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Chevron Environmental Management Company

2010 Site Assessment and Second Semiannual Groundwater Monitoring Report

Former Chevron Facility 309152
6223 Old Airport Road
Fairbanks, Alaska
ADEC File No: 100.38.206

June 7, 2011

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1. Introduction

On behalf of Chevron Environmental Management Company (Chevron EMC), ARCADIS U.S., Inc. (ARCADIS) has prepared this 2010 Site Assessment and Second Semiannual Groundwater Monitoring Report (report) for the former Chevron Facility 309152 located at 6223 Old Airport Road in Fairbanks, Alaska (site; Figure 1). This report has been prepared in response to the Alaska Department of Environmental Conservation (ADEC) request for additional assessment work at the site. The assessment activities were performed as outlined in the Workplan for Site Assessment and Ecological Evaluation (ARCADIS 2010). The site assessment activities were completed between August 18 and 28, 2010. The groundwater monitoring activities were conducted on September 27, 28 and 29, 2010. This work was conducted under the direction of a "qualified person" [18 AAC 75. 990 (100) and 18 AAC 78.995 (118)].

2. Site Description

According to lease information provided by the Fairbanks International Airport (FIA), Standard Oil leased the site from 1962 until 1972. Eight aboveground storage tanks and a fueling island were located on site for the storage and distribution of petroleum products. The tank farm was dismantled in approximately 1973 and the site has been used as warehouse space since that time. The site is generally flat, with a sloping surface along the western side.

A limited site assessment was conducted on behalf of FIA in fall 2006. Field screening of soil and groundwater samples collected as part of this assessment indicated the presence of petroleum impacts at the site. During a project review meeting in April 2007, the ADEC requested a comprehensive assessment of the site.

Based on the results of the fall 2006 limited site assessment, five additional monitoring wells (MW-1 through MW-5) were installed in July 2007 in areas identified as potential source areas and/or in areas identified as having elevated absorbed and dissolved-phase hydrocarbon concentrations, and in a manner to adequately characterize groundwater flow direction. Of the five installed monitoring wells, four monitoring wells exceeded ADEC Soil Cleanup Levels (SCLs) for one or more of the following constituents of concern: gasoline-range organics (GROs), diesel range organics (DRO), and benzene, toluene, ethylbenzene and total xylenes (BTEX). Light nonaqueous phase liquid (LNAPL) was detected in monitoring wells MW-2 and MW-3 in March 2008.

To further characterize the source area and delineate the area of impact, an additional site assessment was conducted in July 2008 and included the installation of seven wells. One on-site recovery well (RW-1), three on-site groundwater monitoring wells (MW-6, MW-9 and MW-10) and three off-site groundwater monitoring wells (MW-7, MW-8 and MW-11) were installed. Soil samples collected from MW-6 at depths between 9 and 12.5 feet below ground surface (bgs) contained concentrations of DRO above the ADEC SCL. One soil sample collected from MW-8 at a depth of 3 feet bgs contained concentrations of DRO above the ADEC SCL. One soil sample collected from MW-9 at a depth of 13 feet bgs contained concentrations of benzene above the ADEC SCL. Historical and current soil analytical data is presented in Table 1.

LNAPL has been observed on the groundwater surface in MW-6 and in MW-9 since October 2008. In addition, LNAPL has been observed intermittently on the groundwater surface in RW-1 since March 2009. Historically, LNAPL has been

observed in seven on-site wells (MW-1 through MW-4, MW-6, MW-9, and RW-1). In April and May 2008, product-typing analyses were conducted by Zymax Forensics on LNAPL samples collected from MW-1, MW-2 and MW-9 in late March 2008. Analyses of the samples concluded that the LNAPL collected from these wells contained different proportions of aviation gasoline and unweathered jet fuel. The proportion of LNAPL defined as aviation gasoline was greatest in MW-9.

Additional site assessment work was conducted in July 2009. Two piezometers (PZ-1 and PZ-2) were installed at the shore of the pond to assess potential impacts to the pond in the drainage basin. Soil samples collected in the vadose zone directly above saturation at the shore of the pond previously showed concentrations of DRO above the SCL. Groundwater collected from PZ-1 and PZ-2 had concentrations of GRO, DRO, residual-range organics (RROs) and benzene, detected above cleanup levels. These groundwater analytical data were compared to ADEC surface-water cleanup criteria (on the basis of potential impact to the surface water of the pond).

Water samples were collected from the adjacent stormwater culvert (which drains into the pond in the drainage basin) in September 2009. Analytical results of the water samples revealed that no concentrations of petroleum hydrocarbons were detected above cleanup levels nor did samples exceed the surface-water cleanup criteria (total aromatic hydrocarbons (TAHs) and total aqueous hydrocarbons (TAqH).

3. Site Geology

The Fairbanks region is typically underlain by 330 to almost 600 feet of Quaternary fluvial and glaciofluvial sediment (sand and gravel covered by fine sediments and organic matter) originating from the Alaska Range (Natural Resources Conservation Service and U.S. Department of Agriculture 2004). The shallow soils logged during the 2010 assessment ranged between large silty gravel (GP) and clayey sands (SC). Previous assessments on site have observed well-graded to poorly graded sands to silt from the ground surface to approximately 5 to 8 feet bgs, followed by gravels, sands and silts to approximately 20 feet bgs. The subsurface lithology at the site is indicative of glaciofluvial deposits with channeling.

4. Constituents of Potential Concern

Constituents of potential concern for this site and their associated ADEC cleanup levels (CLs) for soil and groundwater are presented in the table below, as well as their applicable laboratory analysis method and laboratory detection limits.

Contaminants of Potential Concern	Soil Cleanup Level (mg/kg)	Groundwater Cleanup Level (mg/L)	Laboratory Method	Detection Limit: Soil (mg/kg)/ Water (mg/L)
GRO	300	2.2	Alaska Method AK 101	0.6 / 0.010
DRO	250	1.5	Alaska Method AK 102	4.4 / 0.05
RRO	11,000	1.1	Alaska Method AK 103	4.4 / 0.05
Benzene	0.025	0.005	USEPA Method 8021B	0.005 / 0.0005
Ethylbenzene	6.9	0.7	USEPA Method 8021B	0.005 / 0.0005
Toluene	6.5	1	USEPA Method 8021B	0.005 / 0.0005
Total Xylenes	63	10	USEPA Method 8021B	0.02 / 0.0015
1,2 Ethylene dibromide (EDB)	NA	0.00005	USEPA Method 8011M	NA / 0.00001
Naphthalene	NA	0.73	USEPA Method 8021B	NA / 0.001
Lead (total for soil) (dissolved for groundwater)	--	0.015	USEPA Method 6020	0.04 / 0.0001

Notes:
CL = 18 AAC 75 Oil and Other Hazardous Substances Pollution Control, rev. October 9, 2008; Table B1. Method Two – Soil Cleanup Levels (Migration to Groundwater) & Table C. Groundwater Cleanup Levels
mg/kg = Milligrams per kilogram
mg/L = Milligrams per liter
NA = Not applicable
USEPA = United States Environmental Protection Agency
-- = No set limit

5. 2010 Site Assessment Activities

The 2010 site assessment was conducted to further delineate the vertical and horizontal extent of petroleum impacts at the site and to perform an initial ecological evaluation of the pond downgradient of the site. The following activities were completed as part of the assessment:

- advanced two soil borings and two hand auger borings
- installed two monitoring wells
- conducted surface-water and sediment sampling
- completed a site survey

These activities are described Sections 5.1 and 5.2.

5.1 Soil Boring Advancement and Groundwater Monitoring Well Installation

Two soil borings (SB-1 and SB-2) and two groundwater monitoring wells (MW-12 and MW-13) were advanced/installed to further delineate vertical and horizontal impacts. SB-1 and SB-2 were advanced at locations in the area of the highest petroleum impacts to assist in on-site vertical delineation. Monitoring wells MW-12 and MW-13 were installed at locations to further delineate LNAPL and dissolved-phase hydrocarbons. The locations of SB-1, SB-2, MW-12 and MW-13 are shown on the Site Vicinity Map (Figure 2). ARCADIS retained a private utility locating company to conduct utility clearance in the vicinity of the proposed well and boring locations. During the survey, no utilities were located near the proposed locations.

A third monitoring well was proposed to be installed on the property to the north of the site to further delineate LNAPL and dissolved-phase impacts off site. During demolition activities at that property in early August 2010, impacts related to a dry well under the building were observed. Installation of the proposed monitoring well to the north will be postponed until results of an assessment on that property have been reviewed.

5.1.1 Soil Sample Collection Methods

Each boring was cleared to a depth of 8 feet bgs using a vacuum truck to perform utility clearance. At 2-foot intervals the vacuum was stopped and a hand auger was

advanced to collect an undisturbed sample for screening using a photo ionization detector (PID) and classification using the United Soil Classification System (USCS). The soil borings were then advanced using a hollow stem auger drill rig provided by Discovery Drilling, located in Anchorage, Alaska. Soil samples were collected continuously using split spoon soil samplers to the final depth of the boring. ARCADIS field staff inspected each split spoon and collected analytical samples based on field screening. Up to four samples per boring were collected for laboratory analysis. At least one sample was collected from the groundwater interface zone, up to two additional samples were collected where the highest elevated PID readings were detected, and one sample was collected from the bottom of the borehole once the desired depth was reached.

Analytical samples were placed directly into clean, laboratory supplied containers and preserved specific to the analysis to be performed. The containers, 4-ounce or larger jars with a Teflon®-lined septum fused to the lid, were zeroed with a field scale. The soil was immediately preserved by submerging the sample in surrogate methanol in the jars. Soil only came into contact with properly decontaminated or disposable materials and handling of the soils was kept at a minimum to prevent volatilization or possible cross contamination. Samples were collected in accordance with ADEC Draft Field Sampling Guidance (ADEC 2010).

Sample containers were labeled to include the date, time, location and depth of the sample collection, and were immediately stored in an iced cooler, kept at a temperature of 2 to 6 degrees Celsius. The samples were retained at this temperature and accompanied by the chain-of-custody through delivery to the laboratory. Collected samples were referenced on field boring logs (Appendix A) and in field note documents (Appendix B).

5.1.2 Field Screening

Soil samples were field screened continuously during drilling activities using a PID and visually classified using the USCS. Soils from each split spoon sampler were placed into a sealable plastic bag and allowed to volatilize for at least 10 minutes, but no more than 60 minutes. A PID was then inserted into a small opening of the plastic bag and used to read the level of volatile organic compounds (VOCs) in the bag. The VOC reading was recorded on the boring logs and field sheets used to document drilling activities. Field screening for volatiles also included a visual inspection of soils for the presence of LNAPL, hydrocarbon odor or hydrocarbon sheen. Field screening values,

lithology descriptions and soil classifications were conducted by trained ARCADIS field staff and recorded on boring logs included in Appendix A.

5.1.3 Monitoring Well Construction

Upon completion of borings and soil sample collection, monitoring wells MW-12 and MW-13 were installed in accordance with the ADEC's Monitoring Well Guidance document (ADEC 2009a). The monitoring wells were constructed of 2-inch-diameter schedule 40 polyvinyl chloride (PVC) well casing, with 0.010-inch factory-slotted screen and 2-inch solid schedule 40 PVC riser. The wells were set at 20 feet bgs, with a screened interval from 5 to 20 feet bgs. Due to the seasonal groundwater fluctuations at this site, 15 feet of screen was used. The depth to water on site is generally 9 to 16 ft bgs. A standard sand pack (#10/20 silica sand) was placed from the bottom of the borehole to approximately 1 foot above the screened interval. The sand pack was followed by hydrated bentonite chips, pea gravel and a bentonite-cement seal. The wells were fitted with sealing and locking well caps and traffic-rated well boxes installed at the surface to provide secure wellheads. Monitoring well constructions are shown on the boring logs included in Appendix A.

5.1.4 Soil Borings

Soil borings SB-1 and SB-2 were advanced in the area thought to be the most impacted on site, based on previous investigations, to determine the vertical extent of petroleum impacts in the subsurface. The borings were advanced until field screening indicated that the vertical extent was defined. Soil borings SB-1 and SB-2 were advanced to 20 feet bgs. The completed boreholes were then backfilled with hydrated bentonite chips.

5.1.5 Soil Analytical Methods

Soil sample analysis was conducted by Lancaster Laboratories in Lancaster, Pennsylvania, with a standard turnaround time of 10 days. The laboratory sample bottles and preservatives needed to complete this project are listed in the table below.

Constituent	Soil	Lab Method
GRO	One 125 milliliter (mL) wide-mouth amber glass jar (methanol [MeOH] with surrogate preservative)	GRO = Alaska Method AK 101
DRO and RRO	One 125 mL wide-mouth amber glass jar (unpreserved)	DRO and RRO = Alaska Method AK 102 and 103
BTEX	One 125 mL wide-mouth amber glass jar (MeOH with surrogate preservative)	BTEX = USEPA method 8021B
Total lead	One 125 mL wide-mouth clear glass jar (unpreserved)	Total lead = USEPA method 6020B
EDB	One 125 mL wide-mouth amber glass jar (MeOH with surrogate preservative)	EDB = USEPA Method 8260B
1,2-Dichloroethane (EDC)	One 125 mL wide-mouth amber glass jar (MeOH with surrogate preservative)	EDC = USEPA Method 8260B
Polycyclic aromatic hydrocarbons (PAHs)	One 125 mL wide-mouth glass jar (unpreserved)	PAHs = USEPA Method 8270C SIM
Notes: SIM = Selected ion monitoring		

5.1.6 Soil Analytical Results – GRO, DRO, RRO and BTEX

Soil analytical results were reported on a dry-weight basis. Soil analytical results are presented in Tables 1, 2 and 3. Soil boring and monitoring well locations with soil analytical results are presented on Figures 3, 4 and 5.

5.1.1.1 Soil Boring SB-1

During the advancement of SB-1, soil samples were collected for lab analysis at depths of 2, 12 and 20 feet bgs (one duplicate soil sample was collected from SB-1 at a depth of 12 feet bgs).

GRO was detected above the ADEC SCL (300 milligrams per kilogram [mg/kg]) at depths of 2 and 12 feet bgs, at concentrations of 7,300 and 3,500 mg/kg, respectively. DRO was detected above the ADEC SCL (250 mg/kg) at depths of 2 and 12 feet bgs, at concentrations of 70,000 and 1,200 mg/kg, respectively.

Benzene was detected above the ADEC SCL (0.025 mg/kg) at depths of 12 and 20 feet bgs, at concentrations of 12 and 0.05 mg/kg, respectively. The laboratory MDL was greater than the SCL for benzene in the soil sample collected at a depth of 2 feet bgs; however, benzene was not detected. Toluene was detected above the ADEC SCL (6.5 mg/kg) at depths of 2 and 12 feet bgs, at concentrations of 18 and 10 mg/kg, respectively. Ethylbenzene was detected above the ADEC SCL (6.9 mg/kg) at depths of 2 and 12 feet bgs, at concentrations of 130 and 30 mg/kg, respectively. Total xylenes were detected above the ADEC SCL (63 mg/kg) at depths of 2 and 12 feet bgs, at concentrations of 640 and 180 mg/kg, respectively.

5.1.1.2 Soil Boring SB-2

During the advancement of SB-2, soil samples were collected for lab analysis at depths of 2, 12 and 20 feet bgs (one duplicate soil sample was collected from SB-2 at a depth of 2 feet bgs).

GRO was detected above the ADEC SCL at depths of 2 and 12 feet bgs, at concentrations of 4,400 and 2,800 mg/kg, respectively. DRO was detected above the ADEC SCL at depths of 2 and 12 feet bgs, at concentrations of 44,000 and 3,100 mg/kg, respectively.

Benzene was detected above the ADEC SCL at depths of 12 and 20 feet bgs, at concentrations of 8.4 and 0.03 mg/kg, respectively. The laboratory MDL was greater than the SCL for benzene in the soil sample collected at a depth of 2 feet bgs; however, benzene was not detected in this sample. Benzene was detected in the duplicate sample at a concentration of 1.5 mg/kg. Toluene was detected above the ADEC SCL at a depth of 12 feet bgs at a concentration of 9.3 mg/kg. Ethylbenzene was detected above the ADEC SCL at depths of 2 and 12 feet bgs, at concentrations of 7.8 and 26 mg/kg, respectively. Total xylenes were detected above the ADEC SCL at a depth 12 feet bgs at a concentration of 140 mg/kg. The sample collected from SB-2 at 2 feet bgs did not contain a concentration of total xylenes above the SCL (39 mg/kg); however, the duplicate sample did (83 mg/kg).

5.1.1.3 Soil Boring MW-12

During the advancement of MW-12, soil samples were collected for lab analysis at depths of 2, 14, 16 and 24 feet bgs (one duplicate soil sample was collected from MW-12 at a depth of 24 feet bgs).

GRO was detected above the ADEC SCL at a depth of 16 feet bgs, at a concentration of 4,500 mg/kg. DRO was detected above the ADEC SCL at a depth of 16 feet bgs, at a concentration of 700 mg/kg.

Benzene was detected above the ADEC SCL at depths of 14 and 16 feet bgs, at concentrations of 0.2 and 25 mg/kg, respectively. Toluene was detected above the ADEC SCL at a depth of 16 feet bgs at a concentration of 14 mg/kg. Ethylbenzene was detected above the ADEC SCL at a depth of 14 feet bgs at a concentration of 76 mg/kg. Total xylenes were detected above the ADEC SCL at a depth of 14 feet bgs at a concentration of 380 mg/kg.

5.1.1.4 Soil Boring MW-13

During the advancement of MW-13, soil samples were collected for lab analysis at depths of 2, 10 and 20 feet bgs. None of the soil samples collected had concentrations of GRO, DRO or BTEX constituents detected greater than ADEC SCLs.

5.1.7 Soil Analytical Results – Polycyclic Aromatic Hydrocarbons

PAHs were not detected above the ADEC SCLs in any of the soil samples collected from SB-1, SB-2, MW-12 and MW-13, with the exception of naphthalene concentrations detected greater than the ADEC SCL (20 mg/kg) in soil samples collected from SB-1 at 2 feet bgs (120 mg/kg) and from the duplicate soil sample from SB-2 at 2 feet bgs (21 mg/kg). Soil analytical data for PAHs are presented in Table 2 and are shown on Figure 4.

5.1.8 Soil Analytical Results – EDB and EDC

The laboratory MDLs for EDB and EDC were greater than the ADEC SCLs (0.00016 and 0.016 mg/kg, respectively) for the soil samples collected from SB-1, SB-2, MW-12 and MW-13. Communications with Lancaster Laboratories revealed that the low-limit level MDL that can be reached for EDB and EDC in soil using methanol preservative is 0.050 mg/kg. The low-limit level for EDB and EDC using USEPA Method 8260B is 0.001 mg/kg. Soil analytical data for VOCs, EDB and EDC are presented in **Table 3** and are shown on **Figure 5**.

5.1.9 Monitoring Well Development

Well development occurred a minimum of 48 hours after well installation. Well development was performed by surging the wells over the length of the screen interval and then purging until the water was relatively free of suspended sediments and/or until approximately 10 well volumes were removed.

5.1.10 Surveying

McLane Consulting Inc., a licensed surveyor from Soldotna, Alaska, surveyed the new monitoring well casing elevations relative to existing site features. Top of casing (TOC) well elevations were surveyed relative to a horizontal control based on OPUS EPOCH of 2003 and a vertical control based in North American Vertical Datum of 1988. Elevation measurements were recorded to the nearest 0.01 foot.

5.1.11 Hand Auger Borings HA-1 and HA-2

In 2009, piezometers PZ-1 and PZ-2 were installed downgradient of the site, near the pond. Soil samples were collected and analyzed for DRO. However, the DRO analysis did not use silica gel cleanup techniques, which eliminates the organics that can present inaccurate DRO values. Two hand auger borings were advanced adjacent to the two piezometers to collect soil samples to be analyzed for DRO using silica gel cleanup to determine if there is an organic component to the DRO concentrations observed in 2009. HA-1 and HA-2 were advanced adjacent to PZ-1 and PZ-2, respectively. Soil samples were collected at the groundwater interface (approximately 18 inches bgs).

DRO was detected above the ADEC SCL at 1,700 and 3,700 mg/kg in the soil samples collected from HA-1 and HA-2, respectively. RRO was not detected above the ADEC SCL in either sample.

The 2009 piezometer soil samples and the 2010 hand auger soil samples were compared to determine if an organic fraction is contributing to DRO concentrations detected at the site. The 2010 DRO concentrations (analyzed with silica gel cleanup) were greater than the 2009 DRO results (not analyzed with silica gel cleanup). Some variation of concentrations is expected because two adjacent volumes of soil were sampled. However, based on the analytical data available, it is unlikely that a significant organic component contributes to the detected DRO concentrations at the site. The 2009 and 2010 soil data are summarized in Table 1.

5.2 Ecological Risk Evaluation

An ADEC Eco-Scoping Form for this site was submitted to the ADEC as part of the Work Plan for Site Assessment and Ecological Risk Evaluation (ARCADIS 2010). The form was prepared due to the site's proximity to a downgradient pond. The Eco-Scoping Form indicated that further ecological evaluation would be necessary at the site. The Eco-Scoping Form is included as Appendix C. To further evaluate the ecological risk to the pond, ARCADIS performed a visual inspection of the pond and the surrounding area and collected sediment and surface-water samples. The sediment and surface-water sample locations are shown on Figure 2.

5.2.1 Sediment Sampling

Four sediment samples (Sediment-1 through Sediment-4) were collected to characterize sediments in the downgradient pond on August 25, 2010. The sediment samples were collected in the following areas:

- Sediment-1 was collected near the stormwater discharge culvert located just west of the site.
- Sediment-2 was collected in the area thought to be the most representative of groundwater entering the pond from the site based on groundwater flow direction and location of the site.
- Sediment-3 and -4 were collected on the opposite (west) side of the pond, approximately 400 feet apart.

Sediments were collected at a depth (approximately the top 10 centimeters of sediment) considered to be biologically active and at locations that are expected to typify the different sediment chemistries within the drainage basin.

Sediment samples were collected with a tube sampler, with an end cap and a check-valve. The sediment was sampled by pushing the open end of the tube into shallow sediments, closing off the check valve to create a vacuum on the captured sediment, and capping the open end of the tube (while still underwater) before bringing up the sampling tube. The sediment samples were then placed into the laboratory-provided sample container. Sediment samples were submitted to Lancaster Laboratories Inc, an Alaska state-certified laboratory, for the following analyses:

- GRO by Method AK 101
- DRO by Method AK 102
- RRO by Method AK 103
- BTEX by USEPA Method 8021B
- methyl tert-butyl ether (MTBE), EDB and EDC by USEPA Method 8260B
- PAHs by USEPA Method 8270C SIM
- total lead by USEPA Method 6020

The sediment sampling locations are shown on **Figure 2**. Sediment analytical data are presented in **Tables 4, 5** and **6** and are shown relative to the site vicinity as shown on **Figures 6, 7** and **8**.

5.2.2 Sediment Analytical Results

Sediment analytical data have been screened using the National Oceanic and Atmospheric Administration (NOAA) Screening Quick Reference Tables (SQuiRTs). The specific SQuiRT screening level applied to the sediment analytical data is the Threshold Effects Level (TEL). A TEL is the concentration of a constituent, ingested by an organism, above which some effect will be produced. The TEL concentration is not a cleanup level for sediment and many of the chemical analyses for sediment do not have their own established TEL concentrations.

TEL concentrations are not established for GRO, DRO, RRO, BTEX, EDB, EDC or MTBE. Lead has a TEL concentration of 35 mg/kg in sediment. Sediment-1 and the duplicate sample of Sediment-1 (BD-1) had a detected concentration of total lead at 77.3 and 77.2 mg/kg, respectively. Sediment-2, Sediment-3 and Sediment-4 had detected concentrations of total lead below the TEL concentration.

TEL concentrations were not exceeded by detected PAH concentrations in Sediment-1 through Sediment-4, and TEL concentrations are not established for EDB or EDC.

5.2.3 Surface-Water Sampling

Two surface-water samples (Surface-1-W and Surface-2-W) were collected to characterize surface-water conditions in a biologically active zone of the drainage basin. The surface-water samples were collected in the following areas:

- Surface-1-W was collected near the stormwater discharge culvert.
- Surface-2-W was collected in the area thought to be the most representative of groundwater entering the pond from the site based on groundwater flow direction and location of the site.

Surface-water samples were collected at undisturbed areas, and each sample was collected at a depth of approximately 1 foot below the water surface. The surface-water samples were collected concurrently with the sediment sampling activities (Surface-1-W was collected at the location of [and prior to] Sediment-1 and Surface-2-W was collected at the location of [and prior to] Sediment-2). The surface-water samples were collected using a peristaltic pump, with the tubing placed approximately 6 inches below the water surface. Surface-water samples were submitted to Lancaster Laboratories Inc., an Alaska state-certified laboratory or the following analyses:

- BTEX by USEPA Method 8021B
- PAHs by USEPA Method 8270C SIM

Surface-water sampling locations are shown on **Figure 2**. Surface-water analytical data with reference to TAH and TAqH are shown on **Figure 9** and are presented in **Tables 7** and **8**.

5.2.4 Surface-Water Analytical Results

The surface-water analytical results were compared to ADEC water quality cleanup criteria for fresh water uses for TAHs and TAqHs. Concentrations of BTEX were not detected above the laboratory MDL in Surface-1-W or in Surface-2-W. The TAH cleanup level is calculated as the sum of the concentrations of BTEX compounds. The ADEC cleanup level for TAH in surface waters is 10 micrograms per liter (µg/L; ADEC 2009c). Because BTEX concentrations were not detected in measurable amounts in the surface-water samples collected, the laboratory detection limit was used to

calculate the TAH. The surface-water analytical data with respect to TAH are summarized in **Table 7**.

The TAqH cleanup level is calculated as the sum of the concentrations of the BTEX constituents and individual PAH compounds. The cleanup level for TAqH in surface water is 15 μg/L (ADEC 2009c). Concentrations of the PAHs benzo(b)fluoranthene, fluoranthene, naphthalene and pyrene were detected in surface-water samples at concentrations ranging between 0.012 μg/L of fluoranthene in Surface-2-W to 0.041 μg/L of naphthalene in Surface-2-W. The TAqH concentrations were calculated to be 0.085 μg/L in Surface-1-W and 0.053 μg/L in Surface-2-W. Both concentrations are orders of magnitude below the 15 μg/L cleanup criteria. The surface-water analytical data with respect to TAqH are summarized in **Table 8**.

5.2.5 Ecological Evaluation Summary

The ecological evaluation for the site consisted of visual observations of the pond and surrounding area, and surface-water and sediment sampling. Results of these activities are summarized below:

- Visual observations indicated no distressed biota in the pond or the surrounding area.

- Concentrations of compounds were detected in the four sediment samples above laboratory detection limits; however, did not exceeded their applicable NOAA SQuiRT screening levels (except lead in Sediment-1).

- Concentrations of compounds in Sediment-1 were, in general, one order of magnitude higher than concentrations detected in Sediment-2, Sediment-3 and Sediment-4. Sample Sediment-1 was collected near the outfall of the stormwater outfall.

- The TAqH values calculated for surface-water samples were less than the water quality criteria for fresh water.

Based on the results of the ecological evaluation, the impacts migrating to the pond do not pose an unacceptable risk to potential ecological receptors. At this time, additional ecological evaluation is not needed.

6. Second Semiannual 2010 Groundwater Monitoring

This section summarizes the second semiannual sampling of groundwater monitoring wells pursuant to agreements reached between the ADEC and Chevron Environmental Management Company. This work was conducted on September 27 and 29, 2010 under the direction of a "qualified person(s)" [18 AAC 75. 990 (100), and 18 AAC 78.995 (118]). Monitoring wells MW-1 through MW-13, PZ-1, PZ-2, and RW-1 were gauged using an oil/water interface probe to determine the depth to water and to determine if LNAPL was present.

The monitoring wells were gauged in order, from lowest historical concentrations of petroleum constituents to highest concentrations, to prevent cross contamination during the monitoring event. Nondisposable groundwater gauging equipment was decontaminated prior to and after each use with a detergent solution and potable water.

6.1 Groundwater Elevation and Flow Direction

Depth to groundwater ranged from 2.59 to 13.50 feet below TOC in monitoring wells PZ-2 and MW-6, respectively. Groundwater elevations in the monitoring wells ranged from 420.76 feet above mean sea level (amsl) in monitoring well MW-6 to 424.89 feet amsl in monitoring well MW-13. The hydraulic gradient at the site was calculated to be approximately 0.059 foot per foot.

LNAPL was detected in monitoring wells MW-1 through MW-6 and MW-12 at thicknesses ranging from 0.01 foot in monitoring well MW-5 to 0.70 foot in monitoring well MW-6. Due to the presence of LNAPL, groundwater elevations in monitoring wells MW-1 through MW-6 and MW-12 were corrected using the following formula:

Corrected Groundwater Elevation =
(TOC – Depth to Water) + (LNAPL Thickness x 0.82)

Based on the water levels measured during the September 2010 sampling event, the general groundwater flow direction at the site is to the west-northwest. Groundwater elevation data are summarized in Table 9. A potentiometric surface map illustrating the groundwater flow direction is included on Figure 10.

Monitoring wells that did not contain measurable LNAPL were sampled using no purge sampling procedures in accordance with the Draft Field Sampling Guidance (ADEC

2010) and the Bailer-Grab Groundwater Sampling Standard Operating Procedure, which is presented in **Appendix F** of this report. A disposable Teflon bailer was used to collect the samples. The bailer was lowered slowly into the water column to mitigate potential volatilization.

6.2 LNAPL Recovery

LNAPL was hand bailed using a disposable Teflon bailer in wells that contained at least 0.2 foot of LNAPL. The LNAPL was placed in a Department of Transportation-(DOT-) approved 30-gallon steel drum. Total gallons of LNAPL recovery are presented in Table 10.

6.3 Groundwater Analytical Methods

The second semiannual 2010 groundwater and geochemical parameter monitoring was conducted by ARCADIS on September 27 and 29, 2010. Duplicate samples were collected from monitoring wells MW-8 (BD-1) and RW-1 (BD-2). Groundwater samples were labeled, stored in a cooler packed with ice and submitted to Lancaster Laboratories located in Lancaster, Pennsylvania, under proper chain of custody procedures. Groundwater samples were collected from monitoring wells MW-5, MW-7, MW-8, MW-10, MW-11, MW-13, PZ-1, PZ-2 and RW-1 and analyzed for the following analyses:

- GRO by Method AK101
- DRO by Method AK102
- RRO by Method AK103
- BTEX by USEPA Method 8021B

In addition, well MW-5, MW-8, MW-13, PZ-1, PZ-2 and RW-1 were analyzed for:

- Total alkalinity (pH 4.5 and pH 8.3) by USEPA Method 310.0
- Methane by Method RSK 175
- Nitrate as nitrogen by USEPA Method 300.0
- Sulfate by USEPA Method 300.0

Ferrous iron and nitrite test kits were used on groundwater samples collected from MW-5, MW-8, MW-13, PZ-1, PZ-2 and RW-1.

Groundwater samples from monitoring wells MW-8 (BD-1) and RW-1 (BD-2) were submitted to the analytical laboratory for the following:

- GRO by Method AK101
- BTEX by USEPA Method 8021B

The laboratory sample bottles and preservatives needed to complete this project are listed in the table below.

Constituent	Water	Lab Method
GRO	Three 40 mL VOA vials (HCl preservative)	GRO = Alaska Method AK 101
DRO and RRO	Two 1 L amber bottles (HCl preservative)	DRO and RRO = Alaska Method AK 102 and 103
BTEX	Run with GRO (three 40 mL VOA vials [HCl preservative])	BTEX = USEPA method 8021B
Total alkalinity	One 500 mL plastic bottle (unpreserved)	USEPA method 310.1
Sulfate and nitrate	Two 40 mL VOA vials (unpreserved)	USEPA method 300.0
Methane	Two 40 mL VOA vials (HCl preservative)	RSK 175
Ferrous iron	Colorimetric Field Kit	Colorimetric Field Kit
Nitrate as nitrogen	Colorimetric Field Kit	Colorimetric Field Kit
Notes: HCl = Hydrochloric acid L = Liter		

6.3 Groundwater Analytical Results

GRO was detected above the ADEC groundwater cleanup level (GCL) of 2,200 µg/L in groundwater samples collected from MW-7, MW-8 (parent sample), RW-1 (parent and duplicate samples), and MW-9 at concentrations ranging from 2,700 µg/L (MW-8) to 8,000 µg/L (RW-1). DRO was detected above the ADEC GCL of 1,500 µg/L in the groundwater samples collected from MW-7, MW-9, PZ-1, PZ-2 and RW-1 (parent and duplicate samples), at concentrations ranging from 2,300 µg/L (MW-8) to 68,000 µg/L (MW-9). RRO was not detected above the ADEC GCL of 1,100 µg/L in the

groundwater samples analyzed during the second semiannual 2010 groundwater monitoring event.

Benzene was detected above the ADEC GCL of 5 µg/L in the groundwater samples collected from monitoring wells MW-7, MW-8 (parent and duplicate samples), MW-9, PZ-1, PZ-2, and RW-1 (parent and duplicate samples) at concentrations ranging from 15 µg/L (PZ-1) to 140 µg/L (MW-9). Total xylene was not detected above the ADEC GCL of 10,000 µg/L, during the second semiannual 2010 groundwater monitoring event. Toluene concentrations (2,200 µg/L) detected in groundwater samples collected from monitoring well MW-9 were above the ADEC GCL of 1,000 µg/L. Ethylbenzene concentrations (1,200 µg/L) detected in groundwater samples collected from monitoring well MW-9 were above the ADEC GCL of 700 µg/L.

The laboratory detection limit was above the ADEC GCL of 1,100 µg/L in groundwater samples collected from MW-9 due to sample matrix effects.

Groundwater analytical results are summarized in Table 11 and presented on Figure 11. The groundwater analytical laboratory report is included in **Appendix D**.

6.4 Geochemical Parameter Results and Natural Attenuation Assessment

To better assess the potential for natural attenuation at the site, ARCADIS collected groundwater field data and groundwater samples to evaluate the current plume geochemistry. Based on geochemical parameter monitoring data, the hydrocarbon plume can be characterized as aerobic or anaerobic, and expanding, stable or contracting. The groundwater geochemistry and gradient data were used to evaluate natural attenuation of petroleum hydrocarbons at the site.

Sulfate concentrations detected in the groundwater samples ranged from 6.3 mg/L (PZ-2 downgradient of site) to 27.1 mg/L (MW-5 crossgradient of the site) during the second semiannual sampling event. Nitrate was detected in groundwater samples collected from monitoring well MW-13 at a concentration of 1 mg/L. No other nitrate concentrations were detected. Methane concentrations detected in the collected groundwater samples ranged from 5 µg/L (MW-5) to 1,000 µg/L (PZ-2).

Methane and sulfate concentrations detected, along with historical dissolved oxygen measurements downgradient, upgradient and crossgradient of the site, suggest that anaerobic conditions are present.

Based on the limited amount of available historical data, it appears that the COC concentration trends are stable. The presence of LNAPL in multiple source area monitoring wells limits the assessment of natural attenuation processes. However, based on the lower concentrations in downgradient wells than what is present in the onsite wells, it appears natural attenuation is occurring.

The 2010 second semiannual and historical geochemical parameter monitoring results are summarized in Table 12.

7. Laboratory Data Quality Assurance Summary (Groundwater)

As required by the ADEC (2009b), ARCADIS completed a laboratory data review checklist for the Lancaster Laboratories report during the second semiannual 2010 reporting period. The laboratory reports are included in Appendix D and a data review checklist is included as Appendix E. The following quality assurance summary describes six parameters, related to the quality and usability of the data presented in this report.

7.1 Precision

The data meet precision objectives for laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) relative percent differences (RPDs).

7.2 Accuracy

The data meet accuracy objectives, as indicated by the laboratory quality control samples, which were within method/laboratory limits.

7.3 Representativeness

The data appear to be representative of site conditions and are generally consistent with historical groundwater monitoring results and expected impacts to groundwater.

7.4 Comparability

The laboratory results are presented in the same units as previous reports to allow for comparison between reports.

7.5 Completeness

The results appear to be valid and usable, and thus, the laboratory results have 100 percent completeness.

7.6 Sensitivity

The sensitivity of the analyses was adequate for the samples because the detection limits were less than the ADEC GCLs for compounds that were not detected (with the

exception of RRO concentrations in MW-9). The reporting limit for RRO in groundwater samples collected from MW-9 was raised due to sample matrix effects.

8. Laboratory Data Quality Assurance Summary (Site Assessment)

As required by the ADEC (2009b), ARCADIS completed a laboratory data review checklist for the Lancaster Laboratories reports from the 2010 site assessment. The laboratory analytical reports are included in Appendix D and the ADEC data review checklists are included in Appendix E.

8.1 Accuracy

The data meets accuracy objectives by the LCSs and LCSD for laboratory reports, with the exceptions identified below:

- In laboratory report 1209433, the matrix spike (MS) recovery for RRO was outside specifications for Sediment-1 through Sediment-4 and BD-1. The surrogate orthoterphenyl recovery for DRO/RRO analysis for the sample Sediment-4 was outside specifications.

- In laboratory report 1209537, surrogate recoveries were outside specifications for GRO and PAH analysis for samples SB-2-2.0, SB-1-2.0 and BD-1-2.0. Surrogate recoveries were outside specifications for DRO/RRO analysis for samples SB-2-2.0 and SB-1-2.0.

- In laboratory report 1209538, the surrogate orthoterphenyl recovery was outside specifications for DRO/RRO analysis for the samples HA-1 and HA-2.

- In laboratory report 1209761, surrogate recoveries were outside specifications for VOC and PAH analysis for samples SB-2-12.0, SB-1-12.0 and MW-12-16.0. Surrogate recoveries were outside specifications for DRO/RRO analysis for samples SB-1-12.0, BD-1 and MW-12-16.0.

8.2 Precision

Based on the LCS/LCSD, MS and matrix spike duplicate (MSD) RPDs, the data meets precision objectives for laboratory reports with the following exceptions:

- In laboratory report 1209433, the RPD was greater than the recommended value for petroleum hydrocarbons in soil (sediment): acenaphthylene (53 percent), benzo(a)pyrene (57 percent), benzo(b)fluoranthene (55 percent), benzo(k)fluoranthene (63 percent), DRO (81 percent) and RRO (70 percent).

- In laboratory report 1209537, the MS/MSD RPD was 62 percent, which was greater than the method detection limit (30 percent). Several PAHs, GRO and DRO had RPDs outside the specified RPD limit for soil between the parent and duplicate sample.

- In laboratory report 1209538, the MS/MSD RPD for DRO was 61 percent, which was greater than the method detection limit (50 percent).

- In laboratory report 1209761, the MS/MSD RPDs for acenaphthene (38 percent), fluorene (41 percent) and phenanthrene (35 percent) were greater than the method detection limit. Acenaphthene, acenaphthylene, fluorene, naphthalene, phenanthrene and DRO had RPDs outside the specified RPD limit for soil between the parent and duplicate sample.

8.3 Representativeness

The data appear to be representative of on- and off-site conditions and are generally consistent with objectives to further delineate the site impacts.

8.4 Comparability

The laboratory results are presented in the same units as previous reports to allow for comparison between reports.

8.5 Completeness

Soil sample results (laboratory reports1209537, 1209538 and 1209761) appear to be valid and usable, with the following exceptions:

- In laboratory report 1209537, the laboratory MDL for benzene exceeded the cleanup level in samples SB-1-2.0 and SB-2-2.0. Benzene was not detected above the MDL; therefore, it is unknown if benzene existed in concentrations above the cleanup level. The duplicate sample collected from SB-2-2.0 had a reported concentration of benzene above the cleanup level. The MDL for EDB and EDC exceeded the cleanup levels for samples MW-12-2.0, MW-13-2.0, SB-1-2.0, SB-2-2.0 and BD-1-2.0. According to Lancaster Laboratories, gas chromatography/mass spectrometry (GC/MS) method 8260B could not achieve an MDL below the cleanup level established, even with no dilution factored in.

- In laboratory report 1209761, the laboratory MDL for EDB and EDC exceeded the cleanup levels for samples SB-2-12.0, SB-2-20.0, SB-1-12.0, SB-1-20.0, BD-1, MW-13-10.0, MW-13-20.0, MW-12-14.0, MW-12-16.0, MW-12-24.0 and BD-2. According to Lancaster Laboratories, gas chromatography/mass spectrometry (GC/MS) method 8260B could not achieve an MDL below the cleanup level established, even with no dilution factored in

- Surface-water sample results (laboratory report1209431) appear to be valid and usable.

- Sediment sample results (laboratory report 1209433) appear to be valid and usable.

8.6 Sensitivity

The sensitivity of the analyses for soil was adequate for the soil samples because the MDLs were less than the ADEC cleanup levels, with the following exceptions:

The sensitivity for the analysis of EDB and EDC was not adequate for the soil samples (laboratory reports 1209537 and 1209761). The laboratory method for analysis was unable to meet the cleanup level established by the ADEC. Therefore, the analytical results for EDB and EDC are not valid.

The sensitivity for benzene in soil samples SB-1-2.0 and SB-2-2.0 was not adequate due to dilution of the samples. The dilution in the sample caused the laboratory MDL to exceed the cleanup level for benzene in soil, therefore making it impossible to tell if benzene had exceeded the cleanup concentration in soil for these two soil samples.

9. Management of Investigation-Derived Wastes

Development water and soil cuttings generated during the field activities were contained in DOT-approved, 55-gallon steel drums (COMP-1-S through COMP-4-S and COMP-1-W). The investigation-derived waste was appropriately labeled and disposed of by Alaska Soil Recycling (soil cuttings) and Emerald-Alaska (development water.

10. Preliminary Conceptual Site Model

The site is currently owned by the FIA, which is leasing the site to Omni Logistics. Impacted groundwater extends through the middle of the site, westerly from the former tank locations. The environmental impact caused by the release of petroleum hydrocarbons at the site is believed to be limited to groundwater and soil. The current potential receptors are commercial or industrial workers, site visitors or trespassers, and construction workers.

The future potential receptors include residents and construction workers. Several private wells are located near the site on FIA property. Based on records supplied from the FIA, none of the private wells are used for drinking water and a public water supply is available in the area. Other receptors that were considered and ruled out include farmers or subsistence harvesters and consumers. These receptors were excluded because the site is located in a commercial/industrial area of Fairbanks.

The ADEC conceptual site model and scoping forms are presented in **Appendix G**.

11. Summary & Conclusions

Four soil borings (SB-1, SB-2, HA-1 and HA-2) and two monitoring wells (MW-12 and MW-13) were advanced/installed during the 2010 assessment activities. An ecological evaluation was also performed, and included collecting sediment and surface-water samples, and conducting visual observations. Installation of the proposed off-site monitoring well to the north was postponed because impacts were detected during the off-site demolition.

Soil samples collected during the advancement of SB-1 and SB-2 had GRO, DRO and BTEX concentrations greater than the ADEC SCLs at depths of 2 and 12 feet bgs. Benzene concentrations were greater than cleanup levels in soil samples collected from SB-1 and SB-2 at a depth of 20 feet bgs. Naphthalene concentrations were greater than the cleanup level in soil collected from SB-1 and SB-2 at 2 feet bgs.

Soil collected during the advancement of borings prior to well installation of MW-12 had GRO, DRO, and BTEX concentrations greater than the ADEC SCL at a depth of 16 feet bgs. One soil sample, collected from MW-12 at a depth of 14 feet bgs, had a benzene concentration that was greater than the cleanup level.

Groundwater samples collected from PZ-1 and PZ-2 exceeded the ADEC GCLs for one or more of GRO, DRO, RRO and benzene.

The total lead concentration detected in Sediment-1 (and duplicate sample BD-1) (77.3 mg/kg) was greater than the NOAA SQuiRT TEL concentration (35 mg/kg). The NOAA TEL concentration is not a cleanup level.

The TAqH concentrations calculated for Surface-1-W and Surface-2-W were well below cleanup criteria outlined by the ADEC. The TAH concentrations for Surface-1-W and Surface-2-W could not be calculated because BTEX constituents were not detected above laboratory MDLs.

During the second semiannual 2010 event, groundwater samples collected from monitoring wells MW-7, MW-8, MW-9, PZ-1, PZ-2 and RW-1 contained concentrations of one or more GRO, DRO, RRO and BTEX constituents that were above the applicable ADEC GCLs. Concentrations of analyzed compounds in the samples from monitoring wells MW-5, MW-10 and MW-11 were below the ADEC GCLs.

The analytical results from this groundwater monitoring event are generally consistent with historical trends for this site. The groundwater elevations, flow direction and gradient are also consistent with previous monitoring events. Historical dissolved oxygen concentrations and current methane and sulfate concentrations detected throughout and upgradient of the site suggest the presence of anaerobic conditions.

Based on the results of the 2010 site assessment, the extent of impacts have been better defined onsite. The highest observed petroleum impacts in soil are located in the vicinity of borings SB-1 and SB-2, and monitoring wells MW-2, MW-3, and MW-4. This area appears to be the source area. Soil impacts in borings SB-1 and SB-2 extend from approximately 2 feet bgs to 20 feet bgs. Concentrations of benzene in soil samples collected from both borings exceeded cleanup levels at 20 feet bgs; however, PID readings indicate a decrease trend with depth. The benzene exceedances may be related to impacted water and soil from shallower depths. COCs detected in samples collected from well MW-12 show exceedances only in the smear zone at approximately 16 feet bgs. This indicates well MW-12 is located outside the source area. COCs were not detected above cleanup levels in soil samples collected from well MW-13.

The horizontal extent of petroleum impacts is delineated to the east by wells MW-11 and MW-12, and to the southeast by wells MW-5 and MW-10. Impacts to the northeast are not delineated at this time due to pending results from an assessment on the adjacent property (Hotfoot property). The Hotfoot property assessment is being performed by the property owner's consultant. Petroleum impacts to the west extend to the pond. Based on the results of the ecological evaluation, impacts migrating to the pond do not pose an unacceptable risk to potential ecological receptors.

The vertical extent of petroleum impacts onsite has been delineated to approximately 20 to 24 feet bgs by borings SB-1 and SB-2, and well MW-12. Vertical extent had not been defined by previous assessments.

LNAPL has been detected in wells MW-1 through MW-4, MW-6, MW-9, MW-12 and RW-1. The LNAPL extent has been delineated to the east by wells MW-11 and MW-13 and to the west-northwest by wells MW-7 and MW-8. LNAPL to the southeast is potentially delineated by well MW-10. Due to the existing onsite warehouse delineation to the southeast could not be better defined. LNAPL to the northeast is not delineated at this time due to pending results from an assessment on the adjacent property (Hotfoot property).

References

Alaska Department of Environmental Conservation. 2008. Technical Memorandum 06-002, dated August 20, 2008.

Alaska Department of Environmental Conservation. 2009a. Monitoring Well Guidance. February 2009.

Alaska Department of Environmental Conservation. 2009b. Technical Memorandum. Environmental Laboratory Data and Quality Assurance Requirements. March 2009.

Alaska Department of Environmental Conservation. 2009c. Water Quality Standards, 18 AAC 70, Register 191. October 2009.

Alaska Department of Environmental Conservation. 2010. Draft Field Sampling Guidance.

ARCADIS. 2010. Workplan for Site Assessment and Ecological Evaluation. July 27.

Natural Resources Conservation Service and U.S. Department of Agriculture. 2004 Soil Survey of Greater Fairbanks Area, Alaska. Natural Resource Conservation and U.S. Department of Agriculture. 2004.

ARCADIS

Tables

TABLE 1

Soil Analytical Data - GRO, DRO, RRO, BTEX/MTBE and Lead
Former Chevron Facility 309152
6223 Old Airport Road
Fairbanks, Alaska

Location	Sample Depth/ Interval	Sample Date	GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Lead
ADEC Soil Cleanup Levels[1]			**300**	**250**	**11,000**	**0.025**	**6.5**	**6.9**	**63**	**1.3**	**400**
MW-1	9.5-11.5'	07/28/07	4,300	4,700	--	<1.2	1.4	<17	180	--	--
	14.5-16.5'	07/28/07	1,500	3,000	--	<11	0.7	<5.8	35	--	--
MW-2	9.0-11.0'	07/29/07	1,900	1,800	--	0.9	5.8	17	77	--	--
	14.0-16.0'	07/29/07	140	78	--	0.1	0.4	1.5	7	--	--
MW-3	9.5-11.5'	07/28/07	4,000	8,300	--	3.2	25	36	140	--	--
	14.5-6.5'	07/28/07	4,300	11,000	--	3.7	38	66	260	--	--
MW-4	9.0-11.0'	07/28/07	1,300	2,900	--	<0.4	3.3	9.7	40	--	--
	14.0-16.0'	07/28/07	1,900	2,800	--	1.2	13	26	100	--	--
MW-5	9.5-11.5'	07/29/07	<0.4	<4.6	--	<0.003	0.004	<0.003	<0.01	--	--
	14.5-16.5'	07/29/07	<0.5	<4.9	--	<0.005	0.01	<0.005	<0.02	--	--
RW-1	11.0-11.5'	07/11/08	171 [2]	210	--	0.124	<0.185	1.28	5.96	--	--
	13.0-13.5'	07/11/08	277 [2]	194	--	0.164	0.423	2.82	12.4	--	--
MW-6	9.0-9.5'	07/11/08	153 [2]	524	--	<0.113	<0.188	0.563	2.07	--	--
	12.0-12.5'	07/11/08	204 [2]	1,150	--	<0.115	<0.192	0.857	5.61	--	--
MW-7	9.0'	07/12/08	<32.8 [2,3]	10.9	--	<0.197 [3]	<0.328 [3]	<0.328 [3]	<0.656 [3]	--	--
	12.0'	07/12/08	7.10	<5.55	--	<0.0375	<0.0624	<0.0624	1.30	--	--
MW-8	3.0'	07/11/08	51.5 [2]	718	--	<0.147	<0.245	0.490	<0.490	--	--
MW-9	11.0'	07/11/08	20.9	6.43	--	<0.0228	0.187	0.200	1.19	--	--
	13.0'	07/11/08	61.0	7.30	--	0.0282	0.339	0.815	4.15	--	--
MW-10	8.5-9.0'	07/15/08	<4.56	<4.80	--	<0.0274	<0.0456	<0.0456	<0.0912	--	--
	11.5-12.0'	07/15/08	<5.09	<4.99	--	<0.0305	0.0718	<0.0509	<0.102	--	--
MW-11	9.0'	07/14/08	<4.09	<4.55	--	<0.0245	<0.0409	<0.0409	<0.0817	--	--
	10.5'	07/14/08	<4.24	<4.66	--	<0.0255	<0.0424	<0.0424	<0.0849	--	--
PZ-1-10-12"	10-12"	07/29/09	11.6	425	133	<0.0129	<0.0322	<0.0322	<0.0482	--	--
PZ-2-16-18"	16-18"	07/29/09	255 [4]	1,130	<56.2	<0.0133	<0.0333	<0.0333	<0.0500	--	--
HA-1	18"	08/26/10	--	1,700 [5]	3,300	--	--	--	--	--	--
HA-2	18"	08/26/10	--	3,700 [5]	<730	--	--	--	--	--	--
MW-12	2.0'	08/26/10	<0.9	<6.4	<6.4	<0.009	0.02	<0.009	<0.03	<0.040	3.83
	14.0'	08/28/10	78	30	<5.5	0.2	0.06	0.5	2.1	<0.026	4.32
	16.0'	08/28/10	4,500	700	<140	25	14	76	380	<0.48[3]	4.22
	24.0'	08/28/10	1.1	<5.8	9.4	0.009	<0.006	0.02	0.07	<0.027	3.27
BD-2	24.0'	08/28/10	1.5	<5.8	8.6	0.01	<0.005	0.02	0.08	<0.031	2.60
MW-13	2.0'	08/26/10	<0.6	<5.5	17	<0.006	0.01	<0.006	<0.02	<0.029	5.98
	10.0'	08/28/10	<0.8	<6.7	15	<0.008	<0.008	<0.008	<0.02	<0.035	6.74
	20.0'	08/28/10	0.9	<5.8	<5.8	0.006	0.03	<0.005	0.03	<0.025	3.19
SB-1	2.0'	08/26/10	7,300	70,000	<6,900	<4.5[3]	18 [3]	130 [3]	640 [3]	<0.67[3]	319
	12.0'	08/28/10	3,500	1,200	<280	12	10	30	180	<0.11[3]	4.01
BD-1	12.0'	08/28/10	3,200	4,800	<1,200	12	9.5	29	180	<0.097	5.75
	20.0'	08/28/10	15	<5.8	<5.8	0.05	0.05	0.2	0.9	<0.025	2.63
SB-2	2.0'	08/26/10	4,400	44,000	<3,000	<2.9[3]	<2.9[3]	7.8 [3]	39 [3]	<0.064[3]	330
BD-1	2.0'	08/26/10	1,700	10,000	<1,300	1.5 [3]	1.0 [3]	25 [3]	83 [3]	<0.088[3]	34.3
	12.0'	08/27/10	2,800	3,100	<540	8.4	9.3	26	140	<0.094[3]	11.4
	20.0'	08/27/10	8.0	<6.2	<6.2	0.03	0.04	0.02	1	<0.042	2.60

Notes:

All results are reported in milligrams per kilogram (mg/kg).

Gasoline range organics (GRO) was analyzed by AK Method 101.

Diesel range organics (DRO) was analyzed by AK Method 102.

Benzene, toluene, ethylbenzene, and total xylenes (BTEX) analyzed by EPA Method 8260B or EPA Method 8021B.

Methyl tert-butyl ether (MTBE) analyzed by EPA Method 8260B.

Lead analyzed by EPA Method 6020 (Total Lead).

Highlighted cell indicates concentration exceeds respective soil cleanup level.

Samples HA-1 and HA-2 collected at locations of PZ-1 and PZ-2 and analyzed using silica gel cleanup

-- = not applicable/not available

< = not detected greater than the laboratory reporting limit indicated.

BD = Blind duplicate of preceding soil sample.

[1] ADEC Soil Cleanup Levels (SCLs) per 18 AAC 75.355, Table B1. Register 188, January 2009, & Technical Memorandum 02-006.

