5	111	0.200	0.908	ND	ND		1	WG2331932
trans-1,3-Dichloropropene	10061-02-6	111	0.200	0.908	ND	ND		1	WG2331932
1,4-Dioxane	123-91-1	88.10	0.630	2.27	ND	ND		1	WG2331932
Ethanol	64-17-5	46.10	2.50	4.71	6.87	13.0		1	WG2331932
Ethylbenzene	100-41-4	106	200	867	ND	ND		1000	WG2333667
4-Ethyltoluene	622-96-8	120	0.200	0.982	83.1	408		1	WG2331932
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	37.0	208		1	WG2331932
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	2.19	10.8		1	WG2331932
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	WG2331932
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	WG2331932
Heptane	142-82-5	100	200	818	1100	4500		1000	WG2333667
Hexachloro-1,3-butadiene	87-68-3	261	0.630	6.73	ND	ND		1	WG2331932
n-Hexane	110-54-3	86.20	630	2220	2160	7620		1000	WG2333667
Isopropylbenzene	98-82-8	120.20	0.200	0.983	ND	ND		1	WG2331932
Methylene Chloride	75-09-2	84.90	0.200	0.694	0.253	0.879		1	WG2331932
Methyl Butyl Ketone	591-78-6	100	1.25	5.11	ND	ND		1	WG2331932
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	2.44	7.20		1	WG2331932
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	1.25	5.12	ND	ND		1	WG2331932
Methyl methacrylate	80-62-6	100.12	0.200	0.819	ND	ND		1	WG2331932
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	WG2331932
Naphthalene	91-20-3	128	0.630	3.30	ND	ND		1	WG2331932
2-Propanol	67-63-0	60.10	1.25	3.07	ND	ND		1	WG2331932
Propene	115-07-1	42.10	1.25	2.15	31.1	53.6		1	WG2331932
Styrene	100-42-5	104	0.400	1.70	ND	ND		1	WG2331932
1,1,2,2-Tetrachloroethane	79-34-5	168	0.200	1.37	ND	ND		1	WG2331932
Tetrachloroethylene	127-18-4	166	0.200	1.36	ND	ND		1	WG2331932
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	WG2331932
Toluene	108-88-3	92.10	500	1880	ND	ND		1000	WG2333667
1,2,4-Trichlorobenzene	120-82-1	181	0.630	4.66	ND	ND		1	WG2331932



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	0.200	1.09	ND	ND		1	WG2331932
1,1,2-Trichloroethane	79-00-5	133	0.200	1.09	ND	ND		1	WG2331932
Trichloroethylene	79-01-6	131	0.200	1.07	ND	ND		1	WG2331932
1,2,4-Trimethylbenzene	95-63-6	120	200	982	ND	ND		1000	WG2333667
1,3,5-Trimethylbenzene	108-67-8	120	200	982	ND	ND		1000	WG2333667
2,2,4-Trimethylpentane	540-84-1	114.22	200	934	41500	194000		1000	WG2333667
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	WG2331932
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	WG2331932
Vinyl acetate	108-05-4	86.10	0.630	2.22	ND	ND		1	WG2331932
m&p-Xylene	179601-23-1	106	400	1730	1170	5070		1000	WG2333667
o-Xylene	95-47-6	106	200	867	291	1260		1000	WG2333667
TPH (GC/MS) Low Fraction	8006-61-9	101	200000	826000	ND	ND		1000	WG2333667
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		1580		J1		WG2331932
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		94.9				WG2333667

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Cp

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Tc

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Cn

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Sr

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Qc

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Gl

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Al

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Sc

Sample Narrative:

L1760698-02 WG2331932: Surrogate failure due to matrix interference

Method Blank (MB)

(MB) R4099730-3 07/29/24 11:16

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
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
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
Hexachloro-1,3-butadiene	U		0.105	0.630
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

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R4099730-3 07/29/24 11:16

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ppbv		ppbv	ppbv
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
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
Vinyl chloride	U		0.0949	0.200
Vinyl Bromide	U		0.0852	0.200
Vinyl acetate	U		0.116	0.630
(S) 1,4-Bromofluorobenzene	95.6			60.0-140

