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

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Date: August 29, 2023
Our Ref: 30064225
Subject: Second Quarter 2023 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 2023 Remediation System Operations and Maintenance Report for the following facility:

Chevron Branded Station No.	ADEC File No.	Hazard ID:	Location
306450	2100.26.115	23369	4351 Old International Airport Road, Anchorage, Alaska

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

Sincerely,

Arcadis U.S., Inc.

Gerald A. Robinson
Project Manager

Email: Gerald.robinson@arcadis.com
Direct Line: 724 934 9507

CC.
James Kiernan, CEMC (*electronic copy*)
Scott Lyte, Anchorage International Airport

Chevron Environmental Management Company

Second Quarter 2023 Remediation System Operations and Maintenance Report

Unocal—#5057 Former (306450)
4351 Old International Airport Road
Anchorage, Alaska 99502
ADEC File No.: 2100.26.115
Hazard ID: 23369

August 29, 2023

Second Quarter 2023 Remediation System Operations and Maintenance Report

Unocal—#5057 Former (306450)
4351 Old International Airport Road
Anchorage, Alaska 99502
ADEC File No.: 2100.26.115
Hazard ID: 23369

August 29, 2023

Prepared By:
Arcadis U.S., Inc.
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Prepared For:
Chevron Environmental Management Company
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Our Ref:
30064225

Gantt Jeffers, G.I.T.
Staff Geologist

Gerald A. Robinson
Project Manager

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Acronyms and Abbreviations

ADEC	Alaska Department of Environmental Conservation
Arcadis	Arcadis U.S., Inc.
AS	air sparge
AST	above-ground storage tank
GRO	gasoline range organics
LEL	lower explosive limit
LNAPL	light non-aqueous phase liquid
O&M	operations and maintenance
ppmv	part per million by volume
site	former Chevron facility 306450, located at 4351 Old International Airport Road in Anchorage, Alaska
SVE	soil vapor extraction
UST	underground storage tank

1 Background

On behalf of Chevron Environmental Management Company, Arcadis U.S., Inc. (Arcadis) has prepared this Second Quarter 2023 Remediation System Operations and Maintenance Report for the former Chevron facility 306450, located at 4351 Old International Airport Road in Anchorage, Alaska (site). The site and surrounding area are shown on **Figure 1**. The site is a vacant lot located in a commercial area on Anchorage Airport property at the intersection of Old International Airport Road and South Aircraft Drive. It was the location of a service station from 1953 through 1988, which consisted of a station building, six petroleum underground storage tanks (USTs), three vertical petroleum above-ground storage tanks (ASTs), a dispenser Island, and underground piping. The ASTs and five of the six USTs were removed in 1988 when the facility was demolished. The remaining UST is owned by the State of Alaska and was abandoned in place because of its proximity to an offsite building. Approximately 2,800 cubic yards of petroleum hydrocarbon-impacted soil were removed and disposed of during facility decommissioning. Limitations of the field equipment prevented complete removal of impacted soil in the former pump island and AST areas, as determined by confirmation soil samples. Site details are shown on **Figure 2**.

2 Remediation System Background

In 1990, a soil vapor extraction (SVE) system was installed, and monitoring wells MW-5A, MW-7A, MW-8, and MW-9 were connected to the SVE manifold. In 1992, a light non-aqueous phase liquid (LNAPL) recovery system was installed, which consisted of a Petro-trap® passive recovery bailer in monitoring well MW-7A. An additional recovery/SVE well, RW-14, and air sparge (AS) wells S-1 and S-2 were installed in 1995. In 1996, AS wells S-1 and S-2 were operational, and the SVE and LNAPL recovery system was retrofitted. Recovery well RW-14 was used for vacuum-enhanced LNAPL recovery, and monitoring wells MW-2, MW-5A, and MW-10 were connected to the SVE manifold (Geoengineers 1996a; 1996b).

The SVE blower and the AS compressor were inoperable in December 2003 following 10 years of operation. The SVE blower was replaced, and approval for permanent shutdown of the AS system was requested to the Alaska Department of Environmental Conservation (ADEC). The request was approved, and AS wells S-1 and S-2 were abandoned.

In December 2003, ADEC authorized the decommissioning of monitoring wells MW-1, MW-2, MW-3, MW-4, MW-6, MW-8, and MW-10. The seven monitoring wells were abandoned in 2004.

On June 2, 2008, the SVE system was shut down because of a faulty lower explosive limit (LEL) meter. The SVE system was restarted on August 18, 2008, after the installment of secondary containment around the SVE knockout tank, which included a high-level shut off float switch. Additional electrical work was performed to bring the remediation system up to City of Anchorage electrical code and Chevron health and safety standards.

On September 11, 2009, an additional SVE line was connected to monitoring well MW-14. This connection was performed to address petroleum-related hydrocarbon concentrations detected in the soil during 2008 site assessment activities.

The SVE system was shut down June 13, 2011, in preparation of vapor probe installation at the 4510 Old International Airport Road building across the street from the remediation system housing. Three vapor probes were installed on the west, north, and east sides of the building. The system remained off to allow soil vapor in the

subsurface to return to static conditions prior to soil vapor sampling. No remediation system maintenance was conducted during the month of June. The system was restarted on July 25, 2011.

In the third quarter of 2011, monitoring wells MW-7 and MW-7A were connected to the system to optimize performance. At the end of 2011, the SVE system was connected to monitoring wells MW-5A, MW-7, MW-7A, and RW-14. The SVE system was shut down on October 17, 2012, following a routine operations and maintenance (O&M) system evaluation. On May 15, 2013, the system was restarted following completion of the following upgrades:

- Installation of vacuum relief valve on moisture separator;
- Installation of air filter on dilution air intake on moisture separator;
- Anchoring and securing moisture separator and secondary containment unit; and
- Installation of interior emergency stop button.

In addition to these system upgrades, a bubbler was installed in monitoring well MW-7A to enhance petroleum hydrocarbon recovery from this well. The bubbler generates micro-bubbles and injects them into groundwater. The injected air aids in the removal of volatile organic compounds from impacted groundwater.

On January 27, 2014, Arcadis and Statewide Petroleum Services installed an emergency shutdown button on the exterior fencing of the remediation system. On May 20 and June 1, 2015, Arcadis conducted routine O&M on the system. Tasks included testing the air/water separator high-level switch and LEL meter. The high-level switch was manually engaged confirming operation. The LEL meter was calibrated and confirmed to shut down on high-level alarm at 15 percent. On November 30, 2015, a high-pressure effluent shutdown switch was installed on the SVE effluent header. The work was performed by an Alaska-certified electrician from Statewide Petroleum Services under the observation of Arcadis field personnel.

At the beginning of fourth quarter 2020, the system SVE blower was reported as not operational and needed to be replaced. A replacement was ordered; however, when it arrived in June 2021, several parts were missing on the replacement SVE blower. A second replacement was ordered and installed after in arrived in August 2021. The system has been in operation since.

3 Remediation System O&M Methods

Field activities at the site are conducted pursuant to a letter from ADEC to Unocal Alaska (currently Chevron) dated September 2, 2005. Work associated with O&M reports is conducted under the direction of a “qualified person” as described in 18 Alaska Administrative Code 75.990 (100) and 18 Alaska Administrative Code 78.995 (118).

Typically, O&M activities, including system readings and effluent air sampling, are conducted monthly. On February 21, 2012, during a meeting with ADEC, Arcadis received approval from ADEC to discontinue monthly sampling and initiate quarterly effluent sampling for laboratory analysis. However, effluent measurements for volatile organic compounds using a photoionization detector have continued monthly.

SVE effluent air samples were transported to Pace Analytical Laboratory of Mt. Juliet, Tennessee via FedEx under chain-of-custody documentation for the following chemical analyses:

- Total petroleum hydrocarbons (low fraction) (gasoline range organics [GRO]) by United States Environmental Protection Agency Method TO-15; and

- Benzene, toluene, ethylbenzene, and total xylenes by United States Environmental Protection Agency TO-15.

GRO recovery rates were calculated based on the concentration of GRO detected in an effluent sample, the flow rate of the SVE system, and the total operational time of the system. GRO recovery rates were used to evaluate the cumulative mass of GRO removed from the subsurface since 1990. The SVE effluent air flow rate was measured with a hot wire anemometer in conjunction with SVE effluent sampling.

4 Soil Vapor Extraction Effluent Analytical Results

The second quarter 2023 remedial system O&M activities were conducted on April 15, May 10, May 22, and June 15, 2023. Data collected during system O&M activities are included on the data sheets and field notes contained in **Appendix A**. On April 15, 2023, SVE system effluent sampling was conducted. The effluent sample was collected from SVE locations MW-7 and MW-7A.Ethylbenzene was reported as non-detect with laboratory reported detection limits of <0.002 parts per million by volume (ppmv). Benzene, toluene, and total xylenes were detected at concentrations of 0.00475 ppmv, 0.00111 ppmv, and 0.00521 ppmv, respectively. GRO was reported as non-detect with a laboratory reported detection limit of <0.200 ppmv. Compared to recent data, the concentration of benzene, toluene, ethylbenzene, total xylenes and GRO are mostly greater than or equal to that of the previous sampling event; concentrations will continue to be monitored in the future.

On May 22, 2023, system optimization activities were performed to identify methods of increased vapor recovery. Following system adjustments, vapor samples were collected from the combined effluent samples from SVE locations MW-7 and MW-7A, and from each well singularly. The analytical results are summarized in **Table 1**. Laboratory analytical data are included in **Appendix B**. Historical GRO, and benzene, toluene, ethylbenzene, and total xylenes concentration data are illustrated on **Figure 3**.

5 Remediation System Operation and Performance Results

From April 15, 2023 to June 15, 2023, the SVE system operated 1,768.6 hours with a run time of approximately 79.2 percent.

The SVE system effluent flow rate measured during the second quarter 2023 ranged from 11.7 to 112.0 standard cubic feet per minute. Calculations based upon the system flow rates and system effluent concentration data indicate that approximately 0.12 pounds of GRO were recovered by the SVE system during the second quarter 2023. The cumulative mass of GRO removed from the subsurface since system startup is approximately 14,672 pounds. Remediation performance results and mass removal calculations for the second quarter 2023 O&M events are included in **Table 1**. Cumulative GRO mass removal is illustrated on **Figure 4**.

6 Laboratory Data Quality Assurance

As required by ADEC (Technical Memorandum, March 2019, Arcadis filled out laboratory data review checklists for the Pace Analytical laboratory reports from the second quarter 2023 O&M event. The following list summarizes the quality and usability of the data presented in this Second Quarter 2023 Remediation System Operations and Maintenance Report based on six quality assurance parameters:

- Precision—Based on the laboratory control sample and laboratory control sample duplicate relative percent differences, the data meet precision objectives.
- Accuracy—The data meet accuracy objectives as indicated by the laboratory quality control samples, which were within method/laboratory limits.
- Representativeness—The data appear to be representative of site conditions and are generally consistent with expected effluent air concentrations.
- Comparability—Comparability is not applicable to these laboratory results.
- Completeness—The results appear to be valid and usable, and thus, the laboratory results have 100 percent completeness.
- Sensitivity—The sensitivity of the analyses was adequate for the samples.

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

7 Summary

The SVE system was operational for approximately 79.2 percent of the reporting period from April 15, 2023 through June 15, 2023. Calculations based upon the system flow rates and system effluent concentration data, indicate that approximately 0.12 pounds of GRO were recovered by the SVE system during the second quarter 2023. Compared to recent data, the concentration of toluene, ethylbenzene, and GRO are less than that of the previous sampling event; concentrations will continue to be monitored in the future. Arcadis will continue to collect system readings monthly and collect effluent vapor samples quarterly to monitor system performance.

The cumulative mass of GRO removed since system startup is approximately 14,672 pounds.

8 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.

Geoengineers. 1996a. Results of Air Dispersion Modeling, Unocal Service Station No. 5057. March 6.

Geoengineers. 1996b. Well Installation, Pilot Testing and System Installation, Former Unocal Service Station #5057. September 27.