[2] Detected hydrocarbons in the gasoline range appear to be due to overlap of diesel range hydrocarbons.

[3] Reporting limit raised due to sample matrix effects.

[4] Sample required dilution due to high concentrations of target analyte.

[5] The response for DRO in the calibration check standard analyzed before the sample was outside the 25% difference criteria at 27%. The recovery is low enough to ensure no adverse affect on the data.

TABLE 2

Soil Analytical Data - Polynuclear Aromatic Hydrocarbons
Former Chevron Facility 309152
6223 Old Airport Road
Fairbanks, Alaska

Location	Sample Depth/ Interval	Sample Date	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (g, h, i) perylene	Benzo (k) flouranthene	Chrysene	Dibenz (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1, 2, 3-cd) pyrene	Naphthalene	Phenathrene	Pyrene
ADEC Soil Cleanup Levels[1]			180	180	3,000	3.6	2.1	12	38,700	120	360	4.0	1,400	220	41	20	3,000	1,000
MW-12	2.0'	08/26/10	<0.00086	<0.00043	<0.00043	<0.00086	<0.00086	<0.00086	<0.00086	<0.00086	<0.00043	<0.00086	<0.00086	<0.00086	<0.00086	<0.00086	<0.00086	<0.00086
	14.0'	08/28/10	0.0021	0.0010	<0.00036	<0.00073	<0.00073	<0.00073	<0.00073	<0.00073	<0.00036	<0.00073	<0.00073	0.0040	<0.00073	0.0060	0.0019	<0.00073
	16.0'	08/28/10	0.048	0.024	0.0029	<0.00073	<0.00073	<0.00073	<0.00073	<0.00073	<0.00036	<0.00073	<0.00073	0.10	<0.00073	1.0	0.022	0.00086
	24.0'	08/28/10	<0.00077	<0.00039	<0.00039	<0.00077	<0.00077	<0.00077	<0.00077	<0.00077	<0.00039	<0.00077	<0.00077	<0.00077	<0.00077	0.0012	<0.00077	<0.00077
BD-2	24.0'	08/28/10	<0.00077	<0.00039	<0.00039	<0.00077	<0.00077	<0.00077	<0.00077	<0.00077	<0.00039	<0.00077	<0.00077	<0.00077	<0.00077	0.0016	<0.00077	<0.00077
MW-13	2.0'	08/26/10	<0.00073	<0.00037	<0.00037	<0.00073	<0.00073	<0.00073	<0.00073	<0.00073	<0.00037	<0.00073	<0.00073	<0.00073	<0.00073	<0.00073	<0.00073	<0.00073
	10.0'	08/28/10	<0.00090	<0.00045	<0.00045	<0.00090	<0.00090	<0.00090	<0.00090	<0.00090	<0.00045	<0.00090	<0.00090	<0.00090	<0.00090	0.0013	<0.00090	<0.00090
	20.0'	08/28/10	<0.00077	<0.00038	<0.00038	<0.00077	<0.00077	<0.00077	<0.00077	<0.00077	<0.00038	<0.00077	<0.00077	<0.00077	<0.00077	<0.00077	<0.00077	<0.00077
SB-1	2.0'	08/26/10	2.1	0.81	0.024	<0.019	<0.019	<0.019	<0.019	<0.019	0.015	<0.019	0.020	4.9	<0.019	120	1.2	0.023
	12.0'	08/28/10	0.065	0.042	<0.0037	<0.0075	<0.0075	<0.0075	<0.0075	<0.0075	<0.0037	<0.0075	<0.0075	0.10	<0.0075	2.3	0.030	<0.0075
BD-1	12.0'	08/28/10	0.016	0.0083	<0.00038	<0.00077	<0.00077	<0.00077	<0.00077	<0.00077	<0.00038	<0.00077	<0.00077	0.029	<0.00077	0.53	0.011	<0.00077
	20.0'	08/28/10	0.0020	0.0013	<0.00039	<0.00078	<0.00078	<0.00078	<0.00078	<0.00078	<0.00039	<0.00078	<0.00078	0.0047	<0.00078	0.18	0.00085	<0.00078
SB-2	2.0'	08/26/10	0.72	0.37	0.014	<0.016	<0.016	0.028	<0.016	<0.016	0.021	<0.016	0.020	1.2	<0.016	13	0.24	0.035
BD-1	2.0'	08/26/10	0.23	<0.0087	<0.0087	<0.017	<0.017	<0.017	<0.017	<0.017	<0.0087	<0.017	<0.017	0.36	<0.017	21	0.10	<0.017
	12.0'	08/27/10	0.13	<0.0072	<0.0072	<0.014	<0.014	<0.014	<0.014	<0.014	<0.0072	<0.014	<0.014	0.20	<0.014	6.9	0.062	<0.014
	20.0'	08/27/10	<0.00082	<0.00041	<0.00041	<0.00082	<0.00082	<0.00082	<0.00082	<0.00082	<0.00041	<0.00082	<0.00082	0.0012	<0.00082	0.019	<0.00082	<0.00082

Notes:

All results are reported in milligrams per kilogram (mg/kg).

Polynuclear aromatic hydrocarbons were analyzed by EPA Method 8270C SIM.

Highlighted cell indicates the concentration exceeds the respective soil cleanup level.

-- = not applicable/not available.

< = not detected greater than the laboratory reporting limit indicated.

BD = Blind duplicate of preceding soil sample.

[1] ADEC Soil Cleanup Levels (SCLs), in mg/kg, per 18 AAC 75.355, Table B1. Register 188, January 2009, & Technical Memorandum 02-006.

Table 3

Soil Analytical Data - 1,2-Dibromoethane and 1,2-Dichloroethane
Former Chevron Facility 309152
6223 Old Airport Road
Fairbanks, Alaska

Location	Sample Depth/ Interval	Sample Date	1,2-Dibromoethane	1,2-Dichloroethane
ADEC Soil Cleanup Levels[1]			**0.00016**	**0.016**
MW-12	2.0'	08/26/10	<0.079	<0.079
	14.0'	08/28/10	<0.049	<0.049
	16.0'	08/28/10	<0.95[2]	<0.95[2]
	24.0'	08/28/10	<0.055	<0.055
BD-2	24.0'	08/28/10	<0.062	<0.062
MW-13	2.0'	08/26/10	<0.059	<0.059
	10.0'	08/28/10	<0.070	<0.070
	20.0'	08/28/10	<0.049	<0.049
SB-1	2.0'	08/26/10	<1.3[2]	<1.3[2]
	12.0'	08/28/10	<0.21[2]	<0.21[2]
BD-1	12.0'	08/28/10	<0.19[2]	<0.19[2]
	20.0'	08/28/10	<0.049	<0.049
SB-2	2.0'	08/26/10	<0.13[2]	<0.13[2]
BD-1	2.0'	08/26/10	<0.18[2]	<0.18[2]
	12.0'	08/27/10	<0.19[2]	<0.19[2]
	20.0'	08/27/10	<0.084	<0.084

Notes:

All results are reported in milligrams per kilogram (mg/kg).

1,2-Dibromoethane and 1,2-Dichloroethane were analyzed by EPA Method 8260B.

-- = not applicable/not available.

< = not detected greater than the laboratory reporting limit indicated.

BD = Blind duplicate of preceding soil sample.

[1] ADEC Soil Cleanup Levels (SCLs), in mg/kg, per 18 AAC 75.355, Table B1. Register 188, January 2009, & Technical Memorandum 02-006.

[2] Reporting limit raised due to sample matrix effects.

TABLE 4

Sediment Analytical Data - GRO, DRO, RRO, BTEX/MTBE and Lead
Former Chevron Facility 309152
6223 Old Airport Road
Fairbanks, Alaska

Location	Sample Date	GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Lead
NOAA Threshold Effects Level[1]		--	--	--	--	--	--	--	--	35
Sediment-1	08/25/10	<12[2]	590	3,100	<0.1[2]	<0.1[2]	<0.1[2]	<0.4[2]	<0.0009[3]	77.3
BD-1	08/25/10	<12[2]	250	1,500	<0.1[2]	<0.1[2]	<0.1[2]	<0.4[2]	<0.0008[3]	77.2
Sediment-2	08/25/10	<11[2]	64	410	<0.1[2]	<0.1[2]	<0.1[2]	<0.3[2]	<0.0008[3]	10.2
Sediment-3	08/25/10	<9.2[2]	<35	150	<0.09[2]	<0.09[2]	<0.09[2]	<0.3[2]	<0.0008	6.70
Sediment-4	08/25/10	<15[2]	100	630	<0.1[2]	<0.1[2]	<0.1[2]	<0.4[2]	<0.001[3]	19.1

Notes:

All results are reported in milligrams per kilogram (mg/kg).

Gasoline range organics (GRO) was analyzed by AK Method 101.

Diesel range organics (DRO) was analyzed by AK Method 102.

Benzene, toluene, ethylbenzene, and total xylenes (BTEX) analyzed by EPA Method 8021B.

Methyl tert-butyl ether (MTBE) analyzed by EPA Method 8260B.

Lead analyzed by EPA Method 6020 (Total Lead).

-- = not applicable/not available.

< = not detected greater than the laboratory reporting limit indicated.

BD = Blind duplicate of preceding soil sample.

[1] NOAA Threshold Effects Levels (TELs), in mg/kg, per NOAA Screening Quick Reference Tables (SQRTs), Hazmat Report 99-1. Updated Feb. 2004.

[2] Reporting limit raised due to sample foaming.

[3] The GC/MS volatile internal standard peak areas were outside the QC limits for both the initial analysis and the re-analysis. The values reported here are form the initial analysis of the sample.

TABLE 5

Sediment Analytical Data - Polynuclear Aromatic Hydrocarbons
Former Chevron Facility 309152
6223 Old Airport Road
Fairbanks, Alaska

Location	Sample Date	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (g, h, i) perylene	Benzo (k) flouranthene	Chrysene	Dibenz (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1, 2, 3-cd) pyrene	Naphthalene	Phenathrene	Pyrene
NOAA Threshold Effects Level[1]		--	--	--	31.7	31.9	--	--	--	57.1	--	111	--	--	--	41.9	53
SEDIMENT-1	08/25/10	0.024	0.0087	0.058	0.27	0.26	0.47	0.18	0.14	0.46	0.048	0.70	0.026	0.18	0.024	0.36	0.63
BD-1	08/25/10	0.026	0.016	0.078	0.35	0.48	0.83	0.24	0.27	0.61	0.073	0.97	0.035	0.24	0.037	0.49	0.67
SEDIMENT-2	08/25/10	<0.011	<0.0054	<0.0054	0.022	0.026	0.047	0.020	0.018	0.042	<0.011	0.062	<0.011	0.019	<0.011	0.029	0.048
SEDIMENT-3	08/25/10	<0.00094	<0.00047	0.00095	0.0060	0.0074	0.012	0.0052	0.0050	0.010	0.0013	0.017	<0.00094	0.0050	0.0012	0.0079	0.013
SEDIMENT-4	08/25/10	<0.013	<0.0065	<0.0065	0.022	0.030	0.057	0.024	0.020	0.045	<0.013	0.063	<0.013	0.023	<0.13	0.029	0.053

Notes:

All results are reported in milligrams per kilogram (mg/kg).

Polynuclear aromatic hydrocarbons were analyzed by EPA Method 8270C SIM.

Highlighted cell indicates the concentration exceeds the respective soil cleanup level.

-- = not applicable/not available.

< = not detected greater than the laboratory reporting limit indicated.

BD = Blind duplicate of preceding soil sample.

[1] NOAA Threshold Effects Levels (TELs), in mg/kg, per NOAA Screening Quick Reference Tables (SQRTs), Hazmat Report 99-1. Updated Feb. 2004.

Table 6

Sediment Analytical Data - 1,2-Dibromoethane and 1,2-Dichloroethane
Former Chevron Facility 309152
6223 Old Airport Road
Fairbanks, Alaska

Location	Sample Date	1,2-Dibromoethane	1,2-Dichloroethane
NOAA Threshold Effects Level[1]		--	--
SEDIMENT-1	08/25/10	<0.002[2]	<0.002[2]
BD-1	08/25/10	<0.002[2]	<0.002[2]
SEDIMENT-2	08/25/10	<0.002[2]	<0.002[2]
SEDIMENT-3	08/25/10	<0.002	<0.002
SEDIMENT-4	08/25/10	<0.002[2]	<0.002[2]

Notes:

All results are reported in milligrams per kilogram (mg/kg).

1,2-Dibromoethane and 1,2-Dichloroethane were analyzed by EPA Method 8260B.

-- = not applicable/not available.

< = not detected greater than the laboratory reporting limit indicated.

BD = Blind duplicate of preceding soil sample.

[1] NOAA Threshold Effects Levels (TELs), in mg/kg, per NOAA Screening Quick Reference Tables (SQRTs), Hazmat Report 99-1. Updated Feb. 2004.

2 The GC/MS volatile internal standard peak areas were outside the QC limits for both the initial analysis and the re-analysis. The values reported here are form the initial analysis of the sample.

TABLE 7

Surface Water Analytical Data - Total Aromatic Hydrocarbons
Former Chevron Facility 309152
6223 Old Airport Road
Fairbanks, Alaska

Location	Sample Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	TAH[2]
ADEC Water Quality Criteria[1]		**--**	**--**	**--**	**--**	**10**
Surface-1-W	**08/25/10**	**<0.5**	**<0.5**	**<0.5**	**<1.5**	**<4.0**
BD-1	**08/25/10**	**<0.5**	**<0.5**	**<0.5**	**<1.5**	**<4.0**
Surface-2-W	**08/25/10**	**<0.5**	**<0.5**	**<0.5**	**<1.5**	**<4.0**
TB-1	**08/25/10**	**<0.5**	**<0.5**	**<0.5**	**<1.5**	**<4.0**

Notes:

All results are reported in micrograms per liter (μg/L).

Benzene, toluene, ethylbenzene, and total xylenes (BTEX) were analyzed by EPA Method 8260B.

NC = not calculated.

-- = not applicable/not available.

< = not detected greater than the laboratory reporting limit indicated.

BD = Blind duplicate of preceding surface water sample.

TB = Trip blank.

[1] ADEC Water Quality Standards Table per 18 AAC 70.020. Register 191, October 2009.

[2] TAH, in μg/L, is calculated as the sum of BTEX.

* Laboratory detection limits were used to calculate TAH.

Concentrations less than laboratory detection limits were not counted.

TABLE 8

Surface Water Analytical Data - Total Aqueous Hydrocarbons
Former Chevron Facility 309152
6223 Old Airport Road
Fairbanks, Alaska

US EPA Method		8260B				8270C															--
Sample Location ID	Sample Date	Benzene	Toluene	Ethylbenzene	Total Xylenes	Acenaphthene	Anthracene	Benzo (a) anthracene	Benzo (b) fluoranthene	Benzo (k) flouranthene	Benzo (a) pyrene	Bis(2-ethylhexyl)phthalate	Dibenz (a,h) anthracene	Di-nbutylphthalate	Diethyl phthalate	Di-n-octyl phthalate	Fluoranthene	Fluorene	Indeno (1, 2, 3-cd) pyrene	Naphthalene	Pyrene	TAqH[2]
ADEC Water Quality Criteria[1]		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15
Surface-1-W	08/25/10	<0.5	<0.5	<0.5	<1.5	<0.0098	<0.0098	<0.0098	0.016	<0.0098	<0.0098	--	<0.0098	--	--	--	0.038	<0.0098	<0.0098	0.016	0.015	0.085
BD-1	08/25/10	<0.5	<0.5	<0.5	<1.5	<0.0096	<0.0096	<0.0096	0.015	<0.0096	<0.0096	--	<0.0096	--	--	--	0.037	<0.0096	<0.0096	0.018	0.016	0.086
Surface-2-W	08/25/10	<0.5	<0.5	<0.5	<1.5	<0.0097	<0.0097	<0.0097	<0.0097	<0.0097	<0.0097	--	<0.0097	--	--	--	0.012	<0.0097	<0.0097	0.041	<0.0097	0.053
TB-1	08/25/10	<0.5	<0.5	<0.5	<1.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

All results are reported in micrograms per liter (µg/L).

Benzene, toluene, ethylbenzene, and total xylenes (BTEX) were analyzed by EPA Method 8260B.

-- = not applicable/not available.

< = not detected greater than the laboratory reporting limit indicated.

BD = Blind duplicate of preceding surface water sample.

TB = Trip blank.

Benzene, toluene, ethylbenzene, and total xylenes (BTEX) were analyzed by EPA Method 8260B.

PAHs analyzed via EPA Method 8270C SIM.

NC = not calculated.

[1] ADEC Water Quality Standards Table per 18 AAC 70.020. Register 191, October 2009.

[2] TAqH, in µg/L, is calculated as the sum of BTEX and the 17 PAHs listed. Concentrations less than laboratory detection limits were not counted.

TABLE 9
Groundwater Elevation Data
Former Chevron Facility 309152
6223 Old Airport Road
Fairbanks, Alaska

Location	MM/DD/YY	Top of Casing (feet amsl) [1]	LNAPL Thickness (feet)	Depth to Groundwater (feet bgs)	Groundwater Elevation (feet amsl)
MW-1	07/29/07	98.75	--	11.61	87.14
	11/19/07		--	14.90	83.85
	03/27/08		--	14.41	84.34
	05/23/08		0.36	13.80	85.24
	06/25/08		0.43	13.95	85.14
	07/14/08		--	13.27	85.48
	08/06/08	436.17	--	10.54	425.63
	09/12/08		0.03	12.06	424.13
	10/28/08		0.25	14.00	422.37
	11/21/08		0.32	14.25	422.18
	12/18/08		0.40	14.61	421.88
	01/29/09		0.72	15.48	421.27
	02/20/09		0.65	15.73	420.96
	03/25/09		0.62	15.86	420.81
	04/20/09		0.60	15.71	420.94
	05/06/09		0.31	13.91	422.51
	06/23/09		0.19	13.14	423.18
	07/23/09		0.02	12.08	424.11
	08/26/09		0.03	12.40	423.79
	09/17/09		0.08	13.09	423.14
	10/05/09		0.34	14.25	422.19
	11/04/09		0.82	15.62	421.21
	12/14/09			Obstructed by snow berm	
	1/15/2010			NM	
	02/10/10		0.85	16.02	420.83
	03/17/10		0.35	15.80	420.65
	04/21/10		0.01	15.82	420.36
	05/26/10		0.11	15.27	420.99
	06/18/10		0.00	13.92	422.25
	07/23/10			Unable to locate well	
	08/16/10			Unable to locate well	
	09/27/10	**436.60**	**0.06**	**12.66**	**423.99**
MW-2	08/02/07	96.65	--	9.35	87.30
	03/27/08		1.34	13.58	84.14
	05/23/08		0.11	11.51	85.23
	06/25/08		0.07	11.57	85.14
	07/14/08		--	10.52	86.13
	08/06/08	434.08	--	8.46	425.62
	09/12/08		0.02	9.92	424.18
	10/28/08		0.04	11.75	422.36
	11/21/08		0.14	12.03	422.16
	12/18/08		0.27	12.44	421.86
	01/29/09		1.33	13.89	421.25
	02/20/09		0.10	12.96	421.20
	03/25/09		1.41	14.40	420.81
	04/20/09		1.16	14.06	420.95
	05/06/09		0.06	11.62	422.51
	06/23/09		0.12	10.98	423.20
	07/23/09		0.04	9.98	424.13
	08/26/09		0.03	12.43	421.67
	09/17/09		0.30	11.20	423.12
	10/05/09		0.26	12.10	422.19
	11/04/09			Obstructed by snow berm	
	12/14/09			Obstructed by snow berm	
	1/15/2010			NM	
	02/10/10			Obstructed by snow berm	
	3/17/2010			Obstructed by snow berm	
	04/21/10			Obstructed by snow berm	
	05/26/10			Unable to locate well	
	06/18/10			Unable to locate well	
	07/23/10			Unable to locate well	
	08/16/10			Unable to locate well	
	09/27/10	**434.39**	**0.20**	**10.70**	**423.85**

TABLE 9
Groundwater Elevation Data
Former Chevron Facility 309152
6223 Old Airport Road
Fairbanks, Alaska

MW-3	08/02/07	97.45	0.05	10.10	87.39
	11/19/07		0.57	13.82	84.09
	03/27/08		0.32	13.53	84.18
	05/23/08		0.11	12.30	85.24
	06/25/08		0.02	12.32	85.15
	07/14/08		--	11.48	85.97
	08/06/08	434.87	0.03	9.26	425.63
	09/12/08		0.09	10.81	424.13
	10/28/08		0.01	12.51	422.37
	11/21/08		--	12.69	422.18
	12/18/08		0.09	13.09	421.85
	01/29/09		0.27	13.83	421.26
	02/20/09		0.79	14.55	420.95
	03/25/09		1.05	14.90	420.81
	04/20/09		1.11	14.82	420.94
	05/06/09			Obstructed by vehicle	
	06/23/09		0.05	11.74	423.17
	07/23/09		0.06	10.83	424.09
	08/26/09		0.17	11.27	423.74
	09/17/09		0.23	11.95	423.10
	10/05/09		0.18	12.87	422.14
	11/04/09		--	15.63	419.24
	12/14/09		0.45	13.95	421.28
	1/15/2010			NM	
	02/10/10		0.98	14.85	420.80
	03/17/10		1.22	15.20	420.65
	04/21/10		0.10	15.50	419.45
	05/26/10		0.89	15.64	419.94
	06/18/10		0.06	12.70	422.22
	07/23/10		--	10.62	424.25
	08/16/10		--	10.51	424.36
	09/27/10	**435.51**	**0.02**	**11.37**	**423.52**

TABLE 9
Groundwater Elevation Data
Former Chevron Facility 309152
6223 Old Airport Road
Fairbanks, Alaska

MW-4	08/02/07	96.99	0.11	9.80	87.28
	11/19/07		0.02	12.82	84.19
	03/27/08		0.01	12.84	84.16
	05/23/08		--	11.78	85.21
	06/25/08		--	11.87	85.12
	07/14/08		--	10.87	86.12
	08/06/08	434.42	--	8.79	425.63
	09/12/08		0.01	10.30	424.13
	10/28/08		--	12.07	422.35
	11/21/08		--	12.26	422.16
	12/18/08		under snow berm		
	01/29/09		--	13.15	421.27
	02/20/09		--	13.45	420.97
	03/25/09		under snow berm		
	04/20/09		under snow berm		
	05/06/09		0.01	11.94	422.49
	06/23/09		--	11.24	423.18
	07/23/09		0.01	10.33	424.10
	08/26/09		0.01	10.7	423.73
	09/17/09		0.01	11.3	423.13
	10/05/09		0.13	12.35	422.17
	11/04/09		--	13.19	421.23
	12/14/09		--	13.14	421.28
	1/15/2010			NM	
	02/10/10		0.21	13.76	420.83
	03/17/10		0.01	13.75	420.68
	04/21/10		--	13.84	420.58
	05/26/10		0.74	14.05	420.96
	06/18/10		0.11	12.31	422.20
	07/23/10		--	10.62	423.80
	08/16/10		0.21	9.75	424.84
	09/27/10	**434.89**	**0.19**	**11.02**	**424.02**
MW-5	08/02/07	97.68	--	10.33	87.35
	11/19/07		--	13.48	84.20
	03/27/08		--	13.50	84.18
	05/23/08		--	3.64*	--
	06/25/08		--	12.54	85.14
	07/14/08		--	11.66	86.02
	08/06/08	435.08	--	9.48	425.60
	09/12/08		--	10.92	424.16
	10/28/08		--	12.73	422.35
	11/21/08		--	12.91	422.17
	12/18/08		--	13.21	421.87
	01/29/09		--	13.79	421.29
	02/20/09		--	14.11	420.97
	03/25/09		--	14.56	420.52
	04/20/09		--	14.07	421.01
	05/06/09		--	12.67	422.41
	06/23/09		--	11.90	423.18
	07/23/09		--	10.97	424.11
	08/26/09		--	11.30	423.78
	09/17/09		--	11.94	423.14
	10/05/09		--	12.89	422.19
	11/04/09		--	13.88	421.20
	12/14/09		--	13.73	421.35
	1/15/2010			NM	
	02/10/10		--	14.24	420.84
	03/17/10		--	14.43	420.65
	04/21/10		--	14.50	420.58
	05/26/10		--	14.10	420.98
	06/18/10		--	12.89	422.19
	07/23/10		--	10.83	424.25
	08/16/10		--	10.34	424.74
	09/27/10	**435.53**	--	**11.50**	423.58

TABLE 9
Groundwater Elevation Data
Former Chevron Facility 309152
6223 Old Airport Road
Fairbanks, Alaska

MW-6	08/06/08	436.49	--	10.85	425.64
	09/12/08		--	12.36	424.13
	10/28/08		0.02	14.13	422.38
	11/21/08		0.04	14.34	422.18
	12/18/08		0.05	14.65	421.88
	01/29/09		0.11	15.29	421.29
	02/20/09		0.12	15.62	420.97
	03/25/09		0.16	15.80	420.82
	04/20/09		0.06	15.60	420.94
	05/06/09		0.06	14.04	422.50
	06/23/09		0.02	13.42	423.09
	07/23/09		0.06	12.42	424.12
	08/26/09		0.15	12.85	423.76
	09/17/09		0.31	13.61	423.13
	10/05/09		0.37	14.60	422.19
	11/04/09		0.53	15.69	421.22
	12/14/09		0.20	15.20	421.45
	1/15/2010			NM	
	02/10/10		--	15.47	421.02
	03/17/10		1.10	16.72	420.65
	04/21/10		--	15.94	420.55
	05/26/10		--	15.49	421.00
	06/18/10		--	13.20	423.29
	07/23/10		--	12.21	424.28
	08/16/10		0.11	11.83	424.66
	09/27/10	**434.02**	**0.30**	**13.50**	**420.76**

TABLE 9
Groundwater Elevation Data
Former Chevron Facility 309152
6223 Old Airport Road
Fairbanks, Alaska

MW-7	08/06/08	433.43	--	7.80	425.63
	09/12/08		--	9.33	424.10
	10/28/08		--	11.07	422.36
	11/21/08		--	11.29	422.14
	12/18/08		--	11.59	421.84
	01/29/09		--	12.21	421.22
	02/20/09		--	15.62	417.81
	03/25/09		--	12.68	420.75
	04/20/09		--	12.54	420.89
	05/06/09		--	10.96	422.47
	06/23/09		--	10.28	423.15
	07/23/09		--	9.34	424.09
	08/26/09		--	9.74	423.69
	09/17/09		--	10.23	423.20
	10/05/09		--	11.30	422.13
	11/04/09		--	12.23	421.20
	12/14/09		--	12.14	421.29
	1/15/2010			NM	
	02/10/10		--	12.66	420.77
	03/17/10		--	12.84	420.59
	04/21/10		--	12.95	420.48
	05/26/10		--	12.51	420.92
	06/18/10		--	11.23	422.20
	07/23/10		--	11.18	422.25
	08/16/10		--	8.75	424.68
	09/27/10	**430.83**	**--**	**9.95**	**420.88**
MW-8	08/06/08	428.65	--	3.03	425.62
	09/12/08		--	4.48	424.17
	10/28/08		--	6.29	422.36
	11/21/08		--	6.47	422.18
	12/18/08		--	6.77	421.88
	01/29/09		Well frozen at 6.81 feet bgs		
	02/20/09		Well frozen at 6.81 feet bgs		
	03/25/09		Well frozen at 6.78 feet bgs		
	04/20/09		Well frozen at 6.80 feet bgs		
	05/06/09		Well frozen at 6.78 feet bgs		
	06/23/09		--	5.48	423.17
	07/23/09		--	4.54	424.11
	08/26/09		--	4.9	423.75
	09/17/09		--	5.51	423.14
	10/05/09		--	6.48	422.17
	11/04/09		--	7.45	421.20
	12/14/09		--	7.30	421.35
	1/15/2010			NM	
	02/10/10		--	7.80	420.85
	03/17/10		--	7.98	420.67
	04/21/10		--	8.06	420.59
	05/26/10		--	7.64	421.01
	06/18/10		--	11.15	417.50
	07/23/10		--	4.38	424.27
	08/16/10		--	3.90	424.75
	09/27/10	**426.21**	**--**	**5.09**	**421.12**

TABLE 9
Groundwater Elevation Data
Former Chevron Facility 309152
6223 Old Airport Road
Fairbanks, Alaska

MW-9	08/06/08	435.56	--	9.93	425.63
	09/12/08		--	11.42	424.14
	10/28/08		0.28	13.33	422.45
	11/21/08		--	13.39	422.17
	12/18/08		0.09	13.77	421.86
	01/29/09		--	14.24	421.32
	02/20/09		0.92	15.32	420.98
	03/25/09		1.09	15.60	420.83
	04/20/09			Submerged	
	05/06/09		0.09	13.14	422.49
	06/23/09		--	12.36	423.20
	07/23/09		--	11.46	424.10
	08/26/09		--	11.96	423.60
	09/17/09		0.01	12.43	423.14
	10/05/09		0.06	13.41	422.20
	11/04/09		--	14.20	421.36
	12/14/09		0.07	14.18	421.44
	1/15/2010			NM	
	02/10/10		0.92	15.44	420.86
	03/17/10		0.94	15.65	420.66
	04/21/10		0.93	15.73	420.57
	05/26/10		1.12	15.56	420.90
	06/18/10		0.04	13.36	422.23
	07/23/10		--	11.30	424.26
	08/16/10			Well Obstructed	
	09/27/10	**436.23**	**--**	**12.00**	**424.23**
MW-10	08/06/08	435.06	--	9.44	425.62
	09/12/08		--	10.90	424.16
	10/28/08		--	12.71	422.35
	11/21/08		--	12.89	422.17
	12/18/08		--	13.20	421.86
	01/29/09		--	13.80	421.26
	02/20/09		--	14.12	420.94
	03/25/09		--	14.29	420.77
	04/20/09		--	14.12	420.94
	05/06/09		--	12.66	422.40
	06/23/09		--	11.90	423.16
	07/23/09		--	10.96	424.10
	08/26/09		--	11.30	423.76
	09/17/09		--	11.92	423.14
	10/05/09		--	12.86	422.20
	11/04/09		--	13.88	421.18
	12/14/09		--	13.70	421.36
	1/15/2010			NM	
	02/10/10		--	14.25	420.81
	03/17/10		--	14.41	420.65
	04/21/10		--	14.51	420.55
	05/26/10		--	14.11	420.95
	06/18/10		--	20.49	414.57
	07/23/10		--	10.80	424.26
	08/16/10		--	10.32	424.74
	09/27/10	**435.56**	**--**	**11.48**	**424.08**

TABLE 9
Groundwater Elevation Data
Former Chevron Facility 309152
6223 Old Airport Road
Fairbanks, Alaska

MW-11	08/06/08	435.20	--	9.55	425.65
	09/12/08		--	11.00	424.20
	10/28/08		--	12.75	422.45
	11/21/08		--	12.94	422.26
	12/18/08		--	13.25	421.95
	01/29/09		--	13.84	421.36
	02/20/09		--	14.15	421.05
	03/25/09		--	14.30	420.90
	04/20/09		--	14.16	421.04
	05/06/09		--	12.61	422.59
	06/23/09		--	11.98	423.22
	07/23/09		--	11.04	424.16
	08/26/09		--	11.21	423.99
	09/17/09		--	11.99	423.21
	10/05/09		--	12.91	422.29
	11/04/09		--	13.90	421.30
	12/14/09		--	13.76	421.44
	1/15/2010			NM	
	02/10/10		--	14.29	420.91
	03/17/10		--	14.45	420.75
	04/21/10			Well Dry	
	05/26/10		--	14.14	421.06
	06/18/10		--	12.90	422.30
	07/23/10		--	10.91	424.29
	08/16/10		--	10.41	424.79
	09/27/10	**435.66**	**--**	**11.57**	**424.09**
MW-12	**9/27/10**	**436.46**	**0.04**	**12.49**	**424.00**
MW-13	**9/27/10**	**434.65**	**--**	**9.76**	**424.89**
RW-1	08/06/08	435.68	--	10.07	425.61
	09/12/08		--	11.52	424.16
	10/28/08		--	13.32	422.36
	11/21/08		--	13.51	422.17
	12/18/08		--	13.81	421.87
	01/29/09		--	14.40	421.28
	02/20/09		--	14.70	420.98
	03/25/09		0.01	14.86	420.83
	04/20/09		--	14.40	421.28
	05/06/09			13.19	422.49
	06/23/09		--	12.50	423.18
	07/23/09		--	11.55	424.13
	08/26/09		--	11.80	423.88
	09/17/09		--	11.56	424.12
	10/05/09		--	13.48	422.20
	11/04/09		--	14.47	421.21
	12/14/09			Unable to locate well	
	1/15/2010			NM	
	02/10/10		--	14.81	420.87
	03/17/10		--	14.97	420.71
	04/21/10			Well Frozen	
	05/26/10			Unable to locate well	
	06/18/10		0.01	13.45	422.24
	07/23/10		--	11.40	424.28
	08/16/10		--	10.95	424.73
	09/27/10	**436.04**	**--**	**12.13**	**423.91**

TABLE 9
Groundwater Elevation Data
Former Chevron Facility 309152
6223 Old Airport Road
Fairbanks, Alaska

PZ-1	07/29/09		--	2.54	
	08/27/09		--	2.70	
	09/17/09		--	3.30	
	10/5/2009		--	4.27	
	11/7/2009			Well frozen at 4.44	
	12/14/2009			Well frozen	
	1/15/2010			NM	
	02/10/10			Well frozen	
	03/17/10			NM	
	04/21/10			NM	
	05/26/10			NM	
	06/18/10			Well Dry	
	07/23/10		--	2.10	
	08/16/10		--	1.70	
	09/27/10	424.49	--	2.85	421.64
PZ-2	07/29/09		--	2.78	
	08/27/09		--	2.20	
	09/17/09		--	2.98	
	10/5/2009		--	3.97	
	11/7/2009			Well dry at 4.46	
	12/14/2009			Well frozen	
	1/15/2010			NM	
	02/10/10			Well frozen	
	03/17/10			NM	
	04/21/10			NM	
	05/26/10			NM	
	6/18/2010			Well frozen	
	7/23/2010		--	1.43	
	8/16/2010		--		
	9/27/2010	425.07	--	2.59	422.48

Notes
bgs = below ground surface
amsl = above mean sea level
-- = not available/not applicable
LNAPL = Light non-aqueous phase liquid
NM = not measured
Groundwater elevation has been corrected due to the presence of LNAPL;
correction factor: [(TOC - DTW) + (Product Thickness x 0.8)].
Data associated with current monitoring event in bold.
*Water level was recorded and an obstruction was encountered at 3.64 feet bgs in MW-5 on 5/23/08
[1] All wells were surveyed to determined top-of-casing well elevations relative
to mean sea level, by OPUS EPOCH 2003 datum source, to the nearest 0.01-f

Table 10
2SA10 Reporting Period LNAPL Bailing Data

Former Chevron Facility 309152
6223 Old Airport Road Road
Fairbanks, Alaska

Date	Approximate Volume LNAPL Bailed (gallons)	Wells With Measured LNAPL
December-11	--	MW-3, MW-6, MW-9
February-10	1.0	MW-1, MW-3, MW-4, MW-9,
March-10	1.0	MW-1, MW-3, MW-4, MW-6, MW-9
April-10	2.5	MW-1, MW-3, MW-9
May-10	--	MW-1, MW-3, MW-4, MW-9
June-10	--	MW-3, MW-4, MW-9, RW-1
July-10	--	
August-10	0.5	
September-10	--	
October-10	--	
November-10	1.3	
December-10	--	

Notes:

LNAPL = Light Non-Aqueous Phase Liquid.

-- = not applicable/not measured.

TABLE 11

Groundwater Analytical Data
Former Chevron Facility 309152
6223 Old Airport Road
Fairbanks, Alaska

Location	Sample Date	GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	EDB	EDC
ADEC Groundwater Cleanup Levels [1]		***2,200***	***1,500***	***1,100***	***5***	***1,000***	***700***	***10,000***	***470***	***0.05***	***5***
MW-1	08/02/07	1,800	6,400	--	2	0.9	22	263	3	--	<0.500
	03/28/08	8,830	64,700	<728	25.2	16.8	138	2,320	12.4	9.45 [2]	1.13 [3]
	09/12/08	NOT SAMPLED DUE TO PRESENCE OF LNAPL									
	05/10/09	NOT SAMPLED DUE TO PRESENCE OF LNAPL									
	10/05/09	NOT SAMPLED DUE TO PRESENCE OF LNAPL									
	06/18/10	3,600	18,000	<3.4	16	3.8	19	570	--	--	
	09/27/10	**NOT SAMPLED DUE TO PRESENCE OF LNAPL**									
MW-2	08/02/07	14,000	8,000	--	330	690	710	3,380	3	--	<0.500
	03/28/08	NOT SAMPLED DUE TO PRESENCE OF LNAPL									
	09/12/08	NOT SAMPLED DUE TO PRESENCE OF LNAPL									
	05/10/09	NOT SAMPLED DUE TO PRESENCE OF LNAPL									
	10/05/09	NOT SAMPLED DUE TO PRESENCE OF LNAPL									
	06/18/10	UNABLE TO LOCATE WELL									
	09/27/10	**NOT SAMPLED DUE TO PRESENCE OF LNAPL**									
MW-3	08/02/07	32,000	120,000	--	660	3,000	1,500	6,600	<3	--	<3
	03/28/08	NOT SAMPLED DUE TO PRESENCE OF LNAPL									
	09/12/08	NOT SAMPLED DUE TO PRESENCE OF LNAPL									
	05/10/09	NOT SAMPLED DUE TO PRESENCE OF LNAPL									
	10/05/09	NOT SAMPLED DUE TO PRESENCE OF LNAPL									
	06/18/10	NOT SAMPLED DUE TO PRESENCE OF LNAPL									
	09/27/10	**NOT SAMPLED DUE TO PRESENCE OF LNAPL**									
MW-4	08/02/07	28,000	78,000	--	490	1,900	1,200	4,900	<3	--	<3
	03/28/08	81,600	178,000	1,330	819	2,270	2,620	11,100	168	1.15 [2]	<0.200 [3]
	09/12/08	NOT SAMPLED DUE TO PRESENCE OF LNAPL									
	05/10/09	NOT SAMPLED DUE TO PRESENCE OF LNAPL									
	06/18/10	NOT SAMPLED DUE TO PRESENCE OF LNAPL									
	09/27/10	**NOT SAMPLED DUE TO PRESENCE OF LNAPL**									
MW-5	08/02/07	300	170	--	14	4	4	15	<0.500	--	<0.5
	03/28/08	132	388	<758	3.07	<0.5	<0.5	<1.0	1.92	<0.010 [2]	<0.200 [3]
	09/12/08	<50.0	133	<743	0.382	<0.500	<0.500	<1.00	<1.00	<0.010	<0.500 [7]
	05/10/09	248 [6]	<400	<400	7.76	<0.500	<0.500	<1.00	4.53	<0.010	NA
	10/05/09	<50.0	506	--	<0.200	<1.00	<1.00	<3.00	<1.00	<0.010	**<1.00**
Duplicate	10/05/09	<50.0	462	--	<0.200	<1.00	<1.00	<3.00	<1.00	<0.010	**<1.00**
	06/18/10	220	27	220	1.8	<0.500	<0.500	< 1.5	--	--	
	09/29/10	**48**	**240**	**340**	**<0.5**	**<0.5**	**<0.5**	**<1.5**	**--**	**--**	**--**
MW-6	09/12/08	NOT SAMPLED DUE TO PRESENCE OF LNAPL									
	05/10/09	NOT SAMPLED DUE TO PRESENCE OF LNAPL									
	10/05/09	NOT SAMPLED DUE TO PRESENCE OF LNAPL									
	06/18/10	6,300	2,500	< 6.6	75	200	340	1,500	--	--	
	09/27/10	**NOT SAMPLED DUE TO PRESENCE OF LNAPL**									
MW-7	09/12/08	1,060	3,330 [4]	1,520 [5]	28.0	1.06	7.86	245	<1.00	<0.010	<0.500 [7]
	05/10/09	4,260	5,230	915	167	3.96	39.2	1,030	6.98	<0.010	NA
Duplicate	05/10/09	4,240	1,450	<413	166	4.00	38.4	1,040	6.30	<0.010	NA
	10/05/09	2,040	5,670	--	108	2.05	23.0	701	1.45	<0.010	**<1.00**
	06/18/10	3,100	7,100	760	120	2.80	24.0	750	--	--	
	09/27/10	**3,300**	**5,400**	**360**	**120**	**2.9**	**28.0**	**730**	**--**	**--**	**--**
MW-8	09/12/08	7,040	17,300	<3,710	379	4.42	45.4	1,550	<10.0 [8]	<0.010	<0.500 [7]
	05/10/09	NOT SAMPLED DUE TO ICE AT 6.78 FT BGS									
	10/05/09	3,910	4,560	--	240	2.16	22.6	1,830	<1.00	<0.010	<1.00
	06/18/10	3,800	2,800	280	170	1.30	3.9	900	--	--	
Duplicate	06/18/10	2,000	2,800	650	130	0.80	1.6	590	--	--	
	09/29/10	**2,700**	**2,300**	**320**	**96**	**0.80**	**2.6**	**600**	**--**	**--**	**--**
Duplicate	**09/29/10**	**2,200**	**--**	**--**	**92**	**0.70**	**2.3**	**520**	**--**	**--**	**--**

TABLE 11

Groundwater Analytical Data
Former Chevron Facility 309152
6223 Old Airport Road
Fairbanks, Alaska

MW-9	09/12/08	NOT SAMPLED DUE TO PRESENCE OF LNAPL									
	05/10/09	NOT SAMPLED DUE TO PRESENCE OF LNAPL									
	10/05/09	NOT SAMPLED DUE TO PRESENCE OF LNAPL									
	06/18/10	NOT SAMPLED DUE TO PRESENCE OF LNAPL									
	09/27/10	**36,000**	**68,000**	**<6,900[8]**	**140**	**2,200**	**1,200**	**7,700**	**--**	**--**	**--**
MW-10	09/12/08	<50.0	102 [6]	<743	0.281	<0.500	<0.500	2.25	<1.00	<0.010	<0.500 [7]
	05/10/09	77.0	<400	416	5.43	<0.500	<0.500	<1.00	1.57	<0.010	NA
	10/05/09	<50.0	<385	--	<2.00	<1.00	<1.00	<3.00	<1.00	<0.010	<1.00
	06/18/10	64.0	380	230	3.5	< 0.5	< 0.5	< 1.5	--	--	--
	09/27/10	**<10**	**190**	**240**	**<0.5**	**<0.5**	**<0.5**	**<1.5**	**--**	**--**	**--**
MW-11	09/12/08	<50.0	237 [6]	<750	<0.200	<0.500	<0.500	<1.00	1.51	<0.010	<0.500 [7]
Duplicate	09/12/08	<50.0	231 [6]	<743	<0.200	<0.500	<0.500	<1.00	1.43	<0.010	<0.500 [7]
	05/10/09	<50.0	<413	568	<0.500	<0.500	<0.500	<1.00	2.25	<0.010	NA
	10/05/09	<50.0	583	--	<0.200	<1.00	<1.00	<3.00	<1.00	<0.010	<1.00
	06/18/10	12	220	320	< 0.5	< 0.5	< 0.5	< 1.5	--	--	
	09/27/10	**<10**	**180**	**250**	**<0.5**	**<0.5**	**<0.5**	**<1.5**	**--**	**--**	
MW-12	**09/27/10**	**NOT SAMPLED DUE TO PRESENCE OF LNAPL**									
MW-13	**09/29/10**	**<10**	**96**	**220**	**<0.5**	**<0.5**	**<0.5**	**<1.5**	**--**	**--**	**--**
PZ-1	**09/29/10**	**120**	**5,800**	**670**	**15**	**6.2**	**2.4**	**17**	**--**	**--**	**--**
PZ-2	**09/29/10**	**400**	**7,900**	**<750**	**63**	**<0.5**	**15**	**29**	**--**	**--**	**--**
RW-1	10/05/09	12,100	3,820	--	107	368	576	3087	<1.00	2.76	**1.77**
	06/18/10	NOT SAMPLED DUE TO PRESENCE OF LNAPL									
	09/29/10	**8,000**	**15,000**	**<720**	**130**	**190**	**290**	**1,500**	**--**	**--**	**--**
Duplicate	**09/29/10**	**7,700**	**--**	**--**	**130**	**190**	**280**	**1,500**	--	--	**--**

Notes:
All results and clean up levels are reported in micrograms per liter (µg/L)
Gasoline range organics (GRO) were analyzed by AK Method 101.
Diesel range organics (DRO) were analyzed by AK Method 102
Residual range organics (RRO) were analyzed by AK Method 103
Benzene, toluene, ethylbenzene, and total xylenes (BTEX) were analyzed by EPA Method 8021B
Methyl tert-butyl ether (MTBE) was analyzed by EPA Method 8021B
1,2-Dibromoethane (EDB) was analyzed by EPA Method 8011
1,2-Dichloroethane (EDC) was analyzed by EPA Method 8260B

Highlighted cell = exceeds groundwater cleanup level
< = not detected greater than the laboratory reporting limit indicated
Data associated with current monitoring event in **bold**.
NA = Not analyzed.

[1] ADEC Groundwater Cleanup Levels (GCLs) per 18 AAC 75.355, Table C. Register 188, October 2008, & Technical Memorandum 02-006.
[2] Sample was extracted past holding time, but analyzed within analysis holding time.
[3] Sample analysis performed past method-specified holding time.
[4] Detected hydrocarbons in the diesel range do not have a distinct diesel pattern and may be due to heavily weathered diesel.
[5] The heavy oil range organics present are due to hydrocarbons eluting primarily in the diesel range.
[6] Does not match typical pattern.
[7] Sample analysis performed past the method-specific holding time per client's approval.
[8] Reporting limit raised due to sample matrix effects.

TABLE 12

Geochemical Parameter Monitoring Data
Former Chevron Facility 309152
6223 Old Airport Rd
Fairbanks, Alaska

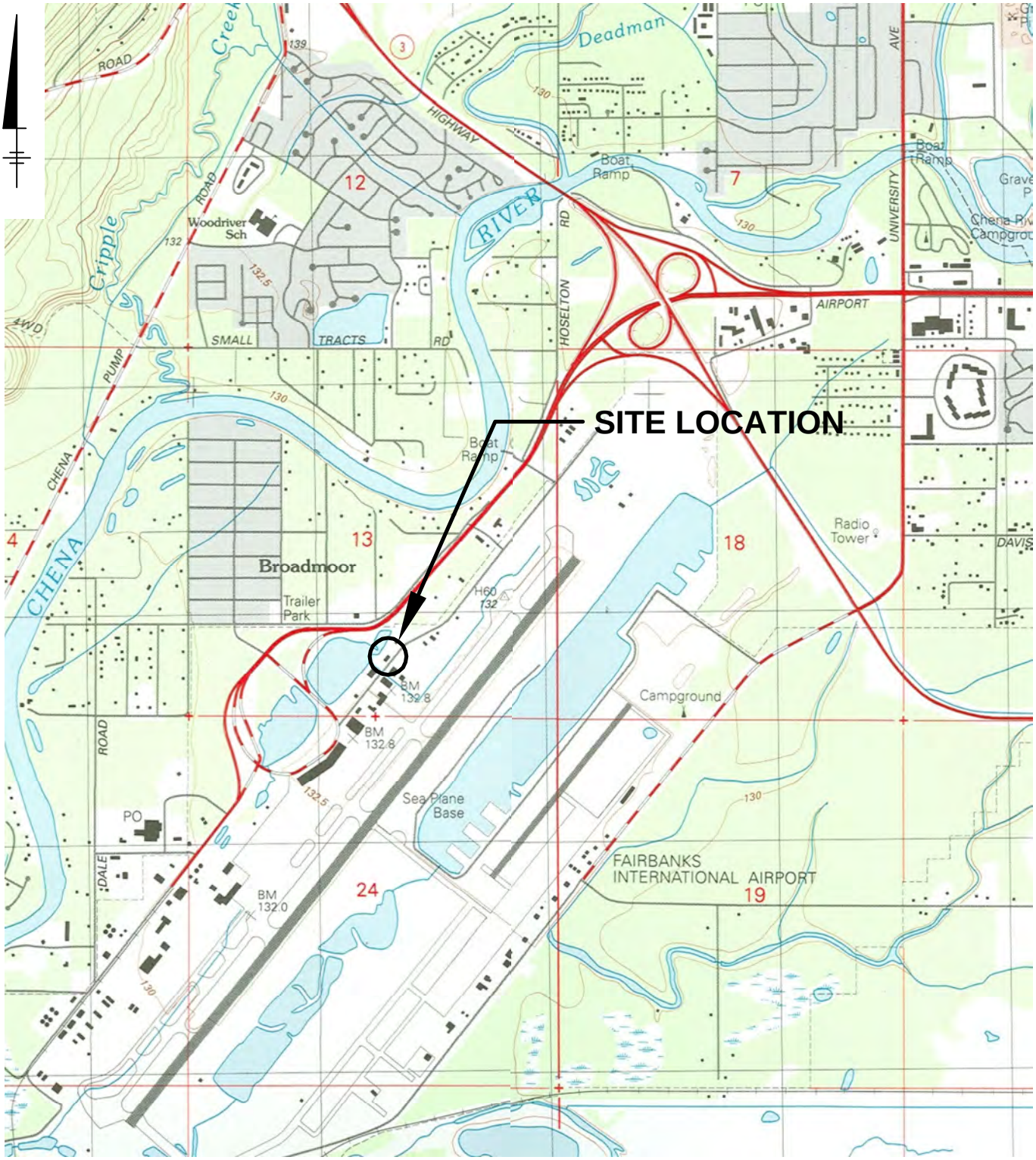
Monitoring Well ID	Date Sampled	DO (mg/L)[1]	ORP (mV)[1]	Temp (°C)	pH	Cond (µS/cm)	Total Alkalinity (mg/L as $CaCO_3$)[2]	Sulfate (mg/L)[3]	Nitrate as Nitrogen (mg/L)[3]	Methane (µg/L)[4]	Ferrous Iron (mg/L)[5]	Nitrate by Field Measurement (mg/L)[5]
MW-1	10/5/2009	NOT SAMPLED DUE TO PRESENCE OF LNAPL										
	9/27/2010	NOT SAMPLED DUE TO PRESENCE OF LNAPL										
MW-2	10/5/2009	NOT SAMPLED DUE TO PRESENCE OF LNAPL										
	9/27/2010	NOT SAMPLED DUE TO PRESENCE OF LNAPL										
MW-3	10/5/2009	NOT SAMPLED DUE TO PRESENCE OF LNAPL										
	9/27/2010	NOT SAMPLED DUE TO PRESENCE OF LNAPL										
MW-4	10/5/2009	NOT SAMPLED DUE TO PRESENCE OF LNAPL										
	9/27/2010	NOT SAMPLED DUE TO PRESENCE OF LNAPL										
MW-5	10/5/2009	0.46	-4.90	5.75	5.74	0.677	--	--	--	--	--	--
	9/29/2010	--	--	--	--	--	**320**	**27.1**	**<0.25**	--	**2.2**	**0.0**
MW-6	10/5/2009	NOT SAMPLED DUE TO PRESENCE OF LNAPL										
	9/27/2010	NOT SAMPLED DUE TO PRESENCE OF LNAPL										
MW-7	10/5/2009	0.43	-105.40	5.76	6.41	1.103	--	--	--	--	--	--
	9/27/2010											
MW-8	10/5/2009	0.49	-132.1	6.95	6.89	0.839	--	--	--	--	--	--
	9/27/2010	--	--	--	--	--		**<1.5**	**<0.25**	**--**	**2**	**0**
MW-9	10/5/2009	NOT SAMPLED DUE TO PRESENCE OF LNAPL										
	9/27/2010	--	--	--	--	--	--	--	--	--	--	--
MW-10	10/5/2009	0.4	186.30	6.31	6.37	0.667	--	--	--	--	--	--
	9/27/2010	--	--	--	--	--	--	--	--	--	--	--
MW-11	10/5/2009	0.41	-52.00	6.91	6.32	0.748	--	--	--	--	--	--
	9/27/2010	--	--	--	--	--	--	--	--	--	--	--
MW-12	9/27/2010	--	--	--	--	--	--	--	--	--	--	--
MW-13	9/27/2010	--	--	--	--	--	**355**	**16**	**1**	**--**	**0.0**	**0.0**
PZ-1	9/29/2010	--	--	--	--	--	--	--	--	--	**2.4**	**0.0**
PZ-2	9/29/2010	--	--	--	--	--	**426**	**6.3**	**<0.25**	**--**	**1.2**	**0.0**

[1]: DO and ORP measured using an In-Situ® 9500 and flow through cell instrument.
[2]: Total alkalinity analyzed using EPA method 310.1.
[3]: Sulfate and nitrate as nitrogen analyzed by EPA method 300.0.
[4]: Methane analyzed using GC/FID.
[5]: Ferrous iron and nitrate field measurement analyzed using a Hach field kit.
Data associated with current monitoring event in **bold**.

DO = Dissolved oxygen
ORP = Oxidation-reduction potential
"<" = Indicates analyte not detected above MRL
mg/L = milligrams per liter
µg/L = micrograms per liter
mV = millivolts
MRL = Method reporting limit
$CaCO_3$ = Calcium carbonate
EPA = Environemental Protection Agency
(µS/cm) = Micro Siemen per centimeter
Cond = Conductivity
Temp = Temperature

ARCADIS

Figures



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

0 2000' 4000'

APPROXIMATE GRAPHIC SCALE

FORMER CHEVRON FACILITY #309152
6223 OLD AIRPORT ROAD, FAIRBANKS, ALASKA
2010 SITE ASSESSMENT

SITE LOCATION MAP

ARCADIS

FIGURE 1

CITY:TMAPA,FL DIV/GROUP:85 DB:JAR LD:(Opt) PIC:(Opt) PM:M.Strickler TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
G:\ENVCAD\Tampa-BACT\B00045803 Chev 309152\0004\00005\2SA 2010\B00045803N01.dwg LAYOUT: 1SAVED: 1/27/2011 1:00 PM ACADVER: 18.0S (LMS TECH) PAGESETUP: PDF-AP PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 3/10/2011 9:49 AM BY: RICHARDS, JIM
XREFS: IMAGES: Aerial.jpg ALASKA.jpg Fairbanks-SW.jpg Fairbanks-SW2.jpg PROJECTNAME: ---

LEGEND

- SEDIMENT SAMPLE LOCATION
- SURFACE WATER SAMPLE LOCATION
- MONITORING WELL LOCATION
- BORING LOCATION

0 200' 400'

APPROXIMATE GRAPHIC SCALE

SOURCE: AERIAL PHOTOGRAPH PROVIDED BY GOOGLE EARTH PRO, 2009.