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

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

(LCS) R4099730-1 07/29/24 08:44 • (LCSD) R4099730-2 07/29/24 09:13

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ppbv	ppbv	ppbv	%	%	%			%	%
Acetone	3.75	3.98	3.59	106	95.7	70.0-130			10.3	25
Allyl chloride	3.75	3.72	3.68	99.2	98.1	70.0-130			1.08	25
Benzene	3.75	3.83	3.72	102	99.2	70.0-130			2.91	25
Benzyl Chloride	3.75	4.10	4.12	109	110	70.0-152			0.487	25
Bromodichloromethane	3.75	3.90	3.86	104	103	70.0-130			1.03	25
Bromoform	3.75	3.92	3.83	105	102	70.0-130			2.32	25
Bromomethane	3.75	3.72	3.62	99.2	96.5	70.0-130			2.72	25
1,3-Butadiene	3.75	3.89	3.78	104	101	70.0-130			2.87	25
Carbon disulfide	7.50	7.53	7.33	100	97.7	70.0-130			2.69	25
Carbon tetrachloride	3.75	3.96	3.77	106	101	70.0-130			4.92	25
Chlorobenzene	3.75	3.92	3.86	105	103	70.0-130			1.54	25
Chloroethane	3.75	4.00	3.77	107	101	70.0-130			5.92	25
Chloroform	3.75	4.00	3.85	107	103	70.0-130			3.82	25

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

(LCS) R4099730-1 07/29/24 08:44 • (LCSD) R4099730-2 07/29/24 09:13

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloromethane	3.75	3.77	3.47	101	92.5	70.0-130			8.29	25
2-Chlorotoluene	3.75	3.85	3.82	103	102	70.0-130			0.782	25
Dibromochloromethane	3.75	3.91	3.75	104	100	70.0-130			4.18	25
1,2-Dibromoethane	3.75	4.01	3.87	107	103	70.0-130			3.55	25
1,2-Dichlorobenzene	3.75	3.99	3.98	106	106	70.0-130			0.251	25
1,3-Dichlorobenzene	3.75	4.04	3.92	108	105	70.0-130			3.02	25
1,4-Dichlorobenzene	3.75	4.14	4.09	110	109	70.0-130			1.22	25
1,2-Dichloroethane	3.75	4.01	4.09	107	109	70.0-130			1.98	25
1,1-Dichloroethane	3.75	3.86	3.89	103	104	70.0-130			0.774	25
1,1-Dichloroethene	3.75	4.05	3.86	108	103	70.0-130			4.80	25
cis-1,2-Dichloroethene	3.75	3.96	3.85	106	103	70.0-130			2.82	25
trans-1,2-Dichloroethene	3.75	3.67	3.68	97.9	98.1	70.0-130			0.272	25
1,2-Dichloropropane	3.75	3.97	3.96	106	106	70.0-130			0.252	25
cis-1,3-Dichloropropene	3.75	4.12	4.09	110	109	70.0-130			0.731	25
trans-1,3-Dichloropropene	3.75	4.05	4.00	108	107	70.0-130			1.24	25
1,4-Dioxane	3.75	3.83	3.75	102	100	70.0-140			2.11	25
Ethanol	3.75	3.66	3.69	97.6	98.4	55.0-148			0.816	25
4-Ethyltoluene	3.75	3.99	4.01	106	107	70.0-130			0.500	25
Trichlorofluoromethane	3.75	3.96	3.84	106	102	70.0-130			3.08	25
Dichlorodifluoromethane	3.75	3.84	3.86	102	103	64.0-139			0.519	25
1,1,2-Trichlorotrifluoroethane	3.75	3.81	3.76	102	100	70.0-130			1.32	25
1,2-Dichlorotetrafluoroethane	3.75	3.78	3.71	101	98.9	70.0-130			1.87	25
Hexachloro-1,3-butadiene	3.75	3.98	3.98	106	106	70.0-151			0.000	25
Isopropylbenzene	3.75	3.81	3.78	102	101	70.0-130			0.791	25
Methylene Chloride	3.75	3.86	3.72	103	99.2	70.0-130			3.69	25
Methyl Butyl Ketone	3.75	4.18	4.24	111	113	70.0-149			1.43	25
2-Butanone (MEK)	3.75	4.04	3.86	108	103	70.0-130			4.56	25
4-Methyl-2-pentanone (MIBK)	3.75	4.30	4.16	115	111	70.0-139			3.31	25
Methyl methacrylate	3.75	4.09	3.97	109	106	70.0-130			2.98	25
MTBE	3.75	3.84	3.79	102	101	70.0-130			1.31	25
Naphthalene	3.75	4.25	4.25	113	113	70.0-159			0.000	25
2-Propanol	3.75	3.75	3.66	100	97.6	70.0-139			2.43	25
Propene	3.75	3.87	3.79	103	101	64.0-144			2.09	25
Styrene	7.50	8.18	8.07	109	108	70.0-130			1.35	25
1,1,2,2-Tetrachloroethane	3.75	3.98	3.87	106	103	70.0-130			2.80	25
Tetrachloroethylene	3.75	3.99	3.84	106	102	70.0-130			3.83	25
Tetrahydrofuran	3.75	4.41	4.16	118	111	70.0-137			5.83	25
1,2,4-Trichlorobenzene	3.75	4.25	4.30	113	115	70.0-160			1.17	25
1,1,1-Trichloroethane	3.75	3.95	3.97	105	106	70.0-130			0.505	25
1,1,2-Trichloroethane	3.75	3.98	3.99	106	106	70.0-130			0.251	25