Table

Table 1
Soil Vapor Extraction System Analytical Data and Remediation System Performance Results
UNOCAL—#5057 FORMER 306450
4351 Old International Airport Road
Anchorage, Alaska

Date Sampled	Hours of Operation During Period	Flow Rate	Benzene[1]	Toluene[1]	Ethylbenzene[1]	Total Xylenes[1]	GRO[2]	GRO Recovery Rate	Net GRO Removed	Cumulative GRO Recovery	Notes
	(hours)	(scfm)	(ppmv)	(ppmv)	(ppmv)	(ppmv)	(ppmv)	(lbs/day)	(lbs)	(lbs)	
11/08/90	Not Available		<0.007	0.018	0.01	0.035	NA	Not Available			--
02/22/91	Not Available		<0.007	<0.003	<0.007	<0.005	NA	Not Available			--
08/22/91	Not Available		2,200	520	280	1,200	NA	Not Available			3
11/4/91	Not Available		540	300	2,400	1,700	NA	Not Available			3
02/25/92	Not Available		<0.005	<0.005	<0.005	<0.005	NA	Not Available			4
05/27/92	Not Available		0.212	0.098	0.943	0.4	NA	Not Available			--
12/18/92	Not Available		<0.001	<0.001	<0.001	<0.001	NA	Not Available			--
03/09/93	Not Available		<0.001	<0.001	<0.001	<0.001	NA	Not Available			--
05/24/93	Not Available		0.018	0.026	0.128	0.104	NA	Not Available			--
08/20/93	Not Available		0.015	0.018	0.119	0.087	NA	Not Available			--
11/30/93	Not Available		0.009	0.005	0.077	0.023	NA	Not Available			--
02/10/94	Not Available		0.006	0.010	0.076	0.052	NA	Not Available			--
06/21/94	Not Available		0.85	0.41	3.71	2.00	NA	Not Available			--
09/06/94	Not Available		1.22	0.85	6.90	4.15	NA	Not Available			--
12/8/94	Not Available		0.25	0.09	0.66	0.41	NA	Not Available			5
03/14/95	Not Available		0.02	<0.012	0.08	<0.023	NA	Not Available			5
06/7/95	Not Available		0.04	<0.012	0.03	<0.03	NA	Not Available			5
09/11/95	Not Available		<0.05	<0.05	<0.05	<0.10	NA	Not Available			5
12/13/96	Not Available		0.29	0.13	1.17	0.69	NA	Not Available			--
03/11/96	Not Available		0.06	0.06	0.34	0.39	NA	Not Available			--
06/11/96	Not Available		NS	NS	NS	NS	NA	Not Available			6
09/25/96	Not Available		1.21	4.10	0.64	4.12	NA	Not Available			--
Data not available for period between 9/25/96 and 3/10/98.											7
03/17/98	Not Available		0.890	1.76	0.118	0.876	42.9	Not Available			--
09/21/98	Not Available		0.601	1.33	0.0969	0.762	28.7	Not Available			--
12/16/98	Not Available		0.674	1.38	0.112	1.31	44.2	Not Available			--
03/22/99	Not Available		0.538	1.09	0.0745	0.756	21.9	Not Available			--
06/30/99	Not Available		0.484	1.33	0.1090	1.050	35.4	Not Available			--
09/23/99	Not Available		0.0959	0.368	0.0571	0.511	10.3	Not Available			--
12/21/99	Not Available		0.344	0.884	0.0557	0.57	19.7	Not Available			--
03/21/00	Not Available		<0.0450	0.327	<0.0227	<0.0850	3.37	Not Available			--
06/01/00	Not Available		<0.150	0.680	0.111	0.866	9.55	Not Available			--
10/02/00	Not Available		0.0795	0.328	0.0575	0.498	8.74	Not Available			--
12/11/00	Not Available		<0.0308	0.156	0.0257	0.153	<2.36	Not Available			--
03/26/01	Not Available		<0.308	0.240	<0.0227	0.158	5.52	Not Available			--
06/28/01	Not Available		0.0503	0.167	0.0247	0.211	6.81	Not Available			--
09/28/01	Not Available		0.0622	0.311	0.0448	0.313	10.1	Not Available			--
12/27/01	Not Available		0.120	0.320	0.0371	0.373	13.1	Not Available			--
03/18/02	Not Available		0.124	0.171	<0.0227	0.111	7.85	Not Available			--
06/24/02	Not Available		0.535	0.575	0.0366	0.269	58.5	Not Available			--
03/31/03	6,720.0	81.0	0.0718	0.0934	0.417	0.856	14.9	0.39	107.9	4,493	8
06/10/03	1,704.0	81.0	1.54	1.84	7.59	15.7	398	10.29	730.6	5,364	8

Table 1
Soil Vapor Extraction System Analytical Data and Remediation System Performance Results
UNOCAL—#5057 FORMER 306450
4351 Old International Airport Road
Anchorage, Alaska

ARCADIS

Date Sampled	Hours of Operation During Period	Flow Rate	Benzene[1]	Toluene[1]	Ethylbenzene[1]	Total Xylenes[1]	GRO[2]	GRO Recovery Rate	Net GRO Removed	Cumulative GRO Recovery	Notes
	(hours)	(scfm)	(ppmv)	(ppmv)	(ppmv)	(ppmv)	(ppmv)	(lbs/day)	(lbs)	(lbs)	
09/25/03	2,568.0	81.0	1.20	1.33	5.49	13.0	326	8.43	901.9	6,439	8
12/16/03	1,968.0	32.0	0.133	0.106	0.368	0.855	27.6	0.28	23.1	6,467	8
03/22/04	2,304.0	49.0	0.163	0.067	0.367	0.405	22.0	0.34	33.0	6,507	8
07/01/04	2,328.0	47.0	4.69	15.8	1.66	19.6	359	5.39	522.4	7,138	8
09/15/04	1,848.0	54.0	8.19	28.3	3.02	26.7	639	11.01	848.1	8,108	8
12/28/04	2,496.0	54.0	4.76	15.6	2.03	20.4	332	5.72	595.2	8,797	8
03/31/05	2,232.0	49.0	2.93	10.6	1.37	15.0	257	4.02	373.8	9,231	8
06/30/05	2,184.0	43.0	2.53	6.80	0.87	9.48	193	2.65	241.1	9,512	8
09/30/05	2,208.0	47.0	4.56	18.0	1.71	18.6	464	6.96	640.4	10,193	8
12/27/05	2,112.0	49.0	3.00	9.94	1.50	13.5	242	3.79	333.1	10,580	8
04/14/06	2,592.0	49.0	1.68	5.38	0.729	7.7	147	2.30	248.3	10,868	8
04/30/07	4,800.0	47.0	1.0	3.0	0.7	5	49	0.74	147.0	11,040	8,9,13
08/31/07	2,952.0	49.0	1.0	<0.8	<0.4	<0.7	80	1.25	153.9	11,194	13
12/06/07	2,328.0	49.0	<0.5	2.0	<0.4	4	50	0.78	75.9	11,270	13
03/13/08	2,184.0	48.3	<1.0	3.0	<0.8	6	76	1.17	106.7	11,376	10,13
04/01/08	228.0	35.0	<2	<3	<2	<3	<4	0.02	0.2	11,377	11,13
05/19/08	576.0	41.0	<1	<2.0	<0.8	4.0	38	0.50	11.9	11,389	13
09/05/08	407.6	31.0	<1	4.0	2.0	20.0	120	1.19	20.2	11,409	12,13
09/23/08	434.8	38.0	<0.5	2.0	<0.4	6.0	50	0.61	11.0	11,420	12,13
10/22/08	695.0	38.6	<0.5	2.0	<0.5	9.0	83	1.02	30	11,449	--
11/12/08	505.0	40.4	<0.5	1.0	<0.5	5.0	54	0.70	15	11,464	--
12/16/08	804.0	78.0	2.0	<2.0	<0.8	4.0	59	1.47	49	11,513	--
01/13/09	672.5	50.5	<1.0	2.0	<0.8	6.0	72	1.16	33	11,546	--
02/17/09	841.8	67.0	1.0	<2.0	<0.8	4.0	48	1.03	36	11,582	--
03/12/09	550.1	73.0	<1	<2.0	<0.8		6	0.15	3	11,585	--
04/29/09	259.2	43.3	2.0	<2.0	<0.8	5.0	82	1.13	12	11,597	--
05/15/09	379.0	61.0	2.0	<2.0	<0.8	7.0	110	2.14	34	11,631	--
06/12/09	618.0	55.0	1.0	<2.0	<0.8	4.0	53	0.92	24	11,655	--
07/09/09	744.0	66.5	2.0	<2.0	<0.8	6.0	82	1.74	54	11,709	--
08/12/09	729.0	70.2	<1.0	3.0	<0.8	10.0	95	2.13	65	11,774	--
09/11/09	705.5	79.0	<1.0	3.0	<0.8	7.0	96	2.42	71	11,845	--
10/15/09	710.0	70.5	<1.0	4.0	0.8	20.0	98	2.21	65	11,910	--
11/17/09	790.0	54.5	<1.0	<2.0	<0.8	4.0	49	0.85	28	11,938	--
12/18/09	719.0	53.0	<1.0	<2.0	<0.8	4.0	34	0.58	17	11,955	--
01/21/10	792.0	47.0	<1.0	<2.0	<0.8	3.0	30	0.45	15	11,970	--
02/26/10	864.0	55.5	<1.0	<2.0	<0.8	4.0	35	0.62	22	11,992	--
03/22/10	576.0	90.5	<1.0	<2.0	<0.8	3.0	30	0.87	21	12,013	--
04/08/10	402.4	63.5	<1.0	<2.0	<0.8	2.0	25	0.51	8	12,022	14
05/12/10	813.6	64.5	<1.0	<2.0	<0.8	4.0	37	0.76	26	12,048	--
06/15/10	148.3	54.0	<1.0	2.0	<0.8	8.0	66	1.14	7	12,055	--
07/29/10	888.0	59.0	<1.0	<2.0	<0.8	4.0	31	0.58	22	12,076	--
08/26/10	643.8	41.9	<1.0	<2.0	<0.8	4.0	26	0.35	9	12,086	--

Table 1
Soil Vapor Extraction System Analytical Data and Remediation System Performance Results
UNOCAL—#5057 FORMER 306450
4351 Old International Airport Road
Anchorage, Alaska

ARCADIS

Date Sampled	Hours of Operation During Period	Flow Rate	Benzene[1]	Toluene[1]	Ethylbenzene[1]	Total Xylenes[1]	GRO[2]	GRO Recovery Rate	Net GRO Removed	Cumulative GRO Recovery	Notes
	(hours)	(scfm)	(ppmv)	(ppmv)	(ppmv)	(ppmv)	(ppmv)	(lbs/day)	(lbs)	(lbs)	
09/10/10	360.0	51.5	<1.0	<2.0	<0.8	2.0	22	0.36	5	12,091	--
10/20/10	336.4	43.5	<1.0	<2.0	<0.8	4.0	58	0.81	11	12,102	16
11/30/10	1,127.1	48.1	<1.0	<2.0	<0.8	<1.0	5.6	0.09	4	12,106	--
12/29/10	345.1	39.6	<1.0	<2.0	<0.8	<1.0	16	0.20	3	12,109	--
01/17/11	458.8	44.2	<1.0	<2.0	<0.8	2	54	0.76	15	12,124	--
02/15/11	693.6	32.2	<1.0	<2.0	<0.8	2	26	0.27	8	12,131	--
03/16/11	688.3	47.0	<1.0	2.0	<0.8	4	65	0.98	28	12,159	--
04/04/11	458.0	50.0	<1.0	<2.0	<0.8	4	68	1.09	21	12,180	--
05/18/11	1,050.0	35.7	<1.0	<2.0	<0.8	<1.0	10	0.11	5	12,185	--
06/13/11	530.0	41.2	<1.0	<2.0	<0.8	<1.0	10	0.13	3	12,188	17
07/28/11	75.6	51.5	<1.0	<2.0	<0.8	4.0	240	3.95	12	12,200	18
08/15/11	259.8	51.5	<1.0	<2.0	<0.8	4.0	240	3.95	43	12,243	19
08/15/11	--	--	1.0	4.0	<0.8	3.0	360	--	--	12,243	20
08/15/11	--	--	1.0	4.0	<0.8	4.0	340	--	--	12,243	21
08/16/11	24.9	87.4	1.0	4.0	<0.8	7.0	210	5.86	6	12,249	22
08/25/11	209.7	87.4	<1.0	4.0	<0.8	7.0	140	3.91	34	12,283	
09/15/11	508.4	82.2	<1.0	4.0	<0.8	5.0	100	2.62	56	12,339	23
09/15/11	--	--	<1.0	3.0	<0.8	4.0	110	--	--	12,339	24
10/13/11	663.1	110.0	<1	4	<0.8	7	90	3.16	87	12,426	--
11/22/11	961.7	39.0	<1	<2.0	<0.8	2	50	0.62	25	12,451	--
12/21/11	698.5	30.0	<1	<2.0	<0.8	3	40	0.38	11	12,462	--
01/31/12	310.7	15.7	<1	<2	<0.8	<1	30	0.15	2	12,464	25
02/28/12	670.9	25.7	<1	<2	<0.8	3	50	0.41	11	12,476	--
03/22/12	546.3	53.0	<1	<2	<0.8	2	40	0.68	15	12,491	--
04/26/12	2,368.1	60.7	<1	3	<0.8	8	80	1.55	153	12,644	26
05/21/12	533.2	35.5	--	--	--	--	--	0.91	20	12,664	27
06/22/12	366.4	6.2	--	--	--	--	--	0.16	2	12,667	27, 28
07/17/12	10.7	14.0	<1	10	2	30	360	1.61	1	12,667	29
08/23/12	337.6	73.5	--	--	--	--	--	8.45	119	12,786	30
09/13/12	303.7	51.5	--	--	--	--	--	5.92	75	12,861	31
10/16/12	782.2	31.7	<1	<2	<0.8	<1	30.0	0.30	10	12,871	32, 33
11/30/12	--	--	--	--	--	--	--	--	--	12,871	33
12/31/12	--	--	--	--	--	--	--	--	--	12,871	33
01/31/13	--	--	--	--	--	--	--	--	--	12,871	33
02/28/13	--	--	--	--	--	--	--	--	--	12,871	33
03/31/13	--	--	--	--	--	--	--	--	--	12,871	33
04/30/13	--	--	--	--	--	--	--	--	--	12,871	33
05/16/13	47.0	46.7	<1.0	2	<0.8	2[J]	70	1.04	2	12,873	34
06/20/13	836.0	20.0	<1.0	2[J]	<0.8	<0.7	37	0.24	8	12,881	--
07/29/13	938.0	36.3	<1.0	2	<0.8	2[J]	16[J]	0.19	7	12,888	--
08/29/13	742.5	35.3	--	--	--	--	--	0.18	6	12,894	--
09/25/13	311.7	28.3	--	--	--	--	--	0.14	2	12,896	--