FORMER CHEVRON FACILITY #309152
6223 OLD AIRPORT ROAD, FAIRBANKS, ALASKA
2010 SITE ASSESSMENT

SITE VICINITY MAP WITH SAMPLING LOCATIONS

ARCADIS

FIGURE
2

CITY:TMAPA,FL DIV/GROUP:85 DB:JAR LD:(Opt) PIC:(Opt) PM:M.Stickler TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
G:\ENVCAD\Tampa-BACT\B00045803 Chev 309152\0004\000052SA 2010\B00045803N01.dwg LAYOUT: 2SAVED: 1/27/2011 1:00 PM ACADVER: 18.0S (LMS TECH) PAGESETUP: PDF-AP PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 3/10/2011 9:48 AM BY: RICHARDS, JIM

HA–1	
DATE	8/26/10
DEPTH	18"
GRO	NA
DRO	**1,700**
RRO	3,300
B	NA
T	NA
E	NA
X	NA
MTBE	NA
Pb	NA

HA–2	
DATE	8/26/10
DEPTH	18"
GRO	NA
DRO	**3,700**
RRO	<730
B	NA
T	NA
E	NA
X	NA
MTBE	NA
Pb	NA

SB–1			
DATE	8/26/10	8/28/10	8/28/10
DEPTH	2.0'	12.0'	20.0'
GRO	**7,300**	**3,500/3,200**	15
DRO	**70,000**	**1,200/4,800**	<5.8
RRO	<6,900	<280/<1,200	<5.8
B	<4.5	**12/12**	**0.05**
T	**18**	**10/9.5**	0.05
E	**130**	**30/29**	0.2
X	**640**	**180/180**	0.9
MTBE	<0.67	<0.11/<0.097	<0.025
Pb	319	4.01/5.75	2.63

SB–2			
DATE	8/26/10	8/27/10	8/27/10
DEPTH	2.0'	12.0'	20.0'
GRO	**4,400/1,700**	**2,800**	8.0
DRO	**44,000/10,000**	**3,100**	<6.2
RRO	<3,000/<1,300	<540	<6.2
B	**<2.9/1.5**	**8.4**	**C0.03**
T	<2.9/1.0	**9.3**	0.04
E	**7.8/25**	**26**	0.2
X	**39/83**	**140**	1
MTBE	<0.064/<0.088	<0.094	<0.042
Pb	330/34.3	11.4	2.60

MW–12				
DATE	8/26/10	8/28/10	8/28/10	8/28/10
DEPTH	2.0'	14.0'	16.0'	24.0'
GRO	<0.9	78	**4,500**	1.1/1.5
DRO	<6.4	30	**700**	<5.8/<5.8
RRO	<6.4	<5.5	<140	9.4/8.6
B	<0.009	**0.2**	**25**	0.009/0.01
T	0.02	0.06	**14**	<0.006/<0.005
E	<0.009	0.5	**76**	0.02/0.02
X	<0.03	2.1	**380**	0.07/0.08
MTBE	<0.040	<0.026	<0.48	<0.027/<0.031
Pb	3.83	4.32	4.22	3.27/2.60

MW–13			
DATE	8/26/10	8/28/10	8/28/10
DEPTH	2.0'	10.0'	20.0'
GRO	<0.6	<0.8	0.9
DRO	<5.5	<6.7	<5.8
RRO	17	15	<5.8
B	<0.006	<0.08	0.006
T	0.01	<0.08	0.03
E	<0.006	<0.0	<0.005
X	<0.02	<0.02	0.03
MTBE	<0.029	<0.035	<0.025
Pb	5.98	6.74	3.19

LEGEND

- Property Boundary
- Groundwater Monitoring Well
- Recovery Well
- Piezometer
- USPS Site Monitoring Well
- Light Pole
- OH — Overhead Lines
- 435 — Elevation (Contour Interval 1 ft)

SAMPLE LOCATION	
DATE	SAMPLE DATE
DEPTH	SAMPLE DEPTH
GRO	Gasoline Range Organics
DRO	Diesel Range Organics
RRO	Residual Range Organics
B	Benzene
T	Toluene
E	Ethylbenzene
X	Total Xylenes
MTBE	Methyl Tert–Butyl Ether
Pb	Total Lead

ALL RESULTS IN MILLIGRAMS PER KILOGRAM (mg/kg)

BOLD = ABOVE ADEC SOIL CLEANUP LEVEL

NA = NOT ANALYZED

0 50' 100'

GRAPHIC SCALE

SOURCE:
Base map provided by 'KARABELNIKOFF SURVEYING' (904) 337–3434. Survey date Sept. 17, 2007, drawing date Sept. 26, 2007, map full scale. Updated survey information provided by McClane Consulting Inc.

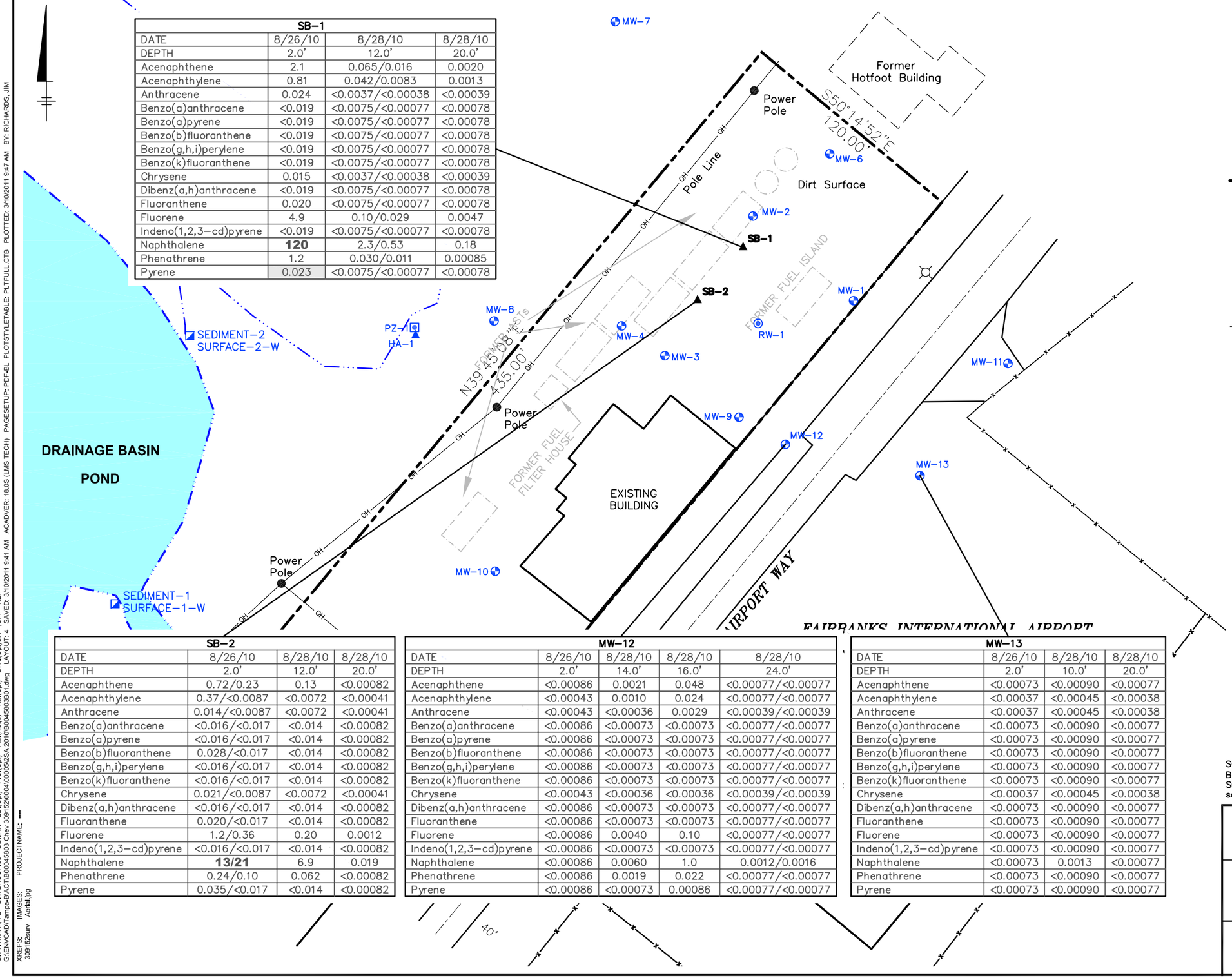
FORMER CHEVRON FACILITY #309152
6223 OLD AIRPORT ROAD, FAIRBANKS, ALASKA
2010 SITE ASSESSMENT

SOIL ANALYTICAL DATA - PETROLEUM HYDROCARBONS AND TOTAL LEAD

ARCADIS

FIGURE 3

SB–1			
DATE	8/26/10	8/28/10	8/28/10
DEPTH	2.0'	12.0'	20.0'
Acenaphthene	2.1	0.065/0.016	0.0020
Acenaphthylene	0.81	0.042/0.0083	0.0013
Anthracene	0.024	<0.0037/<0.00038	<0.00039
Benzo(a)anthracene	<0.019	<0.0075/<0.00077	<0.00078
Benzo(a)pyrene	<0.019	<0.0075/<0.00077	<0.00078
Benzo(b)fluoranthene	<0.019	<0.0075/<0.00077	<0.00078
Benzo(g,h,i)perylene	<0.019	<0.0075/<0.00077	<0.00078
Benzo(k)fluoranthene	<0.019	<0.0075/<0.00077	<0.00078
Chrysene	0.015	<0.0037/<0.00038	<0.00039
Dibenz(a,h)anthracene	<0.019	<0.0075/<0.00077	<0.00078
Fluoranthene	0.020	<0.0075/<0.00077	<0.00078
Fluorene	4.9	0.10/0.029	0.0047
Indeno(1,2,3–cd)pyrene	<0.019	<0.0075/<0.00077	<0.00078
Naphthalene	**120**	2.3/0.53	0.18
Phenathrene	1.2	0.030/0.011	0.00085
Pyrene	0.023	<0.0075/<0.00077	<0.00078



LEGEND

- Property Boundary
- Groundwater Monitoring Well
- Recovery Well
- Piezometer
- USPS Site Monitoring Well
- Light Pole
- OH — Overhead Lines
- 435 — Elevation (Contour Interval 1 ft)

ALL RESULTS IN MILLIGRAMS PER KILOGRAM (mg/kg)

BOLD = ABOVE ADEC SOIL CLEANUP LEVEL

NA = NOT ANALYZED

SB–2			
DATE	8/26/10	8/28/10	8/28/10
DEPTH	2.0'	12.0'	20.0'
Acenaphthene	0.72/0.23	0.13	<0.00082
Acenaphthylene	0.37/<0.0087	<0.0072	<0.00041
Anthracene	0.014/<0.0087	<0.0072	<0.00041
Benzo(a)anthracene	<0.016/<0.017	<0.014	<0.00082
Benzo(a)pyrene	<0.016/<0.017	<0.014	<0.00082
Benzo(b)fluoranthene	0.028/<0.017	<0.014	<0.00082
Benzo(g,h,i)perylene	<0.016/<0.017	<0.014	<0.00082
Benzo(k)fluoranthene	<0.016/<0.017	<0.014	<0.00082
Chrysene	0.021/<0.0087	<0.0072	<0.00041
Dibenz(a,h)anthracene	<0.016/<0.017	<0.014	<0.00082
Fluoranthene	0.020/<0.017	<0.014	<0.00082
Fluorene	1.2/0.36	0.20	0.0012
Indeno(1,2,3–cd)pyrene	<0.016/<0.017	<0.014	<0.00082
Naphthalene	**13/21**	6.9	0.019
Phenathrene	0.24/0.10	0.062	<0.00082
Pyrene	0.035/<0.017	<0.014	<0.00082

MW–12				
DATE	8/26/10	8/28/10	8/28/10	8/28/10
DEPTH	2.0'	14.0'	16.0'	24.0'
Acenaphthene	<0.00086	0.0021	0.048	<0.00077/<0.00077
Acenaphthylene	<0.00043	0.0010	0.024	<0.00077/<0.00077
Anthracene	<0.00043	<0.00036	0.0029	<0.00039/<0.00039
Benzo(a)anthracene	<0.00086	<0.00073	<0.00073	<0.00077/<0.00077
Benzo(a)pyrene	<0.00086	<0.00073	<0.00073	<0.00077/<0.00077
Benzo(b)fluoranthene	<0.00086	<0.00073	<0.00073	<0.00077/<0.00077
Benzo(g,h,i)perylene	<0.00086	<0.00073	<0.00073	<0.00077/<0.00077
Benzo(k)fluoranthene	<0.00086	<0.00073	<0.00073	<0.00077/<0.00077
Chrysene	<0.00043	<0.00036	<0.00036	<0.00039/<0.00039
Dibenz(a,h)anthracene	<0.00086	<0.00073	<0.00073	<0.00077/<0.00077
Fluoranthene	<0.00086	<0.00073	<0.00073	<0.00077/<0.00077
Fluorene	<0.00086	0.0040	0.10	<0.00077/<0.00077
Indeno(1,2,3–cd)pyrene	<0.00086	<0.00073	<0.00073	<0.00077/<0.00077
Naphthalene	<0.00086	0.0060	1.0	0.0012/0.0016
Phenathrene	<0.00086	0.0019	0.022	<0.00077/<0.00077
Pyrene	<0.00086	<0.00073	0.00086	<0.00077/<0.00077

MW–13			
DATE	8/26/10	8/28/10	8/28/10
DEPTH	2.0'	10.0'	20.0'
Acenaphthene	<0.00073	<0.00090	<0.00077
Acenaphthylene	<0.00037	<0.00045	<0.00038
Anthracene	<0.00037	<0.00045	<0.00038
Benzo(a)anthracene	<0.00073	<0.00090	<0.00077
Benzo(a)pyrene	<0.00073	<0.00090	<0.00077
Benzo(b)fluoranthene	<0.00073	<0.00090	<0.00077
Benzo(g,h,i)perylene	<0.00073	<0.00090	<0.00077
Benzo(k)fluoranthene	<0.00073	<0.00090	<0.00077
Chrysene	<0.00037	<0.00045	<0.00038
Dibenz(a,h)anthracene	<0.00073	<0.00090	<0.00077
Fluoranthene	<0.00073	<0.00090	<0.00077
Fluorene	<0.00073	<0.00090	<0.00077
Indeno(1,2,3–cd)pyrene	<0.00073	<0.00090	<0.00077
Naphthalene	<0.00073	0.0013	<0.00077
Phenathrene	<0.00073	<0.00090	<0.00077
Pyrene	<0.00073	<0.00090	<0.00077

0 50' 100'

GRAPHIC SCALE

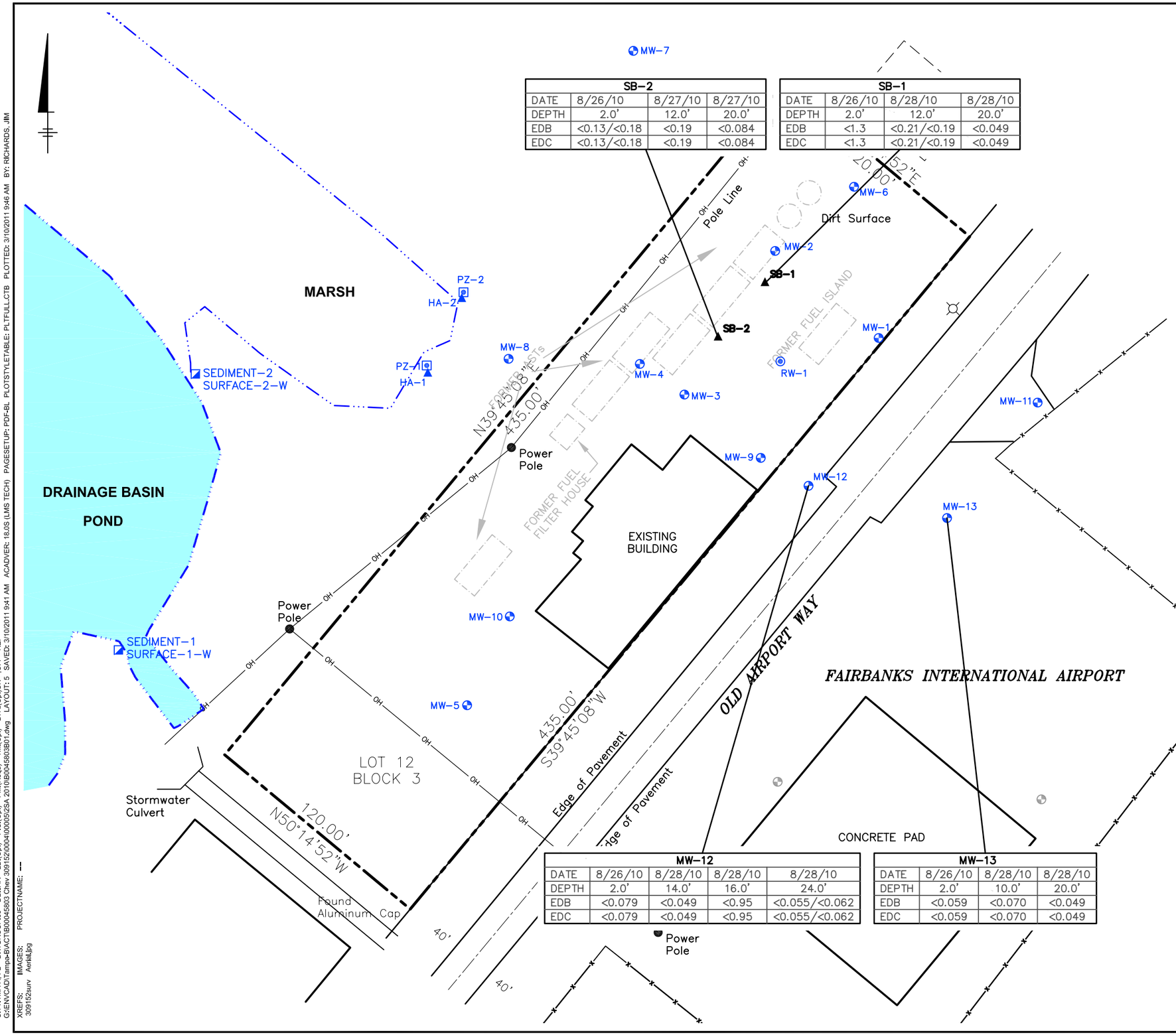
SOURCE:
Base map provided by 'KARABELNIKOFF SURVEYING' (904) 337–3434. Survey date Sept. 17, 2007, drawing date Sept. 26, 2007, map full scale. Updated survey information provided by McClane Consulting Inc.

FORMER CHEVRON FACILITY #309152
6223 OLD AIRPORT ROAD, FAIRBANKS, ALASKA
2010 SITE ASSESSMENT

SOIL ANALYTICAL DATA - POLYNUCLEAR AROMATIC HYDROCARBONS

ARCADIS

FIGURE 4



LEGEND

- Property Boundary
- Groundwater Monitoring Well
- Recovery Well
- Piezometer
- USPS Site Monitoring Well
- Light Pole
- OH — Overhead Lines
- 435 — Elevation (Contour Interval 1 ft)

SAMPLE LOCATION	
DATE	SAMPLE DATE
DEPTH	SAMPLE DEPTH
EDB	1,2-Dibromoethane
EDC	1,2-Dichloroethane

ALL RESULTS IN MILLIGRAMS PER KILOGRAM (mg/kg)

BOLD = ABOVE ADEC SOIL CLEANUP LEVEL

NA = NOT ANALYZED

0 50' 100'

GRAPHIC SCALE

SOURCE:
Base map provided by 'KARABELNIKOFF SURVEYING' (904) 337-3434. Survey date Sept. 17, 2007, drawing date Sept. 26, 2007, map full scale. Updated survey information provided by McClane Consulting Inc.

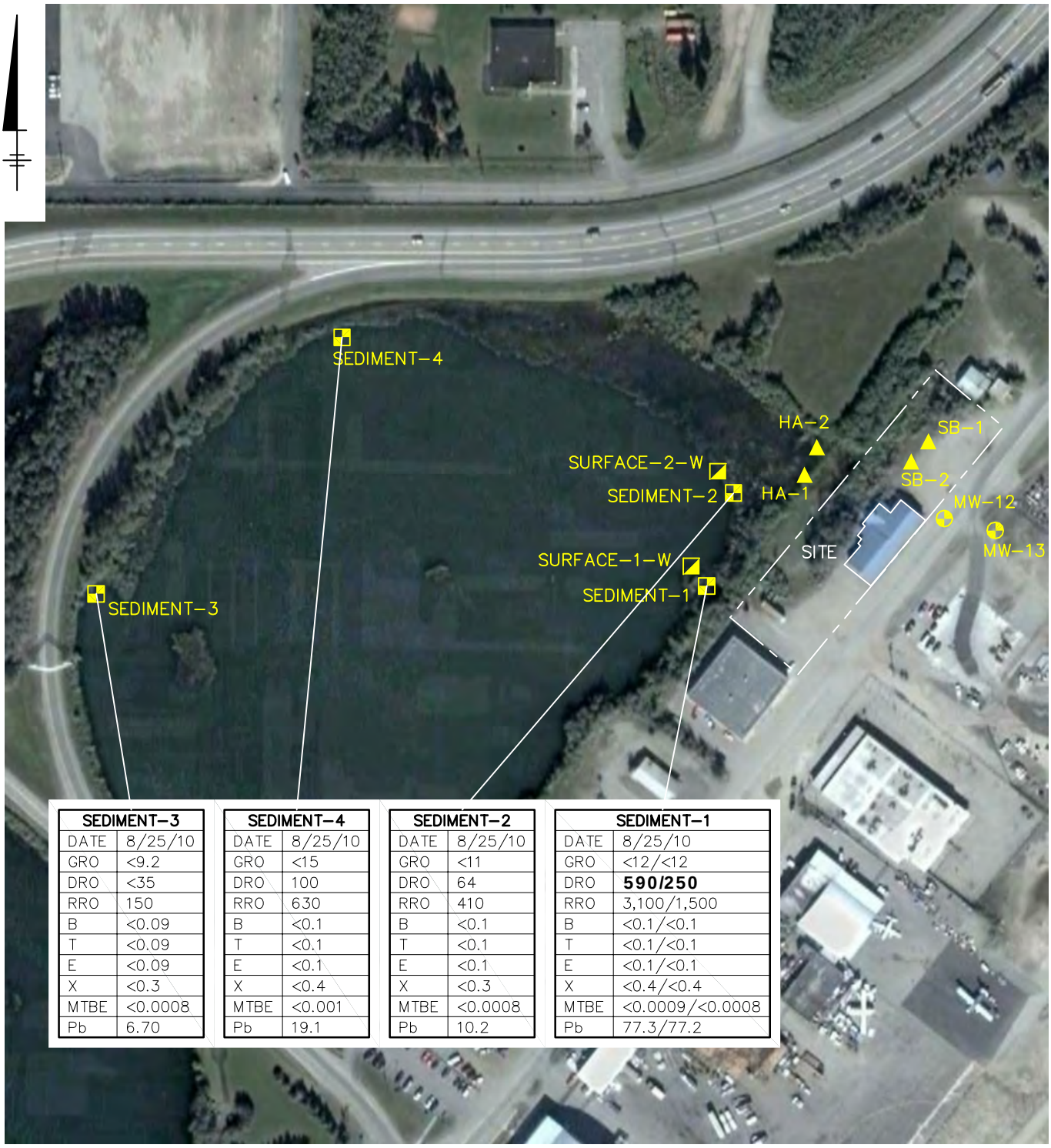
FORMER CHEVRON FACILITY #309152
6223 OLD AIRPORT ROAD, FAIRBANKS, ALASKA
2010 SITE ASSESSMENT

SOIL ANALYTICAL DATA - EDB AND EDC

ARCADIS

FIGURE 5

CITY:TMA-A, FL DIV/GROUP:85 DB:JAR LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)On=*;OFF=*REF*
G:\ENVCAD\Tampa-BVACTIB00045803 Chev 309152\00040000\52SA 2010IB00045803B01.dwg LAYOUT: 5 SAVED: 3/10/2011 9:41 AM ACADVER: 18.0S (LMS TECH) PAGESETUP: PDF-BL PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 3/10/2011 9:46 AM BY: RICHARDS, JIM
XREFS: IMAGES: PROJECTNAME: ---
309152surv Aerial.jpg



SEDIMENT–3	
DATE	8/25/10
GRO	<9.2
DRO	<35
RRO	150
B	<0.09
T	<0.09
E	<0.09
X	<0.3
MTBE	<0.0008
Pb	6.70

SEDIMENT–4	
DATE	8/25/10
GRO	<15
DRO	100
RRO	630
B	<0.1
T	<0.1
E	<0.1
X	<0.4
MTBE	<0.001
Pb	19.1

SEDIMENT–2	
DATE	8/25/10
GRO	<11
DRO	64
RRO	410
B	<0.1
T	<0.1
E	<0.1
X	<0.3
MTBE	<0.0008
Pb	10.2

SEDIMENT–1	
DATE	8/25/10
GRO	<12/<12
DRO	**590/250**
RRO	3,100/1,500
B	<0.1/<0.1
T	<0.1/<0.1
E	<0.1/<0.1
X	<0.4/<0.4
MTBE	<0.0009/<0.0008
Pb	77.3/77.2

LEGEND

- SEDIMENT SAMPLE LOCATION
- SURFACE WATER SAMPLE LOCATION
- MONITORING WELL LOCATION
- BORING LOCATION

ALL RESULTS REPORTED IN MILLIGRAMS PER KILOGRAM (mg/kg)

0 200' 400'

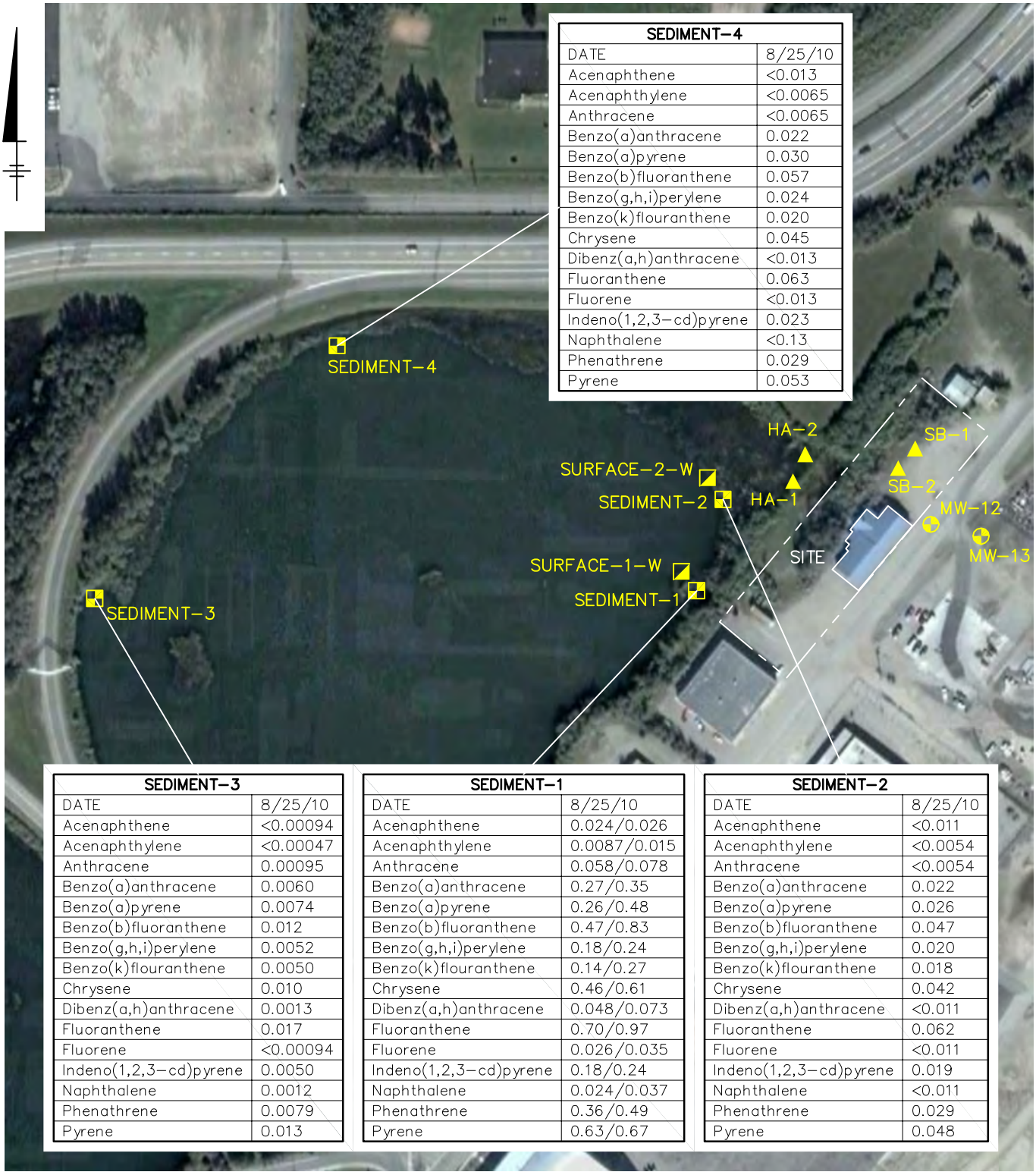
APPROXIMATE GRAPHIC SCALE

FORMER CHEVRON FACILITY #309152
6223 OLD AIRPORT ROAD, FAIRBANKS, ALASKA
2010 SITE ASSESSMENT

SEDIMENT ANALYTICAL DATA - PETROLEUM HYDROCARBONS AND TOTAL LEAD

ARCADIS

FIGURE
6



SEDIMENT-4	
DATE	8/25/10
Acenaphthene	<0.013
Acenaphthylene	<0.0065
Anthracene	<0.0065
Benzo(a)anthracene	0.022
Benzo(a)pyrene	0.030
Benzo(b)fluoranthene	0.057
Benzo(g,h,i)perylene	0.024
Benzo(k)flouranthene	0.020
Chrysene	0.045
Dibenz(a,h)anthracene	<0.013
Fluoranthene	0.063
Fluorene	<0.013
Indeno(1,2,3-cd)pyrene	0.023
Naphthalene	<0.13
Phenathrene	0.029
Pyrene	0.053

SEDIMENT-3	
DATE	8/25/10
Acenaphthene	<0.00094
Acenaphthylene	<0.00047
Anthracene	0.00095
Benzo(a)anthracene	0.0060
Benzo(a)pyrene	0.0074
Benzo(b)fluoranthene	0.012
Benzo(g,h,i)perylene	0.0052
Benzo(k)flouranthene	0.0050
Chrysene	0.010
Dibenz(a,h)anthracene	0.0013
Fluoranthene	0.017
Fluorene	<0.00094
Indeno(1,2,3-cd)pyrene	0.0050
Naphthalene	0.0012
Phenathrene	0.0079
Pyrene	0.013

SEDIMENT-1	
DATE	8/25/10
Acenaphthene	0.024/0.026
Acenaphthylene	0.0087/0.015
Anthracene	0.058/0.078
Benzo(a)anthracene	0.27/0.35
Benzo(a)pyrene	0.26/0.48
Benzo(b)fluoranthene	0.47/0.83
Benzo(g,h,i)perylene	0.18/0.24
Benzo(k)flouranthene	0.14/0.27
Chrysene	0.46/0.61
Dibenz(a,h)anthracene	0.048/0.073
Fluoranthene	0.70/0.97
Fluorene	0.026/0.035
Indeno(1,2,3-cd)pyrene	0.18/0.24
Naphthalene	0.024/0.037
Phenathrene	0.36/0.49
Pyrene	0.63/0.67

SEDIMENT-2	
DATE	8/25/10
Acenaphthene	<0.011
Acenaphthylene	<0.0054
Anthracene	<0.0054
Benzo(a)anthracene	0.022
Benzo(a)pyrene	0.026
Benzo(b)fluoranthene	0.047
Benzo(g,h,i)perylene	0.020
Benzo(k)flouranthene	0.018
Chrysene	0.042
Dibenz(a,h)anthracene	<0.011
Fluoranthene	0.062
Fluorene	<0.011
Indeno(1,2,3-cd)pyrene	0.019
Naphthalene	<0.011
Phenathrene	0.029
Pyrene	0.048

LEGEND

- SEDIMENT SAMPLE LOCATION
- SURFACE WATER SAMPLE LOCATION
- MONITORING WELL LOCATION
- BORING LOCATION

ALL RESULTS REPORTED IN MILLIGRAMS PER KILOGRAM (mg/kg)

0 200' 400'

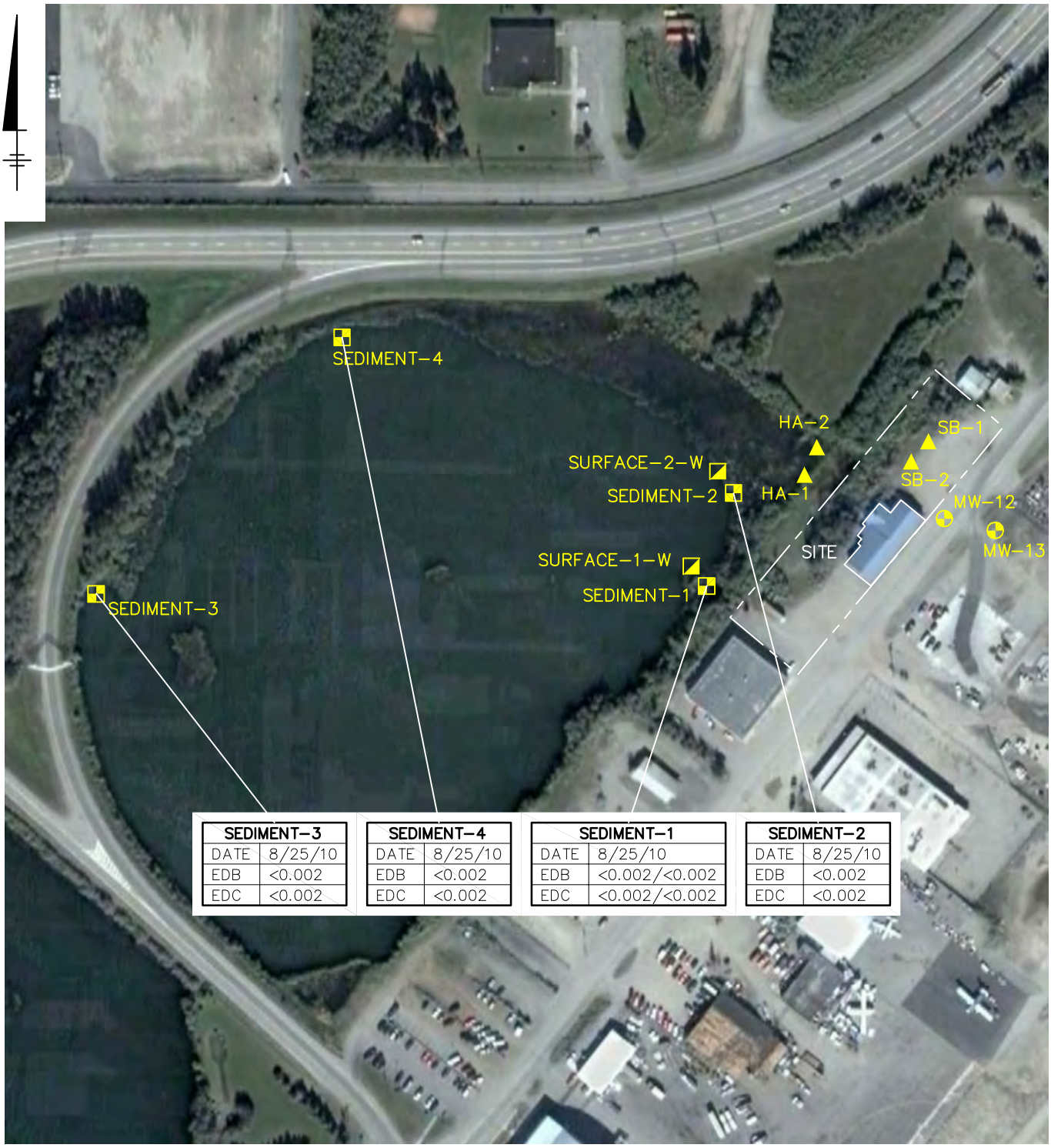
APPROXIMATE GRAPHIC SCALE

FORMER CHEVRON FACILITY #309152
6223 OLD AIRPORT ROAD, FAIRBANKS, ALASKA
2010 SITE ASSESSMENT

SEDIMENT ANALYTICAL DATA - POLYNUCLEAR AROMATIC HYDROCARBONS

ARCADIS

FIGURE
7



SEDIMENT-3	
DATE	8/25/10
EDB	<0.002
EDC	<0.002

SEDIMENT-4	
DATE	8/25/10
EDB	<0.002
EDC	<0.002

SEDIMENT-1	
DATE	8/25/10
EDB	<0.002/<0.002
EDC	<0.002/<0.002

SEDIMENT-2	
DATE	8/25/10
EDB	<0.002
EDC	<0.002

LEGEND

- SEDIMENT SAMPLE LOCATION
- SURFACE WATER SAMPLE LOCATION
- MONITORING WELL LOCATION
- BORING LOCATION

ALL RESULTS REPORTED IN MILLIGRAMS PER KILOGRAM (mg/kg)

0 200' 400'

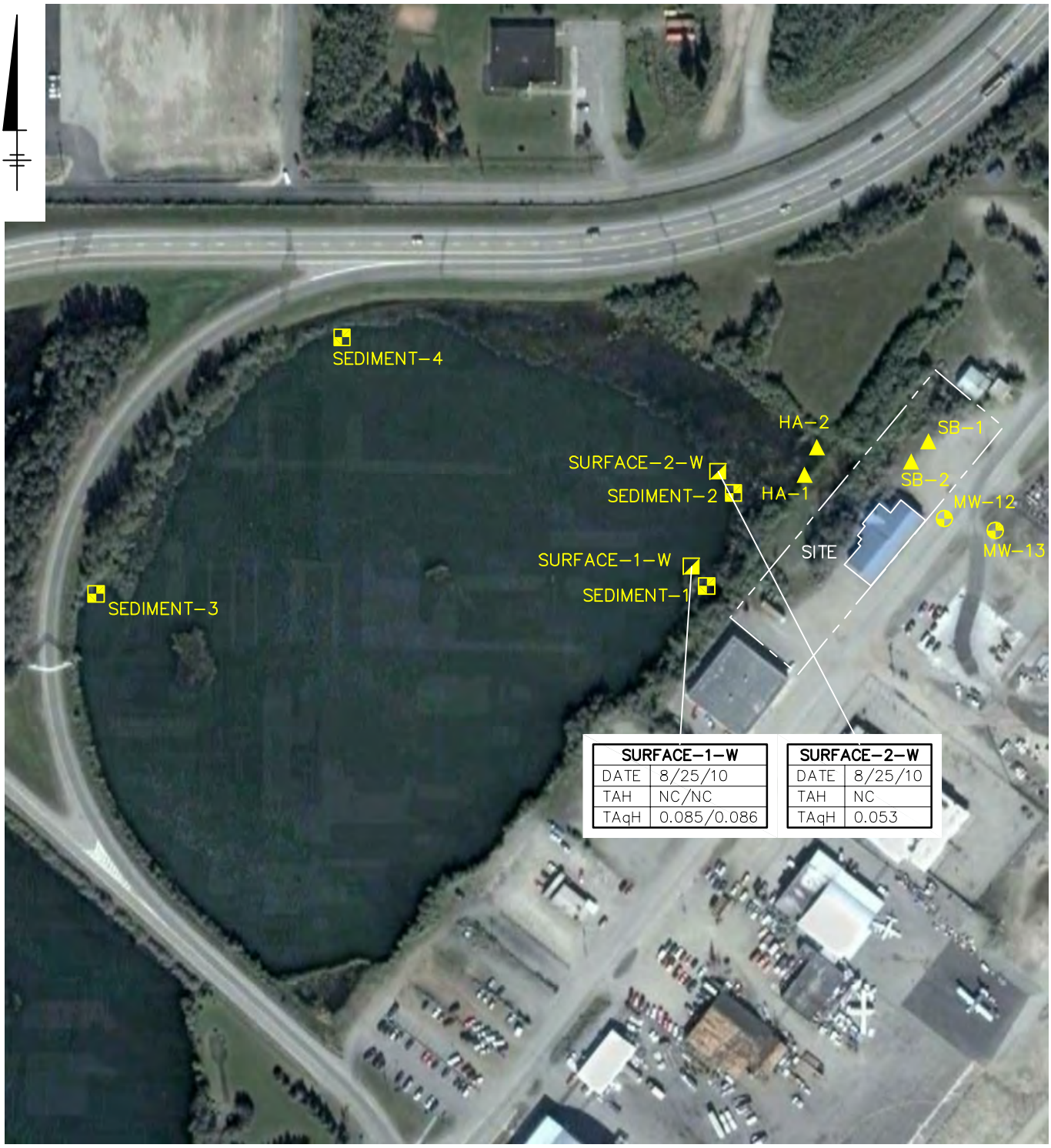
APPROXIMATE GRAPHIC SCALE

FORMER CHEVRON FACILITY #309152
6223 OLD AIRPORT ROAD, FAIRBANKS, ALASKA
2010 SITE ASSESSMENT

SEDIMENT ANALYTICAL DATA - EDB AND EDC

ARCADIS

FIGURE
8



SURFACE–1–W	
DATE	8/25/10
TAH	NC/NC
TAqH	0.085/0.086

SURFACE–2–W	
DATE	8/25/10
TAH	NC
TAqH	0.053

LEGEND

- SEDIMENT SAMPLE LOCATION
- SURFACE WATER SAMPLE LOCATION
- MONITORING WELL LOCATION
- BORING LOCATION

ALL RESULTS REPORTED IN MICROGRAMS PER LITER (µg/L)

NC = NOT CALCULATED

0 200' 400'

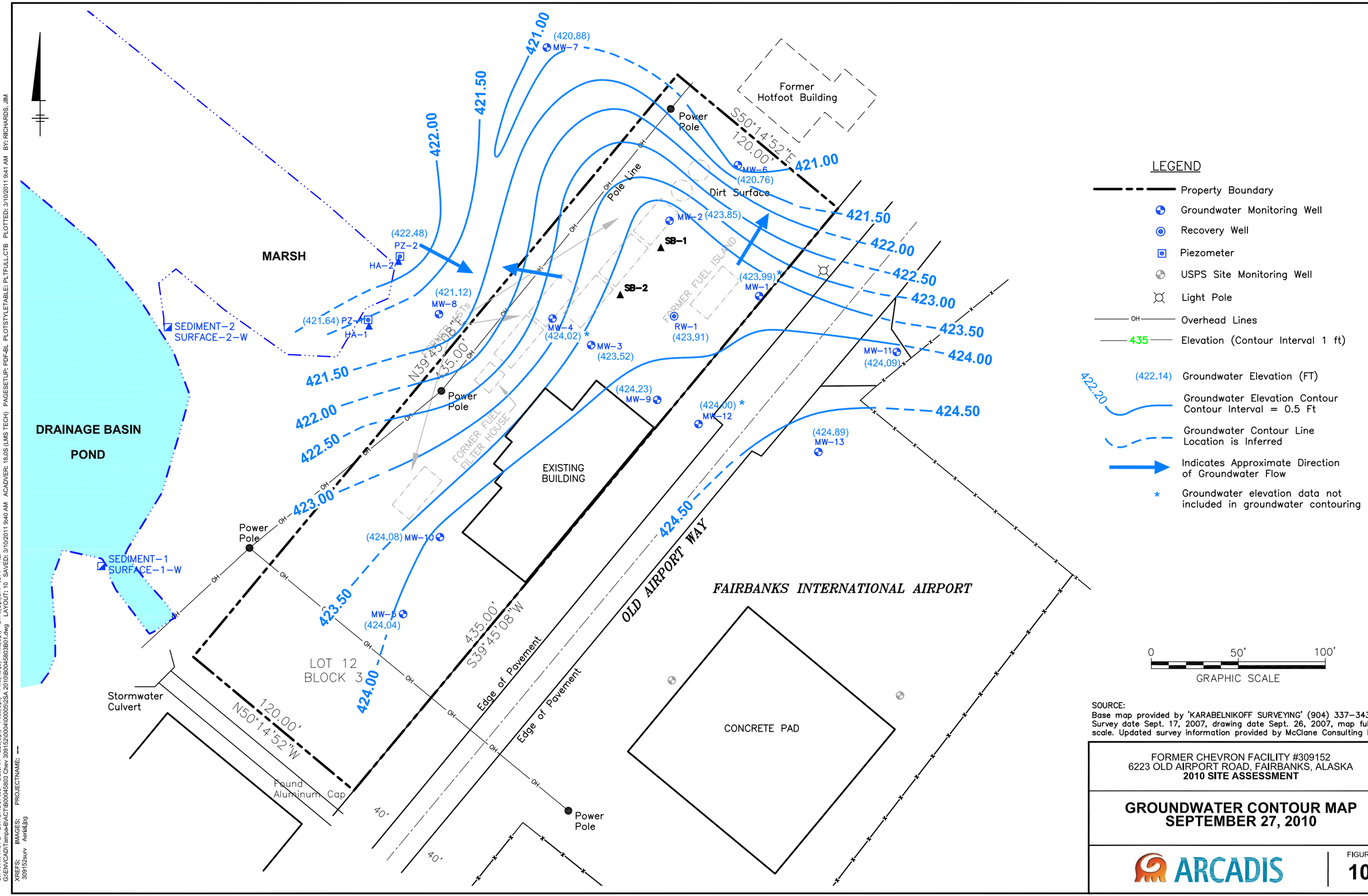
APPROXIMATE GRAPHIC SCALE

FORMER CHEVRON FACILITY #309152
6223 OLD AIRPORT ROAD, FAIRBANKS, ALASKA
2010 SITE ASSESSMENT

SURFACE WATER ANALYTICAL DATA - TOTAL AROMATIC AND TOTAL AQUEOUS HYDROCARBONS

ARCADIS

FIGURE
9



LEGEND

- Property Boundary
- Groundwater Monitoring Well
- Recovery Well
- Piezometer
- USPS Site Monitoring Well
- Light Pole
- OH — Overhead Lines
- 435 — Elevation (Contour Interval 1 ft)
- (422.14) Groundwater Elevation (FT)
- 422.20 — Groundwater Elevation Contour Contour Interval = 0.5 Ft
- Groundwater Contour Line Location is Inferred
- Indicates Approximate Direction of Groundwater Flow
- * Groundwater elevation data not included in groundwater contouring

0 50' 100'

GRAPHIC SCALE

SOURCE:
Base map provided by 'KARABELNIKOFF SURVEYING' (904) 337–3434. Survey date Sept. 17, 2007, drawing date Sept. 26, 2007, map full scale. Updated survey information provided by McClane Consulting Inc.

FORMER CHEVRON FACILITY #309152
6223 OLD AIRPORT ROAD, FAIRBANKS, ALASKA
2010 SITE ASSESSMENT

GROUNDWATER CONTOUR MAP SEPTEMBER 27, 2010

ARCADIS

FIGURE
10

CITY:TMA-A,FL DIV/GROUP:85 DB:JAR LD:(Opt) PIC:(Opt) PM:(Req'd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
G:\ENVCAD\Tampa-BIA\CTIB00045803 Chev 309152\0004\0005\2SA 2010IB00045803B01.dwg LAYOUT: 10 SAVED: 3/10/2011 9:40 AM ACADVER: 18.0S (LMS TECH) PAGESETUP: PDF-BL PLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 3/10/2011 9:41 AM BY: RICHARDS, JIM
XREFS: IMAGES: PROJECTNAME: ---
309152surv AerialJpg

PZ–1	
DATE	9/29/2010
DRO	**58,000**
GRO	120
RRO	670
B	**15**
T	6.2
E	2.4
X	17

PZ–2	
DATE	9/29/2010
DRO	**7,900**
GRO	400
RRO	<750
B	**63**
T	<0.5
E	15
X	**3,087**

MW–8	
DATE	9/29/2010
DRO	**2,300**
GRO	**2,700**
RRO	320
B	**96**
T	0.8
E	2.6
X	600

MW–7	
DATE	9/27/2010
DRO	**5,400**
GRO	**3,300**
RRO	360
B	**120**
T	2.9
E	28
X	730

RW–1	
DATE	9/29/2010
DRO	**15,000**
GRO	**8,000**
RRO	<720
B	**130**
T	190
E	280
X	1,500

MW–7
MW–6 LNAPL
Dirt Surface
MW–2 LNAPL
SB–1
SB–2
LNAPL MW–1
RW–1
MW–4 LNAPL
MW–3 LNAPL
MW–8
PZ–2
HA–2
PZ–1
HA–1
MARSH
SEDIMENT–2
SURFACE–2–W
DRAINAGE BASIN
POND
SEDIMENT–1
SURFACE–1–W
Pole Line
OH
FORMER USTs
FORMER FUEL ISLAND
FORMER FUEL FILTER HOUSE
N39°45'08"E
435.00'
Power Pole
Power Pole
EXISTING BUILDING
MW–9
MW–12 LNAPL
MW–11
MW–13
MW–10
MW–5
LOT 12
BLOCK 3
Stormwater Culvert
120.00'
N50°14'52"W
Found Aluminum Cap
435.00'
S39°45'08"W
Edge of Pavement
of Pavement
OLD AIRPORT WAY
FAIRBANKS INTERNATIONAL AIRPORT
40'

MW–5	
DATE	9/29/2010
DRO	240
GRO	48
RRO	340
B	<0.5
T	<0.5
E	<0.5
X	<1.5

MW–10	
DATE	9/27/2010
DRO	190
GRO	<10
RRO	240
B	<0.5
T	<0.5
E	<0.5
X	<1.5

MW–9	
DATE	9/27/2010
DRO	**68,000**
GRO	**36,000**
RRO	**<6,900**
B	**140**
T	**2,200**
E	**1,200**
X	7,700

MW–13	
DATE	9/29/2010
DRO	96
GRO	<10
RRO	220
B	<0.5
T	<0.5
E	<0.5
X	<1.5

MW–11	
DATE	9/27/2010
DRO	180
GRO	<10
RRO	250
B	<0.5
T	<0.5
E	<0.5
X	<1.5

LEGEND

- Property Boundary
- Groundwater Monitoring Well
- Recovery Well
- Piezometer
- USPS Site Monitoring Well
- Light Pole
- OH — Overhead Lines
- 435 — Elevation (Contour Interval 1 ft)

SAMPLE LOCATION	
DATE	SAMPLE DATE
GRO	GASOLINE RANGE ORGANICS
DRO	DIESEL RANGE ORGANICS
RRO	RESIDUAL RANGE ORGANICS
B	BENZENE
T	TOLUENE
E	ETHYLBENZENE
X	TOTAL XYLENES

RESULTS REPORTED IN MICROGRAMS PER LITER (µg/L)

BOLD VALUES ARE EXCEEDANCE

LNAPL = LIGHT NON AQUEOUS PHASE LIQUID

0 50' 100'
GRAPHIC SCALE

SOURCE:
Base map provided by 'KARABELNIKOFF SURVEYING' (904) 337–3434. Survey date Sept. 17, 2007, drawing date Sept. 26, 2007, map full scale. Updated survey information provided by McClane Consulting Inc.