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

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

(LCS) R4099730-1 07/29/24 08:44 • (LCSD) R4099730-2 07/29/24 09:13

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
Trichloroethylene	3.75	3.81	3.87	102	103	70.0-130			1.56	25
1,2,4-Trimethylbenzene	3.75	4.20	4.14	112	110	70.0-130			1.44	25
1,3,5-Trimethylbenzene	3.75	4.09	3.98	109	106	70.0-130			2.73	25
Vinyl chloride	3.75	3.83	3.57	102	95.2	70.0-130			7.03	25
Vinyl Bromide	3.75	3.70	3.72	98.7	99.2	70.0-130			0.539	25
Vinyl acetate	3.75	3.88	3.80	103	101	70.0-130			2.08	25
<i>(S) 1,4-Bromofluorobenzene</i>				101	99.9	60.0-140				

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

Method Blank (MB)

(MB) R4100938-2 07/31/24 10:18

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ppbv		ppbv	ppbv
Cyclohexane	U		0.0753	0.200
Ethylbenzene	U		0.0835	0.200
Heptane	U		0.104	0.200
n-Hexane	U		0.206	0.630
Toluene	U		0.0870	0.500
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
m&p-Xylene	U		0.135	0.400
o-Xylene	U		0.0828	0.200
TPH (GC/MS) Low Fraction	U		39.7	200
<i>(S) 1,4-Bromofluorobenzene</i>	96.2			60.0-140

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

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

(LCS) R4100938-1 07/31/24 09:31 • (LCSD) R4100938-3 07/31/24 11:22

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ppbv	ppbv	ppbv	%	%	%			%	%
Cyclohexane	3.75	3.76	3.84	100	102	70.0-130			2.11	25
Ethylbenzene	3.75	3.72	3.64	99.2	97.1	70.0-130			2.17	25
Heptane	3.75	3.86	3.95	103	105	70.0-130			2.30	25
n-Hexane	3.75	3.71	3.72	98.9	99.2	70.0-130			0.269	25
Toluene	3.75	3.73	3.71	99.5	98.9	70.0-130			0.538	25
1,2,4-Trimethylbenzene	3.75	3.80	3.73	101	99.5	70.0-130			1.86	25
1,3,5-Trimethylbenzene	3.75	3.69	3.60	98.4	96.0	70.0-130			2.47	25
2,2,4-Trimethylpentane	3.75	3.71	3.78	98.9	101	70.0-130			1.87	25
m&p-Xylene	7.50	7.47	7.41	99.6	98.8	70.0-130			0.806	25
o-Xylene	3.75	3.73	3.66	99.5	97.6	70.0-130			1.89	25
TPH (GC/MS) Low Fraction	188	171	172	91.0	91.5	70.0-130			0.583	25
<i>(S) 1,4-Bromofluorobenzene</i>				96.2	96.2	60.0-140				

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.

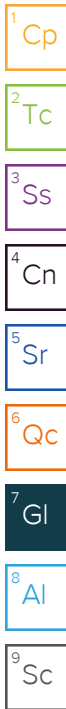
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location.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

J1	Surrogate recovery limits have been exceeded; values are outside upper 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 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.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Pace Pace® Location Requested (City/State): **Arcadis - Chevron - AK** **Air CHAIN-OF-CUSTODY Analytical Request Document** Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

Company Name: **Arcadis - Chevron - AK** Contact/Report To: **Nick Wood**

Street Address: **880 H St. Anchorage, AK 99501** Phone #: **907-276-8095**

City, State Zip: **880 H St. Anchorage, AK 99501** E-Mail: **Nick.Wood@arcadis.com;environmentDM-India@arcadis.com;moliv.whitcomb@arcadis.com;matthew.woo**