Table 1
Soil Vapor Extraction System Analytical Data and Remediation System Performance Results
UNOCAL—#5057 FORMER 306450
4351 Old International Airport Road
Anchorage, Alaska

ARCADIS

Date Sampled	Hours of Operation During Period	Flow Rate	Benzene[1]	Toluene[1]	Ethylbenzene[1]	Total Xylenes[1]	GRO[2]	GRO Recovery Rate	Net GRO Removed	Cumulative GRO Recovery	Notes
	(hours)	(scfm)	(ppmv)	(ppmv)	(ppmv)	(ppmv)	(ppmv)	(lbs/day)	(lbs)	(lbs)	
10/24/13	695.5	28.9	<1.0	<2	<0.8	<0.7	<10	0.05	1	12,897	--
11/25/13	772.2	37.6	--	--	--	--	--	0.06	2	12,899	--
12/12/13	406.9	51.5	--	--	--	--	--	0.08	1	12,901	--
01/30/14	670.3	49.0	<1.0	<2	<0.8	<0.7	<10	0.08	2	12,903	--
02/26/14	1,146.5	30.5	--	--	--	--	--	0.05	2	12,905	--
03/31/14	793.4	27.9	--	--	--	--	--	0.04	1	12,907	--
04/30/14	662.2	36.0	<1.0	<2	<0.8	<0.7	<10	0.06	2	12,908	--
05/21/14	460.4	52.0	--	--	--	--	--	0.08	2	12,910	--
06/20/14	722.4	55.0	--	--	--	--	--	0.09	3	12,912	--
07/25/14	840.8	54.2	<1.0	<2.0	<0.8	<0.7	25	0.43	15	12,928	--
08/13/14	453.0	31.4	--	--	--	--	--	0.05	1	12,929	--
09/25/14	1,001.4	34.0	--	--	--	--	--	0.05	2	12,931	--
10/28/14	791.8	34.0	<1.0	<2.0	<0.8	<0.7	<10	0.05	2	12,933	--
11/24/14	649.0	49.6	--	--	--	--	--	0.08	2	12,935	35
01/09/15	1,103.0	66.0	<1.0	<2.0	<0.8	<0.7	<10	0.11	5	12,940	36
02/06/15	671.0	53.0	--	--	--	--	--	0.08	2	12,942	--
03/03/15	600.0	60.4	--	--	--	--	--	0.10	2	12,944	--
04/09/15	396.3	50.5	<1.0	<2.0	<0.8	<0.7	52	0.84	14	12,958	37, 38
05/01/15	481.7	40.3	--	--	--	--	--	0.67	13	12,972	38
06/01/15	745.0	51.1	--	--	--	--	--	0.85	26	12,998	38
07/15/15	1,061.0	49.2	<1.0	2	<0.8	<1.0	170	2.67	118	13,116	--
08/04/15	473.0	36.5	--	--	--	--	--	1.98	39	13,155	
09/01/15	674.5	76.7	--	--	--	--	--	4.16	117	13,272	
10/01/15	666.8	49.5	<1.0	<2.0	<0.8	3 J	56	0.88	25	13,296	
11/09/15	937.7	30.5	--	--	--	--	--	0.55	21	13,318	
12/03/15	572.0	59.5	--	--	--	--	--	1.06	25	13,343	
01/25/16	1,277.0	39.8	<1.0	<2.0	<0.8	<0.7	<10	0.06	3	13,347	
02/29/16	566.0	46.8	--	--	--	--	--	0.07	2	13,348	
03/24/16	573.0	37.0	--	--	--	--	--	0.06	1	13,350	
04/11/16	434.0	62.5	<1.0	2 J	<0.8	3 J	34	0.68	12	13,362	
05/08/16	330.0	59.5	--	--	--	--	--	0.65	9	13,371	
06/13/16	841.0	29.0	--	--	--	--	--	0.31	11	13,382	
07/11/16	672.0	65.5	<1.0	4	<0.8	3 J	110	2.30	64	13,446	
08/02/16	527.0	100.0	--	--	--	--	--	3.51	77	13,523	
09/01/16	718.0	32.0	--	--	--	--	--	1.12	34	13,557	
10/31/16	455.0	73.5	<1.0	3	<0.8	3 J	120	2.82	53	13,577	40
05/13/17	50.0	69.0	<0.5	<0.8	<0.4	<0.7	21	0.46	1	13,578	41
06/12/17	744.0	80.2	-	-	-	-	-	0.54	17	13,594	
07/11/17	505.0	120.0	-	-	-	-	-	0.80	17	13,611	
08/25/17	1,078.0	92.0	<1.0	<2.0	<0.8	<0.7	<10	0.62	28	13,639	
09/11/17	405.0	122.0	-	-	-	-	-	0.82	14	13,653	
10/05/17	1,096.0	73.0	<1.0	3	<0.8	6	55	1.28	59	13,711	41

Table 1
Soil Vapor Extraction System Analytical Data and Remediation System Performance Results
UNOCAL—#5057 FORMER 306450
4351 Old International Airport Road
Anchorage, Alaska

ARCADIS

Date Sampled	Hours of Operation During Period	Flow Rate	Benzene[1]	Toluene[1]	Ethylbenzene[1]	Total Xylenes[1]	GRO[2]	GRO Recovery Rate	Net GRO Removed	Cumulative GRO Recovery	Notes
	(hours)	(scfm)	(ppmv)	(ppmv)	(ppmv)	(ppmv)	(ppmv)	(lbs/day)	(lbs)	(lbs)	
04/04/18	4.9	67.0	<1.0	<2.0	<0.8	<0.7	<10	0.11	0.02	13,711	40
05/16/18	141.1	16.3	-	-	-	-	-	0.03	0.15	13,711	37
06/19/18	816.0	66.2	-	-	-	-	-	0.11	4	13,715	
07/26/18	847.0	36.9	-	-	-	-	-	0.35	12	13,728	37
08/21/18	628.0	14.2	-	-	-	-	-	0.02	1	13,728	
09/27/18	888.0	12.5	<1.0	2	<0.8	5	30	0.12	4	13,733	
10/23/18	178.0	44.5	<1.0	2 J	<0.8	5	64	0.91	7	13,739	41
04/19/19	25.6	9.0	<10	<16	<8	<0.7	55	0.16	0.17	13,739	
05/29/19	650.7	44.0	<1	<2	<0.8	2 J	42	0.59	16	13,755	43
06/17/19	128.7	42.5	-	-	-	-	-	0.57	3	13,759	43
07/26/19	5.0	37.7	0.7	2.8	0.18	9.5	670	8.06	2	13,760	43
08/15/19	32.6	10.9	-	-	-	-	-	2.33	3	13,763	43
09/26/19	49.6	46.5	-	-	-	-	-	9.94	21	13,784	
10/09/19	313.8	12.6	-	-	-	-	-	0.01	0.08	13,784	
11/19/19	958.3	41.0	-	-	-	-	-	0.02	0.84	13,785	
12/20/19	97.7	47.5	<0.022	<0.022	<0.022	0.03	1.60	0.02	0	13,785	43, 44, 45, 46
12/23/19	71.0	47.5	-	-	-	-	-	0.02	0.07	13,785	
01/24/20	768.0	33.0	-	-	-	-	-	0.02	0.54	13,786	
02/12/20	455.9	42.0	-	-	-	-	-	0.02	0.41	13,786	
03/11/20	672.2	13.6	0.0966	0.248	0.0168	0.78	18.70	0.08	2.27	13,788	
04/30/20	1,190.0	49.8	-	-	-	-	-	0.30	14.74	13,803	
05/18/20	433.6	46.0	0.334	0.833	0.172	2.11	90.20	1.32	24	13,827	
06/16/20	246.7	49.2	-	-	-	-	-	1.42	15	13,841	
07/30/20	369.6	48.6	-	-	-	-	-	1.74	27	13,868	47
08/28/20	60.2	48.2	0.339	1.83	0.15	2.835	112	1.72	4	13,873	47
09/22/20	157.6	48.2	-	-	-	-	-	1.72	11	13,884	
10/05/21	4,162.6	88.5	-	-	-	-	-	3.16	549	14,433	
11/04/21	724.3	75.0	-	-	-	-	-	2.68	81	14,514	
12/08/21	816.8	61.0	<0.0002	0.0185	0.000867	0.1075	2.94	0.06	2	14,515	
01/18/22	573.1	74.0	-	-	-	-	-	0.07	2	14,517	
02/08/22	506.8	61.2	<0.0002	0.0253	0.00854	0.15	9.57	0.19	4	14,521	
03/03/22	234.2	75.0	-	-	-	-	-	0.23	2	14,523	
04/08/22	857.9	70.0	<0.0002	0.0248	0.00339	0.156	5.37	0.12	4	14,528	
05/02/22	573.4	43.0	-	-	-	-	-	0.07	2	14,529	
06/06/22	841.7	69.8	-	-	-	-	-	0.12	4	14,534	
07/08/22	766.5	78.0	0.121	1.09	0.101	5.67	51.8	1.29	41	14,575	
08/08/22	746.7	73.3	-	-	-	-	-	1.21	38	14,612	
09/27/22	1,195.5	70.0	-	-	-	-	-	1.16	58	14,670	
10/25/22	675.0	42.2	0.00792	0.00201	0.000867	0.02213	1.62	0.02	0.6	14,671	
11/16/22	528.6	60.2	-	-	-	-	-	0.03	0.7	14,671	
12/20/22	792.8	47.7	-	-	-	-	-	0.02	0.8	14,672	
01/17/23	694.2	19.5	<0.0002	0.00112	<0.0002	<0.0006	<0.200	0.00	0.02	14,672	48

Table 1
Soil Vapor Extraction System Analytical Data and Remediation System Performance Results
UNOCAL—#5057 FORMER 306450
4351 Old International Airport Road
Anchorage, Alaska

Date Sampled	Hours of Operation During Period	Flow Rate	Benzene[1]	Toluene[1]	Ethylbenzene[1]	Total Xylenes[1]	GRO[2]	GRO Recovery Rate	Net GRO Removed	Cumulative GRO Recovery	Notes
	(hours)	(scfm)	(ppmv)	(ppmv)	(ppmv)	(ppmv)	(ppmv)	(lbs/day)	(lbs)	(lbs)	
02/15/23	697.0	50.5	-	-	-	-	-	0.00	0.05	14,672	
03/14/23	643.7	42.0	-	-	-	-	-	0.00	0.04	14,672	
04/15/23	506.3	55.7	0.00475	0.00111	<0.0002	0.00521	<0.200	0.00	0.04	14,672	
05/10/23	595.1	74.9	-	-	-	-	-	0.00	0.06	14,672	
05/22/23	89.1	112.0	0.013	0.065	<0.0059	2.52	52	0.00	0.01	14,672	Sample collected following system optimization.
06/15/23	578.1	11.7	-	-	-	-	-	0.00	0.01	14,672	Recovery calculated from April 2023 sample results.