FORMER CHEVRON FACILITY #309152
6223 OLD AIRPORT ROAD, FAIRBANKS, ALASKA
2010 SITE ASSESSMENT

GROUDNWATER QUALITY MAP SEPTEMBER 27 AND 29, 2010

ARCADIS

FIGURE 11

ARCADIS

Appendix A

Boring Logs

Date Start/Finish: 8/26/10
Drilling Company: Discovery Drilling
Driller's Name: Tim Beckner
Drilling Method: Hollow-Stem Auger
Sampling Method: 2' Split Spoon
Rig Type: CME

Northing:
Easting:
Casing Elevation:

Borehole Depth: 24
Surface Elevation:

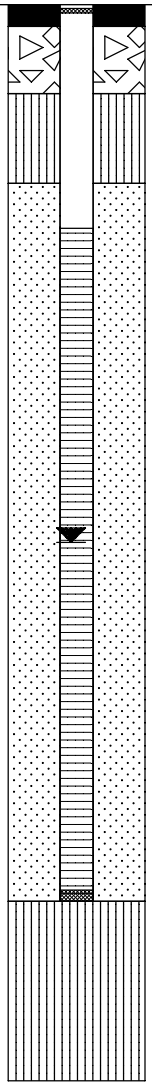
Descriptions By: JML

Well/Boring ID: **MW-12**

Client: Chevron EMC

Location: Chevron 309152
6223 Old Airport Road, Fairbanks, AK

DEPTH	ELEVATION	Penetration (blows/6")	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0								Gravelly sands at surface, 1"-2" subrounded/rounded gravel, cleared to 8' bgs with vacuum truck.	
		1	2-2.5	0.5	0.0		SP		Brown to light grey sand (SP), fine to very fine, loose, trace subrounded/rounded gravel 1"-2" diameter, no odor, damp.	
5	-5	2	4-4.5	0.5	0.1		SM		Brown silty sand (SM), fine to very fine sand, trace subrounded gravel <0.5" diameter, loose, damp, no odor.	
		3	6-6.5	0.5	0.2		SM		Brownish orange/dark brown to dark grey silty sand (SM), trace rounded/subrounded gravel <0.5" diameter, loose to medium dense, damp, no odor.	
		4	8-10	0.5	57.3		SC SM		Dark brown to grey clayey sands (SC), trace rounded/subrounded gravels 1"-2" diameter, medium dense, no odor. Light brown fine silty sand (SM), fine to very fine, loose, low strength, damp, no odor.	
10	-10	5	10-12	2	4.4		SP		Light grey/white fine sand (SP), loose, odor, trace rounded/subrounded gravel, damp.	
		6	12-14	2	110					
							GP		Large silty gravel (GP), 1"-2" diameter, strong odor, decreasing size with depth.	
15	-15	7	14-16	2	402		SP		Light grey/white fine sand (SP), trace rounded/subrounded gravel 1"-2" diameter, wet, loose, strong odor.	
		8	16-18	2	347				Same as above, sheen visible in split spoon.	
		9	18-20	2	89.1					
20	-20			2	38.1				Same as above, trace rounded/subrounded gravel 0.5"-1" diameter.	
				2	14.2				Same as above, trace rounded/subrounded gravel 1"-2" diameter.	
25	25									



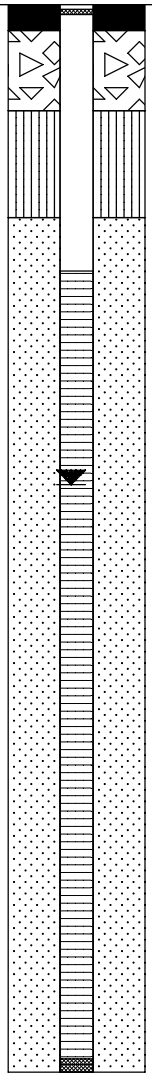
ARCADIS
Infrastructure, environment, facilities

Remarks: bgs = below ground surface

Analytical Samples Collected:
MW-12-14.0, MW-12-16.0, MW-12-24.0

Date Start/Finish: 8/26/10 **Drilling Company:** Discovery Drilling **Driller's Name:** Tim Beckner **Drilling Method:** Hollow-Stem Auger **Sampling Method:** 2' Split Spoon **Rig Type:** CME	**Northing:** **Easting:** **Casing Elevation:** **Borehole Depth:** 20 **Surface Elevation:** **Descriptions By:** JML	**Well/Boring ID:** **MW-13** **Client:** Chevron EMC **Location:** Chevron 309152 6223 Old Airport Road, Fairbanks, AK

DEPTH	ELEVATION	Penetration (blows/6")	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0								Gravel and weeds at surface, gravel 1"-2" diameter, subrounded/rounded, cleared borehole to 8' bgs with vacuum truck.	
		1	2-2.5	0.5	0.0	X	SP		Brown to light grey sand (SP), trace rounded/subrounded gravel <0.5" diameter, fine to very fine sand, loose, damp, no odor.	
									Brown to light brown/grey fine sand (SP), trace subrounded gravel 1"-2" diameter, loose, damp, no odor.	
		2	4-4.5	0.5	0.0		SP			
5	-5									
		3	6-6.5	0.5	0.0		SC		Brown clayey sand (SC), fine to very fine sand, trace rounded to subrounded gravel, loose, damp, no odor.	
									Brownish orange clayey sand (SC), fine to very fine sand/silt, trace rounded gravel 1"-2" diameter, medium dense, damp.	
							SC			
		4	8-10	0.5	0.2		SM		Silty sand (SM), trace rounded/subrounded gravel 1"-2" diameter, loose, wet, no odor.	
10	-10					X			Light grey/white fine sand (SP), trave rounded/subrounded gravel 1"-2" diameter, some fines, loose, wet, no odor.	
		5	10-12	2	0.0		SP			
		6	12-14	2	0.0					
15	-15	7	14-16	2	0.0					
		8	16-18	2	0.0					
		9	18-20	2	0.0					
20	-20					X				



ARCADIS
Infrastructure, environment, facilities

Remarks: bgs = below ground surface

Analytical Samples Collected:
MW-13-2.0, MW-13-10.0, MW-13-20.0

Date Start/Finish: 8/26/10
Drilling Company: Discovery Drilling
Driller's Name: Tim Beckner
Drilling Method: Hollow-Stem Auger
Sampling Method: 2' Split Spoon
Rig Type: CME

Northing:
Easting:
Casing Elevation:

Borehole Depth: 20
Surface Elevation:

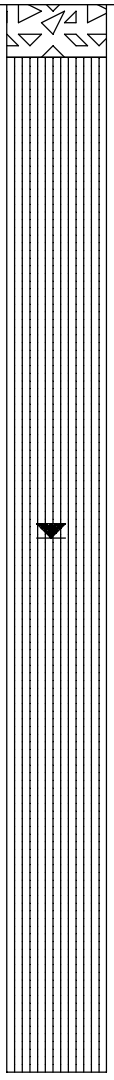
Descriptions By: JML

Well/Boring ID: **SB-1**

Client: Chevron EMC

Location: Chevron 309152
6223 Old Airport Road, Fairbanks, AK

DEPTH	ELEVATION	Penetration (blows/6")	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0								Gravelly sand and grass at ground surface, borehole cleared to 8' bgs with vacuum truck.	
		1	2-2.5	0.5	836	X	SM		Brown silty sand (SM) to black silt, trace organics, loose, damp, odor.	
		2	4-4.5	0.5	583		SP		Light brown to light grey/white fine sand (SP) and silt, loose, damp, odor.	
5	-5								Same as above, fine to very fine sand, loose, damp, odor.	
		3	6-6.5	0.5	776		SP			
		4	8-10	0.5	563				Same as above, some rounded to subrounded gravel 1"-2" diameter, loose, damp, odor.	
10	-10	5	10-12	2	782				Same as above, wet, trace rounded to subrounded gravel 1"-2" diameter, loose, wet, odor.	
		6	12-14	2	501	X	SP			
15	-15	7	14-16	2	225					
		8	16-18	2	17.2				Same as above, trace gravel 0.5"-1" diameter, loose, wet, slight odor.	
		9	18-20	2	12.8					
20	-20					X				



ARCADIS
Infrastructure, environment, facilities

Remarks: bgs = below ground surface

Analytical Samples Collected:
SB-1-2.0, SB-1-12.0, SB-1-20.0

Date Start/Finish: 8/26/10, 8/27/10
Drilling Company: Discovery Drilling
Driller's Name: Tim Beckner
Drilling Method: Hollow-Stem Auger
Sampling Method: 2' Split Spoon
Rig Type: CME

Northing:
Easting:
Casing Elevation:

Borehole Depth: 20
Surface Elevation:

Descriptions By: JML

Well/Boring ID: **SB-2**

Client: Chevron EMC

Location: Chevron 309152
6223 Old Airport Road, Fairbanks, AK

DEPTH	ELEVATION	Penetration (blows/6")	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Analytical Sample	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0								Gravelly sand at surface, 1"-2" diameter, fine to very fine sand, cleared borehole to 8' bgs with vacuum truck.	
		1	2-2.5	0.5	385	X	SM		Dark brown silty sand (SM), fine to very fine sand, trace rounded to subrounded gravel 1"-2" diameter, damp, loose, odor.	
									Grey silts/clayey sands (SC), fine to very fine sand, trace organic matter, loose, low strength, moist, strong odor.	
		2	4-4.5	0.5	463		SC			
5	-5									
		3	6-6.5	0.5	667		SM		Dark grey to grey silty sand (SM), fine to very fine sand, loose, damp, strong odor.	
		4	8-10	2	668		SM		Same as above, fine to very fine sand, some 1"-2" diameter rounded/subrounded gravel, loose, damp, odor.	
10	-10									
		5	10-12	2	987		SP		Grey to light grey fine sand (SP) with subrounded/rounded gravel 1"-2" diameter, loose, damp, odor.	
		6	12-14	2	758	X			Same as above, subrounded/rounded gravel 0.5"-1" diameter, loose, wet, odor.	
15	-15	7	14-16	2	274					
		8	16-18	2	59.7					
		9	18-20	1	44.3					
20	-20					X				

ARCADIS
Infrastructure, environment, facilities

Remarks: bgs = below ground surface

Analytical Samples Collected:
SB-2-2.0, SB-2-12.0, SB-2-20.0

ARCADIS

Appendix B

Field Notes

Location CEMC # 309152 Date 8/26/10

Project / Client 6223 Old Airport Rd
Sampe

Jason Luckett - Arcadis
AK Pipeline - on site
Perform tailgate safety meeting, review scope of work, JLA, LPSA
Greg Montgomery / Dan Carrier - CVE-PM on site review borehole clearance, set up vac truck & TLP around MW-13.
MW-13 located east side of road.

8:00 Begin clearing borehole on MW-13 - no odors log soil / screen soil samples - cleared to 8 Ft

0900 MW-12 begin clearing borehole MW-12 no odors

1000 SB-2 cleared to 8 Ft bgs - collected Duplicate sample from SB-2 - 2.0 Ft odors, high vocs

1220 SB-1 cleared to 8 Ft bgs - odors, high vocs
Completed clearing all locations at site.

1300 AK pipeline filled 2 supersacks containing soils from boreholes.
Borehole clearance / sampling tasks completed notified PM. Placed samples on ice / complete COC. Mobe to FIA Classical to rest

1430 Arcadis / Discovery drilling crew. off site

Location CEMC # 309152 Sampe Date 8/27/10

Project / Client 6223 Old Airport Rd.

3:00 Jason Luckett / Dan B. - Arcadis on site
Discovery drilling - Tim Beckner
review scope of work, JLA, LPSA - conduct soil boring for today at SB-2.
Calibrated Qrae multigas meter - multigas 0 is 06.
review JLA, LPSA - Set drilling on SB-2

3:20 Begin drilling SB-2 - checked breathing zone prior to work - okay - 0.0 on all parameters
SB-2 wet at 11.5 - 12.0, highest VOC reading 987 PPM collected sample from SB-2 - 12.0 at 3:55
VOC concentrations decreased with depth to 20 Ft.
16-18 - 58.7
18-19.5 - 44.2
Advanced to 20 Ft, 4 Ft heave, tried to remove heave to get sample, rod got stuck / bridged auger / plow pulled up, lost section. Heave is locked in auger, 2nd attempt to retrieve sample from 20-22 Ft for confirmation sampling. Could not remove / had to abandon.

5:15 Terminated boring SB-2 at 20.0 ft. due to heave / bridging dangers of rods. Collected soil sample at 20 Ft for confirmation.
Discovery - cleaned borehole / decontaminated augers on site. Prep for tomorrows work - off site

Location CEMC # 309152 Date 8/25/10

Project / Client 6223 Old Airport Rd

Fairbanks AK - raining

0700 Jason Luckett / Mike Stabler on site w/ Discovery drilling Dan B. Conduct tailgate safety meeting, review JSA SSE INFECTION LPSH. OE trends, set up TCP & work area.

0810 Begin drilling SB-1 using CME HSA/SA/SS
Calibrated multigas meter at 8:05
checked breathing zone prior to work, clean 0.0 ppm
Groundwater interface at 11.0-12.0ft
collected soil sample from 12.0 ft bgs. Odor.
VOC concentrations decreasing with depth.

0930 Terminated boring at 20.0 ft bgs, collected soil sample at 20.0 ft
Backfilled borehole to ground surface

0945 Drillers offsite to get supplies, (sand/chips) for remaining 2 boreholes/wells. SB-1 or SB-2 did not generate any soil cuttings - sands heaved/bridged about 20 ft in SB-2. Will use to reach 20ft for contamination sampling.

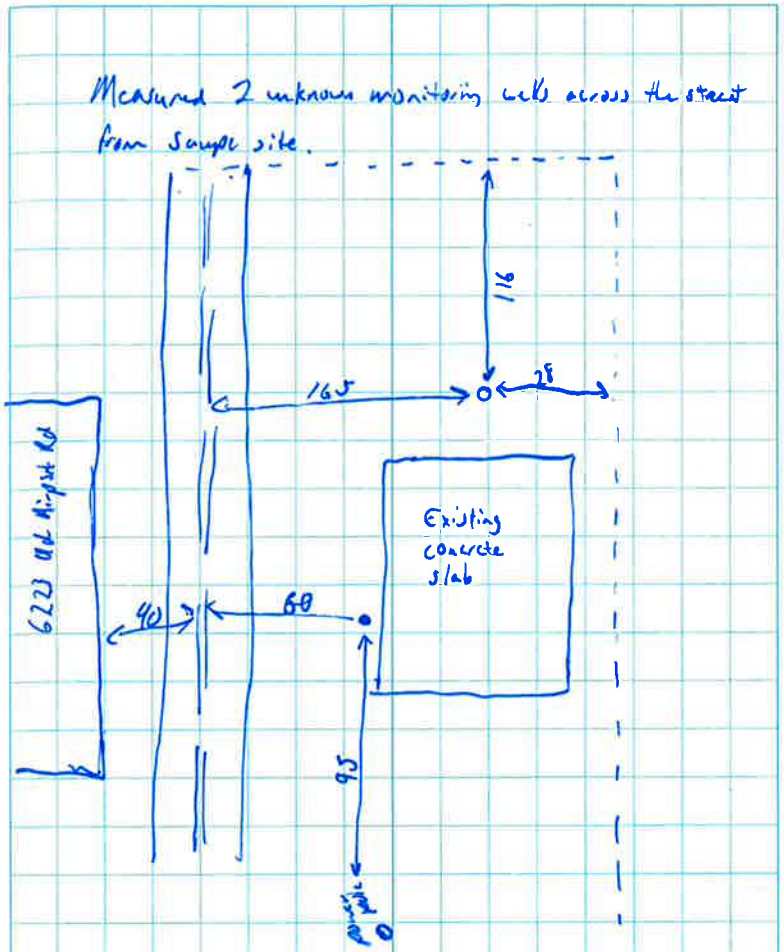
1000 Offsite to pick up supplies/ice for samples.

1030 On site Jason Luckett / Dave Bolen - Arcadis collected composite samples from supersacks. Comp-1-S & Comp-2-S from vactruck composite 1-S at 1030, Comp-2-S 1040

1050 Discuss drilling - onsite / move rig/set up on well MW-13. Placed labels on supersacks covered w/ tarp.

Location CEMC # 309152 Date 8/25/10

Project / Client 6223 Old Airport Rd



11:10 Set up TCP around drilling rig/excavation

11:25 Begin drilling borehole MW-13 - across street from site.

continued →

Location CEMC # 309152 Date 8/28/10

Project / Client Sample 6223 Old Airport Rd

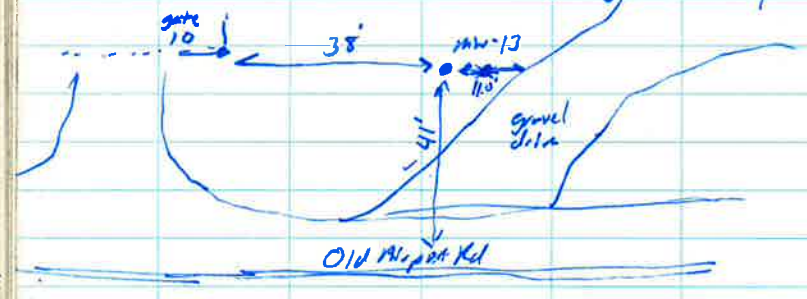
raining

→ conduct soil sampling/screening on MW-13.
Called PM to notify of work/findings on SB-1, SB-2 & MW-13
MW-13 - 15 Ft screen 5Ft riser
terminated boring at 20.0 Ft bgs. Placed soil cuttings in 55-gallon drum. Collected composite soil sample from soil cuttings. Placed label on drum and staged near back of bldg.

12:30 Comp-3-S - 55gallon drum - soil cuttings - sampled
Discovery installed MW-13 to 20 Ft bgs, completed w/ Flushmount manhole cover/concrete. Tasks completed

13:15 offsite for lunch

MW-13 - 38 Ft from corner fence post
41 Ft from centerline of Rd
11 Ft off gravel driveway



Location CEMC - 309152 Date 8/28/10

Project / Client Sample 6223 Old Airport Rd

rain/55°

14:15 On site, JZ/DD Arcadis/Discovery on site, review tasks, setup rig on MW-12. Set up work zone/TCP along Old Airport Rd.

MW-12 located off corner of bldg - NE corner
Collected soil sample at 14.0 Ft - gw interface, 16.0 Ft highest VOC.
VOC concentrations decreasing at 18-20 Ft bgs.
Advanced boring to 24.0 Ft - terminated boring at 24.0 Ft bgs. Begin monitoring well - 14.7 ppm
installation - 15 Ft screen, 5 Ft riser pipe.
Complete well with sand to 12 bgs, capped w/ cement + Flushmount manhole.

1630 Called PM to notify of findings & completion of work. Collected composite gw-water sample - Comp-1-W
Plan to move waste (supersacks/drums) to back of Sample site bldg.

1730 Completed well installation, moved drums to back of site, cleaned up site. Tasks completed

1830 Off site

Comp-4-S - clean sand, supersack, sampled @ 9:20-8/29/10.

ARCADIS

Appendix C

Eco-Scoping Form

Blank Ecoscoping Form

Site Name: Former Chevron Facility 309152, 6223 Old Airport Road
Completed by: Matt Butcher
Date: March 3, 2010

Instructions: Follow the italicized instructions in each section below. "Off-ramps," where the evaluation ends before completing all of the sections, can be taken when indicated by the instructions. Comment boxes should be used to help support your answers.

1. Direct Visual Impacts and Acute Toxicity

Are direct impacts that may result from the site contaminants evident, or is acute toxicity from high contaminant concentrations suspected? C*heck the appropriate box.*

☐ Yes – *describe observations below and evaluate all of the remaining sections without taking any off-ramps.*
☒ No – *go to next section.*

Comments:

2. Receptor-Pathway Interactions

Check each terrestrial and aquatic pathways that could occur at the site.

Terrestrial Pathway Interactions

☐ Exposure to water-borne contaminants as a result of wading or swimming in contaminated waters or ingesting contaminated water
☐ Contaminant uptake in terrestrial plants whose roots are in contact with contaminated surface water
☒ Contaminant migration via saturated or unsaturated groundwater zones and discharge at upland "seep" locations (not associated with a wetland or water body)
☐ Contaminant uptake by terrestrial plants whose roots are in contact with groundwater present within the root zone
☐ Particulates deposited on plants directly or from rain splash
☐ Contaminants dissolved into moisture in the soil, making them available to roots
☐ Incidental ingestion and/or exposure while animals grub for food, burrow or groom
☐ Inhalation of fugitive dust or vapors disturbed by foraging or burrowing activities

☐ Bioaccumulatives (see Appendix C) taken up by soil invertebrates, which are in turn eaten by higher food chain organisms

☐ Other site-specific exposure pathways

Aquatic Pathway Interactions

☐ Contaminated surface runoff migration to water bodies through swales, drainage ditches, or overland flow

☐ Aquatic receptors exposed through osmotic exchange, respiration, or ventilation of surface waters

☒ Contaminant migration via saturated or unsaturated groundwater zones and discharge at "seep" locations along banks or directly to surface water

☐ Deposition into sediments from upwelling of contaminated groundwater

☐ Aquatic receptors may be exposed directly to contaminated sediments through foraging or burrowing, or indirectly exposed due to osmotic exchange, respiration, or ventilation of sediment pore water.

☐ Aquatic plants rooted in contaminated sediments

☐ Bioaccumulatives (see Appendix C) taken up by sediment invertebrates, which are in turn eaten by higher food chain organisms

☐ Other site-specific exposure pathways

If any of the above boxes are checked go on to the next section. If none are checked, end the evaluation and check the box below.

☐ OFF-RAMP: NO FURTHER ECOLOGICAL EVALUATION NECESSARY

Comments:

Shallow groundwater from the site can enter the drainage basin.

3. Habitat

Check all that may apply. See Ecoscoping Guidance for additional help.

☒ Habitat that could be affected by the contamination supports valued species (i.e., species that are regulated, used for subsistence, have ceremonial importance, have commercial value, or provide recreational opportunity)

☐ Critical habitat or anadromous stream in an area that could be affected by the contamination

☐ Habitat that is important to the region that could be affected by the contamination

☐ Contamination is in a park, preserve, or wildlife refuge

If any of the above boxes are checked go on to the next scoping factor. If none are checked, end the evaluation and check the box below.

☐ OFF-RAMP: NO FURTHER ECOLOGICAL EVALUATION NECESSARY

Comments:

Pond is used by waterfowl (see photo below).

4. Contaminant Quantity

Check all that may apply. See Ecoscoping Guidance for additional help.

☐ Endangered-, threatened-, or species of special concern are present

☒ The aquatic environment is or could be affected

☐ Non-petroleum contaminants may be present, or the total area of petroleum-contaminated surface soil exceeds one-half acre

If any of the above boxes are checked go on to the next scoping factor. If none are checked, end the evaluation and check the box below.

☐ OFF-RAMP: NO FURTHER ECOLOGICAL EVALUATION NECESSARY

Comments:

5. Toxicity Determination

Check all that apply.

☐ Bioaccumulative chemicals are present (see Appendix C)

☒ Contaminants exceed benchmark levels (see Appendix D)

If either box is checked complete a detailed Ecologcial Conceptual Site Model (see DEC's Conceptual Site Model Guidance) and submit it with the form to you DEC Project Manager.

If neither box is checked, check the box below and submit this form to your DEC Project Manager..

☐ OFF-RAMP: NO FURTHER ECOLOGICAL EVALUATION NECESSARY

Comments:

Constituents have been measured at concentrations exceeding groundwater environmental risk based scrreening levels in groundwater monitoring wells directly adjacent to the pond.

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Appendix D

Laboratory Analytical Results

Lancaster Laboratories

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Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

October 13, 2010

Project: 309152

Submittal Date: 10/01/2010
Group Number: 1214428
SDG: LSS55
PO Number: 0015060864
Release Number: CARRIER
State of Sample Origin: AK

Client Sample Description	Lancaster Labs (LLI) #
Trip_Blank Water Sample	6100884
MW-9 Grab Water Sample	6100885
MW-11 Grab Water Sample	6100886
MW-10 Grab Water Sample	6100887
MW-7 Grab Water Sample	6100888
MW-5 Grab Water Sample	6100889
MW-13 Grab Water Sample	6100890
MW-8 Grab Water Sample	6100891
PZ-1 Grab Water Sample	6100892
PZ-2 Grab Water Sample	6100893
RW-1 Grab Water Sample	6100894
BD-1 Grab Water Sample	6100895
BD-2 Grab Water Sample	6100896

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

ELECTRONIC COPY TO	Arcadis	Attn: Russ Greisler
ELECTRONIC COPY TO	Arcadis	Attn: Greg Montgomery
1 COPY TO	Data Package Group	

Lancaster Laboratories

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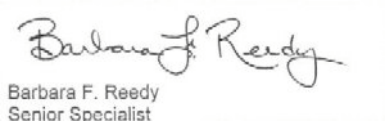
Analysis Report

Questions? Contact your Client Services Representative
Jill M Parker at (717) 656-2300 Ext. 1241

Respectfully Submitted,



Barbara F. Reedy
Senior Specialist

Lancaster Laboratories

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Analysis Report

Sample Description: Trip_Blank Water Sample
Facility# 309152
6201 Old Airport Road - Fairbanks, AK

LLI Sample # WW 6100884
LLI Group # 1214428
Account # 11964

Project Name: 309152

Collected: 09/27/2010

Submitted: 10/01/2010 09:15
Reported: 10/13/2010 13:15
Discard: 11/13/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

9152T SDG#: LSS55-01TB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles	**AK 101**		**mg/l**	**mg/l**	
01440	TPH-GRO AK water C6-C10	n.a.	N.D.	0.010	1
GC Volatiles	**SW-846 8021B**		**mg/l**	**mg/l**	
01588	Benzene	71-43-2	N.D.	0.0005	1
01588	Ethylbenzene	100-41-4	N.D.	0.0005	1
01588	Toluene	108-88-3	N.D.	0.0005	1
01588	Total xylenes	1330-20-7	N.D.	0.0015	1

General 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
01440	TPH-GRO AK water C6-C10	AK 101	1	10277B53A	10/05/2010 23:04	Katrina T Longenecker	1
01146	GC VOA Water Prep	SW-846 5030B	1	10277B53A	10/05/2010 23:04	Katrina T Longenecker	1
01588	BTEX	SW-846 8021B	1	10277B53A	10/05/2010 23:04	Katrina T Longenecker	1

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Analysis Report

Sample Description: MW-9 Grab Water Sample
Facility# 309152
6201 Old Airport Road - Fairbanks, AK

LLI Sample # WW 6100885
LLI Group # 1214428
Account # 11964

Project Name: 309152

Collected: 09/27/2010 15:07 by DB

Submitted: 10/01/2010 09:15
Reported: 10/13/2010 13:15
Discard: 11/13/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

91529 SDG#: LSS55-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles	**AK 101**		**mg/l**	**mg/l**	
01440	TPH-GRO AK water C6-C10	n.a.	36	0.10	10
GC Volatiles	**SW-846 8021B**		**mg/l**	**mg/l**	
01588	Benzene	71-43-2	0.14	0.0050	10
01588	Ethylbenzene	100-41-4	1.2	0.0050	10
01588	Toluene	108-88-3	2.2	0.0050	10
01588	Total xylenes	1330-20-7	7.7	0.015	10
GC Extractable TPH	**AK 102/103 4/08/02 modified**		**mg/l**	**mg/l**	
02923	C10-<C25 DRO	n.a.	68	4.9	100
02923	C25-C36 RRO	n.a.	N.D.	6.9	100

General 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
01440	TPH-GRO AK water C6-C10	AK 101	1	10277B53B	10/06/2010 16:17	Katrina T Longenecker	10
01146	GC VOA Water Prep	SW-846 5030B	1	10277B53B	10/06/2010 16:17	Katrina T Longenecker	10
01588	BTEX	SW-846 8021B	1	10277B53B	10/06/2010 16:17	Katrina T Longenecker	10
02923	TPH-DRO/RRO (AK) water	AK 102/103 4/08/02 modified	1	102750012A	10/05/2010 21:53	Heather E Williams	100
11185	AK DRO/ORO Waters Extraction	AK 102/AK 103 04/08/02	1	102750012A	10/04/2010 08:55	Karen R Rettew	1

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Analysis Report

Sample Description: MW-11 Grab Water Sample
Facility# 309152
6201 Old Airport Road - Fairbanks, AK

LLI Sample # WW 6100886
LLI Group # 1214428
Account # 11964

Project Name: 309152

Collected: 09/27/2010 15:05 by DB

Submitted: 10/01/2010 09:15
Reported: 10/13/2010 13:15
Discard: 11/13/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

15211 SDG#: LSS55-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles	**AK 101**		**mg/l**	**mg/l**	
01440	TPH-GRO AK water C6-C10	n.a.	N.D.	0.010	1
GC Volatiles	**SW-846 8021B**		**mg/l**	**mg/l**	
01588	Benzene	71-43-2	N.D.	0.0005	1
01588	Ethylbenzene	100-41-4	N.D.	0.0005	1
01588	Toluene	108-88-3	N.D.	0.0005	1
01588	Total xylenes	1330-20-7	N.D.	0.0015	1
GC Extractable TPH	**AK 102/103 4/08/02 modified**		**mg/l**	**mg/l**	
02923	C10-<C25 DRO	n.a.	0.18	0.051	1
02923	C25-C36 RRO	n.a.	0.25	0.071	1

General 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
01440	TPH-GRO AK water C6-C10	AK 101	1	10277B53A	10/05/2010 23:28	Katrina T Longenecker	1
01146	GC VOA Water Prep	SW-846 5030B	1	10277B53A	10/05/2010 23:28	Katrina T Longenecker	1
01588	BTEX	SW-846 8021B	1	10277B53A	10/05/2010 23:28	Katrina T Longenecker	1
02923	TPH-DRO/RRO (AK) water	AK 102/103 4/08/02 modified	1	102750012A	10/05/2010 17:08	Heather E Williams	1
11185	AK DRO/ORO Waters Extraction	AK 102/AK 103 04/08/02	1	102750012A	10/04/2010 08:55	Karen R Rettew	1

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Analysis Report

Sample Description: MW-10 Grab Water Sample
Facility# 309152
6201 Old Airport Road - Fairbanks, AK

LLI Sample # WW 6100887
LLI Group # 1214428
Account # 11964

Project Name: 309152

Collected: 09/27/2010 15:20 by DB

Submitted: 10/01/2010 09:15
Reported: 10/13/2010 13:15
Discard: 11/13/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

15210 SDG#: LSS55-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles	**AK 101**		**mg/l**	**mg/l**	
01440	TPH-GRO AK water C6-C10	n.a.	N.D.	0.010	1
GC Volatiles	**SW-846 8021B**		**mg/l**	**mg/l**	
01588	Benzene	71-43-2	N.D.	0.0005	1
01588	Ethylbenzene	100-41-4	N.D.	0.0005	1
01588	Toluene	108-88-3	N.D.	0.0005	1
01588	Total xylenes	1330-20-7	N.D.	0.0015	1
GC Extractable TPH	**AK 102/103 4/08/02 modified**		**mg/l**	**mg/l**	
02923	C10-<C25 DRO	n.a.	0.19	0.049	1
02923	C25-C36 RRO	n.a.	0.24	0.069	1

General 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
01440	TPH-GRO AK water C6-C10	AK 101	1	10277B53A	10/05/2010 23:52	Katrina T Longenecker	1
01146	GC VOA Water Prep	SW-846 5030B	1	10277B53A	10/05/2010 23:52	Katrina T Longenecker	1
01588	BTEX	SW-846 8021B	1	10277B53A	10/05/2010 23:52	Katrina T Longenecker	1
02923	TPH-DRO/RRO (AK) water	AK 102/103 4/08/02 modified	1	102750012A	10/05/2010 17:36	Heather E Williams	1
11185	AK DRO/ORO Waters Extraction	AK 102/AK 103 04/08/02	1	102750012A	10/04/2010 08:55	Karen R Rettew	1

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Analysis Report

Sample Description: MW-7 Grab Water Sample
Facility# 309152
6201 Old Airport Road - Fairbanks, AK

LLI Sample # WW 6100888
LLI Group # 1214428
Account # 11964

Project Name: 309152

Collected: 09/27/2010 15:30 by DB

Submitted: 10/01/2010 09:15
Reported: 10/13/2010 13:15
Discard: 11/13/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

91527 SDG#: LSS55-05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles	**AK 101**		**mg/l**	**mg/l**	
01440	TPH-GRO AK water C6-C10	n.a.	3.3	0.010	1
GC Volatiles	**SW-846 8021B**		**mg/l**	**mg/l**	
01588	Benzene	71-43-2	0.12	0.0005	1
01588	Ethylbenzene	100-41-4	0.028	0.0005	1
01588	Toluene	108-88-3	0.0029	0.0005	1
01588	Total xylenes	1330-20-7	0.73	0.0015	1
GC Extractable TPH	**AK 102/103 4/08/02 modified**		**mg/l**	**mg/l**	
02923	C10-<C25 DRO	n.a.	5.4	0.25	5
02923	C25-C36 RRO	n.a.	0.36	0.34	5

General 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
01440	TPH-GRO AK water C6-C10	AK 101	1	10277B53B	10/06/2010 17:54	Katrina T Longenecker	1
01146	GC VOA Water Prep	SW-846 5030B	1	10277B53B	10/06/2010 17:54	Katrina T Longenecker	1
01588	BTEX	SW-846 8021B	1	10277B53B	10/06/2010 17:54	Katrina T Longenecker	1
02923	TPH-DRO/RRO (AK) water	AK 102/103 4/08/02 modified	1	102750012A	10/05/2010 22:22	Heather E Williams	5
11185	AK DRO/ORO Waters Extraction	AK 102/AK 103 04/08/02	1	102750012A	10/04/2010 08:55	Karen R Rettew	1

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Analysis Report

Sample Description: MW-5 Grab Water Sample
Facility# 309152
6201 Old Airport Road - Fairbanks, AK

LLI Sample # WW 6100889
LLI Group # 1214428
Account # 11964

Project Name: 309152

Collected: 09/29/2010 11:50 by DB

Submitted: 10/01/2010 09:15
Reported: 10/13/2010 13:15
Discard: 11/13/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

91525 SDG#: LSS55-06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles	**AK 101**		**mg/l**	**mg/l**	
01440	TPH-GRO AK water C6-C10	n.a.	0.048	0.010	1
GC Volatiles	**SW-846 8021B**		**mg/l**	**mg/l**	
01588	Benzene	71-43-2	N.D.	0.0005	1
01588	Ethylbenzene	100-41-4	N.D.	0.0005	1
01588	Toluene	108-88-3	N.D.	0.0005	1
01588	Total xylenes	1330-20-7	N.D.	0.0015	1
GC Extractable TPH	**AK 102/103 4/08/02 modified**		**mg/l**	**mg/l**	
02923	C10-<C25 DRO	n.a.	0.24	0.051	1
02923	C25-C36 RRO	n.a.	0.34	0.071	1
GC Miscellaneous	**SW-846 8015B modified**		**mg/l**	**mg/l**	
07105	Methane	74-82-8	0.11	0.0050	1
Wet Chemistry	**EPA 300.0**		**mg/l**	**mg/l**	
00368	Nitrate Nitrogen	14797-55-8	N.D.	0.25	5
00228	Sulfate	14808-79-8	27.1	1.5	5
	EPA 310.1		**mg/l as CaCO3**	**mg/l as CaCO3**	
00202	Alkalinity to pH 4.5	n.a.	320	0.46	1
00201	Alkalinity to pH 8.3	n.a.	N.D.	0.46	1

General 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
01440	TPH-GRO AK water C6-C10	AK 101	1	10278A53A	10/06/2010 22:33	Elizabeth J Marin	1
01146	GC VOA Water Prep	SW-846 5030B	1	10278A53A	10/06/2010 22:33	Elizabeth J Marin	1
01588	BTEX	SW-846 8021B	1	10278A53A	10/06/2010 22:33	Elizabeth J Marin	1
02923	TPH-DRO/RRO (AK) water	AK 102/103 4/08/02 modified	1	102750012A	10/05/2010 18:04	Heather E Williams	1
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	102790016A	10/09/2010 16:19	Tracy A Cole	1

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Analysis Report

Sample Description: MW-5 Grab Water Sample
Facility# 309152
6201 Old Airport Road - Fairbanks, AK

LLI Sample # WW 6100889
LLI Group # 1214428
Account # 11964

Project Name: 309152

Collected: 09/29/2010 11:50 by DB

Submitted: 10/01/2010 09:15
Reported: 10/13/2010 13:15
Discard: 11/13/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

91525 SDG#: LSS55-06

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11185	AK DRO/ORO Waters Extraction	AK 102/AK 103 04/08/02	1	102750012A	10/04/2010 08:55	Karen R Rettew	1
00368	Nitrate Nitrogen	EPA 300.0	1	10274196601B	10/01/2010 14:19	Ashley M Adams	5
00228	Sulfate	EPA 300.0	1	10274196601B	10/01/2010 14:19	Ashley M Adams	5
00202	Alkalinity to pH 4.5	EPA 310.1	1	10279020202A	10/06/2010 10:10	Susan A Engle	1
00201	Alkalinity to pH 8.3	EPA 310.1	1	10279020202A	10/06/2010 10:10	Susan A Engle	1

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Analysis Report

Sample Description: MW-13 Grab Water Sample
Facility# 309152
6201 Old Airport Road - Fairbanks, AK

LLI Sample # WW 6100890
LLI Group # 1214428
Account # 11964

Project Name: 309152

Collected: 09/29/2010 12:05 by DB

Submitted: 10/01/2010 09:15
Reported: 10/13/2010 13:15
Discard: 11/13/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

15213 SDG#: LSS55-07

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles	**AK 101**		**mg/l**	**mg/l**	
01440	TPH-GRO AK water C6-C10	n.a.	N.D.	0.010	1
GC Volatiles	**SW-846 8021B**		**mg/l**	**mg/l**	
01588	Benzene	71-43-2	N.D.	0.0005	1
01588	Ethylbenzene	100-41-4	N.D.	0.0005	1
01588	Toluene	108-88-3	N.D.	0.0005	1
01588	Total xylenes	1330-20-7	N.D.	0.0015	1
GC Extractable TPH	**AK 102/103 4/08/02 modified**		**mg/l**	**mg/l**	
02923	C10-<C25 DRO	n.a.	0.096	0.053	1
02923	C25-C36 RRO	n.a.	0.22	0.074	1
GC Miscellaneous	**SW-846 8015B modified**		**mg/l**	**mg/l**	
07105	Methane	74-82-8	N.D.	0.0050	1
Wet Chemistry	**EPA 300.0**		**mg/l**	**mg/l**	
00368	Nitrate Nitrogen	14797-55-8	1.0	0.25	5
00228	Sulfate	14808-79-8	16.0	1.5	5
	EPA 310.1		**mg/l as CaCO3**	**mg/l as CaCO3**	
00202	Alkalinity to pH 4.5	n.a.	355	0.46	1
00201	Alkalinity to pH 8.3	n.a.	N.D.	0.46	1

General 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
01440	TPH-GRO AK water C6-C10	AK 101	1	10278A53A	10/06/2010 22:57	Elizabeth J Marin	1
01146	GC VOA Water Prep	SW-846 5030B	1	10278A53A	10/06/2010 22:57	Elizabeth J Marin	1
01588	BTEX	SW-846 8021B	1	10278A53A	10/06/2010 22:57	Elizabeth J Marin	1
02923	TPH-DRO/RRO (AK) water	AK 102/103 4/08/02 modified	1	102750012A	10/05/2010 18:32	Heather E Williams	1
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	102790016A	10/09/2010 16:34	Tracy A Cole	1

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Analysis Report

Sample Description: MW-13 Grab Water Sample
Facility# 309152
6201 Old Airport Road - Fairbanks, AK

LLI Sample # WW 6100890
LLI Group # 1214428
Account # 11964

Project Name: 309152

Collected: 09/29/2010 12:05 by DB

Submitted: 10/01/2010 09:15
Reported: 10/13/2010 13:15
Discard: 11/13/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

15213 SDG#: LSS55-07

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11185	AK DRO/ORO Waters Extraction	AK 102/AK 103 04/08/02	1	102750012A	10/04/2010 08:55	Karen R Rettew	1
00368	Nitrate Nitrogen	EPA 300.0	1	10274196601B	10/01/2010 14:35	Ashley M Adams	5
00228	Sulfate	EPA 300.0	1	10274196601B	10/01/2010 14:35	Ashley M Adams	5
00202	Alkalinity to pH 4.5	EPA 310.1	1	10279020202A	10/06/2010 10:10	Susan A Engle	1
00201	Alkalinity to pH 8.3	EPA 310.1	1	10279020202A	10/06/2010 10:10	Susan A Engle	1

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Analysis Report

Sample Description: MW-8 Grab Water Sample
Facility# 309152
6201 Old Airport Road - Fairbanks, AK

LLI Sample # WW 6100891
LLI Group # 1214428
Account # 11964

Project Name: 309152

Collected: 09/29/2010 12:30 by DB

Submitted: 10/01/2010 09:15
Reported: 10/13/2010 13:15
Discard: 11/13/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

91528 SDG#: LSS55-08

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles	**AK 101**		**mg/l**	**mg/l**	
01440	TPH-GRO AK water C6-C10	n.a.	2.7	0.010	1
GC Volatiles	**SW-846 8021B**		**mg/l**	**mg/l**	
01588	Benzene	71-43-2	0.096	0.0005	1
01588	Ethylbenzene	100-41-4	0.0026	0.0005	1
01588	Toluene	108-88-3	0.0008	0.0005	1
01588	Total xylenes	1330-20-7	0.60	0.0015	1
GC Extractable TPH	**AK 102/103 4/08/02 modified**		**mg/l**	**mg/l**	
02923	C10-<C25 DRO	n.a.	2.3	0.10	2
02923	C25-C36 RRO	n.a.	0.32	0.14	2
GC Miscellaneous	**SW-846 8015B modified**		**mg/l**	**mg/l**	
07105	Methane	74-82-8	1.9	0.050	10
Wet Chemistry	**EPA 300.0**		**mg/l**	**mg/l**	
00368	Nitrate Nitrogen	14797-55-8	N.D.	0.25	5
00228	Sulfate	14808-79-8	N.D.	1.5	5
	EPA 310.1		**mg/l as CaCO3**	**mg/l as CaCO3**	
00202	Alkalinity to pH 4.5	n.a.	349	0.46	1
00201	Alkalinity to pH 8.3	n.a.	N.D.	0.46	1

General 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
01440	TPH-GRO AK water C6-C10	AK 101	1	10278A53B	10/07/2010 18:42	Carrie E Miller	1
01146	GC VOA Water Prep	SW-846 5030B	1	10278A53B	10/07/2010 18:42	Carrie E Miller	1
01588	BTEX	SW-846 8021B	1	10278A53B	10/07/2010 18:42	Carrie E Miller	1
02923	TPH-DRO/RRO (AK) water	AK 102/103 4/08/02 modified	1	102750012A	10/05/2010 22:49	Heather E Williams	2
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	102790016A	10/09/2010 16:04	Tracy A Cole	10

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Analysis Report

Sample Description: MW-8 Grab Water Sample
Facility# 309152
6201 Old Airport Road - Fairbanks, AK

LLI Sample # WW 6100891
LLI Group # 1214428
Account # 11964

Project Name: 309152

Collected: 09/29/2010 12:30 by DB

Submitted: 10/01/2010 09:15
Reported: 10/13/2010 13:15
Discard: 11/13/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

91528 SDG#: LSS55-08

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11185	AK DRO/ORO Waters Extraction	AK 102/AK 103 04/08/02	1	102750012A	10/04/2010 08:55	Karen R Rettew	1
00368	Nitrate Nitrogen	EPA 300.0	1	10274196601B	10/01/2010 14:51	Ashley M Adams	5
00228	Sulfate	EPA 300.0	1	10274196601B	10/01/2010 14:51	Ashley M Adams	5
00202	Alkalinity to pH 4.5	EPA 310.1	1	10279020202A	10/06/2010 10:10	Susan A Engle	1
00201	Alkalinity to pH 8.3	EPA 310.1	1	10279020202A	10/06/2010 10:10	Susan A Engle	1

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Analysis Report

Sample Description: PZ-1 Grab Water Sample
Facility# 309152
6201 Old Airport Road - Fairbanks, AK

LLI Sample # WW 6100892
LLI Group # 1214428
Account # 11964

Project Name: 309152

Collected: 09/29/2010 12:40 by DB

Submitted: 10/01/2010 09:15
Reported: 10/13/2010 13:15
Discard: 11/13/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

152Z1 SDG#: LSS55-09

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/l**	**mg/l**	
08357	Acenaphthene	83-32-9	N.D.	0.000099	10
08357	Acenaphthylene	208-96-8	N.D.	0.000099	10
08357	Anthracene	120-12-7	N.D.	0.000099	10
08357	Benzo(a)anthracene	56-55-3	N.D.	0.000099	10
08357	Benzo(a)pyrene	50-32-8	N.D.	0.000099	10
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.000099	10
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.000099	10
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.000099	10
08357	Chrysene	218-01-9	N.D.	0.000099	10
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.000099	10
08357	Fluoranthene	206-44-0	N.D.	0.000099	10
08357	Fluorene	86-73-7	0.00012	0.000099	10
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.000099	10
08357	Naphthalene	91-20-3	0.098	0.000099	10
08357	Phenanthrene	85-01-8	N.D.	0.000099	10
08357	Pyrene	129-00-0	N.D.	0.000099	10
	Reporting limits were raised due to interference from the sample matrix.				
GC Volatiles	**AK 101**		**mg/l**	**mg/l**	
01440	TPH-GRO AK water C6-C10	n.a.	0.12	0.010	1
GC Volatiles	**SW-846 8021B**		**mg/l**	**mg/l**	
01588	Benzene	71-43-2	0.015	0.0005	1
01588	Ethylbenzene	100-41-4	0.0024	0.0005	1
01588	Toluene	108-88-3	0.0062	0.0005	1
01588	Total xylenes	1330-20-7	0.017	0.0015	1
GC Extractable TPH	**AK 102/103 4/08/02 modified**		**mg/l**	**mg/l**	
02923	C10-<C25 DRO	n.a.	5.8	0.25	5
02923	C25-C36 RRO	n.a.	0.67	0.34	5
GC Miscellaneous	**SW-846 8015B modified**		**mg/l**	**mg/l**	
07105	Methane	74-82-8	5.9	0.10	20
Wet Chemistry	**EPA 300.0**		**mg/l**	**mg/l**	
00368	Nitrate Nitrogen	14797-55-8	N.D.	0.25	5
00228	Sulfate	14808-79-8	N.D.	1.5	5
	EPA 310.1		**mg/l as CaCO3**	**mg/l as CaCO3**	
00202	Alkalinity to pH 4.5	n.a.	316	0.46	1
00201	Alkalinity to pH 8.3	n.a.	N.D.	0.46	1

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Analysis Report

Sample Description: PZ-1 Grab Water Sample
Facility# 309152
6201 Old Airport Road - Fairbanks, AK

LLI Sample # WW 6100892
LLI Group # 1214428
Account # 11964

Project Name: 309152

Collected: 09/29/2010 12:40 by DB

Submitted: 10/01/2010 09:15
Reported: 10/13/2010 13:15
Discard: 11/13/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

152Z1 SDG#: LSS55-09

General 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
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	10275WAD026	10/05/2010 15:54	Joseph M Gambler	10
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	10275WAD026	10/04/2010 09:35	Denise L Trimby	1
01440	TPH-GRO AK water C6-C10	AK 101	1	10278A53A	10/06/2010 23:21	Elizabeth J Marin	1
01146	GC VOA Water Prep	SW-846 5030B	1	10278A53A	10/06/2010 23:21	Elizabeth J Marin	1
01588	BTEX	SW-846 8021B	1	10278A53A	10/06/2010 23:21	Elizabeth J Marin	1
02923	TPH-DRO/RRO (AK) water	AK 102/103 4/08/02 modified	1	102750012A	10/05/2010 23:17	Heather E Williams	5
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	102790016A	10/11/2010 12:32	Tracy A Cole	20
11185	AK DRO/ORO Waters Extraction	AK 102/AK 103 04/08/02	1	102750012A	10/04/2010 08:55	Karen R Rettew	1
00368	Nitrate Nitrogen	EPA 300.0	1	10274196601B	10/01/2010 15:07	Ashley M Adams	5
00228	Sulfate	EPA 300.0	1	10274196601B	10/01/2010 15:07	Ashley M Adams	5
00202	Alkalinity to pH 4.5	EPA 310.1	1	10279020202A	10/06/2010 10:10	Susan A Engle	1
00201	Alkalinity to pH 8.3	EPA 310.1	1	10279020202A	10/06/2010 10:10	Susan A Engle	1

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Analysis Report

Sample Description: PZ-2 Grab Water Sample
Facility# 309152
6201 Old Airport Road - Fairbanks, AK

LLI Sample # WW 6100893
LLI Group # 1214428
Account # 11964

Project Name: 309152

Collected: 09/29/2010 12:50 by DB

Submitted: 10/01/2010 09:15
Reported: 10/13/2010 13:15
Discard: 11/13/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

152Z2 SDG#: LSS55-10

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/l**	**mg/l**	
08357	Acenaphthene	83-32-9	0.00023	0.000010	1
08357	Acenaphthylene	208-96-8	0.000072	0.000010	1
08357	Anthracene	120-12-7	N.D.	0.000010	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.000010	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.000010	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.000010	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.000010	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.000010	1
08357	Chrysene	218-01-9	N.D.	0.000010	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.000010	1
08357	Fluoranthene	206-44-0	0.000016	0.000010	1
08357	Fluorene	86-73-7	0.000075	0.000010	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.000010	1
08357	Naphthalene	91-20-3	0.0077	0.000010	1
08357	Phenanthrene	85-01-8	N.D.	0.000010	1
08357	Pyrene	129-00-0	N.D.	0.000010	1
GC Volatiles	**AK 101**		**mg/l**	**mg/l**	
01440	TPH-GRO AK water C6-C10	n.a.	0.40	0.010	1
GC Volatiles	**SW-846 8021B**		**mg/l**	**mg/l**	
01588	Benzene	71-43-2	0.063	0.0005	1
01588	Ethylbenzene	100-41-4	0.015	0.0005	1
01588	Toluene	108-88-3	N.D.	0.0005	1
01588	Total xylenes	1330-20-7	0.029	0.0015	1
GC Extractable TPH	**AK 102/103 4/08/02 modified**		**mg/l**	**mg/l**	
02923	C10-<C25 DRO	n.a.	7.9	0.54	10
02923	C25-C36 RRO	n.a.	N.D.	0.75	10
GC Miscellaneous	**SW-846 8015B modified**		**mg/l**	**mg/l**	
07105	Methane	74-82-8	1.0	0.025	5
Wet Chemistry	**EPA 300.0**		**mg/l**	**mg/l**	
00368	Nitrate Nitrogen	14797-55-8	N.D.	0.25	5
00228	Sulfate	14808-79-8	6.3	1.5	5
	EPA 310.1		**mg/l as CaCO3**	**mg/l as CaCO3**	
00202	Alkalinity to pH 4.5	n.a.	426	0.46	1
00201	Alkalinity to pH 8.3	n.a.	N.D.	0.46	1

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Analysis Report

Sample Description: PZ-2 Grab Water Sample
Facility# 309152
6201 Old Airport Road - Fairbanks, AK

LLI Sample # WW 6100893
LLI Group # 1214428
Account # 11964

Project Name: 309152

Collected: 09/29/2010 12:50 by DB

Submitted: 10/01/2010 09:15
Reported: 10/13/2010 13:15
Discard: 11/13/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

152Z2 SDG#: LSS55-10

General 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
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	10275WAD026	10/05/2010 15:22	Joseph M Gambler	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	10275WAD026	10/04/2010 09:35	Denise L Trimby	1
01440	TPH-GRO AK water C6-C10	AK 101	1	10278A53A	10/06/2010 23:45	Elizabeth J Marin	1
01146	GC VOA Water Prep	SW-846 5030B	1	10278A53A	10/06/2010 23:45	Elizabeth J Marin	1
01588	BTEX	SW-846 8021B	1	10278A53A	10/06/2010 23:45	Elizabeth J Marin	1
02923	TPH-DRO/RRO (AK) water	AK 102/103 4/08/02 modified	1	102750012A	10/05/2010 23:44	Heather E Williams	10
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	102790016A	10/11/2010 11:48	Tracy A Cole	5
11185	AK DRO/ORO Waters Extraction	AK 102/AK 103 04/08/02	1	102750012A	10/04/2010 08:55	Karen R Rettew	1
00368	Nitrate Nitrogen	EPA 300.0	1	10274196601B	10/01/2010 15:23	Ashley M Adams	5
00228	Sulfate	EPA 300.0	1	10274196601B	10/01/2010 15:23	Ashley M Adams	5
00202	Alkalinity to pH 4.5	EPA 310.1	1	10279020202A	10/06/2010 10:10	Susan A Engle	1
00201	Alkalinity to pH 8.3	EPA 310.1	1	10279020202A	10/06/2010 10:10	Susan A Engle	1

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Analysis Report

Sample Description: RW-1 Grab Water Sample
Facility# 309152
6201 Old Airport Road - Fairbanks, AK

LLI Sample # WW 6100894
LLI Group # 1214428
Account # 11964

Project Name: 309152

Collected: 09/29/2010 13:50 by DB

Submitted: 10/01/2010 09:15
Reported: 10/13/2010 13:15
Discard: 11/13/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

152R1 SDG#: LSS55-11

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles	**AK 101**		**mg/l**	**mg/l**	
01440	TPH-GRO AK water C6-C10	n.a.	8.0	0.050	5
GC Volatiles	**SW-846 8021B**		**mg/l**	**mg/l**	
01588	Benzene	71-43-2	0.13	0.0025	5
01588	Ethylbenzene	100-41-4	0.29	0.0025	5
01588	Toluene	108-88-3	0.19	0.0025	5
01588	Total xylenes	1330-20-7	1.5	0.0075	5
GC Miscellaneous	**SW-846 8011**		**mg/l**	**mg/l**	
07879	Ethylene dibromide	106-93-4	0.0039	0.00019	20
GC Extractable TPH	**AK 102/103 4/08/02 modified**		**mg/l**	**mg/l**	
02923	C10-<C25 DRO	n.a.	15	0.51	10
02923	C25-C36 RRO	n.a.	N.D.	0.72	10
GC Miscellaneous	**SW-846 8015B modified**		**mg/l**	**mg/l**	
07105	Methane	74-82-8	2.0	0.050	10
Wet Chemistry	**EPA 300.0**		**mg/l**	**mg/l**	
00368	Nitrate Nitrogen	14797-55-8	N.D.	0.25	5
00228	Sulfate	14808-79-8	1.8	1.5	5
	EPA 310.1		**mg/l as CaCO3**	**mg/l as CaCO3**	
00202	Alkalinity to pH 4.5	n.a.	350	0.46	1
00201	Alkalinity to pH 8.3	n.a.	N.D.	0.46	1

General 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
01440	TPH-GRO AK water C6-C10	AK 101	1	10278A53A	10/07/2010 04:14	Elizabeth J Marin	5
01146	GC VOA Water Prep	SW-846 5030B	1	10278A53A	10/07/2010 04:14	Elizabeth J Marin	5
01588	BTEX	SW-846 8021B	1	10278A53A	10/07/2010 04:14	Elizabeth J Marin	5
07879	EDB in Wastewater	SW-846 8011	1	102750009A	10/06/2010 22:16	James H Place	20

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Analysis Report

Sample Description: RW-1 Grab Water Sample
Facility# 309152
6201 Old Airport Road - Fairbanks, AK

LLI Sample # WW 6100894
LLI Group # 1214428
Account # 11964

Project Name: 309152

Collected: 09/29/2010 13:50 by DB

Submitted: 10/01/2010 09:15
Reported: 10/13/2010 13:15
Discard: 11/13/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

152R1 SDG#: LSS55-11

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
07786	EDB Extraction	SW-846 8011	1	102750009A	10/04/2010 08:00	Deborah M Zimmerman	1
02923	TPH-DRO/RRO (AK) water	AK 102/103 4/08/02 modified	1	102750012A	10/06/2010 00:12	Heather E Williams	10
07105	Volatile Headspace Hydrocarbon	SW-846 8015B modified	1	102790016A	10/11/2010 12:02	Tracy A Cole	10
11185	AK DRO/ORO Waters Extraction	AK 102/AK 103 04/08/02	1	102750012A	10/04/2010 08:55	Karen R Rettew	1
00368	Nitrate Nitrogen	EPA 300.0	1	10274196601B	10/01/2010 15:39	Ashley M Adams	5
00228	Sulfate	EPA 300.0	1	10274196601B	10/01/2010 15:39	Ashley M Adams	5
00202	Alkalinity to pH 4.5	EPA 310.1	1	10279020202A	10/06/2010 10:10	Susan A Engle	1
00201	Alkalinity to pH 8.3	EPA 310.1	1	10279020202A	10/06/2010 10:10	Susan A Engle	1

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Analysis Report

Sample Description: BD-1 Grab Water Sample
Facility# 309152
6201 Old Airport Road - Fairbanks, AK

LLI Sample # WW 6100895
LLI Group # 1214428
Account # 11964

Project Name: 309152

Collected: 09/29/2010 by DB

Submitted: 10/01/2010 09:15
Reported: 10/13/2010 13:15
Discard: 11/13/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

152D1 SDG#: LSS55-12FD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles	**AK 101**		**mg/l**	**mg/l**	
01440	TPH-GRO AK water C6-C10	n.a.	2.2	0.010	1
GC Volatiles	**SW-846 8021B**		**mg/l**	**mg/l**	
01588	Benzene	71-43-2	0.092	0.0005	1
01588	Ethylbenzene	100-41-4	0.0023	0.0005	1
01588	Toluene	108-88-3	0.0007	0.0005	1
01588	Total xylenes	1330-20-7	0.52	0.0015	1

General 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
01440	TPH-GRO AK water C6-C10	AK 101	1	10278A53A	10/07/2010 00:10	Elizabeth J Marin	1
01146	GC VOA Water Prep	SW-846 5030B	1	10278A53A	10/07/2010 00:10	Elizabeth J Marin	1
01588	BTEX	SW-846 8021B	1	10278A53A	10/07/2010 00:10	Elizabeth J Marin	1

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Analysis Report

Sample Description: BD-2 Grab Water Sample
Facility# 309152
6201 Old Airport Road - Fairbanks, AK

LLI Sample # WW 6100896
LLI Group # 1214428
Account # 11964

Project Name: 309152

Collected: 09/29/2010 by DB

Submitted: 10/01/2010 09:15
Reported: 10/13/2010 13:15
Discard: 11/13/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

152D2 SDG#: LSS55-13FD*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles	**AK 101**		**mg/l**	**mg/l**	
01440	TPH-GRO AK water C6-C10	n.a.	7.7	0.050	5
GC Volatiles	**SW-846 8021B**		**mg/l**	**mg/l**	
01588	Benzene	71-43-2	0.13	0.0025	5
01588	Ethylbenzene	100-41-4	0.28	0.0025	5
01588	Toluene	108-88-3	0.19	0.0025	5
01588	Total xylenes	1330-20-7	1.5	0.0075	5

General 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
01440	TPH-GRO AK water C6-C10	AK 101	1	10278A53A	10/07/2010 04:38	Elizabeth J Marin	5
01146	GC VOA Water Prep	SW-846 5030B	1	10278A53A	10/07/2010 04:38	Elizabeth J Marin	5
01588	BTEX	SW-846 8021B	1	10278A53A	10/07/2010 04:38	Elizabeth J Marin	5

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Analysis Report

Quality Control Summary

Client Name: Chevron Group Number: 1214428
Reported: 10/13/10 at 01:15 PM

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.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 10275WAD026	Sample number(s): 6100892-6100893							
Acenaphthene	N.D.	0.00001 0	mg/l	85	83	74-109	3	30
Acenaphthylene	N.D.	0.00001 0	mg/l	87	84	70-110	3	30
Anthracene	N.D.	0.00001 0	mg/l	91	87	66-111	4	30
Benzo(a)anthracene	N.D.	0.00001 0	mg/l	85	79	72-114	7	30
Benzo(a)pyrene	N.D.	0.00001 0	mg/l	79	76	64-115	4	30
Benzo(b)fluoranthene	N.D.	0.00001 0	mg/l	76	77	69-123	1	30
Benzo(g,h,i)perylene	N.D.	0.00001 0	mg/l	89	87	68-125	2	30
Benzo(k)fluoranthene	N.D.	0.00001 0	mg/l	78	75	72-122	4	30
Chrysene	N.D.	0.00001 0	mg/l	97	94	76-116	3	30
Dibenz(a,h)anthracene	N.D.	0.00001 0	mg/l	86	84	71-125	2	30
Fluoranthene	N.D.	0.00001 0	mg/l	92	89	75-116	3	30
Fluorene	N.D.	0.00001 0	mg/l	92	90	75-114	2	30
Indeno(1,2,3-cd)pyrene	N.D.	0.00001 0	mg/l	88	87	69-124	2	30
Naphthalene	N.D.	0.00001 0	mg/l	82	79	72-109	3	30
Phenanthrene	N.D.	0.00001 0	mg/l	93	90	76-111	3	30
Pyrene	N.D.	0.00001 0	mg/l	99	96	69-118	3	30
Batch number: 10277B53A	Sample number(s): 6100884,6100886-6100887							
Benzene	N.D.	0.0005	mg/l	95	100	80-120	5	30
Ethylbenzene	N.D.	0.0005	mg/l	95	100	80-120	5	30
Toluene	N.D.	0.0005	mg/l	95	100	80-120	5	30
TPH-GRO AK water C6-C10	N.D.	0.010	mg/l	100	109	60-120	9	20
Total xylenes	N.D.	0.0015	mg/l	95	100	80-120	5	30
Batch number: 10277B53B	Sample number(s): 6100885,6100888							
Benzene	N.D.	0.0005	mg/l	95	100	80-120	5	30
Ethylbenzene	N.D.	0.0005	mg/l	95	100	80-120	5	30
Toluene	N.D.	0.0005	mg/l	95	100	80-120	5	30
TPH-GRO AK water C6-C10	N.D.	0.010	mg/l	100	109	60-120	9	20
Total xylenes	N.D.	0.0015	mg/l	95	100	80-120	5	30

*- Outside of specification
(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.