Customer Project #: **30064227.21.41** Invoice to: **Nick Wood**

Project Name: **309152** Invoice: **Nick Wood**

Site Collection Info/Facility ID (as applicable): **CHEVARCAK-309152 6223 OLD AIRPORT ROAD, FAI PRAN** E-Mail: **Nick.Wood@arcadis.com;environmentDM-India@arcadis.com;moliv.whitcomb@arcadis.com;matthew.woo**

Time Zone Collected: 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: _____

Permit # as applicable: _____

Rush (Pre-approval required): 2 Day 3 day 5 day Other _____ Date Results Requested: **Standard** Units for Reporting: **ug/m³ PPBV mg/m³ PPMV**

* 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		End Collection		Start Pressure / Vacuum (in Hg)	End Pressure / Vacuum (in Hg)	Duration (minutes)	Flow Rate (m³/min or L/min)	Total Volume Sampled (m³ or L)	VOCs/GRO TO-15 Summa	Sample Comment
				Date	Time	Date	Time							
E Effluent - A - 20240724	Air	015166	020007	7/24	1400	7/24	1410	-30	-5	10			X	L176 6698-01
E Effluent - A - 20240724	Air	020007	029418	7/24	1410	7/24	1420	-28	-5	10			X	62
		009216												

Sample Receipt Checklist

COC Seal Present/Intact: Y N Airtight _____

COC Signed/Accurate: Y N Size: **2**L _____ 6L _____ 1.4L _____

Bottles arrive intact: Y N Taped Color: **G** W P B _____

Correct bottles used: Y N Tubing _____ Shunt _____

Unused: **1** T/P#: _____

Customer Remarks / Special Conditions / Possible Hazards: _____

Collected By: **E. Wojcik** Printed Name: _____ Signature: **E. Wojcik**

Additional Instructions from Pace®: _____

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

Relinquished by/Company: (Signature) **E. Wojcik / Arcadis** Date/Time: **7/24/24 1600** Received by/Company: (Signature) _____ Date/Time: _____

Relinquished by/Company: (Signature) _____ Date/Time: _____ Received by/Company: (Signature) _____ Date/Time: _____

Relinquished by/Company: (Signature) _____ Date/Time: _____ Received by/Company: (Signature) _____ Date/Time: _____

Relinquished by/Company: (Signature) _____ Date/Time: _____ Received by/Company: (Signature) **E. Wojcik** Date/Time: **7/26 0900**

Tracking Number: **7241 0723 1123**

Delivered by: In-Person Courier FedEx UPS Other

Page: **1** of: **1**



Scan QR code for instructions

M188

110 7/15/24

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

AcctNum / Client ID: **CHEVARCAK**

Table #: _____

Profile / Template: **T234281**

Prelog / Bottle Ord. ID: **P1087330**

Appendix C

Laboratory Data Review Checklist

Laboratory Data Review Checklist

Completed By:

Bhagyashree A Fulzele

Title:

Project Chemist

Date:

September 05, 2024

Consultant Firm:

ARCADIS U.S., Inc

Laboratory Name:

Pace Analytical

Laboratory Report Number:

L1760698

Laboratory Report Date:

08/01/2024

CS Site Name:

309152-Saupe

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:

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:

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:

No.

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

Sample ID	Surrogate	Recovery
EFFLUENT-A-20240724	1,4-Bromofluorobenzene	> UL
EFFLUENT-A-20240724	1,4-Bromofluorobenzene	> UL

Notes:

UL Upper control limit

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:

Surrogate recovery exceedance 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 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.

Compounds analyzed at a dilution for sample results that were greater than the calibration. The diluted results were reported and qualified as being reported at a dilution (D).

Sample ID	Compound	Original Analysis	Diluted Analysis	Reported Analysis
EFFLUENT-A-20240724	Cyclohexane	--	10200	10200 D
	Heptane	--	4620	4620 D
	n-Hexane	--	12400	12400 D
	2,2,4-Trimethylpentane	--	161000	161000 D
	m&p-Xylene	--	2110	2110 D
EFFLUENT-A-20240724	Cyclohexane	--	9750	9750 D
	Heptane	--	4500	4500 D
	n-Hexane	--	7620	7620 D
	2,2,4-Trimethylpentane	--	194000	194000 D
	m&p-Xylene	--	5070	5070 D
	o-Xylene	--	1260	1260 D

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