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Alaska Department of Conservation (ADEC)
555 Cordova Street
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REGISTERED COMPANY FOR ISO 9001 ENGINEERING DESIGN

Log Crib Assessment Report

Former Unocal Service Station 4854
2730 Spenard Road
Anchorage, Alaska
ADEC File ID: 2100.26.116
Hazard ID: 23370

Chevron Environmental Management Company

GHD | 14998 West 6th Avenue Suite 800 Golden Colorado USA 80401

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List of Acronyms and Abbreviations

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
COPCs	constituents of potential concern
CSM	conceptual site model
DRO	diesel range organics
fbg	feet below grade
ft btoc	feet below top of casing
GRO	gasoline range organics
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
No	number
PAHs	polynuclear aromatic hydrocarbons
P.G.	Professional Geologist
PID	photoionization detector
PCBs	polychlorinated biphenyls
PVC	polyvinyl chloride
RRO	residual range organics
UCM	unresolved complex mixture
UST	underground storage tank
VOC	volatile organic compounds

1. Introduction

GHD is submitting this *Log Crib Assessment Report* to the Alaska Department of Environmental Conservation (ADEC) on behalf of Chevron Environmental Management Company (Chevron) for former Union Oil Company of California (dba Unocal) service station 4854. ADEC requested additional groundwater and soil assessment of the former log cribs (septic cribs) at the former Unocal service station during a February 26, 2013 meeting with Chevron, ADEC and GHD. ADEC requested a revised work plan to include quarterly groundwater sampling for a minimum of one year as well as assessment of the off-site property in a December 16, 2016 email. Two groundwater monitoring wells were installed within the log cribs and two additional groundwater monitoring wells were installed downgradient of the log cribs. ADEC conditionally approved GHD's March 15, 2017 *Former Log Crib Assessment Workplan* on March 31, 2017. Conditional approval included completing the four proposed borings as monitoring wells.

All fieldwork and reporting were completed in accordance with:

- ADEC's March 7, 2017 *Site Characterization Work Plan and Reporting Guidance for Investigation of Contaminated Sites*
- ADEC's September 2013 *Monitoring Well Guidance*.
- Applicable regulations in 18 Alaska Administrative Code (AAC) 78, Article 2, 6 and 9.
- Field work was conducted by a Qualified Environmental Professional (QEP) in accordance with 18 AAC 75.333.
- Soil samples were collected according to ADEC's August 2017 *Field Sampling Guidance.*

The site background, site conditions, monitoring well installation, soil and groundwater monitoring and sampling, and conclusions and recommendations are presented herein.

2. Site Background

2.1 Site Description

The site is a former Unocal service station located at 2730 Spenard Road in Anchorage, Alaska (Figure 1). The property's legal description is T13N R4W SEC 24 SE4SE4SE4SW4SE4 PTN 150 X 135. The latitude and longitude are 61.195508º north and 149.905965º west. The site is currently owned by Spenard & Northern Lights LLC, O'Neill Properties Inc.

The site was utilized as a service station from approximately 1956 to 2003 by various vendors, including Unocal, Mapco Express, and Williams. Unocal occupied the site from approximately 1956 through to the mid-1980s. A facility upgrade was conducted in 1971 to replace the southeast underground storage tank (UST) array with four USTs north of a new station building. Mapco Express operated the service station starting in 1988 and renovated the site in 1990, removing the northern USTs, installing USTs in the southwest, and remodeling the existing station building. In 1998, Mapco Express merged with Williams and the most recent set of active USTs, dispenser

islands, and piping were removed in 2003. The service station building was left in place and operated until it was demolished between 2005 and 2006. The site is currently an active parking lot for two different businesses. The locations of the two former log cribs and locations of the recently installed monitoring wells are shown on Figure 2. Site photographs are presented in Appendix A. An environmental history is presented in Appendix B.

The Williams/Mapco Express is listed as an ADEC Contaminated Site (File ID: 2100.26.09). Two releases were identified (Hazard ID's: 22873 and 22985); both have designations of Cleanup Complete and Cleanup Complete with Institutional Controls.

2.2 Site Geology

The site is located in south central Alaska, between the northern Knik arm and the southern Turnagain Arm, of Cook Inlet. Regional geology consists of Pleistocene alluvial, glacial, dune sand, loess, and reworked sand and silt deposits, underlain by Tertiary and Jurassic units. The Chugach Mountains are approximately eight miles west of the site.

Site subsurface sediments consist primarily of granular fill materials to approximately 5 to 7 feet below grade (fbg). The fill is underlain by sand with variable gravel and silt contents. A silt/clay layer was encountered at depths between 22 to 26 fbg. The thickness of the silt/clay layer was not determined.

2.3 Site Hydrogeology

Historical groundwater depths have ranged between approximately 16 and 19 feet below top of casing (ft btoc) and groundwater flows southeast based on review of Mapco/Williams data. During the initial groundwater monitoring performed on September 7, 2017, static groundwater depths ranged from 17.72 (MW-4) to 18.41 ft btoc (MW-1). On November 9, 2017, static groundwater depths ranged from 17.39 (MW-4) to 18.15 ft btoc (MW-1). Groundwater flow has ranged from west to southeast with a gradient of 0.01.

2.4 Constituents of Potential Concern and Cleanup Levels

Site constituents of potential concern (COPCs) are:

Table 1.1 Constituents of Potential Concern

COPCs	ADEC Cleanup Levels	
	Groundwater (mg/L)	*Soil (mg/kg)*
residual range organics (RRO)	1.1	11,000
diesel range organics (DRO)	1.5	250
gasoline range organics (GRO)	2.2	300
benzene	0.0046	0.022
toluene	1.1	6.7
ethylbenzene	0.015	0.13
xylenes	0.190	1.5
polychlorinated biphenyls (PCBs)	0.00050	1.0

Table 1.1 Constituents of Potential Concern

COPCs	ADEC Cleanup Levels	
	Groundwater (mg/L)	*Soil (mg/kg)*
polynuclear aromatic hydrocarbons (PAHs)	0.000034 – 0.530	0.038 – 15,000

mg/L milligrams per liter
mg/kg milligrams per kilogram

ADEC Table C Groundwater Cleanup Levels (Title 18 AAC 75.345) and ADEC Method Two Soil Cleanup Levels, Tables B1 and B2, under 40 inch zone, migration to groundwater (18 AAC 75.341) are the default site groundwater and soil cleanup levels.

2.5 Conceptual Site Model

GHD completed a conceptual site model (CSM) for this site. The CSM human health scoping and graphic forms are presented in Appendix C.

3. Subsurface Investigation

3.1 Well Installation Rationale

The ADEC requested additional soil and groundwater assessment near the former log cribs. GHD proposed installing two monitoring wells (one down gradient of each log crib) and two soil borings (one in the center of the northwest former log crib and the other to the east of the southwest log crib). ADEC approved the scope of work; however required the proposed borings to be completed as groundwater monitoring wells. The installed monitoring wells are shown on Figure 2.

3.2 Pre-Field Coordination

GHD prepared a site-specific health and safety plan to inform all site workers of known hazards and provide health and safety guidance. GHD notified all associated contractors, stakeholders, the ADEC and Chevron of planned fieldwork in advance. GHD coordinated pre-field safety meetings with Chevron and all appropriate parties before starting fieldwork. GHD observed a private utility locate on August 7, 2017 to determine any potential underground obstructions. Alaska Digline was notified on August 8, 2017 to clear the drilling area with public utility companies. On August 10, 2017, GHD performed an onsite visit with ADEC representative, Robert Weimer, to discuss adjusting the proposed location of MW-2 due to utility conflict. Well MW-2, downgradient of the onsite log crib, was relocated approximately 10 feet to the southeast of the proposed location. Chevron and GHD safety protocols were reviewed with contractors daily at tailgate meetings and debriefs.

3.3 Drilling and Sampling

GHD cleared boreholes for MW-1 and MW-4 using a three-inch diameter hand auger to 2 fbg. A soil sample was collected at this depth per ADEC request. Alaska Pipeliner used a Vactor 2100 vacuum truck to clear all boreholes to 8 fbg on August 29, 2017. Discovery Drilling, Inc. completed the four

soil borings as monitoring wells MW-1 through MW-4 on August 30 and 31, 2017 using a Geoprobe® 7822DT direct-push drill rig equipped with eight-inch outer diameter hollow stem augers. Soil was logged using the Unified Soil Classification System and field screened in five foot intervals to the maximum explored depth of approximately 29 fbg.

Subsurface soils encountered during soil boring advancement consisted of gravelly sand fill between 7 to 10 fbg, underlain by silty sand to approximately 24 fbg, and silt to the maximum depth explored of 29 fbg (MW-4).

Soil samples were collected using the Geoprobe® dual tube sampling system, where a continuous Macro-Core acetate sampler was driven through the inner rod at five foot intervals. In addition, soil samples were collected at 2 fbg in wells MW-1 and MW-4 using a three-inch diameter hand auger. Soil samples were field-screened for volatile organic compounds (VOCs) using a photoionization detector (PID) at five foot intervals, lithology changes, and at the capillary fringe. A clean plastic bag was partially filled (one-third to one-half) with soil and set aside for ten to fifteen minutes to allow VOCs to volatilize. A calibrated PID was used to measure headspace VOC concentrations through a slit in the bag. Field screening results are presented on the soil boring logs in Appendix D. Field notes are presented in Appendix E.

Soil samples collected at the capillary fringe and samples with the highest VOC detections or based on field observations were submitted for analyses. Samples for VOC analyses were collected first with a Terra Core sampler and measuring approximately 25 grams of soil into a clean, laboratory supplied, glass jar preserved with methanol. Samples for RRO, DRO, PAHs, metals, and moisture were collected into clean, laboratory supplied, unpreserved jars and vials. Samples, including two blind field duplicates and two equipment/rinsate blanks, were submitted under chain-of-custody to Eurofins Lancaster Laboratories of Lancaster, Pennsylvania (Eurofins).

3.4 Monitoring Well Installation

Four soil borings were completed as groundwater monitoring wells MW-1 through MW-4. Groundwater was first encountered in all wells between 17 and 19 fbg. Wells were installed to 25 fbg, instead of ten feet below first encountered groundwater, as proposed in the work plan, due to a silt layer encountered at approximately 24 fbg in all boreholes. The wells were completed as two-inch diameter Schedule 40 polyvinyl chloride (PVC) groundwater monitoring wells, constructed with 0.020-inch slotted screen set from 10 to 25 fbg, surrounded by sand pack from 8 to 25 fbg, and with a continuous bentonite seal from 8 to 1 fbg. The wells were completed with flush mount well covers and asphalt pads to match existing grade. The Alaska Department of Natural Resources water well logs are presented in Appendix F.

3.5 Monitoring Well Development

On September 5, 2017, GHD field staff developed monitoring wells MW-1 through MW-4 by agitation and evacuation, using a surge block and submersible groundwater pump. However, during the first evacuation using the submersible pump in well MW-2, sheen was observed in groundwater; therefore, a Teflon bailer was lowered into the well, and approximately 0.2 inches of product was measured in the bailer. Subsequent evacuation was performed utilizing a Teflon bailer to continue well development. Turbidity, pH, dissolved oxygen, temperature, and specific conductivity

measurements were collected throughout well development. Approximately 10 to 16 case volumes of groundwater were purged from each well during development. Well development field forms are included in Appendix E.

3.6 Groundwater Monitoring and Sampling

GHD performed initial groundwater monitoring and sampling of wells MW-1, MW-3, and MW-4 on September 7, 2017 (third quarter) and on November 9, 2017 (fourth quarter). Well MW-2 was not sampled due to the presence of unidentified product measured during well development. Groundwater monitoring and sampling analytical data for both events are presented in GHD's December 6, 2017 *Third Quarter 2017 Groundwater Monitoring Report* and December 24, 2017 *Fourth Quarter Groundwater Monitoring Report*.

During the November 9, 2017 event, GHD also collected additional groundwater samples from wells MW-1, MW-2, and MW-3 for groundwater sheen/product analyses. GHD collected groundwater samples using an unused Teflon bailer in the wells to a depth of one bailer-length below the potentiometric surface. Approximately 1 liter of groundwater was collected from each well for the sheen analyses. In addition, GHD collected sheen samples from wells MW-1 through MW-3 using a Teflon Oil Spill Sampling Net. Approximately 5 liters of groundwater collected with a Teflon bailer was passively filtered through the net. The sampled net was then transferred into a laboratory provided glass jar, sealed for transport, and preserved on ice.

3.7 Data Quality

All field instruments were calibrated prior to mobilization according to the manufacturer's specifications and calibration was verified and documented onsite on a daily basis. All field staff is trained in routine maintenance and operation of instrumentation. All reusable sampling equipment was decontaminated between sample points using a stiff brush and a solution of water and laboratory grade detergent. Equipment was rinsed twice in clean water and once with distilled or deionized water.

Samples analyzed for VOCs were collected before samples for non-volatile compounds. Soil and groundwater samples, including one duplicate per ten samples collected and/or per day of sampling, and equipment/rinsate blanks were collected into clean containers supplied by the analytical laboratory, placed on ice in an insulated cooler, and chilled to a temperature of approximately 4°C (+/- 2ºC). The coolers were sealed for transport and shipped to Eurofins Lancaster analytical laboratory under chain-of-custody. The groundwater samples for sheen/product analysis were persevered on ice, sealed in coolers for transport, and shipped to the Chevron Energy Technology Company, Environmental Analysis Lab in Richmond, California. Eurofins Lancaster laboratory data were qualified by a GHD chemist and an ADEC laboratory data review checklist completed.

All drilling, soil and groundwater sampling, and well development activities were observed or performed by Qualified Environmental Professionals (QEP), Oliver Yan and Travis Weaver of GHD, as defined by *18 AAC 75.333*. Fieldwork and reporting was supervised by QEP and Professional Geologist, Siobhan Pritchard.

3.8 Well Elevation and Location Survey

Lounsbury & Associates, Inc of Anchorage, Alaska surveyed the well locations and top of casing elevations of wells MW-1 through MW-4 to mean sea level on November 3 and 20, 2017.

3.9 Investigation Derived Waste

Investigation-derived waste was contained in labeled United States Department of Transportation 55-gallon steel drums onsite. Three drums of well development/sampling water and twelve drums of soil cuttings were generated during site assessment work and are stored temporarily at the site. Waste analytical data has been reviewed and determined to be non-hazardous. Following approval from ADEC, the soil and water waste will be transported to Chevron approved disposal facilities.

4. Sample Analysis and Results

4.1 Sample Analytical Methods

4.1.1 Soil Sample Analytical Methods

Select soil samples, blind field duplicates, trip blanks, and equipment/rinsate blanks were analyzed for the following constituents:

Table 4.1 Soil Analytical Methods

Analyte	Method	Method Detection Limits	Sample Hold Time
RRO	Alaska Series Method AK103	4.0 mg/kg	14 days
DRO	Alaska Series Method AK102	4.0 mg/kg	14 days
GRO	Alaska Series Method AK101	0.5 mg/kg	14 days
VOCs[a]	Method SW-846 8260B	0.0005-0.015 mg/kg	14 days
PAHs[a]	Method SW-846 8270M SIM	0.00035 – 0.00075 mg/kg	14 days
PCBs[a]	Method SW-846 8082A	0.0001 to 0.006 mg/kg	40 days
Metals[a]	Method SW-846 6010C/7471B	0.001 to 1.15 mg/kg	28 days/14 days
Moisture	Method SM 2540 G-1997	0.5 %	14 days

a A full list of constituents is presented in Appendix G

4.1.2 Groundwater Sheen/Product Analytical Methods

Select groundwater samples were analyzed for sheen/product by a liquid-liquid extraction method using methylene chloride. The extracts were then analyzed using a gas chromatography flame-ionization detector.

4.2 Soil Analytical Results

No RRO, GRO, PAHs (including naphthalene), or PCBs were detected above ADEC Method Two Soil Cleanup Levels in any collected soil sample. DRO and benzene were detected above soil cleanup levels in the sample from well MW-2 at 19 fbg at concentrations of 2,200 mg/kg DRO and 0.068 mg/kg benzene, respectively. High-level analysis of benzene did not meet ADEC's cleanup level of 0.022 mg/kg; therefore, low-level analysis of benzene was performed using sodium bisulfate in conjunction with high-level analysis (methanol). Benzene was not detected in any samples analyzed utilizing the low-level analysis.

No barium, cadmium, lead, mercury, selenium, and silver were detected above cleanup levels in any samples analyzed. Arsenic and chromium were detected at maximum concentrations of 7.77 mg/kg (MW-2 at 24.5 fbg) and 54 mg/kg (MW-4 at 23.5 fbg), respectively. However, per ADEC Method Two Soil Cleanup Levels, naturally occurring arsenic and chromium are prevalent throughout the state; therefore, concentrations detected at the site are considered background. Hydrocarbon concentrations are presented in Figure 2. Soil analytical data are presented in Tables 1 through 3. The laboratory analytical report is presented in Appendix H.

Based on the quality assurance/quality control review, the data submitted were judged to be acceptable for use with the specific qualifications noted. The ADEC Laboratory Data Review Checklist and memorandum are presented in Appendix I.

4.3 Groundwater Sheen Chromatogram Analyses

Both the groundwater and net samples collected yielded similar results for the respective monitoring wells. Chromatogram analysis from MW-2 results indicate an unresolved complex mixture (UCM) from Carbon-13 to Carbon-39 hydrocarbon range. A UCM with that carbon range is consistent with a lubricating oil or motor oil type of petroleum hydrocarbons (Figures 3 and 4 of Appendix H). Wells MW-1 and MW-3 do not contain any petroleum products; however they do contain traces of hydrocarbons. Based on the chromatograms, the trace hydrocarbons detected are likely background hydrocarbons and not from petroleum products (Figures 1, 2, 5, and 6 of Appendix H). The estimated total petroleum hydrocarbons were 0.869 mg/L in MW-1, 0.971 mg/L in MW-2, and 0.131 mg/L in MW-3. The laboratory analytical report is presented in Appendix H.

5. Conclusions

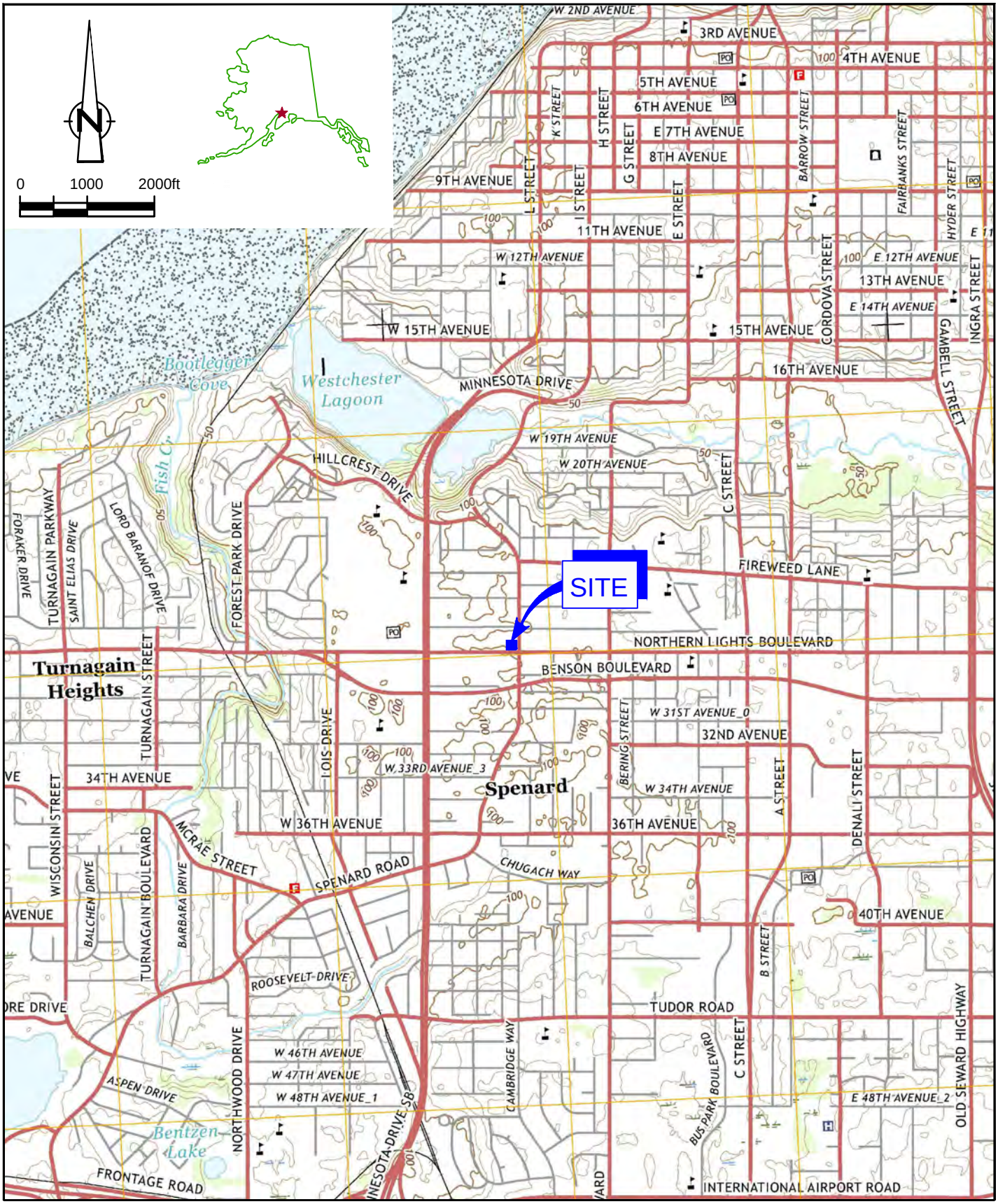
GHD installed groundwater monitoring wells MW-1 through MW-3 onsite and MW-4 on the adjacent property west of the site, to evaluate potential petroleum hydrocarbons in soil and groundwater associated with former log cribs for the site. Conclusions are as follows:

- No RRO, GRO, PAHs, or PCBs were detected above ADEC cleanup levels in any soil samples analyzed. DRO and benzene were detected above ADEC Method Two soil cleanup levels in samples collected in MW-2 at 19 fbg.
- Chromatogram analysis of groundwater collected from MW-2 indicate the product and sheen observed during well development in MW-2 is consistent with a lubricating oil or motor oil type

of petroleum product. Lubricating or motor oil is likely related to the proximity of MW-2 to the former oil sump tanks (Figure 2) and not related to the upgradient log crib.

- No dissolved-phase petroleum hydrocarbons were detected in wells MW-1, MW-3, and MW-4 (GHD's December 6, 2017 *Third Quarter 2017 Groundwater Monitoring Report* and December 24, 2017 *Fourth Quarter Groundwater Monitoring Report*).
- Based on hydrocarbon concentrations detected at well MW-2 and established hydrocarbon type, hydrocarbon impact is limited to the capillary fringe and vertically defined.
- GHD will continue quarterly monitoring and sampling of MW-1 through MW-4 and reassess after four quarters.

Figures



Source: USGS QUAD MAP; ANCHORAGE A-8 NW, AK, 2016.

FORMER UNOCAL SERVICE STATION 4854
2730 SPENARD ROAD
ANCHORAGE, ALASKA

82676-2017.4
Dec 18, 2017

VICINITY MAP

FIGURE 1

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LEGEND

- MONITORING WELL LOCATION
- DESTROYED WELL LOCATION
- 0.01 GROUNDWATER FLOW DIRECTION AND GRADIENT

MW-2	8/30/2017 19 ft	8/30/2017 24.5 ft
Benzene	0.068 J	<0.038
C10-C25	2200	<6.2
C25-C36 RRO	2600	<6.2
Naphthalene	<0.0069	0.013
Petroleum Hydrocarbons (C6-C10)-GRO	<130	<0.8

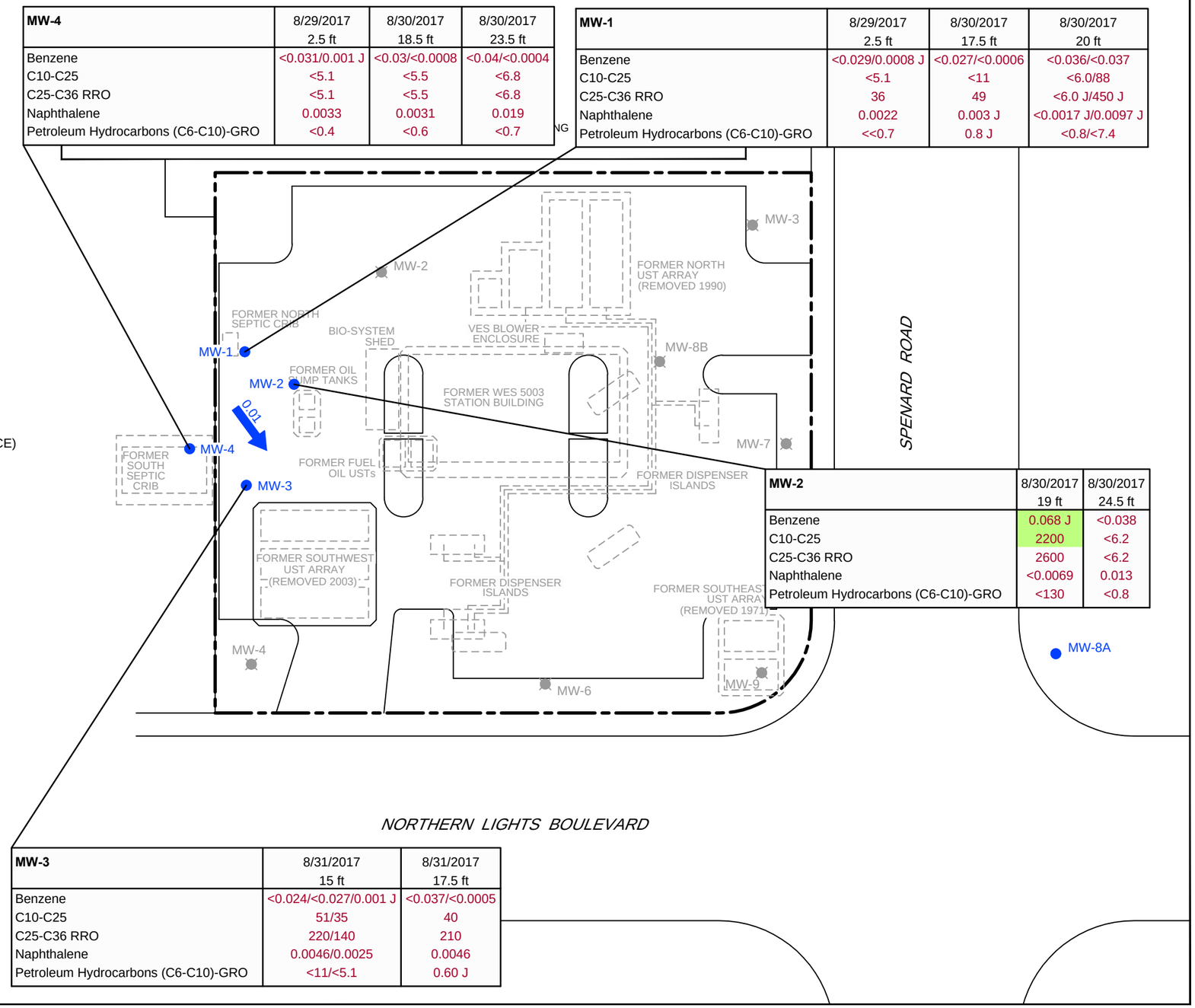
WELL DESIGNATION
SAMPLE DATE
SAMPLE DEPTH (FEET BELOW GROUND SURFACE)
RESULT (mg/kg)
PARAMETER

J ESTIMATED VALUE BETWEEN METHOD DETECTION LIMIT AND LABORATORY REPORTING LIMIT

RESULTS HIGHLIGHTED GREEN EXCEED ADEC TABLE B1 SOIL CLEANUP LEVEL (18 AAC 75.341)

MW-4	8/29/2017 2.5 ft	8/30/2017 18.5 ft	8/30/2017 23.5 ft
Benzene	<0.031/0.001 J	<0.03/<0.0008	<0.04/<0.0004
C10-C25	<5.1	<5.5	<6.8
C25-C36 RRO	<5.1	<5.5	<6.8
Naphthalene	0.0033	0.0031	0.019
Petroleum Hydrocarbons (C6-C10)-GRO	<0.4	<0.6	<0.7

MW-1	8/29/2017 2.5 ft	8/30/2017 17.5 ft	8/30/2017 20 ft
Benzene	<0.029/0.0008 J	<0.027/<0.0006	<0.036/<0.037
C10-C25	<5.1	<11	<6.0/88
C25-C36 RRO	36	49	<6.0 J/450 J
Naphthalene	0.0022	0.003 J	<0.0017 J/0.0097 J
Petroleum Hydrocarbons (C6-C10)-GRO	<<0.7	0.8 J	<0.8/<7.4



MW-2	8/30/2017 19 ft	8/30/2017 24.5 ft
Benzene	0.068 J	<0.038
C10-C25	2200	<6.2
C25-C36 RRO	2600	<6.2
Naphthalene	<0.0069	0.013
Petroleum Hydrocarbons (C6-C10)-GRO	<130	<0.8

MW-3	8/31/2017 15 ft	8/31/2017 17.5 ft
Benzene	<0.024/<0.027/0.001 J	<0.037/<0.0005
C10-C25	51/35	40
C25-C36 RRO	220/140	210
Naphthalene	0.0046/0.0025	0.0046
Petroleum Hydrocarbons (C6-C10)-GRO	<11/<5.1	0.60 J

Source: LOUNSBURY & ASSOCIATES, INC., SURVEY DATED NOVEMBER 3 AND 20, 2017.

0 15 30ft

Coordinate System: ANCHORAGE BOWL 2000 DATUM

GHD

FORMER UNOCAL SERVICE STATION 4854
2730 SPENARD ROAD
ANCHORAGE, ALASKA

82676-2017.4

Jan 12, 2018

HYDROCARBON CONCENTRATIONS IN SOIL

FIGURE 2

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Tables

Table 1

Soil Analytical Results - Petroleum Hydrocarbons
Former Unocal Service Station 4854/Chevron Site 306449
2730 Spenard Road
Anchorage, Alaska

			HYDROCARBONS			PRIMARY VOCS					
Location	**Date**	**Sample Depth**	**DRO**	**GRO**	**RRO**	**High Benzene**	**Low Benzene**	**Toluene**	**Ethylbenzene**	**Total Xylenes**	**MTBE**
	Units	**ft bgs**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**
ADEC Method Two Soil Cleanup L[a]			**250**	**300**	**11,000**	**0.022**	**0.022**	**6.7**	**0.13**	**1.5**	**0.40**
MW-1	8/29/2017	2	<5.1	<0.7	36	<0.029	0.0008 J	<0.059	<0.059	<0.059	<0.029
MW-1	8/30/2017	17.5	<11	0.8 J	49	<0.027	<0.0006	<0.055	<0.055	<0.055	<0.027
MW-1	8/30/2017	20	88 / <6.0	<7.4 / <0.8	450 J / <6.0	<0.037 / <0.036	--	1.6 J / <0.071	<0.074 / <0.071	<0.074 / <0.071	<0.037 / <0.036
MW-2	8/30/2017	19	**2,200**	<130	2,600	**0.068 J**	**--**	0.63	0.20 J	1.9	<0.027
MW-2	8/30/2017	24.5	<6.2	<0.8	<6.2	<0.038	--	<0.076	<0.076	<0.076	<0.038
MW-3	8/31/2017	15	35 / 51	<5.1 / <11	140 / 220	<0.027 / <0.024	0.001 J	<0.055 / <0.048	<0.055 / <0.048	0.055 J / <0.048	<0.027 / <0.024
MW-3	8/31/2017	17.5	40	0.6 J	210	<0.037	<0.0005	<0.075	<0.075	<0.075	<0.037
MW-4	8/29/2017	2	<5.1	<0.4	<5.1	<0.031	0.001 J	<0.062	<0.062	<0.062	<0.031
MW-4	8/30/2017	18.5	<5.5	<0.6	<5.5	<0.030	<0.0008	<0.061	<0.061	<0.061	<0.030
MW-4	8/30/2017	23.5	<6.8	<0.7	<6.8	<0.040	<0.0004	<0.080	<0.080	<0.080	<0.040

Notes and Abbreviations

DRO = Diesel Range Organics by Alaska Series Method AK102
GRO = Gasoline Range Organics by Alaska Series Method AK101
RRO= Residual Range Organics AK102/103
Benzene, Toluene, Ethylbenzene, and Total Xylenes by Environmental Protection Agency (EPA) Method 8021B or 8260B or 524.2
Total Xylenes = Sum of m-, o-, and p-xylenes
ADEC = Alaska Department of Environmental Conservation
a = ADEC Method Two - Soil Cleanup Levels, Tables B1 and B2, Under 40-inch zone (18 AAC 75.341), January 2017 (Table B2) and November 2017 (Table B1)
BOLD = Indicates concentration above the ADEC Method Two Soil Cleanup Levels
ft bgs = Feet Below Ground Surface
mg/kg = Milligrams per kilogram
J = Estimated Concentration
- = Not Measured/Not Analyzed
<x = Constituent not detected above x milligrams per liter
x / y = Sample Results / Blind Duplicate Results

Table 2

Soil Analytical Results - Petroleum Hydrocarbons
Former Unocal Service Station 4854/Chevron Site 306449
2730 Spenard Road
Anchorage, Alaska

			PAHs							
Location	Date	Sample Depth	Acenaphthylene	Acenaphthene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene
	Units	ft bgs	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
ADEC Method Two Soil Cleanup Lev			**18**	**37**	**390**	**0.28**	**0.27**	**2.7**	**15000**	**27**
MW-1	8/29/2017	2	<0.00034	<0.00069	0.00076 J	0.0036 J	0.0065	0.012	0.0043	0.0038
MW-1	8/30/2017	17.5	<0.00067	<0.0013	<0.00067	<0.0013	<0.0013	0.0014 J	0.0062	<0.0013
MW-1	8/30/2017	20	0.00075 J / <0.00040	<0.00079 / <0.00080	<0.00042J / <0.00040	<0.00079 / <0.00080	<0.00079 / <0.00080	0.0012 J / <0.00080	0.0063 J / <0.00080J	<0.00079 / <0.00080
MW-2	8/30/2017	19	<0.0035	<0.0069	<0.0035	<0.0069	<0.0069	<0.0069	<0.0069	<0.0069
MW-2	8/30/2017	24.5	<0.00042	<0.00084	0.00054 J	0.00088 J	<0.00084	0.014	0.0022	0.0011 J
MW-3	8/31/2017	15	<0.00034 / <0.00034	<0.00068 / <0.00068	0.0010 J / <0.00056	0.0017 / <0.00068	0.0011 J / <0.00068	0.0029 / 0.0024	0.0019 / 0.0021	0.00091 J / 0.00074 J
MW-3	8/31/2017	17.5	<0.00037	0.0013 J	0.0028	0.0014 J	0.00091 J	0.0022	<0.00075	<0.00075
MW-4	8/29/2017	2	<0.00034 J	<0.00069	<0.00034	<0.00069	<0.00069	0.0031	<0.00069	<0.00069
MW-4	8/30/2017	18.5	<0.00034	<0.00074	<0.00034	<0.00074	<0.00074	<0.00074	<0.00074	<0.00074
MW-4	8/30/2017	23.5	0.0014 J	<0.0025	0.0022 J	0.0032 J	0.0032 J	0.0048 J	0.016	<0.0025

Table 2

Soil Analytical Results - Petroleum Hydrocarbons
Former Unocal Service Station 4854/Chevron Site 306449
2730 Spenard Road
Anchorage, Alaska

			PAHs							
Location	Date	Sample Depth	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene
	Units	ft bgs	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
ADEC Method Two Soil Cleanup Levels[a]			**82**	**0.87**	**590**	**36**	**8.8**	**0.38**	**39**	**87**
MW-1	8/29/2017	2	0.0074	0.0013 J	0.0066 J	<0.00069	0.0032	0.0022	0.0078	0.0074
MW-1	8/30/2017	17.5	0.00090 J	0.0047	<0.0013	<0.0013	0.0048	0.0030J	<0.0013	0.00094 J
MW-1	8/30/2017	20	0.00077 J / <0.00040	<0.00079J / <0.00080	<0.00079 / <0.00080	<0.00079 / <0.00080	0.0010 J / <0.00080	0.0097 J / 0.0017 J	0.0017 J / <0.00080	0.0014 J / <0.00040
MW-2	8/30/2017	19	<0.0035	<0.0069	<0.0069	<0.0069	<0.0069	<0.0069	<0.0069	<0.0035
MW-2	8/30/2017	24.5	0.024	0.0014 J	0.0034	0.00085 J	0.00095 J	0.013	0.025	0.0022
MW-3	8/31/2017	15	0.0044 / 0.0028	<0.00068 / <0.00068	0.0045 / <0.00068	<0.00068 / <0.00068	0.0022 / 0.0023	0.0025 / 0.0045	0.0041 / <0.00075	0.0066 / 0.0013 J
MW-3	8/31/2017	17.5	0.0031	<0.00075	0.0050	0.0011 J	<0.00075	0.0046	0.0091	0.0035
MW-4	8/29/2017	2	0.0044	<0.00069	0.00092 J	<0.00069	<0.00069	0.0033	0.0081	0.00060 J
MW-4	8/30/2017	18.5	<0.00037	<0.00074	<0.00074	<0.00074	<0.00074	0.0031	<0.00074	<0.00037
MW-4	8/30/2017	23.5	0.0055 J	<0.0025	0.0029 J	<0.0025	0.0071	0.019	0.0045 J	0.0049 J

Notes and Abbreviations

PAH = Polynuclear Aromatic Hydrocarbons by Environmental Protection Agency Method SW-846 8270C SIM (Selected Ion Monitoring)

ft bgs = feet below ground surface

mg/kg = milligrams per kilogram

ADEC = Alaska Department of Environmental Conservation

a = ADEC Method Two - Soil Cleanup Levels, Tables B1 and B2, Under 40-inch zone (18 AAC 75.341), January 2017 (Table B2) and November 2017 (Table B1)

BOLD = Indicates concentration above the ADEC Method Two Soil Cleanup Levels

J = Estimated value

<x = Constituent not detected above x milligrams per liter

x / y = Sample Results / Blind Duplicate Results

Table 3

Soil Analytical Results - Petroleum Hydrocarbons
Former Unocal Service Station 4854/Chevron Site 306449
2730 Spenard Road
Anchorage, Alaska

Location	Date	Sample Depth	Metals							
			Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
	Units	ft bgs	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
ADEC Method Two Soil Cleanup Levels[a]			**0.20[b]**	**2100**	**9.1**	**0.089[c]**	**400**	**0.36**	**6.9**	**11**
MW-1	8/29/2017	2	**4.09**	169	<0.0543	**20.1**	10.9	0.0325 J	<0.936	<0.241
MW-1	8/30/2017	17.5	**2.21 J**	64.7	<0.0516	**36.2**	9.85	0.0539 J	<0.888	<0.229
MW-1	8/30/2017	20	**3.29 J / 3.02 J**	63.8 / 53.6	<0.0444 / <0.0636	**34.2 / 23.6**	21.2 / 8.95	0.0393 J / 0.0435 J	<0.764 / <1.09	0.326 J /<0.282
MW-2	8/30/2017	19	**3.19 J**	75.9	<0.0470	**31.0**	9.70	0.0346 J	<0.809	0.232 J
MW-2	8/30/2017	24.5	**7.77**	168	<0.294	**53.8**	21.0	0.123	<1.01	0.936 J
MW-3	8/31/2017	15	**2.99 J / 4.53**	60.4 / 49.6	<0.0542 / <0.0426	**27.8 / 26.9**	10.2 / 9.32	0.0369 J / 0.0344 J	<0.934 / <0.734	<0.241 / 0.228 J
MW-3	8/31/2017	17.5	**4.04**	66.2	<0.0495	**37.5**	11.0	0.0468 J	<0.852	0.247 J
MW-4	8/29/2017	2	**4.59**	185	<0.0392	**22.1**	9.07	0.0437 J	<0.675	0.240 J
MW-4	8/30/2017	18.5	**2.65 J**	60.5	<0.0591	**35.3**	9.82	0.0284 J	<1.02	<0.263
MW-4	8/30/2017	23.5	**4.32 J**	152	<0.319	**54.0**	18.4	0.143	<1.10	0.492 J

Table 3

Soil Analytical Results - Petroleum Hydrocarbons
Former Unocal Service Station 4854/Chevron Site 306449
2730 Spenard Road
Anchorage, Alaska

Location	Date	Start Depth	Moisture	PCB's Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260
	Units	ft bgs	%	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
ADEC Method Two Soil Cleanup Levels[a]										
MW-1	8/29/2017	2	3.5	<0.0034	<0.0052	<0.0042	<0.0042	<0.0034	<0.0045	<0.0040
MW-1	8/30/2017	17.5	6.5	<0.0035	<0.0055	<0.0044	<0.0044	<0.0035	<0.0047	<0.0042
MW-1	8/30/2017	20	17.2 / 18.3	<0.0039 / <0.0040	<0.0061 / <0.0062	<0.0049 / <0.0050	<0.0049 / <0.0050	<0.0039 / <0.0040	<0.0053 / <0.0054	<0.029 / <0.0048
MW-2	8/30/2017	19	4.2	<0.0034	<0.0053	<0.0042	<0.0042	<0.0034	<0.0046	<0.0040
MW-2	8/30/2017	24.5	20.8	<0.0042	<0.0064	<0.0052	<0.0052	<0.0042	<0.0055	<0.0049
MW-3	8/31/2017	15	3.3 / 3.3	<0.0034 / <0.0034	<0.0052 / <0.0052	<0.0042 / <0.0042	<0.0042 / <0.0042	<0.0034 / <0.0034	<0.0045 / <0.0045	0.011 J / 0.018
MW-3	8/31/2017	17.5	12.0	<0.0037	<0.0058	<0.0046	<0.0046	<0.0037	<0.0050	0.017 J
MW-4	8/29/2017	2	3.7	<0.0034	<0.0053	<0.0042	<0.0042	<0.0034	<0.0045	<0.0040
MW-4	8/30/2017	18.5	11.3	<0.0037	<0.0057	<0.0046	<0.0046	<0.0037	<0.0049	<0.0044
MW-4	8/30/2017	23.5	20.8	<0.0042	<0.0064	<0.0052	<0.0052	<0.0042	<0.0055	<0.0049

Notes and Abbreviations

Metals by Method SW-846 6010C
PCBs = polychlorinated biphenyls by SW-846 8082A
ft bgs = feet below ground surface
mg/kg = milligrams per kilogram
ADEC = Alaska Department of Environmental Conservation
a = ADEC Method Two - Soil Cleanup Levels, Tables B1 and B2, Under 40-inch zone (18 AAC 75.341), January 2017 (Table B2) and November 2017 (Table B1)
b = due to the prevalence of naturally occuring asrsenic throughout the state, arsenic at a site will be considred background arsenic unless anthropogenic contribution from a source, activity, or mobilization by means of another introduced contaminants is known or suspected.
c = due to the prevalence of naturally occuring chromium III or IV throughout the state, sample results reported for total chromium detected at the site will be considered background chromium III unless anthropogenic contribution of chromium III or IV froma source, activity, or mobilization of means of another introduced contaminant is known or suspected. The calculated chromium III migration to groundwater cleanup level exceeds 1,000,000 per million.
BOLD = Indicates concentration above the ADEC Method Two Soil Cleanup Levels
J = Estimated value
<x = Constituent not detected above x milligrams per liter
x / y = Sample Results / Blind Duplicate Results

Appendix A
Site Photographs

PHOTO 1 - DISCOVERY DIRECT-PUSH DRILLING OF WELL MW-4 FOR LITHOLOGY

PHOTO 2 - DISCOVERY INSTALLING WELL MW-1

PHOTO 3 - DISCOVERY INSTALLING WELL MW-3

PHOTO 4 - SITE ASSESSMENT WASTE DRUMS STORED ON PROPERTY

PHOTO 5 - DISCOVERY INSTALLING MW-1

PHOTO 6 - DISCOVERY INSTALLING WELL MW-4

PHOTO 7 - LITHOLOGICAL CHANGE OBSERVED AT MW-4 (25-26 FBG)

Appendix B
Site Environmental History

Appendix B Site Environmental History Former Unocal Service Station 4854/ Chevron Site 306449

1986 Subsurface Investigation

Rittenhouse-Zeman and Associates (RZA) installed groundwater monitoring wells MW-1 through MW-4 in November 1986. Details are presented in RZA's *Subsurface Petroleum Hydrocarbon Contamination Evaluation*, UNOCAL Service Station, Unit No. 4854 Report.

1990 UST Removal

RZA removed six underground storage tanks (USTs) along with product piping and two log cribs. New USTs and piping were installed in 1990. Details are presented in RZA's December 14, 1990 *Underground Storage Tank Removal Observations and Soil Disposal Summary Report*.

1990 Installed Vapor Extraction System

RZA installed vapor extraction system. Vertical polyvinyl chloride screens installed at four locations. Perforated drain line installed in area of three remaining tanks. Details are presented on the ADEC web site under the cleanup chronology tab for the site.

1992 Well Install

RZA AGRA Alaska, Incorporated advanced three soil borings and completed two as groundwater monitoring wells MW-1 and MW-2. Details are presented in RZA AGRA's April 22, 1992 *Soil and Groundwater Investigation Report*.

Appendix C
CSM Graphic and Scoping Forms

Print Form

Appendix A - Human Health Conceptual Site Model Scoping Form and Standardized Graphic

Site Name: Chevron 306449

File Number: 2100.26.116

Completed by: GHD Services, Inc

Introduction

The form should be used to reach agreement with the Alaska Department of Environmental Conservation (DEC) about which exposure pathways should be further investigated during site characterization. From this information, summary text about the CSM and a graphic depicting exposure pathways should be submitted with the site characterization work plan and updated as needed in later reports.

General Instructions: Follow the italicized instructions in each section below.

1. General Information:

Sources *(check potential sources at the site)*

- ☒ USTs
- ☐ ASTs
- ☒ Dispensers/fuel loading racks
- ☐ Drums
- ☐ Vehicles
- ☐ Landfills
- ☐ Transformers
- ☒ Other: Log Cribs

Release Mechanisms *(check potential release mechanisms at the site)*

- ☐ Spills
- ☒ Leaks
- ☐ Direct discharge
- ☐ Burning
- ☐ Other:

Impacted Media *(check potentially-impacted media at the site)*

- ☐ Surface soil (0-2 feet bgs*)
- ☒ Subsurface soil (>2 feet bgs)
- ☐ Air
- ☐ Sediment
- ☐ Groundwater
- ☐ Surface water
- ☐ Biota
- ☐ Other:

Receptors *(check receptors that could be affected by contamination at the site)*

- ☒ Residents (adult or child)
- ☒ Commercial or industrial worker
- ☒ Construction worker
- ☐ Subsistence harvester (i.e. gathers wild foods)
- ☐ Subsistence consumer (i.e. eats wild foods)
- ☒ Site visitor
- ☒ Trespasser
- ☒ Recreational user
- ☐ Farmer
- ☐ Other:

* bgs - below ground surface

2. Exposure Pathways: *(The answers to the following questions will identify complete exposure pathways at the site. Check each box where the answer to the question is "yes".)*

a) Direct Contact -

1. Incidental Soil Ingestion

Are contaminants present or potentially present in surface soil between 0 and 15 feet below the ground surface? (Contamination at deeper depths may require evaluation on a site-specific basis.) ☒

If the box is checked, label this pathway complete: Complete

Comments:

2. Dermal Absorption of Contaminants from Soil

Are contaminants present or potentially present in surface soil between 0 and 15 feet below the ground surface? (Contamination at deeper depths may require evaluation on a site specific basis.) ☒

Can the soil contaminants permeate the skin (see Appendix B in the guidance document)? ☐

If both boxes are checked, label this pathway complete: Incomplete

Comments:

b) Ingestion -

1. Ingestion of Groundwater

Have contaminants been detected or are they expected to be detected in the groundwater, or are contaminants expected to migrate to groundwater in the future? ☒

Could the potentially affected groundwater be used as a current or future drinking water source? Please note, only leave the box unchecked if DEC has determined the ground-water is not a currently or reasonably expected future source of drinking water according to 18 AAC 75.350. ☒

If both boxes are checked, label this pathway complete: Complete

Comments:

2. Ingestion of Surface Water

Have contaminants been detected or are they expected to be detected in surface water, or are contaminants expected to migrate to surface water in the future? ☐

Could potentially affected surface water bodies be used, currently or in the future, as a drinking water source? Consider both public water systems and private use (i.e., during residential, recreational or subsistence activities). ☐

If both boxes are checked, label this pathway complete: Incomplete

Comments:

3. Ingestion of Wild and Farmed Foods

Is the site in an area that is used or reasonably could be used for hunting, fishing, or harvesting of wild or farmed foods? ☐

Do the site contaminants have the potential to bioaccumulate (see Appendix C in the guidance document)? ☐

Are site contaminants located where they would have the potential to be taken up into biota? (i.e. soil within the root zone for plants or burrowing depth for animals, in groundwater that could be connected to surface water, etc.) ☐

If all of the boxes are checked, label this pathway complete: Incomplete

Comments:

c) Inhalation-

1. Inhalation of Outdoor Air

Are contaminants present or potentially present in surface soil between 0 and 15 feet below the ground surface? (Contamination at deeper depths may require evaluation on a site specific basis.) ☒

Are the contaminants in soil volatile (see Appendix D in the guidance document)? ☒

If both boxes are checked, label this pathway complete: Complete

Comments:

2. Inhalation of Indoor Air

Are occupied buildings on the site or reasonably expected to be occupied or placed on the site in an area that could be affected by contaminant vapors? (within 30 horizontal or vertical feet of petroleum contaminated soil or groundwater; within 100 feet of non-petroleum contaminted soil or groundwater; or subject to "preferential pathways," which promote easy airflow like utility conduits or rock fractures) ☒

Are volatile compounds present in soil or groundwater (see Appendix D in the guidance document)? ☒

If both boxes are checked, label this pathway complete: Complete

Comments:

3. **Additional Exposure Pathways:** *(Although there are no definitive questions provided in this section, these exposure pathways should also be considered at each site. Use the guidelines provided below to determine if further evaluation of each pathway is warranted.)*

Dermal Exposure to Contaminants in Groundwater and Surface Water

Dermal exposure to contaminants in groundwater and surface water may be a complete pathway if:

- Climate permits recreational use of waters for swimming.
- Climate permits exposure to groundwater during activities, such as construction.
- Groundwater or surface water is used for household purposes, such as bathing or cleaning.

Generally, DEC groundwater cleanup levels in 18 AAC 75, Table C, are deemed protective of this pathway because dermal absorption is incorporated into the groundwater exposure equation for residential uses.

Check the box if further evaluation of this pathway is needed: ☐

Comments:

Inhalation of Volatile Compounds in Tap Water

Inhalation of volatile compounds in tap water may be a complete pathway if:

- The contaminated water is used for indoor household purposes such as showering, laundering, and dish washing.
- The contaminants of concern are volatile (common volatile contaminants are listed in Appendix D in the guidance document.)

DEC groundwater cleanup levels in 18 AAC 75, Table C are protective of this pathway because the inhalation of vapors during normal household activities is incorporated into the groundwater exposure equation.

Check the box if further evaluation of this pathway is needed: ☐

Comments:

Inhalation of Fugitive Dust

Inhalation of fugitive dust may be a complete pathway if:

- Nonvolatile compounds are found in the top 2 centimeters of soil. The top 2 centimeters of soil are likely to be dispersed in the wind as dust particles.
- Dust particles are less than 10 micrometers (Particulate Matter - PM_{10}). Particles of this size are called respirable particles and can reach the pulmonary parts of the lungs when inhaled.

DEC human health soil cleanup levels in Table B1 of 18 AAC 75 are protective of this pathway because the inhalation of particulates is incorporated into the soil exposure equation.

Check the box if further evaluation of this pathway is needed: ☐

Comments:

Direct Contact with Sediment

This pathway involves people's hands being exposed to sediment, such as during some recreational, subsistence, or industrial activity. People then incidentally ingest sediment from normal hand-to-mouth activities. In addition, dermal absorption of contaminants may be of concern if the the contaminants are able to permeate the skin (see Appendix B in the guidance document). This type of exposure should be investigated if:

- Climate permits recreational activities around sediment.
- The community has identified subsistence or recreational activities that would result in exposure to the sediment, such as clam digging.

Generally, DEC direct contact soil cleanup levels in 18 AAC 75, Table B1, are assumed to be protective of direct contact with sediment.