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TABLE 1 EXPLANATIONS

REPORTING PERIOD:	**2Q2023**
POUNDS REMOVED TO DATE:	**14,672**
PERIOD POUNDS REMOVED:	**0.12**
PERIOD AVERAGE FLOW RATE (SCFM):	**63.6**
PERIOD OPERATIONAL HOURS:	**1768.6**
PERIOD PERCENT OPERATIONAL:	**79.2%**

Assumptions:
a) One-half the 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 86 grams per mole.

Notes:
[1] Analyzed by USEPA Method 18 modified.
[2] Analyzed by USEPA Method 25 modified.
[3] Reported in milligram analyte per milligram carbon.
[4] Reported in total milligrams of analyte.
[5] Air dilution valve open.
[6] Blower not operational for construction.
[7] Blower not operational beginning February 25, 1998, for repairs/replacement.
[8] Values for this reporting period estimated from OilRisk Consultants, Fall/Winter 06-07 Monitoring Report dated September 17, 2007.
[9] SVE unit not operational from June 23, 2006, to December 26, 2006, because of discontinued electrical service.
[10] One flow rate measurement and one analytical sample were collected during the reporting period and are assumed to be representative of the entire period.
[11] GRO value estimated at one-half the laboratory method detection limit.
[12] SVE unit not operational from June 2, 2008, to August 18, 2008, because of a faulty lower explosive limit meter, replacement of SVE knockout tank secondary containment, and electrical improvements.
[13] An error was discovered for previous calculations of GRO recovery rate and has been corrected. The effect to cumulative GRO recovery is less than 0.01%.
[14] Effluent sample analyzed for methane. Analytical result 5.4 ppmv.
[15] Flow rate averaged from initial and final readings.
[16] Sample collected on October 20, 2010. Hour meter not noted. For calculations, hour meter reading from October 13, 2010, was used resulting in 336.4 hours of operation for period in October entry.
[17] SVE system shut down because of vapor probe installation. System up and running until shutdown. Meter reading taken but no sampling performed. Average flow rate (scfm), average GRO, and half of detection values assumed.
[18] System restarted after soil vapor sampling on July 25, 2011, at 9:20 a.m. SVE meter read 21,759.4 hours at start up.
[19] To determine mass removed from July 28, 2011, and August 15, 2011, prior to system expansion, assumed effluent concentration and flow rate equal to values observed on July 28, 2011.
[20] Remediation system temporarily shutdown from August 8, 2011, to August 15, 2011, for system expansion. Sample collected 20 minutes after restart.

[21]Remediation system temporarily shutdown from August 8, 2011, to August 15, 2011, for system expansion. Sample collected 40 minutes after restart. Valve to MW-7 closed.

[22] Remediation system temporarily shutdown from August 8, 2011, to August 15, 2011, for system expansion. Sample collected 24 hours after restart. Assumed flow rate equal to reading on August 25, 2011.

[23] On September 15, 2011, system was expanded to MW-7A. System was shut down for 30 minutes. Samples were collected before system shutdown.

[24] On September 15, 2011 system was expanded to MW-7A. System was shut down for 30 minutes. Samples were collected after system shutdown.

[25] The system was found to be non-operational by Arcadis field staff on January 31, 2012. The system may have shut down because of a power failure in the area.

[26] Monthly effluent sampling moved to a quarterly sampling schedule following ADEC approval.

[27] Calculations of mass removal rates and total mass recovered were based on analytical effluent results from April 26, 2012. See Note 26.

[28] To optimize LNAPL recovery, vapor extraction was stopped at MW-5A, MW-7, and RW-14, and vacuum was increased at MW-7A on May 21, 2012, during the monthly O&M visit.

[29] System found off upon arrival on July 5 and July 17; may be because of system settings.

[30] System found off upon arrival on August 9, 2012. Extraction was restarted at wells MW-5A, MW-7, and RW-14.

[31] System found off upon arrival on September 6 and September 13, 2012. May have been due to power outages in the area.

[32] System found off upon arrival of O&M visit on October 16, 2012. The SVE effluent sample was collected 1 hour after system restart. System shutdown may have been due to power outages in the area.

[33] System shutdown on October 17, 2012, following a fit-for-service review and remained off for remainder of the fourth quarter 2012 and first quarter 2013. System will be restarted pending upgrades.

[34] Following system upgrades (most changes based on comments from fit-for-service review), system was restarted on May 15, 2013.

[35] Equation error was corrected on January 13, 2015. This resulted in the value of cumulative GRO mass recovery increasing by 0.3 percent.

[36] No O&M visit conducted in December 2014; it was conducted the first week of January 2015.

[37] System found off upon arrival. No alarms or sign of mechanical damage. Possibly result of electrical outage in the area.

[38] Identified error to calculate GRO recovery rate and cumulative mass recovery for 2Q15. Correction made on September 28, 2015.

[39] System shut down on November 2, 2016.

[40] System restarted for following year operation.

[41] For third quarter 2018, analytical data from September 2018 was used to calculate recovery rates.

[42] System shut down for restart in following year.

[43] System was off on arrival; it was assumed to be shut down because of power outages in the area.

[44] Effluent samples were collected in tedlar bags since the laboratory could not supply certified summa canisters for scheduled sampling event. Two tedlars were collected, and both were analyzed by the laboratory; the highest concentration for each analyte was reported.

[45] Effluent samples collected in tedlar bags since laboratory could not supply certified summa canisters for scheduled sampling event. Sample was transferred to summa canister at laboratory which dilute samples; results reflect dilution.

[46] Effluent samples collected in tedlar bags since laboratory could not supply certified summa canisters for scheduled sampling event. Samples analyzed outside of three-day hold for tedlar bag samples.

[47] System shutdown on arrival. No alarms observed.

[48] Smaples collected before 7/26/2019 were analyzed using EPA Method 18mod/25 mod. Samples collected on or after 7/26/2019 were analyzed using Method TO-15/TO-3 .

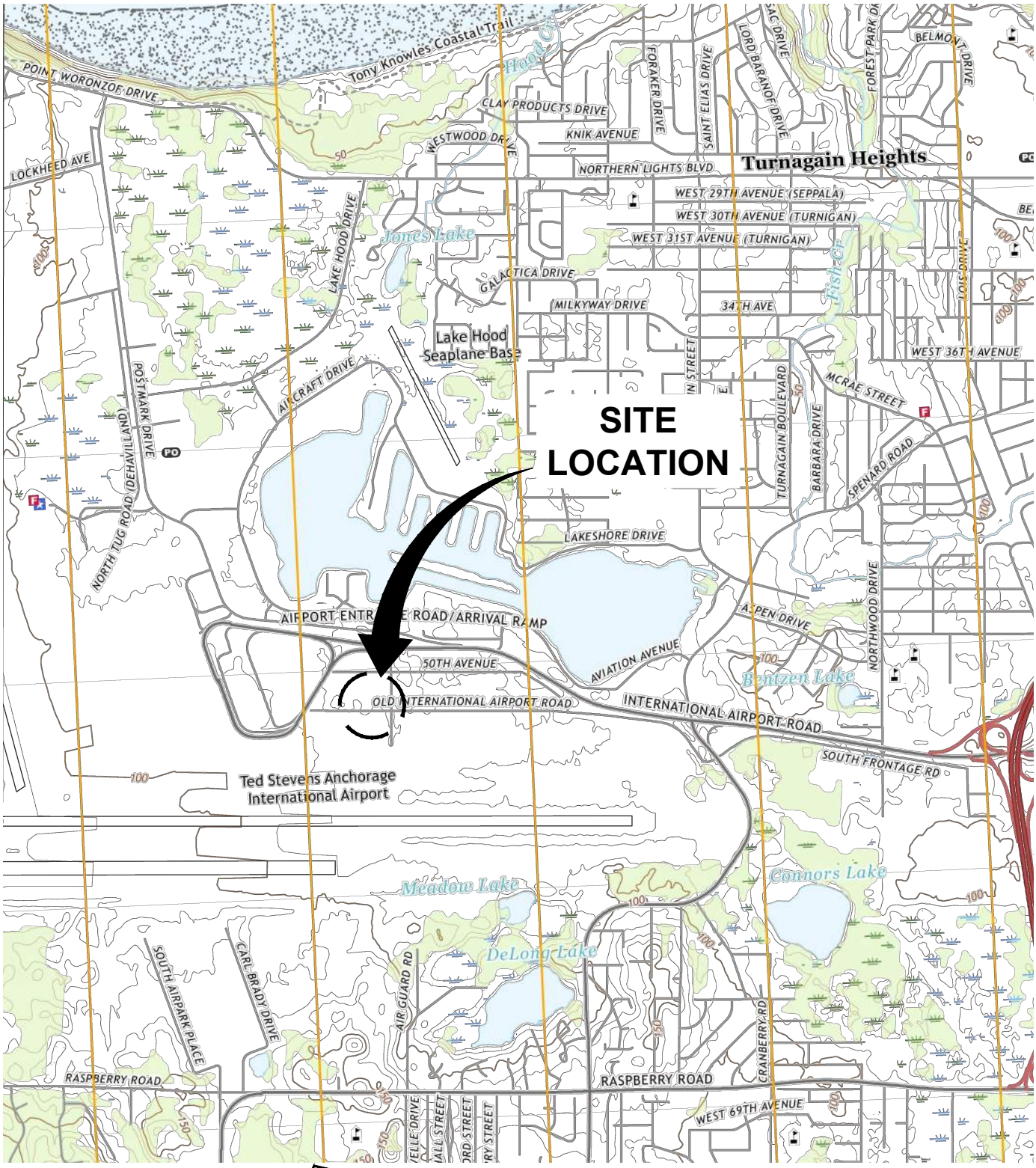
Bold indicates data from the current reporting period.

Acronyms and Abbreviations:

Table 1
Soil Vapor Extraction System Analytical Data and Remediation System Performance Results
UNOCAL—#5057 FORMER 306450
4351 Old International Airport Road
Anchorage, Alaska

-- =	not calculated or not measured
< =	not detected or below method detection limits
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



0 2,000' 4,000'