Quality Control Summary

Client Name: Chevron Group Number: 1214428
Reported: 10/13/10 at 01:15 PM

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 10278A53A	Sample number(s): 6100889-6100890,6100892-6100896							
Benzene	N.D.	0.0005	mg/l	100	100	80-120	0	30
Ethylbenzene	N.D.	0.0005	mg/l	100	100	80-120	0	30
Toluene	N.D.	0.0005	mg/l	100	100	80-120	0	30
TPH-GRO AK water C6-C10	N.D.	0.010	mg/l	100	100	60-120	0	20
Total xylenes	N.D.	0.0015	mg/l	103	102	80-120	2	30
Batch number: 10278A53B	Sample number(s): 6100891							
Benzene	N.D.	0.0005	mg/l	100	100	80-120	0	30
Ethylbenzene	N.D.	0.0005	mg/l	100	100	80-120	0	30
Toluene	N.D.	0.0005	mg/l	100	100	80-120	0	30
TPH-GRO AK water C6-C10	N.D.	0.010	mg/l	100	100	60-120	0	20
Total xylenes	N.D.	0.0015	mg/l	103	102	80-120	2	30
Batch number: 102750009A	Sample number(s): 6100894							
Ethylene dibromide	N.D.	0.00001 0	mg/l	104	104	60-140	0	20
Batch number: 102750012A	Sample number(s): 6100885-6100894							
C10-<C25 DRO	N.D.	0.050	mg/l	83	90	75-125	8	20
C25-C36 RRO	N.D.	0.070	mg/l	83	100	60-120	18	20
Batch number: 102790016A	Sample number(s): 6100889-6100894							
Methane	N.D.	0.0050	mg/l	93		80-120		
Batch number: 10274196601B	Sample number(s): 6100889-6100894							
Nitrate Nitrogen	N.D.	0.050	mg/l	110		90-110		
Sulfate	N.D.	0.30	mg/l	109		89-110		
Batch number: 10279020202A	Sample number(s): 6100889-6100894							
Alkalinity to pH 4.5	N.D.	0.46	mg/l as CaCO3	100		98-103		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 10277B53A	Sample number(s): 6100884,6100886-6100887 UNSPK: 6100886, 6100887								
Benzene	105		80-152						
Ethylbenzene	110		80-133						
Toluene	105		80-133						
TPH-GRO AK water C6-C10	91		60-120						
Total xylenes	108		80-148						
Batch number: 10277B53B	Sample number(s): 6100885,6100888 UNSPK: 6100886, 6100887								
Benzene	105		80-152						
Ethylbenzene	110		80-133						
Toluene	105		80-133						
TPH-GRO AK water C6-C10	91		60-120						
Total xylenes	108		80-148						

*- Outside of specification
(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.

Quality Control Summary

Client Name: Chevron Group Number: 1214428
Reported: 10/13/10 at 01:15 PM

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 10278A53A	Sample number(s): 6100889-6100890,6100892-6100896 UNSPK: 6100889, 6100890								
Benzene	110		80-152						
Ethylbenzene	110		80-133						
Toluene	110		80-133						
TPH-GRO AK water C6-C10	100		60-120						
Total xylenes	112		80-148						
Batch number: 10278A53B	Sample number(s): 6100891 UNSPK: 6100889, 6100890								
Benzene	110		80-152						
Ethylbenzene	110		80-133						
Toluene	110		80-133						
TPH-GRO AK water C6-C10	100		60-120						
Total xylenes	112		80-148						
Batch number: 102750009A	Sample number(s): 6100894 UNSPK: P100029 BKG: P100030								
Ethylene dibromide	87 (2)		65-135			N.D.	N.D.	0 (1)	30
Batch number: 102790016A	Sample number(s): 6100889-6100894 UNSPK: P100601								
Methane	75	85	35-157	6	20				
Batch number: 10274196601B	Sample number(s): 6100889-6100894 UNSPK: P100646 BKG: P100646								
Nitrate Nitrogen	88*		90-110			N.D.	N.D.	0 (1)	20
Sulfate	104		90-110			33.1	33.2	0	20
Batch number: 10279020202A	Sample number(s): 6100889-6100894 UNSPK: P100601 BKG: P100601								
Alkalinity to pH 4.5	94	84	73-121	4	5	299	302	1	5
Alkalinity to pH 8.3						N.D.	N.D.	0 (1)	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.

Analysis Name: PAHs in waters by SIM
Batch number: 10275WAD026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
6100892	232*	84	86
6100893	123	46*	74
Blank	100	91	95
LCS	104	100	96
LCSD	102	96	94
Limits:	64-147	68-132	53-129

Analysis Name: TPH-GRO AK water C6-C10
Batch number: 10277B53A

	Trifluorotoluene-F	Trifluorotoluene-P

*- Outside of specification
(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.

Quality Control Summary

Client Name: Chevron Group Number: 1214428
Reported: 10/13/10 at 01:15 PM

Surrogate Quality Control

6100884	72	88
6100886	70	90
6100887	72	90
Blank	71	87
LCS	84	89
LCSD	86	89
MS	78	87
Limits:	60-120	58-146

Analysis Name: TPH-GRO AK water C6-C10
Batch number: 10277B53B

	Trifluorotoluene-F	Trifluorotoluene-P
6100885	77	88
6100888	86	89
Blank	72	86
LCS	84	89
LCSD	86	89
MS	78	87
Limits:	60-120	58-146

Analysis Name: TPH-GRO AK water C6-C10
Batch number: 10278A53A

	Trifluorotoluene-F	Trifluorotoluene-P
6100889	72	87
6100890	72	88
6100892	73	90
6100893	75	89
6100894	74	88
6100895	81	90
6100896	75	87
Blank	72	87
LCS	85	88
LCSD	84	89
MS	81	86
Limits:	60-120	58-146

Analysis Name: TPH-GRO AK water C6-C10
Batch number: 10278A53B

	Trifluorotoluene-F	Trifluorotoluene-P
6100891	82	90
Blank	75	87
LCS	85	88
LCSD	84	89
MS	81	86
Limits:	60-120	58-146

Analysis Name: EDB in Wastewater
Batch number: 102750009A

	1,1,2,2-Tetrachloroethane

*- Outside of specification
(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.

Quality Control Summary

Client Name: Chevron Group Number: 1214428
Reported: 10/13/10 at 01:15 PM

Surrogate Quality Control

6100894	170*	
Blank	100	
DUP	98	
LCS	99	
LCSD	102	
MS	108	
Limits:	46-136	

Analysis Name: TPH-DRO/RRO (AK) water
Batch number: 102750012A

	Orthoterphenyl	n-Triacontane-d62
6100885	6*	102
6100886	79	73
6100887	77	78
6100888	118	78
6100889	78	80
6100890	76	71
6100891	84	82
6100892	11*	75
6100893	18*	92
6100894	130	89
Blank	84	88
LCS	77	72
LCSD	84	84
Limits:	50-150	50-150

Analysis Name: Volatile Headspace Hydrocarbon
Batch number: 102790016A

	Propene
6100889	77
6100890	57
6100891	97
6100892	82
6100893	60
6100894	70
Blank	98
LCS	98
MS	76
MSD	82
Limits:	42-131

*- Outside of specification
(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.

Chevron Generic Analysis Request/Chain of Custody

Lancaster Laboratories
Where quality is a science.

1 of 1

017174

Acct. #: 11964 For Lancaster Laboratories use only Sample #: 6100584-96 SCR#:

1214428

Facility #: 309152
Site Address: 6201 Old Airport Rd
Chevron PM: Dan Carrier Lead Consultant: ARCADIS
Consultant/Office: Seattle WA
Consultant Prj. Mgr.: Greg Montgomery
Consultant Phone #: 206 726 4742 Fax #: 206 325 8218
Sampler: D Berube / D Beaudoin
Service Order #: NWRTB-030915Q-1-lab ☐ Non SAR:

Matrix: ☐ Potable ☐ NPDES; Soil; Water; Oil ☐ Air ☐

Analyses Requested / **Preservation Codes**

Sample Identification	Date Collected	Time Collected	Grab	Composite	Total Number of Containers	BTEX + MTBE 8021 ☒ 8260 ☐ Naphth ☐ (H)	8260 full scan (H)	Oxygenates AK101 GRO (H)	TPHd AK103 DRO (H)	TPH D ☐ Extended Rng. ☐ Silica Gel Cleanup	Lead Total ☐ Diss. ☐ Method	TPH/EPH Total Alkalinity EPA 310.1	NWTPH H HCID ☐ quantification	Sulfate Nitrate EPA 300.0	PAH 8270C SIM	Methane EPA RSK175 (H)	EDB EPA 8011 (T)
Trip Blanks	9/27/10	—	-		3	X	X										
MW-9	9/27/10	15:07	X		5	X	X	X	X								
MW-11	9/27/10	15:05	X		5	X	X	X	X								
MW-10	9/27/10	15:20	X		5	X	X	X	X								
MW-7	9/27/10	15:30	X		5	X	X	X	X								
MW-5	9/29/10	11:50	X		10	X	X	X	X			X	DMB	X		X	
MW-13	9/29/10	12:05	X		10	X	X	X	X			X		X		X	
MW-8	9/29/10	12:30	X		10	X	X	X	X			X		X		X	
PZ-1	9/29/10	12:40	X		10	X	X	X	X			X		X	X	X	
PZ-2	9/29/10	12:50	X		12	X	X	X	X			X		X	X	X	
RW-1	9/29/10	13:50	X		12	X	X	X	X			X		X		X	X
BD-1	9/29/10	—	X		3	X	X										
BD-2	9/29/10	—	X		3	X	X										

Preservative Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 O = Other

☐ 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

Comments / Remarks

Turnaround Time Requested (TAT) (please circle)
STD. TAT 72 hour 48 hour
24 hour 4 day 5 day

Data Package Options (please circle if required)
QC Summary Type I - Full
Type VI (Raw Data) Disk / EDD
WIP (RWQCB) Standard Format
Disk _____ Other.

	Date	Time		Date	Time
Relinquished by:	9/30/10	11:20	Received by:		
Relinquished by:			Received by:		
Relinquished by:			Received by:		
Relinquished by Commercial Carrier: UPS FedEx Other			Received by: Mary Beth Keed	10/1/10	0915
Temperature Upon Receipt 1.3, 2.1, C° 3.0 + 3.7			Custody Seals Intact? Yes No		

Lancaster Laboratories

Environmental Sample Administration
Receipt Documentation Log

Client/Project: Arcadis

Date of Receipt: 10/1/10

Time of Receipt: 0915

Source Code: 50-1

Unpacker Emp. No.: 1607

Shipping Container Sealed: (YES) NO

Custody Seal Present * : (YES) NO

* Custody seal was intact unless otherwise noted in the discrepancy section

Package: (Chilled) Not Chilled

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	042995I	1.3°C	TB	WI	Y	B	
2	↓	3.7°C	↓	↓	↓	↓	
3	↓	3.6°C	↓	↓	↓	↓	
4	↓	2.1°C	↓	↓	↓	↓	
5							
6							

Number of Trip Blanks received NOT listed on chain of custody: ~~Only 2 Trips Received~~ ③ MBR 10/1/10

Paperwork Discrepancy/Unpacking Problems:

1 Amber (29) MW-9 & RW-1 received broken

Sample Administration Internal Chain of Custody			
Name	Date	Time	Reason for Transfer
MaryBeth Reed	10/1/10	1015	Unpacking
DA Westlund	10/1/10	1020	Place in Storage or (Entry)
			Entry
			Entry

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
ug	microgram(s)	**mg**	milligram(s)
ml	milliliter(s)	**l**	liter(s)
m3	cubic meter(s)	**ul**	microliter(s)

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

J estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

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 of gas 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.

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike sample not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC 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.

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Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

September 14, 2010

Project: 309152

Submittal Date: 08/28/2010
Group Number: 1209538
SDG: LSS21
PO Number: 0015060864
Release Number: CARRIER
State of Sample Origin: AK

Client Sample Description	Lancaster Labs (LLI) #
HA-1 Grab Soil Sample	6072257
HA-2 Grab Soil Sample	6072258

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

ELECTRONIC COPY TO	Arcadis	Attn: Greg Montgomery
ELECTRONIC COPY TO	Arcadis	Attn: Russ Greisler
1 COPY TO	Data Package Group	

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Analysis Report

Questions? Contact your Client Services Representative
Jill M Parker at (717) 656-2300 Ext. 1241

Respectfully Submitted,

Martha L. Seidel
Senior Chemist

Lancaster Laboratories

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Analysis Report

Sample Description: HA-1 Grab Soil Sample
Facility# 309152
6223 Old Airport Rd - Fairbanks, AK

LLI Sample # SW 6072257
LLI Group # 1209538
Account # 11964

Project Name: 309152

Collected: 08/26/2010 10:45 by AO

Submitted: 08/28/2010 10:00
Reported: 09/14/2010 16:17
Discard: 10/15/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OAFH1 SDG#: LSS21-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC Extractable TPH w/Si Gel	**AK 102/AK 103 04/08/02**		**mg/kg**	**mg/kg**	
02238	C10-<C25 DRO w/Si Gel	n.a.	1,700	420	50
02238	C25-C36 RRO w/Si Gel	n.a.	3,300	420	50
	The response for DRO in the calibration check standard analyzed before the sample was outside the 25% difference criteria at 27%. The recovery is low enough to ensure no adverse affect on the data.				
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	40.2	0.50	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.				

General 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
02238	TPH-DRO/RRO AK w/Silica Gel	AK 102/AK 103 04/08/02	1	102510004A	09/09/2010 20:58	Heather E Williams	50
11248	AK DRO/RRO SW w/SG	AK 102/AK 103 04/08/02	2	102510004A	09/08/2010 18:45	Sally L Appleyard	1
00111	Moisture	SM20 2540 G	1	10244820002B	09/01/2010 18:12	Scott W Freisher	1

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Analysis Report

Sample Description: HA-2 Grab Soil Sample
Facility# 309152
6223 Old Airport Rd - Fairbanks, AK

LLI Sample # SW 6072258
LLI Group # 1209538
Account # 11964

Project Name: 309152

Collected: 08/26/2010 10:55 by AO

Submitted: 08/28/2010 10:00
Reported: 09/14/2010 16:17
Discard: 10/15/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OAFH2 SDG#: LSS21-02*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC Extractable TPH w/Si Gel	**AK 102/AK 103 04/08/02**		**mg/kg**	**mg/kg**	
02238	C10-<C25 DRO w/Si Gel	n.a.	3,700	730	125
02238	C25-C36 RRO w/Si Gel	n.a.	N.D.	730	125
	The response for DRO in the calibration check standard analyzed before the sample was outside the 25% difference criteria at 27%. The recovery is low enough to ensure no adverse affect on the data.				
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	13.9	0.50	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.				

General 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
02238	TPH-DRO/RRO AK w/Silica Gel	AK 102/AK 103 04/08/02	1	102510004A	09/09/2010 22:20	Heather E Williams	125
11248	AK DRO/RRO SW w/SG	AK 102/AK 103 04/08/02	2	102510004A	09/08/2010 18:45	Sally L Appleyard	1
00111	Moisture	SM20 2540 G	1	10244820002B	09/01/2010 18:12	Scott W Freisher	1

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Analysis Report

Quality Control Summary

Client Name: Chevron Group Number: 1209538
Reported: 09/14/10 at 04:17 PM

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.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 102510004A	Sample number(s): 6072257-6072258							
C10-<C25 DRO w/Si Gel	N.D.	5.0	mg/kg	108	111	75-125	3	50
C25-C36 RRO w/Si Gel	N.D.	5.0	mg/kg	112	116	60-120	3	50
Batch number: 10244820002B	Sample number(s): 6072257-6072258							
Moisture				100		99-101		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 102510004A	Sample number(s): 6072257-6072258 UNSPK: 6072257								
C10-<C25 DRO w/Si Gel	-719 (2)	907 (2)	60-140	61*	50				
C25-C36 RRO w/Si Gel	-352 (2)	688 (2)	60-140	35	50				
Batch number: 10244820002B	Sample number(s): 6072257-6072258 BKG: P068725								
Moisture						2.6	2.3	12 (1)	15

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.

Analysis Name: TPH-DRO/RRO AK w/Silica Gel
Batch number: 102510004A

	Orthoterphenyl	n-Triacontane-d62
6072257	9*	130
6072258	23*	147
Blank	102	111
LCS	91	85
LCSD	92	86
MS	117	50
MSD	28*	157*

*- Outside of specification
(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.

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Quality Control Summary

Client Name: Chevron Group Number: 1209538
Reported: 09/14/10 at 04:17 PM

Surrogate Quality Control

Limits: 50-150 50-150

*- Outside of specification
(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.

Chevron Generic Analysis Request/Chain of Custody

Lancaster Laboratories
Where quality is a science.

011548

For Lancaster Laboratories use only
Acct. #: 11964 Sample #: 6072257-58 SCR#:

NW RTB-0309152-1-LAB

C# 1209538

Facility #: 309152
Site Address: 6223 Old Airport Rd. Fairbanks, AK
Chevron PM: Dan Carrier Lead Consultant: ARCADIS
Consultant/Office: Seattle, WA
Consultant Prj. Mgr.: Greg Montgomery
Consultant Phone #: 206-726-4742 Fax #:
Sampler: A. Ohrt & DeJong
Service Order #: ☐ Non SAR:

Matrix

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water (☐ Potable ☐ NPDES)	Oil ☐ Air ☐	Total Number of Containers	BTEX + MTBE 8021 ☐ 8260 ☐ Naphth ☐	8260 full scan	Oxygenates ___	TPH G ___	TPH D ___ (☐ Extended Rng. AK102 ☒ Silica Gel Cleanup)	Lead Total ☐ Diss. ☐ Method ___	VPH/EPH	NWTPH H HCID ☐ quantification	RRO by AK103 w/GGA			
HA-1	8/26/10	1045	X		X			1					X				X			
HA-2	8/26/10	1055	X		X			1					X				X			

Analyses Requested

Preservation Codes

Preservative Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 O = Other

☐ 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

Comments / Remarks

Turnaround Time Requested (TAT) (please circle)
STD. TAT 72 hour 48 hour
24 hour 4 day 5 day

Data Package Options (please circle if required)
QC Summary Type I - Full
Type VI (Raw Data) Disk / EDD
WIP (RWQCB) Standard Format
Disk _____ Other.

	Relinquished by:	Date	Time	Received by:	Date	Time
1		8/27	0900			
2						
3						
4	Relinquished by Commercial Carrier: UPS FedEx Other					
	Temperature Upon Receipt 0.8 C°			Custody Seals Intact? Yes No		

Lancaster Laboratories

Environmental Sample Administration
Receipt Documentation Log

Client/Project: Chevron

Date of Receipt: 8/28/10

Time of Receipt: 1000

Source Code: 50-1

Unpacker Emp. No.: 2241

Shipping Container Sealed: (YES) NO

Custody Seal Present * : (YES) NO

* Custody seal was intact unless otherwise noted in the discrepancy section

Package: (Chilled) Not Chilled

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	9422	0.8	TB	WI	Y	L	
2							
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody: 0

Paperwork Discrepancy/Unpacking Problems:

Sample Administration Internal Chain of Custody			
Name	Date	Time	Reason for Transfer
[signature]	8/28/10	1255	Unpacking to storage
Tammy Delaat	8/28/10	1315	Place in Storage or (Entry)
			Entry
			Entry

Issued by Dept. 6042 Management
2174.06

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
ug	microgram(s)	**mg**	milligram(s)
ml	milliliter(s)	**l**	liter(s)
m3	cubic meter(s)	**ul**	microliter(s)

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

J estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

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 of gas 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.

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike sample not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC 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.

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Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

September 13, 2010

Project: 309152

Submittal Date: 08/27/2010
Group Number: 1209433
SDG: LSS18
PO Number: 0015060864
Release Number: CARRIER
State of Sample Origin: AK

Client Sample Description	Lancaster Labs (LLI) #
Sediment-1 Grab Soil Sample	6071433
Sediment-2 Grab Soil Sample	6071434
Sediment-3 Grab Soil Sample	6071435
Sediment-4 Grab Soil Sample	6071436
BD-1 Grab Soil Sample	6071437

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

ELECTRONIC COPY TO	Arcadis	Attn: Greg Montgomery
ELECTRONIC COPY TO	Arcadis	Attn: Russ Greisler
1 COPY TO	Data Package Group	

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Analysis Report

Questions? Contact your Client Services Representative
Jill M Parker at (717) 656-2300 Ext. 1241

Respectfully Submitted,

Dorothy M. Love

Dorothy M. Love
Group Leader

Lancaster Laboratories

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Analysis Report

Sample Description: Sediment-1 Grab Soil Sample
Facility# 309152
6223 Old Airport Rd - Fairbanks, AK

LLI Sample # SW 6071433
LLI Group # 1209433
Account # 11964

Project Name: 309152

Collected: 08/25/2010 16:00 by AO

Submitted: 08/27/2010 09:00
Reported: 09/13/2010 13:49
Discard: 10/14/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OAF01 SDG#: LSS18-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10950	1,2-Dibromoethane	106-93-4	N.D.	0.002	1.05
10950	1,2-Dichloroethane	107-06-2	N.D.	0.002	1.05
10950	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0009	1.05
	The GC/MS volatile internal standard peak areas were outside the QC limits for both the initial analysis and the re-analysis. The values reported here are from the initial analysis of the sample.				
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	
10722	Acenaphthene	83-32-9	0.024	0.011	10
10722	Acenaphthylene	208-96-8	0.0087	0.0057	10
10722	Anthracene	120-12-7	0.058	0.0057	10
10722	Benzo(a)anthracene	56-55-3	0.27	0.011	10
10722	Benzo(a)pyrene	50-32-8	0.26	0.011	10
10722	Benzo(b)fluoranthene	205-99-2	0.47	0.011	10
10722	Benzo(g,h,i)perylene	191-24-2	0.18	0.011	10
10722	Benzo(k)fluoranthene	207-08-9	0.14	0.011	10
10722	Chrysene	218-01-9	0.46	0.0057	10
10722	Dibenz(a,h)anthracene	53-70-3	0.048	0.011	10
10722	Fluoranthene	206-44-0	0.70	0.011	10
10722	Fluorene	86-73-7	0.026	0.011	10
10722	Indeno(1,2,3-cd)pyrene	193-39-5	0.18	0.011	10
10722	Naphthalene	91-20-3	0.024	0.011	10
10722	Phenanthrene	85-01-8	0.36	0.011	10
10722	Pyrene	129-00-0	0.63	0.011	10
GC Volatiles	**AK 101**		**mg/kg**	**mg/kg**	
01451	TPH-GRO AK soil C6-C10	n.a.	N.D.	12	357.02
	Reporting limits were raised due to sample foaming.				
GC Volatiles	**SW-846 8021B**		**mg/kg**	**mg/kg**	
05878	Benzene	71-43-2	N.D.	0.1	357.02
05878	Ethylbenzene	100-41-4	N.D.	0.1	357.02
05878	Toluene	108-88-3	N.D.	0.1	357.02
05878	Total Xylenes	1330-20-7	N.D.	0.4	357.02
	Reporting limits were raised due to sample foaming.				
GC Extractable TPH	**AK 102/AK 103 04/08/02**		**mg/kg**	**mg/kg**	
01738	C10-<C25 DRO	n.a.	590	430	50
01738	C25-C36 RRO	n.a.	3,100	430	50
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	
06135	Lead	7439-92-1	77.3	0.0177	2
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	41.7	0.50	1

Lancaster Laboratories

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Analysis Report

Sample Description: Sediment-1 Grab Soil Sample
Facility# 309152
6223 Old Airport Rd - Fairbanks, AK

LLI Sample # SW 6071433
LLI Group # 1209433
Account # 11964

Project Name: 309152

Collected: 08/25/2010 16:00 by AO

Submitted: 08/27/2010 09:00
Reported: 09/13/2010 13:49
Discard: 10/14/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OAF01 SDG#: LSS18-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	**SM20 2540 G**		%	%	

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

General 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
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	1	201024322188	08/31/2010 10:14	Larry E Bevins	n.a.
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	2	201024322188	08/31/2010 10:13	Larry E Bevins	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5030A	1	201024322188	08/31/2010 09:03	Larry E Bevins	n.a.
10950	8260 MTBE/EDB/EDC	SW-846 8260B	1	A102501AA	09/07/2010 15:00	Chelsea B Eastep	1.05
10722	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	10243SLA026	09/05/2010 18:44	Linda M Hartenstine	10
10810	BNA Soil Microwave SIM PAH	SW-846 3546	1	10243SLA026	08/31/2010 09:25	Kerrie A Freeburn	1
01451	TPH-GRO AK soil C6-C10	AK 101	1	10243A33B	09/01/2010 11:15	Carrie E Miller	357.02
01150	GC - Bulk Soil Prep	SW-846 5030A	1	201024322188	08/31/2010 09:04	Larry E Bevins	n.a.
05878	BTEX Soil	SW-846 8021B	1	10243A33B	09/01/2010 11:15	Carrie E Miller	357.02
01738	TPH-DRO/RRO (AK)	AK 102/AK 103 04/08/02	1	102420020A	09/01/2010 19:17	Heather E Williams	50
11223	AK DRO/ORO Soils Extraction	AK 102/AK 103 04/08/02	1	102420020A	08/31/2010 08:30	Olivia Arosemena	1
06135	Lead	SW-846 6020	1	102426150004A	09/01/2010 19:14	David K Beck	2
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	102426150004	08/31/2010 08:45	Denise K Conners	1
00111	Moisture	SM20 2540 G	1	10243820003A	08/31/2010 17:56	Scott W Freisher	1

Lancaster Laboratories

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Analysis Report

Sample Description: Sediment-2 Grab Soil Sample
Facility# 309152
6223 Old Airport Rd - Fairbanks, AK

LLI Sample # SW 6071434
LLI Group # 1209433
Account # 11964

Project Name: 309152

Collected: 08/25/2010 14:05 by AO

Submitted: 08/27/2010 09:00
Reported: 09/13/2010 13:49
Discard: 10/14/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OAF02 SDG#: LSS18-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10950	1,2-Dibromoethane	106-93-4	N.D.	0.002	0.97
10950	1,2-Dichloroethane	107-06-2	N.D.	0.002	0.97
10950	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0008	0.97
	The GC/MS volatile internal standard peak areas were outside the QC limits for both the initial analysis and the re-analysis. The values reported here are from the initial analysis of the sample.				
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	
10722	Acenaphthene	83-32-9	N.D.	0.011	10
10722	Acenaphthylene	208-96-8	N.D.	0.0054	10
10722	Anthracene	120-12-7	N.D.	0.0054	10
10722	Benzo(a)anthracene	56-55-3	0.022	0.011	10
10722	Benzo(a)pyrene	50-32-8	0.026	0.011	10
10722	Benzo(b)fluoranthene	205-99-2	0.047	0.011	10
10722	Benzo(g,h,i)perylene	191-24-2	0.020	0.011	10
10722	Benzo(k)fluoranthene	207-08-9	0.018	0.011	10
10722	Chrysene	218-01-9	0.042	0.0054	10
10722	Dibenz(a,h)anthracene	53-70-3	N.D.	0.011	10
10722	Fluoranthene	206-44-0	0.062	0.011	10
10722	Fluorene	86-73-7	N.D.	0.011	10
10722	Indeno(1,2,3-cd)pyrene	193-39-5	0.019	0.011	10
10722	Naphthalene	91-20-3	N.D.	0.011	10
10722	Phenanthrene	85-01-8	0.029	0.011	10
10722	Pyrene	129-00-0	0.048	0.011	10
GC Volatiles	**AK 101**		**mg/kg**	**mg/kg**	
01451	TPH-GRO AK soil C6-C10	n.a.	N.D.	11	339.58
	Reporting limits were raised due to sample foaming.				
GC Volatiles	**SW-846 8021B**		**mg/kg**	**mg/kg**	
05878	Benzene	71-43-2	N.D.	0.1	339.58
05878	Ethylbenzene	100-41-4	N.D.	0.1	339.58
05878	Toluene	108-88-3	N.D.	0.1	339.58
05878	Total Xylenes	1330-20-7	N.D.	0.3	339.58
	Reporting limits were raised due to sample foaming.				
GC Extractable TPH	**AK 102/AK 103 04/08/02**		**mg/kg**	**mg/kg**	
01738	C10-<C25 DRO	n.a.	64	41	5
01738	C25-C36 RRO	n.a.	410	41	5
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	
06135	Lead	7439-92-1	10.2	0.0168	2
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	38.7	0.50	1

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Analysis Report

Sample Description: Sediment-2 Grab Soil Sample
Facility# 309152
6223 Old Airport Rd - Fairbanks, AK

LLI Sample # SW 6071434
LLI Group # 1209433
Account # 11964

Project Name: 309152

Collected: 08/25/2010 14:05 by AO

Submitted: 08/27/2010 09:00
Reported: 09/13/2010 13:49
Discard: 10/14/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OAF02 SDG#: LSS18-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	**SM20 2540 G**		%	%	

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

General 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
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	1	201024322188	08/31/2010 10:13	Larry E Bevins	n.a.
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	2	201024322188	08/31/2010 10:13	Larry E Bevins	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5030A	1	201024322188	08/31/2010 09:07	Larry E Bevins	n.a.
10950	8260 MTBE/EDB/EDC	SW-846 8260B	1	A102501AA	09/07/2010 15:23	Chelsea B Eastep	0.97
10722	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	10243SLA026	09/05/2010 19:16	Linda M Hartenstine	10
10810	BNA Soil Microwave SIM PAH	SW-846 3546	1	10243SLA026	08/31/2010 09:25	Kerrie A Freeburn	1
01451	TPH-GRO AK soil C6-C10	AK 101	1	10243A33B	09/01/2010 11:52	Carrie E Miller	339.58
01150	GC - Bulk Soil Prep	SW-846 5030A	1	201024322188	08/31/2010 09:08	Larry E Bevins	n.a.
05878	BTEX Soil	SW-846 8021B	1	10243A33B	09/01/2010 11:52	Carrie E Miller	339.58
01738	TPH-DRO/RRO (AK)	AK 102/AK 103 04/08/02	1	102420020A	09/02/2010 17:45	Heather E Williams	5
11223	AK DRO/ORO Soils Extraction	AK 102/AK 103 04/08/02	1	102420020A	08/31/2010 08:30	Olivia Arosemena	1
06135	Lead	SW-846 6020	1	102426150004A	09/01/2010 19:15	David K Beck	2
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	102426150004	08/31/2010 08:45	Denise K Conners	1
00111	Moisture	SM20 2540 G	1	10243820003A	08/31/2010 17:56	Scott W Freisher	1

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Analysis Report

Sample Description: Sediment-3 Grab Soil Sample
Facility# 309152
6223 Old Airport Rd - Fairbanks, AK

LLI Sample # SW 6071435
LLI Group # 1209433
Account # 11964

Project Name: 309152

Collected: 08/25/2010 15:00 by AO

Submitted: 08/27/2010 09:00
Reported: 09/13/2010 13:49
Discard: 10/14/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OAF03 SDG#: LSS18-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10950	1,2-Dibromoethane	106-93-4	N.D.	0.002	1.08
10950	1,2-Dichloroethane	107-06-2	N.D.	0.002	1.08
10950	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0008	1.08
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	
10722	Acenaphthene	83-32-9	N.D.	0.00094	1
10722	Acenaphthylene	208-96-8	N.D.	0.00047	1
10722	Anthracene	120-12-7	0.00095	0.00047	1
10722	Benzo(a)anthracene	56-55-3	0.0060	0.00094	1
10722	Benzo(a)pyrene	50-32-8	0.0074	0.00094	1
10722	Benzo(b)fluoranthene	205-99-2	0.012	0.00094	1
10722	Benzo(g,h,i)perylene	191-24-2	0.0052	0.00094	1
10722	Benzo(k)fluoranthene	207-08-9	0.0050	0.00094	1
10722	Chrysene	218-01-9	0.010	0.00047	1
10722	Dibenz(a,h)anthracene	53-70-3	0.0013	0.00094	1
10722	Fluoranthene	206-44-0	0.017	0.00094	1
10722	Fluorene	86-73-7	N.D.	0.00094	1
10722	Indeno(1,2,3-cd)pyrene	193-39-5	0.0050	0.00094	1
10722	Naphthalene	91-20-3	0.0012	0.00094	1
10722	Phenanthrene	85-01-8	0.0079	0.00094	1
10722	Pyrene	129-00-0	0.013	0.00094	1
GC Volatiles	**AK 101**		**mg/kg**	**mg/kg**	
01451	TPH-GRO AK soil C6-C10	n.a.	N.D.	9.2	327.59
	Reporting limits were raised due to sample foaming.				
GC Volatiles	**SW-846 8021B**		**mg/kg**	**mg/kg**	
05878	Benzene	71-43-2	N.D.	0.09	327.59
05878	Ethylbenzene	100-41-4	N.D.	0.09	327.59
05878	Toluene	108-88-3	N.D.	0.09	327.59
05878	Total Xylenes	1330-20-7	N.D.	0.3	327.59
	Reporting limits were raised due to sample foaming.				
GC Extractable TPH	**AK 102/AK 103 04/08/02**		**mg/kg**	**mg/kg**	
01738	C10-<C25 DRO	n.a.	N.D.	35	5
01738	C25-C36 RRO	n.a.	150	35	5
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	
06135	Lead	7439-92-1	6.70	0.0142	2
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	29.0	0.50	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.				

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Analysis Report

Sample Description: Sediment-3 Grab Soil Sample
Facility# 309152
6223 Old Airport Rd - Fairbanks, AK

LLI Sample # SW 6071435
LLI Group # 1209433
Account # 11964

Project Name: 309152

Collected: 08/25/2010 15:00 by AO

Submitted: 08/27/2010 09:00
Reported: 09/13/2010 13:49
Discard: 10/14/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OAF03 SDG#: LSS18-03

General 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
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	1	201024322188	08/31/2010 10:13	Larry E Bevins	n.a.
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	2	201024322188	08/31/2010 10:13	Larry E Bevins	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5030A	1	201024322188	08/31/2010 09:11	Larry E Bevins	n.a.
10950	8260 MTBE/EDB/EDC	SW-846 8260B	1	A102501AA	09/07/2010 15:46	Chelsea B Eastep	1.08
10722	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	10243SLA026	09/05/2010 19:47	Linda M Hartenstine	1
10810	BNA Soil Microwave SIM PAH	SW-846 3546	1	10243SLA026	08/31/2010 09:25	Kerrie A Freeburn	1
01451	TPH-GRO AK soil C6-C10	AK 101	1	10245A31A	09/02/2010 17:11	Marie D John	327.59
01150	GC - Bulk Soil Prep	SW-846 5030A	1	201024322188	08/31/2010 09:12	Larry E Bevins	n.a.
05878	BTEX Soil	SW-846 8021B	1	10245A31A	09/02/2010 17:11	Marie D John	327.59
01738	TPH-DRO/RRO (AK)	AK 102/AK 103 04/08/02	1	102420020A	09/02/2010 18:12	Heather E Williams	5
11223	AK DRO/ORO Soils Extraction	AK 102/AK 103 04/08/02	1	102420020A	08/31/2010 08:30	Olivia Arosemena	1
06135	Lead	SW-846 6020	1	102426150004A	09/01/2010 19:17	David K Beck	2
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	102426150004	08/31/2010 08:45	Denise K Conners	1
00111	Moisture	SM20 2540 G	1	10243820003A	08/31/2010 17:56	Scott W Freisher	1

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Analysis Report

Sample Description: Sediment-4 Grab Soil Sample
Facility# 309152
6223 Old Airport Rd - Fairbanks, AK

LLI Sample # SW 6071436
LLI Group # 1209433
Account # 11964

Project Name: 309152

Collected: 08/25/2010 14:40 by AO

Submitted: 08/27/2010 09:00
Reported: 09/13/2010 13:49
Discard: 10/14/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OAF04 SDG#: LSS18-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10950	1,2-Dibromoethane	106-93-4	N.D.	0.002	1.06
10950	1,2-Dichloroethane	107-06-2	N.D.	0.002	1.06
10950	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.001	1.06
	The GC/MS volatile internal standard peak areas were outside the QC limits for both the initial analysis and the re-analysis. The values reported here are from the initial analysis of the sample.				
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	
10722	Acenaphthene	83-32-9	N.D.	0.013	10
10722	Acenaphthylene	208-96-8	N.D.	0.0065	10
10722	Anthracene	120-12-7	N.D.	0.0065	10
10722	Benzo(a)anthracene	56-55-3	0.022	0.013	10
10722	Benzo(a)pyrene	50-32-8	0.030	0.013	10
10722	Benzo(b)fluoranthene	205-99-2	0.057	0.013	10
10722	Benzo(g,h,i)perylene	191-24-2	0.024	0.013	10
10722	Benzo(k)fluoranthene	207-08-9	0.020	0.013	10
10722	Chrysene	218-01-9	0.045	0.0065	10
10722	Dibenz(a,h)anthracene	53-70-3	N.D.	0.013	10
10722	Fluoranthene	206-44-0	0.063	0.013	10
10722	Fluorene	86-73-7	N.D.	0.013	10
10722	Indeno(1,2,3-cd)pyrene	193-39-5	0.023	0.013	10
10722	Naphthalene	91-20-3	N.D.	0.013	10
10722	Phenanthrene	85-01-8	0.029	0.013	10
10722	Pyrene	129-00-0	0.053	0.013	10
GC Volatiles	**AK 101**		**mg/kg**	**mg/kg**	
01451	TPH-GRO AK soil C6-C10	n.a.	N.D.	15	379.91
	Reporting limits were raised due to sample foaming.				
GC Volatiles	**SW-846 8021B**		**mg/kg**	**mg/kg**	
05878	Benzene	71-43-2	N.D.	0.1	379.91
05878	Ethylbenzene	100-41-4	N.D.	0.1	379.91
05878	Toluene	108-88-3	N.D.	0.1	379.91
05878	Total Xylenes	1330-20-7	N.D.	0.4	379.91
	Reporting limits were raised due to sample foaming.				
GC Extractable TPH	**AK 102/AK 103 04/08/02**		**mg/kg**	**mg/kg**	
01738	C10-<C25 DRO	n.a.	100	49	5
01738	C25-C36 RRO	n.a.	630	49	5
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	
06135	Lead	7439-92-1	19.1	0.0195	2
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	48.8	0.50	1

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Analysis Report

Sample Description: Sediment-4 Grab Soil Sample
Facility# 309152
6223 Old Airport Rd - Fairbanks, AK

LLI Sample # SW 6071436
LLI Group # 1209433
Account # 11964

Project Name: 309152

Collected: 08/25/2010 14:40 by AO

Submitted: 08/27/2010 09:00
Reported: 09/13/2010 13:49
Discard: 10/14/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OAF04 SDG#: LSS18-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	**SM20 2540 G**		%	%	

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

General 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
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	1	201024322188	08/31/2010 10:14	Larry E Bevins	n.a.
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	2	201024322188	08/31/2010 10:14	Larry E Bevins	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5030A	1	201024322188	08/31/2010 09:15	Larry E Bevins	n.a.
10950	8260 MTBE/EDB/EDC	SW-846 8260B	1	A102501AA	09/07/2010 16:09	Chelsea B Eastep	1.06
10722	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	10243SLA026	09/05/2010 20:20	Linda M Hartenstine	10
10810	BNA Soil Microwave SIM PAH	SW-846 3546	1	10243SLA026	08/31/2010 09:25	Kerrie A Freeburn	1
01451	TPH-GRO AK soil C6-C10	AK 101	1	10245A31A	09/02/2010 18:57	Marie D John	379.91
01150	GC - Bulk Soil Prep	SW-846 5030A	1	201024322188	08/31/2010 09:16	Larry E Bevins	n.a.
05878	BTEX Soil	SW-846 8021B	1	10245A31A	09/02/2010 18:57	Marie D John	379.91
01738	TPH-DRO/RRO (AK)	AK 102/AK 103 04/08/02	1	102420020A	09/02/2010 18:39	Heather E Williams	5
11223	AK DRO/ORO Soils Extraction	AK 102/AK 103 04/08/02	1	102420020A	08/31/2010 08:30	Olivia Arosemena	1
06135	Lead	SW-846 6020	1	102426150004A	09/01/2010 19:19	David K Beck	2
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	102426150004	08/31/2010 08:45	Denise K Conners	1
00111	Moisture	SM20 2540 G	1	10243820003A	08/31/2010 17:56	Scott W Freisher	1

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Analysis Report

Sample Description: BD-1 Grab Soil Sample
Facility# 309152
6223 Old Airport Rd - Fairbanks, AK

LLI Sample # SW 6071437
LLI Group # 1209433
Account # 11964

Project Name: 309152

Collected: 08/25/2010 by AO

Submitted: 08/27/2010 09:00
Reported: 09/13/2010 13:49
Discard: 10/14/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OAFDP SDG#: LSS18-05FD*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10950	1,2-Dibromoethane	106-93-4	N.D.	0.002	0.99
10950	1,2-Dichloroethane	107-06-2	N.D.	0.002	0.99
10950	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0008	0.99
	The GC/MS volatile internal standard peak areas were outside the QC limits for both the initial analysis and the re-analysis. The values reported here are from the initial analysis of the sample.				
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	
10722	Acenaphthene	83-32-9	0.026	0.011	10
10722	Acenaphthylene	208-96-8	0.015	0.0057	10
10722	Anthracene	120-12-7	0.078	0.0057	10
10722	Benzo(a)anthracene	56-55-3	0.35	0.011	10
10722	Benzo(a)pyrene	50-32-8	0.48	0.011	10
10722	Benzo(b)fluoranthene	205-99-2	0.83	0.011	10
10722	Benzo(g,h,i)perylene	191-24-2	0.24	0.011	10
10722	Benzo(k)fluoranthene	207-08-9	0.27	0.011	10
10722	Chrysene	218-01-9	0.61	0.0057	10
10722	Dibenz(a,h)anthracene	53-70-3	0.073	0.011	10
10722	Fluoranthene	206-44-0	0.97	0.011	10
10722	Fluorene	86-73-7	0.035	0.011	10
10722	Indeno(1,2,3-cd)pyrene	193-39-5	0.24	0.011	10
10722	Naphthalene	91-20-3	0.037	0.011	10
10722	Phenanthrene	85-01-8	0.49	0.011	10
10722	Pyrene	129-00-0	0.67	0.011	10
GC Volatiles	**AK 101**		**mg/kg**	**mg/kg**	
01451	TPH-GRO AK soil C6-C10	n.a.	N.D.	12	346.98
	Reporting limits were raised due to sample foaming.				
GC Volatiles	**SW-846 8021B**		**mg/kg**	**mg/kg**	
05878	Benzene	71-43-2	N.D.	0.1	346.98
05878	Ethylbenzene	100-41-4	N.D.	0.1	346.98
05878	Toluene	108-88-3	N.D.	0.1	346.98
05878	Total Xylenes	1330-20-7	N.D.	0.4	346.98
	Reporting limits were raised due to sample foaming.				
GC Extractable TPH	**AK 102/AK 103 04/08/02**		**mg/kg**	**mg/kg**	
01738	C10-<C25 DRO	n.a.	250	210	25
01738	C25-C36 RRO	n.a.	1,500	210	25
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	
06135	Lead	7439-92-1	77.2	0.0178	2
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	41.6	0.50	1

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Analysis Report

Sample Description: BD-1 Grab Soil Sample
Facility# 309152
6223 Old Airport Rd - Fairbanks, AK

LLI Sample # SW 6071437
LLI Group # 1209433
Account # 11964

Project Name: 309152

Collected: 08/25/2010 by AO

Submitted: 08/27/2010 09:00
Reported: 09/13/2010 13:49
Discard: 10/14/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OAFDP SDG#: LSS18-05FD*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	**SM20 2540 G**		%	%	

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

General 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
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	1	201024322188	08/31/2010 10:14	Larry E Bevins	n.a.
00374	GC/MS - Bulk Sample Prep	SW-846 5030A	2	201024322188	08/31/2010 10:14	Larry E Bevins	n.a.
06646	GC/MS HL Bulk Sample Prep	SW-846 5030A	1	201024322188	08/31/2010 09:19	Larry E Bevins	n.a.
10950	8260 MTBE/EDB/EDC	SW-846 8260B	1	A102501AA	09/07/2010 16:31	Chelsea B Eastep	0.99
10722	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	10243SLA026	09/05/2010 20:52	Linda M Hartenstine	10
10810	BNA Soil Microwave SIM PAH	SW-846 3546	1	10243SLA026	08/31/2010 09:25	Kerrie A Freeburn	1
01451	TPH-GRO AK soil C6-C10	AK 101	1	10245A31A	09/02/2010 19:33	Marie D John	346.98
01150	GC - Bulk Soil Prep	SW-846 5030A	1	201024322188	08/31/2010 09:20	Larry E Bevins	n.a.
05878	BTEX Soil	SW-846 8021B	1	10245A31A	09/02/2010 19:33	Marie D John	346.98
01738	TPH-DRO/RRO (AK)	AK 102/AK 103 04/08/02	1	102420020A	09/02/2010 19:07	Heather E Williams	25
11223	AK DRO/ORO Soils Extraction	AK 102/AK 103 04/08/02	1	102420020A	08/31/2010 08:30	Olivia Arosemena	1
06135	Lead	SW-846 6020	1	102426150004A	09/01/2010 19:21	David K Beck	2
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	102426150004	08/31/2010 08:45	Denise K Conners	1
00111	Moisture	SM20 2540 G	1	10243820003A	08/31/2010 17:56	Scott W Freisher	1

Lancaster Laboratories

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Analysis Report

Quality Control Summary

Client Name: Chevron Group Number: 1209433
Reported: 09/13/10 at 01:49 PM

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.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: A102501AA	Sample number(s): 6071433-6071437							
1,2-Dibromoethane	N.D.	0.001	mg/kg	98	99	80-120	1	30
1,2-Dichloroethane	N.D.	0.001	mg/kg	108	108	71-129	0	30
Methyl Tertiary Butyl Ether	N.D.	0.0005	mg/kg	100	103	74-121	3	30
Batch number: 10243SLA026	Sample number(s): 6071433-6071437							
Acenaphthene	N.D.	0.00067	mg/kg	97		73-104		
Acenaphthylene	N.D.	0.00033	mg/kg	100		67-100		
Anthracene	N.D.	0.00033	mg/kg	97		69-107		
Benzo(a)anthracene	N.D.	0.00067	mg/kg	96		74-112		
Benzo(a)pyrene	N.D.	0.00067	mg/kg	98		70-109		
Benzo(b)fluoranthene	N.D.	0.00067	mg/kg	110		73-123		
Benzo(g,h,i)perylene	N.D.	0.00067	mg/kg	95		62-128		
Benzo(k)fluoranthene	N.D.	0.00067	mg/kg	91		65-130		
Chrysene	N.D.	0.00033	mg/kg	100		79-111		
Dibenz(a,h)anthracene	N.D.	0.00067	mg/kg	96		69-128		
Fluoranthene	N.D.	0.00067	mg/kg	98		78-114		
Fluorene	N.D.	0.00067	mg/kg	103		75-110		
Indeno(1,2,3-cd)pyrene	N.D.	0.00067	mg/kg	97		71-127		
Naphthalene	N.D.	0.00067	mg/kg	99		67-105		
Phenanthrene	N.D.	0.00067	mg/kg	102		76-109		
Pyrene	N.D.	0.00067	mg/kg	97		71-109		
Batch number: 10243A33B	Sample number(s): 6071433-6071434							
Benzene	N.D.	0.005	mg/kg	98	92	76-118	6	30
Ethylbenzene	N.D.	0.005	mg/kg	100	100	77-115	0	30
Toluene	N.D.	0.005	mg/kg	102	102	80-120	0	30
TPH-GRO AK soil C6-C10	N.D.	0.5	mg/kg	73	78	60-120	6	20
Total Xylenes	N.D.	0.02	mg/kg	98	99	78-115	1	30
Batch number: 10245A31A	Sample number(s): 6071435-6071437							
Benzene	N.D.	0.005	mg/kg	104	94	76-118	10	30
Ethylbenzene	N.D.	0.005	mg/kg	102	104	77-115	2	30
Toluene	N.D.	0.005	mg/kg	98	98	80-120	0	30
TPH-GRO AK soil C6-C10	N.D.	0.5	mg/kg	90	95	60-120	5	20
Total Xylenes	N.D.	0.02	mg/kg	105	109	78-115	3	30
Batch number: 102420020A	Sample number(s): 6071433-6071437							
C10-<C25 DRO	N.D.	5.0	mg/kg	103	102	75-125	2	50
C25-C36 RRO	N.D.	5.0	mg/kg	110	109	75-125	1	50
Batch number: 102426150004A	Sample number(s): 6071433-6071437							
Lead	N.D.	0.0103	mg/kg	119		80-120		
Batch number: 10243820003A	Sample number(s): 6071433-6071437							
Moisture				100		99-101		

*- Outside of specification
(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.