Check the box if further evaluation of this pathway is needed: ☐

Comments:

4. Other Comments *(Provide other comments as necessary to support the information provided in this form.)*

HUMAN HEALTH CONCEPTUAL SITE MODEL GRAPHIC FORM

Site: Chevron 306449
ADEC File ID: 2100.26.116

Completed By: GHD Services, Inc
Date Completed: 12/01/2017

***Instructions*: Follow the numbered directions below. Do not consider contaminant concentrations or engineering/land use controls when describing pathways.**

(1) *Check the media that could be directly affected by the release.*

(2) *For each medium identified in (1), follow the top arrow and check possible transport mechanisms. Check additional media under (1) if the media acts as a secondary source.*

Media	Transport Mechanisms	
☐ Surface Soil (0-2 ft bgs)	Direct release to surface soil	check soil
	☐ Migration to subsurface	check soil
	☐ Migration to groundwater	check groundwater
	☐ Volatilization	check air
	☐ Runoff or erosion	check surface water
	☐ Uptake by plants or animals	check biota
	☐ Other (list):	
☑ Subsurface Soil (2-15 ft bgs)	Direct release to subsurface soil	check soil
	☑ Migration to groundwater	check groundwater
	☑ Volatilization	check air
	☐ Uptake by plants or animals	check biota
	☐ Other (list):	
☐ Groundwater	Direct release to groundwater	check groundwater
	☐ Volatilization	check air
	☐ Flow to surface water body	check surface water
	☐ Flow to sediment	check sediment
	☐ Uptake by plants or animals	check biota
	☐ Other (list):	
☐ Surface Water	Direct release to surface water	check surface water
	☐ Volatilization	check air
	☐ Sedimentation	check sediment
	☐ Uptake by plants or animals	check biota
	☐ Other (list):	
☐ Sediment	Direct release to sediment	check sediment
	☐ Resuspension, runoff, or erosion	check surface water
	☐ Uptake by plants or animals	check biota
	☐ Other (list):	

(3) *Check all exposure media identified in (2).*

(4) *Check all pathways that could be complete. The pathways identified in this column **must** agree with Sections 2 and 3 of the Human Health CSM Scoping Form.*

(5) *Identify the receptors potentially affected by each exposure pathway: Enter "C" for current receptors, "F" for future receptors, "C/F" for both current and future receptors, or "I" for insignificant exposure.*

Current & Future Receptors

Exposure Media	Exposure Pathway/Route	Residents (adults or children)	Commercial or industrial workers	Site visitors, trespassers, or recreational users	Construction workers	Farmers or subsistence harvesters	Subsistence consumers	Other
☑ soil	☑ Incidental Soil Ingestion	F	C/F	C/F	C/F			
	☐ Dermal Absorption of Contaminants from Soil							
	☐ Inhalation of Fugitive Dust							
☑ groundwater	☑ Ingestion of Groundwater	F	C/F	C/F	C/F			
	☐ Dermal Absorption of Contaminants in Groundwater							
	☐ Inhalation of Volatile Compounds in Tap Water							
☑ air	☑ Inhalation of Outdoor Air	F	C/F	C/F	C/F			
	☑ Inhalation of Indoor Air	F	C/F	C/F	C/F			
	☐ Inhalation of Fugitive Dust							
☐ surface water	☐ Ingestion of Surface Water							
	☐ Dermal Absorption of Contaminants in Surface Water							
	☐ Inhalation of Volatile Compounds in Tap Water							
☐ sediment	☐ Direct Contact with Sediment							
☐ biota	☐ Ingestion of Wild or Farmed Foods							

Revised, 10/01/2010

Appendix D
Boring Logs

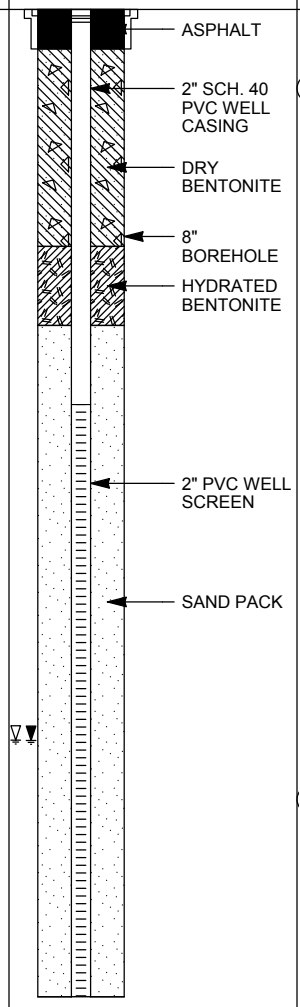
STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: CHEVRON 306449
PROJECT NUMBER: 082676
CLIENT: CHEVRON EMC
LOCATION: 2730 SPENARD ROAD, ANCHORAGE, ALASKA

HOLE DESIGNATION: MW-1
DATE COMPLETED: August 30, 2017
DRILLING METHOD: HOLLOW STEM AUGER
FIELD PERSONNEL: O. YAN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
0	ASPHALT	0.25
2	SP-GRAVELLY SAND (FILL), cobble up to 3-4", brown, moist	
	- dry at 3.0ft BGS	
8	SM-SILTY SAND, trace silt/clay, fine to coarse grained, well graded, brown, moist	8.00
10	SW/SM-SILTY SAND, trace fine gravel, fine to coarse grained, brownish olive, dry	10.00
13	SM-SILTY SAND, fine to medium grained, poorly graded, brownish olive, dry	13.00
	- moist at 17.0ft BGS	
	- wet at 18.0ft BGS	
	- fine grained at 19.0ft BGS	
20	SP/SM-SILTY SAND, fine to coarse grained, fine angular to subrounded gravel, brown, wet	20.00
24	ML-SILT, low plasticity, grayish brown, wet	24.00
25	END OF BOREHOLE @ 25.0ft BGS	25.00

MONITORING WELL



WELL DETAILS
Screened interval:
10.00 to 25.00ft BGS
Length: 15ft
Diameter: 2in
Slot Size: 0.020
Material: SCH. 40 PVC
Seal:
6.00 to 8.00ft BGS
Material: BENTONITE
Sand Pack:
8.00 to 25.00ft BGS
Material: SAND

SAMPLE NUMBER	SAMPLE INTERVAL	REC (%)	'N' VALUE	PID (ppm)
MW-1-2				1.7
				2.3
				2.5
				3.1
				2.9
MW-1-20				3.2
				1.2

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ 8/30/2017 STATIC WATER LEVEL ▼ 9/5/17
CHEMICAL ANALYSIS (MW-1-2, MW-1-20)

OVERBURDEN LOG 082676-WI.GPJ GHD_Corp 1/5/18

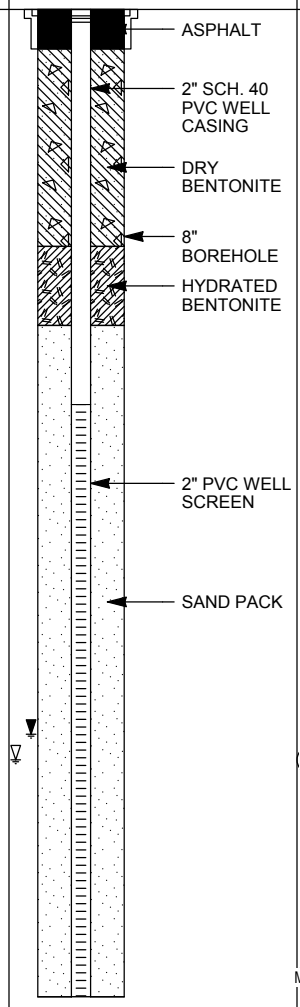
STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: CHEVRON 306449
PROJECT NUMBER: 082676
CLIENT: CHEVRON EMC
LOCATION: 2730 SPENARD ROAD, ANCHORAGE, ALASKA

HOLE DESIGNATION: MW-2
DATE COMPLETED: August 30, 2017
DRILLING METHOD: HOLLOW STEM AUGER
FIELD PERSONNEL: O. YAN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
	ASPHALT	0.25
2	SP-GRAVELLY SAND (FILL), cobble, tannish brown, dry	
4		
6		
8	SP/SM-SILTY SAND, fine to medium gravel, fine to medium grained, poorly graded, brownish olive, dry	7.00
10		
12	- trace fine gravel, fine to coarse grained at 12.0ft BGS	
14	SM-SILTY SAND, fine to medium grained, poorly graded, brownish olive, dry	14.00
		15.00
16	SP/SM-SILTY SAND, fine gravel, fine to coarse grained, brownish olive, moist	
18	SM-SILTY SAND, fine grained, poorly graded, brownish olive, moist	18.00
	- wet at 19.0ft BGS	
20	SP/SM-SILTY SAND, fine gravel, fine to coarse grained, brownish olive, wet	20.00
22	- fine to medium grained at 21.0ft BGS	
24	ML-SILT, low plasticity, brownish olive, moist	24.00
	END OF BOREHOLE @ 25.0ft BGS	25.00
26		
28		
30		
32		
34		

MONITORING WELL



WELL DETAILS
Screened interval:
10.00 to 25.00ft BGS
Length: 15ft
Diameter: 2in
Slot Size: 0.020
Material: SCH. 40 PVC
Seal:
6.00 to 8.00ft BGS
Material: BENTONITE
Sand Pack:
8.00 to 25.00ft BGS
Material: SAND

SAMPLE NUMBER	SAMPLE INTERVAL	SAMPLE REC (%)	SAMPLE 'N' VALUE	PID (ppm)
				2.0
				2.0
				2.1
MW-2-19				2.7
				1.0
MW-2-24.5				

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ 8/30/2017 STATIC WATER LEVEL ▼ 9/5/17
CHEMICAL ANALYSIS (MW-2-19)

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: CHEVRON 306449
PROJECT NUMBER: 082676
CLIENT: CHEVRON EMC
LOCATION: 2730 SPENARD ROAD, ANCHORAGE, ALASKA

HOLE DESIGNATION: MW-3
DATE COMPLETED: August 31, 2017
DRILLING METHOD: HOLLOW STEM AUGER
FIELD PERSONNEL: O. YAN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
0	ASPHALT	0.30
	GP-SANDY GRAVEL (FILL), cobble up to 6-7", dry	
9.00	SP/SM-SILTY SAND, trace gravel, fine grained, grayish brown, moist	
	- fine to medium grained at 13.0ft BGS	
	- brownish olive at 15.0ft BGS	
	- wet at 17.0ft BGS	
	- trace fine gravel, fine to coarse grained at 19.0ft BGS	
25.00	END OF BOREHOLE @ 25.0ft BGS	

MONITORING WELL: ASPHALT; 2" SCH. 40 PVC WELL CASING; DRY BENTONITE; 8" BOREHOLE; HYDRATED BENTONITE; 2" PVC WELL SCREEN; SAND PACK

SAMPLE NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
				22.6
				1.8
MW-3-15				2.5
MW-3-17.5				2.1
				1.6
				1.7

WELL DETAILS
Screened interval:
10.00 to 25.00ft BGS
Length: 15ft
Diameter: 2in
Slot Size: 0.020
Material: SCH. 40 PVC
Seal:
6.00 to 8.00ft BGS
Material: BENTONITE
Sand Pack:
8.00 to 25.00ft BGS
Material: SAND

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ 8/31/2017 STATIC WATER LEVEL ▼ 9/5/17
CHEMICAL ANALYSIS (MW-3-15, MW-3-17.5)

OVERBURDEN LOG 082676-WI.GPJ GHD_Corp 1/5/18

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: CHEVRON 306449
PROJECT NUMBER: 082676
CLIENT: CHEVRON EMC
LOCATION: 2730 SPENARD ROAD, ANCHORAGE, ALASKA

HOLE DESIGNATION: MW-4
DATE COMPLETED: August 30, 2017
DRILLING METHOD: HOLLOW STEM AUGER
FIELD PERSONNEL: O. YAN

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS
0	ASPHALT	0.25
2	SP-GRAVELLY SAND (FILL), with cobble up to 4", brown, dry	
10	SM-SILTY SAND, fine grained, poorly graded, brown, moist	10.00
18	- fine gravel, fine to coarse grained, well graded, grayish brown at 18.0ft BGS - wet at 19.0ft BGS	
24	CL-CLAY, fat, medium plasticity, brownish gray, moist	24.00 24.50
25	SM-SILTY SAND, fine to medium grained, brownish gray, wet	25.00
26	ML-SILT, low plasticity, brownish gray, moist	
29	END OF BOREHOLE @ 29.0ft BGS	29.00

MONITORING WELL: ASPHALT; 2" SCH. 40 PVC WELL CASING; DRY BENTONITE; 8" BOREHOLE; HYDRATED BENTONITE; 2" PVC WELL SCREEN; SAND PACK

WELL DETAILS
Screened interval:
10.00 to 25.00ft BGS
Length: 15ft
Diameter: 2in
Slot Size: 0.020
Material: SCH. 40 PVC
Seal:
6.00 to 8.00ft BGS
Material: BENTONITE
Sand Pack:
8.00 to 25.00ft BGS
Material: SAND

SAMPLE NUMBER	SAMPLE INTERVAL	REC (%)	'N' VALUE	PID (ppm)
MW-4-2				1.2
				2.1
				1.9
				1.3
MW-4-18.5				1.7
				2.2
MW-4-23.5				0.5
				1.4
				2.7

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND ▽ 8/30/2017 STATIC WATER LEVEL ▼ 9/5/17
CHEMICAL ANALYSIS (MW-4-2)

OVERBURDEN LOG 082676-WI.GPJ GHD_Corp 1/5/18

Appendix E
GHD Field Notes

DAILY FIELD REPORT

Project Name: CEMC 306449	GHD Proj. Mgr: S. PRITCHARD	Field Rep: T. WEAVER / O. SAN
Project Number: 08267C	Date: ~~8/29/17~~ 8/29/17	Site Address: 2730 SPENARD RD, ANCHORAGE, AK
Scope of Work: SAW CUTTING; VAC-RIG/AIR KNIFE; DRUMS.		
Equipment: VAC-RIG/AIR-KNIFE; SAW CUT.		Weather: OVERCAST/RAIN

Time	Activity/Comments	SWA
07:23	GHD/AK PIPELINER ONSITE; CONDUCT TAILGATE & SITE WALK	
07:50	FINISH W/ TAILGATE	
07:54	CUT PAVEMENT WITH DEMO SAW @ MW-4, COLLECT RINSATE BLANK RB-1-W-170829	
0817	COLLECT SAMPLE W/ HAND AUGER @ 2 FT @ MW-4	
0833	START VAC TRUCK & START CLEARING MW-4	
0840	START AIR KNIFE	
0846	COLLECT SOIL FROM MW-4 @ 5 FT FOR PID SCREENING, 2.1 PPM	
0850	CONTINUE VACING HOLE	
0856	PEA GRAVLE ARRIVES, STOP VAC TO UNLOAD TRUCK	
0900	DECON HAND AUGER & COLLECT AB-2-W-170829	
0905	RESUME HOLE CLEARING @ MW-4	
0913	FINISH CLEARING MW-4 TO 8FT, BACKFILL W/ PEA GRAVLE	
0925	HEAD TO BACK AREA OF PACKING TO OFFLOAD SOIL → 2 DRUMS FOR BOREHOLE.	
1015	FINISH DUMPING SOIL; HEAD BACK TO ONSITE	
1025	CALL D. CALDWELL W/ SOIL TRUTH → WILL PICK DRUMS WHERE WE STARTED AND HE WILL CHECK IT OUT AND GO FROM THERE; WILL GET A CALL BACK IF HE NEEDS US AT MW-1	
1030	SET UP @ MW-1 LOCATION; 1033 BEGIN SAW CUTTING → A LITTLE THICKER THAN BEFORE	
1039	START HAND AUGER TO 2 FT, COLLECT MW-1-2-5-170829 @ 11:00	
1103	START VAC TRUCK & BEGIN CLEARING MW-1	
1110	START AIR KNIFE	
1125	COLLECT SOIL TO SCREEN W/ PID,	
1131	FINISH CLEARING MW-1 TO 8 FT, BACKFILL W/ PEA GRAVLE	
1200	BREAK FOR LUNCH	
1240	BACK FROM LUNCH; HOLD SAFETY BRIEF; HEAD TO MW-2.	
1255	BEGIN SAW CUTTING OF ASPHALT.	

SWA Key:	A: Person or People	B: Equipment	C: Environmental
	D: Procedures/Processes/JSA-review/revise	E: Visitors	

Operational Mileage: Start _____ End _____ Total _____

Project Number: 082675 Date: 08/25/17

Time	Activity/Comments	SWA
1304	FINISH W/ JAW CUTTING; BEGIN VAC-RIG CLEARANCE @ 1309 → NEED TO USE AK → HARD BACKFILL; MAY USE WATER TO CLEAR.	
	→ KEITH SW → USE BLANKET TO DOWN AIR DEBRIS FROM FLYING AT.	B
	→ SLOW GOING; CONCRETE/ASPHALT LEFT IN PLACE ~1.5' BELOW → DURAMOR?	
	↳ ENCOUNTERING BIG BACKFILL → ROOT COLLAR, ETC. → TIME: 1333	
1348	TAKE 5 PT SAMPLE FOR SURROG → 0.0	
1408	FINISH W/ BACKFILL WILL MOB TO INEXT HOLE MW-3	
1419	BEGIN SAW CUTTING @ MW-3.	
1425	BEGIN W/ AIR KNIFE @ MW-3; → TAKE 5' SAMPLES → 22.6 PPM	
1450	FINISH W/ CLEARING; SITE CLEANUP THEN WILL OFF LOAD SOIL INTO DRUMS.	
1545	FINISH OFF LOADING SOIL INTO DRUMS → 2 TOTAL → STORED BEHIND TWO PLATES CLOSEST.	
1550	BEGIN VACING EXTRA GRAVEL; FINISH SITE CLEANUP @	

SWA Key:	A: Person or People	B: Equipment	C: Environmental
	D: Procedures/Processes/JSA-review/revise	E: Visitors	

DAILY FIELD REPORT

Project Name: CEMC 306449	GHD Proj. Mgr: S. PRITCHARD	Field Rep: T. WENGER / TOMAS
Project Number: 062676	Date: 8/30/17	Site Address: 2730 SPENARD RD, ANCHORAGE, AK
Scope of Work: INSTALL MONITORING WELLS.		
Equipment: SOIL HSA DRILL RIG; PID; SUPPORT TRUCK.		Weather: OVERCAST — 50s - 60s

Time	Activity/Comments	SWA
07:30	ARRIVE ON SITE & MEET ADAM & JESSE W/ DISCOVERY DRILLING	
07:34	CONDUCT SAFETY TAILGATE MEETING & SITE WALK	
0824	SET UP EQUIPMENT ON MW-4 & TEST KILL SWITCHES	
	↳ JSP WORK; MISSING EQUIPMENT	
0853	EQUIPMENT DROPPED OFF WILL BEGIN DP FOR LOGGING.	
0928	COLLECT SAMPLE MW-4-18-S-170830	
0950	COLLECT SAMPLE MW-4-23-S-170830	
0954	CALL PM TO DISCUSS SCREEN SETTING DUE TO CONFINING LAYER,	
	DECIDE TO SET FROM 10' TO 25'	
1025	SET WELL, PREPACK SCREEN FROM 25' TO 20' & BARE SCREEN UP TO 16'	
	BACKFILL W/ SAND & BENTONITE	
1120	FINISH SETTING WELL → FLUSH MOUNT → USE COLD PATCH.; CLEANUP; DEMOB TO NEXT	
	LOCATION @ 1130	
11:38	SET UP @ MW-1 LOCATION.	
11:45	TAKE BREAK FOR LUNCH	
12:15	BACK FROM LUNCH; SET UP @ MW-1.	
1230	BEGIN DRILLING @ MW-1 → WILL LOG SOIL.	
1300	COLLECT MW-1-17.5-S-170830	
1315	COLLECT MW-1-20-S-170830 & DUP-1-S-170830	
1337	FINISH DRILLING MW-1, SET SCREEN FROM 25' TO 10' & BACK FILL	
	W/ SAND TO 2' ABOVE SCREEN THEN BENTONITE	
1432	SET UP ON MW-2	
1510	COLLECT SAMPLE MW-2-19-S-170830	
1522	COLLECT SAMPLE MW-2-24.5-S-170830	
1527	FINISH DRILLING & SET WELL W/ SCREEN 10' TO 25', BACK FILL	
	W/ SAND & BENTONITE	
1555	FINISH SETTING WELL → WILL INSTALL WELL BOX; SITE CLEANUP.	
1640	FINISH W/ SITE CLEANUP; CREW OFFSITE. @ 1700	
1720	BACK @ OFFICE	

SWA Key:			
	A: Person of People	B: Equipment	C: Environmental
	D: Procedures/Processes/JSA-review/revise	E: Visitors	

Operational Mileage: Start _____ End _____ Total _____

Project Number: ____________ Date: ____________

Time	Activity/Comments	SWA

SWA Key:	A: Person or People	B: Equipment	C: Environmental
	D: Procedures/Processes/JSA-review/revise	E: Visitors	

DAILY FIELD REPORT

Project Name: 306449	GHD Proj. Mgr: S. PRITCHARD	Field Rep: C. YAN, T. WEAVER
Project Number: 092676	Date: 8/31/17	Site Address: 2730 SPENARD RD ANCHORAGE, AK
Scope of Work: INSTALL FINAL MONITORING WELL		
Equipment: SME DRILL RIG, PID, SUPPORT TRUCK		Weather: OVERCAST & 51°

Time	Activity/Comments	SWA
0730	ARRIVE ON SITE & MEET ADAM & JESSE W/ DISCOVERY DRILLING	
0705	CONDUCT SAFETY TAILGATE	
0754	SET UP ON MW-3 & START DRILLING	
0848	COLLECT SAMPLE MW-3-17.5-S-170831	
	COLLECT SAMPLE MW-3-15-S-170831 & DUP-2-S-170831	
0909	FINISH DRILLING & SET WELL SCREEN FROM 25' TO 10', BACKFILL	
	W/ SAND & BENTONITE	
0935	FINISH W/ INSTALLATION OF WELL; BEGIN SITE CLEANUP.	
0950	OFFSITE; ~~HEAD~~ BACK TO OFFICE TO PACK SAMPLES FOR SHIPMENT.	

SWA Key:	A: Person or People	B: Equipment	C: Environmental
	D: Procedures/Processes/JSA-review/revise	E: Visitors	

Operational Mileage: Start _____ End _____ Total _____

Boring/Well Name MW-1 Page 1 of

PE/PG S. PRITCHARD

Utility Cleared to 8 FBG

Total Depth 25 FBG.

Date Started 8/29/17

Date Completed 8/30/17

Screened Interval 10-25 FBG

Depth to water (first encountered) 18.5

Depth to water (static) 18.51 (9/5/17)

Located ONSITE

Misc. Notes: LOW CRUSH WELL (ONSITE)

Client Name CHEVRON EMC

Job/Site Name CHEVRON 306449

Location 2730 SPENARD ROAD, ANCHORAGE, AK

Project Number 062676

Driller DISCOVERY DRILLING

Drilling Method HOLLOW-STEM AUGERS

Boring Diameter 8-INCH

Logged by O. YAN

Depth/Sample Interval	Time	Sample ID	PID	Well Construction	U.S.C.S. Symbol	Geologic Descriptions and Comments	Color	Penetration Resistance/ Blow Counts	Moisture	Estimated Percentages: Clay	Silt	Sand	Gravel	Estimated Plasticity
0						8-INCH ASPHALT								
	1100	MW-1-2-5	1.7	GRAVEL		FILL → gravelly sand; cobbles up to 3 to 4"	Brown		moist					
5			2.3	BENTONITE					DRY					
				WET BENTONITE										
10	1243		2.5	SAND	SM	fine to coarse sand → well graded; trace silt/clay	↓		moist	<10	15	75	0	NP
					SW-SM	fine to coarse SAND; trace gravel (fine)	brownish olive		dry	0	10	75	15	NP
15	1248		3.1		SM	fine to med sand → poorly graded				<5	20	75	0	NP
	1300	MW-1-18.5	2.9						moist → wet					
20	1315	MW-1-20 (DUP)	3.2			fine sand → poorly graded								
					SP-SM	fine → coarse/ subrounded gravels	brownish gray			0	10	70	20	NP
						fine gravels → fine to coarse sand					15	75	10	
25	1325		1.2		ML	SILT →	gray			40	60	∅	∅	LP
						BOTTOM OF BORING @ 25 FBG								
30						WELL CONSTRUCTION: 2-INCH PVC (SCH 40); 0.020-INCH SLOTTED; #10/20 SAND.								

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GHD

Client Name	CHEVRON EMC
Job/Site Name	CHEVRON 306449
Location	2730 SPENARD ROAD, ANCHORAGE, AK
Project Number	082676
Driller	DISCOVERY DRILLING
Drilling Method	HOLLOW-STEM AUGERS
Boring Diameter	8-INCH
Logged by	D. YAN

Boring/Well Name	MW-2
Page 1 of 1	
PE/PG	J. PRITCHARD
Utility Cleared to	8 FBG
Total Depth	
Date Started	~~8/28/17~~ 8/29/17
Date Completed	8/30/17
Screened Interval	
Depth to water (first encountered)	19
Depth to water (static)	~~[illegible] -~~ 18.35 (9/5/17)
Located	ONSITE
Misc. Notes:	

Depth/Sample Interval	Time	Sample ID	PID	Well Construction	U.S.C.S. Symbol	Geologic Descriptions and Comments	Color	Penetration Resistance/ Blow Counts	Moisture	Clay	Silt	Sand	Gravel	Estimated Plasticity
0				GROUT		3-INCH ASPHALT								
						FILL → COBBLES gravelly sand	Tan/brown		DRY					
				DRY BENT										
5			2.0											
				WET BENT										
10	1448		2.0		SP-SM	fine to med sand; poorly graded fine to med gravel.	Brown		DRY	0	10	70	20	NP
						fine to coarse sand; trace gravel (fine)				0	10	75	15	NP
15	1455		2.[illegible]		SM	fine to med sand; poorly graded				0	25	75	0	NP
					SP-SM	fine to coarse sand; fine gravels				0	10	70	20	NP
	1510	MW-2-19	1.6		SM	fine sand → poorly graded			moist					
20	1515		2.7						wet		20	75	<5	NP
					SP-SM	fine to coarse sand; fine gravels.				0	10	70	20	
						fine to med sand					15	75	<10	
											10	70	20	
25	1522	MW-2-25	1.0		ML	SILT			moist		45	55	—	
						BOTTOM OF BORING @ 25 FBG.								
						→ 2-INCH SCH 40 PVC								
						→ 0.020-INCH SLOTTED SCREEN								
						# 10/20 SAND								
30														

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Boring/Well Name MW-3 Page 1 of 1
PE/PG J. PRITCHARD
Utility Cleared to 8 FBG
Total Depth 25 FBG
Date Started 8/29/17 8/29/17
Date Completed 8/31/17
Screened Interval 10 – 25
Depth to water (first encountered) 17 FBG
Depth to water (static) 18.03 (9/5/17)
Located ONSITE
Misc. Notes:

Client Name CHEVRON EMC
Job/Site Name CHEVRON 306449
Location 2730 SPENARD ROAD, ANCHORAGE, AK
Project Number 082676
Driller DISCOVERY DRILLING
Drilling Method HOLLOW-STEM AUGERS
Boring Diameter 8-INCH
Logged by O. YAN

Depth/Sample Interval	Time	Sample ID	PID	Well Construction	U.S.C.S. Symbol	Geologic Descriptions and Comments	Color	Penetration Resistance/ Blow Counts	Moisture	Estimated Percentages: Clay	Silt	Sand	Gravel	Estimated Plasticity
0						0.2 FT ASPHALT								
						Fill = sandy gravel; cobbles up to 6-7 inches			DRY					
5			22.6											
			WET SOIL		SP-SM	fine sand to fine gravel	grayish brown		moist	0	10	80	10	NP
10	0825		1.8											
						fine to medium sand, fine gravel.								
15	0833	MW-3-15	2.5							0	10	75	15	NP
	0845	MW-3-20	2.1				brown olive		wet					
	0930		1.6			fine to coarse sand, some fine gravels.				10	65	25		NP
25			1.7											
30														

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Boring/Well Name MW-4 Page 1 of 1
PE/PG J. PRITCHARD
Utility Cleared to 8 FBG
Total Depth 25 FBG
Date Started 8/29/17
Date Completed 8/30/17
Screened Interval 10-25 FBG
Depth to water (first encountered) 19 FBG
Depth to water (static) 17.73 (9/6/17
Located OFFSITE + ADJACENT SITE
Misc. Notes:

Client Name CHEVRON EMC
Job/Site Name CHEVRON 306449
Location 2730 SPENARD ROAD, ANCHORAGE, AK
Project Number 082676
Driller DISCOVERY DRILLING
Drilling Method HOLLOW-STEM AUGERS
Boring Diameter 8-INCH
Logged by A. YAN

Depth/Sample Interval	Time	Sample ID	PID	Well Construction	U.S.C.S. Symbol	Geologic Descriptions and Comments	Color	Penetration Resistance/ Blow Counts	Moisture	Estimated Percentages: Clay	Silt	Sand	Gravel	Estimated Plasticity
0						FILL GRAVEL								
	0810	MW-4-2-3	1.2			→ gravelly sand w/ cobbles → up to 4-inch	Brown		Dry					
5			2.1											
10			1.9		SM	fill sand → poorly graded				<5	15	80	0	NP
15			1.3						moist					
	0928	MW-4-15-1	1.7			fine to coarse sand; well graded; fine gravel				<5	20	75	0	
20			2.7				Grey brown		wet	10	15	60	15	NP
	0950	MW-4-23	0.50							<5	20	70	<5	
25			1.4		CL	CLAY → fat clay	brown grey		moist	90	10	0	0	MP
					SM	SAND LENS fine to med			wet	0	20	80	0	
					ML	SILT CLAY								
			2.7							40	50	0	0	
30						BOTTOM OF BORING @ 29 (LITHOLOGY)								

→ 2-INCH SCH 40 PVC; 0.020-INCH SLOTTED
→ #1 SILICA SAND
→

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DAILY FIELD REPORT

Project Name: CEMC 306947	GHD Proj. Mgr: S. PRITCHARD	Field Rep: O. YAN
Project Number: 082676	Date: 9/5/17	Site Address: 2730 SPENARD RD, ANCHORAGE, AK
Scope of Work: DEVELOP MONITORING WELLS MW-1 THROUGH MW-4		
Equipment: YSI; TYPHOON PUMP;		Weather:

Time	Activity/Comments	SWA
07:45	LOAD UP VEHICLE; HEAD TO TRIPLE T TO PICK UP EQUIPMENT	
08:05	ARRIVE @ TTT; PICK UP EQUIPMENT FOR WELL DEVELOPMENT	
08:20	MOBILIZE TO THE SITE; PERFORM TAILGATE; NOTIFY PM; BEGIN SET UP @ MW-4 AND BLOCK OFF REST OF THE WELLS	
0840	BEGIN W/ MW-4 WELL DEVELOPMENT, BY SURGING AND PURGING W/ TYPHOON PUMP	
0954	FINISH W/ WELL DEVELOPMENT ~ 14.0 GAL PURGED → WELL IS STILL A LITTLE CLOUDY, BUT DUE TO SILTY FORMATION; NO SEDIMENTS @ BOTTOM OF WELL. → TRANSFER PURGED WATER INTO WASTE DRUM.	
1000	MOBILIZE TO ONSITE LOCATION → SET UP @ MW-1.	
1020	BEGIN WELL DEVELOPMENT OF MW-1 → SURGE/PURGE METHOD, TAKE PARAMETER READINGS, → FINISHED @ 1120 → PURGED ~ 150 GAL.	
1125	SET UP @ MW-2 FOR GW WELL DEVELOPMENT.	
1137	START PURGING → SURGED/PURGE	
1137	NOTICED SHEEN; WITH PURGE WATER; NOTIFY PM. DISCUSSION OF WHAT TO DO → STOP WORK → DO NOT USE PUMP ANYMORE; WILL USE BAILER.	C/O
1234	RESTART BAILING @ MW-1 → WELL DEVELOPMENT W/ BAILER → SURGE	
1320	FINISH W/ DEVELOPMENT ~ 12 GALLONS PURGED.	
1335	SET UP @ MW-3 LOCATION FOR WELL DEVELOPMENT. → SURGE/PURGE METHOD. START @ 1350	
1500	FINISH W/ WITH WELL DEVELOPMENT @ MW-3 → PURGED ~ 17.5 GAL.	
1505	STORE ALL PURGE WATER INTO DRUMS → 2 55-GAL DRUMS GENERATED → CONTAIN WATER WASTE	
1515	HEAD TO TTT TO DROP OFF EQUIPMENT.	
1515	HEAD BACK TO OFFICE.	

SWA Key:	A: Person or People	B: Equipment	C: Environmental
	D: Procedures/Processes/JSA-review/revise	E: Visitors	

Operational Mileage: Start _____ End _____ Total _____

WELL DEVELOPMENT FORM

Project Name: Chevron 306449	GHD Mgr: Siobhan Pritchard	Well ID: MW-1
Project Number: 082676	Date: 9/5/17	Technician(s): O.VAN
Site Address: 2730 Spenard Road Anchorage, Alaska	Development Method: Surge & Puge	Well Diameter: 2-inch
Initial Depth to Water: 18.51	Total Well Depth: 24.71	Water Column Height: 6.20
Volume/ft: 0.992	1 Casing Volume 0.992	10 Casing Volumes: 9.92
Purging Device: Typhoon Pump	Did Well Dewater?: Yes ☐ No ☒	Total Gallons Purged: 16.00
		Time Completed: 1120

1 Casing Volume = Water column height x Volume/ ft.

Well Diam	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Start Time	Activity	Water Depth (feet)	Gallons Purged	Temp (C°)	Conc. (mS/cm) 3%	Dissolved Oxygen (mg/L) 10%	pH 0.1	Redox (mV) 1	Turbidity (NTU)	Notes
1020	Surge ☒ Purge ☐	18.59								
1026	Surge ☐ Purge ☒		1.0	10.17	6.465	8.33	6.55	41.8	>100	SILTY.
1030	Surge ☒ Purge ☐									
10:32	Surge ☐ Purge ☒		2.1	10.04	6.460	8.91	6.55	41.5	>100	CLOUDY
10:34	Surge ☒ Purge ☐									
1038	Surge ☐ Purge ☒		3.3	10.02	0.462	9.48	6.60	47.7	>100	
	Surge ☐ Purge ☒		4.5	10.00	6.471	8.35	6.58	48.5	>100	CLOUDY.
10:41	Surge ☒ Purge ☐	18.55								
10:48	Surge ☐ Purge ☒		5.5	9.98	0.449	8.98	6.63	51.2	>100	
1049	Surge ☐ Purge ☒		6.6	10.12	6.455	8.72	6.65	53.4	>100	
1052	Surge ☐ Purge ☒		7.6	10.11	0.459	8.47	6.69	34.1	>100	
1054	Surge ☒ Purge ☐									
1057	Surge ☐ Purge ☒		8.6	9.97	0.451	9.52	6.64	55.3	>100	
1059	Surge ☐ Purge ☒		9.6	10.04	0.455	8.64	6.62	56.5	>100	CLOUDY
1101	Surge ☐ Purge ☒		10.6	10.09	0.449	8.01	6.61	57.2	>100	"
1105	Surge ☒ Purge ☐	18.58								
1110	Surge ☐ Purge ☒		11.7	9.98	0.461	7.04	6.59	58.5	>100	
1112	Surge ☐ Purge ☒		12.7	9.97	0.447	6.64	6.61	59.7	>100	
1113	Surge ☐ Purge ☒		13.8	9.99	0.441	6.15	6.59	59.8	>100	
1116	Surge ☐ Purge ☒		15.0	9.97	0.452	5.96	6.56	59.0	>100	CLOUDY WATER STILL CLOUDY
	Surge ☐ Purge ☐	18.51	PURGED 16.0 GALLONS							"

PTB → 24.71

WELL DEVELOPMENT FORM

Project Name: Chevron 306449	GHD Mgr: Sobhan Pritchard	Well ID: MW-2
Project Number: 082676	Date: 9/5/17	Technician(s): O. YAN
Site Address: 2730 Spenard Road Anchorage, Alaska	DevelopmentMethod: Surge & Purge	Well Diameter: 2-inch
Initial Depth to Water: 18.35	Total Well Depth: 24.67	Water Column Height: 6.32
Volume/ft: 1.0112	1 Casing Volume: 1.0112	10 Casing Volumes: 10.112
Purging Device: Typhoon Pump / BAILER	Did Well Dewater?: Yes ☐ No ☒	Total Gallons Purged: 12 GALLONS
		Time Completed: 1331

1 Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Start Time	Activity	Water Depth (feet)	Gallons Purged	Temp (C°)	Cond. (mS/cm) 3%	Dissolved Oxygen (mg/L) 10%	pH 0.1	Relox (mV) 1	Turbidity (NTU)	Notes
1133	Surge ☒ Purge ☐	18.35								
1137	Surge ☐ Purge ☒		1.70	9.98	5.480	7.32	6.53	625	>100	Cloudy; SHEEN OBSERVED
BAILER 1234	Surge ☒ Purge ☐									
1237	Surge ☐ Purge ☒		3.20	9.97	0.512	7.79	6.64	101.8	>100	Cloudy → SHEEN/PRODUCT ~ <0.2-INCH
1240	Surge ☒ Purge ☐									
1250	Surge ☐ Purge ☒		4.30	9.98	0.518	7.75	6.53	87.1	>100	USE BAILER → SHEEN
1251	Surge ☐ Purge ☒		5.70	9.93	0.513	7.65	6.56	85.1	>100	USE BAILER → SHEEN
1302	Surge ☒ Purge ☐									
1308	Surge ☐ Purge ☒		8.50	10.58	0.525	6.86	6.50	84.6	>100	USE BAILER — SHEEN
1320	Surge ☐ Purge ☒		8.00	10.02	0.508	7.06	6.59	84.3	>100	USE BAILER — SHEEN
1320	Surge ☐ Purge ☒		9.00	9.98	0.509	7.81	6.57	85.1	>100	USE BAILER — SHEEN
	Surge ☐ Purge ☐	18.36	PURGED TOTAL → 12.00 GALLONS							
	Surge ☐ Purge ☐									
	Surge ☐ Purge ☐									
	Surge ☐ Purge ☐									
	Surge ☐ Purge ☐									
	Surge ☐ Purge ☐									
	Surge ☐ Purge ☐									
	Surge ☐ Purge ☐									
	Surge ☐ Purge ☐									
	Surge ☐ Purge ☐									

WELL DEVELOPMENT FORM

Project Name: Chevron 306449	GHD Mgr: Siobhan Pritchard	Well ID: MW-3
Project Number: 082676	Date: 9/5/17	Technician(s): O.YAN
Site Address: 2730 Spenard Road Anchorage, Alaska	Development Method: Surge & Purge	Well Diameter: 2-inch
Initial Depth to Water: 18.03	Total Well Depth: 24.65	Water Column Height: 6.62
Volume/ft: 0.62 1.0592	1 Casing Volume:	10 Casing Volumes: 10.592
Purging Device: Typhoon Pump	Did Well Dewater?: Yes ☐ No ☒	Total Gallons Purged: 17.5
		Time Completed: 1500

1 Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Start Time	Activity	Water Depth (feet)	Gallons Purged	Temp (C°)	Cond. (mS/cm) 3%	Dissolved Oxygen (mg/L) 10%	pH 0.1	Redox (mV) 10	Turbidity (NTU)	Notes
1350	Surge ☒ Purge ☐	18.03								
1403	Surge ☐ Purge ☒		1.4	9.35	0.638	7.52	6.90	107.6	>100	cloudy
1405	Surge ☒ Purge ☐									
1411	Surge ☐ Purge ☒		3.0	9.42	0.645	7.90	6.42	105.7	>100	cloudy
1415	Surge ☒ Purge ☐									
1418	Surge ☐ Purge ☒		4.5	9.42	0.629	7.76	6.50	104.4	>100	slurry
1420	Surge ☐ Purge ☒		6.0	9.39	0.629	7.43	6.46	105.1	>100	
1425	Surge ☒ Purge ☐									
1427	Surge ☐ Purge ☒		7.5	9.36	0.627	7.23	6.45	104.1	>100	
1430	Surge ☐ Purge ☒		9.0	9.35	0.627	6.68	6.43	104.6	>100	
1437	Surge ☐ Purge ☒		10.5	9.37	0.631	7.05	6.43	104.5	>100	
1440	Surge ☒ Purge ☐	18.04								
1449	Surge ☐ Purge ☒		12.0	9.36	0.616	7.07	6.44	104.9	>100	
1444	Surge ☐ Purge ☒		13.5	9.38	0.613	5.60	6.43	104.8	>100	CLEARING UP
1448	Surge ☐ Purge ☒		15.0	9.26	0.614	7.23	6.43	105.2	>100	
1450	Surge ☐ Purge ☒		16.5	9.32	0.612	5.73	6.42	106.0	>100	
	Surge ☐ Purge ☐		PURGED TOTAL = 17.5 GALLONS →							
	Surge ☐ Purge ☐									
	Surge ☐ Purge ☐									
	Surge ☐ Purge ☐									
	Surge ☐ Purge ☐									

WELL DEVELOPMENT FORM

Project Name: Chevron 306449	GHD Mgr: Siobhan Pritchard	Well ID: MW-4
Project Number: 082676	Date: 9/5/2017	Technician(s): D. YAN
Site Address: 2730 Spenard Road Anchorage, Alaska	Development Method: Surge & Purge	Well Diameter: 2-inch
Initial Depth to Water: 17.73	Total Well Depth: 24.67	Water Column Height: 6.94
Volume/ft: 1.1104	1 Casing Volume: 1.1104	10 Casing Volumes: 11.104
Purging Device: Typhoon Pump	Did Well Dewater?: Yes ☐ No ☒	Total Gallons Purged: 14.0 GAL
		Time Completed: 0954

1 Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Start Time	Activity	Water Depth (feet)	Gallons Purged	Temp (C°)	Cond. (mS/cm) 3%	Dissolved Oxygen (mg/L) 10%	pH 0.1	Redox (mV) 10	Turbidity (NTU)	Notes
0844	Surge ☒ Purge ☐	17.73								
0850	Surge ☐ Purge ☒		1.1	10.84	0.745	7.71	6.34	85.3	>100	CLOUDY
0855	Surge ☒ Purge ☐									
0901	Surge ☐ Purge ☒		2.4	10.25	0.633	7.40	6.93	38.1	>100	" "
0903	Surge ☒ Purge ☐	17.80								
0908	Surge ☐ Purge ☒		3.5	9.83	0.618	8.10	7.00	28.5	>100	" "
0909	Surge ☐ Purge ☒		4.8	9.85	0.596	7.51	7.00	26.4	>100	" "
0918	Surge ☒ Purge ☐									
0922	Surge ☐ Purge ☒		5.9	9.90	0.567	7.93	7.00	21.5	>100	SILTY STILL → WILL DEVELOP
0924	Surge ☐ Purge ☒		7.0	9.83	0.590	7.57	6.99	22.4	>100	UNTIL ~13 TO 14 GAL
0927	Surge ☒ Purge ☐	17.73								
0931	Surge ☐ Purge ☒		8.1	9.75	0.580	8.51	6.97	23.6	>100	
0932	Surge ☐ Purge ☒		9.2	9.75	0.572	8.15	6.95	24.1	>100	
0935	Surge ☐ Purge ☒		10.5	9.93	0.573	7.45	6.96	24.6	>100	
0937	Surge ☒ Purge ☐									
0944	Surge ☐ Purge ☒		11.6	9.86	0.563	7.34	6.94	26.0	>100	
0945	Surge ☐ Purge ☒		12.7	9.66	0.555	7.42	6.85	26.2	>100	
0947	Surge ☐ Purge ☒		14.0	9.79	0.554	7.74	6.84	26.4	>100	CLEARING UP; BUT STILL CLOUDY
	Surge ☐ Purge ☐	17.75	TOTAL PURGED ~14 GAL							
	Surge ☐ Purge ☐									
	Surge ☐ Purge ☐									

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INSTRUMENT RENTAL FUNCTION/CHECKLIST

Company Name: GHD

S/O #: S172238

Rental Description: YSI 556

Serial #: 31209

Item Description	Checked Out?	Checked In?	Damaged / Missing?
556 Multi parameter meter with barometer	✓		
Wrist strap	✓		
4 meter probe assembly w/ pH/ORP, cond./temp, & DO	✓		
Pelican carrying case	✓		
556 Quick-start Guide & CD in ziploc bag	✓		
YSI 5511 Maintenance kit (including the following):	✓		
Probe installation/removal tool	✓		
DO sensor set screw	✓		
Allen wrench for DO sensor set screw	✓		
DO sensor port plug	✓		
Conductivity probe cleaning brush	✓		
O-Rings for DO sensor	✓		
2 - Replacement Flow cell O-ring	✓		
DO membrane kit (w/**2 replacement caps & instructions**)	✓		
DO membrane solution (at least 1/4 full)	✓		
Probe Sensor Guard	✓		
Transport/Calibration cup	✓		
Stainless Steel sampling cup	✓		
Optional:			
Flow cell (including the following): 512P	✓		
2 each hose barbs: 3/16", 1/4", 3/8", 1/2"	✓		
Optional - 2 each YSI body couplings	✓		
Both upper and lower o-rings in place on flow cell	✓		

Instrument Function Test / Inspection (Correct all deficiencies)	
Pelican case general condition, rubber seal, TTT label, & foam in place and in good condition:	Yes
TTT property tag in place on top of instrument:	Yes
Instrument display face plate in good condition (only minor scratches and smears); And backlight functions properly:	Yes
Date and Time set correctly (Esc/system setup/date & time):	Yes
Shutoff time set to 60 min. (Esc/system setup/shut off time):	Yes
All data deleted (Esc/file/delete all files/delete):	Yes
Battery power bar (lower right hand corner) shows at least 30%:	Yes

Signature (Check-out): _____ Signature (Check-in): _____

Declared Value: ~~$8,700~~

* By renting with TTT customer agrees to the rental terms and conditions (copy available upon request).
* Customer is responsible for all parts and equipment damaged or missing during rental.
* All instruments have been inspected and calibrated (when applicable) prior to rental.
* TTT suggests calibrating/bump testing instruments prior to each days use.

Phone: (907) 770-9041 **Fax: (907) 770-9046** **Email: info@tttenviro.com** **www.tttenviro.com**

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CALIBRATION/INSPECTION REPORT

Calibration Date: 8/31/2017
Report Date (check-out): 9/1/2017

Company Name: GHD
Rental Description: YSI 556

S/O #: S172238
Serial #: 556-15.E103128

CALIBRATION*

Sensor	Zero Value	Calibration*				
		Desired reading	Instrument reading		mV	Slope/Gain
Spec. Conductivity/Cond.	na	1.413 @25 C	1.413 @ 22.08	C	1.413/1350	1.02
pH	na	7.02 @20 C	7.02 @ 21.3	C	-10	
pH	na	4.01 @20 C	4.00 @ 21.36	C	163	173
pH	na	10.06 @20 C	10.05 @ 21.26	C	-185.1	175
ORP	na	240mV @25 C	240.0 @ 21.33	C	-9.3	
D.O.	na	100% @25 C	98.4 % 20.95	C	B.P.= 29.43	0.744
			8.78 mg/L			

* Calibrated per manufacturer specifications

CALIBRATION SOLUTION INFORMATION

Components	Conc.	Lot #	Manuf.	Accuracy	Fill Date	Exp. Date
Specific Conductivity	**1.413@25C**	UW1	oakton	--		04/2018
pH	**7.00@25C**	16C2S	YSI	+/- 0.02		11/2017
pH	**4.01@25C**	16A3R	YSI	+/- 0.02		01/2018
pH	**10.01@25C**	14L1T	YSI	+/- 0.02		09/2017
ORP	**240mV**	9674	Hanna	+/- 20		01/2021

Calibrated by: Steve Ziegler

Signature:

INSTRUMENT INSPECTION

Item	Pre-rental Check-out	Post-rental Check-in ("Damaged" or "No" may indicate customer charge)
Inspect all instrument components for cracks, damage, etc:		No Damage Damaged
Meter (battery cover screws) & cable?:		No Damage Damaged
Cable is plugged into handheld?:	Yes	Yes No
Instrument powers on/off properly?:	Yes	Yes No
Battery power bar (lower right hand corner) shows at least 30%?:	Yes	
Display/LCD contrast is correct and no black streaks in LCD screen exist?:	Yes	Yes No
All display readings are positive (excluding pHmV & ORP)?:	Yes	Yes No
Probe inspection?:		No Damage Damaged
Probe transport cup is attached & contains 1/4" tap water or pH 4 buffer?:	Yes	Yes No
Calibrated within the last 10 days?:	Yes	
Rental checklist completed?:	Yes	Yes

Comments:

Signature (Check-out):

Signature (Check-in):

Phone: (907) 770-9041 Fax: (907) 770-9046 Email: info@tttenviro.com www.tttenviro.com

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INSTRUMENT RENTAL FUNCTION/CHECKLIST

Company Name: GHD

Rental Description: I/F probe - 100 FT

Sales Order #: S172238

Serial #: 464-1

Item Description	Qty	Checked Out?	Checked In?	Damaged / Missing?
Interface Probe	1	1		
Cushioned carrying case	1	✓		
Spare Battery (9V)	1 or 2	✓		
Optional		✓		
Operators manual				
Tape guide				

Instrument Function Test / Inspection (Correct all deficiencies)	✓	Pre-rental Check-out	Post-rental Check-in ("No's" may be customer charge)	
Soft sided case clean (inside and out) and in good condition with proper length, size, and meter type properly marked:	✓		Yes	No
TTT property tag and s/n# in place on front of meter:	✓			
Meter front and rear spools are in good condition:	✓		Yes	No
Spool properly secured to frame and spool brake functional:	✓		Yes	No
Meter sits flat, frame not bent, and probe holder in place:	✓		Yes	No
Probe not bent, probe bottom in good condition, and tape connection at top of probe in good condition when flexed:	✓		Yes	No
Meter battery cover, buttons, and knobs in place, tight, and in good condition:	✓		Yes	No
Red LED and buzzer works properly when "Start" button pressed (indicates good batteries). When applicable, Green LED stays flashing until "off is pressed":	✓	Yes	Yes	No
Probe buzzes properly when placed in water:	✓	Yes	Yes	No
Meter provides different tone when passed from Oil to water..transition is clear & precise going both directions:	✓			
Spare batteries test good, white tape over contacts and placed in resealable bag in front pocket of meter bag:	✓			

Signature (Check-out): [signature]

Signature (Check-in): WC

Declared Value: $1,350

* By renting with TTT customer agrees to the rental terms and conditions (copy available upon request).
* Notify TTT within 24hrs of receipt if anything is damaged or missing.
* Customer is responsible for all parts and equipment damaged or missing during rental.
* All instruments have been inspected and calibrated (when applicable) prior to rental.