APPROXIMATE GRAPHIC SCALE

CHEVRON FACILITY #306450
4351 OLD INTERNATIONAL AIRPORT ROAD, ANCHORAGE, AK

SITE LOCATION MAP

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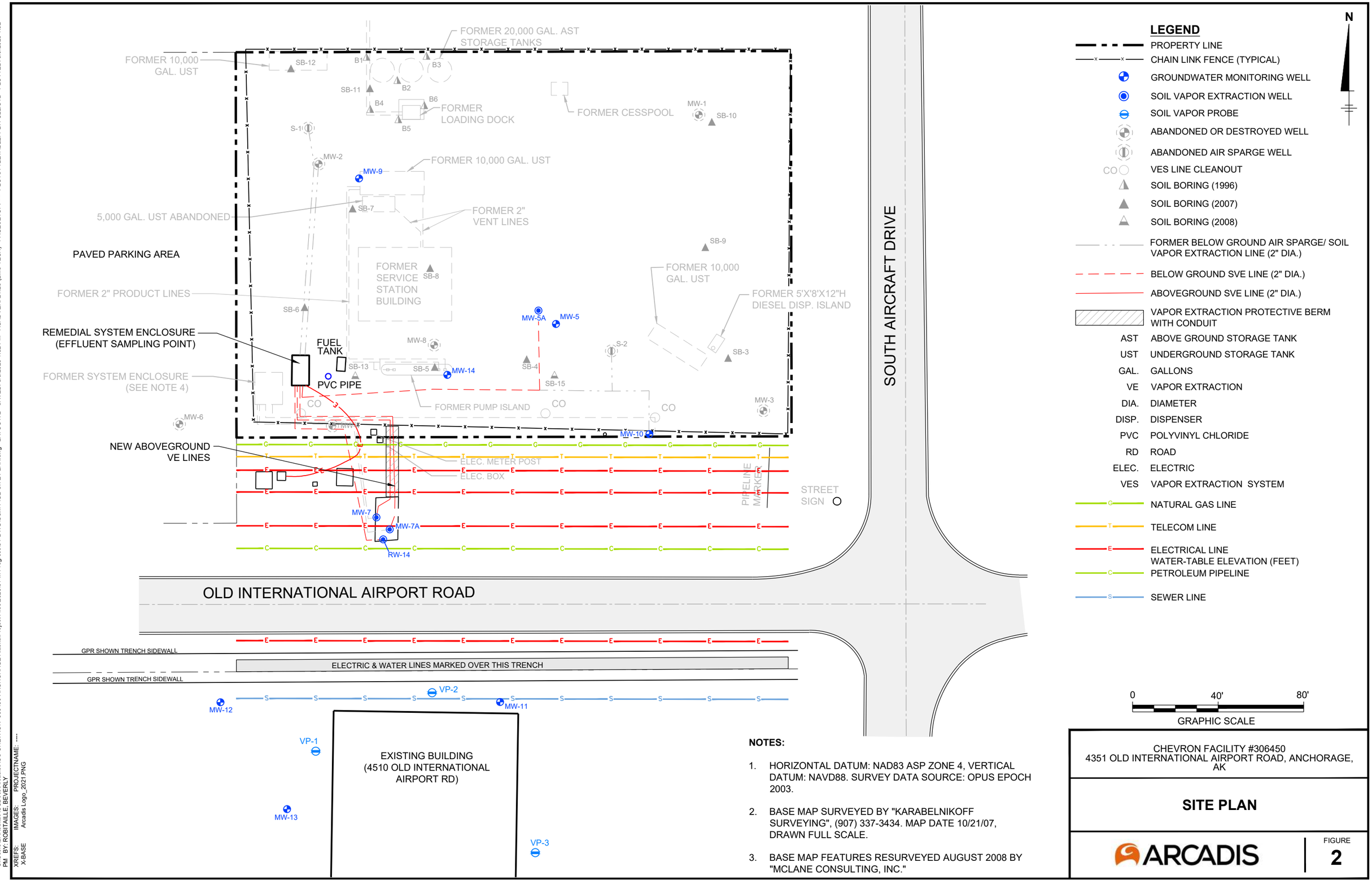
FIGURE 1



LEGEND

- PROPERTY LINE
- CHAIN LINK FENCE (TYPICAL)
- GROUNDWATER MONITORING WELL
- SOIL VAPOR EXTRACTION WELL
- SOIL VAPOR PROBE
- ABANDONED OR DESTROYED WELL
- ABANDONED AIR SPARGE WELL
- CO VES LINE CLEANOUT
- SOIL BORING (1996)
- SOIL BORING (2007)
- SOIL BORING (2008)
- FORMER BELOW GROUND AIR SPARGE/ SOIL VAPOR EXTRACTION LINE (2" DIA.)
- BELOW GROUND SVE LINE (2" DIA.)
- ABOVEGROUND SVE LINE (2" DIA.)
- VAPOR EXTRACTION PROTECTIVE BERM WITH CONDUIT

AST	ABOVE GROUND STORAGE TANK
UST	UNDERGROUND STORAGE TANK
GAL.	GALLONS
VE	VAPOR EXTRACTION
DIA.	DIAMETER
DISP.	DISPENSER
PVC	POLYVINYL CHLORIDE
RD	ROAD
ELEC.	ELECTRIC
VES	VAPOR EXTRACTION SYSTEM

- G NATURAL GAS LINE
- T TELECOM LINE
- E ELECTRICAL LINE
  WATER-TABLE ELEVATION (FEET)
- C PETROLEUM PIPELINE
- S SEWER LINE

N

0 40' 80'

GRAPHIC SCALE

NOTES:

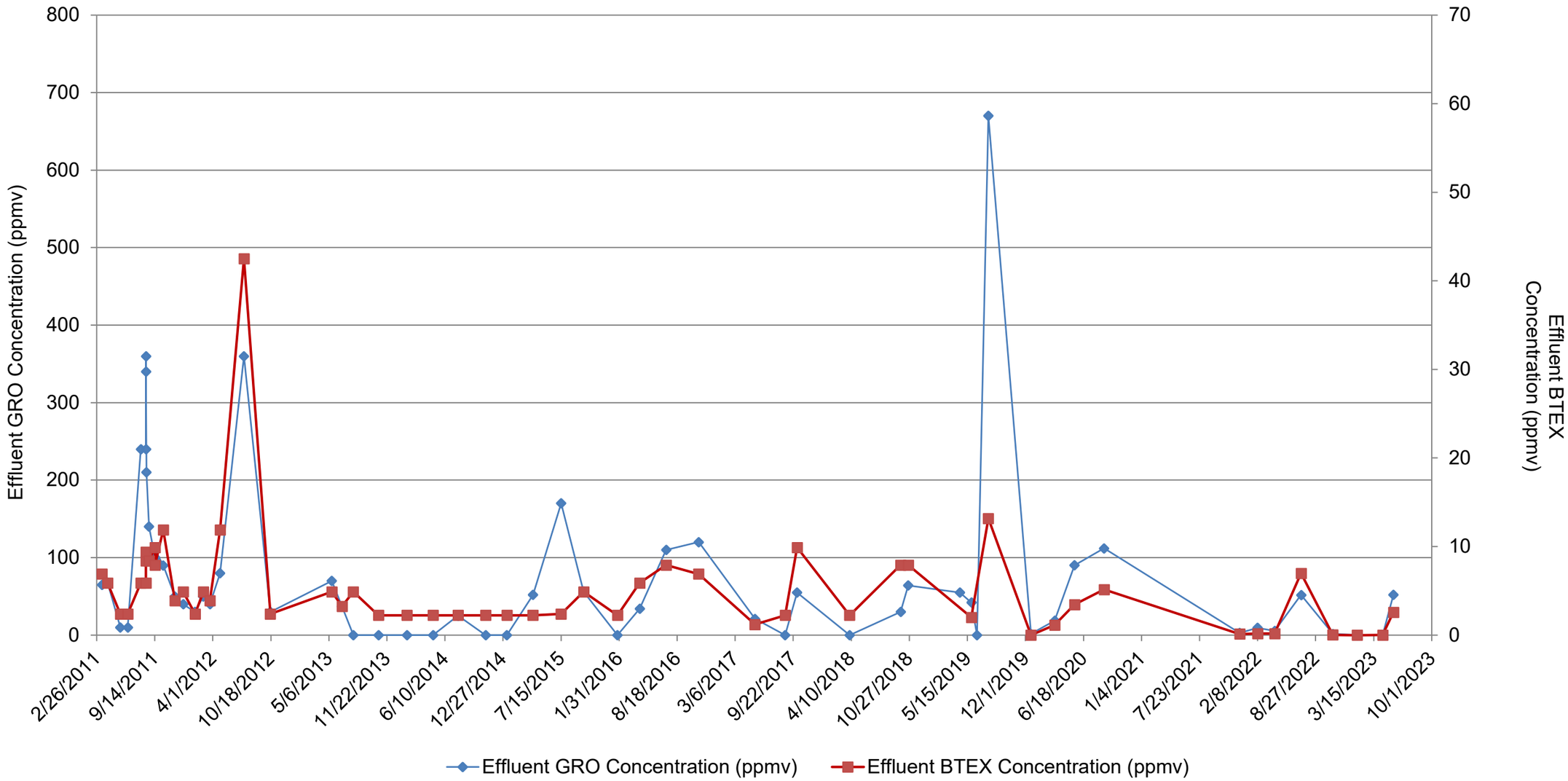
1. HORIZONTAL DATUM: NAD83 ASP ZONE 4, VERTICAL DATUM: NAVD88. SURVEY DATA SOURCE: OPUS EPOCH 2003.
2. BASE MAP SURVEYED BY "KARABELNIKOFF SURVEYING", (907) 337-3434. MAP DATE 10/21/07, DRAWN FULL SCALE.
3. BASE MAP FEATURES RESURVEYED AUGUST 2008 BY "MCLANE CONSULTING, INC."

CHEVRON FACILITY #306450
4351 OLD INTERNATIONAL AIRPORT ROAD, ANCHORAGE, AK

SITE PLAN

ARCADIS

FIGURE 2



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

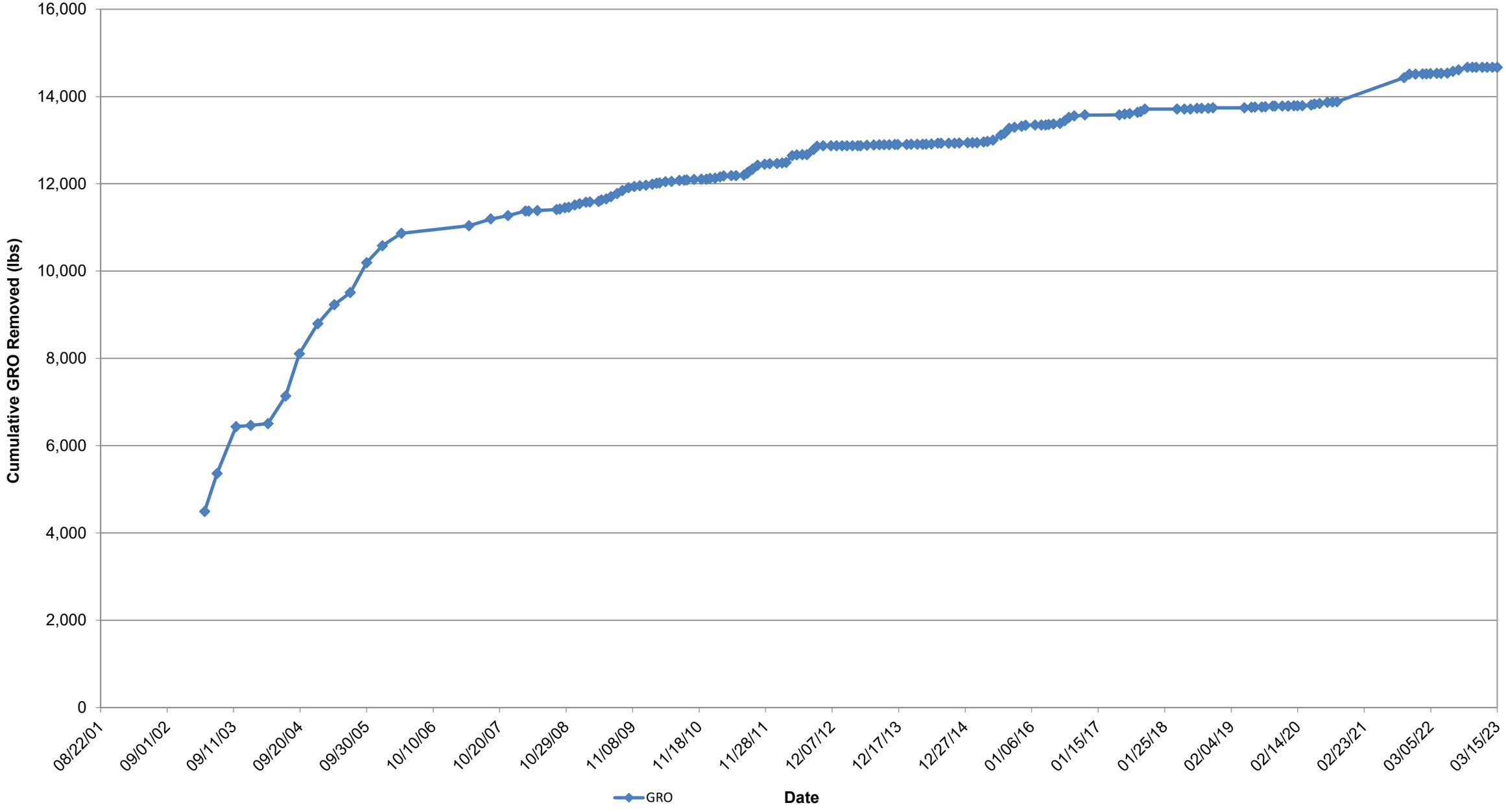
CHEVRON FACILITY #306450
4351 OLD INTERNATIONAL AIRPORT ROAD, ANCHORAGE, AK

O&M REPORT

EFFLUENT GRO AND BTEX CONCENTRATIONS

ARCADIS Design & Consultancy for natural and built assets

FIGURE 3



Notes:
GRO = Gasoline range organics
lbs = pounds

CHEVRON FACILITY #306450
4351 OLD INTERNATIONAL AIRPORT ROAD, ANCHORAGE, AK

O&M REPORT

CUMULATIVE GRO MASS REMOVAL

ARCADIS Design & Consultancy for natural and built assets

FIGURE 4

Appendix A

O&M Data Sheets and Field Notes

Chevron Daily Log (Version 2.0)