Quality Control Summary

Client Name: Chevron Group Number: 1209433
Reported: 09/13/10 at 01:49 PM

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: A102501AA	Sample number(s): 6071433-6071437 UNSPK: P074672								
1,2-Dibromoethane	91		54-129						
1,2-Dichloroethane	108		68-131						
Methyl Tertiary Butyl Ether	88		55-129						
Batch number: 10243SLA026	Sample number(s): 6071433-6071437 UNSPK: P071425								
Acenaphthene	87	90	44-122	3	30				
Acenaphthylene	95	97	23-143	2	30				
Anthracene	89	74	34-161	18	30				
Benzo(a)anthracene	90	92	20-138	1	30				
Benzo(a)pyrene	89	92	34-156	3	30				
Benzo(b)fluoranthene	87	101	43-155	15	30				
Benzo(g,h,i)perylene	62	56	33-141	10	30				
Benzo(k)fluoranthene	89	86	49-145	4	30				
Chrysene	91	91	41-126	0	30				
Dibenz(a,h)anthracene	78	74	10-157	5	30				
Fluoranthene	110	90	35-138	20	30				
Fluorene	94	96	34-142	2	30				
Indeno(1,2,3-cd)pyrene	74	70	10-164	6	30				
Naphthalene	91	94	35-147	3	30				
Phenanthrene	92	94	37-134	1	30				
Pyrene	77	78	31-120	1	30				
Batch number: 102420020A	Sample number(s): 6071433-6071437 UNSPK: P071425								
C10-<C25 DRO	110	98	60-140	11	50				
C25-C36 RRO	164*	120	60-140	23	50				
Batch number: 102426150004A	Sample number(s): 6071433-6071437 UNSPK: P071431 BKG: P071431								
Lead	111	105	75-125	2	20	6.41	6.40	0	20
Batch number: 10243820003A	Sample number(s): 6071433-6071437 BKG: P071534								
Moisture						6.5	6.8	4	15

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.

Analysis Name: VOCs by 8260B - Solid
Batch number: A102501AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
6071433	97	101	112	82
6071434	99	97	111	85
6071435	97	98	106	90
6071436	97	95	114	81

*- Outside of specification
(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.

Quality Control Summary

Client Name: Chevron Group Number: 1209433
Reported: 09/13/10 at 01:49 PM

Surrogate Quality Control

6071437	99	99	116	78
Blank	97	101	103	94
LCS	99	103	104	101
LCSD	100	104	104	101
MS	96	94	108	100
Limits:	71-114	70-109	70-123	70-111

Analysis Name: PAH SIM 8270 Soil Microwave
Batch number: 10243SLA026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
6071433	93	87	74
6071434	101	95	82
6071435	106	60	82
6071436	104	95	80
6071437	105	83	69
Blank	112	103	98
LCS	113	103	89
MS	114	95	73
MSD	112	95	73
Limits:	53-152	52-132	51-141

Analysis Name: TPH-GRO AK soil C6-C10
Batch number: 10243A33B

	Trifluorotoluene-F	Trifluorotoluene-P
6071433	102	89
6071434	81	77
Blank	83	93
LCS	84	91
LCSD	90	89
Limits:	60-120	73-117

Analysis Name: TPH-GRO AK soil C6-C10
Batch number: 10245A31A

	Trifluorotoluene-F	Trifluorotoluene-P
6071435	91	86
6071436	88	83
6071437	89	83
Blank	87	91
LCS	97	92
LCSD	102	85
Limits:	60-120	73-117

Analysis Name: TPH-DRO/RRO (AK)
Batch number: 102420020A

	Orthoterphenyl	n-Triacontane-d62
6071433	132	125
6071434	135	59
6071435	115	53
6071436	181*	50

*- Outside of specification
(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.

Quality Control Summary

Client Name: Chevron Group Number: 1209433
Reported: 09/13/10 at 01:49 PM

Surrogate Quality Control

6071437	132	60
Blank	91	88
LCS	91	76
LCSD	91	83
MS	89	91
MSD	89	85
Limits:	50-150	50-150

*- Outside of specification
(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.

Chevron Generic Analysis Request/Chain of Custody

Lancaster Laboratories
Where quality is a science.

For Lancaster Laboratories use only
Acct. #: 11964 Sample #: 607433-37 SCR#: 94612 014582

C# 1209433

XWRTB-030952-1-LAB

Facility #: 309152
Site Address: 6223 Old Airport Rd Fairbanks, AK
Chevron PM: Dan Garnier Lead Consultant: ARCADIS
Consultant/Office: Seattle, WA
Consultant Prj. Mgr.: Greg Montgomery
Consultant Phone #: 206-726-4742 Fax #:
Sampler: A. Obst / J. DeJong
Service Order #: ☐ Non SAR:

Analyses Requested

Preservation Codes

Matrix

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Oil ☐ Air ☐	Total Number of Containers	BTEX ☒ 8021 ☐ 8260 ☐ Naphth ☐	8260 ☐ EDC + MTBE	Oxygenates	TPH G by AK101	TPH D ☐ Extended Rng. AK102 ☐ Silica Gel Cleaned AK103	Lead Total ☒ Diss. ☐ Method 6020B	VPH/EPH	NWTPH H HCID ☐ quantification	EDB - 8011* 8260*	PAHs - 8270 SIM*	M013 Future
Sediment -1	8/25/10	1600	X		X			5	X	X		X	X	X			X	X	X
Sediment-2	8/25/10	1405	X		X			5	X	X		X	X	X			X	X	X
Sediment-3	8/25/10	1500	X		X			5	X	X		X	X	X			X	X	X
Sediment -4	8/25/10	1440	X		X			5	X	X		X	X	X			X	X	X
BD-1	8/25/10	—	X		X			5	X	X		X	X	X			X	X	X

Preservative Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 O = Other

☐ 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

Comments / Remarks

O = MeOH
*EDB by 8260 & PAHs by SIM per Russ Greisler on 8/27/10
jmp 8/30/10

Turnaround Time Requested (TAT) (please circle)
STD. TAT 72 hour 48 hour
24 hour 4 day 5 day

Data Package Options (please circle if required)
QC Summary Type I - Full
Type VI (Raw Data) Disk / EDD
WIP (RWQCB) Standard Format
Disk _____ Other.

	Relinquished by:	Date	Time	Received by:	Date	Time
1		8/26/10	1515			
2		8/26	800			
3						
4	Relinquished by Commercial Carrier: UPS FedEx Other				8/27/10	0900

Temperature Upon Receipt 3.2 C°
Custody Seals Intact? Yes No

Lancaster Laboratories

Environmental Sample Administration
Receipt Documentation Log

Client/Project: Chevron

Date of Receipt: 8/27/10

Time of Receipt: 0900

Source Code: SU-1

Unpacker Emp. No.: 2241

Shipping Container Sealed: (YES) NO

Custody Seal Present * : (YES) NO

* Custody seal was intact unless otherwise noted in the discrepancy section

Package: (Chilled) Not Chilled

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	9422	3.2	TB	WI	Y	B	
2							
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody: 0

Paperwork Discrepancy/Unpacking Problems:

Sample Administration Internal Chain of Custody			
Name	Date	Time	Reason for Transfer
[signature]	8/27/10	1420	Unpacking to storage
Tammy Hulsl	8/27/10	1520	Place in Storage or (Entry)
			Entry
			Entry

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
ug	microgram(s)	**mg**	milligram(s)
ml	milliliter(s)	**l**	liter(s)
m3	cubic meter(s)	**ul**	microliter(s)

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

J estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

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 of gas 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.

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike sample not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC 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.

Lancaster Laboratories

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Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

September 17, 2010

Project: 309152

Submittal Date: 08/28/2010
Group Number: 1209537
SDG: LSS20
PO Number: 0015060864
Release Number: CARRIER
State of Sample Origin: AK

Client Sample Description	Lancaster Labs (LLI) #
MW-13-2.0 Grab Soil Sample	6072252
MW-12-2.0 Grab Soil Sample	6072253
SB-2-2.0 Grab Soil Sample	6072254
SB-1-2.0 Grab Soil Sample	6072255
BD-1-2.0 Grab Soil Sample	6072256

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

ELECTRONIC COPY TO	Arcadis	Attn: Greg Montgomery
ELECTRONIC COPY TO	Arcadis	Attn: Russ Greisler
1 COPY TO	Data Package Group	

Lancaster Laboratories

Analysis Report

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Questions? Contact your Client Services Representative
Jill M Parker at (717) 656-2300 Ext. 1241

Respectfully Submitted,

Susan M. Goshert
Group Leader

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

Sample Description: MW-13-2.0 Grab Soil Sample
Facility# 309152
6223 Old Airport Rd - Fairbanks, AK

LLI Sample # SW 6072252
LLI Group # 1209537
Account # 11964

Project Name: 309152

Collected: 08/26/2010 08:50 by JL

Submitted: 08/28/2010 10:00
Reported: 09/17/2010 13:16
Discard: 10/18/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

AF132 SDG#: LSS20-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10950	1,2-Dibromoethane	106-93-4	N.D.	0.059	53.61
10950	1,2-Dichloroethane	107-06-2	N.D.	0.059	53.61
10950	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.029	53.61
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	
10722	Acenaphthene	83-32-9	N.D.	0.00073	1
10722	Acenaphthylene	208-96-8	N.D.	0.00037	1
10722	Anthracene	120-12-7	N.D.	0.00037	1
10722	Benzo(a)anthracene	56-55-3	N.D.	0.00073	1
10722	Benzo(a)pyrene	50-32-8	N.D.	0.00073	1
10722	Benzo(b)fluoranthene	205-99-2	N.D.	0.00073	1
10722	Benzo(g,h,i)perylene	191-24-2	N.D.	0.00073	1
10722	Benzo(k)fluoranthene	207-08-9	N.D.	0.00073	1
10722	Chrysene	218-01-9	N.D.	0.00037	1
10722	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00073	1
10722	Fluoranthene	206-44-0	N.D.	0.00073	1
10722	Fluorene	86-73-7	N.D.	0.00073	1
10722	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.00073	1
10722	Naphthalene	91-20-3	N.D.	0.00073	1
10722	Phenanthrene	85-01-8	N.D.	0.00073	1
10722	Pyrene	129-00-0	N.D.	0.00073	1
GC Volatiles	**AK 101**		**mg/kg**	**mg/kg**	
01451	TPH-GRO AK soil C6-C10	n.a.	N.D.	0.6	29.47
GC Volatiles	**SW-846 8021B**		**mg/kg**	**mg/kg**	
05878	Benzene	71-43-2	N.D.	0.006	29.47
05878	Ethylbenzene	100-41-4	N.D.	0.006	29.47
05878	Toluene	108-88-3	0.01	0.006	29.47
05878	Total Xylenes	1330-20-7	N.D.	0.02	29.47
GC Extractable TPH	**AK 102/AK 103 04/08/02**		**mg/kg**	**mg/kg**	
01738	C10-<C25 DRO	n.a.	N.D.	5.5	1
01738	C25-C36 RRO	n.a.	17	5.5	1
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	
06135	Lead	7439-92-1	5.98	0.0113	2
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	8.9	0.50	1

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

Lancaster Laboratories

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Analysis Report

Sample Description: MW-13-2.0 Grab Soil Sample
Facility# 309152
6223 Old Airport Rd - Fairbanks, AK

LLI Sample # SW 6072252
LLI Group # 1209537
Account # 11964

Project Name: 309152

Collected: 08/26/2010 08:50 by JL

Submitted: 08/28/2010 10:00
Reported: 09/17/2010 13:16
Discard: 10/18/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

AF132 SDG#: LSS20-01

General 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
06173	GC/MS - Field Preserved (Ak)	SW-846 5035	1	201024222173	08/26/2010 08:50	Client Supplied	1
10950	8260 MTBE/EDB/EDC	SW-846 8260B	1	R102451AA	09/02/2010 08:15	Stephanie A Selis	53.61
10722	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	10243SLB026	09/10/2010 13:42	Mark A Clark	1
10810	BNA Soil Microwave SIM PAH	SW-846 3546	1	10243SLB026	08/31/2010 09:25	Kerrie A Freeburn	1
06119	GC - Field Preserved (AK-101)	AK 101	1	201024222173	08/26/2010 08:50	Client Supplied	1
01451	TPH-GRO AK soil C6-C10	AK 101	1	10245A31A	09/02/2010 12:42	Marie D John	29.47
05878	BTEX Soil	SW-846 8021B	1	10245A31A	09/02/2010 12:42	Marie D John	29.47
01738	TPH-DRO/RRO (AK)	AK 102/AK 103 04/08/02	1	102440017A	09/04/2010 00:46	Heather E Williams	1
11223	AK DRO/ORO Soils Extraction	AK 102/AK 103 04/08/02	1	102440017A	09/02/2010 08:00	Deborah M Zimmerman	1
06135	Lead	SW-846 6020	1	102426150005A	09/03/2010 14:34	Choon Y Tian	2
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	102426150005	08/31/2010 09:10	Denise K Conners	1
00111	Moisture	SM20 2540 G	1	10244820003A	09/01/2010 17:27	Scott W Freisher	1

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Analysis Report

Sample Description: MW-12-2.0 Grab Soil Sample
Facility# 309152
6223 Old Airport Rd - Fairbanks, AK

LLI Sample # SW 6072253
LLI Group # 1209537
Account # 11964

Project Name: 309152

Collected: 08/26/2010 09:10 by JL

Submitted: 08/28/2010 10:00
Reported: 09/17/2010 13:16
Discard: 10/18/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

AF122 SDG#: LSS20-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10950	1,2-Dibromoethane	106-93-4	N.D.	0.079	61.62
10950	1,2-Dichloroethane	107-06-2	N.D.	0.079	61.62
10950	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.040	61.62
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	
10722	Acenaphthene	83-32-9	N.D.	0.00086	1
10722	Acenaphthylene	208-96-8	N.D.	0.00043	1
10722	Anthracene	120-12-7	N.D.	0.00043	1
10722	Benzo(a)anthracene	56-55-3	N.D.	0.00086	1
10722	Benzo(a)pyrene	50-32-8	N.D.	0.00086	1
10722	Benzo(b)fluoranthene	205-99-2	N.D.	0.00086	1
10722	Benzo(g,h,i)perylene	191-24-2	N.D.	0.00086	1
10722	Benzo(k)fluoranthene	207-08-9	N.D.	0.00086	1
10722	Chrysene	218-01-9	N.D.	0.00043	1
10722	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00086	1
10722	Fluoranthene	206-44-0	N.D.	0.00086	1
10722	Fluorene	86-73-7	N.D.	0.00086	1
10722	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.00086	1
10722	Naphthalene	91-20-3	N.D.	0.00086	1
10722	Phenanthrene	85-01-8	N.D.	0.00086	1
10722	Pyrene	129-00-0	N.D.	0.00086	1
GC Volatiles	**AK 101**		**mg/kg**	**mg/kg**	
01451	TPH-GRO AK soil C6-C10	n.a.	N.D.	0.9	35.01
GC Volatiles	**SW-846 8021B**		**mg/kg**	**mg/kg**	
05878	Benzene	71-43-2	N.D.	0.009	35.01
05878	Ethylbenzene	100-41-4	N.D.	0.009	35.01
05878	Toluene	108-88-3	0.02	0.009	35.01
05878	Total Xylenes	1330-20-7	N.D.	0.03	35.01
GC Extractable TPH	**AK 102/AK 103 04/08/02**		**mg/kg**	**mg/kg**	
01738	C10-<C25 DRO	n.a.	N.D.	6.4	1
01738	C25-C36 RRO	n.a.	N.D.	6.4	1
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	
06135	Lead	7439-92-1	3.83	0.0131	2
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	22.3	0.50	1

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

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Analysis Report

Sample Description: MW-12-2.0 Grab Soil Sample
Facility# 309152
6223 Old Airport Rd - Fairbanks, AK

LLI Sample # SW 6072253
LLI Group # 1209537
Account # 11964

Project Name: 309152

Collected: 08/26/2010 09:10 by JL

Submitted: 08/28/2010 10:00
Reported: 09/17/2010 13:16
Discard: 10/18/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

AF122 SDG#: LSS20-02

General 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
06173	GC/MS - Field Preserved (Ak)	SW-846 5035	1	201024222173	08/26/2010 09:10	Client Supplied	1
10950	8260 MTBE/EDB/EDC	SW-846 8260B	1	R102451AA	09/02/2010 08:39	Stephanie A Selis	61.62
10722	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	10243SLB026	09/10/2010 14:14	Mark A Clark	1
10810	BNA Soil Microwave SIM PAH	SW-846 3546	1	10243SLB026	08/31/2010 09:25	Kerrie A Freeburn	1
06119	GC - Field Preserved (AK-101)	AK 101	1	201024222173	08/26/2010 09:10	Client Supplied	1
01451	TPH-GRO AK soil C6-C10	AK 101	1	10245A31A	09/02/2010 16:21	Marie D John	35.01
05878	BTEX Soil	SW-846 8021B	1	10245A31A	09/02/2010 16:21	Marie D John	35.01
01738	TPH-DRO/RRO (AK)	AK 102/AK 103 04/08/02	1	102440017A	09/04/2010 02:35	Heather E Williams	1
11223	AK DRO/ORO Soils Extraction	AK 102/AK 103 04/08/02	1	102440017A	09/02/2010 08:00	Deborah M Zimmerman	1
06135	Lead	SW-846 6020	1	102426150005A	09/03/2010 15:03	Choon Y Tian	2
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	102426150005	08/31/2010 09:10	Denise K Conners	1
00111	Moisture	SM20 2540 G	1	10244820003A	09/01/2010 17:27	Scott W Freisher	1

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Analysis Report

Sample Description: SB-2-2.0 Grab Soil Sample
Facility# 309152
6223 Old Airport Rd - Fairbanks, AK

LLI Sample # SW 6072254
LLI Group # 1209537
Account # 11964

Project Name: 309152

Collected: 08/26/2010 10:00 by JL

Submitted: 08/28/2010 10:00
Reported: 09/17/2010 13:16
Discard: 10/18/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

AF2-2 SDG#: LSS20-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10950	1,2-Dibromoethane	106-93-4	N.D.	0.13	107.67
10950	1,2-Dichloroethane	107-06-2	N.D.	0.13	107.67
10950	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.064	107.67
	Reporting limits were raised due to interference from the sample matrix.				
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	
10722	Acenaphthene	83-32-9	0.72	0.016	10
10722	Acenaphthylene	208-96-8	0.37	0.0079	10
10722	Anthracene	120-12-7	0.014	0.0079	10
10722	Benzo(a)anthracene	56-55-3	N.D.	0.016	10
10722	Benzo(a)pyrene	50-32-8	N.D.	0.016	10
10722	Benzo(b)fluoranthene	205-99-2	0.028	0.016	10
10722	Benzo(g,h,i)perylene	191-24-2	N.D.	0.016	10
10722	Benzo(k)fluoranthene	207-08-9	N.D.	0.016	10
10722	Chrysene	218-01-9	0.021	0.0079	10
10722	Dibenz(a,h)anthracene	53-70-3	N.D.	0.016	10
10722	Fluoranthene	206-44-0	0.020	0.016	10
10722	Fluorene	86-73-7	1.2	0.016	10
10722	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.016	10
10722	Naphthalene	91-20-3	13	0.032	20
10722	Phenanthrene	85-01-8	0.24	0.016	10
10722	Pyrene	129-00-0	0.035	0.016	10
	Reporting limits were raised due to interference from the sample matrix.				
GC Volatiles	**AK 101**		**mg/kg**	**mg/kg**	
01451	TPH-GRO AK soil C6-C10	n.a.	4,400	290	12426.11
GC Volatiles	**SW-846 8021B**		**mg/kg**	**mg/kg**	
05878	Benzene	71-43-2	N.D.	2.9	12426.11
05878	Ethylbenzene	100-41-4	7.8	2.9	12426.11
05878	Toluene	108-88-3	N.D.	2.9	12426.11
05878	Total Xylenes	1330-20-7	39	8.8	12426.11
	Reporting limits were raised due to interference from the sample matrix.				
GC Extractable TPH	**AK 102/AK 103 04/08/02**		**mg/kg**	**mg/kg**	
01738	C10-<C25 DRO	n.a.	44,000	3,000	250
01738	C25-C36 RRO	n.a.	N.D.	3,000	250
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	
06135	Lead	7439-92-1	330	0.0609	10
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	15.5	0.50	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.				

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Analysis Report

Sample Description: SB-2-2.0 Grab Soil Sample
Facility# 309152
6223 Old Airport Rd - Fairbanks, AK

LLI Sample # SW 6072254
LLI Group # 1209537
Account # 11964

Project Name: 309152

Collected: 08/26/2010 10:00 by JL

Submitted: 08/28/2010 10:00
Reported: 09/17/2010 13:16
Discard: 10/18/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

AF2-2 SDG#: LSS20-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor

General 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
06173	GC/MS - Field Preserved (Ak)	SW-846 5035	1	201024222173	08/26/2010 10:00	Client Supplied	1
10950	8260 MTBE/EDB/EDC	SW-846 8260B	1	R102441AA	09/01/2010 19:01	Nicholas R Rossi	107.67
10722	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	10243SLB026	09/06/2010 22:55	Linda M Hartenstine	10
10722	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	10243SLB026	09/10/2010 07:53	Mark A Clark	20
10810	BNA Soil Microwave SIM PAH	SW-846 3546	1	10243SLB026	08/31/2010 09:25	Kerrie A Freeburn	1
06119	GC - Field Preserved (AK-101)	AK 101	1	201024222173	08/26/2010 10:00	Client Supplied	1
01451	TPH-GRO AK soil C6-C10	AK 101	1	10243A33B	09/01/2010 13:42	Carrie E Miller	12426.11
05878	BTEX Soil	SW-846 8021B	1	10243A33B	09/01/2010 13:42	Carrie E Miller	12426.11
01738	TPH-DRO/RRO (AK)	AK 102/AK 103 04/08/02	1	102440017A	09/08/2010 00:06	Heather E Williams	250
11223	AK DRO/ORO Soils Extraction	AK 102/AK 103 04/08/02	1	102440017A	09/02/2010 08:00	Deborah M Zimmerman	1
06135	Lead	SW-846 6020	1	102426150005A	09/03/2010 15:14	Choon Y Tian	10
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	102426150005	08/31/2010 09:10	Denise K Conners	1
00111	Moisture	SM20 2540 G	1	10244820003A	09/01/2010 17:27	Scott W Freisher	1

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Analysis Report

Sample Description: SB-1-2.0 Grab Soil Sample
Facility# 309152
6223 Old Airport Rd - Fairbanks, AK

LLI Sample # SW 6072255
LLI Group # 1209537
Account # 11964

Project Name: 309152

Collected: 08/26/2010 11:30 by JL

Submitted: 08/28/2010 10:00
Reported: 09/17/2010 13:16
Discard: 10/18/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

AF1-2 SDG#: LSS20-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10950	1,2-Dibromoethane	106-93-4	N.D.	1.3	958.64
10950	1,2-Dichloroethane	107-06-2	N.D.	1.3	958.64
10950	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.67	958.64
	Reporting limits were raised due to interference from the sample matrix.				
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	
10722	Acenaphthene	83-32-9	2.1	0.019	10
10722	Acenaphthylene	208-96-8	0.81	0.0093	10
10722	Anthracene	120-12-7	0.024	0.0093	10
10722	Benzo(a)anthracene	56-55-3	N.D.	0.019	10
10722	Benzo(a)pyrene	50-32-8	N.D.	0.019	10
10722	Benzo(b)fluoranthene	205-99-2	N.D.	0.019	10
10722	Benzo(g,h,i)perylene	191-24-2	N.D.	0.019	10
10722	Benzo(k)fluoranthene	207-08-9	N.D.	0.019	10
10722	Chrysene	218-01-9	0.015	0.0093	10
10722	Dibenz(a,h)anthracene	53-70-3	N.D.	0.019	10
10722	Fluoranthene	206-44-0	0.020	0.019	10
10722	Fluorene	86-73-7	4.9	0.019	10
10722	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.019	10
10722	Naphthalene	91-20-3	120	0.37	200
10722	Phenanthrene	85-01-8	1.2	0.019	10
10722	Pyrene	129-00-0	0.023	0.019	10
	Reporting limits were raised due to interference from the sample matrix.				
GC Volatiles	**AK 101**		**mg/kg**	**mg/kg**	
01451	TPH-GRO AK soil C6-C10	n.a.	7,300	450	16220.4
GC Volatiles	**SW-846 8021B**		**mg/kg**	**mg/kg**	
05878	Benzene	71-43-2	N.D.	4.5	16220.4
05878	Ethylbenzene	100-41-4	130	4.5	16220.4
05878	Toluene	108-88-3	18	4.5	16220.4
05878	Total Xylenes	1330-20-7	640	14	16220.4
	Reporting limits were raised due to interference from the sample matrix.				
GC Extractable TPH	**AK 102/AK 103 04/08/02**		**mg/kg**	**mg/kg**	
01738	C10-<C25 DRO	n.a.	70,000	6,900	500
01738	C25-C36 RRO	n.a.	N.D.	6,900	500
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	
06135	Lead	7439-92-1	319	0.0701	10
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	28.0	0.50	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.				

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Analysis Report

Sample Description: SB-1-2.0 Grab Soil Sample
Facility# 309152
6223 Old Airport Rd - Fairbanks, AK

LLI Sample # SW 6072255
LLI Group # 1209537
Account # 11964

Project Name: 309152

Collected: 08/26/2010 11:30 by JL

Submitted: 08/28/2010 10:00
Reported: 09/17/2010 13:16
Discard: 10/18/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

AF1-2 SDG#: LSS20-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor

General 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
06173	GC/MS - Field Preserved (Ak)	SW-846 5035	1	201024222173	08/26/2010 11:30	Client Supplied	1
10950	8260 MTBE/EDB/EDC	SW-846 8260B	1	R102441AA	09/01/2010 19:24	Nicholas R Rossi	958.64
10722	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	10243SLB026	09/07/2010 00:31	Linda M Hartenstine	10
10722	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	10243SLB026	09/10/2010 08:25	Mark A Clark	200
10810	BNA Soil Microwave SIM PAH	SW-846 3546	1	10243SLB026	08/31/2010 09:25	Kerrie A Freeburn	1
06119	GC - Field Preserved (AK-101)	AK 101	1	201024222173	08/26/2010 11:30	Client Supplied	1
01451	TPH-GRO AK soil C6-C10	AK 101	1	10243A33B	09/01/2010 16:08	Carrie E Miller	16220.4
05878	BTEX Soil	SW-846 8021B	1	10243A33B	09/01/2010 16:08	Carrie E Miller	16220.4
01738	TPH-DRO/RRO (AK)	AK 102/AK 103 04/08/02	1	102440017A	09/08/2010 05:44	Heather E Williams	500
11223	AK DRO/ORO Soils Extraction	AK 102/AK 103 04/08/02	1	102440017A	09/02/2010 08:00	Deborah M Zimmerman	1
06135	Lead	SW-846 6020	1	102426150005A	09/03/2010 15:16	Choon Y Tian	10
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	102426150005	08/31/2010 09:10	Denise K Conners	1
00111	Moisture	SM20 2540 G	1	10244820003A	09/01/2010 17:27	Scott W Freisher	1

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Analysis Report

Sample Description: BD-1-2.0 Grab Soil Sample
Facility# 309152
6223 Old Airport Rd - Fairbanks, AK

LLI Sample # SW 6072256
LLI Group # 1209537
Account # 11964

Project Name: 309152

Collected: 08/26/2010 by JL

Submitted: 08/28/2010 10:00
Reported: 09/17/2010 13:16
Discard: 10/18/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

AFBD1 SDG#: LSS20-05FD*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10950	1,2-Dibromoethane	106-93-4	N.D.	0.18	135.9
10950	1,2-Dichloroethane	107-06-2	N.D.	0.18	135.9
10950	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.088	135.9
	Reporting limits were raised due to interference from the sample matrix.				
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	
10722	Acenaphthene	83-32-9	0.23	0.017	20
10722	Acenaphthylene	208-96-8	N.D.	0.0087	20
10722	Anthracene	120-12-7	N.D.	0.0087	20
10722	Benzo(a)anthracene	56-55-3	N.D.	0.017	20
10722	Benzo(a)pyrene	50-32-8	N.D.	0.017	20
10722	Benzo(b)fluoranthene	205-99-2	N.D.	0.017	20
10722	Benzo(g,h,i)perylene	191-24-2	N.D.	0.017	20
10722	Benzo(k)fluoranthene	207-08-9	N.D.	0.017	20
10722	Chrysene	218-01-9	N.D.	0.0087	20
10722	Dibenz(a,h)anthracene	53-70-3	N.D.	0.017	20
10722	Fluoranthene	206-44-0	N.D.	0.017	20
10722	Fluorene	86-73-7	0.36	0.017	20
10722	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.017	20
10722	Naphthalene	91-20-3	21	0.17	200
10722	Phenanthrene	85-01-8	0.10	0.017	20
10722	Pyrene	129-00-0	N.D.	0.017	20
	Reporting limits were raised due to interference from the sample matrix.				
GC Volatiles	**AK 101**		**mg/kg**	**mg/kg**	
01451	TPH-GRO AK soil C6-C10	n.a.	1,700	61	2350.03
GC Volatiles	**SW-846 8021B**		**mg/kg**	**mg/kg**	
05878	Benzene	71-43-2	1.5	0.6	2350.03
05878	Ethylbenzene	100-41-4	25	0.6	2350.03
05878	Toluene	108-88-3	1.0	0.6	2350.03
05878	Total Xylenes	1330-20-7	83	1.8	2350.03
	Reporting limits were raised due to interference from the sample matrix.				
GC Extractable TPH	**AK 102/AK 103 04/08/02**		**mg/kg**	**mg/kg**	
01738	C10-<C25 DRO	n.a.	10,000	1,300	200
01738	C25-C36 RRO	n.a.	N.D.	1,300	200
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	
06135	Lead	7439-92-1	34.3	0.0135	2
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	23.0	0.50	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.				

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Analysis Report

Sample Description: BD-1-2.0 Grab Soil Sample
Facility# 309152
6223 Old Airport Rd - Fairbanks, AK

LLI Sample # SW 6072256
LLI Group # 1209537
Account # 11964

Project Name: 309152

Collected: 08/26/2010 by JL

Submitted: 08/28/2010 10:00
Reported: 09/17/2010 13:16
Discard: 10/18/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

AFBD1 SDG#: LSS20-05FD*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor

General 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
06173	GC/MS - Field Preserved (Ak)	SW-846 5035	1	201024222173	08/26/2010 00:00	Client Supplied	1
10950	8260 MTBE/EDB/EDC	SW-846 8260B	1	R102441AA	09/01/2010 19:48	Nicholas R Rossi	135.9
10722	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	10243SLB026	09/10/2010 08:56	Mark A Clark	20
10722	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	10243SLB026	09/15/2010 21:52	Ryan P Byrne	200
10810	BNA Soil Microwave SIM PAH	SW-846 3546	1	10243SLB026	08/31/2010 09:25	Kerrie A Freeburn	1
06119	GC - Field Preserved (AK-101)	AK 101	1	201024222173	08/26/2010 00:00	Client Supplied	1
01451	TPH-GRO AK soil C6-C10	AK 101	1	10243A33B	09/01/2010 18:15	Carrie E Miller	2350.03
05878	BTEX Soil	SW-846 8021B	1	10243A33B	09/01/2010 18:15	Carrie E Miller	2350.03
01738	TPH-DRO/RRO (AK)	AK 102/AK 103 04/08/02	1	102440017A	09/07/2010 21:16	Heather E Williams	200
11223	AK DRO/ORO Soils Extraction	AK 102/AK 103 04/08/02	1	102440017A	09/02/2010 08:00	Deborah M Zimmerman	1
06135	Lead	SW-846 6020	1	102426150005A	09/03/2010 15:09	Choon Y Tian	2
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	102426150005	08/31/2010 09:10	Denise K Conners	1
00111	Moisture	SM20 2540 G	1	10244820003A	09/01/2010 17:27	Scott W Freisher	1

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Analysis Report

Quality Control Summary

Client Name: Chevron Group Number: 1209537
Reported: 09/17/10 at 01:16 PM

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.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: R102441AA	Sample number(s): 6072254-6072256							
1,2-Dibromoethane	N.D.	0.050	mg/kg	106	105	80-120	1	30
1,2-Dichloroethane	N.D.	0.050	mg/kg	96	95	71-129	1	30
Methyl Tertiary Butyl Ether	N.D.	0.025	mg/kg	98	94	74-121	3	30
Batch number: R102451AA	Sample number(s): 6072252-6072253							
1,2-Dibromoethane	N.D.	0.050	mg/kg	111	111	80-120	0	30
1,2-Dichloroethane	N.D.	0.050	mg/kg	100	100	71-129	0	30
Methyl Tertiary Butyl Ether	N.D.	0.025	mg/kg	102	102	74-121	0	30
Batch number: 10243SLB026	Sample number(s): 6072252-6072256							
Acenaphthene	N.D.	0.00067	mg/kg	95		73-104		
Acenaphthylene	N.D.	0.00033	mg/kg	96		67-100		
Anthracene	N.D.	0.00033	mg/kg	93		69-107		
Benzo(a)anthracene	N.D.	0.00067	mg/kg	94		74-112		
Benzo(a)pyrene	N.D.	0.00067	mg/kg	99		70-109		
Benzo(b)fluoranthene	N.D.	0.00067	mg/kg	111		73-123		
Benzo(g,h,i)perylene	N.D.	0.00067	mg/kg	98		62-128		
Benzo(k)fluoranthene	N.D.	0.00067	mg/kg	96		65-130		
Chrysene	N.D.	0.00033	mg/kg	99		79-111		
Dibenz(a,h)anthracene	N.D.	0.00067	mg/kg	97		69-128		
Fluoranthene	N.D.	0.00067	mg/kg	95		78-114		
Fluorene	N.D.	0.00067	mg/kg	100		75-110		
Indeno(1,2,3-cd)pyrene	N.D.	0.00067	mg/kg	99		71-127		
Naphthalene	N.D.	0.00067	mg/kg	97		67-105		
Phenanthrene	N.D.	0.00067	mg/kg	100		76-109		
Pyrene	N.D.	0.00067	mg/kg	99		71-109		
Batch number: 10243A33B	Sample number(s): 6072254-6072256							
Benzene	N.D.	0.005	mg/kg	98	92	76-118	6	30
Ethylbenzene	N.D.	0.005	mg/kg	100	100	77-115	0	30
Toluene	N.D.	0.005	mg/kg	102	102	80-120	0	30
TPH-GRO AK soil C6-C10	N.D.	0.5	mg/kg	73	78	60-120	6	20
Total Xylenes	N.D.	0.02	mg/kg	98	99	78-115	1	30
Batch number: 10245A31A	Sample number(s): 6072252-6072253							
Benzene	N.D.	0.005	mg/kg	104	94	76-118	10	30
Ethylbenzene	N.D.	0.005	mg/kg	102	104	77-115	2	30
Toluene	N.D.	0.005	mg/kg	98	98	80-120	0	30
TPH-GRO AK soil C6-C10	N.D.	0.5	mg/kg	90	95	60-120	5	20
Total Xylenes	N.D.	0.02	mg/kg	105	109	78-115	3	30
Batch number: 102440017A	Sample number(s): 6072252-6072256							
C10-<C25 DRO	N.D.	5.0	mg/kg	101	97	75-125	4	50
C25-C36 RRO	N.D.	5.0	mg/kg	115	115	75-125	0	50
Batch number: 102426150005A	Sample number(s): 6072252-6072256							

*- Outside of specification
(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.

Quality Control Summary

Client Name: Chevron Group Number: 1209537
Reported: 09/17/10 at 01:16 PM

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Lead	N.D.	0.0102	mg/kg	101		80-120		
Batch number: 10244820003A	Sample number(s): 6072252-6072256							
Moisture				100		99-101		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 10243SLB026	Sample number(s): 6072252-6072256 UNSPK: 6072254								
Acenaphthene	346 (2)	92 (2)	44-122	12	30				
Acenaphthylene	736 (2)	-50 (2)	23-143	62*	30				
Anthracene	100	83	34-161	13	30				
Benzo(a)anthracene	114	125	20-138	9	30				
Benzo(a)pyrene	88	94	34-156	6	30				
Benzo(b)fluoranthene	78	70	43-155	5	30				
Benzo(g,h,i)perylene	96	100	33-141	4	30				
Benzo(k)fluoranthene	98	113	49-145	15	30				
Chrysene	73	80	41-126	6	30				
Dibenz(a,h)anthracene	67	73	10-157	9	30				
Fluoranthene	83	93	35-138	7	30				
Fluorene	321 (2)	-138 (2)	34-142	15	30				
Indeno(1,2,3-cd)pyrene	83	88	10-164	5	30				
Naphthalene	-4561 (2)	-5000 (2)	35-147	1	30				
Phenanthrene	108 (2)	98 (2)	37-134	1	30				
Pyrene	76	84	31-120	5	30				
Batch number: 102440017A	Sample number(s): 6072252-6072256 UNSPK: 6072252								
C10-<C25 DRO	104	104	60-140	0	50				
C25-C36 RRO	101	100	60-140	1	50				
Batch number: 102426150005A	Sample number(s): 6072252-6072256 UNSPK: 6072252 BKG: 6072252								
Lead	129*	107	75-125	7	20	5.45	5.24	4	20
Batch number: 10244820003A	Sample number(s): 6072252-6072256 BKG: 6072254								
Moisture						15.5	14.8	5	15

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.

Analysis Name: VOCs by 8260B - Solid
Batch number: R102441AA

Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene

*- Outside of specification
(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.

Quality Control Summary

Client Name: Chevron Group Number: 1209537
Reported: 09/17/10 at 01:16 PM

Surrogate Quality Control

6072254	100	108	134*	281*
6072255	90	88	152*	223*
6072256	101	106	120	161*
Blank	91	92	91	94
LCS	94	95	94	94
LCSD	93	94	94	94
Limits:	71-114	70-109	70-123	70-111

Analysis Name: VOCs by 8260B - Solid
Batch number: R102451AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
6072252	101	101	93	92
6072253	104	108	102	98
Blank	95	95	94	100
LCS	99	102	98	97
LCSD	98	97	99	98
Limits:	71-114	70-109	70-123	70-111

Analysis Name: PAH SIM 8270 Soil Microwave
Batch number: 10243SLB026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
6072252	89	101	102
6072253	102	103	73
6072254	20043*	1151*	76
6072255	11366*	1636*	74
6072256	11472*	114	87
Blank	109	104	100
LCS	109	103	91
MS	27141*	1195*	78
MSD	27994*	1067*	85
Limits:	53-152	52-132	51-141

Analysis Name: TPH-GRO AK soil C6-C10
Batch number: 10243A33B

	Trifluorotoluene-F	Trifluorotoluene-P
6072254	125*	163*
6072255	458*	222*
6072256	25*	78
Blank	83	93
LCS	84	91
LCSD	90	89
Limits:	60-120	73-117

Analysis Name: TPH-GRO AK soil C6-C10
Batch number: 10245A31A

	Trifluorotoluene-F	Trifluorotoluene-P
6072252	77	83
6072253	82	85
Blank	87	91

*- Outside of specification
(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.

Quality Control Summary

Client Name: Chevron Group Number: 1209537
Reported: 09/17/10 at 01:16 PM

Surrogate Quality Control

LCS	97	92
LCSD	102	85
Limits:	60-120	73-117

Analysis Name: TPH-DRO/RRO (AK)
Batch number: 102440017A

	Orthoterphenyl	n-Triacontane-d62
6072252	96	96
6072253	96	100
6072254	82	176*
6072255	118	241*
6072256	107	141
Blank	97	103
LCS	95	88
LCSD	92	84
MS	93	83
MSD	92	83
Limits:	50-150	50-150

*- Outside of specification
(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.

Chevron Generic Analysis Request/Chain of Custody

016302

Lancaster Laboratories
Where quality is a science.

Acct. #: 11964 For Lancaster Laboratories use only Sample #: 6072252-56 SCR#:

C# 1209537

Facility #: CEMC-309152
Site Address: 6223 Old Airport Rd
Chevron PM: Don Carder Lead Consultant: Arcadis
Consultant/Office: Arcadis, Seattle, WA
Consultant Prj. Mgr.: Greg Montgomery
Consultant Phone #: 206-726-4742 Fax #:
Sampler: Jason Luckett NWRTB-0309152-1-Lab
Service Order #: ☐ Non SAR:

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Water (☐ Potable ☐ NPDES)	Matrix: Oil ☐ Air ☐	Total Number of Containers	Analyses Requested / Preservation Codes: BTEX + MTBE 8021 ☐ 8260 ☐ Naphth ☐	8260 full scan	Oxygenates ___	TPH G ___	TPH D ___ (☐ Extended Rng. ☐ Silica Gel Cleanup)	Lead Total ☐ Diss. ☐ Method ___	VPH/EPH	NWTPH H HCID ☐ quantification	BTEX 8021 (GRO AK101)	MTBE 8260 EDB + EDC 8260	PAH 8270 SIM Total Lead 6020B	DRO/RRO AK102 + AK103
MW-13 - 2.0	8/26/10	0850	X		X			4		X							X	X	X	X
MW-12 - 2.0		0910	X		X			4		X							X	X	X	X
SB-2 - 2.0		1000	X		X			4									X	X	X	X
SB-1 - 2.0		1130	X		X			4									X	X	X	X
BD-1 - 2.0	↓		X		X			4									X	X	X	X

Preservative Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 O = Other

☐ 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

Comments / Remarks

Turnaround Time Requested (TAT) (please circle)
STD. TAT 72 hour 48 hour
24 hour 4 day 5 day

Data Package Options (please circle if required)
QC Summary Type I - Full
Type VI (Raw Data) Disk / EDD
WIP (RWQCB) Standard Format
Disk ____ Other

	Date	Time		Date	Time
Relinquished by:	8/27	0800	Received by:		
Relinquished by:			Received by:		
Relinquished by:			Received by:		
Relinquished by Commercial Carrier: UPS FedEx Other			Received by:	8/27/10	1100
Temperature Upon Receipt 2.8 C°			Custody Seals Intact? Yes No		

Lancaster Laboratories

Environmental Sample Administration
Receipt Documentation Log

Client/Project: Chevron

Date of Receipt: 8/28/10

Time of Receipt: 1000

Source Code: 50-1

Unpacker Emp. No.: 2241

Shipping Container Sealed: (YES) NO

Custody Seal Present * : (YES) NO

* Custody seal was intact unless otherwise noted in the discrepancy section

Package: (Chilled) Not Chilled

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	9422	0.8	TB	WI	Y	L	
2							
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody: 0

Paperwork Discrepancy/Unpacking Problems:

Sample Administration Internal Chain of Custody			
Name	Date	Time	Reason for Transfer
[signature]	8/28/10	1255	Unpacking to storage
Tammy Delay	8/28/10	1315	Place in Storage or (Entry)
			Entry
			Entry

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
ug	microgram(s)	**mg**	milligram(s)
ml	milliliter(s)	**l**	liter(s)
m3	cubic meter(s)	**ul**	microliter(s)

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

J estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

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 of gas 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.

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike sample not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC 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.

Lancaster Laboratories

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Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

September 23, 2010

Project: 309152

Submittal Date: 08/31/2010
Group Number: 1209761
SDG: LSS23
PO Number: 0015060864
Release Number: CARRIER
State of Sample Origin: AK

Client Sample Description	Lancaster Labs (LLI) #
SB-2-12.0 Grab Soil Sample	6073232
SB-2-20.0 Grab Soil Sample	6073233
SB-1-12.0 Grab Soil Sample	6073234
SB-1-20.0 Grab Soil Sample	6073235
BD-1 Grab Soil Sample	6073236
MW-13-10.0 Grab Soil Sample	6073237
MW-13-20.0 Grab Soil Sample	6073238
MW-12-14.0 Grab Soil Sample	6073239
MW-12-16.0 Grab Soil Sample	6073240
MW-12-24.0 Grab Soil Sample	6073241
BD-2 Grab Soil Sample	6073242

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

ELECTRONIC COPY TO	Arcadis	Attn: Greg Montgomery
ELECTRONIC COPY TO	Arcadis	Attn: Russ Greisler
1 COPY TO	Data Package Group	

Lancaster Laboratories

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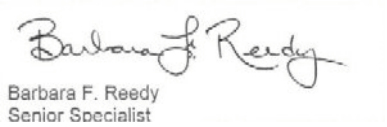
Analysis Report

Questions? Contact your Client Services Representative
Jill M Parker at (717) 656-2300 Ext. 1241

Respectfully Submitted,



Barbara F. Reedy
Senior Specialist

Lancaster Laboratories

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Analysis Report

Sample Description: SB-2-12.0 Grab Soil Sample
Facility# 309152
6223 Old Airport Road - Fairbanks, AK

LLI Sample # SW 6073232
LLI Group # 1209761
Account # 11964

Project Name: 309152

Collected: 08/27/2010 03:55 by JL

Submitted: 08/31/2010 09:00
Reported: 09/23/2010 08:40
Discard: 10/24/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OL212 SDG#: LSS23-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10950	1,2-Dibromoethane	106-93-4	N.D.	0.19	172.79
10950	1,2-Dichloroethane	107-06-2	N.D.	0.19	172.79
10950	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.094	172.79
	Reporting limits were raised due to interference from the sample matrix.				
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	
10722	Acenaphthene	83-32-9	0.13	0.014	20
10722	Acenaphthylene	208-96-8	N.D.	0.0072	20
10722	Anthracene	120-12-7	N.D.	0.0072	20
10722	Benzo(a)anthracene	56-55-3	N.D.	0.014	20
10722	Benzo(a)pyrene	50-32-8	N.D.	0.014	20
10722	Benzo(b)fluoranthene	205-99-2	N.D.	0.014	20
10722	Benzo(g,h,i)perylene	191-24-2	N.D.	0.014	20
10722	Benzo(k)fluoranthene	207-08-9	N.D.	0.014	20
10722	Chrysene	218-01-9	N.D.	0.0072	20
10722	Dibenz(a,h)anthracene	53-70-3	N.D.	0.014	20
10722	Fluoranthene	206-44-0	N.D.	0.014	20
10722	Fluorene	86-73-7	0.20	0.014	20
10722	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.014	20
10722	Naphthalene	91-20-3	6.9	0.014	20
10722	Phenanthrene	85-01-8	0.062	0.014	20
10722	Pyrene	129-00-0	N.D.	0.014	20
	Reporting limits were raised due to interference from the sample matrix.				
	The GC/MS semivolatile surrogate recoveries were outside of QC limits. The matrix spike and matrix spike duplicate samples were analyzed and surrogate recoveries were again outside of QC limits, indicating a matrix effect.				
	The GC/MS semivolatile internal standard peak areas were outside of QC limits. The matrix spike and matrix spike duplicate samples were analyzed and internal standard peak areas were again outside of QC limits, indicating a matrix effect.				
GC Volatiles	**AK 101**		**mg/kg**	**mg/kg**	
01451	TPH-GRO AK soil C6-C10	n.a.	2,800	110	5022.9
GC Volatiles	**SW-846 8021B**		**mg/kg**	**mg/kg**	
05878	Benzene	71-43-2	8.4	1.1	5022.9
05878	Ethylbenzene	100-41-4	26	1.1	5022.9
05878	Toluene	108-88-3	9.3	1.1	5022.9
05878	Total Xylenes	1330-20-7	140	3.3	5022.9
GC Extractable TPH	**AK 102/AK 103 04/08/02**		**mg/kg**	**mg/kg**	
01738	C10-<C25 DRO	n.a.	3,100	540	100
01738	C25-C36 RRO	n.a.	N.D.	540	100

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Analysis Report

Sample Description: SB-2-12.0 Grab Soil Sample
Facility# 309152
6223 Old Airport Road - Fairbanks, AK

LLI Sample # SW 6073232
LLI Group # 1209761
Account # 11964

Project Name: 309152

Collected: 08/27/2010 03:55 by JL

Submitted: 08/31/2010 09:00
Reported: 09/23/2010 08:40
Discard: 10/24/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OL212 SDG#: LSS23-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	
06135	Lead	7439-92-1	11.4	0.0109	2
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	7.6	0.50	1

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

General 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
06173	GC/MS - Field Preserved (Ak)	SW-846 5035	1	201024422213	08/27/2010 03:55	Client Supplied	1
10950	8260 MTBE/EDB/EDC	SW-846 8260B	1	Q102451AA	09/02/2010 14:05	Kerri E Legerlotz	172.79
10722	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	10244SLB026	09/20/2010 14:26	Timothy J Trees	20
10810	BNA Soil Microwave SIM PAH	SW-846 3546	1	10244SLB026	09/01/2010 23:00	Patricia L Foreman	1
06119	GC - Field Preserved (AK-101)	AK 101	1	201024322201	08/27/2010 03:55	Client Supplied	1
01451	TPH-GRO AK soil C6-C10	AK 101	1	10245A31B	09/03/2010 08:57	Marie D John	5022.9
05878	BTEX Soil	SW-846 8021B	1	10245A31B	09/03/2010 08:57	Carrie E Miller	5022.9
01738	TPH-DRO/RRO (AK)	AK 102/AK 103 04/08/02	1	102450011A	09/08/2010 02:55	Heather E Williams	100
11223	AK DRO/ORO Soils Extraction	AK 102/AK 103 04/08/02	1	102450011A	09/02/2010 16:35	JoElla L Rice	1
06135	Lead	SW-846 6020	1	102446150002A	09/06/2010 21:35	David K Beck	2
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	102446150002	09/02/2010 09:58	Denise K Conners	1
00111	Moisture	SM20 2540 G	1	10244820010A	09/02/2010 17:53	Scott W Freisher	1

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Analysis Report

Sample Description: SB-2-20.0 Grab Soil Sample
Facility# 309152
6223 Old Airport Road - Fairbanks, AK

LLI Sample # SW 6073233
LLI Group # 1209761
Account # 11964

Project Name: 309152

Collected: 08/27/2010 05:00 by JL

Submitted: 08/31/2010 09:00
Reported: 09/23/2010 08:40
Discard: 10/24/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OL220 SDG#: LSS23-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10950	1,2-Dibromoethane	106-93-4	N.D.	0.084	68.06
10950	1,2-Dichloroethane	107-06-2	N.D.	0.084	68.06
10950	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.042	68.06
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	
10722	Acenaphthene	83-32-9	N.D.	0.00082	1
10722	Acenaphthylene	208-96-8	N.D.	0.00041	1
10722	Anthracene	120-12-7	N.D.	0.00041	1
10722	Benzo(a)anthracene	56-55-3	N.D.	0.00082	1
10722	Benzo(a)pyrene	50-32-8	N.D.	0.00082	1
10722	Benzo(b)fluoranthene	205-99-2	N.D.	0.00082	1
10722	Benzo(g,h,i)perylene	191-24-2	N.D.	0.00082	1
10722	Benzo(k)fluoranthene	207-08-9	N.D.	0.00082	1
10722	Chrysene	218-01-9	N.D.	0.00041	1
10722	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00082	1
10722	Fluoranthene	206-44-0	N.D.	0.00082	1
10722	Fluorene	86-73-7	0.0012	0.00082	1
10722	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.00082	1
10722	Naphthalene	91-20-3	0.019	0.00082	1
10722	Phenanthrene	85-01-8	N.D.	0.00082	1
10722	Pyrene	129-00-0	N.D.	0.00082	1
GC Volatiles	**AK 101**		**mg/kg**	**mg/kg**	
01451	TPH-GRO AK soil C6-C10	n.a.	8.0	0.6	22.63
GC Volatiles	**SW-846 8021B**		**mg/kg**	**mg/kg**	
05878	Benzene	71-43-2	0.03	0.006	22.63
05878	Ethylbenzene	100-41-4	0.2	0.006	22.63
05878	Toluene	108-88-3	0.04	0.006	22.63
05878	Total Xylenes	1330-20-7	1	0.02	22.63
GC Extractable TPH	**AK 102/AK 103 04/08/02**		**mg/kg**	**mg/kg**	
01738	C10-<C25 DRO	n.a.	N.D.	6.2	1
01738	C25-C36 RRO	n.a.	N.D.	6.2	1
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	
06135	Lead	7439-92-1	2.60	0.0127	2
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	18.9	0.50	1

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

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Analysis Report

Sample Description: SB-2-20.0 Grab Soil Sample
Facility# 309152
6223 Old Airport Road - Fairbanks, AK

LLI Sample # SW 6073233
LLI Group # 1209761
Account # 11964

Project Name: 309152

Collected: 08/27/2010 05:00 by JL

Submitted: 08/31/2010 09:00
Reported: 09/23/2010 08:40
Discard: 10/24/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OL220 SDG#: LSS23-02