Phone: (907) 770-9041 **Fax: (907) 770-9046** **Email: info@tttenviro.com** **www.tttenviro.com**

DAILY FIELD REPORT

Project Name: 306449	GHD Proj. Mgr: S. PRITCHARD	Field Rep: D. VAN, T. WEAVER
Project Number: 082676	Date: 11/2/17	2730 SPENARD RD ANCHORAGE, AK
Scope of Work: GW SAMPLING		
Equipment: YSI, MP50, INTERFACE PROBE, TURBIDITY METER		Weather: CLOUDY & 20°

Time	Activity/Comments	SWA
0815	LOAD TRUCK & MOB TO TTT & STORAGE SHED FOR SAMPLING SUPPLIES	
0930	ARRIVE ONSITE, CONDUCT SAFETY MEETING, NOTIFY PM & PROPERTY	
0950	BEGIN GAUGING ALL WELLS.	
1020	SET UP @ MW-2 → TO COLLECT "PRODUCT" SAMPLE	
1025	COLLECT NAPL/~~SHEEN~~ SAMPLE @ MW-2 (1L, SPECIAL SAMPLE MW-2-W-171109)	
1036	COLLECT SHEEN NET SAMPLE FROM MW-2	
1050	SET UP @ MW-1 FOR SHEEN SAMPLE; LOW-FLOW	
1058	COLLECT SHEEN SAMPLE @ MW-1 W/ NET	
1059	SET UP FOR LOW FLOW @ MW-1; LOW-FLOW PUMP	
1122	COLLECT SAMPLE @ MW-1-W-171109 (REGULATORY) & SPECIAL NAPL SAMPLE & DUP-1	
1147	TRANSFER WATER FROM WELL DEVELOPEMENT (55 GAL DRUM) TO 30 GAL DRUM	
	TO OVERPACK FOR WINTER.	
1245	BREAK FOR LUNCH & TO WARM UP	
1306	SET UP ON MW-3	
1313	COLLECT SHEEN SAMPLE W/ NET MW-3	
1315	COLLECT SAMPLE FOR NAPL @ MW-3, SPECIAL 1L	
1314	LF PURGE MONITORING	
1350	COLLECT REGULATORY SAMPLE MW-3-W-171109	
1354	MOB TO OFF SITE WELL MW-4 & LF PURGE @ 1414	
1446	COLLECT REGULATORY SAMPLE MW-4-W-171109	
1502	TRANSFER ALL PURGED GW TO OVERPACKED DRUMS	
1521	MOB TO GET ICE & BACK TO OFFICE	
1545	ARRIVE BACK @ OFFICE & UNPACK TRUCK	

SWA Key:	A: Person or People	B: Equipment	C: Environmental
	D: Procedures/Processes/JSA-review/revise	E: Visitors	

Operational Mileage: Start _____ End _____ Total _____

Groundwater Monitoring Field Sheet

Project Name: 306449 (ADEC File ID: 2100.26.116)
Project Number: 082676
Field Staff: T. Weaver/O.Yan
Date: November 9, 2017

Well ID	Time	DTW (ft - btoc)	DTB (ft-btoc)	DTP (ft-btoc)	Product Thickness (feet)	Amount of Product Removed (feet)	Casing Diameter (inches)	PID (ppm)	Comments
MW-1	1001	18.15	24.73	—	—	—	2"	—	DUP-1 - SAMPLED
MW-2	0954	17.95	24.66	—	—	—	2"	—	3.1 GALLONS OF PURGE WATER DRUMMED ON SITE IN 30-GALLON (SECONDARY CONTAINMENT)
MW-3	1005	17.66	24.67	—	—	—	2"	—	
MW-4	1014	17.39	24.56	—	—	—	2"	—	

GAC Filtered Water Volume: N/A gallons

Volume logged on *Portable GAC Volume Tracking Log?* ☐

DTP - depth to product; DTW - depth to water; DTB - depth to bottom; ft-btoc - feet below top of casing ; ppm - parts per million

Groundwater Sampling Form

Project No. 082676 PM Siobhan Pritchard Well ID MW-1 Date 11/9/17 Page 1 of 4

Site ID / Location 306449 / 2730 Spenard Road, Anchorage, Alaska (ADEC File ID: 2100.26.116)

Screen Setting (ft-btoc) 10 - 25' Casing Diameter (in.) 2" Well Material x PVC ___ SS Sampled by T. Weaver, O. Yan

Static Water Level (ft-btoc) 18.15 Total Depth (ft-btoc) 24.73 Water Column / Gallons in Well 6.58 / 1.05 Sample ID MW-1-W-171009 Dup ID DUP-1-W-171009

Sample Time 1132 Start ___ End ___

No-Purge Method / **Low-Flow Sampling** / **Low Flow Method**

Sampler Length (in) 36 ☐ Sampler (ft-btoc) ___

Weights Top ☐ Bottom ☐ Position Supended ☐ Bottom set ☐

Was Teflon Baler used to collect non volatile samples Yes ☐ No ☐

Pump type Bladder ☒ Other ☐ Pump Intake (ft-btoc) 18.87

Flow rate (ml/minute) 100 Volumes Purged 1.1 GAL

Did well Dewater? Yes ☐ No ☒ Purge Time: Start 1101 End 1126

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	Temp (°C)	Cond. (mS/cm) 3%	Dissolved Oxygen (mg/L) 10%	pH 0.1	Redox (mV) 10	Turbidity (NTU)	Additional notes
1106	5	100	18.15	0.1	10.03	0.551	7.79	4.53	374.3	>1100	BROWN
1111	10	100	18.16	0.35	9.54	0.532	6.97	3.15	509.1	71100	" "
1116	15	100	18.16	0.5	9.45	0.524	6.38	2.81	562.5	830.5	CLOUDY/BROWN
1121	20	100	18.17	0.7	9.25	0.518	5.94	2.73	589.8	551.3	" "
1126	25	100	18.17	0.9	9.20	0.514	5.76	2.78	600.9	410.1	MOSTLY CLEAR

Constituents Sampled

		Container	Number	Preservative
BTEX by 8260 ☐	8021 ☐			
VOCs by 8260 ■		40 mL voa	3	HCl
GRO by AK 101 ■		40 mL voa	3	HCl
DRO by AK 102 ■		250 ml amber	1	HCl
RRO by AK 103 ■		250 ml amber	1	HCl
Lead by 6010 ☐				
PAHs by 8270 ☐				
Alkalinity by 2320B ☐				
Methane by RSK175 ☐				
Sulfate by EPA 300 ☐				
Nitrate/Nitrite by EPA 300 ☐				
Ferrous Iron ☐				

Well Casing Volumes

Gallons/Foot: 1" = 0.04; 1.25" = 0.06; 1.5" = 0.09; 2" = 0.16 (circled); 2.5" = 0.26; 3" = 0.37; 3.5" = 0.50; 4" = 0.65; 6" = 1.47

Field Test Results:

Ferrous Iron ___ mg/L Nitrate ___ mg/L Other ___

Well Information

Well Location: ON SITE

Condition of Well: GOOD

Well Completion: Flush Mount (circled) / Stick Up

Well Locked at Arrival: Yes (circled) / No

Well Locked at Departure: Yes (circled) / No

Additional Notes

Groundwater Sampling Form

Project No. 082676 PM Siobhan Pritchard Well ID MW-2 Date 11/9/17 Page 2 of 4

Site ID / Location 306449 / 2730 Spenard Road, Anchorage, Alaska (ADEC File ID: 2100.26.116)

Screen Setting (ft-btoc) 10 - 25' Casing Diameter (in.) 2" Well Material x PVC / SS Sampled by T. Weaver, O. Yan

Static Water Level (ft-btoc) 17.95 Total Depth (ft-btoc) 24.66 Water Column / Gallons in Well 6.71 / 1.073 Sample ID MW-2-W-171109 Dup ID

Sample Time 1025 Start End

No-Purge Method (Low-Flow Sampling)

Sampler Length (in) 36 ☐ Sampler (ft-btoc)

Weights Top ☐ Bottom ☐ Position Supended ☐ Bottom set ☐

Was Teflon Baler used to collect non volatile samples Yes ☐ No ☐

Low Flow Method

Pump type Bladder ☒ Other ☐ Pump Intake (ft-btoc) X

Flow rate (ml/minute) Volumes Purged 0.2 Gal

Did well Dewater? Yes ☐ No ☐ Purge Time: Start End

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	Temp (°C)	Cond. (mS/cm) 3%	Dissolved Oxygen (mg/L) 10%	pH 0.1	Redox (mV) 10	Turbidity (NTU)	Additional notes

NOT SAMPLED

Constituents Sampled		Container	Number	Preservative
BTEX by 8260	☐ 8021 ☐			
VOCs by 8260	☒	40 mL voa	3	HCl
GRO by AK 101	☒	40 mL voa	3	HCl
DRO by AK 102	☒	250 ml amber	1	HCl
~~RRO~~ by AK 103	☒	250 ml amber	1	HCl
Lead by 6010	☐			
PAHs by 8270	☐			
Alkalinity by 2320B	☐			
Methane by RSK175	☐			
Sulfate by EPA 300	☐			
Nitrate/Nitrite by EPA 300	☐			
Ferrous Iron	☐			

X COLLECT SAMPLE FOR SHEEN/NAPL ANALYSIS. X

Well Casing Volumes

Gallons/Foot 1" = 0.04 | 1.25" = 0.06 | 1.5" = 0.09 | (2" = 0.16) | 2.5" = 0.26 | 3" = 0.37 | 3.5" = 0.50 | 4" = 0.65 | 6" = 1.47

Field Test Results: Ferrous Iron mg/L Nitrate mg/L Other

Well Information

Well Location: ONSITE

Condition of Well: GOOD

Well Completion: (Flush Mount) / Stick Up

Well Locked at Arrival: (Yes) / No

Well Locked at Departure: (Yes) / No

Additional Notes

Groundwater Sampling Form

Project No. 082676 PM Siobhan Pritchard Well ID MW-3 Date 11/9/17 Page 3 of 4

Site ID / Location 306449 / 2730 Spenard Road, Anchorage, Alaska (ADEC File ID: 2100.26.116)

Screen Setting (ft-btoc) 10 - 25' Casing Diameter (in.) 2" Well Material x PVC SS

Sampled by T. Weaver, O. Yan

Static Water Level (ft-btoc) 17.66 Total Depth (ft-btoc) 24.67 Water Column / Gallons in Well 7.01 / 1.122

Sample ID MW-3-W-171107 Dup ID

Sample Time 1330 Start End

Low-Flow Sampling

No-Purge Method

Sampler Length (in) 36 Sampler (ft-btoc)

Weights Top Bottom Position Supended Bottom set

Was Teflon Baler used to collect non volatile samples Yes No

Low Flow Method

Pump type Bladder Other Pump Intake (ft-btoc) 18.10

Flow rate (ml/minute) 100 Volumes Purged 0.9 GAL

Did well Dewater? Yes No Purge Time: Start 1318 End 1348

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	Temp (°C)	Cond. (mS/cm) 3%	Dissolved Oxygen (mg/L) 10%	pH 0.1	Redox (mV) 10	Turbidity (NTU)	Additional notes
1323	5	100	17.69	0.15	10.14	0.598	4.67	6.24	282.2	446.7	cloudy brown
1328	10	100	17.69	0.30	9.49	0.595	8.35	5.69	327.6	431.1	cloudy
1333	15	100	17.69	0.45	8.90	0.598	7.66	4.41	463.4	271.2	" "
1338	20	100	17.69	0.55	8.64	0.598	7.16	3.97	522.0	220.7	" "
1343	25	100	17.69	0.70	8.57	0.596	6.89	3.72	550.6	108.7	" "

Constituents Sampled

		Container	Number	Preservative
BTEX by 8260	8021	40 mL voa	3	HCl
VOCs by 8260		40 mL voa	3	HCl
GRO by AK 101		250 ml amber	1	HCl
DRO by AK 102		250 ml amber	1	HCl
RRO by AK 103				
Lead by 6010				
PAHs by 8270				
Alkalinity by 2320B				
Methane by RSK175				
Sulfate by EPA 300				
Nitrate/Nitrite by EPA 300				
Ferrous Iron				

Casing Volumes

Shoot 1" = 0.04 1.25" = 0.06 1.5" = 0.09 2" = 0.16 2.5" = 0.26 3" = 0.37 3.5" = 0.50 4" = 0.65 6" = 1.47

Test Results: N/A Ferrous Iron mg/L Nitrate mg/L Other

Site Information

Well Location: ONSITE

Condition of Well: Good

Well Completion: Flush Mount / Stick Up

Well Locked at Arrival: Yes / No

Well Locked at Departure: Yes / No

Additional Notes

Groundwater Sampling Form

Project No. 082676 PM Siobhan Pritchard Well ID MW-4 Date 11/9/17 Page 4 of 4

Site ID / Location 306449 / 2730 Spenard Road, Anchorage, Alaska (ADEC File ID: 2100.26.116)

Screen Setting (ft-btoc) 10 - 25' Casing Diameter (in.) 2" Well Material x PVC ___ SS

Static Water Level (ft-btoc) 17.39 Total Depth (ft-btoc) 24.56 Water Column / Gallons in Well 7.17 / 1.147

Sampled by T. Weaver, O. Yan

Sample ID MW-4-W-171109 Dup ID

Sample Time 1446 Start ___ End ___

No-Purge Method / **Low-Flow Sampling** / **Low Flow Method**

Sampler Length (in) 36 ☐ Sampler (ft-btoc) ___

Weights Top ☐ Bottom ☐ Position Supended ☐ Bottom set ☐

Was Teflon Baler used to collect non volatile samples Yes ☐ No ☐

Pump type Bladder ☐ Other ☐ Pump Intake (ft-btoc) 17.95

Flow rate (ml/minute) 100 Volumes Purged 0.9 GAL

Did well Dewater? Yes ☐ No ☐ Purge Time: Start 1414 End 1444

Time	Minutes Elapsed	Rate (gpm) (mL/min)	Depth to Water (ft)	Gallons Purged	Temp (°C)	Cond. (mS/cm) 3%	Dissolved Oxygen (mg/L) 10%	pH 0.1	Redox (mV) 10	Turbidity (NTU)	Additional notes
1419	5	100	17.37	0.20	9.19	0.609	6.14	5.04	542.7	107.5	cloudy
1424	10	100	17.37	0.35	8.78	0.544	5.08	5.31	109.6	>1100	" "
1429	15	100	17.38	0.45	8.46	0.578	5.41	5.75	210.7	1034	" "
1434	20	100	17.38	0.55	8.22	0.560	5.20	5.29	296.2	586.4	" "
1439	25	100	17.38	0.70	8.64	0.572	5.32	5.29	393.4	287.3	" "

Constituents Sampled

		Container	Number	Preservative
BTEX by 8260	☐ 8021 ☐	40 mL voa	3 ✓	HCl
VOCs by 8260	■	40 mL voa	3 ✓	HCl
GRO by AK 101	■	250 ml amber	1 ✓	HCl
DRO by AK 102	■	250 ml amber	1 ✓	HCl
RRO by AK 103	■			
Lead by 6010	☐			
PAHs by 8270	☐			
Alkalinity by 2320B	☐			
Methane by RSK175	☐			
Sulfate by EPA 300	☐			
Nitrate/Nitrite by EPA 300	☐			
Ferrous Iron	☐			

Well Casing Volumes

Gallons/Foot: 1" = 0.04; 1.25" = 0.06; 1.5" = 0.09; 2" = 0.16 (circled); 2.5" = 0.26; 3" = 0.37; 3.5" = 0.50; 4" = 0.65; 6" = 1.47

Field Test Results:

Ferrous Iron ___ mg/L Nitrate ___ mg/L Other ___

Well Information

Well Location: OPPS178

Condition of Well: Good

Well Completion: Flush Mount / Stick Up

Well Locked at Arrival: Yes / No

Well Locked at Departure: Yes / No

Additional Notes

Chevron Generic Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories

Acct. # _____ Group # _____ Sample # _____

For Eurofins Lancaster Laboratories use only

Instructions on reverse side correspond with circled numbers.

SCR #: _____

1 Client Information

Facility # CHEVRON 306499 WBS 08.02

Site Address 2730 SPENARD RD, ANCHORAGE, AK

Chevron PM DAN CARRIER Lead Consultant GHD SERVICES, INC.

Consultant/Office 645 G STREET, STE. 401, ANCHORAGE, AK

Consultant Project Mgr. JIVHAN PRITCHARD

Consultant Phone # (720) 976-0763

Sampler O. YANI/T. WILLIAMS

4 Matrix

Soil ☐ Sediment ☐ Potable ☐ Ground ☐ Water ☐ NPDES ☐ Surface ☐ Oil ☐ Air ☐

3 Grab ☐ Composite ☐

Total Number of Containers

5 Analyses Requested

2 Sample Identification	Collected Date	Collected Time	Grab	Composite	Soil	Sediment	Potable Water	Ground Water	NPDES	Surface Water	Oil	Air	Total Number of Containers	BTEX + MTBE 8021 ☐ 8260 ☒ Naphth ☐	8260 full scan	Oxygenates ____	TPH-GRO AK101 8015 ☐ 8260 ☐	TPH-DRO AK102 Silica Gel Cleanup ☐	Lead Total ☐ Diss. ☐ Method ____	VPH ☐ EPH ☐ Method ____
MW-1-W-171109	11/9/17	1132	X					GW						X			X	X		
MW-2-W-171109	11/9/17	1350	X					GW						X			X	X		
MW-4-W-171109	11/9/17	1246	X					GW						X			X	X		
DUP-1-W-171109	11/9/17	—	X					GW						X			X	X		
QA-1-W-171109	—	—	—					TB						X			X			

6 Remarks

SEND RESULTS TO: SHAHAN.PRITCHARD@GHD.COM

☐ Results in Dry Weight
☐ J value reporting needed
☐ Must meet lowest detection limits possible for 8260 compounds
☐ 8021 MTBE Confirmation
☐ Confirm MTBE + Naphthalene
☐ Confirm highest hit by 8260
☐ Confirm all hits by 8260
☐ Run _____ oxy's on highest hit
☐ Run _____ oxy's on all hits

7 Turnaround Time Requested (TAT) (please circle)

Standard 5 day 4 day
72 hour 48 hour 24 hour

Relinquished by	Date	Time	Received by	Date	Time
[signature]	11/10/17	0830			
Relinquished by	Date	Time	Received by	Date	Time
Relinquished by Commerical Carrier: UPS ____ FedEx ✓ Other ____			Received by	Date	Time

8 Data Package (circle if required)

Type I - Full Alaska/Type III
Type VI (Raw Data)

EDD (circle if required)

CVX-RTBU-FI_05 (default)
Other: _____

Temperature Upon Receipt _____ °C

Custody Seals Intact? Yes No

9

TTT Environmental

The preferred source for instrument Rentals, Sales, Service, and Supplies!

INSTRUMENT RENTAL FUNCTION/CHECKLIST

Company Name: GHD

Rental Description: I/F probe - 100 FT

Sales Order #: 5172862

Serial #: 615

Item Description	Qty	Checked Out?	Checked In?	Damaged / Missing?
Interface Probe	1	1		
Cushioned carrying case	1	✓		
Spare Battery (9V)	1 or 2	✓		
Optional		✓		
Operators manual				
Tape guide				

Instrument Function Test / Inspection (Correct all deficiencies)	✓	Pre-rental Check-out	Post-rental Check-in ("No's" may be customer charge)	
Soft sided case clean (inside and out) and in good condition with proper length, size, and meter type properly marked:	✓		Yes	No
TTT property tag and s/n# in place on front of meter:	✓			
Meter front and rear spools are in good condition:	✓		Yes	No
Spool properly secured to frame and spool brake functional:	✓		Yes	No
Meter sits flat, frame not bent, and probe holder in place:	✓		Yes	No
Probe not bent, probe bottom in good condition, and tape connection at top of probe in good condition when flexed:	✓		Yes	No
Meter battery cover, buttons, and knobs in place, tight, and in good condition:	✓		Yes	No
Red LED and buzzer works properly when "Start" button pressed (indicates good batteries). When applicable, Green LED stays flashing until "off is pressed":	✓	Yes	Yes	No
Probe buzzes properly when placed in water:	✓	Yes	Yes	No
Meter provides different tone when passed from Oil to water..transition is clear & precise going both directions:	✓			
Spare batteries test good, white tape over contacts and placed in resealable bag in front pocket of meter bag:	✓			

Signature (Check-out): [signature]

Signature (Check-in): [signature]

Declared Value: $1,350

* By renting with TTT customer agrees to the rental terms and conditions (copy available upon request).
* Notify TTT within 24hrs of receipt if anything is damaged or missing.
* Customer is responsible for all parts and equipment damaged or missing during rental.
* All instruments have been inspected and calibrated (when applicable) prior to rental.

Phone: (907) 770-9041 **Fax: (907) 770-9046** **Email: info@tttenviro.com** **www.tttenviro.com**

TTT Environmental

The preferred source for instrument Rentals, Sales, Service, and Supplies!

CALIBRATION/INSPECTION REPORT

Calibration Date: 11/8/2017
Report Date (check-out): 11/8/2017

Company Name: GHD
Rental Description: YSI 556

S/O #: S172862
Serial #: 556-05.D2373AR

CALIBRATION*

Sensor	Zero Value	Calibration*			
		Desired reading	Instrument reading	mV	Slope/Gain
Spec. Conductivity/Cond.	na	1.413 @25 C	1.413 @ 18.40 C	1.413/1235	0.992
pH	na	7.000 @25 C	7.02 @ 18.68 C	11.7	
pH	na	4.01 @25 C	4.00 @ 18.90 C	178.1	166
pH	na	10.000 @25 C	10.05 @ 19.12 C	-164.6	176
ORP	na	220mV @25 C	240 @ 19.22 C	9.1	
D.O.	na	100% @25 C	100.6 % 18.82 C	BP=30.13	0.801
			9.37 Mg/L		

* Calibrated per manufacturer specifications

CALIBRATION SOLUTION INFORMATION

Components	Conc.	Lot #	Manuf.	Accuracy	Fill Date	Exp. Date
Specific Conductivity	100%	RW1	OAKTON	-	na	12/1/2017
pH	7.00	13C2S	YSI	+/- 0.01	na	2/1/2018
pH	4.01@25C	13B3R	YSI	+/- 0.01	na	4/1/2019
pH	10.00@25C	13B3T	YSI	+/- 0.01	na	12/1/2017
ORP	220mV	4118	Hanna	-	na	3/1/2019

Calibrated by: Steve Ziegler

Signature:

INSTRUMENT INSPECTION

Item	Pre-rental Check-out	Post-rental Check-in ("Damaged" or "No" may indicate customer charge)
Inspect all instrument components for cracks, damage, etc:		No Damage Damaged
Meter (battery cover screws) & cable?:		No Damage Damaged
Cable is plugged into handheld?:	Yes	Yes No
Instrument powers on/off properly?:	Yes	Yes No
Battery power bar (lower right hand corner) shows at least 30%?:	Yes	
Display/LCD contrast is correct and no black streaks in LCD screen exist?:	Yes	Yes No
All display readings are positive (excluding pHmV & ORP)?:	Yes	Yes No
Probe inspection?:		No Damage Damaged
Probe transport cup is attached & contains 1/4" tap water or pH 4 buffer?:	Yes	Yes No
Calibrated within the last 10 days?:	Yes	
Rental checklist completed?:	Yes	Yes

Comments:

Signature (Check-out):

Signature (Check-in):

Phone: (907) 770-9041 **Fax: (907) 770-9046** **Email: info@tttenviro.com** **www.tttenviro.com**

TTT Environmental

The preferred source for instrument Rentals, Sales, Service, and Supplies!

INSTRUMENT RENTAL FUNCTION/CHECKLIST

Company Name: GHD

Rental Description: YSI 556

S/O #: 5172862

Serial #: 23T3AR

Item Description	Checked Out?	Checked In?	Damaged / Missing?
556 Multi parameter meter with barometer	✓		
Wrist strap	/		
4 meter probe assembly w/ pH/ORP, cond./temp, & DO	/		
Pelican carrying case	/		
556 Quick-start Guide & CD in ziploc bag	/		
YSI 5511 Maintenance kit (including the following):	/		
Probe installation/removal tool	/		
DO sensor set screw	/		
Allen wrench for DO sensor set screw	/		
DO sensor port plug	/		
Conductivity probe cleaning brush	/		
O-Rings for DO sensor	/		
2 - Replacement Flow cell O-ring	/		
DO membrane kit (w/**2 replacement caps & instructions**)	/		
DO membrane solution (at least 1/4 full)	/		
Probe Sensor Guard	/		
Transport/Calibration cup	/		
Stainless Steel sampling cup	/		
Optional:			
Flow cell (including the following):	X		
2 each hose barbs: 3/16", 1/4", 3/8", 1/2"			
Optional - 2 each YSI body couplings			
Both upper and lower o-rings in place on flow cell			

Instrument Function Test / Inspection (Correct all deficiencies)	
Pelican case general condition, rubber seal, TTT label, & foam in place and in good condition:	Yes
TTT property tag in place on top of instrument:	Yes
Instrument display face plate in good condition (only minor scratches and smears); And backlight functions properly:	Yes
Date and Time set correctly (Esc/system setup/date & time):	Yes
Shutoff time set to 60 min. (Esc/system setup/shut off time):	Yes
All data deleted (Esc/file/delete all files/delete):	Yes
Battery power bar (lower right hand corner) shows at least 30%:	Yes

Signature (Check-out): _____ Signature (Check-in): _____

Declared Value: $3,700

* By renting with TTT customer agrees to the rental terms and conditions (copy available upon request).
* Customer is responsible for all parts and equipment damaged or missing during rental.
* All instruments have been inspected and calibrated (when applicable) prior to rental.
* TTT suggests calibrating/bump testing instruments prior to each days use.

Phone: (907) 770-9041 **Fax: (907) 770-9046** **Email: info@tttenviro.com** **www.tttenviro.com**

Request for Environmental Analysis and Chain of Custody

To: Environmental Analysis Lab, Room 51-1151,
Chevron Energy Technology Co.,
100 Chevron Way, Richmond, CA 94802
Contact: Environmental Lab: Karsia Yip 510-242-5918 or Kitty Kong 510-242-1654

Date: 11/9/17

Chevron PM: DANIEL CARRIER		Phone: (714) 671-3371
Company, Department: CEMC	EMC Bus. Unit, if applicable: MBU-CEMC	Charge Code: 08.02
Address:		
Contract PM: SIOBHAN PRITCHARD	E-mail: SIOBHAN.PRITCHARD@GHD.COM	Phone: (720) 974-0963
Company, Address: GHD SERVICES, INC. —		

Sampling Location (Address): CHEVRON 306449, 2730 SPENARD ROAD, ANCHORAGE, AK — Facility Number: 306449

(X) Service Station ( ) Fuel Terminal ( ) Marine Terminal ( ) Pipeline ( ) Refinery
(X) Other FORMER SERVICE STATION

(X) Chevron ( ) Texaco ( ) Gulf ( ) BP ( ) Cumberland Farms ( ) CalTex ( ) Shell ( ) Exxon
(X) Other UNOCAL

Type of Analysis Desired
(X) Identify Product ( ) Compare Spill with Potential Sources (Send Source Samples)
( ) Compare Samples with Previous Analyses. Log Numbers and/or Dates:_____
( ) Other_____ (Call 510-242-1654 for Approval)

Reason for Request (Clearly State Problem, Site History, Draw or Enclose a Map, Indicate Whether Leak or Spill)
DETERMINE CONTAMINATION PRESENT FROM FORMER LOG CRIBS. PRODUCT/SHEEN NOTED DURING WELL DEVELOPMENT IN MW-2. SEE ATTACHED SITE MAP

Normal turn-around time is 4-6 weeks. Call 510-242-1654 to negotiate alternate arrangements.

Number of Containers Per Sample	Sample Name/Description	Date Sampled	Sampled By
2	MW-1-W-171109	11/9/17	T.WEAVER, C.YAN
2	MW-2-W-171109	11/9/17	T.WEAVER, C.YAN
2	MW-3-W-171109	11/9/17	T.WEAVER, C.YAN
1	CONTROL (CLEAN UNUSED VIAL)	—	—

Transporter	Date Received	Initials
Laboratory: **Chevron Energy Technology Company**	Date Received: 11-14-17	Initials: KY

It is the shipper's responsibility to ensure Federal DOT regulations and UN performance standards are complied with. When in doubt, assume the sample is flammable
10/06/10

Guidelines for shipping samples to ETC for Environmental Analysis

Sample containers and desired volumes:

- **Hydrocarbons:** 120 ml per gasoline sample, preferably in three 40 ml clear glass vials with **solid** teflon-coated caps (septum caps leak). 40 ml per distillate or oil sample. If 40 ml vials are unavailable, a pint or 4 oz. glass jar with teflon lined cap is acceptable. Leave approximately 1/8" headspace in the vials to allow for fuel expansion. If necessary, include produced water to minimize headspace.

- **Water samples:** Two 1000 mL clear glass bottles with teflon-lined caps. Make sure there is no headspace in the bottle. Do not send VOA vials of water - the volume is insufficient for fingerprint analysis. Water samples must be preserved with HCl at pH <2 and kept at 4°C.

- **Soil samples:** Two 8 ounce wide mouth clear glass jars with teflon-lined caps, or a capped brass sleeve from a split spoon sampler. Minimize headspace. Keep the samples at 4°C.

Shipping Instructions: All samples must be accompanied by a Request for Environmental Analysis and Chain of Custody form, obtained by calling 510-242-1654 (Kitty Kong). Please obtain the appropriate charge code for the site and note it on the form. Seal the form in a plastic bag and enclose it in the container with the samples.

Please ship all soil and water samples in an ice chest at 4°C. Seal each sample in a plastic bag to keep the labels from getting wet. A mixture of foam blocks and plastic bags containing ice works well to chill the samples and protect them from breakage. Hydrocarbon samples need not be iced. They should be wrapped in plastic, enclosed in a metal can filled with vermiculite or other protective packing, and packed in a box that meets D.O.T. and U.N. requirements.

It is advisable to send the samples by overnight air. **No weekend deliveries**, please. It is the shipper's responsibility to ensure federal D.O.T. regulations and UN performance standards are complied with.

Local samplers must also comply with all Hazmat regulations. Call 510-242-1654 to obtain a COC form that **must** accompany the samples. **Samples that arrive without a shipping form will not be accepted.** Properly packed and chilled samples should be delivered to Chevron's Richmond Technology Center shipping and receiving dock. The address is 100 Chevron Way in Richmond, CA, but the property entrance is located on the Richmond Parkway at the Castro Street offramp from Interstate 580. Drive up to the guard kiosk and ask for directions to shipping and receiving.

Fuel Product Hazard Warnings (See Chevron MSDS for Additional Information)		
Gasoline (All Grades) Jet Fuel B Jet Fuel Gasoline Grade Aviation B Gasoline (All Grades)	**Danger**	Extremely flammable. Harmful or fatal if swallowed. Prolonged or repeated contact may cause skin/eye and respiratory irritation or other injury.
Diesel (All Grades) Heating Fuel/Oil (All Grades) Jet Fuel (Grades A, A-1, A-50, JP-4, JP-5) Aviation Turbine Fuel, JP-5	**Danger**	Combustible. Harmful or fatal if swallowed. Prolonged or repeated contact may cause skin/respiratory irritation or other injury.
Water samples with ppm or less hydrocarbon Soil samples with ppm or less hydrocarbon		Not hazardous.
For Health and Safety Information Call or Write Chevron Emergency Information Center: P.O. Box 4054, Richmond, Ca 94804-0054, 800-457-2022 **In case of leak, spill or fire, call CHEMTREC Toll Free 800-262-8200 (CCN 633019)**		

10/06/10

Appendix F
ADNR Water Well Logs

STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF MINING, LAND & WATER
Alaska Hydrologic Survey

WATER WELL LOG Revised 08/18/2016

Drilling Started: 08 / 29 / 2017 Completed: 08 / 30 / 2017 Pump Install: / /

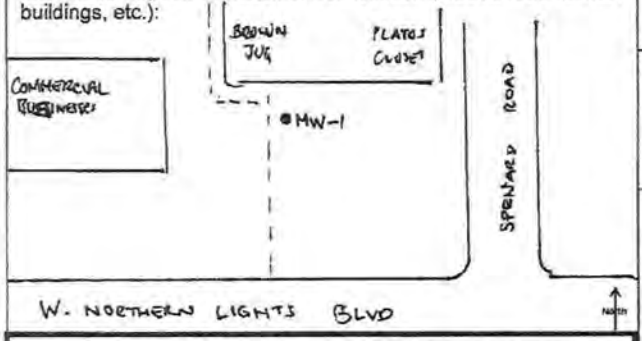
City/Borough	Subdivision	Block	Lot	Property Owner Name & Address
Anchorage	SE4SE4SE4SW4SE4	PTN	150 x 135	Chevron EMC - 145 South State College Blvd, Brea, CA 92821

Well location: Latitude 61°11'44.09"N **Longitude** 149°54'23.39"W
Meridian _____ Township 13N Range 4W Section 24 , ____ 1/4 of ____ 1/4 of ____ 1/4 of ____ 1/4

BOREHOLE DATA: (from ground surface)
Suggest T.M. Hanna's **hydrogeologic classification system*** https://my.ngwa.org/NC_Product?id=a185000000BYub3AAD

	Depth From	Depth To
FILL (GP) - Gravelly Sand	0	8
SP - Silty Sand (f-m)	8	11
SW-SM - Silty Sand (f-c)	11	13
SM - Silty Sand (f-m)	13	20.5
SP-SM - Sand (f-c) with gravel	20.5	24
ML - Silt	24	25
MW-1 - 2730 Spenard Road, Anchorage, AK		
(-or- 1201 W. Northern Lights Blvd)		

Include description or sketch of well location (include road names, buildings, etc.):



AS 41.08.020(b)(4) and AAC 11 AAC 93.140(a) require that a copy of the well log be submitted to the Department of Natural Resources within **45 days of well completion**. Well logs may be submitted using the online well log reporting system available at:

https://dnr.alaska.gov/welts/

OR email electronic well logs to

dnr.water.reports@alaska.gov

Drilling method: ☐ Air rotary, ☐ Cable tool, ▪ Other Hollow-Stem Augers
Well use: ☐ Public supply, ☐ Domestic, ☐ Reinjection, ☐ Hydrofracking
☐ Commercial, ▪ Observation/Monitoring, ☐ Test/Exploratory, ☐ Cooling,
☐ Irrigation/Agriculture, ☐ Grounding, ☐ Recharge/Aquifer Storage,
☐ Heating, ☐ Geothermal Exploration, ☐ Other _____
Fluids used: _____

Depth of hole: 25 ft Casing stickup: _____ ft
Casing type: SCH40 PVC Casing thickness: _____ inches
Casing diameter: 2.0 inches Casing depth: _____ ft
Liner type: _____ Depth: _____ ft Diameter: _____ inches
Note: _____

Well intake opening type: ☐ Open end, ☐ Open hole, ☐ Other _____
Screen type: SCH40 PVC, Screen mesh size: 0.020
Screen start: 10 ft, Screen stop: 25 ft, Perforated ▪ Yes ☐ No
Perforation description: machine-slotted Perf from: 10 ft, Perf to: 25 ft, Perf from: _____ ft, Perf to: _____ ft
Gravel packed ▪ Yes ☐ No Gravel start: 0.5 ft, Gravel stop: 2.0 ft
Note: _____

Static water (from top of casing): _____ ft on ____/____/____ Artesian well ☐
Pumping level & yield: _____ feet after _____ hours at _____ gpm
Method of testing: _____
Development method: _____ Duration: _____
Recovery rate: _____ gpm

Grout type: Hydrated Bentonite Chips Volume _____
Depth: From 2.0 ft, To 8.0 ft

Final pump intake depth: _____ ft Model: _____
Pump size: _____ hp Brand name: _____

Was well disinfected upon completion? ☐ Yes ▪ No
Method of disinfection: _____
Was water quality tested? ☐ Yes ▪ No
Water quality parameters tested: _____

Well driller name: .....
Company name: DISCOVERY DRILLING, INC.
Mailing address: 11341 OLIVE LANE
City: ANCHORAGE State: AK Zip: 99515
Phone number: (907) 344 - 6431
Driller's signature: _____
Date: 10 / 25 / 2017

Anchorage Municipal Code 15.55.060(I) and North Pole Ordinance 13.32.030(D) require that a copy of this well log be submitted to the Development Services Department/City within **30 days of well completion**.

City Permit Number: _____
Date of Issue: ____/____/____

Parcel Identification Number: ____-____-____

*Guide for Using the Hydrogeologic Classification System for Logging Water Well Boreholes by Thomas M. Hanna NGWA Press

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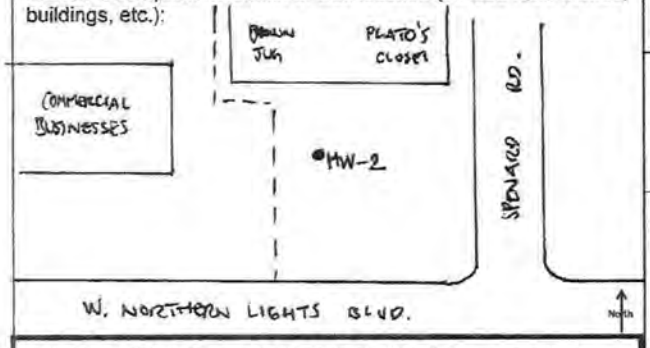
Well location: Latitude 61°11'44.17"N **Longitude** 149°54'22.82"W
Meridian ___ Township 13N Range 4W Section 24 , ___ 1/4 of ___ 1/4 of ___ 1/4 of ___ 1/4

BOREHOLE DATA: (from ground surface)
Suggest T.M. Hanna's **hydrogeologic classification system*** https://my.ngwa.org/NC__Product?id=a185000000BYub3AAD

	Depth From	Depth To
FILL (GP) - Gravelly Sand	0	7
SP-SM - Sand (f-m)	7	14
SM - Silty Sand (f-m)	14	16
SP-SM - Sand (f-c)	16	18
SM - Silty Sand (f)	18	20
SP-SM - Sand (f-c) with gravel	20	24
ML - Silt	24	25
MW-2 - 2730 Spenard Road, Anchorage, AK		
(-or- 1201 W. Northern Lights Blvd)		

Include description or sketch of well location (include road names, buildings, etc.):



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dnr.water.reports@alaska.gov

Drilling method: ☐ Air rotary, ☐ Cable tool, ☒ Other Hollow-Stem Augers
Well use: ☐ Public supply, ☐ Domestic, ☐ Reinjection, ☐ Hydrofracking ☐ Commercial, ☒ Observation/Monitoring, ☐ Test/Exploratory, ☐ Cooling, ☐ Irrigation/Agriculture, ☐ Grounding, ☐ Recharge/Aquifer Storage, ☐ Heating, ☐ Geothermal Exploration, ☐ Other ___
Fluids used: ___

Depth of hole: 25 ft Casing stickup: ___ ft
Casing type: SCH40 PVC Casing thickness: ___ inches
Casing diameter: 2.0 inches Casing depth: ___ ft
Liner type: ___ Depth: ___ ft Diameter: ___ inches
Note: ___

Well intake opening type: ☐ Open end, ☐ Open hole, ☐ Other ___
Screen type: SCH40 PVC, Screen mesh size: 0.020
Screen start: 10 ft, Screen stop: 25 ft, Perforated ☒ Yes ☐ No
Perforation description: machine-slotted Perf from: 10 ft, Perf to: 25 ft, Perf from: ___ ft, Perf to: ___ ft
Gravel packed ☒ Yes ☐ No Gravel start: 0.5 ft, Gravel stop: 2.0 ft
Note: ___

Static water (from top of casing): ___ ft on ___ / ___ / ___ Artesian well ☐
Pumping level & yield: ___ feet after ___ hours at ___ gpm
Method of testing: ___
Development method: ___ Duration: ___
Recovery rate: ___ gpm

Grout type: Hydrated Bentonite Chips Volume ___
Depth: From 2.0 ft, To 8.0 ft

Final pump intake depth: ___ ft Model: ___
Pump size: ___ hp Brand name: ___

Was well disinfected upon completion? ☐ Yes ☒ No
Method of disinfection: ___
Was water quality tested? ☐ Yes ☒ No
Water quality parameters tested: ___

Well driller name: .....
Company name: DISCOVERY DRILLING, INC.
Mailing address: 11341 OLIVE LANE
City: ANCHORAGE State: AK Zip: 99515
Phone number: (907) 344 - 6431
Driller's signature: [signature]
Date: 10 / 25 / 2017

Anchorage Municipal Code 15.55.060(I) and North Pole Ordinance 13.32.030(D) require that a copy of this well log be submitted to the Development Services Department/City within **30 days of well completion**.

City Permit Number: ___
Date of Issue: ___ / ___ / ___

Parcel Identification Number: ___ - ___ - ___

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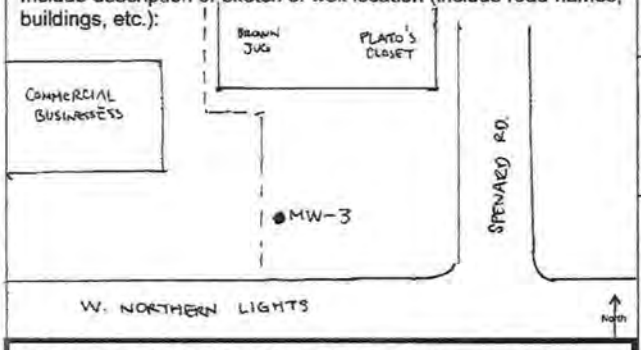
City/Borough	Subdivision	Block	Lot	Property Owner Name & Address
Anchorage	SE4SE4SE4SW4SE4	PTN	150 x 135	Chevron EMC - 145 South State College Blvd, Brea, CA 92821

Well location: Latitude 61°11'43.83"N **Longitude** 149°54'22.98"W
Meridian _____ Township 13N Range 4W Section 24 , ____ 1/4 of ____ 1/4 of ____ 1/4 of ____ 1/4

BOREHOLE DATA: (from ground surface)
Suggest T.M. Hanna's hydrogeologic classification system*
https://my.ngwa.org/NC_Product?id=a185000000BYub3AAD

	Depth From	Depth To
FILL (GP) - Gravelly Sand	0	8
SP-SM - Sand (f-m)	8	25
MW-3 - 2730 Spenard Road, Anchorage, AK		
(-or- 1201 W. Northern Lights Blvd)		

Include description or sketch of well location (include road names, buildings, etc.):



Drilling method: ☐ Air rotary, ☐ Cable tool, ☒ Other Hollow-Stem Augers
Well use: ☐ Public supply, ☐ Domestic, ☐ Reinjection, ☐ Hydrofracking
☐ Commercial, ☒ Observation/Monitoring, ☐ Test/Exploratory, ☐ Cooling,
☐ Irrigation/Agriculture, ☐ Grounding, ☐ Recharge/Aquifer Storage,
☐ Heating, ☐ Geothermal Exploration, ☐ Other _____
Fluids used: _____

Depth of hole: 25 ft Casing stickup: _____ ft
Casing type: SCH40 PVC Casing thickness: _____ inches
Casing diameter: 2.0 inches Casing depth: _____ ft
Liner type: _____ Depth: _____ ft Diameter: _____ inches
Note: _____

Well intake opening type: ☐ Open end, ☐ Open hole, ☐ Other _____
Screen type: SCH40 PVC, Screen mesh size: 0.020
Screen start: 10 ft, Screen stop: 25 ft, Perforated ☒ Yes ☐ No
Perforation description: machine-slotted Perf from: 10 ft, Perf to: 25 ft, Perf from: _____ ft, Perf to: _____ ft
Gravel packed ☒ Yes ☐ No Gravel start: 0.5 ft, Gravel stop: 2.0 ft
Note: _____

Static water (from top of casing): _____ ft on ___/___/___ Artesian well ☐
Pumping level & yield: _____ feet after _____ hours at _____ gpm
Method of testing: _____
Development method: _____ Duration: _____
Recovery rate: _____ gpm

Grout type: Hydrated Bentonite Chips Volume _____
Depth: From 2.0 ft, To 8.0 ft

Final pump intake depth: _____ ft Model: _____
Pump size: _____ hp Brand name: _____

Was well disinfected upon completion? ☐ Yes ☒ No
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Was water quality tested? ☐ Yes ☒ No
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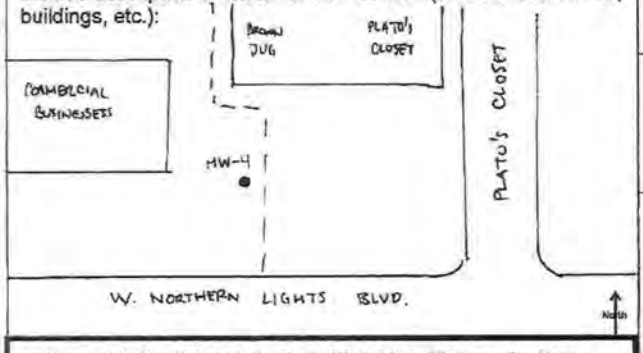
BOREHOLE DATA: (from ground surface)
Suggest T.M. Hanna's **hydrogeologic classification system*** https://my.ngwa.org/NC_Product?id=a185000000BYub3AAD

	Depth From	Depth To
FILL (GP) - Gravelly Sand	0	8
SM - Silty Sand (f-c)	8	23
CL - Clay	23	24.5
SM - Silty Sand (f-m)	24.5	25.5
ML - Silt	25.5	29
MW-4 - 2730 Spenard Road, Anchorage, AK		
(-or- 1201 W. Northern Lights Blvd)		

Include description or sketch of well location (include road names, buildings, etc.):



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Well use: ☐ Public supply, ☐ Domestic, ☐ Reinjection, ☐ Hydrofracking
☐ Commercial, ☒ Observation/Monitoring, ☐ Test/Exploratory, ☐ Cooling,
☐ Irrigation/Agriculture, ☐ Grounding, ☐ Recharge/Aquifer Storage,
☐ Heating, ☐ Geothermal Exploration, ☐ Other ___
Fluids used: ___

Depth of hole: 29.0 ft Casing stickup: ___ ft
Casing type: SCH40 PVC Casing thickness: ___ inches
Casing diameter: 2.0 inches Casing depth: ___ ft
Liner type: ___ Depth: ___ ft Diameter: ___ inches
Note: ___

Well intake opening type: ☐ Open end, ☐ Open hole, ☐ Other ___
Screen type: SCH40 PVC, Screen mesh size: 0.020
Screen start: 10 ft, Screen stop: 29 ft, Perforated ☒ Yes ☐ No
Perforation description: machine-slotted Perf from: 10 ft, Perf to: 29 ft, Perf from: ___ ft, Perf to: ___ ft
Gravel packed ☒ Yes ☐ No Gravel start: 0.5 ft, Gravel stop: 2.0 ft
Note: ___

Static water (from top of casing): ___ ft on ___/___/___ Artesian well ☐
Pumping level & yield: ___ feet after ___ hours at ___ gpm
Method of testing: ___
Development method: ___ Duration: ___
Recovery rate: ___ gpm

Grout type: Hydrated Bentonite Chips Volume ___
Depth: From 2.0 ft, To 8.0 ft

Final pump intake depth: ___ ft Model: ___
Pump size: ___ hp Brand name: ___

Was well disinfected upon completion? ☐ Yes ☒ No
Method of disinfection: ___
Was water quality tested? ☐ Yes ☒ No
Water quality parameters tested: ___

Well driller name: ...
Company name: DISCOVERY DRILLING, INC.
Mailing address: 11341 OLIVE LANE
City: ANCHORAGE State: AK Zip: 99515
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Date of Issue: ___/___/___

Parcel Identification Number: ___-___-___

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Appendix G
Sample Analyte List

Appendix H Sample Analyte List

Volatile Organic Compounds

Acetone
t-Amyl methyl ether
Benzene
Bromobenzene
Bromochloromethane
Bromodichloromethane
Bromoform
Bromomethane
2-Butanone
t-Butyl alcohol
n-Butylbenzene
sec-Butylbenzene
tert-Butylbenzene
Carbon Disulfide
Carbon Tetrachloride
Chlorobenzene
Chloroethane
2-Chloroethyl Vinyl Ether
Chloroform
Chloromethane
2-Chlorotoluene
4-Chlorotoluene
1,2-Dibromo-3-chloropropane
Dibromochloromethane
1,2-Dibromoethane
Dibromomethane
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Dichlorodifluoromethane
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethene
cis-1,2-Dichloroethene
trans-1,2-Dichloroethene
1,2-Dichloropropane
1,3-Dichloropropane
2,2-Dichloropropane
1,1-Dichloropropene
cis-1,3-Dichloropropene
trans-1,3-Dichloropropene
Ethanol
Ethyl t-butyl ether
Ethylbenzene
Freon
Hexachlorobutadiene
2-Hexanone
di-Isopropyl ether
Isopropylbenzene
p-Isopropyltoluene
Methyl Tertiary Butyl Ether
4-Methyl-2-pentanone
Methylene Chloride
Naphthalene
n-Propylbenzene
Styrene
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethene
Toluene
1,2,3-Trichlorobenzene
1,2,4-Trichlorobenzene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethene
Trichlorofluoromethane
1,2,3-Trichloropropane
1,2,4-Trimethylbenzene
1,3,5-Trimethylbenzene
Vinyl Chloride
m+p-Xylene
o-Xylene

Polynuclear Aromatic Hydrocarbons (Semi-Volatile Organic Compounds)

Acenapthylene
Acenaphthene
Anthracene
Benzo(a)anthracene
Benzo(a)pyrene
Benzo(b)fluoranthene
Benzo(g,h,i)perylene
Benzo(k)fluoranthene
Chrysene
Dibenz(a,h)anthracene
Fluoranthene
Fluorene
Indeno(1,2,3-cd)pyrene
Naphthalene
Phenanthrene
Pyrene

Pesticides/Polychlorinated Biphenyls (PCB)

PCB-1016
PCB-1221
PCB-1232
PCB-1260
PCB-1242
PCB-1248
PCB-1254

Metals

Arsenic
Barium
Cadmium
Chromium
Lead
Selenium
Silver
Mercury

Appendix H
Laboratory Analytical Reports

ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

Report Date: September 22, 2017

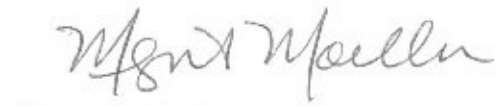
Project: 306449

Account #: 10880
Group Number: 1845654
PO Number: 0015250235
Release Number: CARRIER
State of Sample Origin: AK

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	GHD	Attn: GHD EDF
Electronic Copy To	GHD	Attn: Siobhan Pritchard
Electronic Copy To	GHD	Attn: Sarah Gillette
Electronic Copy To	GHD	Attn: Jeffrey Cloud
Electronic Copy To	Chevron	Attn: GHD EDD

Respectfully Submitted,



Megan A. Moeller
Senior Specialist

(717) 556-7261

SAMPLE INFORMATION

Client Sample Description	Collection Information	ELLE#
MW-1-S-17.5-170830 HIGH LEVEL Grab Soil	08/30/2017 13:00	9189682
MW-1-S-17.5-170830 LOW LEVEL Grab Soil	08/30/2017 13:00	9189683
MW-1-S-20-170830 HIGH LEVEL Grab Soil	08/30/2017 13:15	9189684
MW-2-S-19-170830 HIGH LEVEL Grab Soil	08/30/2017 15:10	9189686
MW-2-S-24.5-170830 HIGH LEVEL Grab Soil	08/30/2017 15:22	9189688
MW-3-S-15-170831 HIGH LEVEL Grab Soil	08/31/2017 08:33	9189690
MW-3-S-15-170831 LOW LEVEL Grab Soil	08/31/2017 08:33	9189691
MW-3-S-17.5-170831 HIGH LEVEL Grab Soil	08/31/2017 08:48	9189692
MW-3-S-17.5-170831 LOW LEVEL Grab Soil	08/31/2017 08:48	9189693
MW-4-S-18.5-170830 HIGH LEVEL Grab Soil	08/30/2017 09:28	9189694
MW-4-S-18.5-170830 LOW LEVEL Grab Soil	08/30/2017 09:28	9189695
MW-4-S-23.5-170830 HIGH LEVEL Grab Soil	08/30/2017 09:50	9189696
MW-4-S-23.5-170830 LOW LEVEL Grab Soil	08/30/2017 09:50	9189697
MW-1-S-2-170829 HIGH LEVEL Grab Soil	08/29/2017 11:00	9189698
MW-1-S-2-170829 LOW LEVEL Grab Soil	08/29/2017 11:00	9189699
MW-4-S-2-170829 HIGH LEVEL Grab Soil	08/29/2017 08:17	9189700
MW-4-S-2-170829 LOW LEVEL Grab Soil	08/29/2017 08:17	9189701
RB-1-O-170829 Grab Water	08/29/2017 07:54	9189702
RB-2-O-170829 Grab Water	08/29/2017 09:00	9189703
DUP-1-WD-170830 HIGH LEVEL Grab Soil	08/30/2017	9189704
DUP-1-WD-170830 LOW LEVEL Grab Soil	08/30/2017	9189705
DUP-2-WD-170831 HIGH LEVEL Grab Soil	08/31/2017	9189706
DUP-2-WD-170831 LOW LEVEL Grab Soil	08/31/2017	9189707
QA-1-T-170831 Methanol	08/31/2017	9189708

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Project Name: 306449
LL Group #: 1845654

General Comments:

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are not included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

For dual column analyses, the surrogate (for multi-surrogate tests, at least one surrogate) must be within the acceptance limits on at least one of the two columns.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

SW-846 8270D SIM, GC/MS Semivolatiles

Sample #s: 9189686

Reporting limits were raised due to interference from the sample matrix.

Sample #s: 9189696

Reporting limits were raised due to limited sample volume.

Target analytes were detected in the method blank associated with the samples as noted on the QC Summary. The following corrective action was taken:

The sample was originally extracted within the method required holding time and target analytes were not detected in the method blank associated with the samples. However, recoveries for target analytes in the Laboratory Control Spikes were outside acceptance limits. All results are reported from the second trial. Similar results were obtained in both trials.

Sample #s: 9189684, 9189688, 9189690, 9189692, 9189694, 9189704, 9189706

Target analytes were detected in the method blank associated with the samples as noted on the QC Summary. The following corrective action was taken:

The sample was originally extracted within the method required holding time and target analytes were not detected in the method blank associated with the samples. However, recoveries for target analytes in the Laboratory Control Spikes were outside acceptance limits. All results

are reported from the second trial. Similar results were obtained in both trials.

Sample #s: 9189682

Target analytes were detected in the method blank associated with the samples as noted on the QC Summary. The following corrective action was taken:

The sample was originally extracted within the method required holding time and target analytes were not detected in the method blank associated with the samples. However, recoveries for target analytes in the Laboratory Control Spikes were outside acceptance limits. All results are reported from the second trial. Similar results were obtained in both trials.

Reporting limits were raised due to limited sample volume.

Sample #s: 9189700

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

Sample #s: 9189698

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken:

The sample was re-analyzed and internal standard areas are again outside of the QC acceptance limits, indicating a matrix effect. The reported data is from the initial analysis of the sample.

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

Batch #: 17248WAU026 (Sample number(s): 9189703)

The recovery(ies) for the following analyte(s) in the LCS and/or LCSD exceeded the acceptance window indicating a positive bias: Benzo(b)fluoranthene

The relative percent difference(s) for the following analyte(s) in the LCS/LCSD were outside acceptance windows: Benzo(b)fluoranthene. When the individual % recovery is within the acceptance limits, the data is reported.

Batch #: 17249SLB026 (Sample number(s): 9189698, 9189700 UNSPK: 9189682)

The recovery(ies) for the following analyte(s) in the LCS were below the acceptance window: Acenaphthylene, Fluoranthene, Benzo(a)anthracene

The recovery(ies) for the following analyte(s) in the MS and/or MSD were below the acceptance window: Fluoranthene, Benzo(g,h,i)perylene

Batch #: 17256SLC026 (Sample number(s): 9189682, 9189684, 9189686, 9189688, 9189690, 9189692, 9189694, 9189696, 9189704, 9189706 UNSPK: 9189684)

The recovery(ies) for the following analyte(s) in the MS and/or MSD exceeded

the acceptance window indicating a positive bias: Benzo(b)fluoranthene, Benzo(k)fluoranthene

The recovery(ies) for the following analyte(s) in the MS and/or MSD were below the acceptance window: Acenaphthylene, Benzo(a)anthracene, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene, Benzo(g,h,i)perylene

AK 101, GC Volatiles

Sample #s: 9189684, 9189686, 9189706

Reporting limits were raised due to sample foaming.

Batch #: 17250A34A (Sample number(s): 9189682, 9189684, 9189686, 9189688, 9189692, 9189694, 9189696, 9189698, 9189700, 9189704, 9189706, 9189708)

The recovery(ies) for one or more surrogates exceeded the acceptance window indicating a positive bias for sample(s) 9189684, 9189686, 9189706

Batch #: 17250A34B (Sample number(s): 9189690)

The recovery(ies) for one or more surrogates exceeded the acceptance window indicating a positive bias for sample(s) 9189690

SW-846 8082A, Pesticides/PCBs

Sample #s: 9189702

The holding time was not met. The analysis was added after the holding time had expired.

Batch #: 172480035A (Sample number(s): 9189682, 9189684, 9189686, 9189688, 9189690, 9189692, 9189694, 9189696, 9189698, 9189700, 9189704, 9189706 UNSPK: 9189696)

The recovery(ies) for the following analyte(s) in the MS and/or MSD exceeded the acceptance window indicating a positive bias: PCB-1260

AK 102-SV 4/8/02, GC Petroleum Hydrocarbons

Sample #s: 9189702, 9189703

The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

Batch #: 172550001A (Sample number(s): 9189702-9189703)

The recovery(ies) for one or more surrogates were below the acceptance window for sample(s) 9189702, 9189703, LCS

AK 102/AK 103 04/08/02, GC Petroleum Hydrocarbons

Sample #s: 9189682, 9189684, 9189686, 9189688, 9189690, 9189692, 9189694, 9189696, 9189698, 9189700, 9189704, 9189706

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted and the QC is again outside of the acceptance limit. The data is reported from the second trial per client request.