Contacts: Lea Milando & Brianne Zorn

April 15, 2023, 306450, Evan Wujcik

4/15/2023, 10:22:49 PM UTC

CREATED

4/15/2023, 10:19:03 PM UTC
by Evan Wujcik

UPDATED

4/15/2023, 10:22:49 PM UTC
by Evan Wujcik

STATUS

QC Complete

Please complete one daily log entry per day per site.	
Please complete one tailgate form (as applicable). Field Lead to document waste, and subcontractor information per field event. Do not duplicate waste and subcontractor in separate logs.	
Have you read the Quality Procedure (QP) and/or Technical Guidance Instruction (TGI) relevant to your task today? If not, this document can be reviewed by clicking on "1 Reference file" at the top of this record.	Yes
Selecting "Yes" confirms your digital signature as having read the QP and/or TGI relevant to your task today.	
Date	April 15, 2023

Basic Information

Select Site ID	306450, Old Airport
Portfolio	COP 5.0
Subportfolio	West
Select Project Number	30064225, Robinson, Gerald
Project Manager	Robinson, Gerald
Inside Chevron Operational Control?	No
Do you have the up-to-date site access agreement with you?	Yes
Are subcontractors working on-site?	N/A

Onsite Staff

Staff List	Evan Wujcik
Did you complete a tailgate form?	Arcadis Tailgate Form Completed

Equipment & Calibration Information

Are you using equipment today?	Yes

Equipment Information (2 Items)

Equipment Information - 1. Pine

Supplier	Pine
Type of Equipment	4-gas Meter
Model	
Rental Number	
Serial Number	
Calibrated?	Yes
Bump checked?	
Calibration/bump check time	10:15

Water Quality Meter Calibration Information

Manufacturer of Calibration Fluids	

Calibration Standards

Notes	

Turbidity Meter Calibration Information

Calibration Standards

Photoionization Detector Calibration Information

Calibration Gases

Notes	

GEM Calibration Information

Calibration Gases

Notes	
Calibration Documents present from supplier?	Yes
Calibration Documents	
Calibration Passed?	Yes

Equipment Information - 2. Pine

Supplier	Pine
Type of Equipment	Velocity meter
Model	
Rental Number	
Serial Number	

Water Quality Meter Calibration Information

Manufacturer of Calibration Fluids	

Calibration Standards

Notes	

Turbidity Meter Calibration Information

Calibration Standards

Photoionization Detector Calibration Information

Calibration Gases

Notes	

GEM Calibration Information

Calibration Gases

Notes	
Calibration Documents present from supplier?	
Calibration Documents	
Calibration Passed?	Yes
List of Equipment Used	4-gas Meter, Velocity meter

Field Notes

Weather	Clear
Please caption all photos	

General Site Photos

Daily Field Notes (6 Items)

Daily Field Notes - 1. 10:45

Time	10:45
Description of Task	Arrive on site
Photos	

Daily Field Notes - 2. 11:00

Time	11:00
Description of Task	System inspected before gauging
Photos	

Daily Field Notes - 3. 12:00

Time	12:00
Description of Task	System gauged MW-5A valve remains off
Photos	

Daily Field Notes - 4. 12:30

Time	12:30
Description of Task	Samples collected System emergency stops functioning
Photos	

Daily Field Notes - 5. 13:00

Time	13:00
Description of Task	System emergency stop functioning.
Photos	

Daily Field Notes - 6. 13:30

Time	13:30
Description of Task	Load vehicle Mobilize offsite
Photos	

Potential Incidents, Close Calls, Stop Works, or Public/Stakeholder Interactions

Samples

Were samples collected?	Yes
Is the person signing the COC IATA trained?	Yes
COC Photos	

CHMM - Staff Hours

This information will be reported to Chevron. If the calculated totals are incorrect, please update the hours in the staff section at the top of the form.	
Total Arcadis Travel Hours	0.25
Total Arcadis Site Hours	2.75
Total Subcontractor Hours	

CHMM - Vehicle Mileage

The information in this section will be reported to Chevron. Please fill out mileage once per vehicle.	

Vehicles

Total Arcadis Site Mileage	
Total Arcadis Travel Mileage	

Review

Are field notes considered complete?	Yes

End of Day Questions

Was waste generated?	No
Have you performed work in accordance with the applicable QP/TGI?	Yes
Do any of the following Communication Triggers apply?	
Change in plans (project delays)?	No
Discovery of significant new site characteristics?	No
Upcoming regulatory, community, or other stakeholder views change?	No
Incident at the site?	No
Is there a potential dispute?	No
Identification of strategic opportunity?	No
New application, renewal, or permit modifcation?	No
Signature	 Signed 4/15/2023, 10:22:48 PM UTC

SVE SYSTEM
Field Data Sheet

PART A: GENERAL INFORMATION

Site Location: 306450 Anchorage Airport

Date & Time: 4/15/23 @ 1100

Technician: E. Wyatt

Outside Ambient Temperature: 38°F

SVE Blower: –
Serial #: –
Electrical Power: Single phase

Max Amp Rating (amps): –
Electrical Meter Reading (KWh): 5621

SVE System up (down) upon arrival? down

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

PART B: SVE SYSTEM DATA

Hour Meter Reading: 88183.4 At Time: 1130

Flow Data		Initial	Final
Dilution Valve (% open)		18	
System Effluent Flowrate - 4" Pipe Dia.(SCFM)		55.7	
Knockout Drum Vacuum (inWC)		23	
Manifold Vacuum (inWC)	MW-7	21	
	MW-5A	2	
	MW-7A	22	

Stack PID and LEL Data	Effluetn	Baseline:
Methane ~~(ppm)~~ % LEL	0	
Oxygen (%)	20.4	
Carbon Dioxide ~~(%)~~ ppm	0	
PID (ppm)	0	

Well Manifold Data	MW-7	MW-5A	MW-7A
Methane ~~(ppm)~~ % LEL	0	0	0
Oxygen (%)	20.5	16.6	20.9
Carbon Dioxide ~~(%)~~ ppm	0	0	0
MiniRAE PID (PPM)	3	1	0
Flow Rate (scfm)	33.5	0.6	7.0

Field instrument used: RKI Eagle II (velocicalc) Last Calibrated: 4/12/23 SN 32916
4/12/23 SN 29816

SUMMA SAMPLE INFORMATION

Effluent Sample ID:	~~Effluent-A~~ Effluent-A-20230415
Summa Canister #:	~~012~~ 021604
Date & Time:	4.15.23 @ 1230
Initial Vac (inHg):	-27
Final Vac (inHg):	-5

Effluent-A1-20230415
CO 5421
4.15.23 @ 1245
-28
-5

PART C: ADDITIONAL COMMENTS

Give details of system status upon arrival: System down upon arrival. Assumed power outage.

PART D: MAINTENANCE RECORD

MONTHLY

	Yes	No	Action
Any leaks?		X	
Any rattles?		X	
Excessive noise?		X	
Indicator lights out?		X	
Abnormal wear & tear?		X	
Any faulty gauges?		X	
Other?		X	

QUARTERLY

	Yes	No	Action
Inspected/cleaned flow gauges?	X		

PART E: TREATMENT COMPOUND

MONTHLY

	Yes	No	Action
Fence/gate inspected?	X	~~X~~	
Emergency sign posted?	X	\	
Fire extinguisher on site?	X		
Other?		X	

PART F: PLANNED ACTIVITIES FOR NEXT TRIP

STANDARD O&M

NM = Not Measured
N/A = Not Applicable

Company Name/Address:
Arcadis - Chevron - AK

880 H St.
Anchorage, AK 99501

Billing Information:
Attn: Acounts Payable
630 Plaza Dr Ste 600
Highlands Ranch, CO 80129

Report To:
Skip Robinson

Email To:
Sydney.Clark@arcadis.com;erika.midkiff@arcadis.com;Gerald.Robinson@arcadis.com;Jesse.Wood@arcadis.com;environmentDM-India@arcadis.com;molly.whitcomb@arcadis.com

Project 306450
Description:

City/State Collected: Anchorage, AK

Please Circle: PT MT CT ET (AK)

Phone: 907-276-8095

Client Project # 30064225.21.41

Lab Project # CHEVARCAK-306450

Collected by (print): F. Wray

Site/Facility ID # 4351 W. ITNL AIRPORT

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)
___ Same Day ___ Three Day
___ Next Day ___ Five Day
___ Two Day X Standard

Date Results Needed

Analysis: BTEX/GRO TO-15 Summa

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE
MT JULIET, TN
12065 Lebanon Road Mt Juliet, TN 37122
Phone: 615-758-5858 Alt: 800-767-5859
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG #

Table #

Acctnum: CHEVARCAK
Template: T228240
Prelogin: P992631
PM: 110 - Brian Ford
PB: 5x - 4/12/23

Shipped Via: FedEx 2nd Day

Sample ID	Can #	Flow Cont. #	Collection Date	Collection Time	Canister Pressure/Vacuum Initial	Canister Pressure/Vacuum Final	BTEX/GRO TO-15 Summa				Rem./Contaminant	Sample # (lab only)
Effluent-A-20230415	02604	22622	4.15.23	1230	-27	-5	X					
Effluent-A-20230415	05421	10941	4.15.23	1245	-28	-5	X				Extra if needed	

Remarks:

Samples returned via: __ UPS X FedEx __ Courier _____

Tracking #

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
E Wray	4.17.23	1300			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date:	Time:

Condition: (lab use only)

COC Seal Intact: ___Y ___N ___NA

NCF:

SVE SYSTEM
Field Data Sheet

PART A: GENERAL INFORMATION

Site Location: 306450 Anchorage Airport

Date & Time: 5/10/23 @ 0700

Technician: E. Wyck

Outside Ambient Temperature: 48°F

SVE Blower: –

Max Amp Rating (amps): –

Serial #: –

Electrical Meter Reading (KWh): 56923

Electrical Power: single phase

SVE System (up)/down upon arrival? up

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

PART B: SVE SYSTEM DATA

Hour Meter Reading: 88779.0 At Time: 0730

Flow Data		Initial	Final
Dilution Valve (% open)		18	
System Effluent Flowrate - 4" Pipe Dia.(SCFM)		74.9	
Knockout Drum Vacuum (inWC)		20	
Manifold Vacuum (inWC)	MW-7	18	
	MW-5A	2	
	MW-7A	19	

Stack PID and LEL Data	Effluetn	Baseline:
Methane (%LEL)	0	0
Oxygen (%)	20.9	20.9%
Carbon Dioxide (ppm)	0	0.0%
PID (ppm)	14	0.0

Well Manifold Data	MW-7	MW-5A	MW-7A
Methane (%LEL)	0	0	0
Oxygen (%)	20.4	15.6	19.1
Carbon Monoxide (ppm)	0	0	0
MiniRAE PID (PPM)	9	3	58
Flow Rate (scfm)	21.6	0.7	43.0

Field instrument used: RKI Eagle II Last Calibrated: 5/4/23

Field instrument used: Velocicalc Last Calibrated: 1/7/23

SUMMA SAMPLE INFORMATION

Effluent Sample ID:	
Summa Canister #:	No Sample
Date & Time:	
Initial Vac (inHg):	
Final Vac (inHg):	

PART C: ADDITIONAL COMMENTS

Give details of system status upon arrival: System running upon arrival

PART D: MAINTENANCE RECORD

MONTHLY

	Yes	No	Action
Any leaks?		X	
Any rattles?		X	
Excessive noise?		X	
Indicator lights out?		X	
Abnormal wear & tear?		X	
Any faulty gauges?		X	
Other?		X	

QUARTERLY

	Yes	No	Action
Inspected/cleaned flow gauges?	X		

PART E: TREATMENT COMPOUND

MONTHLY

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

PART F: PLANNED ACTIVITIES FOR NEXT TRIP

STANDARD O&M

NM = Not Measured
N/A = Not Applicable

SVE SYSTEM
Field Data Sheet

PART A: GENERAL INFORMATION

Site Location: 306450 Anchorage Airport

Date & Time: 5.22.23 @ 0830

Technician: E. Wyck Z. Matlock

Outside Ambient Temperature: 50°F

SVE Blower: —

Max Amp Rating (amps): —

Serial #: —

Electrical Meter Reading (KWh): 57081

Electrical Power: Single Phase

SVE System up/down upon arrival? Down

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

PART B: SVE SYSTEM DATA

Hour Meter Reading: 8886.1 At Time: 0840

Flow Data		Initial	Final
Dilution Valve (% open)			
System Effluent Flowrate - 4" Pipe Dia.(SCFM)			
Knockout Drum Vacuum (inWC)		24	
Manifold Vacuum (inWC)	MW-7	19	
	MW-5A	0	
	MW-7A	20	

Stack PID and LEL Data	Effluetn	Baseline:
Methane (%LEL)	0	0
Oxygen (%)	20.9	20.9%
Carbon Dioxide (ppm)	0	0.0%
PID (ppm)	25	0.0

Well Manifold Data	MW-7	MW-5A	MW-7A
Methane (%LEL)	0	0	0
Oxygen (%)	20.9	15.5	19.1
Carbon Monoxide (ppm)	0	0	0
MiniRAE PID (PPM)	8	9	75
Flow Rate (scfm)			

Field instrument used: RKI Eagle II Last Calibrated: 5.17.23 SN 329116

Field instrument used: Velocicalc mini RAE 3000 Last Calibrated: 4.27.23 SN 250194

5.17.23 SN 159 61

PRE ADJUSTMENTS

SUMMA SAMPLE INFORMATION

Effluent Sample ID:
Summa Canister #:
Date & Time:
Initial Vac (inHg):
Final Vac (inHg):

PART C: ADDITIONAL COMMENTS

Give details of system status upon arrival: System down upon arrival

PART D: MAINTENANCE RECORD

MONTHLY

	Yes	No	Action
Any leaks?			
Any rattles?			
Excessive noise?			
Indicator lights out?			
Abnormal wear & tear?			
Any faulty gauges?			
Other?			