General 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
06173	GC/MS - Field Preserved (Ak)	SW-846 5035	1	201024422213	08/27/2010 05:00	Client Supplied	1
10950	8260 MTBE/EDB/EDC	SW-846 8260B	1	Q102451AA	09/02/2010 14:27	Kerri E Legerlotz	68.06
10722	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	10244SLB026	09/20/2010 16:01	Timothy J Trees	1
10810	BNA Soil Microwave SIM PAH	SW-846 3546	1	10244SLB026	09/01/2010 23:00	Patricia L Foreman	1
06119	GC - Field Preserved (AK-101)	AK 101	1	201024322201	08/27/2010 05:00	Client Supplied	1
01451	TPH-GRO AK soil C6-C10	AK 101	1	10245A31B	09/03/2010 09:34	Marie D John	22.63
05878	BTEX Soil	SW-846 8021B	1	10245A31B	09/03/2010 09:34	Marie D John	22.63
01738	TPH-DRO/RRO (AK)	AK 102/AK 103 04/08/02	1	102450011A	09/04/2010 21:18	Heather E Williams	1
11223	AK DRO/ORO Soils Extraction	AK 102/AK 103 04/08/02	1	102450011A	09/02/2010 16:35	JoElla L Rice	1
06135	Lead	SW-846 6020	1	102446150002A	09/06/2010 21:38	David K Beck	2
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	102446150002	09/02/2010 09:58	Denise K Conners	1
00111	Moisture	SM20 2540 G	1	10244820010A	09/02/2010 17:53	Scott W Freisher	1

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Analysis Report

Sample Description: SB-1-12.0 Grab Soil Sample
Facility# 309152
6223 Old Airport Road - Fairbanks, AK

LLI Sample # SW 6073234
LLI Group # 1209761
Account # 11964

Project Name: 309152

Collected: 08/28/2010 08:30 by JL

Submitted: 08/31/2010 09:00
Reported: 09/23/2010 08:40
Discard: 10/24/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OL112 SDG#: LSS23-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10950	1,2-Dibromoethane	106-93-4	N.D.	0.21	189.08
10950	1,2-Dichloroethane	107-06-2	N.D.	0.21	189.08
10950	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.11	189.08
	Reporting limits were raised due to interference from the sample matrix.				
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	
10722	Acenaphthene	83-32-9	0.065	0.0075	10
10722	Acenaphthylene	208-96-8	0.042	0.0037	10
10722	Anthracene	120-12-7	N.D.	0.0037	10
10722	Benzo(a)anthracene	56-55-3	N.D.	0.0075	10
10722	Benzo(a)pyrene	50-32-8	N.D.	0.0075	10
10722	Benzo(b)fluoranthene	205-99-2	N.D.	0.0075	10
10722	Benzo(g,h,i)perylene	191-24-2	N.D.	0.0075	10
10722	Benzo(k)fluoranthene	207-08-9	N.D.	0.0075	10
10722	Chrysene	218-01-9	N.D.	0.0037	10
10722	Dibenz(a,h)anthracene	53-70-3	N.D.	0.0075	10
10722	Fluoranthene	206-44-0	N.D.	0.0075	10
10722	Fluorene	86-73-7	0.10	0.0075	10
10722	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.0075	10
10722	Naphthalene	91-20-3	2.3	0.0075	10
10722	Phenanthrene	85-01-8	0.030	0.0075	10
10722	Pyrene	129-00-0	N.D.	0.0075	10
	Reporting limits were raised due to interference from the sample matrix.				
	The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.				
GC Volatiles	**AK 101**		**mg/kg**	**mg/kg**	
01451	TPH-GRO AK soil C6-C10	n.a.	3,500	100	4618.97
GC Volatiles	**SW-846 8021B**		**mg/kg**	**mg/kg**	
05878	Benzene	71-43-2	12	1.0	4618.97
05878	Ethylbenzene	100-41-4	30	1.0	4618.97
05878	Toluene	108-88-3	10	1.0	4618.97
05878	Total Xylenes	1330-20-7	180	3.1	4618.97
GC Extractable TPH	**AK 102/AK 103 04/08/02**		**mg/kg**	**mg/kg**	
01738	C10-<C25 DRO	n.a.	1,200	280	50
01738	C25-C36 RRO	n.a.	N.D.	280	50
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	
06135	Lead	7439-92-1	4.01	0.0115	2
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	10.7	0.50	1

Sample Description: SB-1-12.0 Grab Soil Sample
Facility# 309152
6223 Old Airport Road - Fairbanks, AK

LLI Sample # SW 6073234
LLI Group # 1209761
Account # 11964

Project Name: 309152

Collected: 08/28/2010 08:30 by JL

Submitted: 08/31/2010 09:00
Reported: 09/23/2010 08:40
Discard: 10/24/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OL112 SDG#: LSS23-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
Wet Chemistry	**SM20 2540 G**		%	%	

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

General 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
06173	GC/MS - Field Preserved (Ak)	SW-846 5035	1	201024422213	08/28/2010 08:30	Client Supplied	1
10950	8260 MTBE/EDB/EDC	SW-846 8260B	1	Q102451AA	09/02/2010 14:50	Kerri E Legerlotz	189.08
10722	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	10244SLB026	09/20/2010 20:26	Gregory J Drahovsky	10
10810	BNA Soil Microwave SIM PAH	SW-846 3546	1	10244SLB026	09/01/2010 23:00	Patricia L Foreman	1
06119	GC - Field Preserved (AK-101)	AK 101	1	201024322201	08/28/2010 08:30	Client Supplied	1
01451	TPH-GRO AK soil C6-C10	AK 101	1	10245A31A	09/03/2010 02:14	Marie D John	4618.97
05878	BTEX Soil	SW-846 8021B	1	10245A31A	09/03/2010 02:14	Marie D John	4618.97
01738	TPH-DRO/RRO (AK)	AK 102/AK 103 04/08/02	1	102450011A	09/08/2010 04:20	Heather E Williams	50
11223	AK DRO/ORO Soils Extraction	AK 102/AK 103 04/08/02	1	102450011A	09/02/2010 16:35	JoElla L Rice	1
06135	Lead	SW-846 6020	1	102446150002A	09/06/2010 21:40	David K Beck	2
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	102446150002	09/02/2010 09:58	Denise K Conners	1
00111	Moisture	SM20 2540 G	1	10244820010A	09/02/2010 17:53	Scott W Freisher	1

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Analysis Report

Sample Description: SB-1-20.0 Grab Soil Sample
Facility# 309152
6223 Old Airport Road - Fairbanks, AK

LLI Sample # SW 6073235
LLI Group # 1209761
Account # 11964

Project Name: 309152

Collected: 08/28/2010 09:00 by JL

Submitted: 08/31/2010 09:00
Reported: 09/23/2010 08:40
Discard: 10/24/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OL120 SDG#: LSS23-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10950	1,2-Dibromoethane	106-93-4	N.D.	0.049	42.2
10950	1,2-Dichloroethane	107-06-2	N.D.	0.049	42.2
10950	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.025	42.2
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	
10722	Acenaphthene	83-32-9	0.0020	0.00078	1
10722	Acenaphthylene	208-96-8	0.0013	0.00039	1
10722	Anthracene	120-12-7	N.D.	0.00039	1
10722	Benzo(a)anthracene	56-55-3	N.D.	0.00078	1
10722	Benzo(a)pyrene	50-32-8	N.D.	0.00078	1
10722	Benzo(b)fluoranthene	205-99-2	N.D.	0.00078	1
10722	Benzo(g,h,i)perylene	191-24-2	N.D.	0.00078	1
10722	Benzo(k)fluoranthene	207-08-9	N.D.	0.00078	1
10722	Chrysene	218-01-9	N.D.	0.00039	1
10722	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00078	1
10722	Fluoranthene	206-44-0	N.D.	0.00078	1
10722	Fluorene	86-73-7	0.0047	0.00078	1
10722	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.00078	1
10722	Naphthalene	91-20-3	0.18	0.00078	1
10722	Phenanthrene	85-01-8	0.00085	0.00078	1
10722	Pyrene	129-00-0	N.D.	0.00078	1
GC Volatiles	**AK 101**		**mg/kg**	**mg/kg**	
01451	TPH-GRO AK soil C6-C10	n.a.	15	0.6	24.57
GC Volatiles	**SW-846 8021B**		**mg/kg**	**mg/kg**	
05878	Benzene	71-43-2	0.05	0.006	24.57
05878	Ethylbenzene	100-41-4	0.2	0.006	24.57
05878	Toluene	108-88-3	0.05	0.006	24.57
05878	Total Xylenes	1330-20-7	0.9	0.02	24.57
GC Extractable TPH	**AK 102/AK 103 04/08/02**		**mg/kg**	**mg/kg**	
01738	C10-<C25 DRO	n.a.	N.D.	5.8	1
01738	C25-C36 RRO	n.a.	N.D.	5.8	1
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	
06135	Lead	7439-92-1	2.63	0.0120	2
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	14.5	0.50	1

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

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Analysis Report

Sample Description: SB-1-20.0 Grab Soil Sample
Facility# 309152
6223 Old Airport Road - Fairbanks, AK

LLI Sample # SW 6073235
LLI Group # 1209761
Account # 11964

Project Name: 309152

Collected: 08/28/2010 09:00 by JL

Submitted: 08/31/2010 09:00
Reported: 09/23/2010 08:40
Discard: 10/24/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OL120 SDG#: LSS23-04

General 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
06173	GC/MS - Field Preserved (Ak)	SW-846 5035	1	201024422213	08/28/2010 09:00	Client Supplied	1
10950	8260 MTBE/EDB/EDC	SW-846 8260B	1	Q102451AA	09/02/2010 15:12	Kerri E Legerlotz	42.2
10722	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	10244SLB026	09/20/2010 17:04	Timothy J Trees	1
10810	BNA Soil Microwave SIM PAH	SW-846 3546	1	10244SLB026	09/01/2010 23:00	Patricia L Foreman	1
06119	GC - Field Preserved (AK-101)	AK 101	1	201024322201	08/28/2010 09:00	Client Supplied	1
01451	TPH-GRO AK soil C6-C10	AK 101	1	10245A31B	09/03/2010 07:45	Carrie E Miller	24.57
05878	BTEX Soil	SW-846 8021B	1	10245A31B	09/03/2010 07:45	Carrie E Miller	24.57
01738	TPH-DRO/RRO (AK)	AK 102/AK 103 04/08/02	1	102450011A	09/04/2010 22:41	Heather E Williams	1
11223	AK DRO/ORO Soils Extraction	AK 102/AK 103 04/08/02	1	102450011A	09/02/2010 16:35	JoElla L Rice	1
06135	Lead	SW-846 6020	1	102446150002A	09/06/2010 21:42	David K Beck	2
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	102446150002	09/02/2010 09:58	Denise K Conners	1
00111	Moisture	SM20 2540 G	1	10244820010A	09/02/2010 17:53	Scott W Freisher	1

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Analysis Report

Sample Description: BD-1 Grab Soil Sample
Facility# 309152
6223 Old Airport Road - Fairbanks, AK

LLI Sample # SW 6073236
LLI Group # 1209761
Account # 11964

Project Name: 309152

Collected: 08/28/2010 by JL

Submitted: 08/31/2010 09:00
Reported: 09/23/2010 08:40
Discard: 10/24/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OLBD1 SDG#: LSS23-05FD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10950	1,2-Dibromoethane	106-93-4	N.D.	0.19	167.36
10950	1,2-Dichloroethane	107-06-2	N.D.	0.19	167.36
10950	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.097	167.36
	Reporting limits were raised due to interference from the sample matrix.				
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	
10722	Acenaphthene	83-32-9	0.016	0.00077	1
10722	Acenaphthylene	208-96-8	0.0083	0.00038	1
10722	Anthracene	120-12-7	N.D.	0.00038	1
10722	Benzo(a)anthracene	56-55-3	N.D.	0.00077	1
10722	Benzo(a)pyrene	50-32-8	N.D.	0.00077	1
10722	Benzo(b)fluoranthene	205-99-2	N.D.	0.00077	1
10722	Benzo(g,h,i)perylene	191-24-2	N.D.	0.00077	1
10722	Benzo(k)fluoranthene	207-08-9	N.D.	0.00077	1
10722	Chrysene	218-01-9	N.D.	0.00038	1
10722	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00077	1
10722	Fluoranthene	206-44-0	N.D.	0.00077	1
10722	Fluorene	86-73-7	0.029	0.00077	1
10722	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.00077	1
10722	Naphthalene	91-20-3	0.53	0.0015	2
10722	Phenanthrene	85-01-8	0.011	0.00077	1
10722	Pyrene	129-00-0	N.D.	0.00077	1
	The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.				
GC Volatiles	**AK 101**		**mg/kg**	**mg/kg**	
01451	TPH-GRO AK soil C6-C10	n.a.	3,200	100	4450.51
GC Volatiles	**SW-846 8021B**		**mg/kg**	**mg/kg**	
05878	Benzene	71-43-2	12	1.0	4450.51
05878	Ethylbenzene	100-41-4	29	1.0	4450.51
05878	Toluene	108-88-3	9.5	1.0	4450.51
05878	Total Xylenes	1330-20-7	180	3.1	4450.51
GC Extractable TPH	**AK 102/AK 103 04/08/02**		**mg/kg**	**mg/kg**	
01738	C10-<C25 DRO	n.a.	4,800	1,200	200
01738	C25-C36 RRO	n.a.	N.D.	1,200	200
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	
06135	Lead	7439-92-1	5.75	0.0117	2
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	13.4	0.50	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.				

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Analysis Report

Sample Description: BD-1 Grab Soil Sample
Facility# 309152
6223 Old Airport Road - Fairbanks, AK

LLI Sample # SW 6073236
LLI Group # 1209761
Account # 11964

Project Name: 309152

Collected: 08/28/2010 by JL

Submitted: 08/31/2010 09:00
Reported: 09/23/2010 08:40
Discard: 10/24/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OLBD1 SDG#: LSS23-05FD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor

General 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
06173	GC/MS - Field Preserved (Ak)	SW-846 5035	1	201024422213	08/28/2010 00:00	Client Supplied	1
10950	8260 MTBE/EDB/EDC	SW-846 8260B	1	Q102451AA	09/02/2010 15:36	Kerri E Legerlotz	167.36
10722	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	10244SLB026	09/20/2010 20:58	Gregory J Drahovsky	1
10722	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	10244SLB026	09/21/2010 04:51	Gregory J Drahovsky	2
10810	BNA Soil Microwave SIM PAH	SW-846 3546	1	10244SLB026	09/01/2010 23:00	Patricia L Foreman	1
06119	GC - Field Preserved (AK-101)	AK 101	1	201024322201	08/28/2010 00:00	Client Supplied	1
01451	TPH-GRO AK soil C6-C10	AK 101	1	10245A31A	09/03/2010 03:27	Marie D John	4450.51
05878	BTEX Soil	SW-846 8021B	1	10245A31A	09/03/2010 03:27	Marie D John	4450.51
01738	TPH-DRO/RRO (AK)	AK 102/AK 103 04/08/02	1	102450011A	09/08/2010 04:48	Heather E Williams	200
11223	AK DRO/ORO Soils Extraction	AK 102/AK 103 04/08/02	1	102450011A	09/02/2010 16:35	JoElla L Rice	1
06135	Lead	SW-846 6020	1	102446150002A	09/06/2010 21:45	David K Beck	2
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	102446150002	09/02/2010 09:58	Denise K Conners	1
00111	Moisture	SM20 2540 G	1	10244820010A	09/02/2010 17:53	Scott W Freisher	1

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Analysis Report

Sample Description: MW-13-10.0 Grab Soil Sample
Facility# 309152
6223 Old Airport Road - Fairbanks, AK

LLI Sample # SW 6073237
LLI Group # 1209761
Account # 11964

Project Name: 309152

Collected: 08/28/2010 11:30 by JL

Submitted: 08/31/2010 09:00
Reported: 09/23/2010 08:40
Discard: 10/24/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

O1310 SDG#: LSS23-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10950	1,2-Dibromoethane	106-93-4	N.D.	0.070	52.19
10950	1,2-Dichloroethane	107-06-2	N.D.	0.070	52.19
10950	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.035	52.19
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	
10722	Acenaphthene	83-32-9	N.D.	0.00090	1
10722	Acenaphthylene	208-96-8	N.D.	0.00045	1
10722	Anthracene	120-12-7	N.D.	0.00045	1
10722	Benzo(a)anthracene	56-55-3	N.D.	0.00090	1
10722	Benzo(a)pyrene	50-32-8	N.D.	0.00090	1
10722	Benzo(b)fluoranthene	205-99-2	N.D.	0.00090	1
10722	Benzo(g,h,i)perylene	191-24-2	N.D.	0.00090	1
10722	Benzo(k)fluoranthene	207-08-9	N.D.	0.00090	1
10722	Chrysene	218-01-9	N.D.	0.00045	1
10722	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00090	1
10722	Fluoranthene	206-44-0	N.D.	0.00090	1
10722	Fluorene	86-73-7	N.D.	0.00090	1
10722	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.00090	1
10722	Naphthalene	91-20-3	0.0013	0.00090	1
10722	Phenanthrene	85-01-8	N.D.	0.00090	1
10722	Pyrene	129-00-0	N.D.	0.00090	1
GC Volatiles	**AK 101**		**mg/kg**	**mg/kg**	
01451	TPH-GRO AK soil C6-C10	n.a.	N.D.	0.8	27.81
GC Volatiles	**SW-846 8021B**		**mg/kg**	**mg/kg**	
05878	Benzene	71-43-2	N.D.	0.008	27.81
05878	Ethylbenzene	100-41-4	N.D.	0.008	27.81
05878	Toluene	108-88-3	N.D.	0.008	27.81
05878	Total Xylenes	1330-20-7	N.D.	0.02	27.81
GC Extractable TPH	**AK 102/AK 103 04/08/02**		**mg/kg**	**mg/kg**	
01738	C10-<C25 DRO	n.a.	N.D.	6.7	1
01738	C25-C36 RRO	n.a.	15	6.7	1
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	
06135	Lead	7439-92-1	6.74	0.0138	2
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	25.9	0.50	1

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

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Analysis Report

Sample Description: MW-13-10.0 Grab Soil Sample
Facility# 309152
6223 Old Airport Road - Fairbanks, AK

LLI Sample # SW 6073237
LLI Group # 1209761
Account # 11964

Project Name: 309152

Collected: 08/28/2010 11:30 by JL

Submitted: 08/31/2010 09:00
Reported: 09/23/2010 08:40
Discard: 10/24/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

O1310 SDG#: LSS23-06

General 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
06173	GC/MS - Field Preserved (Ak)	SW-846 5035	1	201024422213	08/28/2010 11:30	Client Supplied	1
10950	8260 MTBE/EDB/EDC	SW-846 8260B	1	Q102451AA	09/02/2010 15:58	Kerri E Legerlotz	52.19
10722	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	10244SLB026	09/20/2010 21:30	Gregory J Drahovsky	1
10810	BNA Soil Microwave SIM PAH	SW-846 3546	1	10244SLB026	09/01/2010 23:00	Patricia L Foreman	1
06119	GC - Field Preserved (AK-101)	AK 101	1	201024422213	08/28/2010 11:30	Client Supplied	1
01451	TPH-GRO AK soil C6-C10	AK 101	1	10245A31A	09/02/2010 23:12	Marie D John	27.81
05878	BTEX Soil	SW-846 8021B	1	10245A31A	09/02/2010 23:12	Marie D John	27.81
01738	TPH-DRO/RRO (AK)	AK 102/AK 103 04/08/02	1	102450011A	09/04/2010 23:35	Heather E Williams	1
11223	AK DRO/ORO Soils Extraction	AK 102/AK 103 04/08/02	1	102450011A	09/02/2010 16:35	JoElla L Rice	1
06135	Lead	SW-846 6020	1	102446150002A	09/06/2010 21:47	David K Beck	2
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	102446150002	09/02/2010 09:58	Denise K Conners	1
00111	Moisture	SM20 2540 G	1	10244820010A	09/02/2010 17:53	Scott W Freisher	1

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Analysis Report

Sample Description: MW-13-20.0 Grab Soil Sample
Facility# 309152
6223 Old Airport Road - Fairbanks, AK

LLI Sample # SW 6073238
LLI Group # 1209761
Account # 11964

Project Name: 309152

Collected: 08/28/2010 12:00 by JL

Submitted: 08/31/2010 09:00
Reported: 09/23/2010 08:40
Discard: 10/24/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

O1320 SDG#: LSS23-07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10950	1,2-Dibromoethane	106-93-4	N.D.	0.049	42.7
10950	1,2-Dichloroethane	107-06-2	N.D.	0.049	42.7
10950	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.025	42.7
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	
10722	Acenaphthene	83-32-9	N.D.	0.00077	1
10722	Acenaphthylene	208-96-8	N.D.	0.00038	1
10722	Anthracene	120-12-7	N.D.	0.00038	1
10722	Benzo(a)anthracene	56-55-3	N.D.	0.00077	1
10722	Benzo(a)pyrene	50-32-8	N.D.	0.00077	1
10722	Benzo(b)fluoranthene	205-99-2	N.D.	0.00077	1
10722	Benzo(g,h,i)perylene	191-24-2	N.D.	0.00077	1
10722	Benzo(k)fluoranthene	207-08-9	N.D.	0.00077	1
10722	Chrysene	218-01-9	N.D.	0.00038	1
10722	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00077	1
10722	Fluoranthene	206-44-0	N.D.	0.00077	1
10722	Fluorene	86-73-7	N.D.	0.00077	1
10722	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.00077	1
10722	Naphthalene	91-20-3	N.D.	0.00077	1
10722	Phenanthrene	85-01-8	N.D.	0.00077	1
10722	Pyrene	129-00-0	N.D.	0.00077	1
GC Volatiles	**AK 101**		**mg/kg**	**mg/kg**	
01451	TPH-GRO AK soil C6-C10	n.a.	0.9	0.5	23.19
GC Volatiles	**SW-846 8021B**		**mg/kg**	**mg/kg**	
05878	Benzene	71-43-2	0.006	0.005	23.19
05878	Ethylbenzene	100-41-4	N.D.	0.005	23.19
05878	Toluene	108-88-3	0.03	0.005	23.19
05878	Total Xylenes	1330-20-7	0.03	0.02	23.19
GC Extractable TPH	**AK 102/AK 103 04/08/02**		**mg/kg**	**mg/kg**	
01738	C10-<C25 DRO	n.a.	N.D.	5.8	1
01738	C25-C36 RRO	n.a.	N.D.	5.8	1
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	
06135	Lead	7439-92-1	3.19	0.0117	2
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	13.2	0.50	1

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

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Analysis Report

Sample Description: MW-13-20.0 Grab Soil Sample
Facility# 309152
6223 Old Airport Road - Fairbanks, AK

LLI Sample # SW 6073238
LLI Group # 1209761
Account # 11964

Project Name: 309152

Collected: 08/28/2010 12:00 by JL

Submitted: 08/31/2010 09:00
Reported: 09/23/2010 08:40
Discard: 10/24/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

O1320 SDG#: LSS23-07

General 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
10950	8260 MTBE/EDB/EDC	SW-846 8260B	1	Q102451AA	09/02/2010 16:21	Kerri E Legerlotz	42.7
10722	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	10244SLB026	09/20/2010 22:01	Gregory J Drahovsky	1
10810	BNA Soil Microwave SIM PAH	SW-846 3546	1	10244SLB026	09/01/2010 23:00	Patricia L Foreman	1
06119	GC - Field Preserved (AK-101)	AK 101	1	201024322201	08/28/2010 12:00	Client Supplied	1
06119	GC - Field Preserved (AK-101)	AK 101	2	201024422216	08/28/2010 12:00	Client Supplied	1
01451	TPH-GRO AK soil C6-C10	AK 101	1	10245A31A	09/02/2010 23:49	Marie D John	23.19
05878	BTEX Soil	SW-846 8021B	1	10245A31A	09/02/2010 23:49	Marie D John	23.19
01738	TPH-DRO/RRO (AK)	AK 102/AK 103 04/08/02	1	102450011A	09/05/2010 00:03	Heather E Williams	1
11223	AK DRO/ORO Soils Extraction	AK 102/AK 103 04/08/02	1	102450011A	09/02/2010 16:35	JoElla L Rice	1
06135	Lead	SW-846 6020	1	102446150002A	09/06/2010 21:50	David K Beck	2
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	102446150002	09/02/2010 09:58	Denise K Conners	1
00111	Moisture	SM20 2540 G	1	10244820010A	09/02/2010 17:53	Scott W Freisher	1

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Analysis Report

Sample Description: MW-12-14.0 Grab Soil Sample
Facility# 309152
6223 Old Airport Road - Fairbanks, AK

LLI Sample # SW 6073239
LLI Group # 1209761
Account # 11964

Project Name: 309152

Collected: 08/28/2010 15:20 by JL

Submitted: 08/31/2010 09:00
Reported: 09/23/2010 08:40
Discard: 10/24/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

O1214 SDG#: LSS23-08

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10950	1,2-Dibromoethane	106-93-4	N.D.	0.053	48.45
10950	1,2-Dichloroethane	107-06-2	N.D.	0.053	48.45
10950	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.026	48.45
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	
10722	Acenaphthene	83-32-9	0.0021	0.00073	1
10722	Acenaphthylene	208-96-8	0.0010	0.00036	1
10722	Anthracene	120-12-7	N.D.	0.00036	1
10722	Benzo(a)anthracene	56-55-3	N.D.	0.00073	1
10722	Benzo(a)pyrene	50-32-8	N.D.	0.00073	1
10722	Benzo(b)fluoranthene	205-99-2	N.D.	0.00073	1
10722	Benzo(g,h,i)perylene	191-24-2	N.D.	0.00073	1
10722	Benzo(k)fluoranthene	207-08-9	N.D.	0.00073	1
10722	Chrysene	218-01-9	N.D.	0.00036	1
10722	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00073	1
10722	Fluoranthene	206-44-0	N.D.	0.00073	1
10722	Fluorene	86-73-7	0.0040	0.00073	1
10722	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.00073	1
10722	Naphthalene	91-20-3	0.0060	0.00073	1
10722	Phenanthrene	85-01-8	0.0019	0.00073	1
10722	Pyrene	129-00-0	N.D.	0.00073	1
GC Volatiles	**AK 101**		**mg/kg**	**mg/kg**	
01451	TPH-GRO AK soil C6-C10	n.a.	78	2.1	97.73
GC Volatiles	**SW-846 8021B**		**mg/kg**	**mg/kg**	
05878	Benzene	71-43-2	0.2	0.005	24.43
05878	Ethylbenzene	100-41-4	0.5	0.005	24.43
05878	Toluene	108-88-3	0.06	0.005	24.43
05878	Total Xylenes	1330-20-7	2.1	0.02	24.43
GC Extractable TPH	**AK 102/AK 103 04/08/02**		**mg/kg**	**mg/kg**	
01738	C10-<C25 DRO	n.a.	30	5.5	1
01738	C25-C36 RRO	n.a.	N.D.	5.5	1
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	
06135	Lead	7439-92-1	4.32	0.0113	2
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	8.3	0.50	1

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

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Analysis Report

Sample Description: MW-12-14.0 Grab Soil Sample
Facility# 309152
6223 Old Airport Road - Fairbanks, AK

LLI Sample # SW 6073239
LLI Group # 1209761
Account # 11964

Project Name: 309152

Collected: 08/28/2010 15:20 by JL

Submitted: 08/31/2010 09:00
Reported: 09/23/2010 08:40
Discard: 10/24/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

O1214 SDG#: LSS23-08

General 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
06173	GC/MS - Field Preserved (Ak)	SW-846 5035	1	201024422213	08/28/2010 15:20	Client Supplied	1
10950	8260 MTBE/EDB/EDC	SW-846 8260B	1	Q102451AA	09/02/2010 19:46	Kerri E Legerlotz	48.45
10722	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	10244SLB026	09/20/2010 22:32	Gregory J Drahovsky	1
10810	BNA Soil Microwave SIM PAH	SW-846 3546	1	10244SLB026	09/01/2010 23:00	Patricia L Foreman	1
06119	GC - Field Preserved (AK-101)	AK 101	1	201024322201	08/28/2010 15:20	Client Supplied	1
01451	TPH-GRO AK soil C6-C10	AK 101	1	10245A31B	09/03/2010 08:21	Carrie E Miller	97.73
05878	BTEX Soil	SW-846 8021B	1	10245A31A	09/03/2010 00:25	Marie D John	24.43
01738	TPH-DRO/RRO (AK)	AK 102/AK 103 04/08/02	1	102450011A	09/05/2010 00:30	Heather E Williams	1
11223	AK DRO/ORO Soils Extraction	AK 102/AK 103 04/08/02	1	102450011A	09/02/2010 16:35	JoElla L Rice	1
06135	Lead	SW-846 6020	1	102446150002A	09/06/2010 21:52	David K Beck	2
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	102446150002	09/02/2010 09:58	Denise K Conners	1
00111	Moisture	SM20 2540 G	1	10244820010A	09/02/2010 17:53	Scott W Freisher	1

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Analysis Report

Sample Description: MW-12-16.0 Grab Soil Sample
Facility# 309152
6223 Old Airport Road - Fairbanks, AK

LLI Sample # SW 6073240
LLI Group # 1209761
Account # 11964

Project Name: 309152

Collected: 08/28/2010 15:40 by JL

Submitted: 08/31/2010 09:00
Reported: 09/23/2010 08:40
Discard: 10/24/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

O1216 SDG#: LSS23-09

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10950	1,2-Dibromoethane	106-93-4	N.D.	0.95	872.27
10950	1,2-Dichloroethane	107-06-2	N.D.	0.95	872.27
10950	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.48	872.27
	Reporting limits were raised due to interference from the sample matrix.				
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	
10722	Acenaphthene	83-32-9	0.048	0.00073	1
10722	Acenaphthylene	208-96-8	0.024	0.00036	1
10722	Anthracene	120-12-7	0.0029	0.00036	1
10722	Benzo(a)anthracene	56-55-3	N.D.	0.00073	1
10722	Benzo(a)pyrene	50-32-8	N.D.	0.00073	1
10722	Benzo(b)fluoranthene	205-99-2	N.D.	0.00073	1
10722	Benzo(g,h,i)perylene	191-24-2	N.D.	0.00073	1
10722	Benzo(k)fluoranthene	207-08-9	N.D.	0.00073	1
10722	Chrysene	218-01-9	N.D.	0.00036	1
10722	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00073	1
10722	Fluoranthene	206-44-0	N.D.	0.00073	1
10722	Fluorene	86-73-7	0.10	0.00073	1
10722	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.00073	1
10722	Naphthalene	91-20-3	1.0	0.0073	10
10722	Phenanthrene	85-01-8	0.022	0.00073	1
10722	Pyrene	129-00-0	0.00086	0.00073	1
	The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.				
GC Volatiles	**AK 101**		**mg/kg**	**mg/kg**	
01451	TPH-GRO AK soil C6-C10	n.a.	4,500	200	9185.51
GC Volatiles	**SW-846 8021B**		**mg/kg**	**mg/kg**	
05878	Benzene	71-43-2	25	2.0	9185.51
05878	Ethylbenzene	100-41-4	76	2.0	9185.51
05878	Toluene	108-88-3	14	2.0	9185.51
05878	Total Xylenes	1330-20-7	380	6.0	9185.51
GC Extractable TPH	**AK 102/AK 103 04/08/02**		**mg/kg**	**mg/kg**	
01738	C10-<C25 DRO	n.a.	700	140	25
01738	C25-C36 RRO	n.a.	N.D.	140	25
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	
06135	Lead	7439-92-1	4.22	0.0110	2
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	8.2	0.50	1
	"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.				

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Analysis Report

Sample Description: MW-12-16.0 Grab Soil Sample
Facility# 309152
6223 Old Airport Road - Fairbanks, AK

LLI Sample # SW 6073240
LLI Group # 1209761
Account # 11964

Project Name: 309152

Collected: 08/28/2010 15:40 by JL

Submitted: 08/31/2010 09:00
Reported: 09/23/2010 08:40
Discard: 10/24/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

O1216 SDG#: LSS23-09

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor

General 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
06173	GC/MS - Field Preserved (Ak)	SW-846 5035	1	201024422213	08/28/2010 15:40	Client Supplied	1
10950	8260 MTBE/EDB/EDC	SW-846 8260B	1	Q102451AA	09/02/2010 20:09	Kerri E Legerlotz	872.27
10722	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	10244SLB026	09/20/2010 23:04	Gregory J Drahovsky	1
10722	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	10244SLB026	09/21/2010 09:35	Joseph M Gambler	10
10810	BNA Soil Microwave SIM PAH	SW-846 3546	1	10244SLB026	09/01/2010 23:00	Patricia L Foreman	1
06119	GC - Field Preserved (AK-101)	AK 101	1	201024322201	08/28/2010 15:40	Client Supplied	1
01451	TPH-GRO AK soil C6-C10	AK 101	1	10245A31A	09/03/2010 04:04	Marie D John	9185.51
05878	BTEX Soil	SW-846 8021B	1	10245A31A	09/03/2010 04:04	Marie D John	9185.51
01738	TPH-DRO/RRO (AK)	AK 102/AK 103 04/08/02	1	102450011A	09/08/2010 05:16	Heather E Williams	25
11223	AK DRO/ORO Soils Extraction	AK 102/AK 103 04/08/02	1	102450011A	09/02/2010 16:35	JoElla L Rice	1
06135	Lead	SW-846 6020	1	102446150002A	09/06/2010 21:54	David K Beck	2
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	102446150002	09/02/2010 09:58	Denise K Conners	1
00111	Moisture	SM20 2540 G	1	10244820010A	09/02/2010 17:53	Scott W Freisher	1

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Analysis Report

Sample Description: MW-12-24.0 Grab Soil Sample
Facility# 309152
6223 Old Airport Road - Fairbanks, AK

LLI Sample # SW 6073241
LLI Group # 1209761
Account # 11964

Project Name: 309152

Collected: 08/28/2010 16:00 by JL

Submitted: 08/31/2010 09:00
Reported: 09/23/2010 08:40
Discard: 10/24/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

O1224 SDG#: LSS23-10

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10950	1,2-Dibromoethane	106-93-4	N.D.	0.055	47.29
10950	1,2-Dichloroethane	107-06-2	N.D.	0.055	47.29
10950	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.027	47.29
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	
10722	Acenaphthene	83-32-9	N.D.	0.00077	1
10722	Acenaphthylene	208-96-8	N.D.	0.00039	1
10722	Anthracene	120-12-7	N.D.	0.00039	1
10722	Benzo(a)anthracene	56-55-3	N.D.	0.00077	1
10722	Benzo(a)pyrene	50-32-8	N.D.	0.00077	1
10722	Benzo(b)fluoranthene	205-99-2	N.D.	0.00077	1
10722	Benzo(g,h,i)perylene	191-24-2	N.D.	0.00077	1
10722	Benzo(k)fluoranthene	207-08-9	N.D.	0.00077	1
10722	Chrysene	218-01-9	N.D.	0.00039	1
10722	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00077	1
10722	Fluoranthene	206-44-0	N.D.	0.00077	1
10722	Fluorene	86-73-7	N.D.	0.00077	1
10722	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.00077	1
10722	Naphthalene	91-20-3	0.0012	0.00077	1
10722	Phenanthrene	85-01-8	N.D.	0.00077	1
10722	Pyrene	129-00-0	N.D.	0.00077	1
GC Volatiles	**AK 101**		**mg/kg**	**mg/kg**	
01451	TPH-GRO AK soil C6-C10	n.a.	1.1	0.6	25.53
GC Volatiles	**SW-846 8021B**		**mg/kg**	**mg/kg**	
05878	Benzene	71-43-2	0.009	0.006	25.53
05878	Ethylbenzene	100-41-4	0.02	0.006	25.53
05878	Toluene	108-88-3	N.D.	0.006	25.53
05878	Total Xylenes	1330-20-7	0.07	0.02	25.53
GC Extractable TPH	**AK 102/AK 103 04/08/02**		**mg/kg**	**mg/kg**	
01738	C10-<C25 DRO	n.a.	N.D.	5.8	1
01738	C25-C36 RRO	n.a.	9.4	5.8	1
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	
06135	Lead	7439-92-1	3.27	0.0116	2
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	13.7	0.50	1

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

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Analysis Report

Sample Description: MW-12-24.0 Grab Soil Sample
Facility# 309152
6223 Old Airport Road - Fairbanks, AK

LLI Sample # SW 6073241
LLI Group # 1209761
Account # 11964

Project Name: 309152

Collected: 08/28/2010 16:00 by JL

Submitted: 08/31/2010 09:00
Reported: 09/23/2010 08:40
Discard: 10/24/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

O1224 SDG#: LSS23-10

General 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
06173	GC/MS - Field Preserved (Ak)	SW-846 5035	1	201024422213	08/28/2010 16:00	Client Supplied	1
10950	8260 MTBE/EDB/EDC	SW-846 8260B	1	Q102451AA	09/02/2010 17:30	Kerri E Legerlotz	47.29
10722	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	10244SLB026	09/20/2010 23:35	Gregory J Drahovsky	1
10810	BNA Soil Microwave SIM PAH	SW-846 3546	1	10244SLB026	09/01/2010 23:00	Patricia L Foreman	1
06119	GC - Field Preserved (AK-101)	AK 101	1	201024322201	08/28/2010 16:00	Client Supplied	1
01451	TPH-GRO AK soil C6-C10	AK 101	1	10246A31A	09/07/2010 15:11	Marie D John	25.53
05878	BTEX Soil	SW-846 8021B	1	10246A31A	09/07/2010 15:11	Marie D John	25.53
01738	TPH-DRO/RRO (AK)	AK 102/AK 103 04/08/02	1	102450011A	09/05/2010 01:25	Heather E Williams	1
11223	AK DRO/ORO Soils Extraction	AK 102/AK 103 04/08/02	1	102450011A	09/02/2010 16:35	JoElla L Rice	1
06135	Lead	SW-846 6020	1	102446150002A	09/06/2010 21:57	David K Beck	2
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	102446150002	09/02/2010 09:58	Denise K Conners	1
00111	Moisture	SM20 2540 G	1	10244820010A	09/02/2010 17:53	Scott W Freisher	1

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Analysis Report

Sample Description: BD-2 Grab Soil Sample
Facility# 309152
6223 Old Airport Road - Fairbanks, AK

LLI Sample # SW 6073242
LLI Group # 1209761
Account # 11964

Project Name: 309152

Collected: 08/28/2010 by JL

Submitted: 08/31/2010 09:00
Reported: 09/23/2010 08:40
Discard: 10/24/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OLBD2 SDG#: LSS23-11FD*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Dilution Factor
GC/MS Volatiles	**SW-846 8260B**		**mg/kg**	**mg/kg**	
10950	1,2-Dibromoethane	106-93-4	N.D.	0.062	53.56
10950	1,2-Dichloroethane	107-06-2	N.D.	0.062	53.56
10950	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.031	53.56
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/kg**	**mg/kg**	
10722	Acenaphthene	83-32-9	N.D.	0.00077	1
10722	Acenaphthylene	208-96-8	N.D.	0.00039	1
10722	Anthracene	120-12-7	N.D.	0.00039	1
10722	Benzo(a)anthracene	56-55-3	N.D.	0.00077	1
10722	Benzo(a)pyrene	50-32-8	N.D.	0.00077	1
10722	Benzo(b)fluoranthene	205-99-2	N.D.	0.00077	1
10722	Benzo(g,h,i)perylene	191-24-2	N.D.	0.00077	1
10722	Benzo(k)fluoranthene	207-08-9	N.D.	0.00077	1
10722	Chrysene	218-01-9	N.D.	0.00039	1
10722	Dibenz(a,h)anthracene	53-70-3	N.D.	0.00077	1
10722	Fluoranthene	206-44-0	N.D.	0.00077	1
10722	Fluorene	86-73-7	N.D.	0.00077	1
10722	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.00077	1
10722	Naphthalene	91-20-3	0.0016	0.00077	1
10722	Phenanthrene	85-01-8	N.D.	0.00077	1
10722	Pyrene	129-00-0	N.D.	0.00077	1
GC Volatiles	**AK 101**		**mg/kg**	**mg/kg**	
01451	TPH-GRO AK soil C6-C10	n.a.	1.5	0.5	22.46
GC Volatiles	**SW-846 8021B**		**mg/kg**	**mg/kg**	
05878	Benzene	71-43-2	0.01	0.005	22.46
05878	Ethylbenzene	100-41-4	0.02	0.005	22.46
05878	Toluene	108-88-3	N.D.	0.005	22.46
05878	Total Xylenes	1330-20-7	0.08	0.02	22.46
GC Extractable TPH	**AK 102/AK 103 04/08/02**		**mg/kg**	**mg/kg**	
01738	C10-<C25 DRO	n.a.	N.D.	5.8	1
01738	C25-C36 RRO	n.a.	8.6	5.8	1
Metals	**SW-846 6020**		**mg/kg**	**mg/kg**	
06135	Lead	7439-92-1	2.60	0.0116	2
Wet Chemistry	**SM20 2540 G**		**%**	**%**	
00111	Moisture	n.a.	13.7	0.50	1

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

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Analysis Report

Sample Description: BD-2 Grab Soil Sample
Facility# 309152
6223 Old Airport Road - Fairbanks, AK

LLI Sample # SW 6073242
LLI Group # 1209761
Account # 11964

Project Name: 309152

Collected: 08/28/2010 by JL

Submitted: 08/31/2010 09:00
Reported: 09/23/2010 08:40
Discard: 10/24/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OLBD2 SDG#: LSS23-11FD*

General 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
06173	GC/MS - Field Preserved (Ak)	SW-846 5035	1	201024422213	08/28/2010 00:00	Client Supplied	1
10950	8260 MTBE/EDB/EDC	SW-846 8260B	1	Q102451AA	09/02/2010 17:53	Kerri E Legerlotz	53.56
10722	PAH SIM 8270 Soil Microwave	SW-846 8270C SIM	1	10244SLB026	09/21/2010 00:07	Gregory J Drahovsky	1
10810	BNA Soil Microwave SIM PAH	SW-846 3546	1	10244SLB026	09/01/2010 23:00	Patricia L Foreman	1
06119	GC - Field Preserved (AK-101)	AK 101	1	201024322201	08/28/2010 00:00	Client Supplied	1
01451	TPH-GRO AK soil C6-C10	AK 101	1	10246A31A	09/07/2010 15:48	Marie D John	22.46
05878	BTEX Soil	SW-846 8021B	1	10246A31A	09/07/2010 15:48	Marie D John	22.46
01738	TPH-DRO/RRO (AK)	AK 102/AK 103 04/08/02	1	102450011A	09/05/2010 01:53	Heather E Williams	1
11223	AK DRO/ORO Soils Extraction	AK 102/AK 103 04/08/02	1	102450011A	09/02/2010 16:35	JoElla L Rice	1
06135	Lead	SW-846 6020	1	102446150002A	09/06/2010 22:04	David K Beck	2
06150	ICP/MS SW-846 Solid Digest	SW-846 3050B	1	102446150002	09/02/2010 09:58	Denise K Conners	1
00111	Moisture	SM20 2540 G	1	10244820010A	09/02/2010 17:53	Scott W Freisher	1

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Analysis Report

Quality Control Summary

Client Name: Chevron Group Number: 1209761
Reported: 09/23/10 at 08:40 AM

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.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: Q102451AA	Sample number(s): 6073232-6073242							
1,2-Dibromoethane	N.D.	0.050	mg/kg	101	99	80-120	2	30
1,2-Dichloroethane	N.D.	0.050	mg/kg	97	95	71-129	2	30
Methyl Tertiary Butyl Ether	N.D.	0.025	mg/kg	104	99	74-121	5	30
Batch number: 10244SLB026	Sample number(s): 6073232-6073242							
Acenaphthene	N.D.	0.00067	mg/kg	87		73-104		
Acenaphthylene	N.D.	0.00033	mg/kg	93		67-100		
Anthracene	N.D.	0.00033	mg/kg	87		69-107		
Benzo(a)anthracene	N.D.	0.00067	mg/kg	91		74-112		
Benzo(a)pyrene	N.D.	0.00067	mg/kg	88		70-109		
Benzo(b)fluoranthene	N.D.	0.00067	mg/kg	77		73-123		
Benzo(g,h,i)perylene	N.D.	0.00067	mg/kg	87		62-128		
Benzo(k)fluoranthene	N.D.	0.00067	mg/kg	84		65-130		
Chrysene	N.D.	0.00033	mg/kg	95		79-111		
Dibenz(a,h)anthracene	N.D.	0.00067	mg/kg	78		69-128		
Fluoranthene	N.D.	0.00067	mg/kg	93		78-114		
Fluorene	N.D.	0.00067	mg/kg	87		75-110		
Indeno(1,2,3-cd)pyrene	N.D.	0.00067	mg/kg	80		71-127		
Naphthalene	N.D.	0.00067	mg/kg	85		67-105		
Phenanthrene	N.D.	0.00067	mg/kg	85		76-109		
Pyrene	N.D.	0.00067	mg/kg	74		71-109		
Batch number: 10245A31A	Sample number(s): 6073234,6073236-6073240							
Benzene	N.D.	0.005	mg/kg	104	94	76-118	10	30
Ethylbenzene	N.D.	0.005	mg/kg	102	104	77-115	2	30
Toluene	N.D.	0.005	mg/kg	98	98	80-120	0	30
TPH-GRO AK soil C6-C10	N.D.	0.5	mg/kg	90	95	60-120	5	20
Total Xylenes	N.D.	0.02	mg/kg	105	109	78-115	3	30
Batch number: 10245A31B	Sample number(s): 6073232-6073233,6073235,6073239							
Benzene	N.D.	0.005	mg/kg	104	94	76-118	10	30
Ethylbenzene	N.D.	0.005	mg/kg	102	104	77-115	2	30
Toluene	N.D.	0.005	mg/kg	98	98	80-120	0	30
TPH-GRO AK soil C6-C10	N.D.	0.5	mg/kg	90	95	60-120	5	20
Total Xylenes	N.D.	0.02	mg/kg	105	109	78-115	3	30
Batch number: 10246A31A	Sample number(s): 6073241-6073242							
Benzene	N.D.	0.005	mg/kg	90	98	76-118	9	30
Ethylbenzene	N.D.	0.005	mg/kg	96	104	77-115	8	30
Toluene	N.D.	0.005	mg/kg	92	100	80-120	8	30
TPH-GRO AK soil C6-C10	N.D.	0.5	mg/kg	82	92	60-120	12	20
Total Xylenes	N.D.	0.02	mg/kg	99	107	78-115	7	30
Batch number: 102450011A	Sample number(s): 6073232-6073242							
C10-<C25 DRO	N.D.	5.0	mg/kg	89	89	75-125	1	50
C25-C36 RRO	N.D.	5.0	mg/kg	108	105	75-125	2	50

*- Outside of specification
(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.

Quality Control Summary

Client Name: Chevron Group Number: 1209761
Reported: 09/23/10 at 08:40 AM

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 102446150002A	Sample number(s): 6073232-6073242							
Lead	N.D.	0.0101	mg/kg	101		80-120		
Batch number: 10244820010A	Sample number(s): 6073232-6073242							
Moisture				100		99-101		

Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 10244SLB026	Sample number(s): 6073232-6073242 UNSPK: 6073232								
Acenaphthene	-33*	119	44-122	38*	30				
Acenaphthylene	238*	303*	23-143	24	30				
Anthracene	110	83	34-161	28	30				
Benzo(a)anthracene	106	105	20-138	1	30				
Benzo(a)pyrene	109	110	34-156	0	30				
Benzo(b)fluoranthene	96	100	43-155	4	30				
Benzo(g,h,i)perylene	107	110	33-141	3	30				
Benzo(k)fluoranthene	103	102	49-145	1	30				
Chrysene	109	108	41-126	1	30				
Dibenz(a,h)anthracene	106	105	10-157	1	30				
Fluoranthene	114	119	35-138	4	30				
Fluorene	-95 (2)	142 (2)	34-142	41*	30				
Indeno(1,2,3-cd)pyrene	107	108	10-164	1	30				
Naphthalene	-7968 (2)	2772 (2)	35-147	65*	30				
Phenanthrene	23*	105	37-134	35*	30				
Pyrene	109	116	31-120	6	30				
Batch number: 102450011A	Sample number(s): 6073232-6073242 UNSPK: 6073232								
C10-<C25 DRO	-3469 (2)	-3133 (2)	60-140	9	50				
C25-C36 RRO	0*	0*	60-140	0	50				
Batch number: 102446150002A	Sample number(s): 6073232-6073242 UNSPK: P070060 BKG: P070060								
Lead	131*	111	75-125	6	20	7.82	8.00	2	20
Batch number: 10244820010A	Sample number(s): 6073232-6073242 BKG: 6073237								
Moisture						25.9	24.6	5	15

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.

Analysis Name: VOCs by 8260B - Solid
Batch number: Q102451AA

*- Outside of specification
(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.

Quality Control Summary

Client Name: Chevron Group Number: 1209761
Reported: 09/23/10 at 08:40 AM

Surrogate Quality Control

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
6073232	105	121*	140*	210*
6073233	95	106	95	91
6073234	108	120*	176*	274*
6073235	90	103	91	89
6073236	97	110*	145*	241*
6073237	93	103	91	91
6073238	96	108	96	93
6073239	97	107	99	96
6073240	89	93	131*	123*
6073241	90	100	89	88
6073242	97	109	96	92
Blank	97	104	96	90
LCS	106	113*	106	100
LCSD	103	109	104	99
Limits:	71-114	70-109	70-123	70-111

Analysis Name: PAH SIM 8270 Soil Microwave
Batch number: 10244SLB026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
6073232	10238*	405*	89
6073233	116	112	91
6073234	2032*	257*	98
6073235	119	116	92
6073236	650*	106	86
6073237	109	112	88
6073238	108	114	91
6073239	150	108	85
6073240	1246*	207*	91
6073241	107	111	90
6073242	103	106	85
Blank	97	98	91
LCS	108	96	84
MS	6478*	141*	92
MSD	9523*	135*	90
Limits:	53-152	52-132	51-141

Analysis Name: TPH-GRO AK soil C6-C10
Batch number: 10245A31A

	Trifluorotoluene-F	Trifluorotoluene-P
6073234	1730*	0*
6073236	1472*	0*
6073237	90	93
6073238	77	79
6073239		81
6073240	3510*	962*
Blank	87	91
LCS	97	92
LCSD	102	85
Limits:	60-120	73-117

*- Outside of specification
(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.

Quality Control Summary

Client Name: Chevron Group Number: 1209761
Reported: 09/23/10 at 08:40 AM

Surrogate Quality Control

Analysis Name: TPH-GRO AK soil C6-C10
Batch number: 10245A31B

	Trifluorotoluene-F	Trifluorotoluene-P
6073232	1304*	0*
6073233	74	76
6073235	88	76
6073239	195*	
Blank	91	90
LCS	97	92
LCSD	102	85
Limits:	60-120	73-117

Analysis Name: TPH-GRO AK soil C6-C10
Batch number: 10246A31A

	Trifluorotoluene-F	Trifluorotoluene-P
6073241	75	81
6073242	81	85
Blank	86	96
LCS	89	84
LCSD	99	86
Limits:	60-120	73-117

Analysis Name: TPH-DRO/RRO (AK)
Batch number: 102450011A

	Orthoterphenyl	n-Triacontane-d62
6073232	108	121
6073233	97	99
6073234	88	97
6073235	97	98
6073236	116	137
6073237	98	100
6073238	98	101
6073239	102	99
6073240	100	100
6073241	97	99
6073242	97	98
Blank	102	102
LCS	90	79
LCSD	89	79
MS	93	103
MSD	96	96
Limits:	50-150	50-150

*- Outside of specification
(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.

Chevron Generic Analysis Request/Chain of Custody

Lancaster Laboratories
Where quality is a science.

For Lancaster Laboratories use only
Acct. #: 11964 Sample #: 10073232 -42 SCR#: 016301 94717
Group# 1209761

Facility #: Sampe 309152
Site Address: 6223 Old Airport Rd, Fairbanks AK
Chevron PM: Dan Carrier Lead Consultant: Arcadis
Consultant/Office: Seattle WA - Arcadis
Consultant Prj. Mgr.: Carey Montgomery
Consultant Phone #: 206-726-4742 Fax #:
Sampler: Jason Luckett NWRTB-0309152-1-L6
Service Order #: ☐ Non SAR:

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Water (☐ Potable ☐ NPDES)	Matrix: Oil ☐ Air ☐	Total Number of Containers	Preservation Codes	Analyses Requested: BTEX + MTBE 8021 ☐ 8260 ☐ Naphth ☐	8260 full scan	Oxygenates ___	TPH G ___	TPH D ___ ☐ Extended Rng. ☐ Silica Gel Cleanup	Lead Total ☐ Diss. ☐ Method ___	VPH/EPH	NWTPH H HCID ☐ quantification	BTEX 8021 GRO AK101	DRO/RRO AK102/AK103	MTBE EDB 8260	Total Lead/Pb 6020B/8270 SIM
~~BD-1~~ SB-2 - 12.0	8/27/10	3:55	X		X			4										X	X	X	X
SB-2 - 20.0	8/27/10	5:00	X		X			4										X	X	X	X
SB-1 - 12.0	8/28/10	0830	X		X			4										X	X	X	X
SB-1 20.0	8/28/10	0900	X		X			4										X	X	X	X
BD-1	8/28/10		X		X			4										X	X	X	X
MW-13 - 10.0	8/28/10	1130	X		X			4										X	X	X	X
MW-13 - 20.0	8/28/10	1200	X		X			4										X	X	X	X
MW-12 - 14.0	8/28/10	1520	X		X			4										X	X	X	X
MW-12 - 16.0	8/28/10	1540	X		X			4										X	X	X	X
MW-12 - 24.0	8/28/10	1600	X		X			4										X	X	X	X
BD-2	8/28/10		X		X			4										X	X	X	X

Preservative Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 O = Other

☐ 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

Comments / Remarks

Turnaround Time Requested (TAT) (please circle)
STD. TAT 72 hour 48 hour
24 hour 4 day 5 day

Data Package Options (please circle if required)
QC Summary Type I - Full
Type VI (Raw Data) Disk / EDD
WIP (RWQCB) Standard Format
Disk _____ Other.