Batch #: 172540034A (Sample number(s): 9189682, 9189684, 9189686, 9189688, 9189690, 9189692, 9189694, 9189696, 9189698, 9189700, 9189704, 9189706 UNSPK: 9189682)

The recovery(ies) for the following analyte(s) in the MS and/or MSD were below the acceptance window: C25-C36 RRO

The recovery(ies) for one or more surrogates exceeded the acceptance window indicating a positive bias for sample(s) 9189686

The recovery(ies) for one or more surrogates were below the acceptance window for sample(s) 9189686, Blank

SW-846 6010C, Metals

Batch #: 172541063503 (Sample number(s): 9189702-9189703 UNSPK: P193064 BKG: P193064)

The duplicate RPD for the following analyte(s) exceeded the acceptance window: Lead

Sample Description: MW-1-S-17.5-170830 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189682
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/30/2017 13:00 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		mg/kg	mg/kg	mg/kg	
10237	Acetone	67-64-1	N.D.	0.38	1.1	51.32
10237	Benzene	71-43-2	N.D.	0.027	0.27	51.32
10237	Bromodichloromethane	75-27-4	N.D.	0.055	0.27	51.32
10237	Bromoform	75-25-2	N.D.	0.055	0.27	51.32
10237	Bromomethane	74-83-9	N.D.	0.11	0.27	51.32
10237	2-Butanone	78-93-3	N.D.	0.22	0.55	51.32
10237	Carbon Disulfide	75-15-0	N.D.	0.055	0.27	51.32
10237	Carbon Tetrachloride	56-23-5	N.D.	0.055	0.27	51.32
10237	Chlorobenzene	108-90-7	N.D.	0.055	0.27	51.32
10237	Chloroethane	75-00-3	N.D.	0.11	0.27	51.32
10237	Chloroform	67-66-3	N.D.	0.055	0.27	51.32
10237	Chloromethane	74-87-3	N.D.	0.11	0.27	51.32
10237	Cyclohexane	110-82-7	N.D.	0.055	0.27	51.32
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.11	0.27	51.32
10237	Dibromochloromethane	124-48-1	N.D.	0.055	0.27	51.32
10237	1,2-Dibromoethane	106-93-4	N.D.	0.055	0.27	51.32
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.055	0.27	51.32
10237	1,3-Dichlorobenzene	541-73-1	N.D.	0.055	0.27	51.32
10237	1,4-Dichlorobenzene	106-46-7	N.D.	0.055	0.27	51.32
10237	Dichlorodifluoromethane	75-71-8	N.D.	0.11	0.27	51.32
10237	1,1-Dichloroethane	75-34-3	N.D.	0.055	0.27	51.32
10237	1,2-Dichloroethane	107-06-2	N.D.	0.055	0.27	51.32
10237	1,1-Dichloroethene	75-35-4	N.D.	0.055	0.27	51.32
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.055	0.27	51.32
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	0.055	0.27	51.32
10237	1,2-Dichloropropane	78-87-5	N.D.	0.055	0.27	51.32
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.055	0.27	51.32
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.055	0.27	51.32
10237	Ethylbenzene	100-41-4	N.D.	0.055	0.27	51.32
10237	Freon 113	76-13-1	N.D.	0.11	0.55	51.32
10237	2-Hexanone	591-78-6	N.D.	0.16	0.55	51.32
10237	Isopropylbenzene	98-82-8	N.D.	0.055	0.27	51.32
10237	Methyl Acetate	79-20-9	N.D.	0.11	0.27	51.32
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.027	0.27	51.32
10237	4-Methyl-2-pentanone	108-10-1	N.D.	0.16	0.55	51.32
10237	Methylcyclohexane	108-87-2	N.D.	0.055	0.27	51.32
10237	Methylene Chloride	75-09-2	N.D.	0.11	0.27	51.32
10237	Styrene	100-42-5	N.D.	0.055	0.27	51.32
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.055	0.27	51.32
10237	Tetrachloroethene	127-18-4	N.D.	0.055	0.27	51.32
10237	Toluene	108-88-3	N.D.	0.055	0.27	51.32
10237	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.055	0.27	51.32
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.055	0.27	51.32
10237	1,1,2-Trichloroethane	79-00-5	N.D.	0.055	0.27	51.32
10237	Trichloroethene	79-01-6	N.D.	0.055	0.27	51.32
10237	Trichlorofluoromethane	75-69-4	N.D.	0.11	0.27	51.32
10237	Vinyl Chloride	75-01-4	N.D.	0.055	0.27	51.32
10237	Xylene (Total)	1330-20-7	N.D.	0.055	0.27	51.32

*=This limit was used in the evaluation of the final result

Sample Description: MW-1-S-17.5-170830 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189682
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/30/2017 13:00 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D SIM**		**mg/kg**	**mg/kg**	**mg/kg**	
12969	Acenaphthene	83-32-9	N.D.	0.0013	0.0034	1
12969	Acenaphthylene	208-96-8	N.D.	0.00067	0.0034	1
12969	Anthracene	120-12-7	N.D.	0.00067	0.0034	1
12969	Benzo(a)anthracene	56-55-3	N.D.	0.0013	0.0034	1
12969	Benzo(a)pyrene	50-32-8	N.D.	0.0013	0.0034	1
12969	Benzo(b)fluoranthene	205-99-2	0.0014 J	0.0013	0.0034	1
12969	Benzo(g,h,i)perylene	191-24-2	0.0062	0.0013	0.0034	1
12969	Benzo(k)fluoranthene	207-08-9	N.D.	0.0013	0.0034	1
12969	Chrysene	218-01-9	0.00090 J	0.00067	0.0034	1
12969	Dibenz(a,h)anthracene	53-70-3	0.0047	0.0013	0.0034	1
12969	Fluoranthene	206-44-0	N.D.	0.0013	0.0034	1
12969	Fluorene	86-73-7	N.D.	0.0013	0.0034	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	0.0048	0.0013	0.0034	1
12969	Naphthalene	91-20-3	0.0030 J	0.0013	0.0034	1
12969	Phenanthrene	85-01-8	N.D.	0.0013	0.0034	1
12969	Pyrene	129-00-0	0.00094 J	0.00067	0.0034	1

Target analytes were detected in the method blank associated with the samples as noted on the QC Summary. The following corrective action was taken:

The sample was originally extracted within the method required holding time and target analytes were not detected in the method blank associated with the samples. However, recoveries for target analytes in the Laboratory Control Spikes were outside acceptance limits. All results are reported from the second trial. Similar results were obtained in both trials.

Reporting limits were raised due to limited sample volume.

GC Volatiles	**AK 101**		**mg/kg**	**mg/kg**	**mg/kg**	
01450	TPH-GRO AK soil C6-C10	n.a.	0.8 J	0.6	5.6	26.34
Pesticides/PCBs	**SW-846 8082A**		**mg/kg**	**mg/kg**	**mg/kg**	
10592	PCB-1016	12674-11-2	N.D. D1	0.0035	0.018	1
10592	PCB-1221	11104-28-2	N.D. D1	0.0055	0.018	1
10592	PCB-1232	11141-16-5	N.D. D1	0.0044	0.018	1
10592	PCB-1242	53469-21-9	N.D. D1	0.0044	0.018	1
10592	PCB-1248	12672-29-6	N.D. D1	0.0035	0.018	1
10592	PCB-1254	11097-69-1	N.D. D1	0.0047	0.018	1
10592	PCB-1260	11096-82-5	N.D. D1	0.0042	0.018	1
GC Petroleum Hydrocarbons	**AK 102/AK 103 04/08/02**		**mg/kg**	**mg/kg**	**mg/kg**	
01738	C10-<C25 DRO	n.a.	N.D.	11	26	2
01738	C25-C36 RRO	n.a.	49	11	26	2

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC

*=This limit was used in the evaluation of the final result

Sample Description: MW-1-S-17.5-170830 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189682
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/30/2017 13:00 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
	Summary. The following corrective action was taken: The sample was re-extracted and the QC is again outside of the acceptance limit. The data is reported from the second trial per client request.					
Metals		**SW-846 6010C**	mg/kg	mg/kg	mg/kg	
06935	Arsenic	7440-38-2	2.21 J	0.917	3.82	1
06946	Barium	7440-39-3	64.7	0.0420	0.955	1
06949	Cadmium	7440-43-9	N.D.	0.0516	0.955	1
06951	Chromium	7440-47-3	36.2	0.162	2.86	1
06955	Lead	7439-92-1	9.85	0.573	2.86	1
06936	Selenium	7782-49-2	N.D.	0.888	3.82	1
06966	Silver	7440-22-4	N.D.	0.229	0.955	1
		SW-846 7471B	mg/kg	mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.0539 J	0.0104	0.104	1
Wet Chemistry		**SM 2540 G-1997**	%	%	%	
00111	Moisture	n.a.	6.5	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

Sample Comments

State of Alaska Lab Certification No. UST-061

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	R172541AA	09/11/2017 19:10	Jeremy C Giffin	51.32
06173	GC/MS - Field Preserved (Ak)	SW-846 5035	1	201724546922	08/30/2017 13:00	Client Supplied	1
12969	SIM SVOAs 8270D (microwave)	SW-846 8270D SIM	1	17256SLC026	09/15/2017 09:27	Catherine E Bachman	1
10811	BNA Soil Microwave SIM	SW-846 3546	2	17256SLC026	09/13/2017 17:45	Ashley R Transue	1
01450	TPH-GRO AK soil C6-C10	AK 101	1	17250A34A	09/07/2017 15:50	Marie D Beamenderfer	26.34
06119	GC - Field Preserved (AK-101)	AK 101	1	201724546922	08/30/2017 13:00	Client Supplied	1
10592	PCBs in Soil 8082A	SW-846 8082A	1	172480035A	09/08/2017 00:15	Kirby B Turner	1
11132	PCB Soils Update IV Extraction	SW-846 3550C	1	172480035A	09/06/2017 09:00	Michelle A Newswanger	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-1-S-17.5-170830 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189682
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/30/2017 13:00 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA01

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01738	TPH-DRO/RRO (AK)	AK 102/AK 103 04/08/02	1	172540034A	09/13/2017 08:44	Nicholas R Rossi	2
14417	MW Ext. for AK DRO/RRO Soils	SW-846 3546	2	172540034A	09/12/2017 09:00	Bradley W VanLeuven	1
06935	Arsenic	SW-846 6010C	1	172491063701	09/07/2017 15:11	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	172491063701	09/07/2017 15:11	Cindy M Gehman	1
06949	Cadmium	SW-846 6010C	1	172491063701	09/07/2017 15:11	Cindy M Gehman	1
06951	Chromium	SW-846 6010C	1	172491063701	09/07/2017 15:11	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	172491063701	09/07/2017 15:11	Cindy M Gehman	1
06936	Selenium	SW-846 6010C	1	172491063701	09/07/2017 15:11	Cindy M Gehman	1
06966	Silver	SW-846 6010C	1	172491063701	09/07/2017 15:11	Cindy M Gehman	1
00159	Mercury	SW-846 7471B	1	172491063801	09/07/2017 11:17	Parker D Lindstrom	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	172491063701	09/07/2017 06:40	Lisa J Cooke	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	172491063801	09/07/2017 07:50	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	17250820012B	09/07/2017 21:07	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-1-S-17.5-170830 LOW LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189683
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/30/2017 13:00 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0006	0.006	1.07
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00118	Moisture	n.a.	6.5	0.50	0.50	1

Sample Comments

State of Alaska Lab Certification No. UST-061

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs Benzene only - Soil	SW-846 8260B	1	A172551AA	09/12/2017 10:29	Jennifer K Howe	1.07
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035	1	201724546922	08/30/2017 13:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035	2	201724546922	08/30/2017 13:00	Client Supplied	1
00118	Moisture	SM 2540 G-1997	1	17250820012B	09/07/2017 21:07	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-1-S-20-170830 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189684
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/30/2017 13:15 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		mg/kg	mg/kg	mg/kg	
10237	Acetone	67-64-1	N.D.	0.52	1.5	61.57
10237	Benzene	71-43-2	N.D.	0.037	0.37	61.57
10237	Bromodichloromethane	75-27-4	N.D.	0.074	0.37	61.57
10237	Bromoform	75-25-2	N.D.	0.074	0.37	61.57
10237	Bromomethane	74-83-9	N.D.	0.15	0.37	61.57
10237	2-Butanone	78-93-3	N.D.	0.30	0.74	61.57
10237	Carbon Disulfide	75-15-0	N.D.	0.074	0.37	61.57
10237	Carbon Tetrachloride	56-23-5	N.D.	0.074	0.37	61.57
10237	Chlorobenzene	108-90-7	N.D.	0.074	0.37	61.57
10237	Chloroethane	75-00-3	N.D.	0.15	0.37	61.57
10237	Chloroform	67-66-3	N.D.	0.074	0.37	61.57
10237	Chloromethane	74-87-3	N.D.	0.15	0.37	61.57
10237	Cyclohexane	110-82-7	N.D.	0.074	0.37	61.57
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.15	0.37	61.57
10237	Dibromochloromethane	124-48-1	N.D.	0.074	0.37	61.57
10237	1,2-Dibromoethane	106-93-4	N.D.	0.074	0.37	61.57
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.074	0.37	61.57
10237	1,3-Dichlorobenzene	541-73-1	N.D.	0.074	0.37	61.57
10237	1,4-Dichlorobenzene	106-46-7	N.D.	0.074	0.37	61.57
10237	Dichlorodifluoromethane	75-71-8	N.D.	0.15	0.37	61.57
10237	1,1-Dichloroethane	75-34-3	N.D.	0.074	0.37	61.57
10237	1,2-Dichloroethane	107-06-2	N.D.	0.074	0.37	61.57
10237	1,1-Dichloroethene	75-35-4	N.D.	0.074	0.37	61.57
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.074	0.37	61.57
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	0.074	0.37	61.57
10237	1,2-Dichloropropane	78-87-5	N.D.	0.074	0.37	61.57
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.074	0.37	61.57
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.074	0.37	61.57
10237	Ethylbenzene	100-41-4	N.D.	0.074	0.37	61.57
10237	Freon 113	76-13-1	N.D.	0.15	0.74	61.57
10237	2-Hexanone	591-78-6	N.D.	0.22	0.74	61.57
10237	Isopropylbenzene	98-82-8	N.D.	0.074	0.37	61.57
10237	Methyl Acetate	79-20-9	N.D.	0.15	0.37	61.57
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.037	0.37	61.57
10237	4-Methyl-2-pentanone	108-10-1	N.D.	0.22	0.74	61.57
10237	Methylcyclohexane	108-87-2	N.D.	0.074	0.37	61.57
10237	Methylene Chloride	75-09-2	N.D.	0.15	0.37	61.57
10237	Styrene	100-42-5	N.D.	0.074	0.37	61.57
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.074	0.37	61.57
10237	Tetrachloroethene	127-18-4	N.D.	0.074	0.37	61.57
10237	Toluene	108-88-3	1.6	0.074	0.37	61.57
10237	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.074	0.37	61.57
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.074	0.37	61.57
10237	1,1,2-Trichloroethane	79-00-5	N.D.	0.074	0.37	61.57
10237	Trichloroethene	79-01-6	N.D.	0.074	0.37	61.57
10237	Trichlorofluoromethane	75-69-4	N.D.	0.15	0.37	61.57
10237	Vinyl Chloride	75-01-4	N.D.	0.074	0.37	61.57
10237	Xylene (Total)	1330-20-7	N.D.	0.074	0.37	61.57

*=This limit was used in the evaluation of the final result

Sample Description: MW-1-S-20-170830 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189684
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/30/2017 13:15 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA03

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D SIM**		**mg/kg**		**mg/kg**	**mg/kg**	
12969	Acenaphthene	83-32-9	N.D.		0.00079	0.0020	1
12969	Acenaphthylene	208-96-8	0.00075	J	0.00040	0.0020	1
12969	Anthracene	120-12-7	0.00042	J	0.00040	0.0020	1
12969	Benzo(a)anthracene	56-55-3	N.D.		0.00079	0.0020	1
12969	Benzo(a)pyrene	50-32-8	N.D.		0.00079	0.0020	1
12969	Benzo(b)fluoranthene	205-99-2	0.0012	J	0.00079	0.0020	1
12969	Benzo(g,h,i)perylene	191-24-2	0.0063		0.00079	0.0020	1
12969	Benzo(k)fluoranthene	207-08-9	N.D.		0.00079	0.0020	1
12969	Chrysene	218-01-9	0.00077	J	0.00040	0.0020	1
12969	Dibenz(a,h)anthracene	53-70-3	N.D.		0.00079	0.0020	1
12969	Fluoranthene	206-44-0	N.D.		0.00079	0.0020	1
12969	Fluorene	86-73-7	N.D.		0.00079	0.0020	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	0.0010	J	0.00079	0.0020	1
12969	Naphthalene	91-20-3	0.0097		0.00079	0.0020	1
12969	Phenanthrene	85-01-8	0.0017	J	0.00079	0.0020	1
12969	Pyrene	129-00-0	0.0014	J	0.00040	0.0020	1

Target analytes were detected in the method blank associated with the samples as noted on the QC Summary. The following corrective action was taken:

The sample was originally extracted within the method required holding time and target analytes were not detected in the method blank associated with the samples. However, recoveries for target analytes in the Laboratory Control Spikes were outside acceptance limits. All results are reported from the second trial. Similar results were obtained in both trials.

GC Volatiles	**AK 101**		**mg/kg**		**mg/kg**	**mg/kg**	
01450	TPH-GRO AK soil C6-C10	n.a.	N.D.		7.4	74	307.28

Reporting limits were raised due to sample foaming.

Pesticides/PCBs	**SW-846 8082A**		**mg/kg**		**mg/kg**	**mg/kg**	
10592	PCB-1016	12674-11-2	N.D.	D1	0.0039	0.020	1
10592	PCB-1221	11104-28-2	N.D.	D1	0.0061	0.020	1
10592	PCB-1232	11141-16-5	N.D.	D1	0.0049	0.020	1
10592	PCB-1242	53469-21-9	N.D.	D1	0.0049	0.020	1
10592	PCB-1248	12672-29-6	N.D.	D1	0.0039	0.020	1
10592	PCB-1254	11097-69-1	N.D.	D1	0.0053	0.020	1
10592	PCB-1260	11096-82-5	0.029	D1	0.0047	0.020	1

GC Petroleum Hydrocarbons	**AK 102/AK 103 04/08/02**	**mg/kg**		**mg/kg**	**mg/kg**	
01738	C10-<C25 DRO	n.a.	88	30	72	5
01738	C25-C36 RRO	n.a.	450	30	72	5

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:

*=This limit was used in the evaluation of the final result

Sample Description: MW-1-S-20-170830 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189684
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/30/2017 13:15 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA03

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
	The sample was re-extracted and the QC is again outside of the acceptance limit. The data is reported from the second trial per client request.						
Metals		**SW-846 6010C**	**mg/kg**		**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	3.29	J	0.789	3.29	1
06946	Barium	7440-39-3	63.8		0.0361	0.822	1
06949	Cadmium	7440-43-9	N.D.		0.0444	0.822	1
06951	Chromium	7440-47-3	34.2		0.140	2.46	1
06955	Lead	7439-92-1	21.2		0.493	2.46	1
06936	Selenium	7782-49-2	N.D.		0.764	3.29	1
06966	Silver	7440-22-4	0.326	J	0.197	0.822	1
		SW-846 7471B	**mg/kg**		**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0393	J	0.0115	0.115	1
Wet Chemistry		**SM 2540 G-1997**	**%**		**%**	**%**	
00111	Moisture	n.a.	17.2		0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

State of Alaska Lab Certification No. UST-061

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	R172541AA	09/11/2017 19:35	Jeremy C Giffin	61.57
06173	GC/MS - Field Preserved (Ak)	SW-846 5035	1	201724546922	08/30/2017 13:15	Client Supplied	1
12969	SIM SVOAs 8270D (microwave)	SW-846 8270D SIM	1	17256SLC026	09/15/2017 14:59	Catherine E Bachman	1
10811	BNA Soil Microwave SIM	SW-846 3546	2	17256SLC026	09/13/2017 17:45	Ashley R Transue	1
01450	TPH-GRO AK soil C6-C10	AK 101	1	17250A34A	09/07/2017 16:36	Marie D Beamenderfer	307.28
06119	GC - Field Preserved (AK-101)	AK 101	1	201724546922	08/30/2017 13:15	Client Supplied	1
10592	PCBs in Soil 8082A	SW-846 8082A	1	172480035A	09/08/2017 00:26	Kirby B Turner	1
11132	PCB Soils Update IV Extraction	SW-846 3550C	1	172480035A	09/06/2017 09:00	Michelle A Newswanger	1
01738	TPH-DRO/RRO (AK)	AK 102/AK 103 04/08/02	1	172540034A	09/13/2017 10:10	Nicholas R Rossi	5

*=This limit was used in the evaluation of the final result

Sample Description: MW-1-S-20-170830 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189684
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/30/2017 13:15 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA03

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14417	MW Ext. for AK DRO/RRO Soils	SW-846 3546	2	172540034A	09/12/2017 09:00	Bradley W VanLeuven	1
06935	Arsenic	SW-846 6010C	1	172491063701	09/07/2017 15:15	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	172491063701	09/07/2017 15:15	Cindy M Gehman	1
06949	Cadmium	SW-846 6010C	1	172491063701	09/07/2017 15:15	Cindy M Gehman	1
06951	Chromium	SW-846 6010C	1	172491063701	09/07/2017 15:15	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	172491063701	09/07/2017 15:15	Cindy M Gehman	1
06936	Selenium	SW-846 6010C	1	172491063701	09/07/2017 15:15	Cindy M Gehman	1
06966	Silver	SW-846 6010C	1	172491063701	09/07/2017 15:15	Cindy M Gehman	1
00159	Mercury	SW-846 7471B	1	172491063801	09/07/2017 11:19	Parker D Lindstrom	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	172491063701	09/07/2017 06:40	Lisa J Cooke	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	172491063801	09/07/2017 07:50	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	17250820012B	09/07/2017 21:07	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-2-S-19-170830 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189686
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/30/2017 15:10 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA05

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		mg/kg		mg/kg	mg/kg	
10237	Acetone	67-64-1	N.D.		0.38	1.1	52.06
10237	Benzene	71-43-2	0.068	J	0.027	0.27	52.06
10237	Bromodichloromethane	75-27-4	N.D.		0.054	0.27	52.06
10237	Bromoform	75-25-2	N.D.		0.054	0.27	52.06
10237	Bromomethane	74-83-9	N.D.		0.11	0.27	52.06
10237	2-Butanone	78-93-3	N.D.		0.22	0.54	52.06
10237	Carbon Disulfide	75-15-0	N.D.		0.054	0.27	52.06
10237	Carbon Tetrachloride	56-23-5	N.D.		0.054	0.27	52.06
10237	Chlorobenzene	108-90-7	N.D.		0.054	0.27	52.06
10237	Chloroethane	75-00-3	N.D.		0.11	0.27	52.06
10237	Chloroform	67-66-3	N.D.		0.054	0.27	52.06
10237	Chloromethane	74-87-3	N.D.		0.11	0.27	52.06
10237	Cyclohexane	110-82-7	0.097	J	0.054	0.27	52.06
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D.		0.11	0.27	52.06
10237	Dibromochloromethane	124-48-1	N.D.		0.054	0.27	52.06
10237	1,2-Dibromoethane	106-93-4	N.D.		0.054	0.27	52.06
10237	1,2-Dichlorobenzene	95-50-1	N.D.		0.054	0.27	52.06
10237	1,3-Dichlorobenzene	541-73-1	N.D.		0.054	0.27	52.06
10237	1,4-Dichlorobenzene	106-46-7	N.D.		0.054	0.27	52.06
10237	Dichlorodifluoromethane	75-71-8	N.D.		0.11	0.27	52.06
10237	1,1-Dichloroethane	75-34-3	N.D.		0.054	0.27	52.06
10237	1,2-Dichloroethane	107-06-2	N.D.		0.054	0.27	52.06
10237	1,1-Dichloroethene	75-35-4	N.D.		0.054	0.27	52.06
10237	cis-1,2-Dichloroethene	156-59-2	N.D.		0.054	0.27	52.06
10237	trans-1,2-Dichloroethene	156-60-5	N.D.		0.054	0.27	52.06
10237	1,2-Dichloropropane	78-87-5	N.D.		0.054	0.27	52.06
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.		0.054	0.27	52.06
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.		0.054	0.27	52.06
10237	Ethylbenzene	100-41-4	0.20	J	0.054	0.27	52.06
10237	Freon 113	76-13-1	N.D.		0.11	0.54	52.06
10237	2-Hexanone	591-78-6	N.D.		0.16	0.54	52.06
10237	Isopropylbenzene	98-82-8	0.084	J	0.054	0.27	52.06
10237	Methyl Acetate	79-20-9	N.D.		0.11	0.27	52.06
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.027	0.27	52.06
10237	4-Methyl-2-pentanone	108-10-1	N.D.		0.16	0.54	52.06
10237	Methylcyclohexane	108-87-2	0.38		0.054	0.27	52.06
10237	Methylene Chloride	75-09-2	N.D.		0.11	0.27	52.06
10237	Styrene	100-42-5	N.D.		0.054	0.27	52.06
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.		0.054	0.27	52.06
10237	Tetrachloroethene	127-18-4	N.D.		0.054	0.27	52.06
10237	Toluene	108-88-3	0.63		0.054	0.27	52.06
10237	1,2,4-Trichlorobenzene	120-82-1	N.D.		0.054	0.27	52.06
10237	1,1,1-Trichloroethane	71-55-6	N.D.		0.054	0.27	52.06
10237	1,1,2-Trichloroethane	79-00-5	N.D.		0.054	0.27	52.06
10237	Trichloroethene	79-01-6	N.D.		0.054	0.27	52.06
10237	Trichlorofluoromethane	75-69-4	N.D.		0.11	0.27	52.06
10237	Vinyl Chloride	75-01-4	N.D.		0.054	0.27	52.06
10237	Xylene (Total)	1330-20-7	1.9		0.054	0.27	52.06

*=This limit was used in the evaluation of the final result

Sample Description: MW-2-S-19-170830 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189686
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/30/2017 15:10 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA05

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D SIM**		**mg/kg**		**mg/kg**	**mg/kg**	
12969	Acenaphthene	83-32-9	N.D.		0.0069	0.017	10
12969	Acenaphthylene	208-96-8	N.D.		0.0035	0.017	10
12969	Anthracene	120-12-7	N.D.		0.0035	0.017	10
12969	Benzo(a)anthracene	56-55-3	N.D.		0.0069	0.017	10
12969	Benzo(a)pyrene	50-32-8	N.D.		0.0069	0.017	10
12969	Benzo(b)fluoranthene	205-99-2	N.D.		0.0069	0.017	10
12969	Benzo(g,h,i)perylene	191-24-2	N.D.		0.0069	0.017	10
12969	Benzo(k)fluoranthene	207-08-9	N.D.		0.0069	0.017	10
12969	Chrysene	218-01-9	N.D.		0.0035	0.017	10
12969	Dibenz(a,h)anthracene	53-70-3	N.D.		0.0069	0.017	10
12969	Fluoranthene	206-44-0	N.D.		0.0069	0.017	10
12969	Fluorene	86-73-7	N.D.		0.0069	0.017	10
12969	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.0069	0.017	10
12969	Naphthalene	91-20-3	N.D.		0.0069	0.017	10
12969	Phenanthrene	85-01-8	N.D.		0.0069	0.017	10
12969	Pyrene	129-00-0	N.D.		0.0035	0.017	10
	Reporting limits were raised due to interference from the sample matrix.						
GC Volatiles	**AK 101**		**mg/kg**		**mg/kg**	**mg/kg**	
01450	TPH-GRO AK soil C6-C10	n.a.	N.D.		130	1,300	6316.54
	Reporting limits were raised due to sample foaming.						
Pesticides/PCBs	**SW-846 8082A**		**mg/kg**		**mg/kg**	**mg/kg**	
10592	PCB-1016	12674-11-2	N.D.	D1	0.0034	0.018	1
10592	PCB-1221	11104-28-2	N.D.	D1	0.0053	0.018	1
10592	PCB-1232	11141-16-5	N.D.	D1	0.0042	0.018	1
10592	PCB-1242	53469-21-9	N.D.	D1	0.0042	0.018	1
10592	PCB-1248	12672-29-6	N.D.	D1	0.0034	0.018	1
10592	PCB-1254	11097-69-1	N.D.	D1	0.0046	0.018	1
10592	PCB-1260	11096-82-5	N.D.	D1	0.0040	0.018	1
GC Petroleum Hydrocarbons	**AK 102/AK 103 04/08/02**		**mg/kg**		**mg/kg**	**mg/kg**	
01738	C10-<C25 DRO	n.a.	2,200		260	620	50
01738	C25-C36 RRO	n.a.	2,600		260	620	50
	The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was re-extracted and the QC is again outside of the acceptance limit. The data is reported from the second trial per client request.						
Metals	**SW-846 6010C**		**mg/kg**		**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	3.19	J	0.835	3.48	1
06946	Barium	7440-39-3	75.9		0.0383	0.870	1
06949	Cadmium	7440-43-9	N.D.		0.0470	0.870	1
06951	Chromium	7440-47-3	31.0		0.148	2.61	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-2-S-19-170830 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189686
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/30/2017 15:10 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06955	Lead	7439-92-1	9.70	0.522	2.61	1
06936	Selenium	7782-49-2	N.D.	0.809	3.48	1
06966	Silver	7440-22-4	0.232 J	0.209	0.870	1
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0346 J	0.0103	0.103	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	4.2	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

State of Alaska Lab Certification No. UST-061

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	R172541AA	09/11/2017 19:59	Jeremy C Giffin	52.06
06173	GC/MS - Field Preserved (Ak)	SW-846 5035	1	201724546922	08/30/2017 15:10	Client Supplied	1
12969	SIM SVOAs 8270D (microwave)	SW-846 8270D SIM	1	17256SLC026	09/15/2017 09:57	Catherine E Bachman	10
10811	BNA Soil Microwave SIM	SW-846 3546	2	17256SLC026	09/13/2017 17:45	Ashley R Transue	1
01450	TPH-GRO AK soil C6-C10	AK 101	1	17250A34A	09/07/2017 17:35	Marie D Beamenderfer	6316.54
06119	GC - Field Preserved (AK-101)	AK 101	1	201724546922	08/30/2017 15:10	Client Supplied	1
10592	PCBs in Soil 8082A	SW-846 8082A	1	172480035A	09/08/2017 00:38	Kirby B Turner	1
11132	PCB Soils Update IV Extraction	SW-846 3550C	1	172480035A	09/06/2017 09:00	Michelle A Newswanger	1
01738	TPH-DRO/RRO (AK)	AK 102/AK 103 04/08/02	1	172540034A	09/13/2017 10:38	Nicholas R Rossi	50
14417	MW Ext. for AK DRO/RRO Soils	SW-846 3546	2	172540034A	09/12/2017 09:00	Bradley W VanLeuven	1
06935	Arsenic	SW-846 6010C	1	172491063701	09/07/2017 15:24	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	172491063701	09/07/2017 15:24	Cindy M Gehman	1
06949	Cadmium	SW-846 6010C	1	172491063701	09/07/2017 15:24	Cindy M Gehman	1
06951	Chromium	SW-846 6010C	1	172491063701	09/07/2017 15:24	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	172491063701	09/07/2017 15:24	Cindy M Gehman	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-2-S-19-170830 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189686
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/30/2017 15:10 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA05

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06936	Selenium	SW-846 6010C	1	172491063701	09/07/2017 15:24	Cindy M Gehman	1
06966	Silver	SW-846 6010C	1	172491063701	09/07/2017 15:24	Cindy M Gehman	1
00159	Mercury	SW-846 7471B	1	172491063801	09/07/2017 11:21	Parker D Lindstrom	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	172491063701	09/07/2017 06:40	Lisa J Cooke	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	172491063801	09/07/2017 07:50	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	17250820012B	09/07/2017 21:07	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-2-S-24.5-170830 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189688
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/30/2017 15:22 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		mg/kg	mg/kg	mg/kg	
10237	Acetone	67-64-1	N.D.	0.54	1.5	60.54
10237	Benzene	71-43-2	N.D.	0.038	0.38	60.54
10237	Bromodichloromethane	75-27-4	N.D.	0.076	0.38	60.54
10237	Bromoform	75-25-2	N.D.	0.076	0.38	60.54
10237	Bromomethane	74-83-9	N.D.	0.15	0.38	60.54
10237	2-Butanone	78-93-3	N.D.	0.31	0.76	60.54
10237	Carbon Disulfide	75-15-0	N.D.	0.076	0.38	60.54
10237	Carbon Tetrachloride	56-23-5	N.D.	0.076	0.38	60.54
10237	Chlorobenzene	108-90-7	N.D.	0.076	0.38	60.54
10237	Chloroethane	75-00-3	N.D.	0.15	0.38	60.54
10237	Chloroform	67-66-3	N.D.	0.076	0.38	60.54
10237	Chloromethane	74-87-3	N.D.	0.15	0.38	60.54
10237	Cyclohexane	110-82-7	N.D.	0.076	0.38	60.54
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.15	0.38	60.54
10237	Dibromochloromethane	124-48-1	N.D.	0.076	0.38	60.54
10237	1,2-Dibromoethane	106-93-4	N.D.	0.076	0.38	60.54
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.076	0.38	60.54
10237	1,3-Dichlorobenzene	541-73-1	N.D.	0.076	0.38	60.54
10237	1,4-Dichlorobenzene	106-46-7	N.D.	0.076	0.38	60.54
10237	Dichlorodifluoromethane	75-71-8	N.D.	0.15	0.38	60.54
10237	1,1-Dichloroethane	75-34-3	N.D.	0.076	0.38	60.54
10237	1,2-Dichloroethane	107-06-2	N.D.	0.076	0.38	60.54
10237	1,1-Dichloroethene	75-35-4	N.D.	0.076	0.38	60.54
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.076	0.38	60.54
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	0.076	0.38	60.54
10237	1,2-Dichloropropane	78-87-5	N.D.	0.076	0.38	60.54
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.076	0.38	60.54
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.076	0.38	60.54
10237	Ethylbenzene	100-41-4	N.D.	0.076	0.38	60.54
10237	Freon 113	76-13-1	N.D.	0.15	0.76	60.54
10237	2-Hexanone	591-78-6	N.D.	0.23	0.76	60.54
10237	Isopropylbenzene	98-82-8	N.D.	0.076	0.38	60.54
10237	Methyl Acetate	79-20-9	N.D.	0.15	0.38	60.54
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.038	0.38	60.54
10237	4-Methyl-2-pentanone	108-10-1	N.D.	0.23	0.76	60.54
10237	Methylcyclohexane	108-87-2	N.D.	0.076	0.38	60.54
10237	Methylene Chloride	75-09-2	N.D.	0.15	0.38	60.54
10237	Styrene	100-42-5	N.D.	0.076	0.38	60.54
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.076	0.38	60.54
10237	Tetrachloroethene	127-18-4	N.D.	0.076	0.38	60.54
10237	Toluene	108-88-3	N.D.	0.076	0.38	60.54
10237	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.076	0.38	60.54
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.076	0.38	60.54
10237	1,1,2-Trichloroethane	79-00-5	N.D.	0.076	0.38	60.54
10237	Trichloroethene	79-01-6	N.D.	0.076	0.38	60.54
10237	Trichlorofluoromethane	75-69-4	N.D.	0.15	0.38	60.54
10237	Vinyl Chloride	75-01-4	N.D.	0.076	0.38	60.54
10237	Xylene (Total)	1330-20-7	N.D.	0.076	0.38	60.54

*=This limit was used in the evaluation of the final result

Sample Description: MW-2-S-24.5-170830 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189688
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/30/2017 15:22 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D SIM**		**mg/kg**	**mg/kg**	**mg/kg**	
12969	Acenaphthene	83-32-9	N.D.	0.00084	0.0021	1
12969	Acenaphthylene	208-96-8	N.D.	0.00042	0.0021	1
12969	Anthracene	120-12-7	0.00054 J	0.00042	0.0021	1
12969	Benzo(a)anthracene	56-55-3	0.00088 J	0.00084	0.0021	1
12969	Benzo(a)pyrene	50-32-8	N.D.	0.00084	0.0021	1
12969	Benzo(b)fluoranthene	205-99-2	0.014	0.00084	0.0021	1
12969	Benzo(g,h,i)perylene	191-24-2	0.0022	0.00084	0.0021	1
12969	Benzo(k)fluoranthene	207-08-9	0.0011 J	0.00084	0.0021	1
12969	Chrysene	218-01-9	0.024	0.00042	0.0021	1
12969	Dibenz(a,h)anthracene	53-70-3	0.0014 J	0.00084	0.0021	1
12969	Fluoranthene	206-44-0	0.0034	0.00084	0.0021	1
12969	Fluorene	86-73-7	0.00085 J	0.00084	0.0021	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	0.00095 J	0.00084	0.0021	1
12969	Naphthalene	91-20-3	0.013	0.00084	0.0021	1
12969	Phenanthrene	85-01-8	0.025	0.00084	0.0021	1
12969	Pyrene	129-00-0	0.0022	0.00042	0.0021	1

Target analytes were detected in the method blank associated with the samples as noted on the QC Summary. The following corrective action was taken:

The sample was originally extracted within the method required holding time and target analytes were not detected in the method blank associated with the samples. However, recoveries for target analytes in the Laboratory Control Spikes were outside acceptance limits. All results are reported from the second trial. Similar results were obtained in both trials.

GC Volatiles	**AK 101**		**mg/kg**	**mg/kg**	**mg/kg**	
01450	TPH-GRO AK soil C6-C10	n.a.	N.D.	0.8	8.3	32.82
Pesticides/PCBs	**SW-846 8082A**		**mg/kg**	**mg/kg**	**mg/kg**	
10592	PCB-1016	12674-11-2	N.D. D1	0.0042	0.021	1
10592	PCB-1221	11104-28-2	N.D. D1	0.0064	0.021	1
10592	PCB-1232	11141-16-5	N.D. D1	0.0052	0.021	1
10592	PCB-1242	53469-21-9	N.D. D1	0.0052	0.021	1
10592	PCB-1248	12672-29-6	N.D. D2	0.0042	0.021	1
10592	PCB-1254	11097-69-1	N.D. D1	0.0055	0.021	1
10592	PCB-1260	11096-82-5	N.D. D1	0.0049	0.021	1
GC Petroleum Hydrocarbons	**AK 102/AK 103 04/08/02**		**mg/kg**	**mg/kg**	**mg/kg**	
01738	C10-<C25 DRO	n.a.	N.D.	6.2	15	1
01738	C25-C36 RRO	n.a.	N.D.	6.2	15	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted and the QC is again outside of the

*=This limit was used in the evaluation of the final result

Sample Description: MW-2-S-24.5-170830 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189688
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/30/2017 15:22 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
	acceptance limit. The data is reported from the second trial per client request.					
Metals		**SW-846 6010C**	**mg/kg**	**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	7.77	1.04	4.35	1
06946	Barium	7440-39-3	168	0.0479	1.09	1
06949	Cadmium	7440-43-9	N.D.	0.294	5.44	5
06951	Chromium	7440-47-3	53.8	0.185	3.27	1
06955	Lead	7439-92-1	21.0	0.653	3.27	1
06936	Selenium	7782-49-2	N.D.	1.01	4.35	1
06966	Silver	7440-22-4	0.936 J	0.261	1.09	1
		SW-846 7471B	**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.123	0.0117	0.117	1
Wet Chemistry		**SM 2540 G-1997**	**%**	**%**	**%**	
00111	Moisture	n.a.	20.8	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

Sample Comments

State of Alaska Lab Certification No. UST-061

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	R172541AA	09/11/2017 20:23	Jeremy C Giffin	60.54
06173	GC/MS - Field Preserved (Ak)	SW-846 5035	1	201724546922	08/30/2017 15:22	Client Supplied	1
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	1	201725647039	09/13/2017 11:02	Anastasia K Jaynes	n.a.
00374	GC/MS - Bulk Soil Prep	SW-846 5035A Modified	2	201725647039	09/13/2017 11:02	Anastasia K Jaynes	n.a.
12969	SIM SVOAs 8270D (microwave)	SW-846 8270D SIM	1	17256SLC026	09/15/2017 10:27	Catherine E Bachman	1
10811	BNA Soil Microwave SIM	SW-846 3546	2	17256SLC026	09/13/2017 17:45	Ashley R Transue	1
01450	TPH-GRO AK soil C6-C10	AK 101	1	17250A34A	09/07/2017 22:06	Marie D Beamenderfer	32.82
06119	GC - Field Preserved (AK-101)	AK 101	1	201724546922	08/30/2017 15:22	Client Supplied	1
10592	PCBs in Soil 8082A	SW-846 8082A	1	172480035A	09/08/2017 00:49	Kirby B Turner	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-2-S-24.5-170830 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189688
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/30/2017 15:22 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA07

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11132	PCB Soils Update IV Extraction	SW-846 3550C	1	172480035A	09/06/2017 09:00	Michelle A Newswanger	1
01738	TPH-DRO/RRO (AK)	AK 102/AK 103 04/08/02	1	172540034A	09/13/2017 05:24	Nicholas R Rossi	1
14417	MW Ext. for AK DRO/RRO Soils	SW-846 3546	2	172540034A	09/12/2017 09:00	Bradley W VanLeuven	1
06935	Arsenic	SW-846 6010C	1	172491063701	09/07/2017 14:51	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	172491063701	09/07/2017 14:51	Cindy M Gehman	1
06949	Cadmium	SW-846 6010C	1	172491063701	09/11/2017 08:47	Eric L Eby	5
06951	Chromium	SW-846 6010C	1	172491063701	09/07/2017 14:51	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	172491063701	09/07/2017 14:51	Cindy M Gehman	1
06936	Selenium	SW-846 6010C	1	172491063701	09/07/2017 14:51	Cindy M Gehman	1
06966	Silver	SW-846 6010C	1	172491063701	09/07/2017 14:51	Cindy M Gehman	1
00159	Mercury	SW-846 7471B	1	172491063801	09/07/2017 11:07	Parker D Lindstrom	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	172491063701	09/07/2017 06:40	Lisa J Cooke	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	172491063801	09/07/2017 07:50	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	17250820012B	09/07/2017 21:07	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-3-S-15-170831 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189690
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/31/2017 08:33 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA09

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		mg/kg	mg/kg	mg/kg	
10237	Acetone	67-64-1	N.D.	0.38	1.1	52.78
10237	Benzene	71-43-2	N.D.	0.027	0.27	52.78
10237	Bromodichloromethane	75-27-4	N.D.	0.055	0.27	52.78
10237	Bromoform	75-25-2	N.D.	0.055	0.27	52.78
10237	Bromomethane	74-83-9	N.D.	0.11	0.27	52.78
10237	2-Butanone	78-93-3	N.D.	0.22	0.55	52.78
10237	Carbon Disulfide	75-15-0	N.D.	0.055	0.27	52.78
10237	Carbon Tetrachloride	56-23-5	N.D.	0.055	0.27	52.78
10237	Chlorobenzene	108-90-7	N.D.	0.055	0.27	52.78
10237	Chloroethane	75-00-3	N.D.	0.11	0.27	52.78
10237	Chloroform	67-66-3	N.D.	0.055	0.27	52.78
10237	Chloromethane	74-87-3	N.D.	0.11	0.27	52.78
10237	Cyclohexane	110-82-7	N.D.	0.055	0.27	52.78
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.11	0.27	52.78
10237	Dibromochloromethane	124-48-1	N.D.	0.055	0.27	52.78
10237	1,2-Dibromoethane	106-93-4	N.D.	0.055	0.27	52.78
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.055	0.27	52.78
10237	1,3-Dichlorobenzene	541-73-1	N.D.	0.055	0.27	52.78
10237	1,4-Dichlorobenzene	106-46-7	N.D.	0.055	0.27	52.78
10237	Dichlorodifluoromethane	75-71-8	N.D.	0.11	0.27	52.78
10237	1,1-Dichloroethane	75-34-3	N.D.	0.055	0.27	52.78
10237	1,2-Dichloroethane	107-06-2	N.D.	0.055	0.27	52.78
10237	1,1-Dichloroethene	75-35-4	N.D.	0.055	0.27	52.78
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.055	0.27	52.78
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	0.055	0.27	52.78
10237	1,2-Dichloropropane	78-87-5	N.D.	0.055	0.27	52.78
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.055	0.27	52.78
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.055	0.27	52.78
10237	Ethylbenzene	100-41-4	N.D.	0.055	0.27	52.78
10237	Freon 113	76-13-1	N.D.	0.11	0.55	52.78
10237	2-Hexanone	591-78-6	N.D.	0.16	0.55	52.78
10237	Isopropylbenzene	98-82-8	N.D.	0.055	0.27	52.78
10237	Methyl Acetate	79-20-9	N.D.	0.11	0.27	52.78
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.027	0.27	52.78
10237	4-Methyl-2-pentanone	108-10-1	N.D.	0.16	0.55	52.78
10237	Methylcyclohexane	108-87-2	N.D.	0.055	0.27	52.78
10237	Methylene Chloride	75-09-2	N.D.	0.11	0.27	52.78
10237	Styrene	100-42-5	N.D.	0.055	0.27	52.78
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.055	0.27	52.78
10237	Tetrachloroethene	127-18-4	N.D.	0.055	0.27	52.78
10237	Toluene	108-88-3	N.D.	0.055	0.27	52.78
10237	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.055	0.27	52.78
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.055	0.27	52.78
10237	1,1,2-Trichloroethane	79-00-5	N.D.	0.055	0.27	52.78
10237	Trichloroethene	79-01-6	N.D.	0.055	0.27	52.78
10237	Trichlorofluoromethane	75-69-4	N.D.	0.11	0.27	52.78
10237	Vinyl Chloride	75-01-4	N.D.	0.055	0.27	52.78
10237	Xylene (Total)	1330-20-7	0.055 J	0.055	0.27	52.78

*=This limit was used in the evaluation of the final result

Sample Description: MW-3-S-15-170831 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189690
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/31/2017 08:33 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA09

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D SIM**		**mg/kg**		**mg/kg**	**mg/kg**	
12969	Acenaphthene	83-32-9	N.D.		0.00068	0.0017	1
12969	Acenaphthylene	208-96-8	N.D.		0.00034	0.0017	1
12969	Anthracene	120-12-7	0.0010	J	0.00034	0.0017	1
12969	Benzo(a)anthracene	56-55-3	0.0017		0.00068	0.0017	1
12969	Benzo(a)pyrene	50-32-8	0.0011	J	0.00068	0.0017	1
12969	Benzo(b)fluoranthene	205-99-2	0.0029		0.00068	0.0017	1
12969	Benzo(g,h,i)perylene	191-24-2	0.0019		0.00068	0.0017	1
12969	Benzo(k)fluoranthene	207-08-9	0.00091	J	0.00068	0.0017	1
12969	Chrysene	218-01-9	0.0044		0.00034	0.0017	1
12969	Dibenz(a,h)anthracene	53-70-3	N.D.		0.00068	0.0017	1
12969	Fluoranthene	206-44-0	0.0045		0.00068	0.0017	1
12969	Fluorene	86-73-7	N.D.		0.00068	0.0017	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	0.0022		0.00068	0.0017	1
12969	Naphthalene	91-20-3	0.0025		0.00068	0.0017	1
12969	Phenanthrene	85-01-8	0.0041		0.00068	0.0017	1
12969	Pyrene	129-00-0	0.0066		0.00034	0.0017	1

Target analytes were detected in the method blank associated with the samples as noted on the QC Summary. The following corrective action was taken:

The sample was originally extracted within the method required holding time and target analytes were not detected in the method blank associated with the samples. However, recoveries for target analytes in the Laboratory Control Spikes were outside acceptance limits. All results are reported from the second trial. Similar results were obtained in both trials.

GC Volatiles	**AK 101**		**mg/kg**		**mg/kg**	**mg/kg**	
01450	TPH-GRO AK soil C6-C10	n.a.	N.D.		5.1	51	248.13
Pesticides/PCBs	**SW-846 8082A**		**mg/kg**		**mg/kg**	**mg/kg**	
10592	PCB-1016	12674-11-2	N.D.	D1	0.0034	0.017	1
10592	PCB-1221	11104-28-2	N.D.	D1	0.0052	0.017	1
10592	PCB-1232	11141-16-5	N.D.	D1	0.0042	0.017	1
10592	PCB-1242	53469-21-9	N.D.	D1	0.0042	0.017	1
10592	PCB-1248	12672-29-6	N.D.	D1	0.0034	0.017	1
10592	PCB-1254	11097-69-1	N.D.	D1	0.0045	0.017	1
10592	PCB-1260	11096-82-5	0.011	JD2	0.0040	0.017	1
GC Petroleum Hydrocarbons	**AK 102/AK 103 04/08/02**		**mg/kg**		**mg/kg**	**mg/kg**	
01738	C10-<C25 DRO	n.a.	35		10	25	2
01738	C25-C36 RRO	n.a.	140		10	25	2

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted and the QC is again outside of the

*=This limit was used in the evaluation of the final result

Sample Description: MW-3-S-15-170831 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189690
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/31/2017 08:33 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA09

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
	acceptance limit. The data is reported from the second trial per client request.						
Metals		**SW-846 6010C**	**mg/kg**		**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	2.99	J	0.964	4.02	1
06946	Barium	7440-39-3	60.4		0.0442	1.00	1
06949	Cadmium	7440-43-9	N.D.		0.0542	1.00	1
06951	Chromium	7440-47-3	27.8		0.171	3.01	1
06955	Lead	7439-92-1	10.2		0.602	3.01	1
06936	Selenium	7782-49-2	N.D.		0.934	4.02	1
06966	Silver	7440-22-4	N.D.		0.241	1.00	1
		SW-846 7471B	**mg/kg**		**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0369	J	0.0098	0.0985	1
Wet Chemistry		**SM 2540 G-1997**	**%**		**%**	**%**	
00111	Moisture	n.a.	3.3		0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

State of Alaska Lab Certification No. UST-061

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	R172541AA	09/11/2017 20:48	Jeremy C Giffin	52.78
06173	GC/MS - Field Preserved (Ak)	SW-846 5035	1	201724546922	08/31/2017 08:33	Client Supplied	1
12969	SIM SVOAs 8270D (microwave)	SW-846 8270D SIM	1	17256SLC026	09/15/2017 10:57	Catherine E Bachman	1
10811	BNA Soil Microwave SIM	SW-846 3546	2	17256SLC026	09/13/2017 17:45	Ashley R Transue	1
01450	TPH-GRO AK soil C6-C10	AK 101	1	17250A34B	09/12/2017 15:07	Marie D Beamenderfer	248.13
06119	GC - Field Preserved (AK-101)	AK 101	1	201724546922	08/31/2017 08:33	Client Supplied	1
10592	PCBs in Soil 8082A	SW-846 8082A	1	172480035A	09/08/2017 01:00	Kirby B Turner	1
11132	PCB Soils Update IV Extraction	SW-846 3550C	1	172480035A	09/06/2017 09:00	Michelle A Newswanger	1
01738	TPH-DRO/RRO (AK)	AK 102/AK 103 04/08/02	1	172540034A	09/13/2017 11:07	Nicholas R Rossi	2

*=This limit was used in the evaluation of the final result

Sample Description: MW-3-S-15-170831 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189690
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/31/2017 08:33 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA09

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14417	MW Ext. for AK DRO/RRO Soils	SW-846 3546	2	172540034A	09/12/2017 09:00	Bradley W VanLeuven	1
06935	Arsenic	SW-846 6010C	1	172491063701	09/07/2017 15:27	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	172491063701	09/07/2017 15:27	Cindy M Gehman	1
06949	Cadmium	SW-846 6010C	1	172491063701	09/07/2017 15:27	Cindy M Gehman	1
06951	Chromium	SW-846 6010C	1	172491063701	09/07/2017 15:27	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	172491063701	09/07/2017 15:27	Cindy M Gehman	1
06936	Selenium	SW-846 6010C	1	172491063701	09/07/2017 15:27	Cindy M Gehman	1
06966	Silver	SW-846 6010C	1	172491063701	09/07/2017 15:27	Cindy M Gehman	1
00159	Mercury	SW-846 7471B	1	172491063801	09/07/2017 11:23	Parker D Lindstrom	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	172491063701	09/07/2017 06:40	Lisa J Cooke	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	172491063801	09/07/2017 07:50	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	17250820012B	09/07/2017 21:07	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-3-S-15-170831 LOW LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189691
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/31/2017 08:33 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	0.001 J	0.0006	0.006	1.06
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00118	Moisture	n.a.	3.3	0.50	0.50	1

Sample Comments

State of Alaska Lab Certification No. UST-061

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs Benzene only - Soil	SW-846 8260B	1	A172551AA	09/12/2017 11:14	Jennifer K Howe	1.06
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035	1	201724546922	08/31/2017 08:33	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035	2	201724546922	08/31/2017 08:33	Client Supplied	1
00118	Moisture	SM 2540 G-1997	1	17250820012B	09/07/2017 21:07	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-3-S-17.5-170831 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189692
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/31/2017 08:48 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA11

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		mg/kg	mg/kg	mg/kg	
10237	Acetone	67-64-1	N.D.	0.52	1.5	65.65
10237	Benzene	71-43-2	N.D.	0.037	0.37	65.65
10237	Bromodichloromethane	75-27-4	N.D.	0.075	0.37	65.65
10237	Bromoform	75-25-2	N.D.	0.075	0.37	65.65
10237	Bromomethane	74-83-9	N.D.	0.15	0.37	65.65
10237	2-Butanone	78-93-3	N.D.	0.30	0.75	65.65
10237	Carbon Disulfide	75-15-0	N.D.	0.075	0.37	65.65
10237	Carbon Tetrachloride	56-23-5	N.D.	0.075	0.37	65.65
10237	Chlorobenzene	108-90-7	N.D.	0.075	0.37	65.65
10237	Chloroethane	75-00-3	N.D.	0.15	0.37	65.65
10237	Chloroform	67-66-3	N.D.	0.075	0.37	65.65
10237	Chloromethane	74-87-3	N.D.	0.15	0.37	65.65
10237	Cyclohexane	110-82-7	N.D.	0.075	0.37	65.65
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.15	0.37	65.65
10237	Dibromochloromethane	124-48-1	N.D.	0.075	0.37	65.65
10237	1,2-Dibromoethane	106-93-4	N.D.	0.075	0.37	65.65
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.075	0.37	65.65
10237	1,3-Dichlorobenzene	541-73-1	N.D.	0.075	0.37	65.65
10237	1,4-Dichlorobenzene	106-46-7	N.D.	0.075	0.37	65.65
10237	Dichlorodifluoromethane	75-71-8	N.D.	0.15	0.37	65.65
10237	1,1-Dichloroethane	75-34-3	N.D.	0.075	0.37	65.65
10237	1,2-Dichloroethane	107-06-2	N.D.	0.075	0.37	65.65
10237	1,1-Dichloroethene	75-35-4	N.D.	0.075	0.37	65.65
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.075	0.37	65.65
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	0.075	0.37	65.65
10237	1,2-Dichloropropane	78-87-5	N.D.	0.075	0.37	65.65
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.075	0.37	65.65
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.075	0.37	65.65
10237	Ethylbenzene	100-41-4	N.D.	0.075	0.37	65.65
10237	Freon 113	76-13-1	N.D.	0.15	0.75	65.65
10237	2-Hexanone	591-78-6	N.D.	0.22	0.75	65.65
10237	Isopropylbenzene	98-82-8	N.D.	0.075	0.37	65.65
10237	Methyl Acetate	79-20-9	N.D.	0.15	0.37	65.65
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.037	0.37	65.65
10237	4-Methyl-2-pentanone	108-10-1	N.D.	0.22	0.75	65.65
10237	Methylcyclohexane	108-87-2	N.D.	0.075	0.37	65.65
10237	Methylene Chloride	75-09-2	N.D.	0.15	0.37	65.65
10237	Styrene	100-42-5	N.D.	0.075	0.37	65.65
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.075	0.37	65.65
10237	Tetrachloroethene	127-18-4	N.D.	0.075	0.37	65.65
10237	Toluene	108-88-3	N.D.	0.075	0.37	65.65
10237	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.075	0.37	65.65
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.075	0.37	65.65
10237	1,1,2-Trichloroethane	79-00-5	N.D.	0.075	0.37	65.65
10237	Trichloroethene	79-01-6	N.D.	0.075	0.37	65.65
10237	Trichlorofluoromethane	75-69-4	N.D.	0.15	0.37	65.65
10237	Vinyl Chloride	75-01-4	N.D.	0.075	0.37	65.65
10237	Xylene (Total)	1330-20-7	N.D.	0.075	0.37	65.65

*=This limit was used in the evaluation of the final result

Sample Description: MW-3-S-17.5-170831 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189692
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/31/2017 08:48 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA11

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D SIM**		**mg/kg**		**mg/kg**	**mg/kg**	
12969	Acenaphthene	83-32-9	0.0013	J	0.00075	0.0019	1
12969	Acenaphthylene	208-96-8	N.D.		0.00037	0.0019	1
12969	Anthracene	120-12-7	0.0028		0.00037	0.0019	1
12969	Benzo(a)anthracene	56-55-3	0.0014	J	0.00075	0.0019	1
12969	Benzo(a)pyrene	50-32-8	0.00091	J	0.00075	0.0019	1
12969	Benzo(b)fluoranthene	205-99-2	0.0022		0.00075	0.0019	1
12969	Benzo(g,h,i)perylene	191-24-2	N.D.		0.00075	0.0019	1
12969	Benzo(k)fluoranthene	207-08-9	N.D.		0.00075	0.0019	1
12969	Chrysene	218-01-9	0.0031		0.00037	0.0019	1
12969	Dibenz(a,h)anthracene	53-70-3	N.D.		0.00075	0.0019	1
12969	Fluoranthene	206-44-0	0.0050		0.00075	0.0019	1
12969	Fluorene	86-73-7	0.0011	J	0.00075	0.0019	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		0.00075	0.0019	1
12969	Naphthalene	91-20-3	0.0046		0.00075	0.0019	1
12969	Phenanthrene	85-01-8	0.0091		0.00075	0.0019	1
12969	Pyrene	129-00-0	0.0035		0.00037	0.0019	1

Target analytes were detected in the method blank associated with the samples as noted on the QC Summary. The following corrective action was taken:

The sample was originally extracted within the method required holding time and target analytes were not detected in the method blank associated with the samples. However, recoveries for target analytes in the Laboratory Control Spikes were outside acceptance limits. All results are reported from the second trial. Similar results were obtained in both trials.