QUARTERLY

	Yes	No	Action
Inspected/cleaned flow gauges?			

PART E: TREATMENT COMPOUND

MONTHLY

	Yes	No	Action
Fence/gate inspected?			
Emergency sign posted?			
Fire extinguisher on site?			
Other?			

PART F: PLANNED ACTIVITIES FOR NEXT TRIP

STANDARD O&M

NM = Not Measured
N/A = Not Applicable

eurofins | Air Toxics

Analysis Request /Canister Chain of Custody

For Laboratory Use Only

PID: _____ Workorder #: _____

180 Blue Ravine Rd. Suite B, Folsom, CA 95630
Phone (800) 985-5955; Fax (916) 351-8279

Client: Arcadis

Project Name: 306450

Project Manager: G. Robinson Project # 30064225

Sampler: E. Wojcik / Z. Matlock

Site Name:

Special Instructions/Notes:

Turnaround Time (Rush surcharges may apply)

Standard X Rush _____(specify)

Lab ID	Field Sample Identification(Location)	Can #	Flow Controller #	Start Sampling Information		Stop Sampling Information		Canister Vacuum/Pressure		Lab Use Only		Requested Analyses			
				Date	Time	Date	Time	Initial (in Hg)	Final (in Hg)	Receipt	Final (psig) Gas: N_2 / He	BTEX/GRO TO-15			
	Effluent-A-20230522	IL1570	1922	5/22/23	1248	5/22/23	1250	30	5			X			
	MW-7A-A-20230522	IL2507	1712	5/22/23	1244	5/22/23	1246	28	5			X			
	MW-7-A-20230522	IL2770	2122	5/22/23	1238	5/22/23	1240	29.5	5			X			

Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
[signature]	5/22/23	1330			
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time

Lab Use Only

Shipper Name:	Custody Seals Intact?	Yes	No	None

Sample Transportation Notice: Relinquishing signature on this document indicates that samples are shipped in compliance with all applicable local, State, Federal, and international laws, regulations, and ordinances of any kind. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Eurofins Air Toxics against any claim, demand, or action, of any kind, related to the collection, handling, of shipping of samples. D.O.T Hotline (800) 467-4922

Air Toxics Ltd. performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of **ATL** shall be the re-perform work at its own expense, and **ATL** shall have no other liability whatsoever, and in no event shall **ATL** be liable, whether in contract or tort, or otherwise for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of interpretation of information or analysis provided by **ATL**.

We strongly urge our clients to comply with EPA protocol regarding custody seals, sample volume, preservation. cooling, containers, sampling procedures, holding times and splitting of samples in the field.

10 turns = 100% closed/open

1 turn = 10%

Mag gauges ~ 2 in off Accurate measure from manometer

MW-7	@ ~ 20 in	PID 7.0	@ 0855	MW-5A off MW-7A	
	@ ~ 20 in	PID 10.8	@ 0900		
	@ ~ 25 in	PID 12.4	@ 0910		
	@ ~ 30 in	PID 15.9	@ 0920		
	@ ~ 31.5 in 0% Dilution	PID 7.3	@ 1047	Flow 57 CFM	RH ~ 47%
MW-7A	@ ~ 20 in	PID 98.8	@ 0935	MW-5A off MW-7	
	@ ~25 in	PID 109.3	@ 0945		
	@ ~30 in	PID 115.3	@ 0955		
	@ ~ 33 in 0% Dilution	PID 119.4	@ 1005	Flow 48 CFM	RH ~38%
MW-5A	@ ~ 20 in	PID 11.9	@ 1015	MW-7 MW-7A off	2.25 turns = 20 in
	@ ~ 25 in	PID 8.5	@ 1022		4 turns = 25 in
	@ ~ 30 in 0% Dilution	PID 5.4	@ 1035	Flow 20 CFM RH ~38%	

* MW-5A runs ~ 5 in less vac w/ same dilution as MW-7 and MW-7A

RH ~ 38% (no moisture)

No moisture noticed in tedlar bags @ any dilution

* MW-5A Closed / MW-7 and MW-7A running simultaneously

Ambient air RH% 37.1

MW-7	@ ~20 in	PID 8.6	@ 1128	~~MW-5A off~~
MW-7A	@ ~20 in	PID 71.9	@ 1130	~~MW-7A on~~
Effluent		PID 14.2	@ 1126	
MW-7	@ ~25 in	PID 9.0	@ 1142	
MW-7A	@ ~25 in	PID 71.5	@ 1144	
Effluent		PID 30.4	@ 1140	
MW-7	@ ~30 in	PID 17.6	@ 1147	
MW-7A	@ ~30 in	PID 74.2	@ 1147	
Effluent		PID 33.4	@ 1147	
0% Dilution				
MW-7	@ ~29.6	PID 26.4	@ 1202	
MW-7A	@ ~29.7	PID 75.5	@ 1201	
Effluent		PID 28.6	@ 1200	Flow 27.2 CFM RH ~ 37

5 ~~%~~ Dilution → Effluent Flow 24.9 RH 35 T 71.5°F PID 35.1 Vac ~ 29 in

10 % Dilution → Effluent Flow 51 RH 31 T 73.5°F PID 22.7 Vac ~ 24 in

20 % Dilution → Effluent Flow 65 RH 30.4 T 75.6°F PID 11.3 Vac ~ 19 in

Chevron Daily Log (Version 2.0)

Contacts: Lea Milando & Brianne Zorn

June 15, 2023, 306450, Evan Wujcik

6/15/2023, 10:58:58 PM UTC

CREATED

6/15/2023, 10:54:06 PM UTC
by Evan Wujcik

UPDATED

6/15/2023, 10:58:58 PM UTC
by Evan Wujcik

STATUS

QC Complete

Please complete one daily log entry per day per site.	
Please complete one tailgate form (as applicable). Field Lead to document waste, and subcontractor information per field event. Do not duplicate waste and subcontractor in separate logs.	
Have you read the Quality Procedure (QP) and/or Technical Guidance Instruction (TGI) relevant to your task today? If not, this document can be reviewed by clicking on "1 Reference file" at the top of this record.	Yes
Selecting "Yes" confirms your digital signature as having read the QP and/or TGI relevant to your task today.	
Date	June 15, 2023

Basic Information

Select Site ID	306450, Old Airport
Portfolio	COP 5.0
Subportfolio	West
Select Project Number	30064225, Robinson, Gerald
Project Manager	Robinson, Gerald
Inside Chevron Operational Control?	No
Do you have the up-to-date site access agreement with you?	Yes
Are subcontractors working on-site?	N/A

Onsite Staff

Staff List	Evan Wujcik
Did you complete a tailgate form?	Arcadis Tailgate Form Completed

Equipment & Calibration Information

Are you using equipment today?	Yes

Equipment Information (2 Items)

Equipment Information - 1. Pine

Supplier	Pine
Type of Equipment	4-gas Meter
Model	RKI Eagle II
Rental Number	
Serial Number	32916
Calibrated?	Yes
Bump checked?	Yes
Calibration/bump check time	07:15

Water Quality Meter Calibration Information

Manufacturer of Calibration Fluids	

Calibration Standards

Notes	

Turbidity Meter Calibration Information

Calibration Standards

Photoionization Detector Calibration Information

Calibration Gases

Notes	

GEM Calibration Information

Calibration Gases

Notes	
Calibration Documents present from supplier?	Yes
Calibration Documents	
Calibration Passed?	Yes

Equipment Information - 2. Pine

Supplier	Pine
Type of Equipment	Velocity meter
Model	TSI 9565
Rental Number	
Serial Number	34491

Water Quality Meter Calibration Information

Manufacturer of Calibration Fluids	

Calibration Standards

Notes	

Turbidity Meter Calibration Information

Calibration Standards

Photoionization Detector Calibration Information

Calibration Gases

Notes	

GEM Calibration Information

Calibration Gases

Notes	
Calibration Documents present from supplier?	Yes
Calibration Documents	
Calibration Passed?	Yes
List of Equipment Used	4-gas Meter, Velocity meter

Field Notes

Weather	Clear
Please caption all photos	

General Site Photos

Daily Field Notes (6 Items)

Daily Field Notes - 1. 09:30

Time	09:30
Description of Task	Arrive on site
Photos	

Daily Field Notes - 2. 10:00

Time	10:00
Description of Task	System inspected before gauging
Photos	

Daily Field Notes - 3. 11:00

Time	11:00
Description of Task	System gauged at 5% dilution MW-5A still remains off.
Photos	

Daily Field Notes - 4. 11:45

Time	11:45
Description of Task	Dilution turned to 0% System regauged. VOC readings higher at 0% dilution. Site departed with system running at 0% dilution.
Photos	

Daily Field Notes - 5. 12:15

Time	12:15
Description of Task	Emergency stops functional Photos taken of site
Photos	

Daily Field Notes - 6. 12:30

Time	12:30
Description of Task	Load vehicle Mobilize offsite
Photos	

Potential Incidents, Close Calls, Stop Works, or Public/Stakeholder Interactions

Samples

Were samples collected?	No

CHMM - Staff Hours

This information will be reported to Chevron. If the calculated totals are incorrect, please update the hours in the staff section at the top of the form.	
Total Arcadis Travel Hours	0.25
Total Arcadis Site Hours	15
Total Subcontractor Hours	

CHMM - Vehicle Mileage

The information in this section will be reported to Chevron. Please fill out mileage once per vehicle.	