Relinquished by:	Date	Time	Received by:	Date	Time
	8/31/10	1113			
	8/30/10	0900			
Relinquished by Commercial Carrier: UPS FedEx Other			Received by:	8/31/10	0900
Temperature Upon Receipt 0.9-5.1 C°			Custody Seals Intact? Yes No		

Lancaster Laboratories

Environmental Sample Administration
Receipt Documentation Log

Client/Project: Chevron

Date of Receipt: 8/31/10

Time of Receipt: 0900

Source Code: SO-1

Unpacker Emp. No.: 2241

Shipping Container Sealed: (YES) NO

Custody Seal Present * : (YES) NO

* Custody seal was intact unless otherwise noted in the discrepancy section

Package: (Chilled) Not Chilled

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	9422	0.9	TB	WI	Y	B	
2	"	3.2	"	"	"	"	
3	"	5.1	"	"	"	"	
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody: 1 (HCl)

Paperwork Discrepancy/Unpacking Problems:

Sample Administration Internal Chain of Custody			
Name	Date	Time	Reason for Transfer
[signature]	8/31/10	1330	Unpacking / Storage
Mary Beth Reed	8/31/10	1347	Place in Storage or (Entry)
			Entry
			Entry

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
ug	microgram(s)	**mg**	milligram(s)
ml	milliliter(s)	**l**	liter(s)
m3	cubic meter(s)	**ul**	microliter(s)

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

J estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

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 of gas 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.

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike sample not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC 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.

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Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

September 09, 2010

Project: 309152

Submittal Date: 08/27/2010
Group Number: 1209431
SDG: LSS16
PO Number: 0015060864
Release Number: CARRIER
State of Sample Origin: AK

Client Sample Description	Lancaster Labs (LLI) #
Surface-1-W Grab Water Sample	6071421
Surface-2-W Grab Water Sample	6071422
BD-1 Grab Water Sample	6071423
TB-1 Water Sample	6071424

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

ELECTRONIC COPY TO	Arcadis	Attn: Greg Montgomery
ELECTRONIC COPY TO	Arcadis	Attn: Russ Greisler
1 COPY TO	Data Package Group	

Lancaster Laboratories

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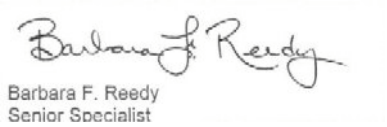
Analysis Report

Questions? Contact your Client Services Representative
Jill M Parker at (717) 656-2300 Ext. 1241

Respectfully Submitted,



Barbara F. Reedy
Senior Specialist

Lancaster Laboratories

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Analysis Report

Sample Description: Surface-1-W Grab Water Sample
Facility# 309152
6223 Old Airport Rd. - Fairbanks, AK

LLI Sample # WW 6071421
LLI Group # 1209431
Account # 11964

Project Name: 309152

Collected: 08/25/2010 12:48 by AO

Submitted: 08/27/2010 09:00
Reported: 09/09/2010 10:12
Discard: 10/10/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OAFS1 SDG#: LSS16-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/l**	**mg/l**	
08357	Acenaphthene	83-32-9	N.D.	0.0000098	1
08357	Acenaphthylene	208-96-8	N.D.	0.0000098	1
08357	Anthracene	120-12-7	N.D.	0.0000098	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.0000098	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.0000098	1
08357	Benzo(b)fluoranthene	205-99-2	0.000016	0.0000098	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.0000098	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.0000098	1
08357	Chrysene	218-01-9	0.000019	0.0000098	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.0000098	1
08357	Fluoranthene	206-44-0	0.000038	0.0000098	1
08357	Fluorene	86-73-7	N.D.	0.0000098	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.0000098	1
08357	Naphthalene	91-20-3	0.000016	0.0000098	1
08357	Phenanthrene	85-01-8	0.000022	0.0000098	1
08357	Pyrene	129-00-0	0.000015	0.0000098	1
GC Volatiles	**SW-846 8021B**		**mg/l**	**mg/l**	
01588	Benzene	71-43-2	N.D.	0.0005	1
01588	Ethylbenzene	100-41-4	N.D.	0.0005	1
01588	Toluene	108-88-3	N.D.	0.0005	1
01588	Total xylenes	1330-20-7	N.D.	0.0015	1

General 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
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	10240WAH026	09/04/2010 08:05	Linda M Hartenstine	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	10240WAH026	08/30/2010 10:15	Kerrie A Freeburn	1
01146	GC VOA Water Prep	SW-846 5030B	1	10242B53A	08/31/2010 21:07	Katrina T Longenecker	1
01588	BTEX	SW-846 8021B	1	10242B53A	08/31/2010 21:07	Katrina T Longenecker	1

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Analysis Report

Sample Description: Surface-2-W Grab Water Sample
Facility# 309152
6223 Old Airport Rd. - Fairbanks, AK

LLI Sample # WW 6071422
LLI Group # 1209431
Account # 11964

Project Name: 309152

Collected: 08/25/2010 13:10 by AO

Submitted: 08/27/2010 09:00
Reported: 09/09/2010 10:12
Discard: 10/10/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OAFS2 SDG#: LSS16-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/l**	**mg/l**	
08357	Acenaphthene	83-32-9	N.D.	0.0000097	1
08357	Acenaphthylene	208-96-8	N.D.	0.0000097	1
08357	Anthracene	120-12-7	N.D.	0.0000097	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.0000097	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.0000097	1
08357	Benzo(b)fluoranthene	205-99-2	N.D.	0.0000097	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.0000097	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.0000097	1
08357	Chrysene	218-01-9	N.D.	0.0000097	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.0000097	1
08357	Fluoranthene	206-44-0	0.000012	0.0000097	1
08357	Fluorene	86-73-7	N.D.	0.0000097	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.0000097	1
08357	Naphthalene	91-20-3	0.000041	0.0000097	1
08357	Phenanthrene	85-01-8	0.000012	0.0000097	1
08357	Pyrene	129-00-0	N.D.	0.0000097	1
GC Volatiles	**SW-846 8021B**		**mg/l**	**mg/l**	
01588	Benzene	71-43-2	N.D.	0.0005	1
01588	Ethylbenzene	100-41-4	N.D.	0.0005	1
01588	Toluene	108-88-3	N.D.	0.0005	1
01588	Total xylenes	1330-20-7	N.D.	0.0015	1

General 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
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	10240WAH026	09/04/2010 08:38	Linda M Hartenstine	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	10240WAH026	08/30/2010 10:15	Kerrie A Freeburn	1
01146	GC VOA Water Prep	SW-846 5030B	1	10242B53A	08/31/2010 21:32	Katrina T Longenecker	1
01588	BTEX	SW-846 8021B	1	10242B53A	08/31/2010 21:32	Katrina T Longenecker	1

Lancaster Laboratories

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Analysis Report

Sample Description: BD-1 Grab Water Sample
Facility# 309152
6223 Old Airport Rd. - Fairbanks, AK

LLI Sample # WW 6071423
LLI Group # 1209431
Account # 11964

Project Name: 309152

Collected: 08/25/2010 by AO

Submitted: 08/27/2010 09:00
Reported: 09/09/2010 10:12
Discard: 10/10/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OAFFD SDG#: LSS16-03FD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS Semivolatiles	**SW-846 8270C SIM**		**mg/l**	**mg/l**	
08357	Acenaphthene	83-32-9	N.D.	0.0000096	1
08357	Acenaphthylene	208-96-8	N.D.	0.0000096	1
08357	Anthracene	120-12-7	N.D.	0.0000096	1
08357	Benzo(a)anthracene	56-55-3	N.D.	0.0000096	1
08357	Benzo(a)pyrene	50-32-8	N.D.	0.0000096	1
08357	Benzo(b)fluoranthene	205-99-2	0.000015	0.0000096	1
08357	Benzo(g,h,i)perylene	191-24-2	N.D.	0.0000096	1
08357	Benzo(k)fluoranthene	207-08-9	N.D.	0.0000096	1
08357	Chrysene	218-01-9	0.000017	0.0000096	1
08357	Dibenz(a,h)anthracene	53-70-3	N.D.	0.0000096	1
08357	Fluoranthene	206-44-0	0.000037	0.0000096	1
08357	Fluorene	86-73-7	N.D.	0.0000096	1
08357	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.0000096	1
08357	Naphthalene	91-20-3	0.000018	0.0000096	1
08357	Phenanthrene	85-01-8	0.000022	0.0000096	1
08357	Pyrene	129-00-0	0.000016	0.0000096	1
GC Volatiles	**SW-846 8021B**		**mg/l**	**mg/l**	
01588	Benzene	71-43-2	N.D.	0.0005	1
01588	Ethylbenzene	100-41-4	N.D.	0.0005	1
01588	Toluene	108-88-3	N.D.	0.0005	1
01588	Total xylenes	1330-20-7	N.D.	0.0015	1

General 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
08357	PAHs in waters by SIM	SW-846 8270C SIM	1	10240WAH026	09/04/2010 09:09	Linda M Hartenstine	1
10470	BNA Water Extraction (SIM)	SW-846 3510C	1	10240WAH026	08/30/2010 10:15	Kerrie A Freeburn	1
01146	GC VOA Water Prep	SW-846 5030B	1	10242B53A	08/31/2010 21:56	Katrina T Longenecker	1
01588	BTEX	SW-846 8021B	1	10242B53A	08/31/2010 21:56	Katrina T Longenecker	1

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2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Analysis Report

Sample Description: TB-1 Water Sample
Facility# 309152
6223 Old Airport Rd. - Fairbanks, AK

LLI Sample # WW 6071424
LLI Group # 1209431
Account # 11964

Project Name: 309152

Collected: 08/25/2010

Submitted: 08/27/2010 09:00
Reported: 09/09/2010 10:12
Discard: 10/10/2010

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

OAFTB SDG#: LSS16-04TB*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles	**SW-846 8021B**		**mg/l**	**mg/l**	
01588	Benzene	71-43-2	N.D.	0.0005	1
01588	Ethylbenzene	100-41-4	N.D.	0.0005	1
01588	Toluene	108-88-3	N.D.	0.0005	1
01588	Total xylenes	1330-20-7	N.D.	0.0015	1

General 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
01146	GC VOA Water Prep	SW-846 5030B	1	10242B53A	08/31/2010 13:40	Katrina T Longenecker	1
01588	BTEX	SW-846 8021B	1	10242B53A	08/31/2010 13:40	Katrina T Longenecker	1

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Analysis Report

Quality Control Summary

Client Name: Chevron Group Number: 1209431
Reported: 09/09/10 at 10:12 AM

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.

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 10240WAH026	Sample number(s): 6071421-6071423							
Acenaphthene	N.D.	0.00001 0	mg/l	99	89	74-109	11	30
Acenaphthylene	N.D.	0.00001 0	mg/l	107	95	70-110	12	30
Anthracene	N.D.	0.00001 0	mg/l	99	85	66-111	15	30
Benzo(a)anthracene	N.D.	0.00001 0	mg/l	101	92	72-114	10	30
Benzo(a)pyrene	N.D.	0.00001 0	mg/l	95	87	64-115	9	30
Benzo(b)fluoranthene	N.D.	0.00001 0	mg/l	103	94	69-123	9	30
Benzo(g,h,i)perylene	N.D.	0.00001 0	mg/l	97	90	68-125	7	30
Benzo(k)fluoranthene	N.D.	0.00001 0	mg/l	91	85	72-122	7	30
Chrysene	N.D.	0.00001 0	mg/l	98	91	76-116	8	30
Dibenz(a,h)anthracene	N.D.	0.00001 0	mg/l	100	93	71-125	7	30
Fluoranthene	N.D.	0.00001 0	mg/l	103	94	75-116	10	30
Fluorene	N.D.	0.00001 0	mg/l	100	90	75-114	11	30
Indeno(1,2,3-cd)pyrene	N.D.	0.00001 0	mg/l	98	91	69-124	8	30
Naphthalene	N.D.	0.00001 0	mg/l	91	83	72-109	9	30
Phenanthrene	N.D.	0.00001 0	mg/l	98	89	76-111	10	30
Pyrene	N.D.	0.00001 0	mg/l	100	91	69-118	9	30
Batch number: 10242B53A	Sample number(s): 6071421-6071424							
Benzene	N.D.	0.0005	mg/l	110	110	80-120	0	30
Ethylbenzene	N.D.	0.0005	mg/l	105	105	80-120	0	30
Toluene	N.D.	0.0005	mg/l	110	105	80-120	5	30
Total xylenes	N.D.	0.0015	mg/l	108	107	80-120	2	30

Sample Matrix Quality Control

*- Outside of specification
(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.

Quality Control Summary

Client Name: Chevron Group Number: 1209431
Reported: 09/09/10 at 10:12 AM
Unspiked (UNSPK) = the sample used in conjunction with the matrix spike
Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: 10242B53A	Sample number(s): 6071421-6071424 UNSPK: P070921								
Benzene	110		80-152						
Ethylbenzene	115		80-133						
Toluene	115		80-133						
Total xylenes	115		80-148						

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.

Analysis Name: PAHs in waters by SIM
Batch number: 10240WAH026

	Nitrobenzene-d5	2-Fluorobiphenyl	Terphenyl-d14
6071421	108	94	84
6071422	109	93	82
6071423	115	97	83
Blank	108	119	114
LCS	92	101	93
LCSD	85	90	86
Limits:	64-147	68-132	53-129

Analysis Name: BTEX
Batch number: 10242B53A

	Trifluorotoluene-P
6071421	87
6071422	86
6071423	86
6071424	88
Blank	87
LCS	89
LCSD	90
MS	88
Limits:	58-146

*- Outside of specification
(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.

Chevron Generic Analysis Request/Chain of Custody

Lancaster Laboratories
Where quality is a science.

Acct. #: 11964 For Lancaster Laboratories use only Sample #: 607142I-24 SCR#: 014472 94574

NWRTB-030915Z-1-LAB

G# 1209431

Facility #: 309152
Site Address: 6223 Old Airport Rd. Fairbanks, AK
Chevron PM: Dan Carrier Lead Consultant: ARCADIS
Consultant/Office: Seattle, WA
Consultant Prj. Mgr.: Greg Montgomery
Consultant Phone #: 206-726-4742 Fax #:
Sampler: A. Chut / J. DeJong
Service Order #: ☐ Non SAR:

Analyses Requested

Preservation Codes

Preservative Codes
H = HCl T = Thiosulfate
N = HNO_3 B = NaOH
S = H_2SO_4 O = Other

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Water	Matrix: Oil	Matrix: Air	Total Number of Containers	BTEX + MTBE 8021 ☒ 8260 ☐ Naphth ☐ (H)	8260 full scan	Oxygenates	TPH G	TPH D ☐ Extended Rng. ☐ Silica Gel Cleanup	Lead Total ☐ Diss. ☐ Method	VPH/EPH	NWTPH H HCID ☐ quantification	PAHs by EPA 8270 (*)			
Surface-1-W	8/25/10	1248	X			X			4	X								X			
Surface-2-W	8/25/10	1310	X			X			5	X								X			
BD-1	8/25/10	—	X			X			4	X								X			
TB-1	—	—	X			X			2	X											

Comments / Remarks

* PAHs by SIM per Russ Greisler on 8/27/10 jmp 8/30/10

Turnaround Time Requested (TAT) (please circle)
STD. TAT 72 hour 48 hour
24 hour 4 day 5 day

Data Package Options (please circle if required)
QC Summary Type I - Full
Type VI (Raw Data) Disk / EDD
WIP (RWQCB) Standard Format
Disk _____ Other

	Date	Time		Date	Time
Relinquished by:	8/26/10	1053	Received by:		
Relinquished by:	8/26	800	Received by:		
Relinquished by:			Received by:		
Relinquished by Commercial Carrier: UPS FedEx Other			Received by:	8/27/10	0900
Temperature Upon Receipt 1.6 C°			Custody Seals Intact? Yes No		

Lancaster Laboratories

Environmental Sample Administration
Receipt Documentation Log

Client/Project: Arcadis

Date of Receipt: 8/27/10

Time of Receipt: 0900

Source Code: 50-1

Unpacker Emp. No.: 1326

Shipping Container Sealed: (YES) NO

Custody Seal Present * : (YES) NO

* Custody seal was intact unless otherwise noted in the discrepancy section

Package: (Chilled) Not Chilled

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	9493	1.6°C	TB	WI	Y	B	
2							
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody: 0

Paperwork Discrepancy/Unpacking Problems:

Sample Administration Internal Chain of Custody			
Name	Date	Time	Reason for Transfer
Tammy Delaul	8/27/10	1326	Unpacking to storage
Tammy Delaul	8/27/10	1507	Place in Storage or (Entry)
			Entry
			Entry

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
ug	microgram(s)	**mg**	milligram(s)
ml	milliliter(s)	**l**	liter(s)
m3	cubic meter(s)	**ul**	microliter(s)

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

J estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

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 of gas 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.

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike sample not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC 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.

ARCADIS

Appendix E

ADEC Data Review Checklists

Laboratory Data Review Checklist

Completed by: Russell Greisler

Title: Geologist II Date: December 8, 2010

CS Report Name: 2010 Site Assessment Report Report Date: June 7, 2011

Consultant Firm: ARCADIS

Laboratory Name: Lancaster Laboratories Laboratory Report Number: 1209431

ADEC File Number: 100.38.206 ADEC RecKey Number:

1. Laboratory
   a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?
      □Yes □ No □NA (Please explain.) Comments:

      Yes

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?
      □Yes □ No □NA (Please explain.) Comments:

      N/A

2. Chain of Custody (COC)
   a. COC information completed, signed, and dated (including released/received by)?
      □Yes □ No □NA (Please explain.) Comments:

      Yes

   b. Correct analyses requested?
      □Yes □ No □NA (Please explain.) Comments:

      PAH analysis by 8270C SIM requested after sample submittal to laboratory.

3. Laboratory Sample Receipt Documentation
   a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?
      □Yes □ No □NA (Please explain.) Comments:

      No – samples received at a temperature of 1.6° C

   b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?
      □Yes □ No □NA (Please explain.) Comments:

      Yes

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?
□Yes □ No □NA (Please explain.) Comments:

No

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 □NA (Please explain.) Comments:

No

e. Data quality or usability affected? (Please explain.)
Comments:

N/A

4. Case Narrative
   a. Present and understandable?
   □Yes □ No □NA (Please explain.) Comments:

Yes

   b. Discrepancies, errors or QC failures identified by the lab?
   □Yes □ No □NA (Please explain.) Comments:

No

   c. Were all corrective actions documented?
   □Yes □ No □NA (Please explain.) Comments:

N/A

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

Data quality/usability does not appear to be affected.

5. Samples Results
   a. Correct analyses performed/reported as requested on COC?
   □Yes □ No □NA (Please explain.) Comments:

Yes

   b. All applicable holding times met?
   □Yes □ No □NA (Please explain.) Comments:

Yes

c. All soils reported on a dry weight basis?
□Yes □ No □NA (Please explain.) Comments:

N/A

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?
□Yes □ No □NA (Please explain.) Comments:

Yes

e. Data quality or usability affected?
Comments:

N/A

6. QC Samples
   a. Method Blank
      i. One method blank reported per matrix, analysis and 20 samples?
      □Yes □ No □NA (Please explain.) Comments:

Yes

      ii. All method blank results less than PQL?
      □Yes □ No □NA (Please explain.) Comments:

Yes

      iii. If above PQL, what samples are affected?
      Comments:

N/A

      iv. Do the affected sample(s) have data flags and if so, are the data flags clearly defined?
      □Yes □ No □NA (Please explain.) Comments:

N/A

      v. Data quality or usability affected? (Please explain.)
      Comments:

N/A

   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 □NA (Please explain.) Comments:

Yes

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

□Yes □ No □NA (Please explain.) Comments:

N/A

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 □NA (Please explain.) Comments:

Yes

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 □NA (Please explain.) Comments:

Yes

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

Comments:

N/A

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

□Yes □ No □NA (Please explain.) Comments:

N/A

vii. Data quality or usability affected? (Use comment box to explain.)

Comments:

N/A

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?

□Yes □ No □NA (Please explain.) Comments:

Yes

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 □NA (Please explain.) Comments:

Yes

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

□Yes □ No □NA (Please explain.) Comments:

No

iv. Data quality or usability affected? (Use the comment box to explain.)

Comments:

Data quality or usability not affected.

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (If not, enter explanation below.)

□Yes □ No □NA (Please explain.) Comments:

Yes

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 □NA (Please explain.) Comments:

No, the specific cooler containing trip blanks are not identified on COC.

iii. All results less than PQL?

□Yes □ No □NA (Please explain.) Comments:

Yes

iv. If above PQL, what samples are affected?

Comments:

N/A

v. Data quality or usability affected? (Please explain.)

Comments:

N/A

e. Field Duplicate

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

□Yes □ No □NA (Please explain.) Comments:

Yes

ii. Submitted blind to lab?

□Yes □ No □NA (Please explain.) Comments:

Yes

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 □NA (Please explain.) Comments:

Yes

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

Comments:

Data not affected.

f. Decontamination or Equipment Blank (If not used explain why).

□Yes □ No □NA (Please explain.) Comments:

N/A.

i. All results less than PQL?

□Yes □ No □NA (Please explain.) Comments:

N/A

ii. If above PQL, what samples are affected?

Comments:

N/A

iii. Data quality or usability affected? (Please explain.)

Comments:

N/A

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

a. Defined and appropriate?

□Yes □ No □NA (Please explain.) Comments:

N/A

Laboratory Data Review Checklist

Completed by: Russell Greisler

Title: Geologist II Date: December 9, 2010

CS Report Name: 2010 Site Assessment Report Report Date: June 7, 2011

Consultant Firm: ARCADIS

Laboratory Name: Lancaster Laboratories Laboratory Report Number: 1209433

ADEC File Number: 100.38.206 ADEC RecKey Number:

1. Laboratory
   a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?
      □Yes □ No □NA (Please explain.) Comments:

      Yes

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?
      □Yes □ No □NA (Please explain.) Comments:

      N/A

2. Chain of Custody (COC)
   a. COC information completed, signed, and dated (including released/received by)?
      □Yes □ No □NA (Please explain.) Comments:

      Yes

   b. Correct analyses requested?
      □Yes □ No □NA (Please explain.) Comments:

      EDB analysis by 8260B and PAH analysis by 8270C SIM requested after sample submittal to laboratory.

3. Laboratory Sample Receipt Documentation
   a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?
      □Yes □ No □NA (Please explain.) Comments:

      Yes – samples received at a temperature of 3.2° C

   b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

      Yes

□Yes □ No □NA (Please explain.) Comments:

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?
□Yes □ No □NA (Please explain.) Comments:

No

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 □NA (Please explain.) Comments:

No

e. Data quality or usability affected? (Please explain.)
Comments:

N/A

4. Case Narrative
   a. Present and understandable?
   □Yes □ No □NA (Please explain.) Comments:

Yes

   b. Discrepancies, errors or QC failures identified by the lab?
   □Yes □ No □NA (Please explain.) Comments:

Yes – for samples analyzed via 8260B: "The GC/MS volatile internal standard peak areas were outside the QC limits for both the initial analysis and the re-analysis. The values reported here are from the initial analysis of the sample."

   c. Were all corrective actions documented?
   □Yes □ No □NA (Please explain.) Comments:

Corrective action not documented

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

Unknown.

5. Samples Results
   a. Correct analyses performed/reported as requested on COC?
   □Yes □ No □NA (Please explain.) Comments:

Yes

   b. All applicable holding times met?

Yes

□Yes □ No □NA (Please explain.) Comments:

c. All soils reported on a dry weight basis?
□Yes □ No □NA (Please explain.) Comments:

Yes

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?
□Yes □ No □NA (Please explain.) Comments:

N/A – the sediment data is not being compared to the ADEC CL but rather the respective NOAA Threshold Effects Level (TEL).

e. Data quality or usability affected?
Comments:

N/A

6. QC Samples
   a. Method Blank
      i. One method blank reported per matrix, analysis and 20 samples?
      □Yes □ No □NA (Please explain.) Comments:

Yes

      ii. All method blank results less than PQL?
      □Yes □ No □NA (Please explain.) Comments:

Yes

      iii. If above PQL, what samples are affected?
      Comments:

N/A

      iv. Do the affected sample(s) have data flags and if so, are the data flags clearly defined?
      □Yes □ No □NA (Please explain.) Comments:

N/A

      v. Data quality or usability affected? (Please explain.)
      Comments:

N/A

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 □NA (Please explain.) Comments:

Yes

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
□Yes □ No □NA (Please explain.) Comments:

Yes

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 □NA (Please explain.) Comments:

No – MS recovery for RRO outside specifications for samples Sediment-1 through Sediment-4 and BD-1.

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 □NA (Please explain.) Comments:

Yes

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

N/A

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
□Yes □ No □NA (Please explain.) Comments:

N/A

vii. Data quality or usability affected? (Use comment box to explain.)
Comments:

N/A

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?
□Yes □ No □NA (Please explain.) Comments:

Yes

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 □NA (Please explain.) Comments:

No – surrogate orthoterphenyl recovery for DRO/RRO analysis in sample Sediment-4 is outside specification.

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

□Yes □ No □NA (Please explain.) Comments:

No

iv. Data quality or usability affected? (Use the comment box to explain.)

Comments:

Unknown.

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): <u>Water and Soil</u>

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (If not, enter explanation below.)

□Yes □ No □NA (Please explain.) Comments:

No

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 □NA (Please explain.) Comments:

N/A

iii. All results less than PQL?

□Yes □ No □NA (Please explain.) Comments:

N/A

iv. If above PQL, what samples are affected?

Comments:

N/A

v. Data quality or usability affected? (Please explain.)

Comments:

N/A

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?
□Yes □ No □NA (Please explain.) Comments:

Yes

ii. Submitted blind to lab?
□Yes □ No □NA (Please explain.) Comments:

Yes

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 □NA (Please explain.) Comments:

No – acenaphthylene (53%), benzo(a)pyrene (57%), benzo(b)fluoranthene (55%), benzo(k)fluoranthene (63%), DRO (81%), and RRO (70%)

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

Comments:

unknown.

f. Decontamination or Equipment Blank (If not used explain why).

□Yes □ No □NA (Please explain.) Comments:

No

i. All results less than PQL?

□Yes □ No □NA (Please explain.) Comments:

N/A – the sediment data is not being compared to the ADEC CL but rather the respective NOAA Threshold Effects Level (TEL).

ii. If above PQL, what samples are affected?

Comments:

N/A

iii. Data quality or usability affected? (Please explain.)

Comments:

N/A

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)
   a. Defined and appropriate?
      □Yes □ No □NA (Please explain.) Comments:

N/A

Laboratory Data Review Checklist

Completed by: Russell Greisler

Title: Geologist II Date: December 9, 2010

CS Report Name: 2010 Site Assessment Report Report Date: June 7, 2011

Consultant Firm: ARCADIS

Laboratory Name: Lancaster Laboratories Laboratory Report Number: 1209537

ADEC File Number: 100.38.206 ADEC RecKey Number:

1. Laboratory
   a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?
      □Yes □ No □NA (Please explain.) Comments:

      Yes

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?
      □Yes □ No □NA (Please explain.) Comments:

      N/A

2. Chain of Custody (COC)
   a. COC information completed, signed, and dated (including released/received by)?
      □Yes □ No □NA (Please explain.) Comments:

      Yes

   b. Correct analyses requested?
      □Yes □ No □NA (Please explain.) Comments:

      Yes

3. Laboratory Sample Receipt Documentation
   a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?
      □Yes □ No □NA (Please explain.) Comments:

      No – samples received at a temperature of 0.8° C

   b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?
      □Yes □ No □NA (Please explain.) Comments:

      Yes

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?
□Yes □ No □NA (Please explain.) Comments:

No

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 □NA (Please explain.) Comments:

No

e. Data quality or usability affected? (Please explain.)
Comments:

N/A

4. Case Narrative
   a. Present and understandable?
   □Yes □ No □NA (Please explain.) Comments:

Yes

   b. Discrepancies, errors or QC failures identified by the lab?
   □Yes □ No □NA (Please explain.) Comments:

No

   c. Were all corrective actions documented?
   □Yes □ No □NA (Please explain.) Comments:

N/A

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

N/A

5. Samples Results
   a. Correct analyses performed/reported as requested on COC?
   □Yes □ No □NA (Please explain.) Comments:

Yes

   b. All applicable holding times met?
   □Yes □ No □NA (Please explain.) Comments:

Yes

c. All soils reported on a dry weight basis?
□Yes □ No □NA (Please explain.) Comments:

Yes

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?
□Yes □ No □NA (Please explain.) Comments:

No – PQLs for benzene exceeded cleanup level in samples SB-1-2.0 and SB-2-2.0. Benzene was not detected above the PQL, and therefore it is unknown if benzene existed in concentrations above the CL. The duplicate sample collected from SB-2-2.0 did have a reported concentration of benzene above the CL. PQL for 1,2-dibromoethane and 1,2-dichloroethane exceeded the cleanup levels for samples MW-12-2.0, MW-13-2.0, SB-1-2.0, SB-2-2.0, and BD-1-2.0. According to Lancaster Laboratories, GC/MS method 8260B could not achieve a PQL below the cleanup level established, even with no dilution factored in.

e. Data quality or usability affected?
Comments:

Data usability is affected due to the inability to reach the cleanup level using the method. It is unknown if the samples had concentrations of EDB or EDC greater than the CL.

6. QC Samples
   a. Method Blank
      i. One method blank reported per matrix, analysis and 20 samples?
      □Yes □ No □NA (Please explain.) Comments:

Yes

      ii. All method blank results less than PQL?
      □Yes □ No □NA (Please explain.) Comments:

Yes

      iii. If above PQL, what samples are affected?
      Comments:

N/A

      iv. Do the affected sample(s) have data flags and if so, are the data flags clearly defined?
      □Yes □ No □NA (Please explain.) Comments:

N/A

      v. Data quality or usability affected? (Please explain.)
      Comments:

N/A

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 □NA (Please explain.) Comments:

Yes

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
□Yes □ No □NA (Please explain.) Comments:

Yes

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 □NA (Please explain.) Comments:

Yes

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 □NA (Please explain.) Comments:

No – RPD for acenaphthylene was 62%

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

MW-13-2.0, MW-12-2.0, SB-2-2.0, SB-1-2.0, and BD-1-2.0

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
□Yes □ No □NA (Please explain.) Comments:

No

vii. Data quality or usability affected? (Use comment box to explain.)
Comments:

Data quality or usability is not expected to be affected.

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?
□Yes □ No □NA (Please explain.) Comments:

Yes

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 □NA (Please explain.) Comments:

No – surrogates outside specifications for GRO and PAH analysis for samples SB-2-2.0, SB-1-2.0, and BD-1-2.0; surrogates outside specifications for DRO/RRO analysis for samples SB-2-2.0 and SB-1-2.0.

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

□Yes □ No □NA (Please explain.) Comments:

No

iv. Data quality or usability affected? (Use the comment box to explain.)

Comments:

Unknown.

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (If not, enter explanation below.)

□Yes □ No □NA (Please explain.) Comments:

No

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 □NA (Please explain.) Comments:

N/A

iii. All results less than PQL?

□Yes □ No □NA (Please explain.) Comments:

N/A

iv. If above PQL, what samples are affected?

Comments:

N/A

v. Data quality or usability affected? (Please explain.)

Comments:

N/A

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?
□Yes □ No □NA (Please explain.) Comments:

Yes

ii. Submitted blind to lab?
□Yes □ No □NA (Please explain.) Comments:

Yes

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 □NA (Please explain.) Comments:

No – acenapththaene, acenaphthylene, anthracene, benzo(b)fluoranthene (55%), chrysene, fluoranthene, fluorene, phenanthrene, pyrene, GRO, and DRO outside the RPD.

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

Comments:

unknown.

f. Decontamination or Equipment Blank (If not used explain why).

□Yes □ No □NA (Please explain.) Comments:

No

i. All results less than PQL?

□Yes □ No □NA (Please explain.) Comments:

N/A

ii. If above PQL, what samples are affected?

Comments:

N/A

iii. Data quality or usability affected? (Please explain.)

Comments:

N/A

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)
   a. Defined and appropriate?
      □Yes □ No □NA (Please explain.) Comments:

N/A

Laboratory Data Review Checklist

Completed by: Russell Greisler

Title: Geologist II Date: December 9, 2010

CS Report Name: 2010 Site Assessment Report Report Date: June 7, 2011

Consultant Firm: ARCADIS

Laboratory Name: Lancaster Laboratories Laboratory Report Number: 1209538

ADEC File Number: 100.38.206 ADEC RecKey Number:

1. Laboratory
   a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?
      □Yes □ No □NA (Please explain.) Comments:

      Yes

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?
      □Yes □ No □NA (Please explain.) Comments:

      N/A

2. Chain of Custody (COC)
   a. COC information completed, signed, and dated (including released/received by)?
      □Yes □ No □NA (Please explain.) Comments:

      Yes

   b. Correct analyses requested?
      □Yes □ No □NA (Please explain.) Comments:

      Yes

3. Laboratory Sample Receipt Documentation
   a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?
      □Yes □ No □NA (Please explain.) Comments:

      No – samples received at a temperature of 0.8° C

   b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?
      □Yes □ No □NA (Please explain.) Comments:

      Yes

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?
□Yes □ No □NA (Please explain.) Comments:

No

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 □NA (Please explain.) Comments:

No

e. Data quality or usability affected? (Please explain.)
Comments:

N/A

4. Case Narrative
   a. Present and understandable?
   □Yes □ No □NA (Please explain.) Comments:

Yes

   b. Discrepancies, errors or QC failures identified by the lab?
   □Yes □ No □NA (Please explain.) Comments:

"The response for DRO in the calibration check standard analyzed before the sample was outside the 25% difference criteria at 27%. The recovery is low enough to ensure no adverse affect on the data.

   c. Were all corrective actions documented?
   □Yes □ No □NA (Please explain.) Comments:

No

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

Quality and/or usability not expected to be affected.

5. Samples Results
   a. Correct analyses performed/reported as requested on COC?
   □Yes □ No □NA (Please explain.) Comments:

Yes

   b. All applicable holding times met?
   □Yes □ No □NA (Please explain.) Comments:

Yes

c. All soils reported on a dry weight basis?
□Yes □ No □NA (Please explain.) Comments:

Yes

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?
□Yes □ No □NA (Please explain.) Comments:

Yes

e. Data quality or usability affected?
Comments:

N/A

6. QC Samples
   a. Method Blank
      i. One method blank reported per matrix, analysis and 20 samples?
      □Yes □ No □NA (Please explain.) Comments:

Yes

      ii. All method blank results less than PQL?
      □Yes □ No □NA (Please explain.) Comments:

Yes

      iii. If above PQL, what samples are affected?
      Comments:

N/A

      iv. Do the affected sample(s) have data flags and if so, are the data flags clearly defined?
      □Yes □ No □NA (Please explain.) Comments:

N/A

      v. Data quality or usability affected? (Please explain.)
      Comments:

N/A

   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

□Yes □ No □NA (Please explain.) Comments:

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
□Yes □ No □NA (Please explain.) Comments:

N/A

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 □NA (Please explain.) Comments:

Yes

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 □NA (Please explain.) Comments:

No – RPD for DRO was 61%

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

HA-1 and HA-2

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
□Yes □ No □NA (Please explain.) Comments:

No

vii. Data quality or usability affected? (Use comment box to explain.)
Comments:

Data quality or usability is not expected to be affected.

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?
□Yes □ No □NA (Please explain.) Comments:

Yes

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)

No – the surrogate orthoterphenyl was outside specification for DRO/RRO analysis from samples HA-1 and HA-2

□Yes □ No □NA (Please explain.) Comments:

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?
□Yes □ No □NA (Please explain.) Comments:

No

iv. Data quality or usability affected? (Use the comment box to explain.)
Comments:

Unknown.

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (If not, enter explanation below.)
□Yes □ No □NA (Please explain.) Comments:

No

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 □NA (Please explain.) Comments:

N/A

iii. All results less than PQL?
□Yes □ No □NA (Please explain.) Comments:

N/A

iv. If above PQL, what samples are affected?
Comments:

N/A

v. Data quality or usability affected? (Please explain.)
Comments:

N/A

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?
□Yes □ No □NA (Please explain.) Comments:

No

ii. Submitted blind to lab?

□Yes □ No □NA (Please explain.) Comments:

N/A

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 □NA (Please explain.) Comments:

N/A

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

Comments:

N/A

f. Decontamination or Equipment Blank (If not used explain why).

□Yes □ No □NA (Please explain.) Comments:

No

i. All results less than PQL?

□Yes □ No □NA (Please explain.) Comments:

N/A

ii. If above PQL, what samples are affected?

Comments:

N/A

iii. Data quality or usability affected? (Please explain.)

Comments:

N/A

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

a. Defined and appropriate?

□Yes □ No □NA (Please explain.) Comments:

N/A

Laboratory Data Review Checklist

Completed by: Russell Greisler

Title: Geologist II Date: December 9, 2010

CS Report Name: 2010 Site Assessment Report Report Date: June 7, 2011

Consultant Firm: ARCADIS

Laboratory Name: Lancaster Laboratories Laboratory Report Number: 1209761

ADEC File Number: 100.38.206 ADEC RecKey Number:

1. Laboratory
   a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?
      □Yes □ No □NA (Please explain.) Comments:

      Yes

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?
      □Yes □ No □NA (Please explain.) Comments:

      N/A

2. Chain of Custody (COC)
   a. COC information completed, signed, and dated (including released/received by)?
      □Yes □ No □NA (Please explain.) Comments:

      Yes

   b. Correct analyses requested?
      □Yes □ No □NA (Please explain.) Comments:

      Yes

3. Laboratory Sample Receipt Documentation
   a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?
      □Yes □ No □NA (Please explain.) Comments:

      No – samples received at a temperature ranging between 0.9° C and 5.1° C

   b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?
      □Yes □ No □NA (Please explain.) Comments:

      Yes

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?
□Yes □ No □NA (Please explain.) Comments:

No

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 □NA (Please explain.) Comments:

One trip blank received not listed on COC

e. Data quality or usability affected? (Please explain.)
Comments:

No

4. Case Narrative
   a. Present and understandable?
   □Yes □ No □NA (Please explain.) Comments:

Yes

   b. Discrepancies, errors or QC failures identified by the lab?
   □Yes □ No □NA (Please explain.) Comments:

No

   c. Were all corrective actions documented?
   □Yes □ No □NA (Please explain.) Comments:

N/A

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

N/A

5. Samples Results
   a. Correct analyses performed/reported as requested on COC?
   □Yes □ No □NA (Please explain.) Comments:

Yes

   b. All applicable holding times met?
   □Yes □ No □NA (Please explain.) Comments:

Yes

c. All soils reported on a dry weight basis?
□Yes □ No □NA (Please explain.) Comments:

Yes

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?
□Yes □ No □NA (Please explain.) Comments:

No – PQL for 1,2-dibromoethane and 1,2-dichloroethane exceeded the cleanup levels for samples SB-2-12.0, SB-2-20.0, SB-1-12.0, SB-1-20.0, BD-1, MW-13-10.0, MW-13-20.0, MW-12-14.0, MW-12-16.0, MW-12-24.0, and BD-2. According to Lancaster Laboratories, GC/MS method 8260B could not achieve a PQL below the cleanup level established, even with no dilution factored in.

e. Data quality or usability affected?
Comments:

Data usability is affected due to the inability to reach the cleanup level using the method. It is unknown if the samples had concentrations of EDB or EDC greater than the CL.

6. QC Samples
a. Method Blank
i. One method blank reported per matrix, analysis and 20 samples?
□Yes □ No □NA (Please explain.) Comments:

Yes

ii. All method blank results less than PQL?
□Yes □ No □NA (Please explain.) Comments:

Yes

iii. If above PQL, what samples are affected?
Comments:

N/A

iv. Do the affected sample(s) have data flags and if so, are the data flags clearly defined?
□Yes □ No □NA (Please explain.) Comments:

N/A

v. Data quality or usability affected? (Please explain.)
Comments:

N/A

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 □NA (Please explain.) Comments:

Yes

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?
□Yes □ No □NA (Please explain.) Comments:

Yes

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 □NA (Please explain.) Comments:

Yes

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 □NA (Please explain.) Comments:

No – RPDs for acenaphthene (38%), fluorene (41%), and phenanthrene (35%) were outside specifications.

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

SB-2-12.0, SB-2-20.0, SB-1-12.0, SB-1-20.0, BD-1, MW-13-10.0, MW-13-20.0, MW-12-14.0, MW-12-16.0, MW-12-24.0, and BD-2.

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?
□Yes □ No □NA (Please explain.) Comments:

No

vii. Data quality or usability affected? (Use comment box to explain.)
Comments:

Data quality or usability is not expected to be affected.

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?

Yes

□Yes □ No □NA (Please explain.) 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 □NA (Please explain.) Comments:

No – surrogates outside specifications for VOC and PAH analysis for samples SB-2-12.0, SB-1-12.0, BD-1, and MW-12-16.0; surrogates outside specifications for DRO/RRO analysis for samples SB-1-12.0, BD-1, and MW-12-16.0.

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?
□Yes □ No □NA (Please explain.) Comments:

No

iv. Data quality or usability affected? (Use the comment box to explain.)
Comments:

Unknown.

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (If not, enter explanation below.)
□Yes □ No □NA (Please explain.) Comments:

No

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 □NA (Please explain.) Comments:

N/A

iii. All results less than PQL?
□Yes □ No □NA (Please explain.) Comments:

N/A

iv. If above PQL, what samples are affected?

N/A

Comments:

v. Data quality or usability affected? (Please explain.)

Comments:

N/A

e. Field Duplicate

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

□Yes □ No □NA (Please explain.) Comments:

Yes – two duplicate samples submitted – SB-1-12.0 and BD-1; and MW-12-24.0 and BD-2.

ii. Submitted blind to lab?

□Yes □ No □NA (Please explain.) Comments:

Yes

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

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

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

□Yes □ No □NA (Please explain.) Comments:

No – SB-1-12.0/BD-1: Acenaphthene (120%), acenaphthylene (134%), fluorene (110%), naphthalene (125%), phenanthrene (93%), and DRO (120%).

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

Comments:

unknown.

f. Decontamination or Equipment Blank (If not used explain why).

□Yes □ No □NA (Please explain.) Comments:

No

i. All results less than PQL?

N/A

□Yes □ No □NA (Please explain.) Comments:

ii. If above PQL, what samples are affected?

Comments:

N/A

iii. Data quality or usability affected? (Please explain.)

Comments:

N/A

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)
   a. Defined and appropriate?

□Yes □ No □NA (Please explain.) Comments:

N/A

Laboratory Data Review Checklist

Completed by: Dawn Berube

Title: Scientist I

Date: 01/12/2011

CS Report Name: 309152 Site Assessment Report 2010

Report Date: 06/07/2011

Consultant Firm: ARCADIS

Laboratory Name: Lancaster Laboratories

Laboratory Report Number: 1214428

ADEC File Number: 2100.26.010

ADEC RecKey Number: 2006310127201

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:

      NA

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 (4° ± 2° C)?

☐ Yes ☒ No Comments:

Range 1.3 and 3.7 degrees C

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:

Two 1-liter ambers were received broken (MW-9 and RW-1)

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:

No additional discrepancies were documented.

e. Data quality or usability affected? Explain.

Comments:

Data quality and usability does not appear to be affected.

4. Case Narrative

a. Present and understandable?

☒ Yes ☐ No Comments:

b. Discrepancies, errors or QC failures identified by the lab?

☒ Yes ☐ No Comments:

No

c. Were all corrective actions documented?

☒ Yes ☐ No Comments:

N/A

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

Comments:

N/A

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:

NA

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?

☑ Yes ☐ No Comments:

RRO laboratory method detection limit was above the ADEC GCL for sample MW-9.

e. Data quality or usability affected?

Comments:

Data quality does not appear to be affected with the exception of RRO concentrations in MW-9.

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 PQL?

☑ Yes ☐ No Comments:

iii. If above PQL, what samples are affected?

Comments:

NA

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

☐ Yes ☐ No Comments:

NA

v. Data quality or usability affected? Explain.

Comments:

NA

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:

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:

Duplicate (9100079-Dup1) DRO RPD 36.0 – due to low levels of analytes in the sample, the Duplicated RPD does not provided useful information

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

Comments:

NA

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

☐ Yes ☐ No Comments:

NA

vii. Data quality or usability affected? (Use comment box to explain)

Comments:

Unknown

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?

☐ Yes ☐ No Comments:

NA

iv. Data quality or usability affected? (Use the comment box to explain.)

Comments:

NA

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): <u>Water and Soil</u>

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (if not, enter explanation below.)

☑ 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:

unknown

iii. All results less than PQL?

☑ Yes ☐ No Comments:

iv. If above PQL, what samples are affected?

Comments:

NA

v. Data quality or usability affected? Explain.

Comments:

NA

e. Field Duplicate

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

☐ Yes ☒ No Comments:

Yes

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:

NA

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

Comments:

NA

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 PQL?

☐ Yes ☐ No Comments:

NA

ii. If above PQL, what samples are affected?

Comments:

NA

iii. Data quality or usability affected? Explain.

Comments:

NA

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

a. Defined and appropriate?

☐ Yes ☐ No Comments:

NA

ARCADIS

Appendix F

Bailer-Grab Groundwater Sampling
Standard Operating Procedure

ARCADIS
Infrastructure, environment, buildings

Imagine the result

Bailer-Grab Groundwater Sampling

Rev. #: 0

Rev Date: March 10, 2009

Approval Signatures

Prepared by: _____ Date: 3/10/09
Loren North

Reviewed by: _____ Date: 3/10/09
Michael Gefell (Technical Expert)

I. Scope and Application

The objective of this Standard Operating Procedure (SOP) is to describe the procedure to collect groundwater samples using bailers with no purging of the monitoring well, piezometer, etc. This SOP describes the equipment, field procedures, materials, and documentation procedures necessary to collect groundwater samples by "bailer grab" sampling.

This SOP may be varied or changed, as required, depending on site conditions, equipment limitations, or limitations imposed by the procedure. The ultimate procedure employed will be documented in the project work plans or reports.

II. Personnel Qualifications

Field sampling personnel will have current health and safety training, including 40-hour Hazardous Waste Operations and Emergency Response Standard (HAZWOPER) training, site supervisor training, site-specific training, first aid, and cardiopulmonary resuscitation (CPR), as needed. In addition, field sampling personnel will be versed in the relevant SOPs and possess the required skills and experience necessary to successfully complete the desired field work.

III. Equipment List

- Electronic water-level or oil-water level indicator;
- Plastic sheeting;
- Masking tape;
- Tape measure;
- Appropriate cleaning materials;
- Well keys;
- Bailer;
- Polyethylene or nylon rope;
- Field notebook/logs/forms; and

- Personal protective equipment (PPE), as required by the Health and Safety Plan (HASP).

IV. Cautions

Two types of bailers are available for obtaining grab samples from wells: a point-source bailer; and an open bailer. A point source bailer is constructed of stainless steel and has dual ball valves at the top and bottom which prevent mixing of water with a sample collected at a discrete interval. Open bailers can be stainless steel, Teflon®, PVC, or polyethylene. Disposable open bailers are typically made of polyethylene. An open bailer has one bottom ball valve. After the point-source or open bailer is lowered to the desired depth, the bailer is retrieved upward and the valve(s) retain the sample of water in the bailer. Because the top of the open bailer is exposed to the water in the overlying water column, it is possible that the sample could mix, to some degree with the water column above the bailer upon removal from the well. Thus, open bailers should not be used in situations where a substantial water column length exists above the sampling depth. In addition, bailer grab sampling is not recommended in monitoring wells (or piezometers) containing a floating layer of light, non-aqueous phase liquid (LNAPL), also known as separate phase hydrocarbons.

Avoid introduction of surface soils or other materials by staging down-hole equipment on a clean and dry working surface.

A Shipping Determination must be performed, by DOT-trained personnel, for all environmental and geotechnical samples that are to be shipped, as well as some types of environmental equipment/supplies that are to be shipped.

V. Health and Safety Considerations

Upon opening monitoring wells, monitor well headspace and breathing zone using equipment specified in the HASP. Follow the HASP in terms of PPE and other safety requirements.

VI. Procedure

1. Open the well and obtained a depth to water measurement using a properly decontaminated water level indicator or oil-water level indicator.

2. Based on the depth to water and the total well depth (based on well log, accounting for the “stickup height above grade”), calculate the length of the water column and the depth to the midpoint of the saturated screened or open interval from the top of casing (call this distance Z).

3. Tie an appropriate length of new, disposable polyethylene or nylon rope to a new, disposable or properly decontaminated bailer and, using a tape measure, measure from the midpoint of the bailer up the rope to the distance Z calculated above – mark the rope at this height with a knot or piece of masking tape. Avoid allowing the bailer or the rope to contact the ground surface by placing these on clean plastic sheeting next to the well, if necessary.

4. Slowly lower the bailer into the well; the rate of lowering should be no more than 0.5-ft per second within the water column. When the mark on the rope is at the top of casing, indicating that the midpoint of the bailer is at the midpoint of the saturated screened or open interval, slowly raise and retrieve the bailer from the well.

5. Fill sample vials and bottles as usual. If field filtering of metals samples is required, decant the water from the bailer into a sterile container and use a decontaminated peristaltic pump to pump the water through an appropriate disposable filter, collecting the filtered water directly in the appropriate sample containers. If field parameters are needed, measure them in the sterile container using appropriate field probes, or else use a downhole probe. Collect quality assurance/quality control (QA/QC) samples at the appropriate frequency as required under the standard sampling program. If additional sample volume is required at a well, repeat Step 4; however, repeat deployment of the bailer should be avoided if possible because it could increase sample turbidity and compromise sample quality.

6. Cap the well, properly decontaminate the water level meter or interface probe, and dispose of waste materials.

VII. Waste Management

Decontamination water will be disposed of properly. Rinse water, PPE, and other residuals generated during equipment decontamination will be placed in appropriate containers and labeled.

VIII. Data Recording and Management

Water-level measurements and depth calculations will be documented on the groundwater sampling log and/or the field logbook, including the following information:

- Well designation;
- Water-level measurement time;

- Total well depth;
- Depth to water; and
- Depth to midpoint of saturated screened or open interval.

In addition, the following information regarding the groundwater sample will be recorded:

- Type, size, and construction materials of bailer (point source or open);
- Type of rope;
- Time of sample collection;
- Type and volume of glassware filled, for which analytical methods;
- Field observations regarding groundwater sample (color; odor; presence of sheen, film, or particulate (if any); and
- Field parameter measurements.

IX. Quality Assurance

Depending on data quality objectives and data end use, aqueous QA/QC samples may be obtained.

X. References

N/A

ARCADIS

Appendix G

ADEC Conceptual Site Model

Print Form

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

Site Name: FIA - Block 3 Lot 12 - Saupe Enterprises

File Number: 100.38.206

Completed by: Greg Montgomery, ARCADIS

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:

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:

The site is located on airport property and is supplied by public drinking water. It is reasonable to say that this site will remain commercial/industrial for the foreseeable future

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:

DRO and benzene impacts are detected in monitoring wells in close proximity to a pond. However surface water samples collected from the pond do not exceed for the surface water criteria.

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:

Lead has been detected in the soil and sediment

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:

A warehouse is located onsite, it is used as storage and a workshop.

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 assumed to be protective of this pathway.

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.)

Generally, DEC groundwater cleanup levels in 18 AAC 75, Table C, are assumed to be protective of this pathway.

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

Comments:

Volatile compounds are present however, the impacted water is not used for household purposes

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.
- Chromium is present in soil that can be dispersed as dust particles of any size.

Generally, DEC direct contact soil cleanup levels in Table B1 of 18 AAC 75 are protective of this pathway because it is assumed most dust particles are incidentally ingested instead of inhaled to the lower lungs. The inhalation pathway only needs to be evaluated when very small dust particles are present (e.g., along a dirt roadway or where dusts are a nuisance). This is not true in the case of chromium. Site specific cleanup levels will need to be calculated in the event that inhalation of dust containing chromium is a complete pathway at a site.

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

Comments:

NA

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:

The sediment is not disturbed by people

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

Print Form

HUMAN HEALTH CONCEPTUAL SITE MODEL GRAPHIC FORM

Site: FIA - Block 3 Lot 12 - Saupe Enterprises
100.38.206

Completed By: Greg Montgomery, ARCADIS
Date Completed: March 10, 2011

***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.*

(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.*

Media	Transport Mechanisms	Exposure Media	Exposure Pathway/Route	Current & Future Receptors: Residents (adults or children)	Commercial or industrial workers	Site visitors, trespassers, or recreational users	Construction workers	Farmers or subsistence harvesters	Subsistence consumers	Other
☑ Surface Soil (0-2 ft bgs)	☑ Direct release to surface soil → check soil	☑ soil	☑ Incidental Soil Ingestion		C/F	C/F	F			
	☑ Migration to subsurface → check soil		☑ Dermal Absorption of Contaminants from Soil		I	I	I			
	☑ Migration to groundwater → check groundwater		☐ Inhalation of Fugitive Dust		I	I	I			
	☑ 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	☑ groundwater	☑ Ingestion of Groundwater		F	F	F			
	☑ Migration to groundwater → check groundwater		☐ Dermal Absorption of Contaminants in Groundwater		I	I	I			
	☑ Volatilization → check air		☐ Inhalation of Volatile Compounds in Tap Water		I	I	I			
	☑ Uptake by plants or animals → check biota									
	☐ Other (list):									
☑ Ground-water	☑ Direct release to groundwater → check groundwater	☑ air	☑ Inhalation of Outdoor Air		C/F	C/F	C/F			
	☑ Volatilization → check air		☑ Inhalation of Indoor Air		C/F	C/F	C/F			
	☑ Flow to surface water body → check surface water		☐ Inhalation of Fugitive Dust		I	I	I			
	☑ Flow to sediment → check sediment									
	☑ Uptake by plants or animals → check biota									
	☐ Other (list):									
☑ Surface Water	☑ Direct release to surface water → check surface water	☑ surface water	☐ Ingestion of Surface Water		I	I	I			
	☐ Volatilization → check air		☐ Dermal Absorption of Contaminants in Surface Water		I	I	I			
	☐ Sedimentation → check sediment		☐ Inhalation of Volatile Compounds in Tap Water		I	I	I			
	☐ Uptake by plants or animals → check biota									
	☐ Other (list):									
☑ Sediment	☑ Direct release to sediment → check sediment	☑ sediment	☑ Direct Contact with Sediment		I	I	I			
	☐ Resuspension, runoff, or erosion → check surface water									
	☐ Uptake by plants or animals → check biota									
	☐ Other (list):									
		☑ biota	☐ Ingestion of Wild or Farmed Foods		I	I	I			

Revised, 10/01/2010