GC Volatiles	**AK 101**		**mg/kg**		**mg/kg**	**mg/kg**	
01450	TPH-GRO AK soil C6-C10	n.a.	0.6	J	0.6	6.0	26.25
Pesticides/PCBs	**SW-846 8082A**		**mg/kg**		**mg/kg**	**mg/kg**	
10592	PCB-1016	12674-11-2	N.D.	D1	0.0037	0.019	1
10592	PCB-1221	11104-28-2	N.D.	D1	0.0058	0.019	1
10592	PCB-1232	11141-16-5	N.D.	D1	0.0046	0.019	1
10592	PCB-1242	53469-21-9	N.D.	D1	0.0046	0.019	1
10592	PCB-1248	12672-29-6	N.D.	D1	0.0037	0.019	1
10592	PCB-1254	11097-69-1	N.D.	D1	0.0050	0.019	1
10592	PCB-1260	11096-82-5	0.017	JD2	0.0044	0.019	1
GC Petroleum Hydrocarbons	**AK 102/AK 103 04/08/02**		**mg/kg**		**mg/kg**	**mg/kg**	
01738	C10-<C25 DRO	n.a.	40		11	27	2
01738	C25-C36 RRO	n.a.	210		11	27	2

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted and the QC is again outside of the

*=This limit was used in the evaluation of the final result

Sample Description: MW-3-S-17.5-170831 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189692
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/31/2017 08:48 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA11

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
	acceptance limit. The data is reported from the second trial per client request.					
Metals		**SW-846 6010C**	**mg/kg**	**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	4.04	0.880	3.67	1
06946	Barium	7440-39-3	66.2	0.0403	0.916	1
06949	Cadmium	7440-43-9	N.D.	0.0495	0.916	1
06951	Chromium	7440-47-3	37.5	0.156	2.75	1
06955	Lead	7439-92-1	11.0	0.550	2.75	1
06936	Selenium	7782-49-2	N.D.	0.852	3.67	1
06966	Silver	7440-22-4	0.247 J	0.220	0.916	1
		SW-846 7471B	**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0468 J	0.0110	0.110	1
Wet Chemistry		**SM 2540 G-1997**	**%**	**%**	**%**	
00111	Moisture	n.a.	12.0	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

Sample Comments

State of Alaska Lab Certification No. UST-061

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	R172541AA	09/11/2017 21:11	Jeremy C Giffin	65.65
06173	GC/MS - Field Preserved (Ak)	SW-846 5035	1	201724546922	08/31/2017 08:48	Client Supplied	1
12969	SIM SVOAs 8270D (microwave)	SW-846 8270D SIM	1	17256SLC026	09/15/2017 11:27	Catherine E Bachman	1
10811	BNA Soil Microwave SIM	SW-846 3546	2	17256SLC026	09/13/2017 17:45	Ashley R Transue	1
01450	TPH-GRO AK soil C6-C10	AK 101	1	17250A34A	09/07/2017 23:24	Marie D Beamenderfer	26.25
06119	GC - Field Preserved (AK-101)	AK 101	1	201724546922	08/31/2017 08:48	Client Supplied	1
10592	PCBs in Soil 8082A	SW-846 8082A	1	172480035A	09/08/2017 01:12	Kirby B Turner	1
11132	PCB Soils Update IV Extraction	SW-846 3550C	1	172480035A	09/06/2017 09:00	Michelle A Newswanger	1
01738	TPH-DRO/RRO (AK)	AK 102/AK 103 04/08/02	1	172540034A	09/13/2017 11:36	Nicholas R Rossi	2

*=This limit was used in the evaluation of the final result

Sample Description: MW-3-S-17.5-170831 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189692
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/31/2017 08:48 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA11

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14417	MW Ext. for AK DRO/RRO Soils	SW-846 3546	2	172540034A	09/12/2017 09:00	Bradley W VanLeuven	1
06935	Arsenic	SW-846 6010C	1	172491063701	09/07/2017 15:31	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	172491063701	09/07/2017 15:31	Cindy M Gehman	1
06949	Cadmium	SW-846 6010C	1	172491063701	09/07/2017 15:31	Cindy M Gehman	1
06951	Chromium	SW-846 6010C	1	172491063701	09/07/2017 15:31	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	172491063701	09/07/2017 15:31	Cindy M Gehman	1
06936	Selenium	SW-846 6010C	1	172491063701	09/07/2017 15:31	Cindy M Gehman	1
06966	Silver	SW-846 6010C	1	172491063701	09/07/2017 15:31	Cindy M Gehman	1
00159	Mercury	SW-846 7471B	1	172491063801	09/07/2017 11:25	Parker D Lindstrom	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	172491063701	09/07/2017 06:40	Lisa J Cooke	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	172491063801	09/07/2017 07:50	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	17250820012B	09/07/2017 21:07	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-3-S-17.5-170831 LOW LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189693
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/31/2017 08:48 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA12

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	0.83
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00118	Moisture	n.a.	12.0	0.50	0.50	1

Sample Comments

State of Alaska Lab Certification No. UST-061

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs Benzene only - Soil	SW-846 8260B	1	A172551AA	09/12/2017 12:45	Jennifer K Howe	0.83
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035	1	201724546922	08/31/2017 08:48	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035	2	201724546922	08/31/2017 08:48	Client Supplied	1
00118	Moisture	SM 2540 G-1997	1	17250820012B	09/07/2017 21:07	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-4-S-18.5-170830 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189694
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/30/2017 09:28 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA13

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		mg/kg	mg/kg	mg/kg	
10237	Acetone	67-64-1	N.D.	0.42	1.2	53.78
10237	Benzene	71-43-2	N.D.	0.030	0.30	53.78
10237	Bromodichloromethane	75-27-4	N.D.	0.061	0.30	53.78
10237	Bromoform	75-25-2	N.D.	0.061	0.30	53.78
10237	Bromomethane	74-83-9	N.D.	0.12	0.30	53.78
10237	2-Butanone	78-93-3	N.D.	0.24	0.61	53.78
10237	Carbon Disulfide	75-15-0	N.D.	0.061	0.30	53.78
10237	Carbon Tetrachloride	56-23-5	N.D.	0.061	0.30	53.78
10237	Chlorobenzene	108-90-7	N.D.	0.061	0.30	53.78
10237	Chloroethane	75-00-3	N.D.	0.12	0.30	53.78
10237	Chloroform	67-66-3	N.D.	0.061	0.30	53.78
10237	Chloromethane	74-87-3	N.D.	0.12	0.30	53.78
10237	Cyclohexane	110-82-7	N.D.	0.061	0.30	53.78
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.12	0.30	53.78
10237	Dibromochloromethane	124-48-1	N.D.	0.061	0.30	53.78
10237	1,2-Dibromoethane	106-93-4	N.D.	0.061	0.30	53.78
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.061	0.30	53.78
10237	1,3-Dichlorobenzene	541-73-1	N.D.	0.061	0.30	53.78
10237	1,4-Dichlorobenzene	106-46-7	N.D.	0.061	0.30	53.78
10237	Dichlorodifluoromethane	75-71-8	N.D.	0.12	0.30	53.78
10237	1,1-Dichloroethane	75-34-3	N.D.	0.061	0.30	53.78
10237	1,2-Dichloroethane	107-06-2	N.D.	0.061	0.30	53.78
10237	1,1-Dichloroethene	75-35-4	N.D.	0.061	0.30	53.78
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.061	0.30	53.78
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	0.061	0.30	53.78
10237	1,2-Dichloropropane	78-87-5	N.D.	0.061	0.30	53.78
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.061	0.30	53.78
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.061	0.30	53.78
10237	Ethylbenzene	100-41-4	N.D.	0.061	0.30	53.78
10237	Freon 113	76-13-1	N.D.	0.12	0.61	53.78
10237	2-Hexanone	591-78-6	N.D.	0.18	0.61	53.78
10237	Isopropylbenzene	98-82-8	N.D.	0.061	0.30	53.78
10237	Methyl Acetate	79-20-9	N.D.	0.12	0.30	53.78
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.030	0.30	53.78
10237	4-Methyl-2-pentanone	108-10-1	N.D.	0.18	0.61	53.78
10237	Methylcyclohexane	108-87-2	N.D.	0.061	0.30	53.78
10237	Methylene Chloride	75-09-2	N.D.	0.12	0.30	53.78
10237	Styrene	100-42-5	N.D.	0.061	0.30	53.78
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.061	0.30	53.78
10237	Tetrachloroethene	127-18-4	N.D.	0.061	0.30	53.78
10237	Toluene	108-88-3	N.D.	0.061	0.30	53.78
10237	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.061	0.30	53.78
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.061	0.30	53.78
10237	1,1,2-Trichloroethane	79-00-5	N.D.	0.061	0.30	53.78
10237	Trichloroethene	79-01-6	N.D.	0.061	0.30	53.78
10237	Trichlorofluoromethane	75-69-4	N.D.	0.12	0.30	53.78
10237	Vinyl Chloride	75-01-4	N.D.	0.061	0.30	53.78
10237	Xylene (Total)	1330-20-7	N.D.	0.061	0.30	53.78

*=This limit was used in the evaluation of the final result

Sample Description: MW-4-S-18.5-170830 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189694
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/30/2017 09:28 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA13

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D SIM**		**mg/kg**	**mg/kg**	**mg/kg**	
12969	Acenaphthene	83-32-9	N.D.	0.00074	0.0018	1
12969	Acenaphthylene	208-96-8	N.D.	0.00037	0.0018	1
12969	Anthracene	120-12-7	N.D.	0.00037	0.0018	1
12969	Benzo(a)anthracene	56-55-3	N.D.	0.00074	0.0018	1
12969	Benzo(a)pyrene	50-32-8	N.D.	0.00074	0.0018	1
12969	Benzo(b)fluoranthene	205-99-2	N.D.	0.00074	0.0018	1
12969	Benzo(g,h,i)perylene	191-24-2	N.D.	0.00074	0.0018	1
12969	Benzo(k)fluoranthene	207-08-9	N.D.	0.00074	0.0018	1
12969	Chrysene	218-01-9	N.D.	0.00037	0.0018	1
12969	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00074	0.0018	1
12969	Fluoranthene	206-44-0	N.D.	0.00074	0.0018	1
12969	Fluorene	86-73-7	N.D.	0.00074	0.0018	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.00074	0.0018	1
12969	Naphthalene	91-20-3	0.0031	0.00074	0.0018	1
12969	Phenanthrene	85-01-8	N.D.	0.00074	0.0018	1
12969	Pyrene	129-00-0	N.D.	0.00037	0.0018	1

Target analytes were detected in the method blank associated with the samples as noted on the QC Summary. The following corrective action was taken:

The sample was originally extracted within the method required holding time and target analytes were not detected in the method blank associated with the samples. However, recoveries for target analytes in the Laboratory Control Spikes were outside acceptance limits. All results are reported from the second trial. Similar results were obtained in both trials.

GC Volatiles	**AK 101**		**mg/kg**	**mg/kg**	**mg/kg**	
01450	TPH-GRO AK soil C6-C10	n.a.	N.D.	0.6	6.3	27.98
Pesticides/PCBs	**SW-846 8082A**		**mg/kg**	**mg/kg**	**mg/kg**	
10592	PCB-1016	12674-11-2	N.D. D1	0.0037	0.019	1
10592	PCB-1221	11104-28-2	N.D. D1	0.0057	0.019	1
10592	PCB-1232	11141-16-5	N.D. D1	0.0046	0.019	1
10592	PCB-1242	53469-21-9	N.D. D1	0.0046	0.019	1
10592	PCB-1248	12672-29-6	N.D. D1	0.0037	0.019	1
10592	PCB-1254	11097-69-1	N.D. D1	0.0049	0.019	1
10592	PCB-1260	11096-82-5	N.D. D1	0.0044	0.019	1
GC Petroleum Hydrocarbons	**AK 102/AK 103 04/08/02**		**mg/kg**	**mg/kg**	**mg/kg**	
01738	C10-<C25 DRO	n.a.	N.D.	5.5	13	1
01738	C25-C36 RRO	n.a.	N.D.	5.5	13	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted and the QC is again outside of the

*=This limit was used in the evaluation of the final result

Sample Description: MW-4-S-18.5-170830 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189694
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/30/2017 09:28 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA13

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
	acceptance limit. The data is reported from the second trial per client request.						
Metals		**SW-846 6010C**	**mg/kg**		**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	2.65	J	1.05	4.38	1
06946	Barium	7440-39-3	60.5		0.0482	1.09	1
06949	Cadmium	7440-43-9	N.D.		0.0591	1.09	1
06951	Chromium	7440-47-3	35.3		0.186	3.28	1
06955	Lead	7439-92-1	9.82		0.657	3.28	1
06936	Selenium	7782-49-2	N.D.		1.02	4.38	1
06966	Silver	7440-22-4	N.D.		0.263	1.09	1
		SW-846 7471B	**mg/kg**		**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0284	J	0.0109	0.109	1
Wet Chemistry		**SM 2540 G-1997**	**%**		**%**	**%**	
00111	Moisture	n.a.	11.3		0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

State of Alaska Lab Certification No. UST-061

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	R172541AA	09/11/2017 21:35	Jeremy C Giffin	53.78
06173	GC/MS - Field Preserved (Ak)	SW-846 5035	1	201724546922	08/30/2017 09:28	Client Supplied	1
12969	SIM SVOAs 8270D (microwave)	SW-846 8270D SIM	1	17256SLC026	09/15/2017 11:57	Catherine E Bachman	1
10811	BNA Soil Microwave SIM	SW-846 3546	2	17256SLC026	09/13/2017 17:45	Ashley R Transue	1
01450	TPH-GRO AK soil C6-C10	AK 101	1	17250A34A	09/08/2017 00:03	Marie D Beamenderfer	27.98
06119	GC - Field Preserved (AK-101)	AK 101	1	201724546922	08/30/2017 09:28	Client Supplied	1
10592	PCBs in Soil 8082A	SW-846 8082A	1	172480035A	09/08/2017 01:23	Kirby B Turner	1
11132	PCB Soils Update IV Extraction	SW-846 3550C	1	172480035A	09/06/2017 09:00	Michelle A Newswanger	1
01738	TPH-DRO/RRO (AK)	AK 102/AK 103 04/08/02	1	172540034A	09/13/2017 05:53	Nicholas R Rossi	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-4-S-18.5-170830 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189694
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/30/2017 09:28 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA13

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14417	MW Ext. for AK DRO/RRO Soils	SW-846 3546	2	172540034A	09/12/2017 09:00	Bradley W VanLeuven	1
06935	Arsenic	SW-846 6010C	1	172491063701	09/07/2017 15:34	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	172491063701	09/07/2017 15:34	Cindy M Gehman	1
06949	Cadmium	SW-846 6010C	1	172491063701	09/07/2017 15:34	Cindy M Gehman	1
06951	Chromium	SW-846 6010C	1	172491063701	09/07/2017 15:34	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	172491063701	09/07/2017 15:34	Cindy M Gehman	1
06936	Selenium	SW-846 6010C	1	172491063701	09/07/2017 15:34	Cindy M Gehman	1
06966	Silver	SW-846 6010C	1	172491063701	09/07/2017 15:34	Cindy M Gehman	1
00159	Mercury	SW-846 7471B	1	172491063801	09/07/2017 11:31	Parker D Lindstrom	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	172491063701	09/07/2017 06:40	Lisa J Cooke	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	172491063801	09/07/2017 07:50	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	17250820012B	09/07/2017 21:07	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-4-S-18.5-170830 LOW LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189695
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/30/2017 09:28 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA14

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0008	0.008	1.38
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00118	Moisture	n.a.	11.3	0.50	0.50	1

Sample Comments

State of Alaska Lab Certification No. UST-061

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs Benzene only - Soil	SW-846 8260B	1	A172551AA	09/12/2017 14:16	Jennifer K Howe	1.38
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035	1	201724546922	08/30/2017 09:28	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035	2	201724546922	08/30/2017 09:28	Client Supplied	1
00118	Moisture	SM 2540 G-1997	1	17250820012B	09/07/2017 21:07	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-4-S-23.5-170830 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189696
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/30/2017 09:50 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		mg/kg	mg/kg	mg/kg	
10237	Acetone	67-64-1	N.D.	0.56	1.6	63.01
10237	Benzene	71-43-2	N.D.	0.040	0.40	63.01
10237	Bromodichloromethane	75-27-4	N.D.	0.080	0.40	63.01
10237	Bromoform	75-25-2	N.D.	0.080	0.40	63.01
10237	Bromomethane	74-83-9	N.D.	0.16	0.40	63.01
10237	2-Butanone	78-93-3	N.D.	0.32	0.80	63.01
10237	Carbon Disulfide	75-15-0	N.D.	0.080	0.40	63.01
10237	Carbon Tetrachloride	56-23-5	N.D.	0.080	0.40	63.01
10237	Chlorobenzene	108-90-7	N.D.	0.080	0.40	63.01
10237	Chloroethane	75-00-3	N.D.	0.16	0.40	63.01
10237	Chloroform	67-66-3	N.D.	0.080	0.40	63.01
10237	Chloromethane	74-87-3	N.D.	0.16	0.40	63.01
10237	Cyclohexane	110-82-7	N.D.	0.080	0.40	63.01
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.16	0.40	63.01
10237	Dibromochloromethane	124-48-1	N.D.	0.080	0.40	63.01
10237	1,2-Dibromoethane	106-93-4	N.D.	0.080	0.40	63.01
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.080	0.40	63.01
10237	1,3-Dichlorobenzene	541-73-1	N.D.	0.080	0.40	63.01
10237	1,4-Dichlorobenzene	106-46-7	N.D.	0.080	0.40	63.01
10237	Dichlorodifluoromethane	75-71-8	N.D.	0.16	0.40	63.01
10237	1,1-Dichloroethane	75-34-3	N.D.	0.080	0.40	63.01
10237	1,2-Dichloroethane	107-06-2	N.D.	0.080	0.40	63.01
10237	1,1-Dichloroethene	75-35-4	N.D.	0.080	0.40	63.01
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.080	0.40	63.01
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	0.080	0.40	63.01
10237	1,2-Dichloropropane	78-87-5	N.D.	0.080	0.40	63.01
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.080	0.40	63.01
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.080	0.40	63.01
10237	Ethylbenzene	100-41-4	N.D.	0.080	0.40	63.01
10237	Freon 113	76-13-1	N.D.	0.16	0.80	63.01
10237	2-Hexanone	591-78-6	N.D.	0.24	0.80	63.01
10237	Isopropylbenzene	98-82-8	N.D.	0.080	0.40	63.01
10237	Methyl Acetate	79-20-9	N.D.	0.16	0.40	63.01
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.040	0.40	63.01
10237	4-Methyl-2-pentanone	108-10-1	N.D.	0.24	0.80	63.01
10237	Methylcyclohexane	108-87-2	N.D.	0.080	0.40	63.01
10237	Methylene Chloride	75-09-2	N.D.	0.16	0.40	63.01
10237	Styrene	100-42-5	N.D.	0.080	0.40	63.01
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.080	0.40	63.01
10237	Tetrachloroethene	127-18-4	N.D.	0.080	0.40	63.01
10237	Toluene	108-88-3	N.D.	0.080	0.40	63.01
10237	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.080	0.40	63.01
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.080	0.40	63.01
10237	1,1,2-Trichloroethane	79-00-5	N.D.	0.080	0.40	63.01
10237	Trichloroethene	79-01-6	N.D.	0.080	0.40	63.01
10237	Trichlorofluoromethane	75-69-4	N.D.	0.16	0.40	63.01
10237	Vinyl Chloride	75-01-4	N.D.	0.080	0.40	63.01
10237	Xylene (Total)	1330-20-7	N.D.	0.080	0.40	63.01

*=This limit was used in the evaluation of the final result

Sample Description: MW-4-S-23.5-170830 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189696
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/30/2017 09:50 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA15

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D SIM**		**mg/kg**	**mg/kg**	**mg/kg**	
12969	Acenaphthene	83-32-9	N.D.	0.0025	0.0063	1
12969	Acenaphthylene	208-96-8	0.0014 J	0.0013	0.0063	1
12969	Anthracene	120-12-7	0.0022 J	0.0013	0.0063	1
12969	Benzo(a)anthracene	56-55-3	0.0032 J	0.0025	0.0063	1
12969	Benzo(a)pyrene	50-32-8	0.0032 J	0.0025	0.0063	1
12969	Benzo(b)fluoranthene	205-99-2	0.0048 J	0.0025	0.0063	1
12969	Benzo(g,h,i)perylene	191-24-2	0.016	0.0025	0.0063	1
12969	Benzo(k)fluoranthene	207-08-9	N.D.	0.0025	0.0063	1
12969	Chrysene	218-01-9	0.0055 J	0.0013	0.0063	1
12969	Dibenz(a,h)anthracene	53-70-3	N.D.	0.0025	0.0063	1
12969	Fluoranthene	206-44-0	0.0029 J	0.0025	0.0063	1
12969	Fluorene	86-73-7	N.D.	0.0025	0.0063	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	0.0071	0.0025	0.0063	1
12969	Naphthalene	91-20-3	0.019	0.0025	0.0063	1
12969	Phenanthrene	85-01-8	0.0045 J	0.0025	0.0063	1
12969	Pyrene	129-00-0	0.0049 J	0.0013	0.0063	1

Reporting limits were raised due to limited sample volume.

Target analytes were detected in the method blank associated with the samples as noted on the QC Summary. The following corrective action was taken:

The sample was originally extracted within the method required holding time and target analytes were not detected in the method blank associated with the samples. However, recoveries for target analytes in the Laboratory Control Spikes were outside acceptance limits. All results are reported from the second trial. Similar results were obtained in both trials.

GC Volatiles	**AK 101**		**mg/kg**	**mg/kg**	**mg/kg**	
01450	TPH-GRO AK soil C6-C10	n.a.	N.D.	0.7	6.7	26.43
Pesticides/PCBs	**SW-846 8082A**		**mg/kg**	**mg/kg**	**mg/kg**	
10592	PCB-1016	12674-11-2	N.D. D1	0.0042	0.021	1
10592	PCB-1221	11104-28-2	N.D. D1	0.0064	0.021	1
10592	PCB-1232	11141-16-5	N.D. D1	0.0052	0.021	1
10592	PCB-1242	53469-21-9	N.D. D1	0.0052	0.021	1
10592	PCB-1248	12672-29-6	N.D. D1	0.0042	0.021	1
10592	PCB-1254	11097-69-1	N.D. D1	0.0055	0.021	1
10592	PCB-1260	11096-82-5	N.D. D1	0.0049	0.021	1
GC Petroleum Hydrocarbons	**AK 102/AK 103 04/08/02**		**mg/kg**	**mg/kg**	**mg/kg**	
01738	C10-<C25 DRO	n.a.	N.D.	6.8	16	1
01738	C25-C36 RRO	n.a.	N.D.	6.8	16	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC

*=This limit was used in the evaluation of the final result

Sample Description: MW-4-S-23.5-170830 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189696
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/30/2017 09:50 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA15

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
	Summary. The following corrective action was taken: The sample was re-extracted and the QC is again outside of the acceptance limit. The data is reported from the second trial per client request.						
Metals	**SW-846 6010C**		mg/kg		mg/kg	mg/kg	
06935	Arsenic	7440-38-2	4.32	J	1.13	4.72	1
06946	Barium	7440-39-3	152		0.0519	1.18	1
06949	Cadmium	7440-43-9	N.D.		0.319	5.90	5
06951	Chromium	7440-47-3	54.0		0.201	3.54	1
06955	Lead	7439-92-1	18.4		0.708	3.54	1
06936	Selenium	7782-49-2	N.D.		1.10	4.72	1
06966	Silver	7440-22-4	0.492	J	0.283	1.18	1
	SW-846 7471B		mg/kg		mg/kg	mg/kg	
00159	Mercury	7439-97-6	0.143		0.0118	0.118	1
Wet Chemistry	**SM 2540 G-1997**		%		%	%	
00111	Moisture	n.a.	20.8		0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

State of Alaska Lab Certification No. UST-061

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	R172541AA	09/11/2017 22:00	Jeremy C Giffin	63.01
06173	GC/MS - Field Preserved (Ak)	SW-846 5035	1	201724546922	08/30/2017 09:50	Client Supplied	1
12969	SIM SVOAs 8270D (microwave)	SW-846 8270D SIM	1	17256SLC026	09/15/2017 12:28	Catherine E Bachman	1
10811	BNA Soil Microwave SIM	SW-846 3546	2	17256SLC026	09/13/2017 17:45	Ashley R Transue	1
01450	TPH-GRO AK soil C6-C10	AK 101	1	17250A34A	09/07/2017 20:08	Marie D Beamenderfer	26.43
06119	GC - Field Preserved (AK-101)	AK 101	1	201724546922	08/30/2017 09:50	Client Supplied	1
10592	PCBs in Soil 8082A	SW-846 8082A	1	172480035A	09/08/2017 01:35	Kirby B Turner	1
11132	PCB Soils Update IV Extraction	SW-846 3550C	1	172480035A	09/06/2017 09:00	Michelle A Newswanger	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-4-S-23.5-170830 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189696
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/30/2017 09:50 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA15

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01738	TPH-DRO/RRO (AK)	AK 102/AK 103 04/08/02	1	172540034A	09/13/2017 06:21	Nicholas R Rossi	1
14417	MW Ext. for AK DRO/RRO Soils	SW-846 3546	2	172540034A	09/12/2017 09:00	Bradley W VanLeuven	1
06935	Arsenic	SW-846 6010C	1	172491063701	09/07/2017 15:37	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	172491063701	09/07/2017 15:37	Cindy M Gehman	1
06949	Cadmium	SW-846 6010C	1	172491063701	09/11/2017 09:06	Eric L Eby	5
06951	Chromium	SW-846 6010C	1	172491063701	09/07/2017 15:37	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	172491063701	09/07/2017 15:37	Cindy M Gehman	1
06936	Selenium	SW-846 6010C	1	172491063701	09/07/2017 15:37	Cindy M Gehman	1
06966	Silver	SW-846 6010C	1	172491063701	09/07/2017 15:37	Cindy M Gehman	1
00159	Mercury	SW-846 7471B	1	172491063801	09/07/2017 11:33	Parker D Lindstrom	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	172491063701	09/07/2017 06:40	Lisa J Cooke	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	172491063801	09/07/2017 07:50	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	17250820012B	09/07/2017 21:07	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-4-S-23.5-170830 LOW LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189697
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/30/2017 09:50 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA16

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0004	0.004	0.7
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00118	Moisture	n.a.	20.8	0.50	0.50	1

Sample Comments

State of Alaska Lab Certification No. UST-061

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs Benzene only - Soil	SW-846 8260B	1	A172551AA	09/12/2017 13:08	Jennifer K Howe	0.7
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035	1	201724546922	08/30/2017 09:50	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035	2	201724546922	08/30/2017 09:50	Client Supplied	1
00118	Moisture	SM 2540 G-1997	1	17250820012B	09/07/2017 21:07	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-1-S-2-170829 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189698
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/29/2017 11:00 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA17

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		mg/kg		mg/kg	mg/kg	
10237	Acetone	67-64-1	N.D.		0.41	1.2	56.72
10237	Benzene	71-43-2	N.D.		0.029	0.29	56.72
10237	Bromodichloromethane	75-27-4	N.D.		0.059	0.29	56.72
10237	Bromoform	75-25-2	N.D.		0.059	0.29	56.72
10237	Bromomethane	74-83-9	N.D.		0.12	0.29	56.72
10237	2-Butanone	78-93-3	N.D.		0.24	0.59	56.72
10237	Carbon Disulfide	75-15-0	N.D.		0.059	0.29	56.72
10237	Carbon Tetrachloride	56-23-5	N.D.		0.059	0.29	56.72
10237	Chlorobenzene	108-90-7	N.D.		0.059	0.29	56.72
10237	Chloroethane	75-00-3	N.D.		0.12	0.29	56.72
10237	Chloroform	67-66-3	N.D.		0.059	0.29	56.72
10237	Chloromethane	74-87-3	N.D.		0.12	0.29	56.72
10237	Cyclohexane	110-82-7	N.D.		0.059	0.29	56.72
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D.		0.12	0.29	56.72
10237	Dibromochloromethane	124-48-1	N.D.		0.059	0.29	56.72
10237	1,2-Dibromoethane	106-93-4	N.D.		0.059	0.29	56.72
10237	1,2-Dichlorobenzene	95-50-1	N.D.		0.059	0.29	56.72
10237	1,3-Dichlorobenzene	541-73-1	N.D.		0.059	0.29	56.72
10237	1,4-Dichlorobenzene	106-46-7	N.D.		0.059	0.29	56.72
10237	Dichlorodifluoromethane	75-71-8	N.D.		0.12	0.29	56.72
10237	1,1-Dichloroethane	75-34-3	N.D.		0.059	0.29	56.72
10237	1,2-Dichloroethane	107-06-2	N.D.		0.059	0.29	56.72
10237	1,1-Dichloroethene	75-35-4	N.D.		0.059	0.29	56.72
10237	cis-1,2-Dichloroethene	156-59-2	N.D.		0.059	0.29	56.72
10237	trans-1,2-Dichloroethene	156-60-5	N.D.		0.059	0.29	56.72
10237	1,2-Dichloropropane	78-87-5	N.D.		0.059	0.29	56.72
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.		0.059	0.29	56.72
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.		0.059	0.29	56.72
10237	Ethylbenzene	100-41-4	N.D.		0.059	0.29	56.72
10237	Freon 113	76-13-1	N.D.		0.12	0.59	56.72
10237	2-Hexanone	591-78-6	N.D.		0.18	0.59	56.72
10237	Isopropylbenzene	98-82-8	N.D.		0.059	0.29	56.72
10237	Methyl Acetate	79-20-9	0.14	J	0.12	0.29	56.72
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.		0.029	0.29	56.72
10237	4-Methyl-2-pentanone	108-10-1	N.D.		0.18	0.59	56.72
10237	Methylcyclohexane	108-87-2	N.D.		0.059	0.29	56.72
10237	Methylene Chloride	75-09-2	N.D.		0.12	0.29	56.72
10237	Styrene	100-42-5	N.D.		0.059	0.29	56.72
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.		0.059	0.29	56.72
10237	Tetrachloroethene	127-18-4	N.D.		0.059	0.29	56.72
10237	Toluene	108-88-3	N.D.		0.059	0.29	56.72
10237	1,2,4-Trichlorobenzene	120-82-1	N.D.		0.059	0.29	56.72
10237	1,1,1-Trichloroethane	71-55-6	N.D.		0.059	0.29	56.72
10237	1,1,2-Trichloroethane	79-00-5	N.D.		0.059	0.29	56.72
10237	Trichloroethene	79-01-6	N.D.		0.059	0.29	56.72
10237	Trichlorofluoromethane	75-69-4	N.D.		0.12	0.29	56.72
10237	Vinyl Chloride	75-01-4	N.D.		0.059	0.29	56.72
10237	Xylene (Total)	1330-20-7	N.D.		0.059	0.29	56.72

*=This limit was used in the evaluation of the final result

Sample Description: MW-1-S-2-170829 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189698
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/29/2017 11:00 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA17

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D SIM**		**mg/kg**	**mg/kg**	**mg/kg**	
12969	Acenaphthene	83-32-9	N.D.	0.00069	0.0017	1
12969	Acenaphthylene	208-96-8	N.D.	0.00034	0.0017	1
12969	Anthracene	120-12-7	0.00076 J	0.00034	0.0017	1
12969	Benzo(a)anthracene	56-55-3	0.0036	0.00069	0.0017	1
12969	Benzo(a)pyrene	50-32-8	0.0065	0.00069	0.0017	1
12969	Benzo(b)fluoranthene	205-99-2	0.012	0.00069	0.0017	1
12969	Benzo(g,h,i)perylene	191-24-2	0.0043	0.00069	0.0017	1
12969	Benzo(k)fluoranthene	207-08-9	0.0038	0.00069	0.0017	1
12969	Chrysene	218-01-9	0.0074	0.00034	0.0017	1
12969	Dibenz(a,h)anthracene	53-70-3	0.0013 J	0.00069	0.0017	1
12969	Fluoranthene	206-44-0	0.0066	0.00069	0.0017	1
12969	Fluorene	86-73-7	N.D.	0.00069	0.0017	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	0.0032	0.00069	0.0017	1
12969	Naphthalene	91-20-3	0.0022	0.00069	0.0017	1
12969	Phenanthrene	85-01-8	0.0078	0.00069	0.0017	1
12969	Pyrene	129-00-0	0.0074	0.00034	0.0017	1

The recovery for the sample internal standard is outside the QC acceptance limits. The following corrective action was taken:

The sample was re-analyzed and internal standard areas are again outside of the QC acceptance limits, indicating a matrix effect. The reported data is from the initial analysis of the sample.

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

GC Volatiles	**AK 101**		**mg/kg**	**mg/kg**	**mg/kg**	
01450	TPH-GRO AK soil C6-C10	n.a.	N.D.	0.7	7.3	35.09
Pesticides/PCBs	**SW-846 8082A**		**mg/kg**	**mg/kg**	**mg/kg**	
10592	PCB-1016	12674-11-2	N.D. D1	0.0034	0.017	1
10592	PCB-1221	11104-28-2	N.D. D1	0.0052	0.017	1
10592	PCB-1232	11141-16-5	N.D. D1	0.0042	0.017	1
10592	PCB-1242	53469-21-9	N.D. D1	0.0042	0.017	1
10592	PCB-1248	12672-29-6	N.D. D1	0.0034	0.017	1
10592	PCB-1254	11097-69-1	N.D. D1	0.0045	0.017	1
10592	PCB-1260	11096-82-5	N.D. D1	0.0040	0.017	1
GC Petroleum Hydrocarbons	**AK 102/AK 103 04/08/02**		**mg/kg**	**mg/kg**	**mg/kg**	
01738	C10-<C25 DRO	n.a.	N.D.	5.1	12	1
01738	C25-C36 RRO	n.a.	36	5.1	12	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-1-S-2-170829 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189698
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/29/2017 11:00 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA17

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
	The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was re-extracted and the QC is again outside of the acceptance limit. The data is reported from the second trial per client request.					
Metals		**SW-846 6010C**	**mg/kg**	**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	4.09	0.966	4.02	1
06946	Barium	7440-39-3	169	0.0443	1.01	1
06949	Cadmium	7440-43-9	N.D.	0.0543	1.01	1
06951	Chromium	7440-47-3	20.1	0.171	3.02	1
06955	Lead	7439-92-1	10.9	0.604	3.02	1
06936	Selenium	7782-49-2	N.D.	0.936	4.02	1
06966	Silver	7440-22-4	N.D.	0.241	1.01	1
		SW-846 7471B	**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0325 J	0.0096	0.0957	1
Wet Chemistry		**SM 2540 G-1997**	**%**	**%**	**%**	
00111	Moisture	n.a.	3.5	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

Sample Comments

State of Alaska Lab Certification No. UST-061

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	R172541AA	09/11/2017 18:22	Jeremy C Giffin	56.72
06173	GC/MS - Field Preserved (Ak)	SW-846 5035	1	201724546922	08/29/2017 11:00	Client Supplied	1
12969	SIM SVOAs 8270D (microwave)	SW-846 8270D SIM	1	17249SLB026	09/12/2017 15:43	Linda M Hartenstine	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	17249SLB026	09/06/2017 17:20	Ashley R Transue	1
01450	TPH-GRO AK soil C6-C10	AK 101	1	17250A34A	09/07/2017 18:11	Marie D Beamenderfer	35.09
06119	GC - Field Preserved (AK-101)	AK 101	1	201724546922	08/29/2017 11:00	Client Supplied	1
10592	PCBs in Soil 8082A	SW-846 8082A	1	172480035A	09/08/2017 02:09	Kirby B Turner	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-1-S-2-170829 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189698
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/29/2017 11:00 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA17

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11132	PCB Soils Update IV Extraction	SW-846 3550C	1	172480035A	09/06/2017 09:00	Michelle A Newswanger	1
01738	TPH-DRO/RRO (AK)	AK 102/AK 103 04/08/02	1	172540034A	09/13/2017 06:50	Nicholas R Rossi	1
14417	MW Ext. for AK DRO/RRO Soils	SW-846 3546	2	172540034A	09/12/2017 09:00	Bradley W VanLeuven	1
06935	Arsenic	SW-846 6010C	1	172491063701	09/07/2017 15:41	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	172491063701	09/07/2017 15:41	Cindy M Gehman	1
06949	Cadmium	SW-846 6010C	1	172491063701	09/07/2017 15:41	Cindy M Gehman	1
06951	Chromium	SW-846 6010C	1	172491063701	09/07/2017 15:41	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	172491063701	09/07/2017 15:41	Cindy M Gehman	1
06936	Selenium	SW-846 6010C	1	172491063701	09/07/2017 15:41	Cindy M Gehman	1
06966	Silver	SW-846 6010C	1	172491063701	09/07/2017 15:41	Cindy M Gehman	1
00159	Mercury	SW-846 7471B	1	172491063801	09/07/2017 11:35	Parker D Lindstrom	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	172491063701	09/07/2017 06:40	Lisa J Cooke	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	172491063801	09/07/2017 07:50	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	17250820012B	09/07/2017 21:07	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-1-S-2-170829 LOW LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189699
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/29/2017 11:00 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA18

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	0.0008 J	0.0004	0.004	0.77
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00118	Moisture	n.a.	3.5	0.50	0.50	1

Sample Comments

State of Alaska Lab Certification No. UST-061

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs Benzene only - Soil	SW-846 8260B	1	A172551AA	09/12/2017 13:31	Jennifer K Howe	0.77
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035	1	201724546922	08/29/2017 11:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035	2	201724546922	08/29/2017 11:00	Client Supplied	1
00118	Moisture	SM 2540 G-1997	1	17250820012B	09/07/2017 21:07	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-4-S-2-170829 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189700
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/29/2017 08:17 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA19

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		mg/kg	mg/kg	mg/kg	
10237	Acetone	67-64-1	N.D.	0.43	1.2	59.5
10237	Benzene	71-43-2	N.D.	0.031	0.31	59.5
10237	Bromodichloromethane	75-27-4	N.D.	0.062	0.31	59.5
10237	Bromoform	75-25-2	N.D.	0.062	0.31	59.5
10237	Bromomethane	74-83-9	N.D.	0.12	0.31	59.5
10237	2-Butanone	78-93-3	N.D.	0.25	0.62	59.5
10237	Carbon Disulfide	75-15-0	N.D.	0.062	0.31	59.5
10237	Carbon Tetrachloride	56-23-5	N.D.	0.062	0.31	59.5
10237	Chlorobenzene	108-90-7	N.D.	0.062	0.31	59.5
10237	Chloroethane	75-00-3	N.D.	0.12	0.31	59.5
10237	Chloroform	67-66-3	N.D.	0.062	0.31	59.5
10237	Chloromethane	74-87-3	N.D.	0.12	0.31	59.5
10237	Cyclohexane	110-82-7	N.D.	0.062	0.31	59.5
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.12	0.31	59.5
10237	Dibromochloromethane	124-48-1	N.D.	0.062	0.31	59.5
10237	1,2-Dibromoethane	106-93-4	N.D.	0.062	0.31	59.5
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.062	0.31	59.5
10237	1,3-Dichlorobenzene	541-73-1	N.D.	0.062	0.31	59.5
10237	1,4-Dichlorobenzene	106-46-7	N.D.	0.062	0.31	59.5
10237	Dichlorodifluoromethane	75-71-8	N.D.	0.12	0.31	59.5
10237	1,1-Dichloroethane	75-34-3	N.D.	0.062	0.31	59.5
10237	1,2-Dichloroethane	107-06-2	N.D.	0.062	0.31	59.5
10237	1,1-Dichloroethene	75-35-4	N.D.	0.062	0.31	59.5
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.062	0.31	59.5
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	0.062	0.31	59.5
10237	1,2-Dichloropropane	78-87-5	N.D.	0.062	0.31	59.5
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.062	0.31	59.5
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.062	0.31	59.5
10237	Ethylbenzene	100-41-4	N.D.	0.062	0.31	59.5
10237	Freon 113	76-13-1	N.D.	0.12	0.62	59.5
10237	2-Hexanone	591-78-6	N.D.	0.19	0.62	59.5
10237	Isopropylbenzene	98-82-8	N.D.	0.062	0.31	59.5
10237	Methyl Acetate	79-20-9	N.D.	0.12	0.31	59.5
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.031	0.31	59.5
10237	4-Methyl-2-pentanone	108-10-1	N.D.	0.19	0.62	59.5
10237	Methylcyclohexane	108-87-2	N.D.	0.062	0.31	59.5
10237	Methylene Chloride	75-09-2	N.D.	0.12	0.31	59.5
10237	Styrene	100-42-5	N.D.	0.062	0.31	59.5
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.062	0.31	59.5
10237	Tetrachloroethene	127-18-4	N.D.	0.062	0.31	59.5
10237	Toluene	108-88-3	N.D.	0.062	0.31	59.5
10237	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.062	0.31	59.5
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.062	0.31	59.5
10237	1,1,2-Trichloroethane	79-00-5	N.D.	0.062	0.31	59.5
10237	Trichloroethene	79-01-6	N.D.	0.062	0.31	59.5
10237	Trichlorofluoromethane	75-69-4	N.D.	0.12	0.31	59.5
10237	Vinyl Chloride	75-01-4	N.D.	0.062	0.31	59.5
10237	Xylene (Total)	1330-20-7	N.D.	0.062	0.31	59.5

*=This limit was used in the evaluation of the final result

Sample Description: MW-4-S-2-170829 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189700
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/29/2017 08:17 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA19

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D SIM**		**mg/kg**	**mg/kg**	**mg/kg**	
12969	Acenaphthene	83-32-9	N.D.	0.00069	0.0017	1
12969	Acenaphthylene	208-96-8	N.D.	0.00034	0.0017	1
12969	Anthracene	120-12-7	N.D.	0.00034	0.0017	1
12969	Benzo(a)anthracene	56-55-3	N.D.	0.00069	0.0017	1
12969	Benzo(a)pyrene	50-32-8	N.D.	0.00069	0.0017	1
12969	Benzo(b)fluoranthene	205-99-2	0.0031	0.00069	0.0017	1
12969	Benzo(g,h,i)perylene	191-24-2	N.D.	0.00069	0.0017	1
12969	Benzo(k)fluoranthene	207-08-9	N.D.	0.00069	0.0017	1
12969	Chrysene	218-01-9	0.0044	0.00034	0.0017	1
12969	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00069	0.0017	1
12969	Fluoranthene	206-44-0	0.00092 J	0.00069	0.0017	1
12969	Fluorene	86-73-7	N.D.	0.00069	0.0017	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.00069	0.0017	1
12969	Naphthalene	91-20-3	0.0033	0.00069	0.0017	1
12969	Phenanthrene	85-01-8	0.0081	0.00069	0.0017	1
12969	Pyrene	129-00-0	0.00060 J	0.00034	0.0017	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:

The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

GC Volatiles	**AK 101**		**mg/kg**	**mg/kg**	**mg/kg**	
01450	TPH-GRO AK soil C6-C10	n.a.	N.D.	0.4	4.1	19.89
Pesticides/PCBs	**SW-846 8082A**		**mg/kg**	**mg/kg**	**mg/kg**	
10592	PCB-1016	12674-11-2	N.D. D1	0.0034	0.018	1
10592	PCB-1221	11104-28-2	N.D. D1	0.0053	0.018	1
10592	PCB-1232	11141-16-5	N.D. D1	0.0042	0.018	1
10592	PCB-1242	53469-21-9	N.D. D1	0.0042	0.018	1
10592	PCB-1248	12672-29-6	N.D. D1	0.0034	0.018	1
10592	PCB-1254	11097-69-1	N.D. D1	0.0045	0.018	1
10592	PCB-1260	11096-82-5	N.D. D1	0.0040	0.018	1
GC Petroleum Hydrocarbons	**AK 102/AK 103 04/08/02**		**mg/kg**	**mg/kg**	**mg/kg**	
01738	C10-<C25 DRO	n.a.	N.D.	5.1	12	1
01738	C25-C36 RRO	n.a.	N.D.	5.1	12	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted and the QC is again outside of the acceptance limit. The data is reported from the second trial per client request.

*=This limit was used in the evaluation of the final result

Sample Description: MW-4-S-2-170829 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189700
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/29/2017 08:17 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA19

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Metals	**SW-846 6010C**		**mg/kg**	**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	4.59	0.697	2.90	1
06946	Barium	7440-39-3	185	0.0320	0.726	1
06949	Cadmium	7440-43-9	N.D.	0.0392	0.726	1
06951	Chromium	7440-47-3	22.1	0.123	2.18	1
06955	Lead	7439-92-1	9.07	0.436	2.18	1
06936	Selenium	7782-49-2	N.D.	0.675	2.90	1
06966	Silver	7440-22-4	0.240 J	0.174	0.726	1
	SW-846 7471B		**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0437 J	0.0096	0.0959	1
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00111	Moisture	n.a.	3.7	0.50	0.50	1

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.