Vehicles

Total Arcadis Site Mileage	
Total Arcadis Travel Mileage	

Review

Are field notes considered complete?	Yes

End of Day Questions

Was waste generated?	No

Have you performed work in accordance with the applicable QP/TGI?	Yes
Do any of the following Communication Triggers apply?	
Change in plans (project delays)?	No
Discovery of significant new site characteristics?	No
Upcoming regulatory, community, or other stakeholder views change?	No
Incident at the site?	No
Is there a potential dispute?	No
Identification of strategic opportunity?	No
New application, renewal, or permit modifcation?	No
Signature	 Signed 6/15/2023, 10:56:14 PM UTC

SVE SYSTEM
Field Data Sheet

PART A: GENERAL INFORMATION

Site Location: 306450 Anchorage Airport

Date & Time: 6.15.23 @ 1000

Technician: E. Wujcik

Outside Ambient Temperature: 50°F

SVE Blower: –

Serial #: –

Electrical Power: single phase

Max Amp Rating (amps): –

Electrical Meter Reading (KWh): 57755

SVE System (up)/down upon arrival? up

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

PART B: SVE SYSTEM DATA

Hour Meter Reading: 89446.2 At Time: 1020

Flow Data		Initial	Final
Dilution Valve (% open)		5	
System Effluent Flowrate - 4" Pipe Dia.(SCFM)		11.7	
Knockout Drum Vacuum (inWC)		26.5	
Manifold Vacuum (inWC)	MW-7	27	28.2
	MW-5A	4	4.3
	MW-7A	28	28.2
		gauge	mg manometer
Stack PID and LEL Data		**Effluetn**	**Baseline:**
Methane (%LEL)		0	0
Oxygen (%)		19.6	20.9%
Carbon Dioxide (ppm)		0	0.0%
PID (ppm)		40	0.0

Well Manifold Data	MW-7	MW-5A	MW-7A
Methane (%LEL)	0	0	0
Oxygen (%)	19.9	15.3	18.3
Carbon Monoxide (ppm)	0	0	0
MiniRAE PID (PPM)	6	4	76
Flow Rate (scfm)	31.4	6.2	28.7

Field instrument used: manometer Last Calibrated: 6/13/23 # 039555

Field instrument used: velocicalc Last Calibrated: 5/23 # 034491

RKI eagle II 6/12/23 # 32916

PID @ 0% Dilution

Effluent 43

mw-7 18

mw-5A 11

mw-7A 80

Departing System running @ 0% Dilution

See new sampling log

SUMMA SAMPLE INFORMATION

Effluent Sample ID:	
Summa Canister #:	
Date & Time:	
Initial Vac (inHg):	
Final Vac (inHg):	

PART C: ADDITIONAL COMMENTS

Give details of system status upon arrival: System running upon arrival

PART D: MAINTENANCE RECORD

MONTHLY

	Yes	No	Action
Any leaks?		X	
Any rattles?		X	
Excessive noise?		X	
Indicator lights out?		X	
Abnormal wear & tear?		X	
Any faulty gauges?		X	
Other?		X	

QUARTERLY

	Yes	No	Action
Inspected/cleaned flow gauges?	X		

PART E: TREATMENT COMPOUND

MONTHLY

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

PART F: PLANNED ACTIVITIES FOR NEXT TRIP

STANDARD O&M

NM = Not Measured
N/A = Not Applicable

SVE SYSTEM
Field Data Sheet

PART A: GENERAL INFORMATION

Site Location: 306450 Anchorage Airport

Date & Time: 6.15.23 @ 1200

Technician: E. Wojcik

Outside Ambient Temperature: 50°F

SVE Blower: -

Max Amp Rating (amps): -

Serial #: -

Electrical Meter Reading (KWh): "

Electrical Power: Single phase

SVE System (up)/down upon arrival? up

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

PART B: SVE SYSTEM DATA

Hour Meter Reading: " At Time: "

Flow Data		Initial	Final
Dilution Valve (% open)		0	
System Effluent Flowrate - 4" Pipe Dia.(SCFM)		21.1	
Knockout Drum Vacuum (inWC)		28	
Manifold Vacuum (inWC)	MW-7	28	
	MW-5A	4	
	MW-7A	20	

Stack PID and LEL Data	Effluetn	Baseline:
Methane (%LEL)	0	0
Oxygen (%)	18.7	20.9%
Carbon Dioxide (ppm)	0	0.0%
PID (ppm)	41	0.0

Well Manifold Data	MW-7	MW-5A	MW-7A
Methane (%LEL)	0	0	0
Oxygen (%)	19.1	13.7	17.9
Carbon Monoxide (ppm)	0	0	0
MiniRAE PID (PPM)	43	1	80
Flow Rate (scfm)	72.2	4.5	19.9

Field instrument used: " Last Calibrated: ____

Field instrument used: " Last Calibrated: ____

SUMMA SAMPLE INFORMATION

Effluent Sample ID:
Summa Canister #:
Date & Time:
Initial Vac (inHg):
Final Vac (inHg):

PART C: ADDITIONAL COMMENTS

Give details of system status upon arrival:

PART D: MAINTENANCE RECORD

MONTHLY

	Yes	No	Action
Any leaks?			
Any rattles?			
Excessive noise?			
Indicator lights out?			
Abnormal wear & tear?			
Any faulty gauges?			
Other?			

QUARTERLY

	Yes	No	Action
Inspected/cleaned flow gauges?			

PART E: TREATMENT COMPOUND

MONTHLY

	Yes	No	Action
Fence/gate inspected?			
Emergency sign posted?			
Fire extinguisher on site?			
Other?			

PART F: PLANNED ACTIVITIES FOR NEXT TRIP

STANDARD O&M

NM = Not Measured
N/A = Not Applicable

Appendix B

Laboratory Analytical Report

ANALYTICAL REPORT

April 20, 2023

Arcadis - Chevron - AK

Sample Delivery Group:	L1606339
Samples Received:	04/18/2023
Project Number:	30064225.21.41
Description:	306450
Site:	4351 W. ITNL AIRPORT RD
Report To:	Skip Robinson 880 H St. Anchorage, AK 99501

Entire Report Reviewed By: Brian Ford

Brian Ford
Project Manager

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

TABLE OF CONTENTS

SAMPLE SUMMARY

EFFLUENT-A-20230415 L1606339-01 Air

Collected by: E. Wujcik
Collected date/time: 04/15/23 12:30
Received date/time: 04/18/23 09:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG2044815	1	04/19/23 21:20	04/19/23 21:20	SDS	Mt. Juliet, TN

EFFLUENT-A1-20230415 L1606339-02 Air

Collected by: E. Wujcik
Collected date/time: 04/15/23 12:45
Received date/time: 04/18/23 09:15

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

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

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
TPH (GC/MS) Low Fraction	8006-61-9	101	200	826	ND	ND		1	WG2044815
Benzene	71-43-2	78.10	0.200	0.639	4.75	15.2		1	WG2044815
Ethylbenzene	100-41-4	106	0.200	0.867	ND	ND		1	WG2044815
Toluene	108-88-3	92.10	0.500	1.88	1.11	4.18		1	WG2044815
m&p-Xylene	1330-20-7	106	0.400	1.73	3.41	14.8		1	WG2044815
o-Xylene	95-47-6	106	0.200	0.867	1.80	7.80		1	WG2044815
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*99.2*				WG2044815

Method Blank (MB)

(MB) R3915037-3 04/19/23 10:23

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
TPH (GC/MS) Low Fraction	U		39.7	200
Benzene	0.0873	J	0.0715	0.200
Ethylbenzene	U		0.0835	0.200
Toluene	U		0.0870	0.500
m&p-Xylene	U		0.135	0.400
o-Xylene	U		0.0828	0.200
(S) 1,4-Bromofluorobenzene	*97.5*			*60.0-140*

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

(LCS) R3915037-1 04/19/23 09:06 • (LCSD) R3915037-2 04/19/23 09:45

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/MS) Low Fraction	203	212	214	104	105	70.0-130			0.939	25
Benzene	3.75	4.27	4.37	114	117	70.0-130			2.31	25
Ethylbenzene	3.75	4.12	4.13	110	110	70.0-130			0.242	25
Toluene	3.75	4.11	4.20	110	112	70.0-130			2.17	25
m&p-Xylene	7.50	8.51	8.28	113	110	70.0-130			2.74	25
o-Xylene	3.75	4.08	4.08	109	109	70.0-130			0.000	25
(S) 1,4-Bromofluorobenzene				*99.0*	*98.9*	*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
J	The identification of the analyte is acceptable; the reported value is an estimate.

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.

Company Name/Address:
Arcadis - Chevron - AK

380 H St.
Anchorage, AK 99501

Billing Information:
Attn: Acounts Payable
630 Plaza Dr Ste 600
Highlands Ranch, CO 80129

Report To:
Skip Robinson

Email To:
Sydney.Clark@arcadis.com;erika.midkiff@arcadis.com;Gerald.Robinson@arcadis.com;Jesse.Wood@arcadis.com;environmentDM-India@arcadis.com;molly.whitcomb@arcadis.com

Project 306450
Description:

City/State Collected: Anchorage, AK

Please Circle: PT MT CT ET (AK)

Phone: 907-276-8095

Client Project # 30064225.21.41

Lab Project # CHEVARCAK-306450

Collected by (print): E. Wyatt

Site/Facility ID # 4351 W. ITNL AIRPORT

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)
___ Same Day ___ Three Day
___ Next Day ___ Five Day
___ Two Day X Standard

Date Results Needed

Analysis: BTEX/GRO TO-15 Summa

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE
MT JULIET, TN
12065 Lebanon Road Mt Juliet, TN 37122
Phone: 615-758-5858 Alt: 800-767-5859
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1606339

J034

Acctnum: CHEVARCAK
Template: T228240
Prelogin: P992631
PM: 110 - Brian Ford
PB: SW 4/12/23

Shipped Via: FedEx 2nd Day

Sample ID	Can #	Flow Cont. #	Collection Date	Collection Time	Canister Pressure/Vacuum Initial	Canister Pressure/Vacuum Final	Rem./Contaminant	Sample # (lab only)
Effluent-A-20230415	021604	22622	4.15.23	1230	-27	-5		-01
Effluent-A-20230415	005421	10941	4.15.23	1245	-28	-5	Extra if needed	-02

Sample Receipt Checklist

		If Applicable	
COC Seal Present/Intact:	Y N	VOA Zero Headspace:	Y N
COC Signed/Accurate:	Y N	Pres.Correct/Check:	Y N
Bottles arrive intact:	Y N		
Correct bottles used:	Y N		
Sufficient volume sent:	Y N		
RAD Screen <0.5 mR/hr:	Y N		

Remarks:

Samples returned via: __ UPS X FedEx __ Courier _____

Tracking #

Hold #

	Date:	Time:
Relinquished by: (Signature)	4.17.23	1300
Relinquished by: (Signature)		
Relinquished by: (Signature)		

Received by: (Signature)

Received by: (Signature)

Received for lab by: (Signature)

Date: Time:

Date: 4/18/23 Time: 0915

Date: Time:

Condition: (lab use only)

COC Seal Intact: ___Y ___N ___NA

NCF:

Appendix C

Laboratory Data Review Checklist

Laboratory Data Review Checklist

Completed By:

Dilip Kumar H S

Title:

Project Chemist

Date:

August 04, 2023

Consultant Firm:

ARCADIS U.S., Inc

Laboratory Name:

Pace Analytical

Laboratory Report Number:

L1606339

Laboratory Report Date:

04/18/2023

CS Site Name:

Semi Annual 2023 Groundwater Monitoring Report

ADEC File Number:

2100.26.115

Hazard Identification Number:

23369

Note: Any N/A or No box checked must have an explanation in the comments box.

1. Laboratory

   a. Did an ADEC Contaminated Sites Laboratory Approval Program (CS-LAP) approved laboratory receive and perform all of the submitted sample analyses?

   Yes☒ No☐ N/A☐ Comments:

Yes.

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS-LAP approved?

   Yes☐ No☐ N/A☒ Comments:

Not applicable.

2. Chain of Custody (CoC)

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

   Yes☒ No☐ N/A☐ Comments:

Yes.

   b. Were the correct analyses requested?

   Yes☒ No☐ N/A☐ Comments:

Yes.

3. Laboratory Sample Receipt Documentation

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

   Yes☒ No☐ N/A☐ Comments:

Yes.

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

   Yes☒ No☐ N/A☐ Comments:

Yes.

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

   Yes☒ No☐ N/A☐ Comments:

Yes.

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

   Yes☒ No☐ N/A☐ Comments:

Yes. no discrepancies.

e. Is the data quality or usability affected?

Comments:

Data quality or usability was not affected.

4. Case Narrative

a. Is the case narrative present and understandable?

Yes☒ No☐ N/A☐ Comments:

Yes.

b. Are there discrepancies, errors, or QC failures identified by the lab?

Yes☒ No☐ N/A☐ Comments:

Yes.

c. Were all corrective actions documented?

Yes☒ No☐ N/A☐ Comments:

Yes.

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

Comments:

Data quality or 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:

Air 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:

Yes.

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:

Metal analysis was not requested in this SDG.

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:

Yes.

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

Comments:

Data quality or usability was not affected.

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

Note: Leave blank if not required for project

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

Yes☐ No☐ N/A☒ Comments:

The MS/MSD analysis was not performed on Air samples.

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

Yes☐ No☐ N/A☒ Comments:

Metal analysis was not requested in this SDG.

iii. 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.

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

Comments:

None of the samples were affected.

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

Yes☐ No☐ N/A☒ Comments:

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

Comments:

Not applicable.

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:

Yes.

iv. Is the data quality or usability affected?

Comments:

None of the samples were 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:

No. Trip blank sample was not collected within 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. Field duplicate was not collected within this SDG.

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)

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

Where R_1 = Sample Concentration
R_2 = Field Duplicate Concentration

Yes☐ No☐ N/A☒ Comments:

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:

No. Equipment blank sample was not collected within 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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