Sample Comments

State of Alaska Lab Certification No. UST-061

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	R172541AA	09/11/2017 18:46	Jeremy C Giffin	59.5
06173	GC/MS - Field Preserved (Ak)	SW-846 5035	1	201724546922	08/29/2017 08:17	Client Supplied	1
12969	SIM SVOAs 8270D (microwave)	SW-846 8270D SIM	1	17249SLB026	09/12/2017 14:37	Linda M Hartenstine	1
10811	BNA Soil Microwave SIM	SW-846 3546	1	17249SLB026	09/06/2017 17:20	Ashley R Transue	1
01450	TPH-GRO AK soil C6-C10	AK 101	1	17250A34A	09/07/2017 20:47	Marie D Beamenderfer	19.89
06119	GC - Field Preserved (AK-101)	AK 101	1	201724546922	08/29/2017 08:17	Client Supplied	1
10592	PCBs in Soil 8082A	SW-846 8082A	1	172480035A	09/08/2017 02:21	Kirby B Turner	1
11132	PCB Soils Update IV Extraction	SW-846 3550C	1	172480035A	09/06/2017 09:00	Michelle A Newswanger	1
01738	TPH-DRO/RRO (AK)	AK 102/AK 103 04/08/02	1	172540034A	09/13/2017 07:19	Nicholas R Rossi	1
14417	MW Ext. for AK DRO/RRO Soils	SW-846 3546	2	172540034A	09/12/2017 09:00	Bradley W VanLeuven	1
06935	Arsenic	SW-846 6010C	1	172491063701	09/07/2017 15:44	Cindy M Gehman	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-4-S-2-170829 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189700
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/29/2017 08:17 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA19

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
06946	Barium	SW-846 6010C	1	172491063701	09/07/2017 15:44	Cindy M Gehman	1
06949	Cadmium	SW-846 6010C	1	172491063701	09/07/2017 15:44	Cindy M Gehman	1
06951	Chromium	SW-846 6010C	1	172491063701	09/07/2017 15:44	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	172491063701	09/07/2017 15:44	Cindy M Gehman	1
06936	Selenium	SW-846 6010C	1	172491063701	09/07/2017 15:44	Cindy M Gehman	1
06966	Silver	SW-846 6010C	1	172491063701	09/07/2017 15:44	Cindy M Gehman	1
00159	Mercury	SW-846 7471B	1	172491063801	09/07/2017 11:37	Parker D Lindstrom	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	172491063701	09/07/2017 06:40	Lisa J Cooke	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	172491063801	09/07/2017 07:50	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	17250820012B	09/07/2017 21:07	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-4-S-2-170829 LOW LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189701
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/29/2017 08:17 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA20

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	0.001 J	0.0006	0.006	1.12
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00118	Moisture	n.a.	3.7	0.50	0.50	1

Sample Comments

State of Alaska Lab Certification No. UST-061

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs Benzene only - Soil	SW-846 8260B	1	A172551AA	09/12/2017 13:53	Jennifer K Howe	1.12
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035	1	201724546922	08/29/2017 08:17	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035	2	201724546922	08/29/2017 08:17	Client Supplied	1
00118	Moisture	SM 2540 G-1997	1	17250820012B	09/07/2017 21:07	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: RB-1-O-170829 Grab Water
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # WW 9189702
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/29/2017 07:54 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA21

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		mg/l	mg/l	mg/l	
10335	Acetone	67-64-1	N.D.	0.006	0.020	1
10335	Benzene	71-43-2	N.D.	0.0005	0.001	1
10335	Bromodichloromethane	75-27-4	N.D.	0.0005	0.001	1
10335	Bromoform	75-25-2	N.D.	0.0005	0.004	1
10335	Bromomethane	74-83-9	N.D.	0.0005	0.001	1
10335	2-Butanone	78-93-3	N.D.	0.003	0.010	1
10335	Carbon Disulfide	75-15-0	N.D.	0.001	0.005	1
10335	Carbon Tetrachloride	56-23-5	N.D.	0.0005	0.001	1
10335	Chlorobenzene	108-90-7	N.D.	0.0005	0.001	1
10335	Chloroethane	75-00-3	N.D.	0.0005	0.001	1
10335	Chloroform	67-66-3	N.D.	0.0005	0.001	1
10335	Chloromethane	74-87-3	N.D.	0.0005	0.001	1
10335	Cyclohexane	110-82-7	N.D.	0.002	0.005	1
10335	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.002	0.005	1
10335	Dibromochloromethane	124-48-1	N.D.	0.0005	0.001	1
10335	1,2-Dibromoethane	106-93-4	N.D.	0.0005	0.001	1
10335	1,2-Dichlorobenzene	95-50-1	N.D.	0.001	0.005	1
10335	1,3-Dichlorobenzene	541-73-1	N.D.	0.001	0.005	1
10335	1,4-Dichlorobenzene	106-46-7	N.D.	0.001	0.005	1
10335	Dichlorodifluoromethane	75-71-8	N.D.	0.0005	0.001	1
10335	1,1-Dichloroethane	75-34-3	N.D.	0.0005	0.001	1
10335	1,2-Dichloroethane	107-06-2	N.D.	0.0005	0.001	1
10335	1,1-Dichloroethene	75-35-4	N.D.	0.0005	0.001	1
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0005	0.001	1
10335	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0005	0.001	1
10335	1,2-Dichloropropane	78-87-5	N.D.	0.0005	0.001	1
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.0005	0.001	1
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.0005	0.001	1
10335	Ethylbenzene	100-41-4	N.D.	0.0005	0.001	1
10335	Freon 113	76-13-1	N.D.	0.002	0.010	1
10335	2-Hexanone	591-78-6	N.D.	0.003	0.010	1
10335	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	1
10335	Methyl Acetate	79-20-9	N.D.	0.001	0.005	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.001	1
10335	4-Methyl-2-pentanone	108-10-1	N.D.	0.003	0.010	1
10335	Methylcyclohexane	108-87-2	N.D.	0.001	0.005	1
10335	Methylene Chloride	75-09-2	N.D.	0.002	0.004	1
10335	Styrene	100-42-5	N.D.	0.001	0.005	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.0005	0.001	1
10335	Tetrachloroethene	127-18-4	N.D.	0.0005	0.001	1
10335	Toluene	108-88-3	N.D.	0.0005	0.001	1
10335	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.001	0.005	1
10335	1,1,1-Trichloroethane	71-55-6	N.D.	0.0005	0.001	1
10335	1,1,2-Trichloroethane	79-00-5	N.D.	0.0005	0.001	1
10335	Trichloroethene	79-01-6	N.D.	0.0005	0.001	1
10335	Trichlorofluoromethane	75-69-4	N.D.	0.0005	0.001	1
10335	Vinyl Chloride	75-01-4	N.D.	0.0005	0.001	1
10335	Xylene (Total)	1330-20-7	N.D.	0.0005	0.001	1

*=This limit was used in the evaluation of the final result

Sample Description: **RB-1-O-170829 Grab Water**
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # WW 9189702
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/29/2017 07:54 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA21

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC Volatiles	**AK 101**		**mg/l**	**mg/l**	**mg/l**	
01438	TPH-GRO AK water C6-C10	n.a.	N.D.	0.010	0.10	1
Pesticides/PCBs	**SW-846 8082A**		**mg/l**	**mg/l**	**mg/l**	
10591	PCB-1016	12674-11-2	N.D. D1	0.000095	0.00047	1
10591	PCB-1221	11104-28-2	N.D. D1	0.000095	0.00047	1
10591	PCB-1232	11141-16-5	N.D. D1	0.00019	0.00047	1
10591	PCB-1242	53469-21-9	N.D. D1	0.000095	0.00047	1
10591	PCB-1248	12672-29-6	N.D. D1	0.000095	0.00047	1
10591	PCB-1254	11097-69-1	N.D. D1	0.000095	0.00047	1
10591	PCB-1260	11096-82-5	N.D. D1	0.00014	0.00047	1
	The holding time was not met. The analysis was added after the holding time had expired.					
GC Petroleum Hydrocarbons	**AK 102-SV 4/8/02**		**mg/l**	**mg/l**	**mg/l**	
13222	C10-<C25 DRO	n.a.	0.061 J	0.050	0.25	1
13222	C25-C36 RRO	n.a.	N.D.	0.076	0.25	1
	The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken: The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.					
Metals	**SW-846 6010C**		**mg/l**	**mg/l**	**mg/l**	
07035	Arsenic	7440-38-2	N.D.	0.0096	0.0400	1
07046	Barium	7440-39-3	0.0019 J	0.00085	0.0100	1
07049	Cadmium	7440-43-9	N.D.	0.0018	0.0100	1
07051	Chromium	7440-47-3	N.D.	0.0033	0.0300	1
07055	Lead	7439-92-1	N.D.	0.0060	0.0300	1
07036	Selenium	7782-49-2	N.D.	0.0093	0.0400	1
07066	Silver	7440-22-4	N.D.	0.0024	0.0100	1
	SW-846 7470A		**mg/l**	**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	N.D.	0.000050	0.00020	1

Sample Comments

State of Alaska Lab Certification No. UST-061

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

*=This limit was used in the evaluation of the final result

Sample Description: RB-1-O-170829 Grab Water
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # WW 9189702
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/29/2017 07:54 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA21

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	TCL 4.3 VOCs	SW-846 8260B	1	N172511AA	09/08/2017 11:54	Nicole S Lamoreaux	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N172511AA	09/08/2017 11:54	Nicole S Lamoreaux	1
01438	TPH-GRO AK water C6-C10	AK 101	1	17251A53A	09/08/2017 11:47	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	17251A53A	09/08/2017 11:47	Marie D Beamenderfer	1
10591	PCBs in Water 8082A	SW-846 8082A	1	172490005A	09/08/2017 18:03	Kirby B Turner	1
11121	PCB Waters Update IV Ext	SW-846 3510C	1	172490005A	09/06/2017 20:45	Nicholas W Shroyer	1
13222	AK 102/103-SV	AK 102-SV 4/8/02	1	172550001A	09/16/2017 21:30	Tyler O Griffin	1
13225	Mini-Ext. AK 102/103SV,DRO/RRO	AK 102-SV 4/8/02	1	172550001A	09/12/2017 16:58	Kate E Lutte	1
07035	Arsenic	SW-846 6010C	1	172541063503	09/13/2017 03:14	Jonathan J Allen	1
07046	Barium	SW-846 6010C	1	172541063503	09/13/2017 03:14	Jonathan J Allen	1
07049	Cadmium	SW-846 6010C	1	172541063503	09/13/2017 03:14	Jonathan J Allen	1
07051	Chromium	SW-846 6010C	1	172541063503	09/13/2017 03:14	Jonathan J Allen	1
07055	Lead	SW-846 6010C	1	172541063503	09/13/2017 03:14	Jonathan J Allen	1
07036	Selenium	SW-846 6010C	1	172541063503	09/13/2017 03:14	Jonathan J Allen	1
07066	Silver	SW-846 6010C	1	172541063503	09/13/2017 03:14	Jonathan J Allen	1
00259	Mercury	SW-846 7470A	1	172510571304	09/12/2017 07:57	Damary Valentin	1
10635	ICP-WW, 3005A (tot rec) - U4	SW-846 3005A	1	172541063503	09/12/2017 05:32	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	172510571304	09/11/2017 08:40	Lisa J Cooke	1

*=This limit was used in the evaluation of the final result

Sample Description: RB-2-O-170829 Grab Water
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # WW 9189703
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/29/2017 09:00 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA22

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		mg/l	mg/l	mg/l	
10335	Acetone	67-64-1	N.D.	0.006	0.020	1
10335	Benzene	71-43-2	N.D.	0.0005	0.001	1
10335	Bromodichloromethane	75-27-4	N.D.	0.0005	0.001	1
10335	Bromoform	75-25-2	N.D.	0.0005	0.004	1
10335	Bromomethane	74-83-9	N.D.	0.0005	0.001	1
10335	2-Butanone	78-93-3	N.D.	0.003	0.010	1
10335	Carbon Disulfide	75-15-0	N.D.	0.001	0.005	1
10335	Carbon Tetrachloride	56-23-5	N.D.	0.0005	0.001	1
10335	Chlorobenzene	108-90-7	N.D.	0.0005	0.001	1
10335	Chloroethane	75-00-3	N.D.	0.0005	0.001	1
10335	Chloroform	67-66-3	N.D.	0.0005	0.001	1
10335	Chloromethane	74-87-3	N.D.	0.0005	0.001	1
10335	Cyclohexane	110-82-7	N.D.	0.002	0.005	1
10335	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.002	0.005	1
10335	Dibromochloromethane	124-48-1	N.D.	0.0005	0.001	1
10335	1,2-Dibromoethane	106-93-4	N.D.	0.0005	0.001	1
10335	1,2-Dichlorobenzene	95-50-1	N.D.	0.001	0.005	1
10335	1,3-Dichlorobenzene	541-73-1	N.D.	0.001	0.005	1
10335	1,4-Dichlorobenzene	106-46-7	N.D.	0.001	0.005	1
10335	Dichlorodifluoromethane	75-71-8	N.D.	0.0005	0.001	1
10335	1,1-Dichloroethane	75-34-3	N.D.	0.0005	0.001	1
10335	1,2-Dichloroethane	107-06-2	N.D.	0.0005	0.001	1
10335	1,1-Dichloroethene	75-35-4	N.D.	0.0005	0.001	1
10335	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0005	0.001	1
10335	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0005	0.001	1
10335	1,2-Dichloropropane	78-87-5	N.D.	0.0005	0.001	1
10335	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.0005	0.001	1
10335	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.0005	0.001	1
10335	Ethylbenzene	100-41-4	N.D.	0.0005	0.001	1
10335	Freon 113	76-13-1	N.D.	0.002	0.010	1
10335	2-Hexanone	591-78-6	N.D.	0.003	0.010	1
10335	Isopropylbenzene	98-82-8	N.D.	0.001	0.005	1
10335	Methyl Acetate	79-20-9	N.D.	0.001	0.005	1
10335	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	0.001	1
10335	4-Methyl-2-pentanone	108-10-1	N.D.	0.003	0.010	1
10335	Methylcyclohexane	108-87-2	N.D.	0.001	0.005	1
10335	Methylene Chloride	75-09-2	N.D.	0.002	0.004	1
10335	Styrene	100-42-5	N.D.	0.001	0.005	1
10335	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.0005	0.001	1
10335	Tetrachloroethene	127-18-4	N.D.	0.0005	0.001	1
10335	Toluene	108-88-3	N.D.	0.0005	0.001	1
10335	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.001	0.005	1
10335	1,1,1-Trichloroethane	71-55-6	N.D.	0.0005	0.001	1
10335	1,1,2-Trichloroethane	79-00-5	N.D.	0.0005	0.001	1
10335	Trichloroethene	79-01-6	N.D.	0.0005	0.001	1
10335	Trichlorofluoromethane	75-69-4	N.D.	0.0005	0.001	1
10335	Vinyl Chloride	75-01-4	N.D.	0.0005	0.001	1
10335	Xylene (Total)	1330-20-7	N.D.	0.0005	0.001	1

*=This limit was used in the evaluation of the final result

Sample Description: RB-2-O-170829 Grab Water
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # WW 9189703
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/29/2017 09:00 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA22

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D SIM**		**mg/l**	**mg/l**	**mg/l**	
12971	Acenaphthene	83-32-9	N.D.	0.0000098	0.000049	1
12971	Acenaphthylene	208-96-8	N.D.	0.0000098	0.000049	1
12971	Anthracene	120-12-7	N.D.	0.0000098	0.000049	1
12971	Benzo(a)anthracene	56-55-3	N.D.	0.0000098	0.000049	1
12971	Benzo(a)pyrene	50-32-8	N.D.	0.0000098	0.000049	1
12971	Benzo(b)fluoranthene	205-99-2	N.D.	0.0000098	0.000049	1
12971	Benzo(g,h,i)perylene	191-24-2	N.D.	0.0000098	0.000049	1
12971	Benzo(k)fluoranthene	207-08-9	N.D.	0.0000098	0.000049	1
12971	Chrysene	218-01-9	N.D.	0.0000098	0.000049	1
12971	Dibenz(a,h)anthracene	53-70-3	N.D.	0.0000098	0.000049	1
12971	Fluoranthene	206-44-0	N.D.	0.0000098	0.000049	1
12971	Fluorene	86-73-7	N.D.	0.0000098	0.000049	1
12971	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.0000098	0.000049	1
12971	Naphthalene	91-20-3	N.D.	0.000029	0.000059	1
12971	Phenanthrene	85-01-8	N.D.	0.000029	0.000059	1
12971	Pyrene	129-00-0	N.D.	0.0000098	0.000049	1
GC Volatiles	**AK 101**		**mg/l**	**mg/l**	**mg/l**	
01438	TPH-GRO AK water C6-C10	n.a.	N.D.	0.010	0.10	1
GC Petroleum Hydrocarbons	**AK 102-SV 4/8/02**		**mg/l**	**mg/l**	**mg/l**	
13222	C10-<C25 DRO	n.a.	0.060 J	0.051	0.26	1
13222	C25-C36 RRO	n.a.	N.D.	0.077	0.26	1

The recovery for the sample surrogate(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted outside the method required holding time and the QC is compliant. All results are reported from the first trial. Similar results were obtained in both trials.

Metals	**SW-846 6010C**		**mg/l**	**mg/l**	**mg/l**	
07035	Arsenic	7440-38-2	N.D.	0.0096	0.0400	1
07046	Barium	7440-39-3	0.0166	0.00085	0.0100	1
07049	Cadmium	7440-43-9	N.D.	0.0018	0.0100	1
07051	Chromium	7440-47-3	0.0234 J	0.0033	0.0300	1
07055	Lead	7439-92-1	N.D.	0.0060	0.0300	1
07036	Selenium	7782-49-2	N.D.	0.0093	0.0400	1
07066	Silver	7440-22-4	N.D.	0.0024	0.0100	1
	SW-846 7470A		**mg/l**	**mg/l**	**mg/l**	
00259	Mercury	7439-97-6	N.D.	0.000050	0.00020	1

*=This limit was used in the evaluation of the final result

Sample Description: RB-2-O-170829 Grab Water
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # WW 9189703
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/29/2017 09:00 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA22

Sample Comments

State of Alaska Lab Certification No. UST-061

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10335	TCL 4.3 VOCs	SW-846 8260B	1	N172511AA	09/08/2017 12:18	Nicole S Lamoreaux	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	N172511AA	09/08/2017 12:18	Nicole S Lamoreaux	1
12971	SIM SVOAs 8270D, water	SW-846 8270D SIM	1	17248WAU026	09/06/2017 12:15	Linda M Hartenstine	1
10466	BNA Water Extraction SIM	SW-846 3510C	1	17248WAU026	09/05/2017 17:00	Ryan J Dowdy	1
01438	TPH-GRO AK water C6-C10	AK 101	1	17251A53A	09/08/2017 12:14	Marie D Beamenderfer	1
01146	GC VOA Water Prep	SW-846 5030B	1	17251A53A	09/08/2017 12:14	Marie D Beamenderfer	1
13222	AK 102/103-SV	AK 102-SV 4/8/02	1	172550001A	09/16/2017 21:58	Tyler O Griffin	1
13225	Mini-Ext. AK 102/103SV,DRO/RRO	AK 102-SV 4/8/02	1	172550001A	09/12/2017 16:58	Kate E Lutte	1
07035	Arsenic	SW-846 6010C	1	172541063503	09/13/2017 03:18	Jonathan J Allen	1
07046	Barium	SW-846 6010C	1	172541063503	09/13/2017 03:18	Jonathan J Allen	1
07049	Cadmium	SW-846 6010C	1	172541063503	09/13/2017 03:18	Jonathan J Allen	1
07051	Chromium	SW-846 6010C	1	172541063503	09/13/2017 03:18	Jonathan J Allen	1
07055	Lead	SW-846 6010C	1	172541063503	09/13/2017 03:18	Jonathan J Allen	1
07036	Selenium	SW-846 6010C	1	172541063503	09/13/2017 03:18	Jonathan J Allen	1
07066	Silver	SW-846 6010C	1	172541063503	09/13/2017 03:18	Jonathan J Allen	1
00259	Mercury	SW-846 7470A	1	172510571304	09/12/2017 08:03	Damary Valentin	1
10635	ICP-WW, 3005A (tot rec) - U4	SW-846 3005A	1	172541063503	09/12/2017 05:32	James L Mertz	1
05713	WW SW846 Hg Digest	SW-846 7470A	1	172510571304	09/11/2017 08:40	Lisa J Cooke	1

*=This limit was used in the evaluation of the final result

Sample Description: DUP-1-WD-170830 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189704
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/30/2017 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA23

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		mg/kg	mg/kg	mg/kg	
10237	Acetone	67-64-1	N.D.	0.50	1.4	58.29
10237	Benzene	71-43-2	N.D.	0.036	0.36	58.29
10237	Bromodichloromethane	75-27-4	N.D.	0.071	0.36	58.29
10237	Bromoform	75-25-2	N.D.	0.071	0.36	58.29
10237	Bromomethane	74-83-9	N.D.	0.14	0.36	58.29
10237	2-Butanone	78-93-3	N.D.	0.29	0.71	58.29
10237	Carbon Disulfide	75-15-0	N.D.	0.071	0.36	58.29
10237	Carbon Tetrachloride	56-23-5	N.D.	0.071	0.36	58.29
10237	Chlorobenzene	108-90-7	N.D.	0.071	0.36	58.29
10237	Chloroethane	75-00-3	N.D.	0.14	0.36	58.29
10237	Chloroform	67-66-3	N.D.	0.071	0.36	58.29
10237	Chloromethane	74-87-3	N.D.	0.14	0.36	58.29
10237	Cyclohexane	110-82-7	N.D.	0.071	0.36	58.29
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.14	0.36	58.29
10237	Dibromochloromethane	124-48-1	N.D.	0.071	0.36	58.29
10237	1,2-Dibromoethane	106-93-4	N.D.	0.071	0.36	58.29
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.071	0.36	58.29
10237	1,3-Dichlorobenzene	541-73-1	N.D.	0.071	0.36	58.29
10237	1,4-Dichlorobenzene	106-46-7	N.D.	0.071	0.36	58.29
10237	Dichlorodifluoromethane	75-71-8	N.D.	0.14	0.36	58.29
10237	1,1-Dichloroethane	75-34-3	N.D.	0.071	0.36	58.29
10237	1,2-Dichloroethane	107-06-2	N.D.	0.071	0.36	58.29
10237	1,1-Dichloroethene	75-35-4	N.D.	0.071	0.36	58.29
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.071	0.36	58.29
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	0.071	0.36	58.29
10237	1,2-Dichloropropane	78-87-5	N.D.	0.071	0.36	58.29
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.071	0.36	58.29
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.071	0.36	58.29
10237	Ethylbenzene	100-41-4	N.D.	0.071	0.36	58.29
10237	Freon 113	76-13-1	N.D.	0.14	0.71	58.29
10237	2-Hexanone	591-78-6	N.D.	0.21	0.71	58.29
10237	Isopropylbenzene	98-82-8	N.D.	0.071	0.36	58.29
10237	Methyl Acetate	79-20-9	N.D.	0.14	0.36	58.29
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.036	0.36	58.29
10237	4-Methyl-2-pentanone	108-10-1	N.D.	0.21	0.71	58.29
10237	Methylcyclohexane	108-87-2	N.D.	0.071	0.36	58.29
10237	Methylene Chloride	75-09-2	N.D.	0.14	0.36	58.29
10237	Styrene	100-42-5	N.D.	0.071	0.36	58.29
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.071	0.36	58.29
10237	Tetrachloroethene	127-18-4	N.D.	0.071	0.36	58.29
10237	Toluene	108-88-3	N.D.	0.071	0.36	58.29
10237	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.071	0.36	58.29
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.071	0.36	58.29
10237	1,1,2-Trichloroethane	79-00-5	N.D.	0.071	0.36	58.29
10237	Trichloroethene	79-01-6	N.D.	0.071	0.36	58.29
10237	Trichlorofluoromethane	75-69-4	N.D.	0.14	0.36	58.29
10237	Vinyl Chloride	75-01-4	N.D.	0.071	0.36	58.29
10237	Xylene (Total)	1330-20-7	N.D.	0.071	0.36	58.29

*=This limit was used in the evaluation of the final result

Sample Description: DUP-1-WD-170830 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189704
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/30/2017 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA23

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D SIM**		**mg/kg**	**mg/kg**	**mg/kg**	
12969	Acenaphthene	83-32-9	N.D.	0.00080	0.0020	1
12969	Acenaphthylene	208-96-8	N.D.	0.00040	0.0020	1
12969	Anthracene	120-12-7	N.D.	0.00040	0.0020	1
12969	Benzo(a)anthracene	56-55-3	N.D.	0.00080	0.0020	1
12969	Benzo(a)pyrene	50-32-8	N.D.	0.00080	0.0020	1
12969	Benzo(b)fluoranthene	205-99-2	N.D.	0.00080	0.0020	1
12969	Benzo(g,h,i)perylene	191-24-2	N.D.	0.00080	0.0020	1
12969	Benzo(k)fluoranthene	207-08-9	N.D.	0.00080	0.0020	1
12969	Chrysene	218-01-9	N.D.	0.00040	0.0020	1
12969	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00080	0.0020	1
12969	Fluoranthene	206-44-0	N.D.	0.00080	0.0020	1
12969	Fluorene	86-73-7	N.D.	0.00080	0.0020	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.00080	0.0020	1
12969	Naphthalene	91-20-3	0.0017 J	0.00080	0.0020	1
12969	Phenanthrene	85-01-8	N.D.	0.00080	0.0020	1
12969	Pyrene	129-00-0	N.D.	0.00040	0.0020	1

Target analytes were detected in the method blank associated with the samples as noted on the QC Summary. The following corrective action was taken:

The sample was originally extracted within the method required holding time and target analytes were not detected in the method blank associated with the samples. However, recoveries for target analytes in the Laboratory Control Spikes were outside acceptance limits. All results are reported from the second trial. Similar results were obtained in both trials.

GC Volatiles	**AK 101**		**mg/kg**	**mg/kg**	**mg/kg**	
01450	TPH-GRO AK soil C6-C10	n.a.	N.D.	0.8	7.5	30.81
Pesticides/PCBs	**SW-846 8082A**		**mg/kg**	**mg/kg**	**mg/kg**	
10592	PCB-1016	12674-11-2	N.D. D1	0.0040	0.021	1
10592	PCB-1221	11104-28-2	N.D. D1	0.0062	0.021	1
10592	PCB-1232	11141-16-5	N.D. D1	0.0050	0.021	1
10592	PCB-1242	53469-21-9	N.D. D1	0.0050	0.021	1
10592	PCB-1248	12672-29-6	N.D. D1	0.0040	0.021	1
10592	PCB-1254	11097-69-1	N.D. D1	0.0054	0.021	1
10592	PCB-1260	11096-82-5	N.D. D1	0.0048	0.021	1
GC Petroleum Hydrocarbons	**AK 102/AK 103 04/08/02**		**mg/kg**	**mg/kg**	**mg/kg**	
01738	C10-<C25 DRO	n.a.	N.D.	6.0	14	1
01738	C25-C36 RRO	n.a.	N.D.	6.0	14	1

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:
The sample was re-extracted and the QC is again outside of the

*=This limit was used in the evaluation of the final result

Sample Description: DUP-1-WD-170830 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189704
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/30/2017 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA23

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
	acceptance limit. The data is reported from the second trial per client request.						
Metals		**SW-846 6010C**	**mg/kg**		**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	3.02	J	1.13	4.71	1
06946	Barium	7440-39-3	53.6		0.0518	1.18	1
06949	Cadmium	7440-43-9	N.D.		0.0636	1.18	1
06951	Chromium	7440-47-3	23.6		0.200	3.53	1
06955	Lead	7439-92-1	8.95		0.706	3.53	1
06936	Selenium	7782-49-2	N.D.		1.09	4.71	1
06966	Silver	7440-22-4	N.D.		0.282	1.18	1
		SW-846 7471B	**mg/kg**		**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0435	J	0.0115	0.115	1
Wet Chemistry		**SM 2540 G-1997**	**%**		**%**	**%**	
00111	Moisture	n.a.	18.3		0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.						

Sample Comments

State of Alaska Lab Certification No. UST-061

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	R172541AA	09/11/2017 22:24	Jeremy C Giffin	58.29
06173	GC/MS - Field Preserved (Ak)	SW-846 5035	1	201724546922	08/30/2017 00:00	Client Supplied	1
12969	SIM SVOAs 8270D (microwave)	SW-846 8270D SIM	1	17256SLC026	09/15/2017 13:58	Catherine E Bachman	1
10811	BNA Soil Microwave SIM	SW-846 3546	2	17256SLC026	09/13/2017 17:45	Ashley R Transue	1
01450	TPH-GRO AK soil C6-C10	AK 101	1	17250A34A	09/07/2017 21:27	Marie D Beamenderfer	30.81
06119	GC - Field Preserved (AK-101)	AK 101	1	201724546922	08/30/2017 00:00	Client Supplied	1
10592	PCBs in Soil 8082A	SW-846 8082A	1	172480035A	09/08/2017 02:32	Kirby B Turner	1
11132	PCB Soils Update IV Extraction	SW-846 3550C	1	172480035A	09/06/2017 09:00	Michelle A Newswanger	1
01738	TPH-DRO/RRO (AK)	AK 102/AK 103 04/08/02	1	172540034A	09/13/2017 07:47	Nicholas R Rossi	1

*=This limit was used in the evaluation of the final result

Sample Description: DUP-1-WD-170830 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189704
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/30/2017 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA23

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14417	MW Ext. for AK DRO/RRO Soils	SW-846 3546	2	172540034A	09/12/2017 09:00	Bradley W VanLeuven	1
06935	Arsenic	SW-846 6010C	1	172491063701	09/07/2017 15:48	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	172491063701	09/07/2017 15:48	Cindy M Gehman	1
06949	Cadmium	SW-846 6010C	1	172491063701	09/07/2017 15:48	Cindy M Gehman	1
06951	Chromium	SW-846 6010C	1	172491063701	09/07/2017 15:48	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	172491063701	09/07/2017 15:48	Cindy M Gehman	1
06936	Selenium	SW-846 6010C	1	172491063701	09/07/2017 15:48	Cindy M Gehman	1
06966	Silver	SW-846 6010C	1	172491063701	09/07/2017 15:48	Cindy M Gehman	1
00159	Mercury	SW-846 7471B	1	172491063801	09/07/2017 11:39	Parker D Lindstrom	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	172491063701	09/07/2017 06:40	Lisa J Cooke	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	172491063801	09/07/2017 07:50	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	17250820012B	09/07/2017 21:07	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: DUP-1-WD-170830 LOW LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189705
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/30/2017 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA24

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0005	0.005	0.76
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00118	Moisture	n.a.	18.3	0.50	0.50	1

Sample Comments

State of Alaska Lab Certification No. UST-061

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs Benzene only - Soil	SW-846 8260B	1	A172551AA	09/12/2017 14:39	Jennifer K Howe	0.76
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035	1	201724546922	08/30/2017 00:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035	2	201724546922	08/30/2017 00:00	Client Supplied	1
00118	Moisture	SM 2540 G-1997	1	17250820012B	09/07/2017 21:07	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: DUP-2-WD-170831 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189706
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/31/2017 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA25

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		mg/kg	mg/kg	mg/kg	
10237	Acetone	67-64-1	N.D.	0.33	0.96	46.18
10237	Benzene	71-43-2	N.D.	0.024	0.24	46.18
10237	Bromodichloromethane	75-27-4	N.D.	0.048	0.24	46.18
10237	Bromoform	75-25-2	N.D.	0.048	0.24	46.18
10237	Bromomethane	74-83-9	N.D.	0.096	0.24	46.18
10237	2-Butanone	78-93-3	N.D.	0.19	0.48	46.18
10237	Carbon Disulfide	75-15-0	N.D.	0.048	0.24	46.18
10237	Carbon Tetrachloride	56-23-5	N.D.	0.048	0.24	46.18
10237	Chlorobenzene	108-90-7	N.D.	0.048	0.24	46.18
10237	Chloroethane	75-00-3	N.D.	0.096	0.24	46.18
10237	Chloroform	67-66-3	N.D.	0.048	0.24	46.18
10237	Chloromethane	74-87-3	N.D.	0.096	0.24	46.18
10237	Cyclohexane	110-82-7	N.D.	0.048	0.24	46.18
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.096	0.24	46.18
10237	Dibromochloromethane	124-48-1	N.D.	0.048	0.24	46.18
10237	1,2-Dibromoethane	106-93-4	N.D.	0.048	0.24	46.18
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.048	0.24	46.18
10237	1,3-Dichlorobenzene	541-73-1	N.D.	0.048	0.24	46.18
10237	1,4-Dichlorobenzene	106-46-7	N.D.	0.048	0.24	46.18
10237	Dichlorodifluoromethane	75-71-8	N.D.	0.096	0.24	46.18
10237	1,1-Dichloroethane	75-34-3	N.D.	0.048	0.24	46.18
10237	1,2-Dichloroethane	107-06-2	N.D.	0.048	0.24	46.18
10237	1,1-Dichloroethene	75-35-4	N.D.	0.048	0.24	46.18
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.048	0.24	46.18
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	0.048	0.24	46.18
10237	1,2-Dichloropropane	78-87-5	N.D.	0.048	0.24	46.18
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.048	0.24	46.18
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.048	0.24	46.18
10237	Ethylbenzene	100-41-4	N.D.	0.048	0.24	46.18
10237	Freon 113	76-13-1	N.D.	0.096	0.48	46.18
10237	2-Hexanone	591-78-6	N.D.	0.14	0.48	46.18
10237	Isopropylbenzene	98-82-8	N.D.	0.048	0.24	46.18
10237	Methyl Acetate	79-20-9	N.D.	0.096	0.24	46.18
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.024	0.24	46.18
10237	4-Methyl-2-pentanone	108-10-1	N.D.	0.14	0.48	46.18
10237	Methylcyclohexane	108-87-2	N.D.	0.048	0.24	46.18
10237	Methylene Chloride	75-09-2	N.D.	0.096	0.24	46.18
10237	Styrene	100-42-5	N.D.	0.048	0.24	46.18
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.048	0.24	46.18
10237	Tetrachloroethene	127-18-4	N.D.	0.048	0.24	46.18
10237	Toluene	108-88-3	N.D.	0.048	0.24	46.18
10237	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.048	0.24	46.18
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.048	0.24	46.18
10237	1,1,2-Trichloroethane	79-00-5	N.D.	0.048	0.24	46.18
10237	Trichloroethene	79-01-6	N.D.	0.048	0.24	46.18
10237	Trichlorofluoromethane	75-69-4	N.D.	0.096	0.24	46.18
10237	Vinyl Chloride	75-01-4	N.D.	0.048	0.24	46.18
10237	Xylene (Total)	1330-20-7	N.D.	0.048	0.24	46.18

*=This limit was used in the evaluation of the final result

Sample Description: DUP-2-WD-170831 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189706
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/31/2017 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA25

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270D SIM**		**mg/kg**		**mg/kg**	**mg/kg**	
12969	Acenaphthene	83-32-9	N.D.		0.00068	0.0017	1
12969	Acenaphthylene	208-96-8	N.D.		0.00034	0.0017	1
12969	Anthracene	120-12-7	0.00056	J	0.00034	0.0017	1
12969	Benzo(a)anthracene	56-55-3	N.D.		0.00068	0.0017	1
12969	Benzo(a)pyrene	50-32-8	N.D.		0.00068	0.0017	1
12969	Benzo(b)fluoranthene	205-99-2	0.0024		0.00068	0.0017	1
12969	Benzo(g,h,i)perylene	191-24-2	0.0021		0.00068	0.0017	1
12969	Benzo(k)fluoranthene	207-08-9	0.00074	J	0.00068	0.0017	1
12969	Chrysene	218-01-9	0.0028		0.00034	0.0017	1
12969	Dibenz(a,h)anthracene	53-70-3	N.D.		0.00068	0.0017	1
12969	Fluoranthene	206-44-0	N.D.		0.00068	0.0017	1
12969	Fluorene	86-73-7	N.D.		0.00068	0.0017	1
12969	Indeno(1,2,3-cd)pyrene	193-39-5	0.0023		0.00068	0.0017	1
12969	Naphthalene	91-20-3	0.0045		0.00068	0.0017	1
12969	Phenanthrene	85-01-8	0.00075	J	0.00068	0.0017	1
12969	Pyrene	129-00-0	0.0013	J	0.00034	0.0017	1

Target analytes were detected in the method blank associated with the samples as noted on the QC Summary. The following corrective action was taken:

The sample was originally extracted within the method required holding time and target analytes were not detected in the method blank associated with the samples. However, recoveries for target analytes in the Laboratory Control Spikes were outside acceptance limits. All results are reported from the second trial. Similar results were obtained in both trials.

GC Volatiles	**AK 101**		**mg/kg**		**mg/kg**	**mg/kg**	
01450	TPH-GRO AK soil C6-C10	n.a.	N.D.		11	110	525.25

Reporting limits were raised due to sample foaming.

Pesticides/PCBs	**SW-846 8082A**		**mg/kg**		**mg/kg**	**mg/kg**	
10592	PCB-1016	12674-11-2	N.D.	D1	0.0034	0.017	1
10592	PCB-1221	11104-28-2	N.D.	D1	0.0052	0.017	1
10592	PCB-1232	11141-16-5	N.D.	D1	0.0042	0.017	1
10592	PCB-1242	53469-21-9	N.D.	D1	0.0042	0.017	1
10592	PCB-1248	12672-29-6	N.D.	D1	0.0034	0.017	1
10592	PCB-1254	11097-69-1	N.D.	D1	0.0045	0.017	1
10592	PCB-1260	11096-82-5	0.018	D2	0.0040	0.017	1

GC Petroleum Hydrocarbons	**AK 102/AK 103 04/08/02**		**mg/kg**		**mg/kg**	**mg/kg**	
01738	C10-<C25 DRO	n.a.	51		10	24	2
01738	C25-C36 RRO	n.a.	220		10	24	2

The recovery for a target analyte(s) in the Laboratory Control Spike(s) is outside the QC acceptance limits as noted on the QC Summary. The following corrective action was taken:

*=This limit was used in the evaluation of the final result

Sample Description: DUP-2-WD-170831 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189706
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/31/2017 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA25

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
	The sample was re-extracted and the QC is again outside of the acceptance limit. The data is reported from the second trial per client request.					
Metals		**SW-846 6010C**	**mg/kg**	**mg/kg**	**mg/kg**	
06935	Arsenic	7440-38-2	4.53	0.758	3.16	1
06946	Barium	7440-39-3	49.6	0.0347	0.789	1
06949	Cadmium	7440-43-9	N.D.	0.0426	0.789	1
06951	Chromium	7440-47-3	26.9	0.134	2.37	1
06955	Lead	7439-92-1	9.32	0.474	2.37	1
06936	Selenium	7782-49-2	N.D.	0.734	3.16	1
06966	Silver	7440-22-4	0.228 J	0.189	0.789	1
		SW-846 7471B	**mg/kg**	**mg/kg**	**mg/kg**	
00159	Mercury	7439-97-6	0.0344 J	0.0098	0.0985	1
Wet Chemistry		**SM 2540 G-1997**	**%**	**%**	**%**	
00111	Moisture	n.a.	3.3	0.50	0.50	1
	Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.					

Sample Comments

State of Alaska Lab Certification No. UST-061

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	R172541AA	09/11/2017 22:48	Jeremy C Giffin	46.18
06173	GC/MS - Field Preserved (Ak)	SW-846 5035	1	201724546922	08/31/2017 00:00	Client Supplied	1
12969	SIM SVOAs 8270D (microwave)	SW-846 8270D SIM	1	17256SLC026	09/15/2017 14:29	Catherine E Bachman	1
10811	BNA Soil Microwave SIM	SW-846 3546	2	17256SLC026	09/13/2017 17:45	Ashley R Transue	1
01450	TPH-GRO AK soil C6-C10	AK 101	1	17250A34A	09/07/2017 14:37	Marie D Beamenderfer	525.25
06119	GC - Field Preserved (AK-101)	AK 101	1	201724546922	08/31/2017 00:00	Client Supplied	1
10592	PCBs in Soil 8082A	SW-846 8082A	1	172480035A	09/08/2017 02:44	Kirby B Turner	1
11132	PCB Soils Update IV Extraction	SW-846 3550C	1	172480035A	09/06/2017 09:00	Michelle A Newswanger	1
01738	TPH-DRO/RRO (AK)	AK 102/AK 103 04/08/02	1	172540034A	09/13/2017 12:04	Nicholas R Rossi	2

*=This limit was used in the evaluation of the final result

Sample Description: DUP-2-WD-170831 HIGH LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189706
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/31/2017 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA25

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
14417	MW Ext. for AK DRO/RRO Soils	SW-846 3546	2	172540034A	09/12/2017 09:00	Bradley W VanLeuven	1
06935	Arsenic	SW-846 6010C	1	172491063701	09/07/2017 15:51	Cindy M Gehman	1
06946	Barium	SW-846 6010C	1	172491063701	09/07/2017 15:51	Cindy M Gehman	1
06949	Cadmium	SW-846 6010C	1	172491063701	09/07/2017 15:51	Cindy M Gehman	1
06951	Chromium	SW-846 6010C	1	172491063701	09/07/2017 15:51	Cindy M Gehman	1
06955	Lead	SW-846 6010C	1	172491063701	09/07/2017 15:51	Cindy M Gehman	1
06936	Selenium	SW-846 6010C	1	172491063701	09/07/2017 15:51	Cindy M Gehman	1
06966	Silver	SW-846 6010C	1	172491063701	09/07/2017 15:51	Cindy M Gehman	1
00159	Mercury	SW-846 7471B	1	172491063801	09/07/2017 11:41	Parker D Lindstrom	1
10637	ICP/ICPMS-SW, 3050B - U4	SW-846 3050B	1	172491063701	09/07/2017 06:40	Lisa J Cooke	1
10638	Hg - SW, 7471B - U4	SW-846 7471B	1	172491063801	09/07/2017 07:50	Lisa J Cooke	1
00111	Moisture	SM 2540 G-1997	1	17250820012B	09/07/2017 21:07	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: DUP-2-WD-170831 LOW LEVEL Grab Soil
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # SW 9189707
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/31/2017 by OY

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA26

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	**mg/kg**	
10237	Benzene	71-43-2	N.D.	0.0004	0.004	0.7
Wet Chemistry	**SM 2540 G-1997**		**%**	**%**	**%**	
00118	Moisture	n.a.	3.3	0.50	0.50	1

Sample Comments

State of Alaska Lab Certification No. UST-061

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs Benzene only - Soil	SW-846 8260B	1	A172551AA	09/12/2017 15:02	Jennifer K Howe	0.7
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035	1	201724546922	08/31/2017 00:00	Client Supplied	1
02392	GC/MS - Field Preserved NaHSO4	SW-846 5035	2	201724546922	08/31/2017 00:00	Client Supplied	1
00118	Moisture	SM 2540 G-1997	1	17250820012B	09/07/2017 21:07	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Sample Description: QA-1-T-170831 Methanol
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # G5 9189708
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/31/2017

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA27

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		mg/kg	mg/kg	mg/kg	
10237	Acetone	67-64-1	N.D.	0.35	1.0	50
10237	Benzene	71-43-2	N.D.	0.025	0.25	50
10237	Bromodichloromethane	75-27-4	N.D.	0.050	0.25	50
10237	Bromoform	75-25-2	N.D.	0.050	0.25	50
10237	Bromomethane	74-83-9	N.D.	0.10	0.25	50
10237	2-Butanone	78-93-3	N.D.	0.20	0.50	50
10237	Carbon Disulfide	75-15-0	N.D.	0.050	0.25	50
10237	Carbon Tetrachloride	56-23-5	N.D.	0.050	0.25	50
10237	Chlorobenzene	108-90-7	N.D.	0.050	0.25	50
10237	Chloroethane	75-00-3	N.D.	0.10	0.25	50
10237	Chloroform	67-66-3	N.D.	0.050	0.25	50
10237	Chloromethane	74-87-3	N.D.	0.10	0.25	50
10237	Cyclohexane	110-82-7	N.D.	0.050	0.25	50
10237	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.10	0.25	50
10237	Dibromochloromethane	124-48-1	N.D.	0.050	0.25	50
10237	1,2-Dibromoethane	106-93-4	N.D.	0.050	0.25	50
10237	1,2-Dichlorobenzene	95-50-1	N.D.	0.050	0.25	50
10237	1,3-Dichlorobenzene	541-73-1	N.D.	0.050	0.25	50
10237	1,4-Dichlorobenzene	106-46-7	N.D.	0.050	0.25	50
10237	Dichlorodifluoromethane	75-71-8	N.D.	0.10	0.25	50
10237	1,1-Dichloroethane	75-34-3	N.D.	0.050	0.25	50
10237	1,2-Dichloroethane	107-06-2	N.D.	0.050	0.25	50
10237	1,1-Dichloroethene	75-35-4	N.D.	0.050	0.25	50
10237	cis-1,2-Dichloroethene	156-59-2	N.D.	0.050	0.25	50
10237	trans-1,2-Dichloroethene	156-60-5	N.D.	0.050	0.25	50
10237	1,2-Dichloropropane	78-87-5	N.D.	0.050	0.25	50
10237	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.050	0.25	50
10237	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.050	0.25	50
10237	Ethylbenzene	100-41-4	N.D.	0.050	0.25	50
10237	Freon 113	76-13-1	N.D.	0.10	0.50	50
10237	2-Hexanone	591-78-6	N.D.	0.15	0.50	50
10237	Isopropylbenzene	98-82-8	N.D.	0.050	0.25	50
10237	Methyl Acetate	79-20-9	N.D.	0.10	0.25	50
10237	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.025	0.25	50
10237	4-Methyl-2-pentanone	108-10-1	N.D.	0.15	0.50	50
10237	Methylcyclohexane	108-87-2	N.D.	0.050	0.25	50
10237	Methylene Chloride	75-09-2	N.D.	0.10	0.25	50
10237	Styrene	100-42-5	N.D.	0.050	0.25	50
10237	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.050	0.25	50
10237	Tetrachloroethene	127-18-4	N.D.	0.050	0.25	50
10237	Toluene	108-88-3	N.D.	0.050	0.25	50
10237	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.050	0.25	50
10237	1,1,1-Trichloroethane	71-55-6	N.D.	0.050	0.25	50
10237	1,1,2-Trichloroethane	79-00-5	N.D.	0.050	0.25	50
10237	Trichloroethene	79-01-6	N.D.	0.050	0.25	50
10237	Trichlorofluoromethane	75-69-4	N.D.	0.10	0.25	50
10237	Vinyl Chloride	75-01-4	N.D.	0.050	0.25	50
10237	Xylene (Total)	1330-20-7	N.D.	0.050	0.25	50

*=This limit was used in the evaluation of the final result

Sample Description: QA-1-T-170831 Methanol
Facility# 306449
2730 Spendard Road - Anchorage, AK

ELLE Sample # G5 9189708
ELLE Group # 1845654
Account # 10880

Project Name: 306449

Collected: 08/31/2017

Submitted: 09/01/2017 09:55
Reported: 09/22/2017 15:43

ChevronTexaco
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SRA27

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit*	As Received Limit of Quantitation	Dilution Factor
GC Volatiles	**AK 101**		**mg/kg**	**mg/kg**	**mg/kg**	
01450	TPH-GRO AK soil C6-C10	n.a.	N.D.	0.5	5.0	25

Sample Comments

State of Alaska Lab Certification No. UST-061

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10237	VOCs- Solid by 8260B	SW-846 8260B	1	R172541AA	09/11/2017 23:37	Jeremy C Giffin	50
06173	GC/MS - Field Preserved (Ak)	SW-846 5035	1	201724546922	08/31/2017 00:00	Client Supplied	1
01450	TPH-GRO AK soil C6-C10	AK 101	1	17250A34A	09/07/2017 19:29	Marie D Beamenderfer	25
06119	GC - Field Preserved (AK-101)	AK 101	1	201724546922	08/31/2017 00:00	Client Supplied	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: ChevronTexaco
Reported: 09/22/2017 15:43

Group Number: 1845654

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	MDL**	LOQ
	mg/kg	mg/kg	mg/kg
Batch number: A172551AA	Sample number(s): 9189683,9189691,9189693,9189695,9189697,9189699,9189701,9189705,9189707		
Benzene	N.D.	0.0005	0.005
Batch number: R172541AA	Sample number(s): 9189682,9189684,9189686,9189688,9189690,9189692,9189694,9189696,9189698,9189700,9189704,9189706,9189708		
Acetone	N.D.	0.35	1.0
Benzene	N.D.	0.025	0.25
Bromodichloromethane	N.D.	0.050	0.25
Bromoform	N.D.	0.050	0.25
Bromomethane	N.D.	0.10	0.25
2-Butanone	N.D.	0.20	0.50
Carbon Disulfide	N.D.	0.050	0.25
Carbon Tetrachloride	N.D.	0.050	0.25
Chlorobenzene	N.D.	0.050	0.25
Chloroethane	N.D.	0.10	0.25
Chloroform	N.D.	0.050	0.25
Chloromethane	N.D.	0.10	0.25
Cyclohexane	N.D.	0.050	0.25
1,2-Dibromo-3-chloropropane	N.D.	0.10	0.25
Dibromochloromethane	N.D.	0.050	0.25
1,2-Dibromoethane	N.D.	0.050	0.25
1,2-Dichlorobenzene	N.D.	0.050	0.25
1,3-Dichlorobenzene	N.D.	0.050	0.25
1,4-Dichlorobenzene	N.D.	0.050	0.25
Dichlorodifluoromethane	N.D.	0.10	0.25
1,1-Dichloroethane	N.D.	0.050	0.25
1,2-Dichloroethane	N.D.	0.050	0.25
1,1-Dichloroethene	N.D.	0.050	0.25
cis-1,2-Dichloroethene	N.D.	0.050	0.25
trans-1,2-Dichloroethene	N.D.	0.050	0.25
1,2-Dichloropropane	N.D.	0.050	0.25
cis-1,3-Dichloropropene	N.D.	0.050	0.25
trans-1,3-Dichloropropene	N.D.	0.050	0.25
Ethylbenzene	N.D.	0.050	0.25
Freon 113	N.D.	0.10	0.50
2-Hexanone	N.D.	0.15	0.50
Isopropylbenzene	N.D.	0.050	0.25
Methyl Acetate	N.D.	0.10	0.25
Methyl Tertiary Butyl Ether	N.D.	0.025	0.25
4-Methyl-2-pentanone	N.D.	0.15	0.50

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: ChevronTexaco
Reported: 09/22/2017 15:43

Group Number: 1845654

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	mg/kg	mg/kg	mg/kg
Methylcyclohexane	N.D.	0.050	0.25
Methylene Chloride	N.D.	0.10	0.25
Styrene	N.D.	0.050	0.25
1,1,2,2-Tetrachloroethane	N.D.	0.050	0.25
Tetrachloroethene	N.D.	0.050	0.25
Toluene	N.D.	0.050	0.25
1,2,4-Trichlorobenzene	N.D.	0.050	0.25
1,1,1-Trichloroethane	N.D.	0.050	0.25
1,1,2-Trichloroethane	N.D.	0.050	0.25
Trichloroethene	N.D.	0.050	0.25
Trichlorofluoromethane	N.D.	0.10	0.25
Vinyl Chloride	N.D.	0.050	0.25
Xylene (Total)	N.D.	0.050	0.25
	mg/l	mg/l	mg/l
Batch number: N172511AA	Sample number(s): 9189702-9189703		
Acetone	N.D.	0.006	0.020
Benzene	N.D.	0.0005	0.001
Bromodichloromethane	N.D.	0.0005	0.001
Bromoform	N.D.	0.0005	0.004
Bromomethane	N.D.	0.0005	0.001
2-Butanone	N.D.	0.003	0.010
Carbon Disulfide	N.D.	0.001	0.005
Carbon Tetrachloride	N.D.	0.0005	0.001
Chlorobenzene	N.D.	0.0005	0.001
Chloroethane	N.D.	0.0005	0.001
Chloroform	N.D.	0.0005	0.001
Chloromethane	N.D.	0.0005	0.001
Cyclohexane	N.D.	0.002	0.005
1,2-Dibromo-3-chloropropane	N.D.	0.002	0.005
Dibromochloromethane	N.D.	0.0005	0.001
1,2-Dibromoethane	N.D.	0.0005	0.001
1,2-Dichlorobenzene	N.D.	0.001	0.005
1,3-Dichlorobenzene	N.D.	0.001	0.005
1,4-Dichlorobenzene	N.D.	0.001	0.005
Dichlorodifluoromethane	N.D.	0.0005	0.001
1,1-Dichloroethane	N.D.	0.0005	0.001
1,2-Dichloroethane	N.D.	0.0005	0.001
1,1-Dichloroethene	N.D.	0.0005	0.001
cis-1,2-Dichloroethene	N.D.	0.0005	0.001
trans-1,2-Dichloroethene	N.D.	0.0005	0.001
1,2-Dichloropropane	N.D.	0.0005	0.001
cis-1,3-Dichloropropene	N.D.	0.0005	0.001
trans-1,3-Dichloropropene	N.D.	0.0005	0.001
Ethylbenzene	N.D.	0.0005	0.001
Freon 113	N.D.	0.002	0.010
2-Hexanone	N.D.	0.003	0.010
Isopropylbenzene	N.D.	0.001	0.005
Methyl Acetate	N.D.	0.001	0.005

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: ChevronTexaco
Reported: 09/22/2017 15:43

Group Number: 1845654

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	mg/l	mg/l	mg/l
Methyl Tertiary Butyl Ether	N.D.	0.0005	0.001
4-Methyl-2-pentanone	N.D.	0.003	0.010
Methylcyclohexane	N.D.	0.001	0.005
Methylene Chloride	N.D.	0.002	0.004
Styrene	N.D.	0.001	0.005
1,1,2,2-Tetrachloroethane	N.D.	0.0005	0.001
Tetrachloroethene	N.D.	0.0005	0.001
Toluene	N.D.	0.0005	0.001
1,2,4-Trichlorobenzene	N.D.	0.001	0.005
1,1,1-Trichloroethane	N.D.	0.0005	0.001
1,1,2-Trichloroethane	N.D.	0.0005	0.001
Trichloroethene	N.D.	0.0005	0.001
Trichlorofluoromethane	N.D.	0.0005	0.001
Vinyl Chloride	N.D.	0.0005	0.001
Xylene (Total)	N.D.	0.0005	0.001
	mg/kg	mg/kg	mg/kg
Batch number: 17249SLB026	Sample number(s): 9189698,9189700		
Acenaphthene	N.D.	0.00067	0.0017
Acenaphthylene	N.D.	0.00033	0.0017
Anthracene	N.D.	0.00033	0.0017
Benzo(a)anthracene	N.D.	0.00067	0.0017
Benzo(a)pyrene	N.D.	0.00067	0.0017
Benzo(b)fluoranthene	N.D.	0.00067	0.0017
Benzo(g,h,i)perylene	N.D.	0.00067	0.0017
Benzo(k)fluoranthene	N.D.	0.00067	0.0017
Chrysene	N.D.	0.00033	0.0017
Dibenz(a,h)anthracene	N.D.	0.00067	0.0017
Fluoranthene	N.D.	0.00067	0.0017
Fluorene	N.D.	0.00067	0.0017
Indeno(1,2,3-cd)pyrene	N.D.	0.00067	0.0017
Naphthalene	N.D.	0.00067	0.0017
Phenanthrene	N.D.	0.00067	0.0017
Pyrene	N.D.	0.00033	0.0017
Batch number: 17256SLC026	Sample number(s): 9189682,9189684,9189686,9189688,9189690,9189692,9189694,9189696,9189704,9189706		
Acenaphthene	N.D.	0.00067	0.0017
Acenaphthylene	N.D.	0.00033	0.0017
Anthracene	0.00086 J	0.00033	0.0017
Benzo(a)anthracene	N.D.	0.00067	0.0017
Benzo(a)pyrene	N.D.	0.00067	0.0017
Benzo(b)fluoranthene	N.D.	0.00067	0.0017
Benzo(g,h,i)perylene	N.D.	0.00067	0.0017
Benzo(k)fluoranthene	N.D.	0.00067	0.0017
Chrysene	N.D.	0.00033	0.0017
Dibenz(a,h)anthracene	N.D.	0.00067	0.0017
Fluoranthene	N.D.	0.00067	0.0017
Fluorene	0.00073 J	0.00067	0.0017

*- Outside of specification
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(1) The result for one or both determinations was less than five times the LOQ.
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P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: ChevronTexaco
Reported: 09/22/2017 15:43

Group Number: 1845654

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	mg/kg	mg/kg	mg/kg
Indeno(1,2,3-cd)pyrene	N.D.	0.00067	0.0017
Naphthalene	0.00072 J	0.00067	0.0017
Phenanthrene	0.00076 J	0.00067	0.0017
Pyrene	N.D.	0.00033	0.0017
	mg/l	mg/l	mg/l
Batch number: 17248WAU026	Sample number(s): 9189703		
Acenaphthene	N.D.	0.000010	0.000050
Acenaphthylene	N.D.	0.000010	0.000050
Anthracene	N.D.	0.000010	0.000050
Benzo(a)anthracene	N.D.	0.000010	0.000050
Benzo(a)pyrene	N.D.	0.000010	0.000050
Benzo(b)fluoranthene	N.D.	0.000010	0.000050
Benzo(g,h,i)perylene	N.D.	0.000010	0.000050
Benzo(k)fluoranthene	N.D.	0.000010	0.000050
Chrysene	N.D.	0.000010	0.000050
Dibenz(a,h)anthracene	N.D.	0.000010	0.000050
Fluoranthene	N.D.	0.000010	0.000050
Fluorene	N.D.	0.000010	0.000050
Indeno(1,2,3-cd)pyrene	N.D.	0.000010	0.000050
Naphthalene	N.D.	0.000030	0.000060
Phenanthrene	N.D.	0.000030	0.000060
Pyrene	N.D.	0.000010	0.000050
	mg/kg	mg/kg	mg/kg
Batch number: 17250A34A	Sample number(s): 9189682,9189684,9189686,9189688,9189692,9189694,9189696,9189698,9189700,9189704,9189706,9189708		
TPH-GRO AK soil C6-C10	N.D.	0.5	5.0
Batch number: 17250A34B	Sample number(s): 9189690		
TPH-GRO AK soil C6-C10	N.D.	0.5	5.0
	mg/l	mg/l	mg/l
Batch number: 17251A53A	Sample number(s): 9189702-9189703		
TPH-GRO AK water C6-C10	N.D.	0.010	0.10
	mg/kg	mg/kg	mg/kg
Batch number: 172480035A	Sample number(s): 9189682,9189684,9189686,9189688,9189690,9189692,9189694,9189696,9189698,9189700,9189704,9189706		
PCB-1016	N.D.	0.0033	0.017
PCB-1221	N.D.	0.0051	0.017
PCB-1232	N.D.	0.0041	0.017
PCB-1242	N.D.	0.0041	0.017
PCB-1248	N.D.	0.0033	0.017
PCB-1254	N.D.	0.0044	0.017
PCB-1260	N.D.	0.0039	0.017
	mg/l	mg/l	mg/l

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Quality Control Summary

Client Name: ChevronTexaco
Reported: 09/22/2017 15:43

Group Number: 1845654

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	mg/l	mg/l	mg/l
Batch number: 172490005A	Sample number(s): 9189702		
PCB-1016	N.D.	0.00010	0.00050
PCB-1221	N.D.	0.00010	0.00050
PCB-1232	N.D.	0.00020	0.00050
PCB-1242	N.D.	0.00010	0.00050
PCB-1248	N.D.	0.00010	0.00050
PCB-1254	N.D.	0.00010	0.00050
PCB-1260	N.D.	0.00015	0.00050
	mg/kg	mg/kg	mg/kg
Batch number: 172540034A	Sample number(s): 9189682,9189684,9189686,9189688,9189690,9189692,9189694,9189696,9189698,9189700,9189704,9189706		
C10-<C25 DRO	N.D.	5.0	12
C25-C36 RRO	N.D.	5.0	12
	mg/l	mg/l	mg/l
Batch number: 172550001A	Sample number(s): 9189702-9189703		
C10-<C25 DRO	N.D.	0.050	0.25
C25-C36 RRO	N.D.	0.075	0.25
	mg/kg	mg/kg	mg/kg
Batch number: 172491063701	Sample number(s): 9189682,9189684,9189686,9189688,9189690,9189692,9189694,9189696,9189698,9189700,9189704,9189706		
Arsenic	N.D.	0.960	4.00
Barium	0.0580 J	0.0440	1.00
Cadmium	N.D.	0.0540	1.00
Chromium	N.D.	0.170	3.00
Lead	N.D.	0.600	3.00
Selenium	N.D.	0.930	4.00
Silver	N.D.	0.240	1.00
Batch number: 172491063801	Sample number(s): 9189682,9189684,9189686,9189688,9189690,9189692,9189694,9189696,9189698,9189700,9189704,9189706		
Mercury	N.D.	0.0100	0.100
	mg/l	mg/l	mg/l
Batch number: 172510571304	Sample number(s): 9189702-9189703		
Mercury	N.D.	0.000050	0.00020
Batch number: 172541063503	Sample number(s): 9189702-9189703		
Arsenic	N.D.	0.0096	0.0400
Barium	N.D.	0.00085	0.0100
Cadmium	N.D.	0.0018	0.0100
Chromium	N.D.	0.0033	0.0300
Lead	N.D.	0.0060	0.0300
Selenium	N.D.	0.0093	0.0400
Silver	N.D.	0.0024	0.0100

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Quality Control Summary

Client Name: ChevronTexaco
Reported: 09/22/2017 15:43

Group Number: 1845654

Method Blank (continued)

Analysis Name	Result	MDL**	LOQ
	mg/l	mg/l	mg/l

LCS/LCSD

Analysis Name	LCS Spike Added mg/kg	LCS Conc mg/kg	LCSD Spike Added mg/kg	LCSD Conc mg/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: A172551AA	Sample number(s): 9189683,9189691,9189693,9189695,9189697,9189699,9189701,9189705,9189707								
Benzene	0.0200	0.0188	0.0200	0.0190	94	95	80-120	1	30
Batch number: R172541AA	Sample number(s): 9189682,9189684,9189686,9189688,9189690,9189692,9189694,9189696,9189698,9189700,9189704,9189706,9189708								
Acetone	7.50	6.63	7.50	7.67	88	102	32-144	15	30
Benzene	1.00	0.956	1.00	1.05	96	105	80-120	10	30
Bromodichloromethane	1.00	0.888	1.00	1.02	89	102	70-120	14	30
Bromoform	1.00	0.905	1.00	0.991	90	99	54-120	9	30
Bromomethane	1.00	0.890	1.00	1.02	89	102	31-160	13	30
2-Butanone	7.50	7.87	7.50	8.97	105	120	49-128	13	30
Carbon Disulfide	1.00	0.854	1.00	0.947	85	95	60-128	10	30
Carbon Tetrachloride	1.00	0.810	1.00	0.894	81	89	62-129	10	30
Chlorobenzene	1.00	0.932	1.00	1.05	93	105	80-120	12	30
Chloroethane	1.00	0.993	1.00	1.18	99	118	43-137	17	30
Chloroform	1.00	0.928	1.00	1.04	93	104	80-120	11	30
Chloromethane	1.00	0.839	1.00	0.882	84	88	56-120	5	30
Cyclohexane	1.00	0.827	1.00	0.851	83	85	58-126	3	30
1,2-Dibromo-3-chloropropane	1.00	0.783	1.00	0.901	78	90	47-126	14	30
Dibromochloromethane	1.00	0.894	1.00	1.02	89	102	65-120	13	30
1,2-Dibromoethane	1.00	0.926	1.00	1.05	93	105	74-120	12	30
1,2-Dichlorobenzene	1.00	1.06	1.00	1.18	106	118	80-120	11	30
1,3-Dichlorobenzene	1.00	1.04	1.00	1.17	104	117	80-120	12	30
1,4-Dichlorobenzene	1.00	1.06	1.00	1.19	106	119	80-120	12	30
Dichlorodifluoromethane	1.00	0.648	1.00	0.578	65	58	10-133	11	30
1,1-Dichloroethane	1.00	0.930	1.00	1.02	93	102	77-120	9	30
1,2-Dichloroethane	1.00	0.927	1.00	1.04	93	104	71-128	12	30
1,1-Dichloroethene	1.00	0.966	1.00	1.09	97	109	73-129	12	30
cis-1,2-Dichloroethene	1.00	1.01	1.00	1.13	101	113	80-120	12	30
trans-1,2-Dichloroethene	1.00	0.986	1.00	1.09	99	109	80-125	10	30
1,2-Dichloropropane	1.00	0.909	1.00	1.02	91	102	76-120	11	30
cis-1,3-Dichloropropene	1.00	0.834	1.00	0.944	83	94	66-120	12	30
trans-1,3-Dichloropropene	1.00	0.875	1.00	0.956	87	96	63-124	9	30
Ethylbenzene	1.00	0.873	1.00	0.956	87	96	80-120	9	30
Freon 113	1.00	0.918	1.00	0.980	92	98	59-139	7	30
2-Hexanone	5.00	4.75	5.00	5.40	95	108	51-131	13	30
Isopropylbenzene	1.00	0.822	1.00	0.880	82	88	76-120	7	30

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Quality Control Summary

Client Name: ChevronTexaco
Reported: 09/22/2017 15:43

Group Number: 1845654

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/kg	LCS Conc mg/kg	LCSD Spike Added mg/kg	LCSD Conc mg/kg	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Methyl Acetate	1.00	0.917	1.00	1.07	92	107	54-146	15	30
Methyl Tertiary Butyl Ether	1.00	0.834	1.00	0.952	83	95	66-123	13	30
4-Methyl-2-pentanone	5.00	4.56	5.00	5.22	91	104	53-134	13	30
Methylcyclohexane	1.00	0.868	1.00	0.791	87	79	61-124	9	30
Methylene Chloride	1.00	0.957	1.00	1.10	96	110	76-122	14	30
Styrene	1.00	0.910	1.00	1.02	91	102	76-120	12	30
1,1,2,2-Tetrachloroethane	1.00	0.980	1.00	1.21	98	121	61-131	21	30
Tetrachloroethene	1.00	0.933	1.00	1.02	93	102	73-120	9	30
Toluene	1.00	0.906	1.00	1.04	91	104	80-120	13	30
1,2,4-Trichlorobenzene	1.00	1.04	1.00	0.893	104	89	62-127	15	30
1,1,1-Trichloroethane	1.00	0.837	1.00	0.908	84	91	61-125	8	30
1,1,2-Trichloroethane	1.00	0.983	1.00	1.09	98	109	80-120	10	30
Trichloroethene	1.00	0.894	1.00	0.989	89	99	80-120	10	30
Trichlorofluoromethane	1.00	0.880	1.00	0.943	88	94	47-132	7	30
Vinyl Chloride	1.00	0.846	1.00	0.877	85	88	59-120	4	30
Xylene (Total)	3.00	2.61	3.00	2.86	87	95	80-120	9	30
	mg/l	mg/l	mg/l	mg/l					
Batch number: N172511AA	Sample number(s): 9189702-9189703								
Acetone	0.150	0.173	0.150	0.195	115	130	44-177	12	30
Benzene	0.0200	0.0199	0.0200	0.0201	99	100	78-120	1	30
Bromodichloromethane	0.0200	0.0187	0.0200	0.0186	93	93	71-120	0	30
Bromoform	0.0200	0.0147	0.0200	0.0146	74	73	59-120	1	30
Bromomethane	0.0200	0.0188	0.0200	0.0191	94	96	44-139	2	30
2-Butanone	0.150	0.165	0.150	0.170	110	114	53-140	3	30
Carbon Disulfide	0.0200	0.0164	0.0200	0.0165	82	83	65-128	1	30
Carbon Tetrachloride	0.0200	0.0188	0.0200	0.0187	94	94	68-128	1	30
Chlorobenzene	0.0200	0.0195	0.0200	0.0196	97	98	80-120	0	30
Chloroethane	0.0200	0.0188	0.0200	0.0179	94	90	52-127	5	30
Chloroform	0.0200	0.0202	0.0200	0.0205	101	102	80-120	1	30
Chloromethane	0.0200	0.0209	0.0200	0.0206	105	103	57-120	2	30
Cyclohexane	0.0200	0.0180	0.0200	0.0183	90	92	67-121	2	30
1,2-Dibromo-3-chloropropane	0.0200	0.0174	0.0200	0.0168	87	84	64-120	4	30
Dibromochloromethane	0.0200	0.0178	0.0200	0.0174	89	87	71-120	2	30
1,2-Dibromoethane	0.0200	0.0196	0.0200	0.0196	98	98	75-120	0	30
1,2-Dichlorobenzene	0.0200	0.0186	0.0200	0.0186	93	93	80-120	0	30
1,3-Dichlorobenzene	0.0200	0.0180	0.0200	0.0184	90	92	80-120	2	30
1,4-Dichlorobenzene	0.0200	0.0186	0.0200	0.0186	93	93	80-120	0	30
Dichlorodifluoromethane	0.0200	0.0196	0.0200	0.0200	98	100	47-124	2	30
1,1-Dichloroethane	0.0200	0.0206	0.0200	0.0206	103	103	80-120	0	30
1,2-Dichloroethane	0.0200	0.0214	0.0200	0.0210	107	105	73-124	2	30
1,1-Dichloroethene	0.0200	0.0200	0.0200	0.0204	100	102	76-124	2	30
cis-1,2-Dichloroethene	0.0200	0.0205	0.0200	0.0206	103	103	80-120	0	30
trans-1,2-Dichloroethene	0.0200	0.0203	0.0200	0.0204	101	102	80-120	1	30
1,2-Dichloropropane	0.0200	0.0209	0.0200	0.0210	104	105	80-120	1	30
cis-1,3-Dichloropropene	0.0200	0.0186	0.0200	0.0187	93	93	75-120	0	30
trans-1,3-Dichloropropene	0.0200	0.0183	0.0200	0.0184	91	92	76-120	1	30
Ethylbenzene	0.0200	0.0197	0.0200	0.0197	99	98	78-120	0	30

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Quality Control Summary

Client Name: ChevronTexaco
Reported: 09/22/2017 15:43

Group Number: 1845654

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/l	LCS Conc mg/l	LCSD Spike Added mg/l	LCSD Conc mg/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Freon 113	0.0200	0.0196	0.0200	0.0201	98	101	68-137	3	30
2-Hexanone	0.100	0.105	0.100	0.104	105	104	60-134	0	30
Isopropylbenzene	0.0200	0.0192	0.0200	0.0194	96	97	80-120	1	30
Methyl Acetate	0.0200	0.0201	0.0200	0.0203	100	101	61-137	1	30
Methyl Tertiary Butyl Ether	0.0200	0.0188	0.0200	0.0189	94	95	75-120	1	30
4-Methyl-2-pentanone	0.100	0.103	0.100	0.102	103	102	67-128	1	30
Methylcyclohexane	0.0200	0.0194	0.0200	0.0196	97	98	66-126	1	30
Methylene Chloride	0.0200	0.0200	0.0200	0.0201	100	101	80-120	0	30
Styrene	0.0200	0.0188	0.0200	0.0190	94	95	80-120	1	30
1,1,2,2-Tetrachloroethane	0.0200	0.0198	0.0200	0.0195	99	97	72-120	1	30
Tetrachloroethene	0.0200	0.0187	0.0200	0.0190	94	95	80-129	2	30
Toluene	0.0200	0.0198	0.0200	0.0198	99	99	80-120	0	30
1,2,4-Trichlorobenzene	0.0200	0.0166	0.0200	0.0163	83	82	70-120	2	30
1,1,1-Trichloroethane	0.0200	0.0183	0.0200	0.0185	91	93	67-120	1	30
1,1,2-Trichloroethane	0.0200	0.0204	0.0200	0.0206	102	103	80-120	1	30
Trichloroethene	0.0200	0.0191	0.0200	0.0196	96	98	80-120	2	30
Trichlorofluoromethane	0.0200	0.0221	0.0200	0.0219	110	109	52-143	1	30
Vinyl Chloride	0.0200	0.0210	0.0200	0.0211	105	106	63-121	1	30
Xylene (Total)	0.0600	0.0575	0.0600	0.0578	96	96	80-120	0	30
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 17249SLB026	Sample number(s): 9189698,9189700								
Acenaphthene	0.0333	0.0298			89		85-122		
Acenaphthylene	0.0333	0.0210			63*		68-102		
Anthracene	0.0333	0.0264			79		75-111		
Benzo(a)anthracene	0.0333	0.0269			81*		83-112		
Benzo(a)pyrene	0.0333	0.0270			81		78-108		
Benzo(b)fluoranthene	0.0333	0.0280			84		75-120		
Benzo(g,h,i)perylene	0.0333	0.0250			75		71-109		
Benzo(k)fluoranthene	0.0333	0.0274			82		78-113		
Chrysene	0.0333	0.0273			82		79-111		
Dibenz(a,h)anthracene	0.0333	0.0269			81		66-119		
Fluoranthene	0.0333	0.0264			79*		82-110		
Fluorene	0.0333	0.0269			81		81-115		
Indeno(1,2,3-cd)pyrene	0.0333	0.0260			78		65-114		
Naphthalene	0.0333	0.0270			81		71-114		
Phenanthrene	0.0333	0.0259			78		78-106		
Pyrene	0.0333	0.0250			75		73-109		
Batch number: 17256SLC026	Sample number(s): 9189682,9189684,9189686,9189688,9189690,9189692,9189694,9189696,9189704,9189706								
Acenaphthene	0.0333	0.0340			102		85-122		
Acenaphthylene	0.0333	0.0244			73		68-102		
Anthracene	0.0333	0.0314			94		75-111		
Benzo(a)anthracene	0.0333	0.0309			93		83-112		
Benzo(a)pyrene	0.0333	0.0309			93		78-108		
Benzo(b)fluoranthene	0.0333	0.0338			101		75-120		
Benzo(g,h,i)perylene	0.0333	0.0307			92		71-109		

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: ChevronTexaco
Reported: 09/22/2017 15:43

Group Number: 1845654

LCS/LCSD (continued)

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg					
Benzo(k)fluoranthene	0.0333	0.0293			88		78-113		
Chrysene	0.0333	0.0308			92		79-111		
Dibenz(a,h)anthracene	0.0333	0.0328			98		66-119		
Fluoranthene	0.0333	0.0280			84		82-110		
Fluorene	0.0333	0.0308			92		81-115		
Indeno(1,2,3-cd)pyrene	0.0333	0.0316			95		65-114		
Naphthalene	0.0333	0.0305			91		71-114		
Phenanthrene	0.0333	0.0307			92		78-106		
Pyrene	0.0333	0.0301			90		73-109		
	mg/l	mg/l	mg/l	mg/l					
Batch number: 17248WAU026	Sample number(s): 9189703								
Acenaphthene	0.00100	0.000954	0.00100	0.000878	95	88	62-127	8	30
Acenaphthylene	0.00100	0.000653	0.00100	0.000614	65	61	48-105	6	30
Anthracene	0.00100	0.000779	0.00100	0.000762	78	76	60-112	2	30
Benzo(a)anthracene	0.00100	0.000829	0.00100	0.000787	83	79	62-122	5	30
Benzo(a)pyrene	0.00100	0.000838	0.00100	0.000773	84	77	60-114	8	30
Benzo(b)fluoranthene	0.00100	0.000883	0.00100	0.00128	88	128*	59-126	37*	30
Benzo(g,h,i)perylene	0.00100	0.000830	0.00100	0.000748	83	75	58-118	10	30
Benzo(k)fluoranthene	0.00100	0.000912	0.00100	0.00111	91	111	63-117	19	30
Chrysene	0.00100	0.000831	0.00100	0.000757	83	76	63-116	9	30
Dibenz(a,h)anthracene	0.00100	0.000854	0.00100	0.000784	85	78	65-119	9	30
Fluoranthene	0.00100	0.000808	0.00100	0.000776	81	78	60-115	4	30
Fluorene	0.00100	0.000829	0.00100	0.000780	83	78	57-118	6	30
Indeno(1,2,3-cd)pyrene	0.00100	0.000826	0.00100	0.000764	83	76	64-115	8	30
Naphthalene	0.00100	0.000856	0.00100	0.000777	86	78	47-110	10	30
Phenanthrene	0.00100	0.000804	0.00100	0.000757	80	76	59-113	6	30
Pyrene	0.00100	0.000778	0.00100	0.000734	78	73	59-119	6	30
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 17250A34A	Sample number(s): 9189682,9189684,9189686,9189688,9189692,9189694,9189696,9189698,9189700,9189704,9189706,9189708								
TPH-GRO AK soil C6-C10	11	6.83	11	7.78	62	71	60-120	13	20
Batch number: 17250A34B	Sample number(s): 9189690								
TPH-GRO AK soil C6-C10	11	6.83	11	7.78	62	71	60-120	13	20
	mg/l	mg/l	mg/l	mg/l					
Batch number: 17251A53A	Sample number(s): 9189702-9189703								
TPH-GRO AK water C6-C10	1.10	1.08	1.10	1.10	98	100	60-120	2	20
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 172480035A	Sample number(s): 9189682,9189684,9189686,9189688,9189690,9189692,9189694,9189696,9189698,9189700,9189704,9189706								
PCB-1016	0.167	0.159			95		80-121		

*- Outside of specification
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Quality Control Summary

Client Name: ChevronTexaco
Reported: 09/22/2017 15:43

Group Number: 1845654

LCS/LCSD (continued)

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg					
PCB-1260	0.168	0.197			117		84-125		
	mg/l	mg/l	mg/l	mg/l					
Batch number: 172490005A	Sample number(s): 9189702								
PCB-1016	0.00501	0.00443	0.00501	0.00438	88	87	60-117	1	30
PCB-1260	0.00504	0.00439	0.00504	0.00401	87	80	57-134	9	30
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 172540034A	Sample number(s): 9189682,9189684,9189686,9189688,9189690,9189692,9189694,9189696,9189698,9189700,9189704,9189706								
C10-<C25 DRO	40	30.89			77		75-125		
C25-C36 RRO	72	56.76			79		75-125		
	mg/l	mg/l	mg/l	mg/l					
Batch number: 172550001A	Sample number(s): 9189702-9189703								
C10-<C25 DRO	1.00	0.918	1.00	0.946	92	95	75-125	3	20
C25-C36 RRO	1.80	1.76	1.80	1.86	98	104	60-120	6	20
	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 172491063701	Sample number(s): 9189682,9189684,9189686,9189688,9189690,9189692,9189694,9189696,9189698,9189700,9189704,9189706								
Arsenic	15	15.68			105		80-120		
Barium	200	204.15			102		80-120		
Cadmium	5.00	5.21			104		80-120		
Chromium	20	20.05			100		80-120		
Lead	15	15.42			103		80-120		
Selenium	15	15.99			107		80-120		
Silver	5.00	4.63			93		80-120		
Batch number: 172491063801	Sample number(s): 9189682,9189684,9189686,9189688,9189690,9189692,9189694,9189696,9189698,9189700,9189704,9189706								
Mercury	0.100	0.0999			100		80-120		
	mg/l	mg/l	mg/l	mg/l					
Batch number: 172510571304	Sample number(s): 9189702-9189703								
Mercury	0.00100	0.000932			93		80-120		
Batch number: 172541063503	Sample number(s): 9189702-9189703								
Arsenic	0.150	0.165			110		80-120		
Barium	2.00	2.04			102		80-120		
Cadmium	0.0500	0.0516			103		80-120		
Chromium	0.200	0.201			101		80-120		
Lead	0.150	0.157			105		80-120		
Selenium	0.150	0.158			105		80-120		

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Quality Control Summary

Client Name: ChevronTexaco
Reported: 09/22/2017 15:43

Group Number: 1845654

LCS/LCSD (continued)

Analysis Name	LCS Spike Added mg/l	LCS Conc mg/l	LCSD Spike Added mg/l	LCSD Conc mg/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Silver	0.0500	0.0483			97		80-120		
	%	%	%	%					
Batch number: 17250820012B	Sample number(s): 9189682-9189684,9189686,9189688,9189690-9189701,9189704-9189707								
Moisture	89.5	89.41			100		99-101		
Moisture	89.5	89.41			100		99-101		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/l	MS Spike Added mg/l	MS Conc mg/l	MSD Spike Added mg/l	MSD Conc mg/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: N172511AA	Sample number(s): 9189702-9189703 UNSPK: P184807									
Acetone	N.D.	3.00	3.32	3.00	3.56	111	119	44-177	7	30
Benzene	N.D.	0.400	0.415	0.400	0.415	104	104	78-120	0	30
Bromodichloromethane	N.D.	0.400	0.379	0.400	0.375	95	94	71-120	1	30
Bromoform	N.D.	0.400	0.278	0.400	0.279	69	70	59-120	0	30
Bromomethane	N.D.	0.400	0.404	0.400	0.392	101	98	44-139	3	30
2-Butanone	N.D.	3.00	3.27	3.00	3.23	109	108	53-140	1	30
Carbon Disulfide	N.D.	0.400	0.343	0.400	0.353	86	88	65-128	3	30
Carbon Tetrachloride	N.D.	0.400	0.386	0.400	0.383	97	96	68-128	1	30
Chlorobenzene	N.D.	0.400	0.394	0.400	0.392	98	98	80-120	1	30
Chloroethane	N.D.	0.400	0.368	0.400	0.368	92	92	52-127	0	30
Chloroform	N.D.	0.400	0.424	0.400	0.420	106	105	80-120	1	30
Chloromethane	N.D.	0.400	0.425	0.400	0.424	106	106	57-120	0	30
Cyclohexane	N.D.	0.400	0.385	0.400	0.388	96	97	67-121	1	30
1,2-Dibromo-3-chloropropane	N.D.	0.400	0.331	0.400	0.344	83	86	64-120	4	30
Dibromochloromethane	N.D.	0.400	0.343	0.400	0.344	86	86	71-120	0	30
1,2-Dibromoethane	N.D.	0.400	0.392	0.400	0.391	98	98	75-120	0	30
1,2-Dichlorobenzene	N.D.	0.400	0.368	0.400	0.372	92	93	80-120	1	30
1,3-Dichlorobenzene	N.D.	0.400	0.358	0.400	0.364	90	91	80-120	2	30
1,4-Dichlorobenzene	N.D.	0.400	0.370	0.400	0.378	92	94	80-120	2	30
Dichlorodifluoromethane	N.D.	0.400	0.406	0.400	0.408	101	102	47-124	1	30
1,1-Dichloroethane	N.D.	0.400	0.431	0.400	0.429	108	107	80-120	1	30
1,2-Dichloroethane	N.D.	0.400	0.448	0.400	0.423	112	106	73-124	6	30
1,1-Dichloroethene	N.D.	0.400	0.426	0.400	0.427	107	107	76-124	0	30
cis-1,2-Dichloroethene	N.D.	0.400	0.430	0.400	0.411	107	103	80-120	4	30
trans-1,2-Dichloroethene	N.D.	0.400	0.413	0.400	0.420	103	105	80-120	2	30
1,2-Dichloropropane	N.D.	0.400	0.435	0.400	0.430	109	108	80-120	1	30
cis-1,3-Dichloropropene	N.D.	0.400	0.374	0.400	0.373	93	93	75-120	0	30
trans-1,3-Dichloropropene	N.D.	0.400	0.354	0.400	0.361	88	90	76-120	2	30
Ethylbenzene	N.D.	0.400	0.394	0.400	0.399	98	100	78-120	1	30

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(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: ChevronTexaco
Reported: 09/22/2017 15:43

Group Number: 1845654

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/l	MS Spike Added mg/l	MS Conc mg/l	MSD Spike Added mg/l	MSD Conc mg/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Freon 113	N.D.	0.400	0.430	0.400	0.427	108	107	68-137	1	30
2-Hexanone	N.D.	2.00	2.10	2.00	2.09	105	105	60-134	0	30
Isopropylbenzene	N.D.	0.400	0.383	0.400	0.388	96	97	80-120	1	30
Methyl Acetate	N.D.	0.400	0.450	0.400	0.437	112	109	61-137	3	30
Methyl Tertiary Butyl Ether	N.D.	0.400	0.375	0.400	0.381	94	95	75-120	2	30
4-Methyl-2-pentanone	N.D.	2.00	2.12	2.00	2.09	106	105	67-128	1	30
Methylcyclohexane	N.D.	0.400	0.394	0.400	0.397	99	99	66-126	1	30
Methylene Chloride	N.D.	0.400	0.422	0.400	0.423	105	106	80-120	0	30
Styrene	N.D.	0.400	0.377	0.400	0.383	94	96	80-120	1	30
1,1,2,2-Tetrachloroethane	N.D.	0.400	0.389	0.400	0.395	97	99	72-120	2	30
Tetrachloroethene	N.D.	0.400	0.374	0.400	0.383	94	96	80-129	2	30
Toluene	N.D.	0.400	0.397	0.400	0.397	99	99	80-120	0	30
1,2,4-Trichlorobenzene	N.D.	0.400	0.315	0.400	0.328	79	82	70-120	4	30
1,1,1-Trichloroethane	N.D.	0.400	0.378	0.400	0.381	95	95	67-120	1	30
1,1,2-Trichloroethane	N.D.	0.400	0.407	0.400	0.409	102	102	80-120	0	30
Trichloroethene	N.D.	0.400	0.400	0.400	0.397	100	99	80-120	1	30
Trichlorofluoromethane	N.D.	0.400	0.466	0.400	0.464	116	116	52-143	1	30
Vinyl Chloride	N.D.	0.400	0.428	0.400	0.430	107	107	63-121	0	30
Xylene (Total)	N.D.	1.20	1.15	1.20	1.17	96	97	80-120	1	30
	mg/kg	**mg/kg**	**mg/kg**	**mg/kg**	**mg/kg**					
Batch number: 17249SLB026	Sample number(s): 9189698,9189700 UNSPK: P189682									
Acenaphthene	N.D.	0.0330	0.0342	0.0333	0.0352	103	106	85-122	3	30
Acenaphthylene	N.D.	0.0330	0.0227	0.0333	0.0235	69	71	68-102	3	30
Anthracene	N.D.	0.0330	0.0275	0.0333	0.0279	83	84	75-111	1	30
Benzo(a)anthracene	N.D.	0.0330	0.0293	0.0333	0.0294	89	88	83-112	1	30
Benzo(a)pyrene	N.D.	0.0330	0.0288	0.0333	0.0301	87	91	78-108	5	30
Benzo(b)fluoranthene	N.D.	0.0330	0.0319	0.0333	0.0343	97	103	75-120	7	30
Benzo(g,h,i)perylene	N.D.	0.0330	0.0226	0.0333	0.0187	68*	56*	71-109	19	30
Benzo(k)fluoranthene	N.D.	0.0330	0.0273	0.0333	0.0306	83	92	78-113	12	30
Chrysene	0.000355	0.0330	0.0286	0.0333	0.0285	86	85	79-111	0	30
Dibenz(a,h)anthracene	N.D.	0.0330	0.0261	0.0333	0.0229	79	69	66-119	13	30
Fluoranthene	N.D.	0.0330	0.0202	0.0333	0.0199	61*	60*	82-110	1	30
Fluorene	N.D.	0.0330	0.0293	0.0333	0.0299	89	90	81-115	2	30
Indeno(1,2,3-cd)pyrene	N.D.	0.0330	0.0250	0.0333	0.0218	76	65	65-114	14	30
Naphthalene	0.00329	0.0330	0.0333	0.0333	0.0348	91	94	71-114	4	30
Phenanthrene	0.000719	0.0330	0.0295	0.0333	0.0326	87	96	78-106	10	30
Pyrene	0.000468	0.0330	0.0262	0.0333	0.0262	78	77	73-109	0	30
Batch number: 17256SLC026	Sample number(s): 9189682,9189684,9189686,9189688,9189690,9189692,9189694,9189696,9189704,9189706 UNSPK: 9189684									
Acenaphthene	N.D.	0.0331	0.0329	0.0331	0.0331	99	100	85-122	1	30
Acenaphthylene	0.000622	0.0331	0.0201	0.0331	0.0200	59*	59*	68-102	0	30
Anthracene	0.000345	0.0331	0.0278	0.0331	0.0274	83	82	75-111	1	30
Benzo(a)anthracene	N.D.	0.0331	0.0279	0.0331	0.0267	84	81*	83-112	4	30

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Quality Control Summary

Client Name: ChevronTexaco
Reported: 09/22/2017 15:43

Group Number: 1845654

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc	MS Spike Added	MS Conc	MSD Spike Added	MSD Conc	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Benzo(a)pyrene	N.D.	0.0331	0.0315	0.0331	0.0312	95	94	78-108	1	30
Benzo(b)fluoranthene	0.000982	0.0331	0.0413	0.0331	0.0416	122*	123*	75-120	1	30
Benzo(g,h,i)perylene	0.00525	0.0331	0.0200	0.0331	0.0209	44*	47*	71-109	5	30
Benzo(k)fluoranthene	N.D.	0.0331	0.0394	0.0331	0.0390	119*	118*	78-113	1	30
Chrysene	0.000636	0.0331	0.0299	0.0331	0.0276	88	81	79-111	8	30
Dibenz(a,h)anthracene	N.D.	0.0331	0.0211	0.0331	0.0211	64*	64*	66-119	0	30
Fluoranthene	N.D.	0.0331	0.0297	0.0331	0.0295	90	89	82-110	1	30
Fluorene	N.D.	0.0331	0.0286	0.0331	0.0287	87	87	81-115	0	30
Indeno(1,2,3-cd)pyrene	0.000835	0.0331	0.0204	0.0331	0.0203	59*	59*	65-114	0	30
Naphthalene	0.00805	0.0331	0.0332	0.0331	0.0351	76	82	71-114	6	30
Phenanthrene	0.00138	0.0331	0.0331	0.0331	0.0338	96	98	78-106	2	30
Pyrene	0.00114	0.0331	0.0272	0.0331	0.0260	79	75	73-109	5	30
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 172480035A	Sample number(s): 9189682,9189684,9189686,9189688,9189690,9189692,9189694,9189696,9189698,9189700,9189704 ,9189706 UNSPK: 9189696									
PCB-1016	N.D.	0.167	0.154	0.165	0.134	92	81	80-121	14	50
PCB-1260	N.D.	0.168	0.217	0.166	0.185	129*	112	84-125	16	50
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 172540034A	Sample number(s): 9189682,9189684,9189686,9189688,9189690,9189692,9189694,9189696,9189698,9189700,9189704 ,9189706 UNSPK: 9189682									
C10-<C25 DRO	N.D.	39.5	39.16	39.5	35.26	99	89	75-125	10	50
C25-C36 RRO	46.02	71.2	120.36	71.2	95.89	104	70*	75-125	23	50
	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
Batch number: 172491063701	Sample number(s): 9189682,9189684,9189686,9189688,9189690,9189692,9189694,9189696,9189698,9189700,9189704 ,9189706 UNSPK: 9189688									
Arsenic	6.15	11.28	17.65	13.04	18.83	102	97	75-125	6	20
Barium	133.29	150.38	299.8	173.91	310.28	111	102	75-125	3	20
Cadmium	N.D.	3.76	3.56	4.35	4.15	95	95	75-125	15	20
Chromium	42.62	15.04	59.52	17.39	60.64	112	104	75-125	2	20
Lead	16.62	11.28	28.56	13.04	28.64	106	92	75-125	0	20
Selenium	N.D.	11.28	9.84	13.04	11.65	87	89	75-125	17	20
Silver	0.741	3.76	4.21	4.35	4.38	92	84	75-125	4	20
Batch number: 172491063801	Sample number(s): 9189682,9189684,9189686,9189688,9189690,9189692,9189694,9189696,9189698,9189700,9189704 ,9189706 UNSPK: 9189688									
Mercury	0.0975	0.156	0.247	0.156	0.252	96	99	80-120	2	20
	mg/l	mg/l	mg/l	mg/l	mg/l					

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: ChevronTexaco
Reported: 09/22/2017 15:43

Group Number: 1845654

MS/MSD (continued)

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc mg/l	MS Spike Added mg/l	MS Conc mg/l	MSD Spike Added mg/l	MSD Conc mg/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 172510571304	Sample number(s): 9189702-9189703 UNSPK: P194727									
Mercury	N.D.	0.00100	0.000897	0.00100	0.000901	90	90	80-120	1	20
Batch number: 172541063503	Sample number(s): 9189702-9189703 UNSPK: P193064									
Arsenic	N.D.	0.150	0.165	0.150	0.161	110	107	75-125	2	20
Barium	0.0917	2.00	2.12	2.00	2.20	101	105	75-125	4	20
Cadmium	N.D.	0.0500	0.0502	0.0500	0.0517	100	103	75-125	3	20
Chromium	0.0101	0.200	0.211	0.200	0.219	101	104	75-125	4	20
Lead	N.D.	0.150	0.157	0.150	0.165	105	110	75-125	5	20
Selenium	N.D.	0.150	0.134	0.150	0.141	89	94	75-125	5	20
Silver	N.D.	0.0500	0.0469	0.0500	0.0487	94	97	75-125	4	20

Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc mg/kg	DUP Conc mg/kg	DUP RPD	DUP RPD Max
Batch number: 172491063701	Sample number(s): 9189682,9189684,9189686,9189688,9189690,9189692,9189694,9189696,9189698,9189700,9189704,9189706 BKG: 9189688			
Arsenic	6.15	7.26	16 (1)	20
Barium	133.29	130.43	2	20
Cadmium	N.D.	N.D.	0 (1)	20
Chromium	42.62	42.52	0	20
Lead	16.62	17.3	4	20
Selenium	N.D.	N.D.	0 (1)	20
Silver	0.741	0.837	12 (1)	20
Batch number: 172491063801	Sample number(s): 9189682,9189684,9189686,9189688,9189690,9189692,9189694,9189696,9189698,9189700,9189704,9189706 BKG: 9189688			
Mercury	0.0975	0.0961	1 (1)	20
	mg/l	mg/l		
Batch number: 172510571304	Sample number(s): 9189702-9189703 BKG: P194727			
Mercury	N.D.	N.D.	0 (1)	20
Batch number: 172541063503	Sample number(s): 9189702-9189703 BKG: P193064			
Arsenic	N.D.	N.D.	0 (1)	20
Barium	0.0917	0.0836	9	20
Cadmium	N.D.	N.D.	0 (1)	20
Chromium	0.0101	0.0115	13 (1)	20

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: ChevronTexaco
Reported: 09/22/2017 15:43

Group Number: 1845654

Laboratory Duplicate (continued)

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc	DUP Conc	DUP RPD	DUP RPD Max
	mg/l	mg/l		
Lead	N.D.	0.00607	200* (1)	20
Selenium	N.D.	N.D.	0 (1)	20
Silver	N.D.	N.D.	0 (1)	20
	%	%		
Batch number: 17250820012B	Sample number(s): 9189682-9189684,9189686,9189688,9189690-9189701,9189704-9189707 BKG: P185425			
Moisture	14.7	15.17	3	5
Moisture	14.7	15.17	3	5

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: VOCs Benzene only - Soil
Batch number: A172551AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9189683	118	117	94	94
9189691	114	112	95	94
9189693	122	115	94	96
9189695	120	124	97	91
9189697	120	114	101	81
9189699	118	118	96	87
9189701	117	120	98	83
9189705	120	121	96	91
9189707	116	115	96	98
Blank	113	108	97	93
LCS	106	104	101	109
LCSD	104	103	101	110
Limits:	50-141	54-135	52-141	50-131

Analysis Name: TCL 4.3 VOCs
Batch number: N172511AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9189702	101	98	98	96
9189703	101	102	98	96
Blank	99	98	98	96
LCS	102	100	104	101
LCSD	100	103	103	101

*- Outside of specification
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(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: ChevronTexaco
Reported: 09/22/2017 15:43

Group Number: 1845654

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: TCL 4.3 VOCs
Batch number: N172511AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
MS	101	107	102	102
MSD	102	104	103	101
Limits:	80-120	80-120	80-120	80-120

Analysis Name: VOCs- Solid by 8260B
Batch number: R172541AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9189682	86	91	78	70
9189684	87	89	74	69
9189686	97	104	89	91
9189688	82	85	72	67
9189690	96	102	86	82
9189692	82	84	73	72
9189694	86	92	76	68
9189696	73	75	63	64
9189698	95	97	87	80
9189700	88	92	80	75
9189704	99	104	90	79
9189706	93	101	84	77
9189708	99	105	87	79
Blank	94	98	85	75
LCS	95	99	90	89
LCSD	107	111	101	100
Limits:	50-141	54-135	52-141	50-131

Analysis Name: SIM SVOAs 8270D, water
Batch number: 17248WAU026

	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10
9189703	79	87	80
Blank	76	84	84
LCS	81	90	89
LCSD	77	85	83
Limits:	42-119	39-121	29-123

Analysis Name: SIM SVOAs 8270D (microwave)
Batch number: 17249SLB026

*- Outside of specification
**-This limit was used in the evaluation of the final result for the blank
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(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: ChevronTexaco
Reported: 09/22/2017 15:43

Group Number: 1845654

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: SIM SVOAs 8270D (microwave)
Batch number: 17249SLB026

	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10
9189698	84	99	92
9189700	99	102	95
Blank	83	95	92
LCS	77	89	82
MS	59	96	93
MSD	59	100	95
Limits:	47-120	51-117	53-116

Analysis Name: SIM SVOAs 8270D (microwave)
Batch number: 17256SLC026

	Fluoranthene-d10	Benzo(a)pyrene-d12	1-Methylnaphthalene-d10
9189682	85	100	103
9189684	84	96	95
9189686	83	87	98
9189688	70	85	87
9189690	83	96	97
9189692	90	97	96
9189694	80	97	96
9189696	84	91	95
9189704	89	100	101
9189706	89	85	98
Blank	81	100	98
LCS	82	100	97
MS	86	99	97
MSD	85	99	99
Limits:	47-120	51-117	53-116

Analysis Name: TPH-GRO AK soil C6-C10
Batch number: 17250A34A

	Trifluorotoluene-F
9189682	87
9189684	133*
9189686	531*
9189688	84
9189692	87
9189694	73
9189696	76
9189698	96
9189700	92
9189704	92

*- Outside of specification
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P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: ChevronTexaco
Reported: 09/22/2017 15:43

Group Number: 1845654

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: TPH-GRO AK soil C6-C10
Batch number: 17250A34A

	Trifluorotoluene-F
9189706	146*
9189708	99
Blank	97
LCS	93
LCSD	101
Limits:	60-120

Analysis Name: TPH-GRO AK soil C6-C10
Batch number: 17250A34B

	Trifluorotoluene-F
9189690	125*
Blank	89
LCS	93
LCSD	101
Limits:	60-120

Analysis Name: TPH-GRO AK water C6-C10
Batch number: 17251A53A

	Trifluorotoluene-F
9189702	93
9189703	96
Blank	96
LCS	106
LCSD	108
Limits:	60-120

Analysis Name: PCBs in Soil 8082A
Batch number: 172480035A

	Tetrachloro-m-xylene-D1	Decachlorobiphenyl-D1	Tetrachloro-m-xylene-D2	Decachlorobiphenyl-D2
9189682	97	113	93	120
9189684	99	105	93	92
9189686	71	87	53	80
9189688	89	100	86	120
9189690	100	117	98	132
9189692	53	61	50	65
9189694	94	116	89	129
9189696	83	92	80	107
9189698	100	114	99	123

*- Outside of specification
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(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: ChevronTexaco
Reported: 09/22/2017 15:43

Group Number: 1845654

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: PCBs in Soil 8082A
Batch number: 172480035A

	Tetrachloro-m-xylene-D1	Decachlorobiphenyl-D1	Tetrachloro-m-xylene-D2	Decachlorobiphenyl-D2
9189700	92	105	88	121
9189704	92	116	90	131
9189706	102	116	93	123
Blank	106	119	100	131
LCS	101	113	100	134
MS	99	118	97	131
MSD	84	102	83	116
Limits:	46-148	49-139	46-148	49-139

Analysis Name: PCBs in Water 8082A
Batch number: 172490005A

	Tetrachloro-m-xylene-D1	Decachlorobiphenyl-D1	Tetrachloro-m-xylene-D2	Decachlorobiphenyl-D2
9189702	71	17	71	17
Blank	78	42	82	43
LCS	77	39	83	40
LCSD	79	32	82	32
Limits:	33-137	10-148	33-137	10-148

Analysis Name: TPH-DRO/RRO (AK)
Batch number: 172540034A

	Orthoterphenyl	n-Triacontane-d62
9189682	94	75
9189684	106	93
9189686	33*	594*
9189688	76	62
9189690	98	83
9189692	85	120
9189694	91	69
9189696	74	64
9189698	95	77
9189700	93	76
9189704	90	74
9189706	102	96
Blank	93	57*
LCS	82	65
MS	84	57
MSD	88	62
Limits:	50-150	50-150

*- Outside of specification
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(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: ChevronTexaco
Reported: 09/22/2017 15:43

Group Number: 1845654

Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report. For dual column analyses, the surrogate (at least one surrogate for multi-surrogate tests) must be within the acceptance limits on at least one of the two columns.

Analysis Name: AK 102/103-SV
Batch number: 172550001A

	Orthoterphenyl	n-Triacontane-d62
9189702	67	22*
9189703	82	23*
Blank	98	78
LCS	98	50*
LCSD	103	99
Limits:	50-150	50-150

*- Outside of specification
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(2) The unspiked result was more than four times the spike added.
P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Chevron Generic Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # 10880 For Eurofins Lancaster Laboratories Environmental use only Group # 1845654 Sample # 9189682-708

Instructions on reverse side correspond with circled numbers.

① Client Information

Facility #: CHEVRON 306449 WBS: 08.

Site Address: 2730 SPENARD ROAD, ANCHORAGE, AK

Chevron PM: DANIEL CARRIER. Lead Consultant: GHD SERVICES, INC.

Consultant/Office: 645 G STREET, STE 401, ANCHORAGE, AK

Consultant Project Mgr.: SIOBHAN PRITCHARD.

Consultant Phone #: (907) 974-0235

Sampler: O. YAN/T. WEAVER

④ Matrix: ☐ Sediment ☐ Ground ☐ Surface ☒ Soil ☒ Potable (DI WATER) ☐ NPDES ☐ Air ☐ Oil ☐ Water

⑤ Analyses Requested: BTEX + MTBE (VOC + HVOC) ☐ 8021 ☐ 8260 ☒ Naphth ☐; 8260 full scan; Oxygenates; TPH-GRO (AK101) ☐ 8015 ☐ 8260 ☐; TPH-DRO without Silica Gel Cleanup (AK102 + AK103) (TPH-RRO) ☐; TPH-DRO with Silica Gel Cleanup ☐; VPH ☐ EPH ☐ Method; Lead Total ☐ Diss. ☐ Method; PCBs by Method SW-846 8082; EDB & 1,2-DCA SW-846 8260; PAHs + PC13 in water; METALS + MOISTURE

SCR #: ______

☐ Results in Dry Weight
☐ J value reporting needed
☐ Must meet lowest detection limits possible for 8260 compounds
☐ 8021 MTBE Confirmation
☐ Confirm MTBE + Naphthalene
☐ Confirm highest hit by 8260
☐ Confirm all hits by 8260
☐ Run ______ oxy's on highest hit
☐ Run ______ oxy's on all hits

② Sample Identification	Collected Date	Collected Time	③ Grab	Composite	Soil	Water	Oil	Total Number of Containers	BTEX + MTBE (VOC + HVOC)	8260 full scan	Oxygenates	TPH-GRO AK101	TPH-DRO without Silica Gel Cleanup	TPH-DRO with Silica Gel Cleanup	VPH	Lead	PCBs by Method SW-846 8082	EDB & 1,2-DCA	PAHs + PC13 in water	METALS + MOISTURE
MW-1-17.5-S-170830	08/30/17	1300	X		X			8	X			X	X				X	X		X
MW-1-20-S-170830	08/30/17	1315	X		X			8	X			X	X				X	X		X
MW-2-19-S-170830	08/30/17	1510	X		X			8	X			X	X				X	X		X
MW-2-24.5-S-170830	08/30/17	1522	X		X			8	X			X	X				X	X		X
MW-3-15-S-170831	08/31/17	0833	X		X			8	X			X	X				X	X		X
MW-3-17.5-S-170831	08/31/17	0848	X		X			8	X			X	X				X	X		X
MW-4-18.5-S-170830	08/30/17	0928	X		X			8	X			X	X				X	X		X
MW-4-23.5-S-170830	08/30/17	0950	X		X			8	X			X	X				X	X		X
MW-1-2-S-170829	08/29/17	1100	X		X			8	X			X	X				X	X		X
MW-4-2-S-170829	08/29/17	0817	X		X			8	X			X	X				X	X		X
RB-1-W-170829	08/29/17	0754				X				X		X	X						X	X (struck)
RB-2-W-170829	08/29/17	0900				X				X		X	X						X	X (struck)
DUP-1-~~W~~-170830 UUL 9/5/17 ③	08/30/17	—	X		X			8	X			X	X				X	X		X

⑥ Remarks: EMAIL RESULTS TO: SIOBHAN.PRITCHARD@GHD.com
(beside RB rows): OU 8/31/17

⑦ Turnaround Time Requested (TAT) (please circle): (Standard) 5 day 4 day 72 hour 48 hour 24 hour

⑧ Data Package (circle if required): Type I - Full (Alaska/Type II) Type VI (Raw Data)

EDD (circle if required): CVX-RTBU-FI_05 (default) Other: ______

Relinquished by	Date	Time	Received by	Date	Time
[signature]	8/31/17	11:30			

Relinquished by Commercial Carrier: UPS ____ FedEx X Other ______ Received by: [signature] Date: 9/1/17 Time: 0955 ⑨

Temperature Upon Receipt 0.9-4.6 °C Custody Seals Intact? (Yes) No

Eurofins Lancaster Laboratories Environmental, LLC • 2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300

The white copy should accompany samples to Eurofins Lancaster Laboratories Environmental. The yellow copy should be retained by the client. 7047 0713

Chevron Generic Analysis Request/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # 10880 For Eurofins Lancaster Laboratories Environmental use only. Group # 1845654 Sample # 9189682-708
Instructions on reverse side correspond with circled numbers.

1 Client Information

Facility # Chevron 36499 WBS

Site Address 2730 Spenard Road, Anchorage, AK

Chevron PM: Daniel Carrier

Lead Consultant: GHD Services, Inc.

Consultant/Office: 645 G Street, Ste 901, Anchorage, AK

Consultant Project Mgr.: Siobhan Pritchard

Consultant Phone #: (720) 974-0275

Sampler: O'Jan / T. Weaver

4 Matrix

Soil ☒ | Sediment ☐ | Water: Potable ☐ Ground ☐ NPDES ☐ Surface ☐ | Oil ☐ Air ☐

5 Analyses Requested

Total Number of Containers

8021 ☐ 8260 ☒ Naphth | 8260 full scan | Oxygenates ____ | 8015 ☐ 8260 ☐ TPH-GRO AK101 | TPH-DRO without Silica Gel Cleanup ☐ AK102 + TPH-EXT (AK103) | TPH-DRO with Silica Gel Cleanup ☐ | VPH ☐ EPH ☐ Method ____ | Lead Total ☐ Diss. ☐ Method ____ | PCBs in Sw-846 8082 | EDB + 1,2-DCA Sw-846-8260 | Metals + Moisture

SCR #: ____

- ☐ Results in Dry Weight
- ☐ J value reporting needed
- ☐ Must meet lowest detection limits possible for 8260 compounds
- ☐ 8021 MTBE Confirmation
- ☐ Confirm MTBE + Naphthalene
- ☐ Confirm highest hit by 8260
- ☐ Confirm all hits by 8260
- ☐ Run ____ oxy's on highest hit
- ☐ Run ____ oxy's on all hits

2 Sample Identification	Collected Date	Collected Time	3 Grab	Composite	Soil	Water	Oil	Total Containers	8021 ☐ 8260 ☒ Naphth	8260 full scan	Oxygenates	8015 ☐ 8260 ☐ TPH-GRO AK101	TPH-DRO without Silica Gel Cleanup ☐ AK102 + TPH-EXT (AK103)	TPH-DRO with Silica Gel Cleanup ☐	VPH ☐ EPH ☐ Method	Lead Total ☐ Diss. ☐ Method	PCBs in Sw-846 8082	EDB + 1,2-DCA Sw-846-8260	Metals + Moisture
DUP-2-W-170831 (3)	8/31/17	—	X		X				X			X	X				X	X	X
QA-1-W-170831	—	—	—						X			X							

6 Remarks

Email results to: Siobhan.Pritchard@GHD.com

7 Turnaround Time Requested (TAT) (please circle)

Standard | 5 day | 4 day | 72 hour | 48 hour | 24 hour

8 Data Package (circle if required)

Type I - Full | Alaska/Type III | Type VI (Raw Data)

EDD (circle if required): CVX-RTBU-FI_05 (default) | Other: ____

Relinquished by	Date	Time	Received by	Date	Time
	8/31/17	11:30			9
Relinquished by	Date	Time	Received by	Date	Time

Relinquished by Commercial Carrier: UPS ____ FedEx ☒ Other ____

Received by: | Date: 9/1/17 | Time: 0955

Temperature Upon Receipt 0.9-4.6 °C

Custody Seals Intact? Yes / No

eurofins | Lancaster Laboratories Environmental

Sample Administration Receipt Documentation Log

Doc Log ID: 193214

Group Number(s): 1845654

Client: CHEVRON

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	09/01/2017 9:55
Number of Packages:	5	Number of Projects:	1

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	No
Custody Seal Present:	Yes	Sample Date/Times match COC:	No
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	2
Paperwork Enclosed:	Yes	Trip Blank Type:	See Below
Samples Intact:	Yes	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Trip Blank Type(s): MeOH w/ surrogate

Unpacked by Ruth Shank (12390) at 12:07 on 09/01/2017

Samples Chilled Details

Thermometer Types: DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-02	4.5	DT	Wet	Y	Bagged	N
2	DT42-02	4.6	DT	Wet	Y	Bagged	N
3	DT42-02	1.6	DT	Wet	Y	Bagged	N
4	DT42-02	1.1	DT	Wet	Y	Bagged	N
5	DT42-02	0.9	DT	Wet	Y	Bagged	N

Sample ID Discrepancy Details

Sample ID on COC	Sample ID on Label	Comments
DUP-1-W-170830	DUP-1-S-170830	
DUP-2-W-170830	DUP-2-S-170830	

2425 New Holland Pike
Lancaster, PA 17605-2425
T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Client: CHEVRON

Sample Date/Time Discrepancy Details

Sample ID on COC	Date/Time on Label	Comments
MW-3-15-S-170831	8/31/2017 09:33	
MW-4-2-S-170829	8/29/2017 08:40	
RB-1-W-170829	8/29/2017 08:10	
RB-2-W-170829	8/29/2017 10:35	

2425 New Holland Pike
Lancaster, PA 17605-2425

T | 717-656-2300
F | 717-656-2681
www.LancasterLabs.com

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	non-detect
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

CHEVRON ENERGY TECHNOLOGY COMPANY
PRODUCTS & ANALYTICAL DIVISION
PROJECT SUMMARY

Project No.: 2017.0030
Date Initiated: 11/14/2017
Date Completed: 12/05/2017
ETC Charge Code: YWEX01570426

Requested by: Daniel Carrier
Location: 145 S State College Blvd.
Brea, CA 92821
Phone: 714-671-3371

Project Description:

Analyze six samples collected at a former Unocal service station, facility number 306449, located at 2730 Spenard Rd, Anchorage, AK. Determine if any contamination occurred from former log cribs.

Results:

Three water samples were collected from three monitoring wells. Three teflon nets were also collected from the same monitoring wells, including a clean teflon net as a quality control sample. Each sample underwent a liquid-liquid extraction with methylene chloride and the extracts were analyzed by GC-FID. Table 1 provides the hydrocarbon breakdown of the samples, while Table 2 provides the estimated total petroleum hydrocarbon (TPH) values. Both the water and teflon net samples yielded fairly similar results for the respective monitoring wells, with the water samples containing more background hydrocarbons.

MW-2 consists of an unresolved complex mixture (UCM), stretching from C_{13} to C_{39}, as seen in Figures 3-4. A UCM with that carbon number range is consistent with a lubricating oil or motor oil. MW-1 and MW-3 do not contain any petroleum products. These two monitoring wells contain trace hydrocarbons, however the chromatograms in Figures 1-2 and 5-6 suggest these molecules are likely background hydrocarbons rather than from petroleum products.

Table 1: Hydrocarbon breakdown of the 2017.0030 samples.

Sample ID	Client Sample ID	Sample Description	C_6- (area %)	C_7-C_{10} (area %)	C_{11}-C_{14} (area %)	C_{15}-C_{24} (area %)	C_{25}-C_{39} (area %)	C_{40}+ (area%)
2017.0030-1	MW-1-W-171109	Water	14.0	18.6	10.8	52.4	4.2	0.0
2017.0030-2	MW-1-W-171109 TN	Teflon Net	10.3	50.0	8.7	0.0	31.0	0.0
2017.0030-3	MW-2-W-171109	Water	0.6	10.5	2.2	68.8	17.9	0.0
2017.0030-4	MW-2-W-171109 TN	Teflon Net	0.0	0.0	0.5	73.1	26.3	0.1
2017.0030-5	MW-3-W-171109	Water	4.2	70.2	6.8	18.0	0.8	0.0
2017.0030-6	MW-3-W-171109 TN	Teflon Net	0.0	18.8	31.3	35.3	14.6	0.0
2017.0030-7	Control clean Net	Teflon Net	4.1	83.4	4.5	8.0	0.0	0.0

Table 2: Estimate TPH values of the 2017.0030 samples.

Sample ID	Client Sample ID	Sample Description	~ hydrocarbon concentration in water, µg/L
2017.0030-1	MW-1-W-171109	Water	869
2017.0030-3	MW-2-W-171109	Water	971
2017.0030-5	MW-3-W-171109	Water	131

Analytical Approach:

Hydrocarbon composition was determined by gas chromatography with a flame ionization detector (GC-FID).

Analyzed by: M. Hurt, B. Morlan, K. Yip
Reported by: B. M. Morlan BMM
Reviewed by: D. Y. Kong DYK

DCarrier SPritchard
CEspinoDevine MEMoir
DKong BMMorlan

Technical files
ETC file

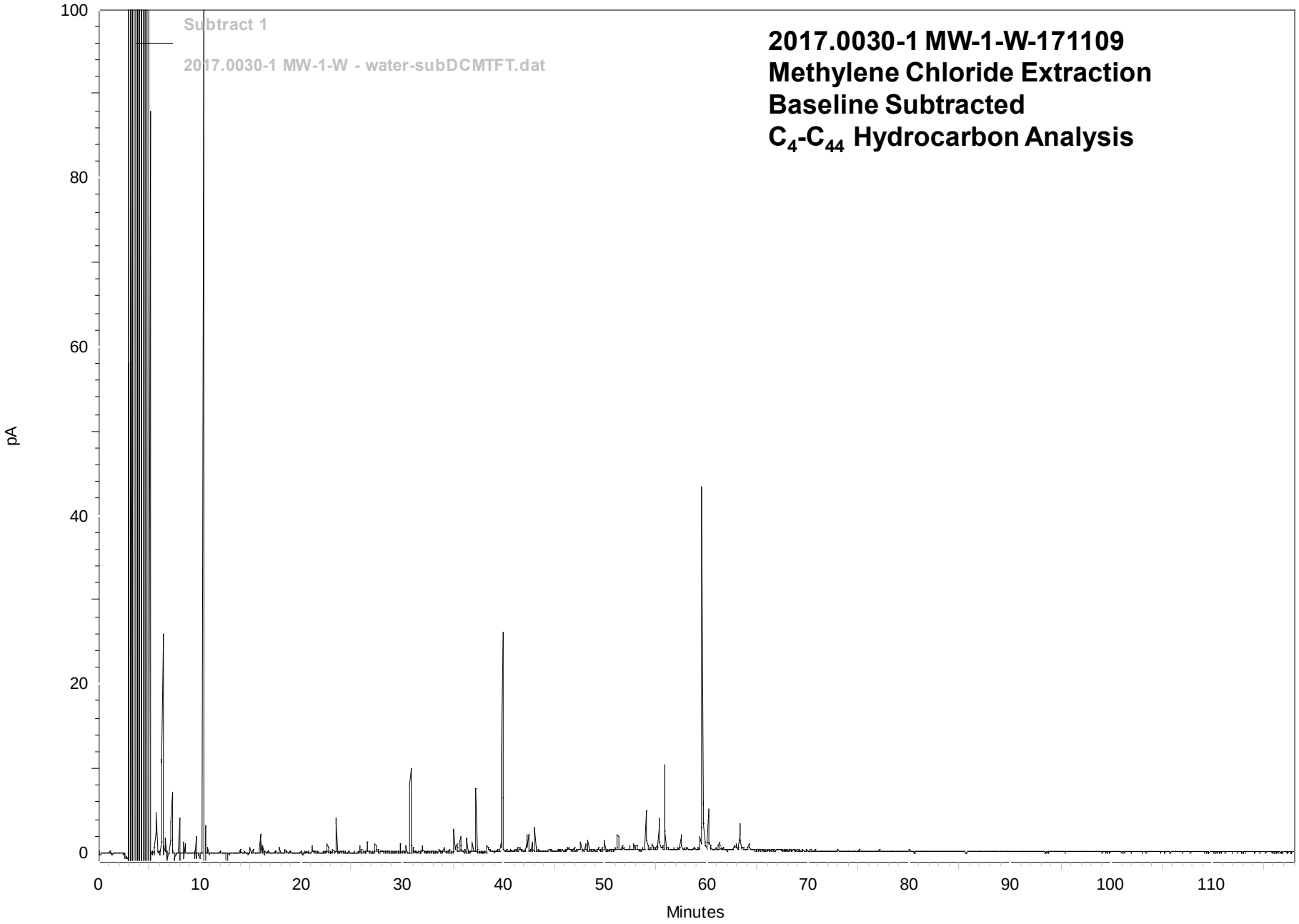

Figure 1: GC-FID Chromatogram of 2017.0030-01 Anchorage AK

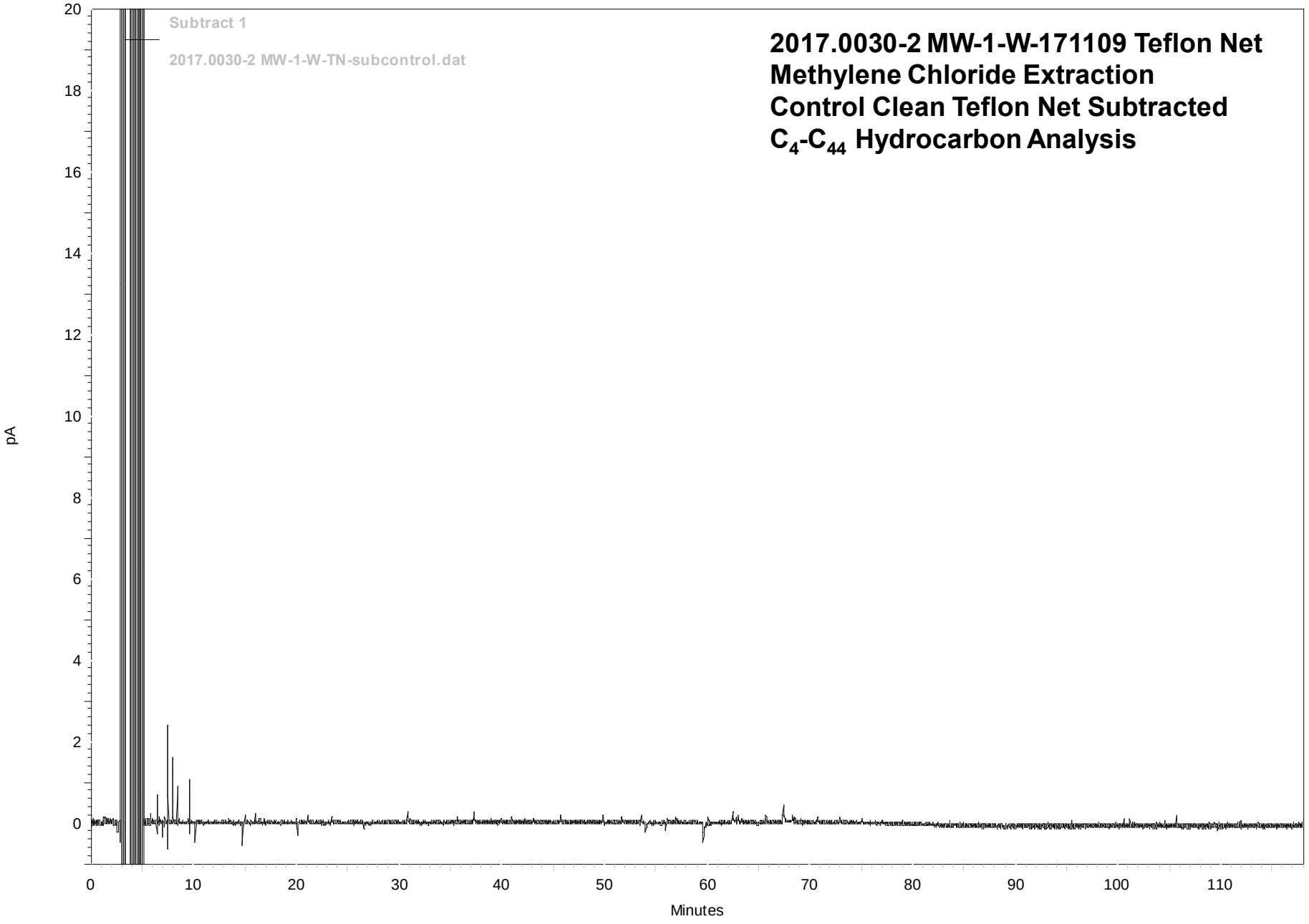

Figure 2: GC-FID Chromatogram of 2017.0030-02 Anchorage AK

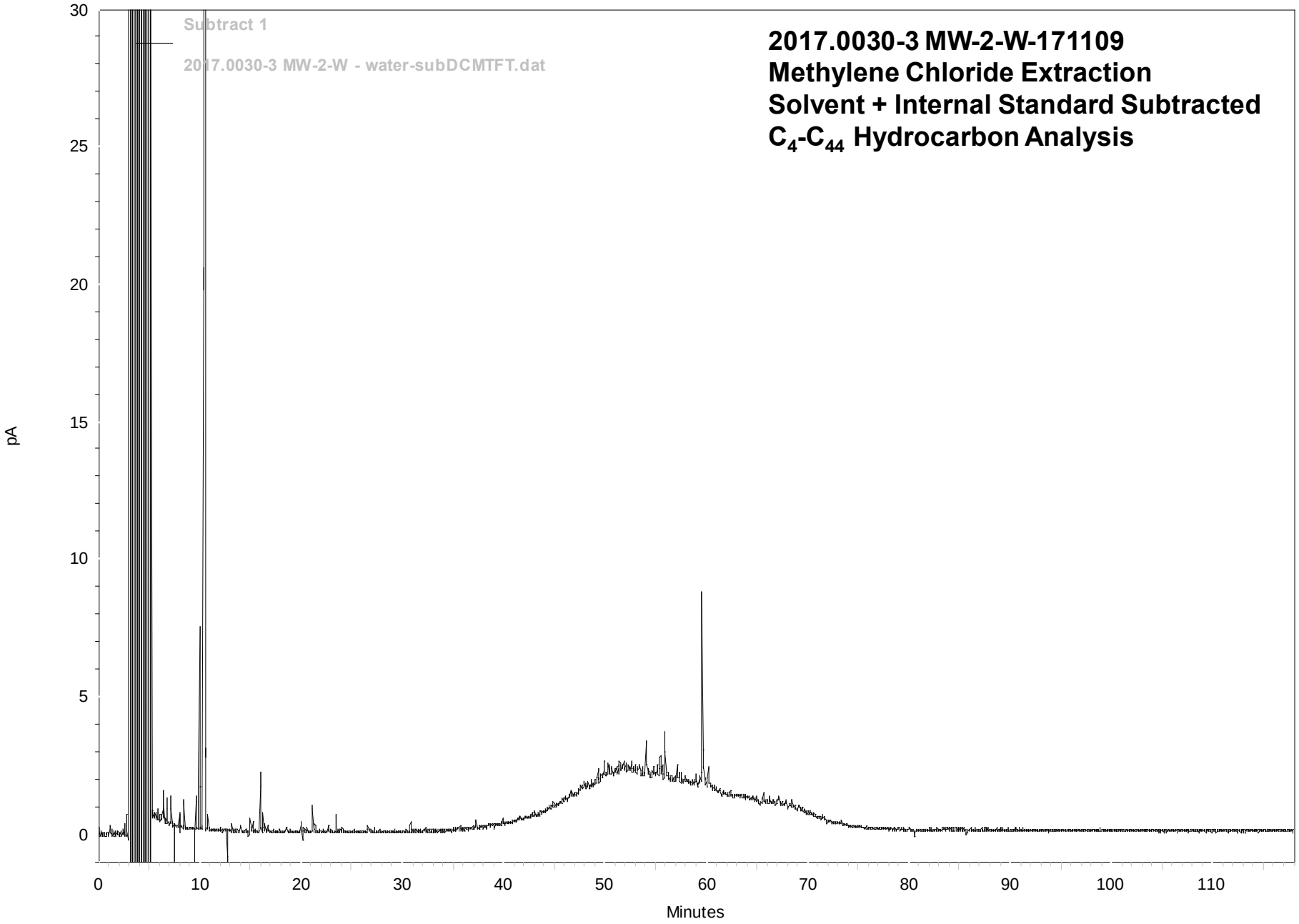

Figure 3: GC-FID Chromatogram of 2017.0030-03 Anchorage AK

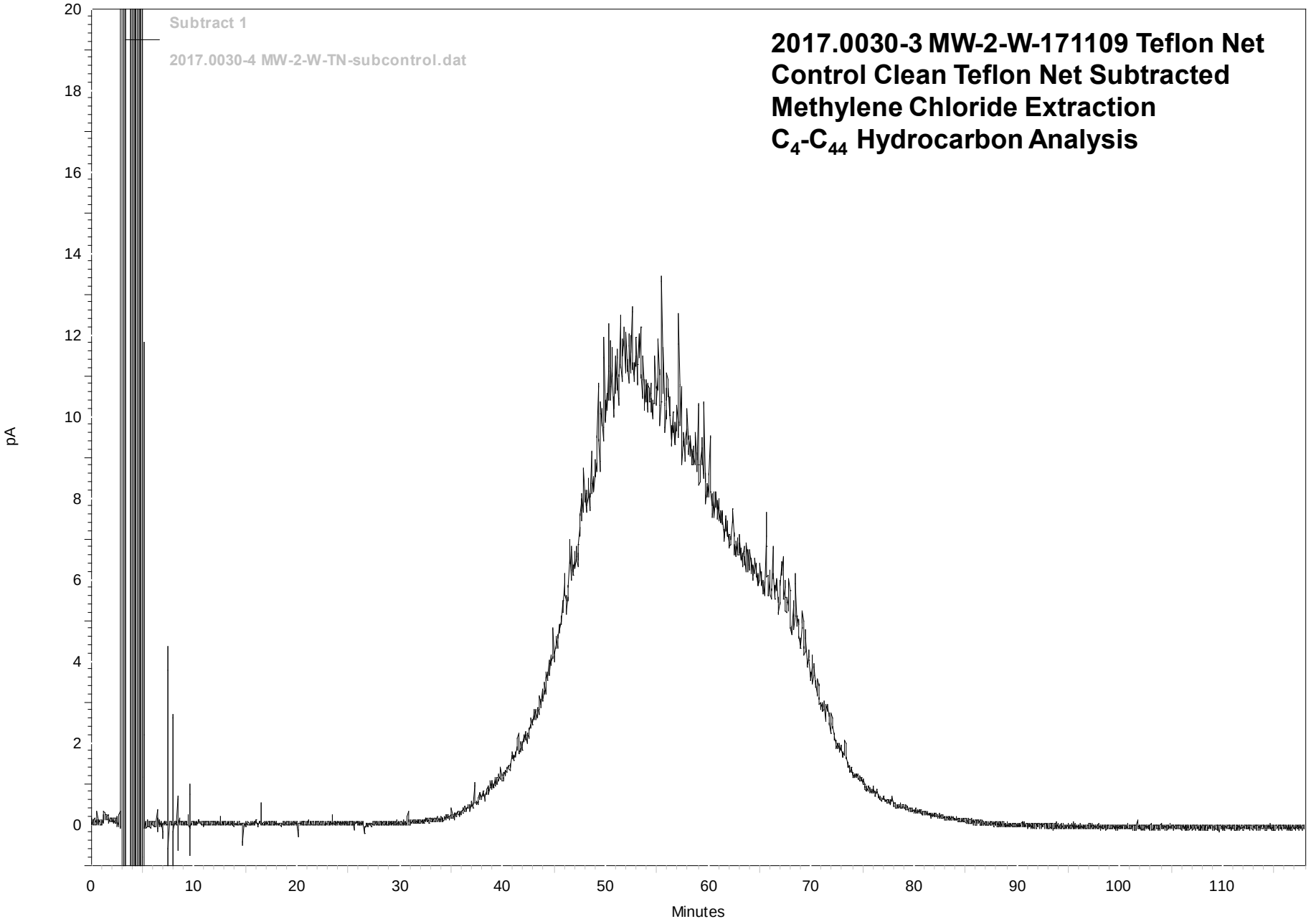

Figure 4: GC-FID Chromatogram of 2017.0030-04 Anchorage AK

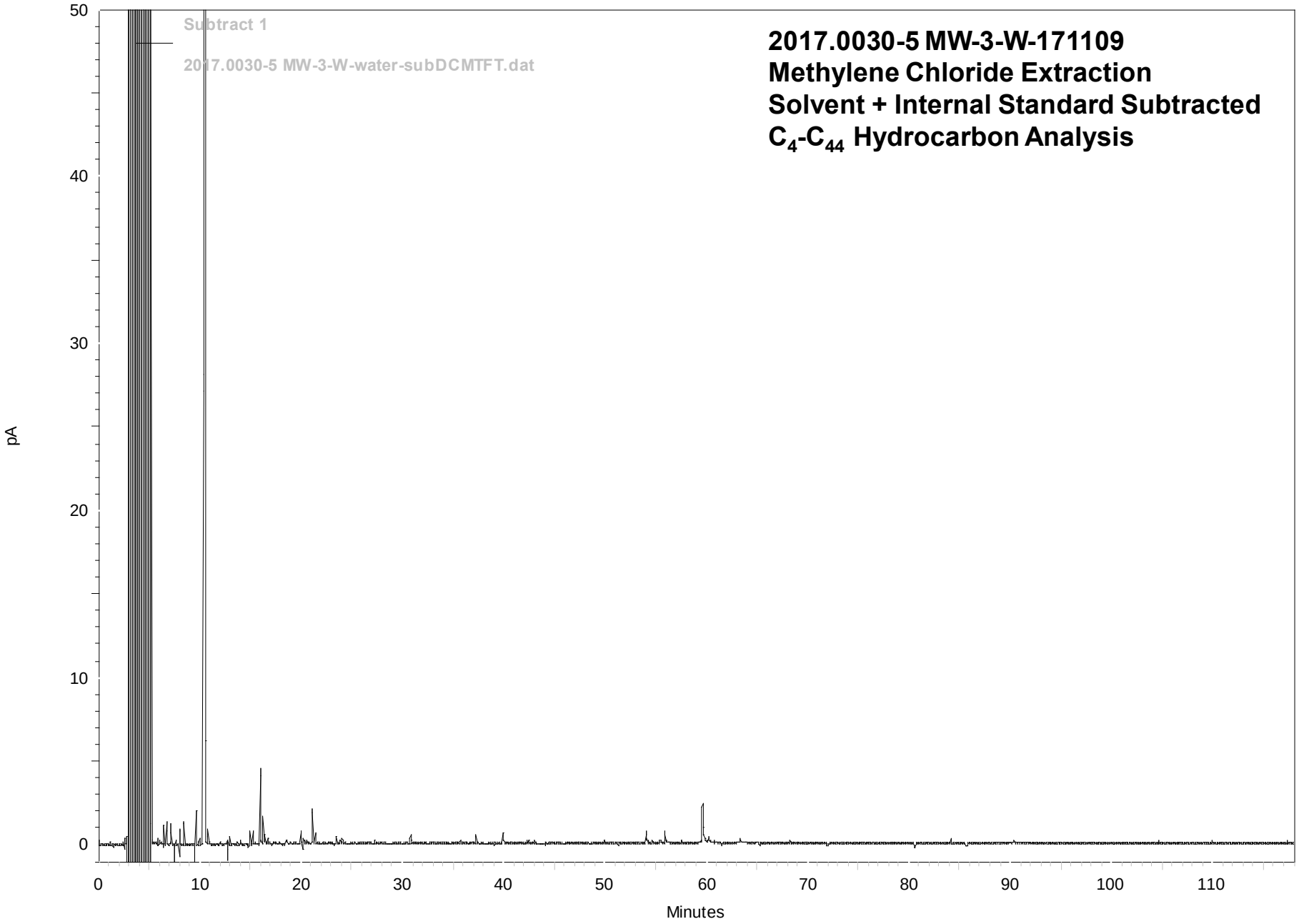

Figure 5: GC-FID Chromatogram of 2017.0030-05 Anchorage AK

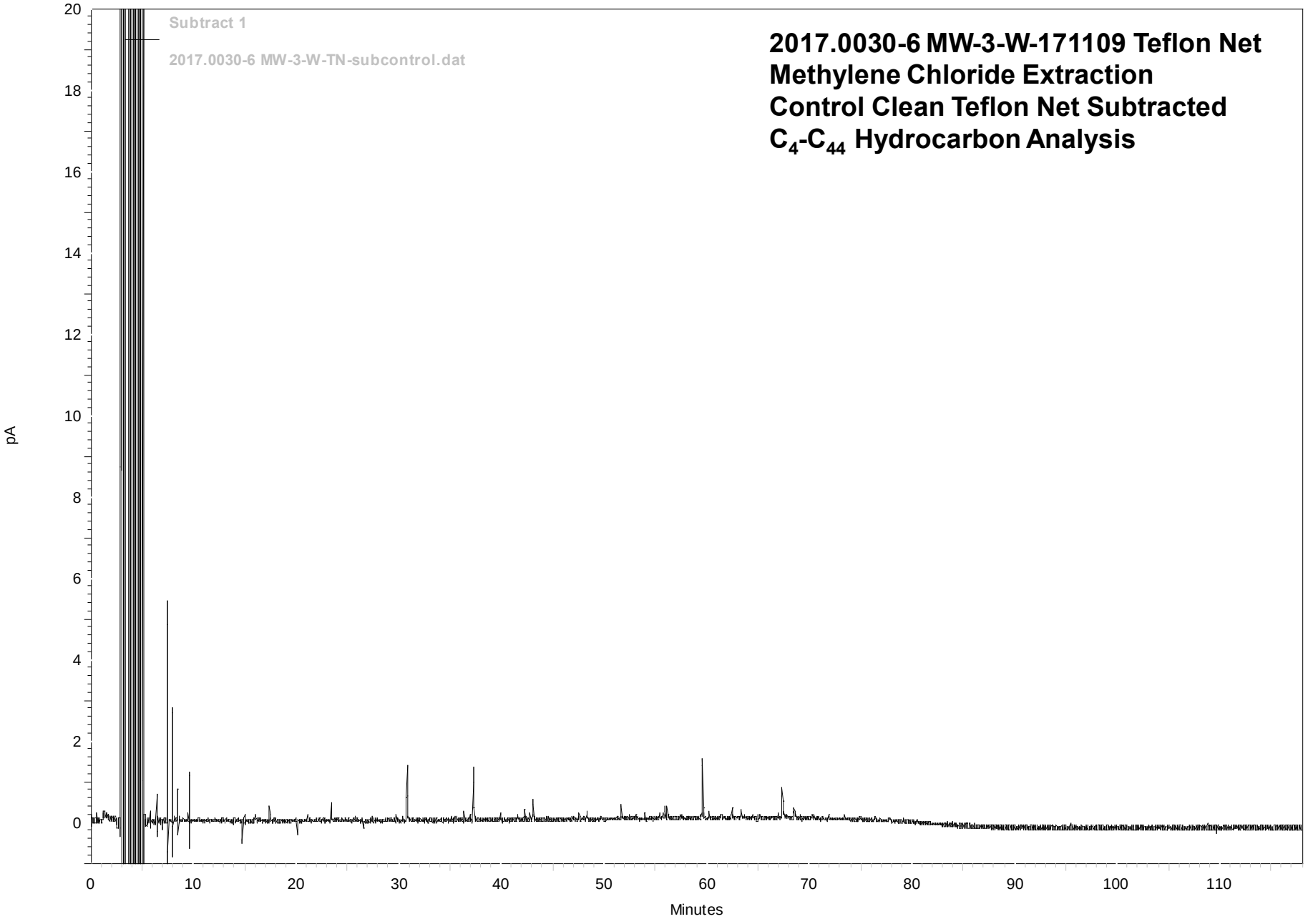

Figure 6: GC-FID Chromatogram of 2017.0030-06 Anchorage AK

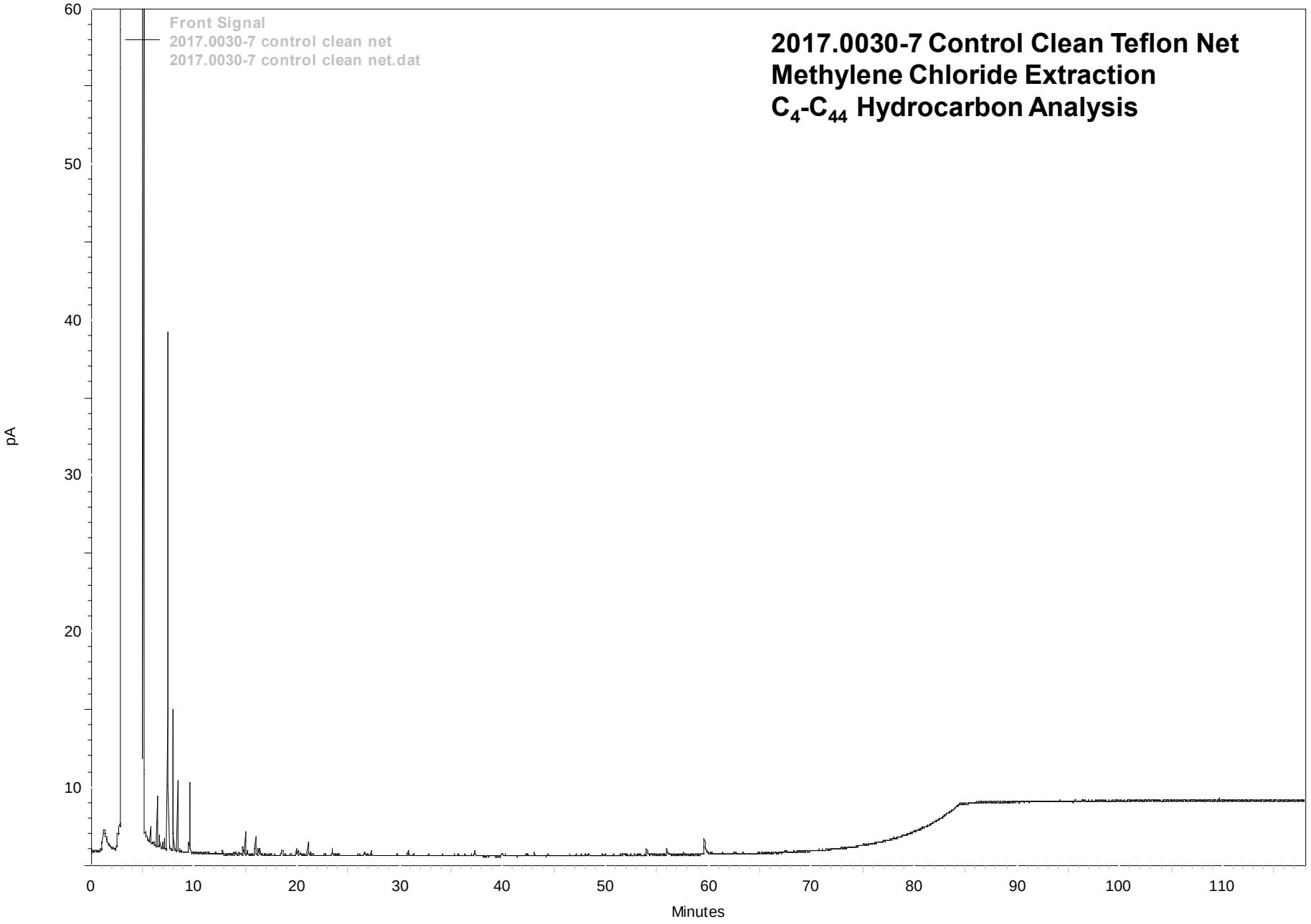

Figure 7: GC-FID Chromatogram of 2017.0030-07 Anchorage AK

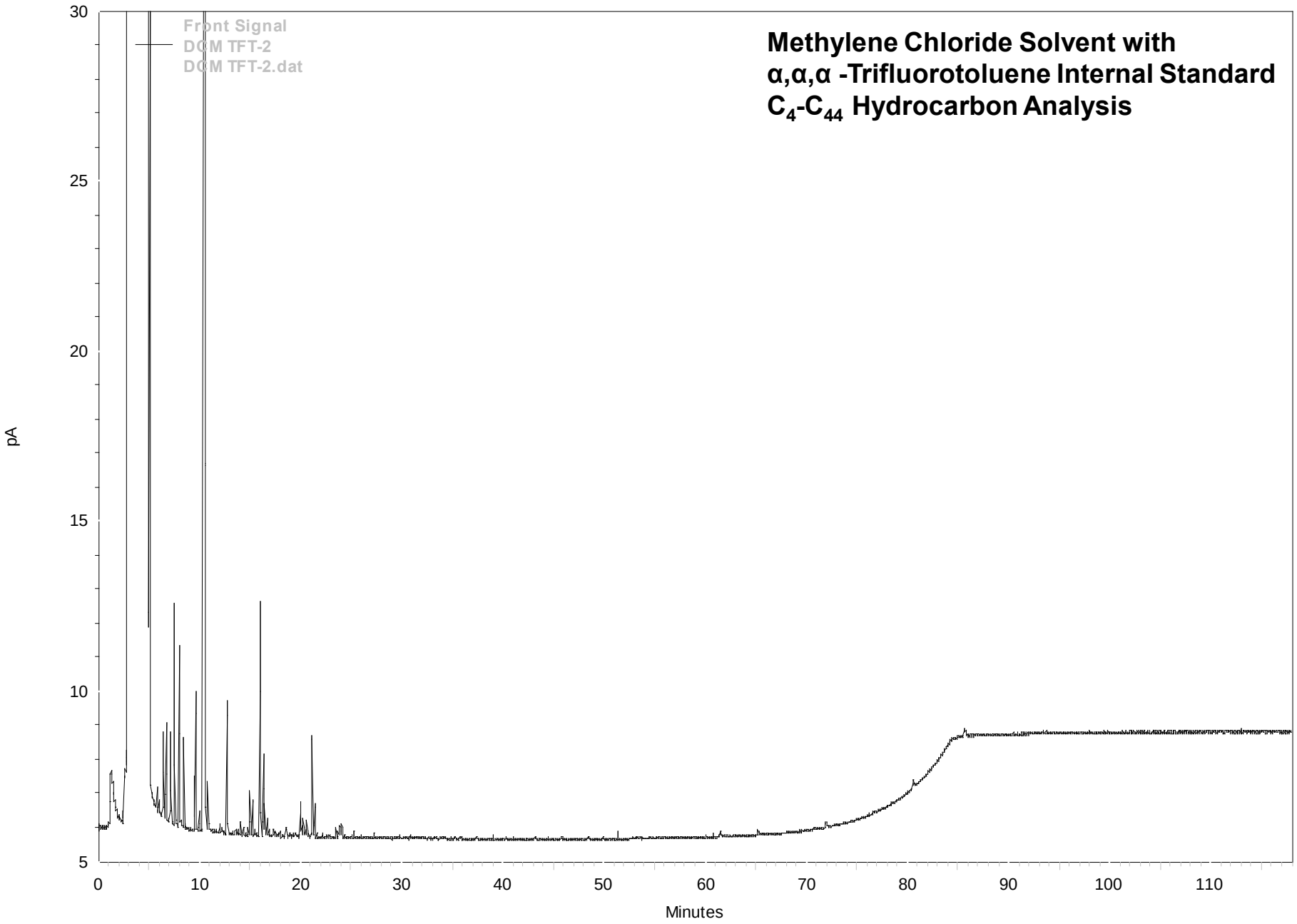

Figure 8: GC-FID Chromatogram of Solvent + Internal Standard

Request for Environmental Analysis and Chain of Custody

To: Environmental Analysis Lab, Room 51-1151,
Chevron Energy Technology Co.,
100 Chevron Way, Richmond, CA 94802
Contact: Environmental Lab: Karsia Yip 510-242-5918 or Kitty Kong 510-242-1654

Date: 11/9/17

Chevron PM: DANIEL CARRIER		Phone: (714) 671-3371
Company, Department: CEMC	EMC Bus. Unit, if applicable: MBU-CEMC	Charge Code: 08.02
Address:		
Contract PM: SIOBHAN PRITCHARD	E-mail: SIOBHAN.PRITCHARD@GHD.COM	Phone: (720) 974-0963
Company, Address: GHD SERVICES, INC. —		

Sampling Location (Address): CHEVRON 306449, 2730 SPENARD ROAD, ANCHORAGE, AK — Facility Number: 306449

(X) Service Station ( ) Fuel Terminal ( ) Marine Terminal ( ) Pipeline ( ) Refinery
(X) Other FORMER SERVICE STATION

(X) Chevron ( ) Texaco ( ) Gulf ( ) BP ( ) Cumberland Farms ( ) CalTex ( ) Shell ( ) Exxon
(X) Other UNOCAL

Type of Analysis Desired
(X) Identify Product ( ) Compare Spill with Potential Sources (Send Source Samples)
( ) Compare Samples with Previous Analyses. Log Numbers and/or Dates:_____
( ) Other_____ (Call 510-242-1654 for Approval)

Reason for Request (Clearly State Problem, Site History, Draw or Enclose a Map, Indicate Whether Leak or Spill)
DETERMINE CONTAMINATION PRESENT FROM FORMER LOG CRIBS. PRODUCT/SHEEN NOTED DURING WELL DEVELOPMENT IN MW-2. SEE ATTACHED SITE MAP

Normal turn-around time is 4-6 weeks. Call 510-242-1654 to negotiate alternate arrangements.

Number of Containers Per Sample	Sample Name/Description	Date Sampled	Sampled By
2	MW-1-W-171109	11/9/17	T.WEAVER, C.YAN
2	MW-2-W-171109	11/9/17	T.WEAVER, C.YAN
2	MW-3-W-171109	11/9/17	T.WEAVER, C.YAN
1	CONTROL (CLEAN UNUSED VIAL)	—	—

Transporter	Date Received	Initials
Laboratory: **Chevron Energy Technology Company**	Date Received: 11-14-17	Initials: KY

It is the shipper's responsibility to ensure Federal DOT regulations and UN performance standards are complied with. When in doubt, assume the sample is flammable
10/06/10

Guidelines for shipping samples to ETC for Environmental Analysis

Sample containers and desired volumes:

- **Hydrocarbons:** 120 ml per gasoline sample, preferably in three 40 ml clear glass vials with **solid** teflon-coated caps (septum caps leak). 40 ml per distillate or oil sample. If 40 ml vials are unavailable, a pint or 4 oz. glass jar with teflon lined cap is acceptable. Leave approximately 1/8" headspace in the vials to allow for fuel expansion. If necessary, include produced water to minimize headspace.

- **Water samples:** Two 1000 mL clear glass bottles with teflon-lined caps. Make sure there is no headspace in the bottle. Do not send VOA vials of water - the volume is insufficient for fingerprint analysis. Water samples must be preserved with HCl at pH <2 and kept at 4°C.

- **Soil samples:** Two 8 ounce wide mouth clear glass jars with teflon-lined caps, or a capped brass sleeve from a split spoon sampler. Minimize headspace. Keep the samples at 4°C.

Shipping Instructions: All samples must be accompanied by a Request for Environmental Analysis and Chain of Custody form, obtained by calling 510-242-1654 (Kitty Kong). Please obtain the appropriate charge code for the site and note it on the form. Seal the form in a plastic bag and enclose it in the container with the samples.

Please ship all soil and water samples in an ice chest at 4°C. Seal each sample in a plastic bag to keep the labels from getting wet. A mixture of foam blocks and plastic bags containing ice works well to chill the samples and protect them from breakage. Hydrocarbon samples need not be iced. They should be wrapped in plastic, enclosed in a metal can filled with vermiculite or other protective packing, and packed in a box that meets D.O.T. and U.N. requirements.

It is advisable to send the samples by overnight air. **No weekend deliveries**, please. It is the shipper's responsibility to ensure federal D.O.T. regulations and UN performance standards are complied with.

Local samplers must also comply with all Hazmat regulations. Call 510-242-1654 to obtain a COC form that **must** accompany the samples. **Samples that arrive without a shipping form will not be accepted.** Properly packed and chilled samples should be delivered to Chevron's Richmond Technology Center shipping and receiving dock. The address is 100 Chevron Way in Richmond, CA, but the property entrance is located on the Richmond Parkway at the Castro Street offramp from Interstate 580. Drive up to the guard kiosk and ask for directions to shipping and receiving.

Fuel Product Hazard Warnings (See Chevron MSDS for Additional Information)		
Gasoline (All Grades) Jet Fuel B Jet Fuel Gasoline Grade Aviation B Gasoline (All Grades)	**Danger**	Extremely flammable. Harmful or fatal if swallowed. Prolonged or repeated contact may cause skin/eye and respiratory irritation or other injury.
Diesel (All Grades) Heating Fuel/Oil (All Grades) Jet Fuel (Grades A, A-1, A-50, JP-4, JP-5) Aviation Turbine Fuel, JP-5	**Danger**	Combustible. Harmful or fatal if swallowed. Prolonged or repeated contact may cause skin/respiratory irritation or other injury.
Water samples with ppm or less hydrocarbon Soil samples with ppm or less hydrocarbon		Not hazardous.
For Health and Safety Information Call or Write Chevron Emergency Information Center: P.O. Box 4054, Richmond, Ca 94804-0054, 800-457-2022 **In case of leak, spill or fire, call CHEMTREC Toll Free 800-262-8200 (CCN 633019)**		

10/06/10

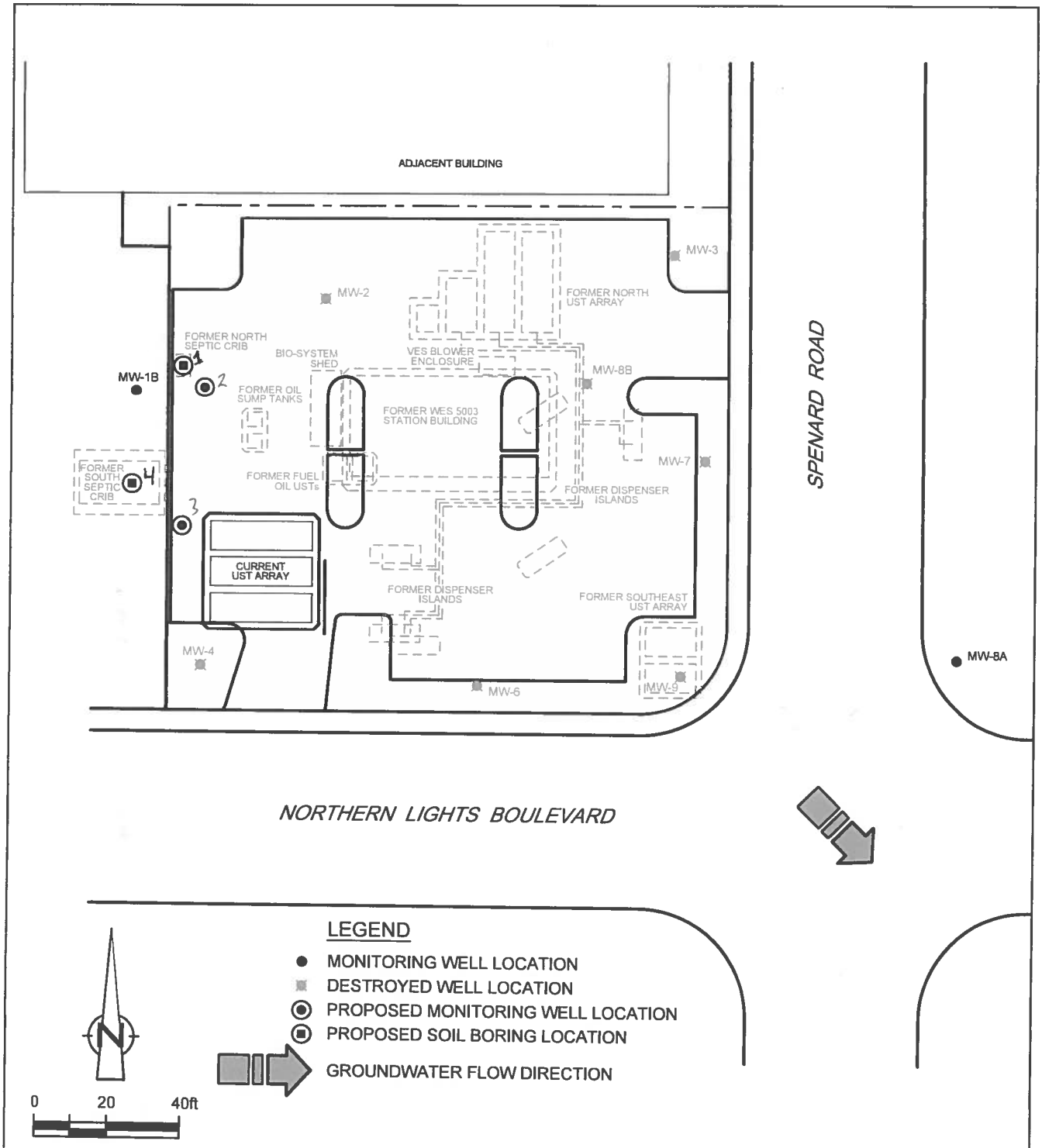

Figure 2

PROPOSED MONITORING WELL AND SOIL BORING LOCATIONS
FORMER CHEVRON SERVICE STATION 306449
2730 SPENARD ROAD
Anchorage, Alaska

GHD

082676-2013(001)GN-DN002 JAN 24, 2017

Appendix I
ADEC Laboratory Data Review Checklist and Memorandum

Memorandum

January 24, 2018

To:	ADEC	Ref. No.:	082676
	AuthorInitials		
From:	Jeffrey Cloud	Tel:	206-914-3141
CC:	Siobhan Pritchard		

Subject: **QA/QC Review**
ChevronTexaco Site 30-6449
Job # 1845654
August 2017

1. Introduction

This document details a reduced validation of analytical results for soil samples collected in Anchorage, Alaska during August 2017. Samples were submitted to Eurofins Lancaster Laboratories Environmental, located in Lancaster, Pennsylvania.

Standard GHD report deliverables were submitted by the laboratory. The final results and supporting quality assurance/quality control (QA/QC) data were assessed. Evaluation of the data was based on information obtained from the chain of custody forms, finished report forms, method blank data, duplicate data, recovery data from surrogate spikes, laboratory control samples (LCS), matrix spikes (MS) and field QC samples.

The QA/QC criteria by which these data have been assessed are outlined in the analytical methods and applicable guidance from the documents entitled:

- "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review", USEPA 540-R-08-01, June 2008
- "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review", USEPA 540-R-10-011, January 2010

These items will subsequently be referred to as the "Guidelines" in this Memorandum.

2. Sample Holding Time and Preservation

The sample holding time criteria and sample preservation requirements for the analyses are summarized in the methods. The sample chain of custody documents and analytical report were used to determine sample holding times. All samples were prepared and analyzed within the required holding times.

All samples were properly delivered on ice, and stored by the laboratory at the required temperature (0-6°C).

3. Laboratory Method Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

All method blank results were non-detect, indicating that laboratory contamination was not a factor for this investigation with the exception of a few analytes present at low concentrations. The anthracene, fluorene, naphthalene and phenanthrene results for samples MW-1-S-17.5, MW-1-S-20, MW-2-S-19-, MW-2-S-24.5, MW-3-S-15, MW-3-S-17.5, MW-4-S-18.5, MW-4-S-23.5 were qualified as non-detect due to contamination as evidenced by the blank.

4. Surrogate Spike Recoveries - Organic Analyses

In accordance with the methods employed, all samples, blanks, and QC samples analyzed for organics are spiked with surrogate compounds prior to sample extraction and/or analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices. Due to necessary sample dilutions, surrogate recoveries were not assessed for some samples.

All samples submitted for volatile organic compound (VOC), semivolatile organic compound (SVOC), gasoline range organics (GRO), diesel range organics (DRO)/residual range organics (RRO) and polychlorinated biphenyl (PCB) analysis were spiked with the appropriate number of surrogate compounds prior to sample extraction and/or analysis.

Each individual surrogate compound is expected to meet the associated control limits with the exception of SVOC analyses. According to the "Guidelines" for SVOC analyses, up to one outlying surrogate in the base/neutral or acid fractions is acceptable as long as the recovery is at least 10 percent.

Surrogate recoveries were assessed against the control limits. All surrogate recoveries met the associated criteria.

5. Laboratory Control Sample Analyses

Laboratory control samples (LCS)/laboratory control sample duplicates (LCSD) are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects. The relative percent difference (RPD) of the LCS/LCSD recoveries is used to evaluate analytical precision.

For this study, LCS or LCS/LCSD were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

Organic Analyses

The LCS and LCS/LCSD contained all analytes of interest. All LCS and LCS/LCSD recoveries and RPDs were within associated control limits, demonstrating acceptable analytical accuracy and precision (where applicable) with a few exceptions. Where a high recovery was found the associated sample result was non-detect and was not impacted. Where low recoveries were found the acenaphthylene, benzo(a)anthracene and fluoranthene results for samples MW-1-S-2 and MW-4-S-2 were qualified as estimated due to the implied low bias.

Inorganic Analyses

The LCS contained all analytes of interest. LCS recoveries were assessed per the "Guidelines". All LCS recoveries were within the control limits, demonstrating acceptable analytical accuracy.

6. Matrix Spike/Matrix Spike Duplicate Analyses

To evaluate the effects of sample matrices on the extraction process, measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the analyte of concern and analyzed as matrix spike/matrix spike duplicate (MS/MSD) samples. The RPD between the MS and MSD is used to assess analytical precision. If only the MS or MSD was outside of the control limits, no qualification of the data was performed based on the acceptable recovery of the companion spike and the acceptable RPD.

Organic Analyses

The MS/MSD samples were spiked with the analytes of interest. All percent recoveries and RPD values were within the associated control limits, demonstrating acceptable analytical accuracy and precision with a few exceptions. Where high recoveries were found the associated non-detect results were not impacted and the benzo(b)fluoranthene result for sample MW-1-S-20 was qualified as estimated due to the implied high bias. Where low recoveries were found the acenaphthylene, benzo(g,h,i)perylene, dibenz(a,h)anthracene and indeno(1,2,3-cd)pyrene results for sample MW-1-S-20 were qualified as estimated due to the implied low bias.

Inorganic Analyses

The MS/MSD samples were spiked with the analytes of interest, and the results were evaluated using the "Guidelines". All percent recoveries and RPD values were within the control limits, demonstrating acceptable analytical accuracy and precision.

7. Duplicate Sample Analyses

Analytical precision is evaluated based on the analysis of laboratory duplicate samples. The duplicate results were evaluated per the "Guidelines". All duplicate analyses performed were acceptable, demonstrating acceptable analytical precision.

8. Field QA/QC Samples

The field QA/QC consisted of one trip blank sample, two equipment blank samples and two field duplicate sample sets.

Trip Blank Sample Analysis

To evaluate contamination from sample collection, transportation, storage, and analytical activities, one trip blank was submitted to the laboratory for analysis. All results were non-detect for the analytes of interest.

Equipment Blank Sample Analysis

To assess field decontamination procedures, ambient conditions at the site, and cleanliness of sample containers, two equipment blanks were submitted for analysis. All results were non-detect for the analytes of interest with the exception of a few analytes present at low concentrations. The associated samples results were either non-detect or significantly greater than the blanks and were not impacted. No qualification of the data was deemed necessary.

Field Duplicate Sample Analysis

To assess the analytical and sampling protocol precision, two field duplicate samples were collected and submitted "blind" to the laboratory. The RPDs associated with these duplicate samples must be less than 100 percent. If the reported concentration in both the investigative sample and its duplicate is less than five times the reporting limit (RL), the evaluation criterion is two times the RL value.

All field duplicate results were within acceptable agreement, demonstrating acceptable sampling and analytical precision with a few exceptions. The toluene, benzo(g,h,i)perylene, naphthalene and RRO results for samples MW-1-A-20/DUP-1 and the pyrene results for samples MW-3-S-15/DUP-2 were qualified as estimated due to variability.

9. Analyte Reporting

Non-detect data were reported down to the laboratory's method detections limit (MDL) for each analyte. Positive analyte detections less than the reporting limit (RL) but greater than the MDL were reported as estimated (J).

All soil results were reported on a dry weight basis.

10. Conclusion

Based on the assessment detailed in the foregoing, the summarized data are acceptable with the specific qualifications noted herein.

Laboratory Data Review Checklist

Completed by:

J Cloud

Title:

Project Chemist

Date:

November 08, 2017

CS Report Name:

Report Date:

September 22, 2017

Consultant Firm:

GHD Services Inc.

Laboratory Name:

Eurofins Lancaster Laboratories Environmental

Laboratory Report Number:

1845654

ADEC File Number:

Hazard Identification Number:

1. Laboratory

   a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?
   (●) Yes ( ) No Comments:

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?
   ( ) Yes (●) No Comments:
   Samples not transferred

2. Chain of Custody (COC)

   a. COC information completed, signed, and dated (including released/received by)?
   (●) Yes ( ) No Comments:

   b. Correct analyses requested?
   (●) Yes ( ) No Comments:

3. Laboratory Sample Receipt Documentation

   a. Sample/cooler temperature documented and within range at receipt (0° to 6° C)?
   (●) Yes ( ) No Comments:

   b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?
   (●) Yes ( ) No Comments:

   c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?
   (●) Yes ( ) No Comments:

   d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?
   (●) Yes ( ) No Comments:

e. Data quality or usability affected?

Comments:

None

4. Case Narrative

a. Present and understandable?

(•) Yes ( ) No Comments:

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

(•) Yes ( ) No Comments:

c. Were all corrective actions documented?

(•) Yes ( ) No Comments:

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

Comments:

None

5. Samples Results

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

(•) Yes ( ) No Comments:

b. All applicable holding times met?

(•) Yes ( ) No Comments:

c. All soils reported on a dry weight basis?

(•) Yes ( ) No Comments:

d. Are the reported LOQs less than the Cleanup Level or the minimum required detection level for the project?

(•) Yes ( ) No Comments:

e. Data quality or usability affected?

Comments:

None

6. QC Samples

a. Method Blank

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

(•) Yes ( ) No Comments:

ii. All method blank results less than limit of quantitation (LOQ)?

( ) Yes (•) No Comments:

One method 8270 method blank and one method 6010 method blank had detections

iii. If above LOQ, what samples are affected?

Comments:

MW-1-S-17.5, MW-1-S-20, MW-2-S-19-, MW-2-S-24.5, MW-3-S-15, MW-3-S-17.5, MW-4-S-18.5, MW-4-S-23.5

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

(•) Yes ( ) No Comments:

v. Data quality or usability affected?

Comments:

The anthracene, fluorene, naphthalene and phenanthrene results for samples MW-1-S-17.5, MW-1-S-20, MW-2-S-19-, MW-2-S-24.5, MW-3-S-15, MW-3-S-17.5, MW-4-S-18.5, MW-4-S-23.5 were qualified as non-detect due to contamination as evidenced by the blank.

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

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

(•) Yes ( ) No Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

(•) Yes ( ) No Comments:

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

○ Yes ◉ No Comments:

Several recoveris were outside of the acceptable limits

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

◉ Yes ○ No Comments:

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

Comments:

MW-1-S-2, MW-1-S-20 and MW-4-S-2

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

◉ Yes ○ No Comments:

vii. Data quality or usability affected?

Comments:

The acenaphthylene, benzo(a)anthracene and flouranthene results for samples MW-1-S-2 and MW-4-S-2 were qualified as estimated due to the implied low bias. The benzo(b)fluoranthene result for sample MW-1-S-20 was qualified as estimated due to the implied high bias and the acenaphthylene, benzo(g,h,i)perylene, dibenz(a,h)anthracene and indeno(1,2,3-cd)pyrene results for sample MW-1-S-20 were qualified as estimated due to the implied low bias.

c. Surrogates – Organics Only

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

◉ Yes ○ No Comments:

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

◉ Yes ○ No Comments:

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

Due to necessary sample dilutions, surrogate recoveries were not assessed for some samples.

○ Yes ◉ No Comments:

iv. Data quality or usability affected?

Comments:

None

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and cooler?

◉ Yes ○ No Comments:

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

○ Yes ○ No Comments:

iii. All results less than LOQ?

◉ Yes ○ No Comments:

iv. If above LOQ, what samples are affected?

Comments:

No affected samples

v. Data quality or usability affected?

Comments:

None

e. Field Duplicate

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

◉ Yes ○ No Comments:

ii. Submitted blind to lab?

◉ Yes ○ No Comments:

iii. Precision – All relative percent differences (RPD) less than specified DQOs? (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 Comments:

Toluene, benzo(g,h,i)perylene, naphthalene and RRO had high RPDs for samples MW-1-A-20/DUP-1 and pyrene had a high RPD for samples MW-3-S-15/DUP-2

iv. Data quality or usability affected?

Comments:

The toluene, benzo(g,h,i)perylene, naphthalene and RRO results for samples MW-1-A-20/DUP-1 and the pyrene results for samples MW-3-S-15/DUP-2 were qualified as estimated due to variability

f. Decontamination or Equipment Blank (If not applicable, a comment stating why must be entered below.)

◉ Yes ○ No ○ Not Applicable

i. All results less than LOQ?

○ Yes ◉ No Comments:

The equipment blanks had several detections

ii. If above LOQ, what samples are affected?

Comments:

No affected samples

iii. Data quality or usability affected?

Comments:

The associated sample results were either non-detect or significantly greater than the blanks and were not impacted. No qualification of the data was deemed neceesary.

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

   a. Defined and appropriate?

      (•) Yes ( ) No Comments: