ARCADIS BBLES
Infrastructure, environment, facilities

ARCADIS U.S., Inc.
2300 Eastlake Avenue East
Suite 200
Seattle
Washington 98102
Tel 206.325.5254
Fax 206.325.8218
www.arcadis-us.com

ENVIRONMENTAL

Mr. James Frechione
Alaska Department of Environmental Conservation
610 University Avenue
Fairbanks, Alaska 99709

Subject:
2007 Site Assessment Report
Former Chevron Facility 92114
3350 College Road
Fairbanks, Alaska
Reckey: 1992310013301

Date:
January 18, 2008

Contact:
Rebecca K. Andresen

Phone:
206.726.4717

Email:
Rebecca.Andresen
@arcadis-us.com

Our ref:
B0045501

Dear Mr. Frechione:

On behalf of Chevron Environmental Management Company (Chevron), ARCADIS U.S., Inc. (ARCADIS BBLES, formerly known as Blasland, Bouck & Lee, Inc.) has prepared this report for the additional delineation of soil and groundwater impacts conducted in July 2007 at former Chevron Facility 92114, located at 3350 College Road in Fairbanks, Alaska **(Figure 1)**. This report outlines the completion of five monitoring wells, including two monitoring well replacements, and four shallow soil borings near potential source areas as shown on **Figure 2**.

Site Description

Former Chevron Facility 92114 is a vacant lot located in a commercial area. The site operated as the College Auto Service gas station from 1949 to 1974 when the name was changed to Al's Chevron. The station operated as Denny's Chevron from 1975 through 1977 and then as Mike's University Chevron from 1978 through 1986. The site facilities are known to have included six underground storage tanks (USTs) and one above ground storage tank (AST). In 1986, the USTs and buildings associated with the Chevron facility were removed. In 2001, during over-excavation activities, a previously unknown UST and a partially crushed AST were discovered and removed. The UST was in good condition and contained approximately 20 gallons of weathered gasoline. The AST was empty, but contained gasoline at one time as indicated on the labeling on the tank. Approximately 800 tons of hydrocarbon

impacted soil were excavated and removed from site. Known facilities associated with the retail petroleum operations have been removed from the site.

Between 1993 and 2002, 10 monitoring wells, four dual-phase extraction treatment (DPET) wells, 11 direct push air sparge (AS) wells, and 42 soil borings were drilled onsite and offsite. Two of the monitoring wells have been destroyed, and eight remain. The AS wells have not been connected to a system or used for remediation, and cannot currently be located.

The DPET system was operated discontinuously since it was initially started-up on May 27, 2003. The system was taken offline on June 24, 2003, pending receipt of the wastewater discharge permit. Full-time operation of the DPET system began on September 24, 2004. The groundwater extraction (GWE) system was shutdown on June 23, 2005 due to odor complaints. The GWE system was restarted several times briefly, but has been shutdown since August 2005. The SVE system was shut down in February 2007 due to frozen influent SVE lines. Due to the difficulties keeping the system operational, Chevron requested and received permission from ADEC to leave the system deactivated pending an evaluation of alternative remedial options at the site. Quarterly reports were submitted under separate cover, summarizing operation, maintenance, and performance of the DPET system, but have been suspended pending system reactivation or replacement.

Additional Soil Delineation

Very little soil data are present in site files. Dissolved-phase concentrations have remained very stable, despite active remediation, which suggests that a residual source, outside of the influence of the current DPET system, may still be present.

ARCADIS BBLES installed four (4) soil borings (SB-1 through SB-4) at locations as shown on **Figure 2** and described below:

- Soil Borings SB-1 and SB-2 were completed near the former location of the dispenser islands, to evaluate the potential releases from the dispenser pumps.
- Soil Borings SB-3 and SB-4 were completed near the former location of three underground storage tanks, to evaluate potential releases from the USTs.

After each boring location was manually cleared to an approximate depth of 8-feet below ground surface (bgs), the soil borings were advanced to a final depth of 15 feet bgs using a hollow-stem auger rig and a continuous split-spoon soil sampler.

Discrete soil samples were collected approximately every 2 feet bgs, using modified split spoon samplers. The samples were screened in the field using a photoionization detector (PID), and described by the supervising geologist using visual and manual methods of the Unified Soil Classification System (USCS). Soil samples were submitted to an Alaska state-certified laboratory, Lancaster Laboratories (Lancaster) for analysis to determine concentrations of gasoline range organics (GRO) by Alaska Method AK 101, diesel range organics (DRO) by Alaska Method AK 102, and benzene, toluene, ethylbenzene, and total xylenes (BTEX) by US EPA Method 8021B.

Soil Boring Analytical Results

Two samples from each soil boring were submitted to the laboratory for analysis of the constituents described above. From SB-1 and SB-2, samples from the 9-foot to 11-foot, and 11-foot to 13-foot depth intervals were submitted for analysis. Samples from the 11-foot to 13-foot and 13-foot to 15-foot depth intervals from SB-3 and SB-4 were submitted for analysis. Soil boring logs, including soil descriptions are included as **Appendix A**. Analyses are summarized in **Table 1** and the Analysis Report from the laboratory is included as **Appendix B.**

Analysis of the SB-1 soil sample from the 9-foot to 11-foot interval indicated a concentration of DRO above the ADEC soil cleanup level (250 milligrams per kilogram, mg/kg) at a concentration of 590 mg/kg. In addition, for the analysis of the SB-1 soil sample in the 9-foot to 11-foot interval, the reporting limits for benzene were raised above the ADEC soil cleanup level (0.02 mg/kg), which may provide an explanation for this sample exceeding the cleanup level, with an approximate concentration of less than 0.2 mg/kg. Analysis of samples from SB-2, SB-3 and SB-4, indicated that there were no detectable exceedances of GRO, DRO or BTEX.

Additional Groundwater Delineation

Dissolved-phase concentrations of GRO, DRO, and benzene have been detected in samples collected from site monitoring wells at concentrations exceeding the applicable standards. Of particular concern are elevated dissolved-phase concentrations detected in monitoring wells RM-4, RM-6 and MW-2. In order to further assess the lateral extent of groundwater contamination, three additional monitoring wells were installed, two to the west of the site (MW-8 and MW-9) and one up-gradient well in the northwest portion of the site (MW-10).

In addition to the three monitoring well installations, the existing wells MW-1 and MW-4 were replaced and named MW-1R and MW-4R, respectively. The monitoring well locations are depicted on **Figure 2**. MW-1 was decommissioned in June of 1997 and was replaced to the northwest of its current position, in the location of the former dispenser islands. MW-4 did not regularly produce sufficient amounts of water for sample analysis and the replacement well, MW-4R, was re-installed slightly to the south of its current position. Subsequently, MW-4 was decommissioned in place. This process was completed by an Alaska certified driller and consisted of backfilling the boring with bentonite and finishing the boring to match the existing grade.

After the boring locations were manually cleared to an approximate depth of 8-feet bgs, the monitoring wells were drilled with a hollow-stem auger rig. Soil samples were collected at 5-ft intervals using modified split spoons and logged as described above. Based on the results of field screening with a PID, select soil samples were submitted to an Alaska state-certified laboratory for analysis to determine concentrations of GRO by Alaska Method AK 101, DRO by Alaska Method AK 102, and BTEX by US EPA Method 8021B. Analysis of soil samples from MW-1R (15-foot to 17-foot), MW-4R (14-foot to 16-foot and 19-foot to 21-foot), MW-8 (21-foot to 23-foot), MW-9 (19-foot to 21-foot) and MW-10 (14.5-foot to 16.5-foot) indicated exceedances of the ADEC soil cleanup levels for benzene (0.02 mg/kg). In addition, the soil sample from MW-10 (14.5-foot to 16.5-foot) was in exceedance of the cleanup level for DRO (250 mg/kg). There were no detectable exceedances of ADEC soil cleanup levels for GRO, toluene, ethylbenzene or total xylenes. The analytical results are summarized in **Table 1** and the analysis report is included in **Appendix A**.

Historically, depths to groundwater in the monitoring wells at this site have ranged from 9.70 to 18.50 feet below the top of casing (TOC) of each well. In addition, since February 1995, the average depth to groundwater in the monitoring wells is approximately 14.80 feet below TOC. Groundwater elevations are summarized in **Table 2**. Based on the historical groundwater data and past subsurface investigations, the proposed wells were installed to an approximate depth of 23 feet bgs and were completed with 2-inch ID Schedule 40 PVC casing with 15 feet of 0.010-inch slotted screen. The screen was packed with coarse sand and the screen pack extended approximately 2 feet above the top of the screen. The annular space of the well was then sealed with hydrated bentonite chips to approximately 2 feet bgs and the balance of the annulus was filled with clean native fill. The monitoring well was completed with a locking cap and concrete monument.

Monitoring Well Development, Sampling, and Surveying

Well development took place after the wells were completed. Well development was performed by surging the well over the length of the screen interval, then purging until the water was relatively free of suspended sediments, and pH, conductivity, and temperature have stabilized, and/or until approximately 10 well volumes have been removed.

Groundwater samples were collected from each of the new wells approximately two weeks after installation. Collected groundwater samples were submitted for laboratory analysis to determine the concentrations of GRO by Alaska Method AK 101, DRO by Alaska Method AK 102, and BTEX by US EPA Method 8021B.

A licensed surveyor was obtained to survey the new well locations relative to existing site features, and to determine top-of-casing well elevations relative to an established geodetic datum to the nearest 0.01-ft. The surveyed elevations for the new wells are shown in **Table 2.**

Groundwater Analytical Results

Analytical results for monitoring well MW-10 did not indicate concentrations above the applicable ADEC Groundwater Cleanup Levels (GCLs) for GRO and DRO, and results were below the laboratory method detection limit for BTEX. This well is located on the upgradient side of the site. Groundwater samples from monitoring wells MW-1R, MW-4R, MW-8 and MW-9 exceeded the ADEC GCL for benzene (5.0 µg/L), ranging from 40 µg/L (MW-8) to 800 µg/L (MW-1R). Monitoring wells MW-9 and MW-1R exceeded the ADEC GCL for GRO (1,300 µg/L) at 2,200 µg/L and 35,000 µg/L, respectively. Groundwater samples from monitoring well MW-1R also exceeded the ADEC GCLs for DRO, toluene and ethylbenzene. Analytical results from the replacement well for MW-1, MW-1R, are consistent with the decreasing concentrations from the original well which were present prior to the decommissioning of the well in 1997. A summary of groundwater analytical data has been summarized in **Table 3**.

Management of Investigation-Derived Wastes (IDW)

Development water, purge water and soil cuttings generated during the soil boring and monitoring well installation activities were containerized in labeled 55-gallon steel drums. Subsequent to proper characterization and disposal, soil cuttings were

transported to Alaska Soil Recycling (ASR) in Anchorage for treatment. Development and purge water were taken to Golden Heart Utilities for supervised disposal.

Laboratory Data Quality Assurance Summary

As required by ADEC (Technical Memorandum 06-002, dated May 18, 2006), ARCADIS BBLES completed laboratory data review checklists for the Lancaster laboratory reports from the 2007 site assessment. The laboratory reports and the data review checklists are included as **Appendix B and C**.

The following quality assurance (QA) summary describes six parameters, related to the quality and usability of the data presented in this report.

1. Precision - Based on the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) relative percent differences, the data meet precision objectives.

2. Accuracy - The data meet accuracy objectives as indicated by the laboratory quality control samples, which were within method/laboratory limits. Trip blanks were also collected during sampling and the results were less than the laboratory detection limits.

3. Representativeness - The data appear to be representative of site conditions and are generally consistent with historical groundwater monitoring results.

4. Comparability - Comparability is not applicable to these laboratory results.

5. Completeness - The results appear to be valid and usable, and thus the laboratory results have less than 100% completeness.

6. Sensitivity - The sensitivity of the analyses was adequate for the samples, with the exception of the following: The detection limits were raised for the benzene analyses for soil boring SB-1, MW-1R (14.5-foot to 16.5-foot), MW-4R (14-foot to 16-foot), and MW-10 (14.5-foot to 16.5-foot). See lab reports and QA checklists in **Appendix B**.

Conceptual Site Model (CSM)

The site is currently an empty lot with impacted groundwater extending off-site to a paved commercial area. The petroleum impacts appear to have originated from the original USTs or dispenser islands, which were located on the southwestern portion of the site. The environmental impact caused by the release of petroleum hydrocarbons at the site is believed to be limited to the impacts to groundwater, soil, and possibly air. The current potential receptors are commercial or industrial workers and site visitors or trespassers.

The future potential receptors include residents and construction workers. Other receptors which were considered and were ruled out include farmers or subsistence harvesters and subsistence consumers. These receptors were excluded because the site is developed and is located in a commercial area of Fairbanks. An ADEC CSM scoping form and graph are included as **Appendix D**. A general receptor survey was completed during the well installation activities, and the CSM was reviewed to verify accuracy. The results of the receptor survey did not identify potable wells within 1,000 feet of the site. Based on these results, the CSM was not modified at this time.

Conclusions

The analytical results of the sampling event for the new monitoring wells are consistent with previous sampling events for other on-site wells. During this monitoring event, concentrations of GRO, DRO, benzene, toluene, and ethylbenzene were greater than the applicable ADEC GCLs in at least one groundwater sample. In addition, soil samples from the development of wells and soil borings indicated concentrations greater than the applicable ADEC soil cleanup levels for DRO and benzene.

ARCADIS BBLES recommends a continuation of the current semi-annual sampling program with the addition of the new wells. The second semi-annual sampling event occurred in September 2007, and included MW-1R, MW-2, MW-4R, MW-6, MW-8, MW-9, MW-10, RM-4, RM-6 and RM-7A. These wells were analyzed for GRO, DRO and BTEX. In addition, MW-4R and RM-4 was also analyzed for methyl-tert-butyl ether (MTBE), ethylene dibromide (EDB), arsenic, lead, and select volatile organic compounds (VOCs). The report for the second semi-annual sampling event will be submitted under separate cover.

If you have any questions, or require additional information, please feel free to contact Rebecca Andresen with ARCADIS BBLES at 206.726.4717.

Sincerely,

ARCADIS U.S., Inc.

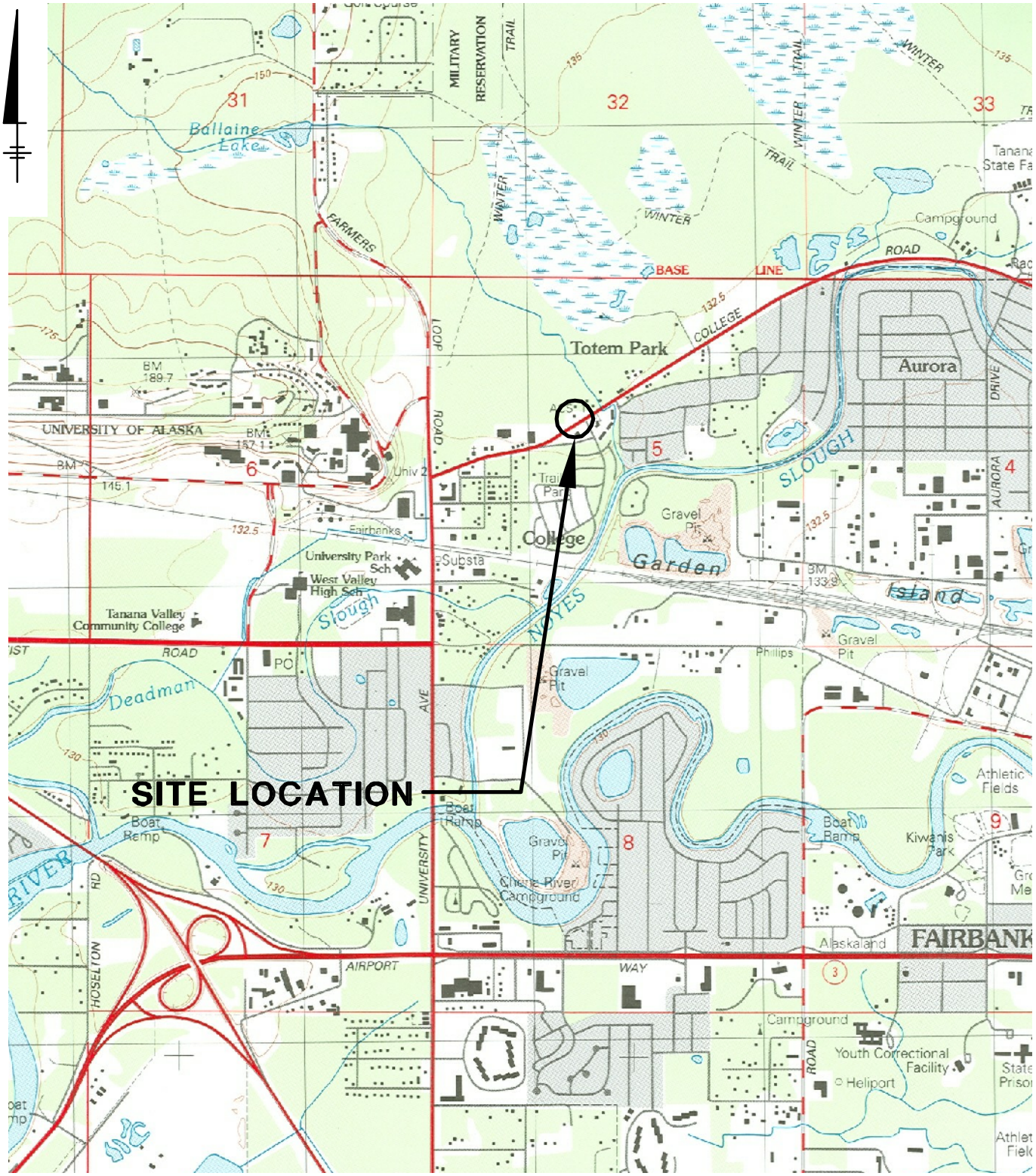
FOR Vanessa R. Varbel
Project Engineer in Training

Rebecca K. Andresen
Project Manager

Copies:

Ms. Stacie Frerichs, Chevron
Mr. Mark A. Nielsen, Fairbanks, Alaska
File

Figures



SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE: FAIRBANKS (D-2) SW, AK., 1992, FAIRBANKS NORTH STAR BOROUGH, SECTION: 5, TOWNSHIP: 1S, RANGE: 1W

0 2000' 4000'

APPROXIMATE GRAPHIC SCALE

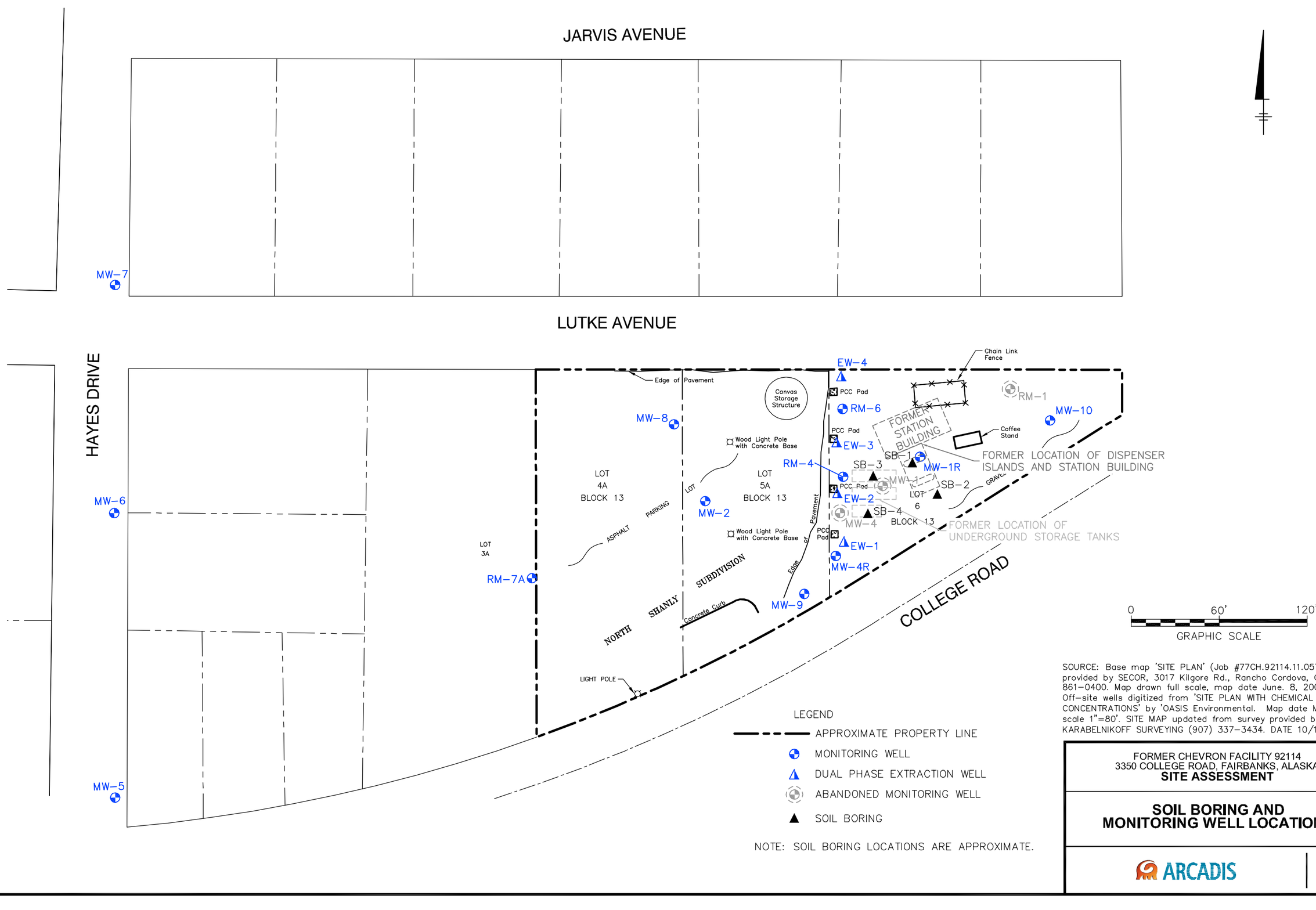
FORMER CHEVRON FACILITY 92114
3350 COLLEGE ROAD, FAIRBANKS, ALASKA
SITE ASSESSMENT

SITE LOCATION MAP

ARCADIS

FIGURE
1

CITY: TAMPA DIV/GROUP: 85 DB: JAR LD: JAR AM: PD: TM: TR: LYR:ON=*;OFF=*REF*
I:\YR_2008\B0045501\0000\0002\SA074550 1N01.dwg LAYOUT: 1SAVED: 1/14/2008 10:50 AM CADVER: 17.0S (LMS TECH) PAGESETUP: PDF-APPLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 1/14/2008 11:00 AM BY: RICHARDS, JIM
XREFS: IMAGES: ALASKA.jpg Fairbanks-SW.jpg PROJECTNAME: ---



LEGEND

- APPROXIMATE PROPERTY LINE
- MONITORING WELL
- DUAL PHASE EXTRACTION WELL
- ABANDONED MONITORING WELL
- SOIL BORING

NOTE: SOIL BORING LOCATIONS ARE APPROXIMATE.

SOURCE: Base map 'SITE PLAN' (Job #77CH.92114.11.0570) provided by SECOR, 3017 Kilgore Rd., Rancho Cordova, CA, (916) 861-0400. Map drawn full scale, map date June. 8, 2005. Off-site wells digitized from 'SITE PLAN WITH CHEMICAL CONCENTRATIONS' by 'OASIS Environmental. Map date May 2006, scale 1"=80'. SITE MAP updated from survey provided by KARABELNIKOFF SURVEYING (907) 337-3434. DATE 10/10/2007.

FORMER CHEVRON FACILITY 92114
3350 COLLEGE ROAD, FAIRBANKS, ALASKA
SITE ASSESSMENT

SOIL BORING AND MONITORING WELL LOCATIONS

ARCADIS

FIGURE
2

JARVIS AVENUE

LUTKE AVENUE

HAYES DRIVE

NORTH SHANLY SUBDIVISION

COLLEGE ROAD

SB-3		
DATE	7/25/07	
DEPTH	11-13 FT	13-15 FT
GRO	<0.6	<0.5
DRO	<4.2	8.4
BENZ	<0.006	<0.005
TOLU	0.02	0.02
ETHY	<0.006	<0.005
TXYL	0.05	0.04

MW-1R		
DATE	7/23/07	
DEPTH	10-12 FT	15-17 FT
GRO	0.8	160
DRO	6.9	68
BENZ	<0.006	0.09
TOLU	0.01	0.3
ETHY	0.02	1.8
TXYL	0.1	11

MW-10		
DATE	7/24/07	
DEPTH	14.5-16.5 FT	19.5-21.5 FT
GRO	140	<0.5
DRO	480	<4.8
BENZ	0.2	<0.005
TOLU	0.2	<0.005
ETHY	0.5	<0.005
TXYL	1	<0.02

MW-8		
DATE	7/24/07	
DEPTH	14-16 FT	21-23 FT
GRO	<0.6	0.6
DRO	<4.4	<4.8
BENZ	<0.007	0.04
TOLU	<0.007	<0.005
ETHY	<0.007	0.03
TXYL	0.04	0.07

SB-4		
DATE	7/25/07	
DEPTH	11-13 FT	13-15 FT
GRO	1	2.9
DRO	55	28
BENZ	<0.006	<0.005
TOLU	0.03	0.02
ETHY	0.006	0.007
TXYL	0.1	0.09

MW-4R		
DATE	7/25/07	
DEPTH	14-16 FT	19-21 FT
GRO	340	10
DRO	23	7
BENZ	0.2	0.06
TOLU	1.6	0.06
ETHY	1.7	0.07
TXYL	53	1.9

MW-9	
DATE	7/24/07
DEPTH	19-21 FT
GRO	0.5
DRO	<5.0
BENZ	0.03
TOLU	0.01
ETHY	0.03
TXYL	0.08

SB-1		
DATE	7/25/07	
DEPTH	9-11	11-13
GRO	24	6.3
DRO	590	5.1
BENZ	<0.2	<0.008
TOLU	<0.02	0.02
ETHY	<0.2	<0.06
TXYL	<0.7	<0.1

SB-2		
DATE	7/25/07	
DEPTH	9-11 FT	11-13 FT
GRO	0.5	1.6
DRO	<4.3	8.2
BENZ	<0.004	<0.006
TOLU	0.02	0.02
ETHY	<0.004	<0.006
TXYL	<0.07	0.04

LEGEND

- APPROXIMATE PROPERTY LINE
- MONITORING WELL
- DUAL PHASE EXTRACTION WELL
- ABANDONED MONITORING WELL
- SOIL BORING

NOTE: SOIL BORING LOCATIONS ARE APPROXIMATE.

Sample Location	
DATE	Sample Date
DEPTH	Sample Depth
GRO	Gasoline Range Organics
DRO	Diesel Range Organics
BRNZ	Benzene
TOLU	Toluene
ETHY	Ethylbenzene
TXYL	Total Xylenes

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

HIGHLIGHED VALUES EXCEED ADEC SOIL CLEANUP LEVEL FOR MIGRATION TO GROUNDWATER UNDER 40-INCH ZONE.

0 60' 120'

GRAPHIC SCALE

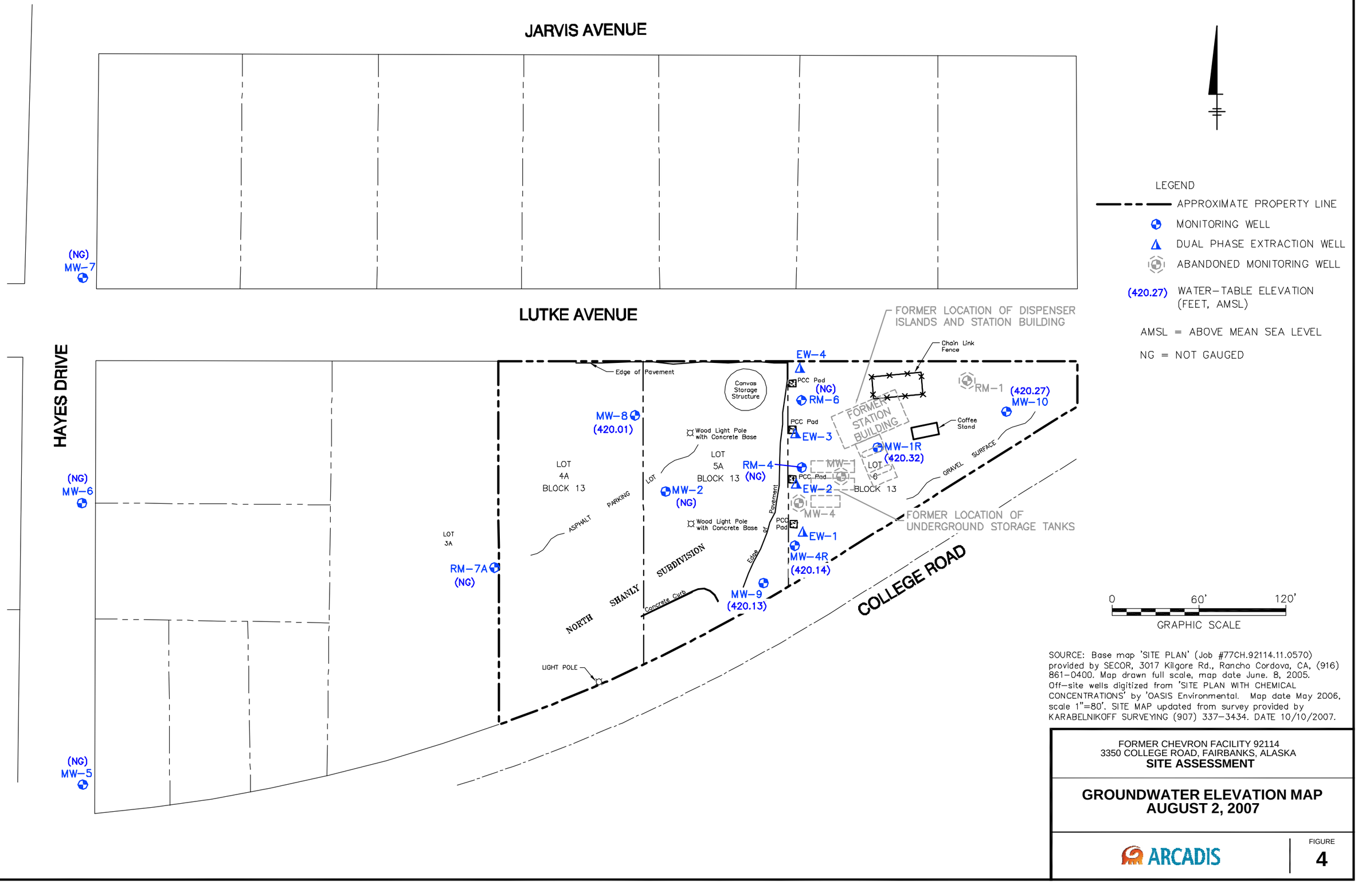
SOURCE: Base map 'SITE PLAN' (Job #77CH.92114.11.0570) provided by SECOR, 3017 Kilgore Rd., Rancho Cordova, CA, (916) 861-0400. Map drawn full scale, map date June. 8, 2005. Off-site wells digitized from 'SITE PLAN WITH CHEMICAL CONCENTRATIONS' by 'OASIS Environmental. Map date May 2006, scale 1"=80'. SITE MAP updated from survey provided by KARABELNIKOFF SURVEYING (907) 337-3434. DATE 10/10/2007.

FORMER CHEVRON FACILITY 92114
3350 COLLEGE ROAD, FAIRBANKS, ALASKA
SITE ASSESSMENT

SOIL SAMPLE ANALYTICAL SUMMARY MAP

ARCADIS

FIGURE 3



SOURCE: Base map 'SITE PLAN' (Job #77CH.92114.11.0570) provided by SECOR, 3017 Kilgore Rd., Rancho Cordova, CA, (916) 861-0400. Map drawn full scale, map date June. 8, 2005. Off-site wells digitized from 'SITE PLAN WITH CHEMICAL CONCENTRATIONS' by 'OASIS Environmental. Map date May 2006, scale 1"=80'. SITE MAP updated from survey provided by KARABELNIKOFF SURVEYING (907) 337-3434. DATE 10/10/2007.

FORMER CHEVRON FACILITY 92114
3350 COLLEGE ROAD, FAIRBANKS, ALASKA
SITE ASSESSMENT

GROUNDWATER ELEVATION MAP AUGUST 2, 2007

ARCADIS

FIGURE 4

CITY: TAMPA DIV/GROUP: 85 DB: JAR LD: 85 AM: PD: TM: TR: LYR:ON=*;OFF=*REF*
I:\YR_2008\B0045501\0000\00002\SA077455011W01.dwg LAYOUT: 4SAVED: 1/14/2008 10:57 AMACADVER: 17.0S (LMS TECH) PAGESETUP: PDF-BLPLOTSTYLETABLE: PLTFULL.CTBPLOTTED: 1/14/2008 11:01 AMBY: RICHARDS, JIM
XREFS: IMAGES: PROJECTNAME: ---

JARVIS AVENUE

MW–8	
DATE	8/2/07
GRO	400
DRO	250
BENZ	40
TOLU	<1
ETHY	20
TXYL	10

MW–9	
DATE	8/2/07
GRO	2,200
DRO	620
BENZ	300
TOLU	20
ETHY	100
TXYL	300

MW–4R	
DATE	8/2/07
GRO	600
DRO	430
BENZ	50
TOLU	1
ETHY	40
TXYL	80

MW–1R	
DATE	8/2/07
GRO	35,000
DRO	5,900
BENZ	800
TOLU	3,600
ETHY	1,200
TXYL	5,200

MW–10	
DATE	8/2/07
GRO	100
DRO	970
BENZ	<1
TOLU	<1
ETHY	<1
TXYL	<2

NS
MW–7

LUTKE AVENUE

HAYES DRIVE

NS
MW–6

NS
MW–5

FORMER LOCATION OF DISPENSER ISLANDS AND STATION BUILDING

Chain Link Fence

EW–4

Edge of Pavement

Canvas Storage Structure

PCC Pad

NS
RM–6

RM–1

MW–10

MW–8

Wood Light Pole with Concrete Base

FORMER STATION BUILDING

Coffee Stand

PCC Pad

EW–3

MW–1R

LOT 5A BLOCK 13

NS
RM–4

MW–1

LOT 6 BLOCK 13

GRAVEL SURFACE

LOT 4A BLOCK 13

PARKING

LOT

MW–2
NS

PCC Pad

EW–2

MW–4

Wood Light Pole with Concrete Base

Edge of Pavement

FORMER LOCATION OF UNDERGROUND STORAGE TANKS

PCC Pad

EW–1

LOT 3A

ASPHALT

SUBDIVISION

MW–4R

RM–7A
NS

NORTH SHANLY

MW–9

Concrete Curb

COLLEGE ROAD

LIGHT POLE

LEGEND

- APPROXIMATE PROPERTY LINE
- MONITORING WELL
- DUAL PHASE EXTRACTION WELL
- ABANDONED MONITORING WELL

Sample Location	
DATE	Sample Date
GRO	Gasoline Range Organics
DRO	Diesel Range Organics
BENZ	Benzene
TOLU	Toluene
ETHY	Ethylbenzene
TXYL	Total Xylenes

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

HIGHLIGHTED VALUES EXCEED ADEC 18 AAC 75 GROUNDWATER CLEANUP LEVEL

NS = NOT SAMPLED

0 60' 120'

GRAPHIC SCALE

SOURCE: Base map 'SITE PLAN' (Job #77CH.92114.11.0570) provided by SECOR, 3017 Kilgore Rd., Rancho Cordova, CA, (916) 861–0400. Map drawn full scale, map date June. 8, 2005. Off–site wells digitized from 'SITE PLAN WITH CHEMICAL CONCENTRATIONS' by 'OASIS Environmental. Map date May 2006, scale 1"=80'. SITE MAP updated from survey provided by KARABELNIKOFF SURVEYING (907) 337–3434. DATE 10/10/2007.

FORMER CHEVRON FACILITY 92114
3350 COLLEGE ROAD, FAIRBANKS, ALASKA
SITE ASSESSMENT

GROUNDWATER ANALYTICAL SUMMARY MAP AUGUST 2, 2007

ARCADIS

FIGURE 5

Tables

Table 1
Soil Boring Analytical Results

Former Chevron Facility 92114
3350 College Road
Fairbanks, Alaska

Boring	Depth below ground surface (feet)	Date Sampled	GRO[1]	DRO[2]	Benzene[3]	Toluene[3]	Ethylbenzene[3]	Total Xylenes[3]
ADEC Soil Cleanup Level (Migration to groundwater)			**300**	**250**	**0.02**	**5.4**	**5.5**	**78**
MW-1R	10-12	07/23/07	0.8	6.9	<0.006	0.01	0.02	0.1
MW-1R	15-17	07/23/07	160	68	0.09	0.3	1.8	11
MW-4R	14-16	07/25/07	340	23	0.2	1.6	1.7	53
MW-4R	19-21	07/25/07	10	7	0.06	0.06	0.07	1.9
MW-8	14-16	07/24/07	<0.6	<4.4	<0.007	<0.007	<0.007	0.04
MW-8	21-23	07/24/07	0.6	<4.8	0.04	<0.005	0.03	0.07
MW-9	19-21	07/24/07	0.5	<5.0	0.03	0.01	0.03	0.08
MW-10	14.5-16.5	07/24/07	140	480	0.2	0.2	0.5	1
MW-10	19.5-21.5	07/24/07	<0.5	<4.8	<0.005	<0.005	<0.005	<0.02
SB-1	9-11	07/25/07	24	590	<0.2	<0.2	<0.2[4]	<0.7[4]
SB-1	11-13	07/25/07	6.3	5.1	<0.008	0.02	<0.06[4]	<0.1[4]
SB-2	9-11	07/25/07	0.5	<4.3	<0.004	0.02	<0.004	0.07
SB-2	11-13	07/25/07	1.6	8.2	<0.006	0.02	<0.006	0.04
SB-3	11-13	07/25/07	<0.6	<4.2	<0.006	0.02	<0.006	0.05
SB-3	13-15	07/25/07	<0.5	8.4	<0.005	0.02	<0.005	0.04
SB-4	11-13	07/25/07	1	55	<0.006	0.03	0.006	0.1
SB-4	13-15	07/25/07	2.9	28	<0.005	0.02	0.007	0.09

Notes

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

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

[2]Diesel range organics (DRO) was analyzed by AK Method 102

[3]Benzene, toluene, ethylbenzene, and total xylenes (BTEX) were analyzed by EPA Method 8021B

[4]Due to the presence of interferents near their retention time, normal reporting limits were not attained.

Highlighted concentrations are greater than the ADEC soil cleanup level for migration to groundwater, under 40-inch zone.

< = not detected greater than the laboratory reporting limit

-- = not analyzed

D = Duplicate sample

Table 2
Groundwater Elevation Data

Former Chevron Facility 92114
3350 College Road
Fairbanks, Alaska

Well	Sample Date	Well Elevation (feet amsl)	Depth to Groundwater (feet bgs)	Groundwater Elevation (feet msl)
MW-1	02/27/95	102.84	18.50	84.34
	05/31/95		17.19	85.65
	08/14/95		16.58	86.26
	10/10/95		15.79	87.05
	02/26/96		18.12	84.72
	Well Decommissioned June 1997			
MW-1R	**8/2/2007**	**433.47**	**13.15**	**420.32**
MW-2	02/27/95	101.15	16.70	84.45
	05/31/95	101.15	15.72	85.43
	08/14/95	101.2	14.86	86.34
	10/10/95	101.2	14.05	87.15
	02/26/96	101.2	--	--
	10/22/97	101.2	15.64	85.56
	10/15/98	101.2	14.87	86.33
	05/05/99	101.2	17.11	84.09
	10/15/99	101.2	15.57	85.63
	05/06/00	101.2	17.10	84.1
	01/16/01	101.2	15.70	85.5
	05/02/01	98.75	Well Dry	
	07/24/01	98.75	14.50	84.25
	11/21/02	98.75	14.54	84.21
	04/22/03	98.75	15.88	82.87
	09/19/03	98.75	13.03	85.72
	03/30/04	98.75	16.71	82.04
	09/30/04	435.48	15.04	420.44
	04/14/05	435.48	17.22	418.26
	09/14/05	435.48	14.35	421.13
	04/03/06	435.36	Well Dry	
	09/19/06	435.36	14.74	420.62
	03/22/07	435.36	17.13	418.23
	10/07	435.36	--	--
MW-4	11/21/02	97.05	12.98	84.07
	04/22/03	97.05	Well Dry	
	09/19/03	97.05	11.27	85.78
	03/30/04	97.05	Well Dry	
	09/30/04	433.78	Well Dry	
	04/14/05	433.78	Well Dry	
	09/14/05	433.78	12.62	421.16
	04/03/06	433.78	Well Dry	
	09/19/06	433.78	Well Dry	
	03/22/07	433.78	Well Dry	

Table 2
Groundwater Elevation Data

Former Chevron Facility 92114
3350 College Road
Fairbanks, Alaska

Well	Sample Date	Well Elevation (feet amsl)	Depth to Groundwater (feet bgs)	Groundwater Elevation (feet msl)
MW-4R	**08/02/07**	**433.33**	**13.19**	**420.14**
MW-5	05/03/01	96.88	15.26	81.62
	07/24/01	95.16	13.93	81.23
	11/21/02	96.88	--	--
	09/30/04	433.65	14.06	419.59
	04/14/05	433.65	15.96	417.69
	09/14/05	433.65	13.11	420.54
	04/03/06	433.65	16.08	417.57
	09/19/06	433.65	13.52	420.13
	03/22/07	433.65	16.06	417.59
	10/07	433.65	--	--
MW-6	05/03/01	96.86	14.62	82.24
	07/24/01	95.13	12.69	82.44
	09/30/04	433.81	13.11	420.70
	04/14/05	433.81	15.89	417.92
	09/14/05	433.81	12.64	421.17
	04/03/06	433.57	15.63	417.94
	09/19/06	433.57	12.89	420.68
	03/22/07	433.57	15.70	417.87
	10/07	433.57	--	--
MW-7	05/03/01	97.29	14.97	82.32
	07/24/01	95.55	13.04	82.51
	11/21/02	97.29	12.63	84.66
	04/22/03	97.29	14.10	83.19
	09/19/03	97.29	9.70	87.59
	03/30/04	97.29	14.98	82.31
	09/30/04	434.01	13.27	420.74
	04/14/05	434.01	15.87	418.14
	09/14/05	434.01	12.75	421.26
	04/03/06	434.01	15.82	418.19
	09/19/06	434.01	13.06	420.95
	03/22/07	434.01	15.97	418.04
	10/07	434.01	--	--
MW-8	**08/02/07**	**435.11**	**15.10**	**420.01**
MW-9	**08/02/07**	**433.28**	**13.15**	**420.13**
MW-10	**08/02/07**	**433.32**	**13.05**	**420.27**

Table 2
Groundwater Elevation Data

Former Chevron Facility 92114
3350 College Road
Fairbanks, Alaska

Well	Sample Date	Well Elevation (feet amsl)	Depth to Groundwater (feet bgs)	Groundwater Elevation (feet msl)
RM-1	02/27/95	98.53	14.10	84.43
	05/31/95	98.53	--	--
	08/15/95	98.53	12.23	86.3
	10/10/95	98.53	11.45	87.08
	11/21/02		Destroyed	
RM-4	02/27/95	99.88	15.55	84.33
	05/31/95	99.88	14.24	85.64
	08/15/95	99.94	13.65	86.29
	10/10/95	99.94	12.85	87.09
	02/26/96	99.94	15.22	84.72
	10/22/97	99.94	14.49	85.45
	10/15/98	99.94	13.62	86.32
	05/05/99	99.94	16.00	83.94
	10/15/99	99.94	14.33	85.61
	05/06/00	99.94	15.77	84.17
	01/16/01	99.94	14.48	85.46
	05/02/01	97.44	15.27	82.17
	07/23/01	95.71	14.01	81.7
	11/21/02	97.44	13.29	84.15
	04/22/03	97.44	14.45	82.99
	09/19/03	97.44	11.61	85.83
	03/30/04	97.44	15.37	82.07
	09/30/04	434.19	13.64	420.55
	04/14/05	434.19	15.93	418.26
	09/14/05	434.19	13.00	421.19
	04/04/06	434.19	15.89	418.30
	09/19/06	434.19	13.50	420.69
	03/23/07	434.57	15.87	418.70
	10/07	434.57	--	--

Table 2
Groundwater Elevation Data

Former Chevron Facility 92114
3350 College Road
Fairbanks, Alaska

Well	Sample Date	Well Elevation (feet amsl)	Depth to Groundwater (feet bgs)	Groundwater Elevation (feet msl)
RM-6	02/27/95	100.23	15.95	84.28
	05/31/95	100.23	14.55	85.68
	08/15/95	100.27	14.01	86.26
	10/10/95	100.27	13.22	87.05
	02/26/96	100.27	15.62	84.65
	10/22/97	100.27	14.89	85.38
	10/15/98	100.27	14.00	86.27
	05/05/99	100.27	16.38	83.89
	10/15/99	100.27	14.72	85.55
	05/06/00	100.27	16.14	84.13
	01/16/01	100.27	14.85	85.42
	05/02/01	97.81	--	--
	07/24/01	96.09	14.32	81.77
	11/21/02	97.81	13.73	84.08
	04/22/03	97.81	14.88	82.93
	09/19/03	97.81	11.97	85.84
	03/30/04	97.81	15.80	82.01
	09/30/04	434.57	13.87	420.70
	04/14/05	434.57	16.34	418.23
	09/14/05	434.57	13.20	421.37
	04/04/06	434.57	16.28	418.29
	09/19/06	434.57	13.89	420.68
	03/23/07	434.57	16.27	418.30
	10/07	434.57	--	--

Table 2
Groundwater Elevation Data

Former Chevron Facility 92114
3350 College Road
Fairbanks, Alaska

Well	Sample Date	Well Elevation (feet amsl)	Depth to Groundwater (feet bgs)	Groundwater Elevation (feet msl)
RM-7A	04/17/95	--	--	--
	05/31/95	101	15.56	85.44
	08/14/95	101.03	14.89	86.14
	10/10/95	101.03	14.14	86.89
	02/26/96	101.03	16.80	84.23
	10/23/97	101.03	15.98	85.05
	10/15/98	101.03	15.17	85.86
	05/05/99	101.03	17.49	83.54
	10/15/99	101.03	15.81	85.22
	05/06/00	101.03	17.21	83.82
	01/16/01	101.03	16.09	84.94
	05/02/01	--	16.80	--
	07/24/01	96.85	15.50	81.35
	11/21/02	96.85	15.00	81.85
	04/22/03	96.85	15.90	80.95
	09/19/03	96.85	12.92	83.93
	03/30/04	96.85	17.07	79.78
	09/30/04	435.36	15.60	419.76
	04/14/05	435.36	17.54	417.82
	09/14/05	435.36	14.62	420.74
	04/03/06	435.36	17.59	417.77
	09/19/06	435.36	15.06	420.30
	03/22/07	435.36	17.26	418.10
	10/07	435.36	--	--

Notes:
Depth to groundwater is measured from the top of casing
bgs = below ground surface
msl = mean sea level
-- = data not available
Bold Type = most recent sampling event

Well elevations surveyed in August 2007 and October 2007 use a local grid as the coordinate system. Assumed elevation of 100.00 feet of local datum (metal luminary pole).

Table 3
Groundwater Analytical Data

Former Chevron Facility 92114
3350 College Road
Fairbanks, Alaska

Well	Sample Date	GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Total Xylenes
ADEC GCL:		**1,300**	**1,500**	**1,100**	**5.0**	**1,000**	**700**	**10,000**
MW-1	02/27/95	52,000	7,200	--	9,200	9,800	880	4,100
	05/31/95	111,000	8,200	--	14,000	14,000	2,400	14,000
	08/14/95	120,000	12,000	--	8,800	11,000	2,000	11,000
	10/10/95	111,000	9,000	--	13,000	21,000	2,100	13,000
	02/26/96	69,000	9	--	9,500	3,900	1,900	6,700
		Well Decommissioned June 1997						
MW-1R	**08/04/07**	**35,000**	**5,900**	**--**	**800**	**3,600**	**1,200**	**5,200**
MW-2	02/27/95	1,800	--	--	750	4.2	5	16
	05/31/95	3,000	130	--	1,100	<25	<25	32
	08/14/95	17,000	1,400	--	4,300	650	230	720
	10/10/95	41,000	1,600	--	10,000	7,700	720	3,100
	02/26/96	--	--	--	--	--	--	--
	10/22/97	42,200	4,010	--	8,830	6,280	798	3,520
	10/15/98	26,700	8,940	--	7,010	4,030	665	2,830
	05/05/99	--	--	--	--	--	--	--
	10/15/99	20,400	4,500	--	4,360	<100	474	1,110
	05/06/00	--	--	--	--	--	--	--
	01/16/01	9,380	4,080	--	2,570	94	517	715
	05/02/01	--	--	--	--	--	--	--
	07/24/01	--	--	--	--	--	--	--
	11/21/02	27,200	3,120	--	2,800	3,030	769	2,580
	04/22/03	27,000	8,200	--	4,200	2,100	910	2,300
	09/19/03	46,000	7,500	--	5,000	6,800	1,100	4,200
	03/30/04	12,000	6,200	--	1,900	170	620	1,300
	09/30/04	2,300	2,900	--	1,700	790	640	2,300
	04/14/05	Insufficient water -- No sample						
	09/14/05	5,500	1,900	380	810	63	280	480
	04/03/06	Well Dry						
	09/19/06	4,900	1400	380	550	13	300	530
	03/22/07	Well Dry						
MW-4	11/21/02	Insufficient water						
	04/22/03	Frozen						
	09/19/03	170,000	26,000	--	8,900	34,000	2,000	20,000
	03/30/04	Well Dry						
	09/30/04	Well Dry						
	04/14/05	Well Dry						
	09/14/05	82,000	16,000	<190	2,400	11,000	850	15,000
	04/03/06	Well Dry						
	09/19/06	Well Dry						
	03/22/07	Well Dry						
	07/24/07	Well Decommissioned July 2007						
MW-4R	**08/02/07**	**600**	**430**	**--**	**50**	**1**	**40**	**80**

Table 3
Groundwater Analytical Data

Former Chevron Facility 92114
3350 College Road
Fairbanks, Alaska

Well	Sample Date	GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Total Xylenes
ADEC GCL:		**1,300**	**1,500**	**1,100**	**5.0**	**1,000**	**700**	**10,000**
MW-5	05/03/01		--	--	--	--	--	--
	07/24/01	103	<521	--	40.1	<2	<2	<4
	11/21/02	Well covered by asphalt						
	04/22/03	Well covered by asphalt						
	09/19/03	Well covered by asphalt						
	03/30/04	Well covered by asphalt						
	09/30/04	30	240	--	2.0	<0.5	<0.5	<1.5
	04/14/05	55	350	--	1.1	<0.5	<0.5	<1.5
	09/14/05	24	360	550	1.0	<0.5	<0.5	<1.5
	04/03/06	24	410	720	0.9	<0.5	<0.5	<1.5
	09/19/06	29	280	330	0.7	<0.5	<0.5	<1.5
	03/22/07	20	290	--	1.0	<1	<1	<2
MW-6	05/03/01	201	8420		57.6	0.701	5.98	27.5
	07/24/01	192	4380		38.6	<2	2.25	46.2
	11/21/02	Well covered by ice, snow, and frozen soil						
	04/22/03	Well covered by asphalt						
	09/19/03	Well covered by asphalt						
	03/30/04	Well covered by asphalt						
	09/30/04	1,500	5,800	--	140	0.6	72	320
	04/14/05	92	2,800	--	17	<0.5	4.5	13
	09/14/05	67	1,300	920	14	<0.5	0.8	11
	04/03/06	88	980	940	14	<0.5	0.8	17
	09/19/06	690	1,100	890	31	2.1	25	210
	03/22/07	200	1,900	--	20	<1	2	80
MW-7	05/03/01	<50	893	--	<2	<0.5	<0.5	<1
	07/24/01	<90	517	--	<5	<2	<2	<4
	11/21/02	<50.0	214	--	<0.200	<0.500	<0.500	<1.00 (2)
	11/21/2002[D]	<50.0	284	--	<0.200	<0.500	<0.500	<1.00 (2)
	04/22/03	11	930	--	<0.5	<0.5	<0.5	<1.5
	09/19/03	<10	330	--	<0.5	<0.5	<0.5	<1.5
	03/30/04	<10	360	--	<0.5	<0.5	<0.5	<1.5
	09/30/04	<10	310	--	<0.5	<0.5	<0.5	<1.5
	04/14/05	<10	80	--	<0.5	<0.5	<0.5	<1.5
	09/14/05	<10	230	390	<0.5	<0.5	<0.5	<1.5
	04/03/06	<10	340	590	<0.5	<0.5	<0.5	<1.5
	09/19/06	<10	270	550	<0.5	<0.5	<0.5	<1.5
	03/22/07	<10	600	--	<1	<1	<1	<2
MW-8	**08/04/07**	**400**	**250**	**--**	**40**	**<1**	**20**	**10**
MW-9	**08/02/07**	**2,200**	**620**	**--**	**300**	**20**	**100**	**300**
MW-10	**08/02/07**	**100**	**970**	**--**	**<1**	**<1**	**<1**	**<2**

Table 3
Groundwater Analytical Data

Former Chevron Facility 92114
3350 College Road
Fairbanks, Alaska

Well	Sample Date	GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Total Xylenes
ADEC GCL:		**1,300**	**1,500**	**1,100**	**5.0**	**1,000**	**700**	**10,000**
RM-1	02/27/95	53	130	--	<0.5	<0.5	<0.5	<0.5
	05/31/95	--	--	--	--	--	--	--
	08/15/95	100	44	--	9	<0.5	<0.5	<1.0
	10/10/95	240	1,700	--	34	0.72	<0.5	<1.0
	02/26/96	--	--	--	--	--	--	--
	10/22/97	--	--	--	--	--	--	--
	10/15/98	--	--	--	--	--	--	--
	05/05/99	--	--	--	--	--	--	--
	10/15/99	--	--	--	--	--	--	--
	05/06/00	--	--	--	--	--	--	--
	01/16/01	--	--	--	--	--	--	--
	05/02/01	--	--	--	--	--	--	--
	07/24/01	--	--	--	--	--	--	--
	11/21/02	Destroyed						
RM-4	02/27/95	180,000	12,000	--	23,000	39,000	2,700	15,000
	05/31/95	23,000	880	--	4,400	4,200	450	1,800
	08/15/95	37,000	2,000	--	5,000	4,000	410	2,000
	10/10/95	60,000	6,200	--	13,000	10,000	530	4,000
	02/26/96	52,000	6,200	--	7,900	7,000	820	3,200
	10/22/97	23,700	5,450	--	4,220	2,970	762	2,690
	10/15/98	34,300	13,300	--	5,820	6,960	841	4,260
	05/05/99	47,200	7,030	--	6,560	7,380	1,110	4,780
	10/15/99	--	--	--	--	--	--	--
	05/06/00	53,800	3,690	--	6,070	10,700	1,570	5,290
	01/16/01	36,700	7,880	--	4,810	6,900	1,180	3,740
	05/02/01	26,500	4,460	--	3,540	2,510	1,220	3,130
	07/23/01	14,100	2,190	--	2,280	1,130	641	1,710
	11/21/02	38,100	6,850	--	2,950	6,540	831	3,840
	04/22/03	55,000	17,000	--	3,500	4,400	1,200	8,500
	09/19/03	8,600	1,600	--	800	1,200	200	710
	03/30/04	48,000	12,000	--	6,000	2,000	1,600	8,100
	09/30/04	85,000	10,000	--	4,900	13,000	1,000	8,600
	04/14/05	38,000	13,000	--	4,300	1,400	1,400	5,000
	09/14/05	37,000	4,500	<210	2,600	5,900	730	3,600
	04/04/06	27,000	11,000	460	2,900	170	1,000	3,300
	09/19/06	59,000	7,300	<490	2,600	12,000	1,100	5,200
	03/23/07	35,000	10,000	--	3,100	600	1,300	4,600

Table 3
Groundwater Analytical Data

Former Chevron Facility 92114
3350 College Road
Fairbanks, Alaska

Well	Sample Date	GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Total Xylenes
ADEC GCL:		**1,300**	**1,500**	**1,100**	**5.0**	**1,000**	**700**	**10,000**
RM-6	02/27/95	7,900	13,000	--	2900	930	150	570
	05/31/95	19,000	7,100	--	4000	1,300	380	1,100
	08/15/95	12,000	17,000	--	2900	430	170	390
	10/10/95	15,000	11,000	--	3100	280	210	430
	02/26/96	16,000	14,000	--	2700	210	150	390
	10/22/97	6,800	7,070	--	2100	60	143	189
	10/15/98	6,330	10,300	--	1850	59.5	168	212
	05/05/99	8,120	17,400	--	2950	127	397	528
	10/15/99	<16,000	30,100	--	2080	<100	220	258
	05/06/00	13,400	8,780	--	2850	53.5	503	618
	01/16/01	6,410	9,320	--	2220	<25	167	234
	05/02/01	--	--	--	--	--	--	--
	07/24/01	8,660	8,280	--	1,620	102	430	622
	11/21/02	5,760	6,970	--	1,120	19.2	207	268
	04/22/03	8,400	7,200	--	1,500	23	380	450
	04/22/03[D]	7,800	9,000	--	1,400	21	370	440
	09/19/03	9,300	6,100	--	1,100	30	550	660
	09/19/03[D]	9,200	5,500	--	1,100	27	530	630
	03/30/04	6,600	20,000	--	1,100	24	410	440
	03/30/04[D]	7,200	19,000	--	1,200	24	430	460
	09/30/04	7,300	6,300	--	730	26	380	450
	09/30/04[D]	7,100	6,200	--	730	38	380	450
	04/14/05	7,500	10,000	--	1,000	55	600	720
	04/14/05[D]	7,200	10,000	--	1,000	33	590	670
	09/14/05	3,300	6,200	<210	180	6.7	190	200
	04/04/06	6,900	5,100	<220	640	26	550	660
	04/04/06[D]	7,100	4,000	280	640	29	570	690
	09/16/06	5,000	33,000	<100	250	16	370	460
	03/23/07	7,300	4,700	--	400	30	600	700
	03/23/07[D]	5,600	4,600	--	300	20	500	600

Table 3
Groundwater Analytical Data

Former Chevron Facility 92114
3350 College Road
Fairbanks, Alaska

Well	Sample Date	GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Total Xylenes
ADEC GCL:		**1,300**	**1,500**	**1,100**	**5.0**	**1,000**	**700**	**10,000**
RM-7A	04/17/95	1,700	<100	--	880	16	29	62
	05/31/95	4,100	110	--	1200	55	55	140
	08/14/95	2,300	690	--	630	1.1	18	26
	10/10/95	1,900	520	--	730	1.4	15	25
	02/26/96	950	330	--	400	0.81	2.5	3.9
	10/23/97	930	570	--	487	<0.5	1.15	4.01
	10/15/98	1,200	1,100	--	529	<10	30.1	37
	05/05/99	580	670	--	652	<5	49.4	61.1
	10/15/99	2,060	597	--	541	<5	21	27.8
	05/06/00	2,670	454	--	835	5.7	82.1	119
	01/16/01	513	612	--	221	<2.5	9.83	9.53
	05/02/01	2,700	1,030	--	744	12	78.5	113
	07/24/01	2,950	944	--	880	<20	116	<114
	11/21/02	1,350	409	--	461	<0.500	7.46	9.04
	04/22/03	2,200	420	--	500	1.7	64	47
	9/19/2003	2,400	660	--	520	2.9	93	64
	3/30/2004	1,400	610	--	350	18	43	65
	9/30/2004	1,900	460	--	460	<2.5	34	36
	9/14/05[D]	2,600	690	460	500	2.3	79	85
	04/03/06	1,200	590	490	200	1.6	49	39
	09/19/06	2,300	550	310	380	2.7	120	99
	09/19/06[D]	2,300	560	420	370	2.6	120	98
	03/22/07	1,300	500	--	200	2	60	40
Trip Blank	11/21/02	<50.0	--	--	0.304	0.618	<0.500	<1.00
	11/21/02	<50.0	--	--	0.406	0.875	<0.500	1.16
	04/22/03	<10	--	--	<0.5	<0.5	<0.5	<0.5
	09/19/03	<10	--	--	<0.5	<0.5	<0.5	<0.5
	03/30/04	<10	--	--	<0.5	<0.5	<0.5	<0.5
	09/30/04	<10	--	--	<0.5	<0.5	<0.5	<0.5
	04/14/05	<10	--	--	<0.5	<0.5	<0.5	<0.5
	09/14/05	<10	--	--	<0.5	<0.5	<0.5	<1.5
	04/04/06	<10	--	--	<0.5	<0.5	<0.5	<1.5
	09/19/06	<10	--	--	<0.5	<0.5	<0.5	<1.5
	03/23/07	<10	--	--	<1	<1	<1	<2

Notes:
All results are reported in micrograms per liter (µg/L)
GCL = ADEC 18 AAC 75 Groundwater Cleanup Level
[D] - duplicate of preceding sample
GRO = Gasoline range organics analyzed by AK 101
DRO = Diesel range organics analyzed by AK 102
RRO = Residual range organics analyzed by AK 103
Benzene, toluene, ethylbenzene, and total xylenes (BTEX) analyzed by US EPA 8021B or 8260
Highlighted cell= exceeds GCL
-- = sample was not analyzed for this compound
Bold Type = most recent sampling event
<25 = result did not exceed indicated method reporting limit; an elevated reporting limit indicates sample was diluted

Appendix A

Soil Boring & Well Completion Logs

BORING / WELL COMPLETION LOG

WELL NO. MW-1R

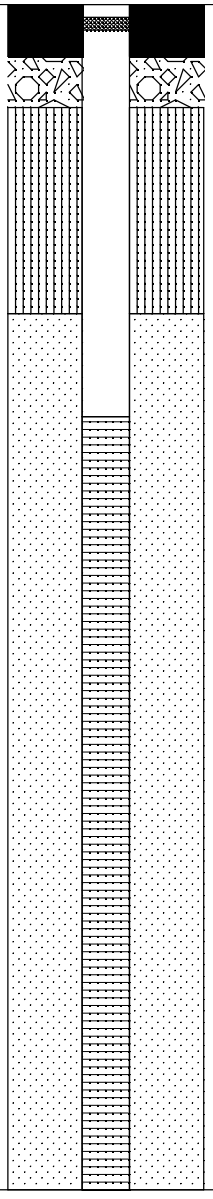
ARCADIS
2300 Eastlake Avenue East, Suite 200, Seattle, WA 98102 Tel: 206.325.5254 Fax: 206.325.8218

PROJECT NUMBER: B0045501.0000
PROJECT NAME: Former Chevron No. 92114
SITE LOCATION: 3245 College Road, Fairbanks, Alaska
LOGGED BY: Jason Luckett
DRILLING CO: Discovery Drilling
DRILLER: Dick Banzhap
DRILLING METHOD: Hollow Stem Auger
DATE BEGUN: 7/23/07
DATE COMPLETED: 7/23/07
TOP OF PVC CASING ELEVATION (TOC): Not measured
DEPTH TO WATER BELOW TOC/ (DATE): 13.15 ft (8/2/07)

WELL COMPLETION DETAILS

	TYPES	DEPTH (FT BGS)
WELL CASING:	2" Schedule 40 PVC	0-8
SURFACE CASING GROUT TYPE:	Native Fill	0-2
SEAL TYPE:	Bentonite chips	2-6
SAND PACK:	Colorado Silica Sand No. 10/20	6-23
WELL SCREEN:	15', 2" PVC screen, 0.010" slots	8-23
TOTAL DEPTH DRILLED:		23

DEPTH	SAMPLE INTERVAL	PID READING (PPM)	U.S.C.S. CLASS	LITHOLOGY	DESCRIPTION
0					Boring was manually cleared by Alaska Pipeliners from 0 to 8 feet below ground surface (bgs).
-10	10 to 12	1.2 to 3.2	SP		POORLY GRADED SAND: gray; fine grained sand with some gravel; loose; saturated.
-15	15 to 17	982 to 1008	SP		POORLY GRADED SAND WITH GRAVEL: gray; fine grained sand with gravel; wet. Note: Groundwater was encountered between approximately 18 and 19 feet bgs.
-20	21 to 23	1.5 to 3.1	SP		POORLY GRADED SAND WITH GRAVEL: Same as above.



BORING / WELL COMPLETION LOG

WELL NO. MW-4R

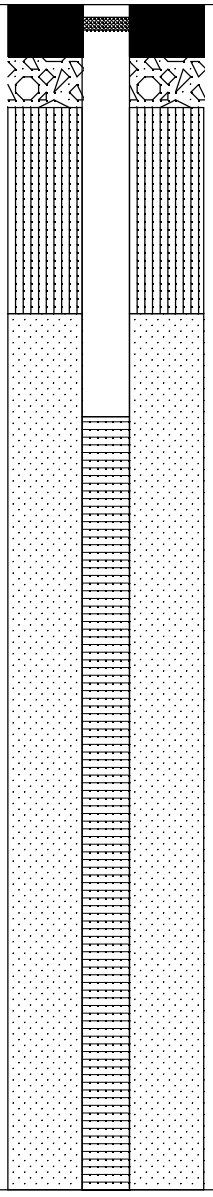
ARCADIS
2300 Eastlake Avenue East, Suite 200, Seattle, WA 98102 Tel: 206.325.5254 Fax: 206.325.8218

PROJECT NUMBER: B0045501.0000
PROJECT NAME: Former Chevron No. 92114
SITE LOCATION: 3245 College Road, Fairbanks, Alaska
LOGGED BY: Jason Luckett
DRILLING CO: Discovery Drilling
DRILLER: Dick Banzhap
DRILLING METHOD: Hollow Stem Auger
DATE BEGUN: 7/25/07
DATE COMPLETED: 7/25/07
TOP OF PVC CASING ELEVATION (TOC): Not measured.
DEPTH TO WATER BELOW TOC / (DATE): 13.19 ft (8/2/07)

WELL COMPLETION DETAILS

	TYPES	DEPTH (FT BGS)
WELL CASING:	2" Schedule 40 PVC	0-8
SURFACE CASING GROUT TYPE:	Native Fill	0-2
SEAL TYPE:	Bentonite chips	2-6
SAND PACK:	Colorado Silica Sand No. 10/20	6-23
WELL SCREEN:	15', 2" PVC screen, 0.010" slots	8-23
TOTAL DEPTH DRILLED:		23

DEPTH	SAMPLE INTERVAL	PID READING (PPM)	U.S.C.S. CLASS	LITHOLOGY	DESCRIPTION
0					Boring was manually cleared by Alaska Pipeliners from 0 to 8 feet below ground surface (bgs).
-10	9 to 11	249	SM		SILTY SAND: light brown to brownish gray; silty sand, little gravel; loose (SPT, N blows/ft: 3,4,5,7); moist to wet.
-15	14 to 16	1,850	SP		POORLY GRADED SAND: fine sand, little gravel; loose (SPT, N blows/ft: 3,3,4,3); moist to wet.
-20	19 to 21	177	SP		POORLY GRADED SAND: fine sand, some silt, little gravel; loose (SPT, N blows/ft: 3,4,4,3); moist to wet.



BORING / WELL COMPLETION LOG

WELL NO. MW-8

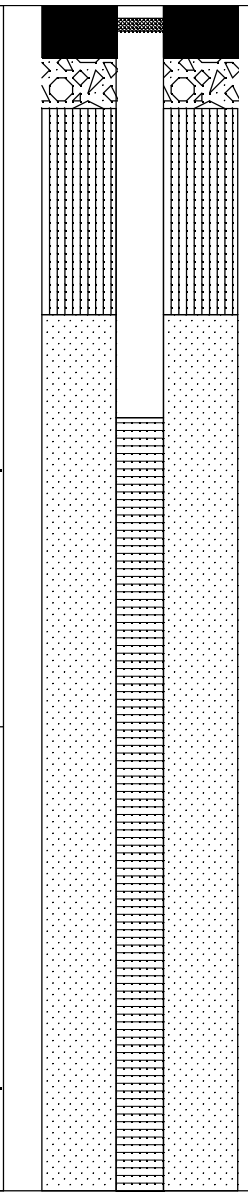
ARCADIS
2300 Eastlake Avenue East, Suite 200, Seattle, WA 98102 Tel: 206.325.5254 Fax: 206.325.8218

PROJECT NUMBER: B0045501.0000
PROJECT NAME: Former Chevron No. 92114
SITE LOCATION: 3245 College Road, Fairbanks, Alaska
LOGGED BY: Jason Luckett
DRILLING CO: Discovery Drilling
DRILLER: Dick Banzhap
DRILLING METHOD: Hollow Stem Auger
DATE BEGUN: 7/24/07
DATE COMPLETED: 7/24/07
TOP OF PVC CASING ELEVATION (TOC): Not measured.
DEPTH TO WATER BELOW TOC / (DATE): 15.10 ft (8/2/07)

WELL COMPLETION DETAILS

	TYPES	DEPTH (FT BGS)
WELL CASING:	2" Schedule 40 PVC	0-8
SURFACE CASING GROUT TYPE:	Native Fill	0-2
SEAL TYPE:	Bentonite chips	2-6
SAND PACK:	Colorado Silica Sand No. 10/20	6-23
WELL SCREEN:	15', 2" PVC screen, 0.010" slots	8-23
TOTAL DEPTH DRILLED:		23

DEPTH	SAMPLE INTERVAL	PID READING (PPM)	U.S.C.S. CLASS	LITHOLOGY	DESCRIPTION
0					Boring was manually cleared by Alaska Pipeliners from 0 to 8 feet below ground surface (bgs).
-10	9 to 11	0.1	SM		SILTY SAND WITH GRAVEL: grayish brown to brown; silty sands with some gravel; some clay; medium dense (SPT, N blows/ft: 7, 7, 6, 4); moist to wet.
-15	14 to16	0.2	SP/SM		POORLY GRADED SAND WITH GRAVEL: brown; fine grained sand to silty sand; loose (SPT, N blows/ft: 6, 2, 2, 3); moist. Note: groundwater was encountered at approximately 18 feet bgs.
-20	21 to 23	13.2	SP		POORLY GRADED SAND WITH GRAVEL: gray; fine sands with gravel; loose (SPT N blows/ft: 4-10); moist.



BORING / WELL COMPLETION LOG

WELL NO. MW-9

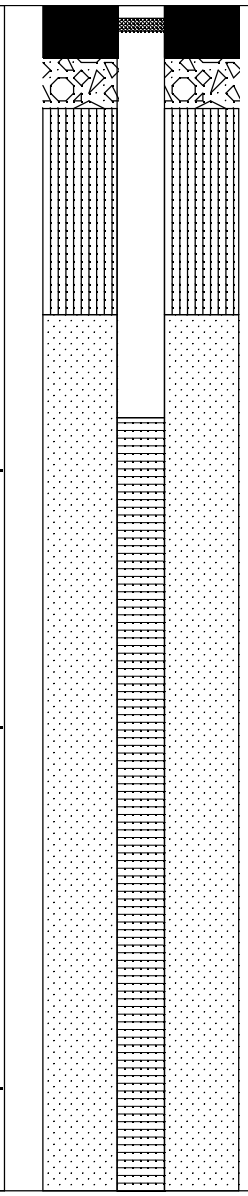
ARCADIS
2300 Eastlake Avenue East, Suite 200, Seattle, WA 98102 Tel: 206.325.5254 Fax: 206.325.8218

PROJECT NUMBER: B0045501.0000
PROJECT NAME: Former Chevron No. 92114
SITE LOCATION: 3245 College Road, Fairbanks, Alaska
LOGGED BY: Jason Luckett
DRILLING CO: Discovery Drilling
DRILLER: Dick Banzhap
DRILLING METHOD: Hollow Stem Auger
DATE BEGUN: 7/24/07
DATE COMPLETED: 7/24/07
TOP OF PVC CASING ELEVATION (TOC): 123.92 FT
DEPTH TO WATER BELOW TOC / (DATE): 13.15 (8/2/07)

WELL COMPLETION DETAILS

	TYPES	DEPTH (FT BGS)
WELL CASING:	2" Schedule 40 PVC	0-8
SURFACE CASING GROUT TYPE:	Native Fill	0-2
SEAL TYPE:	Bentonite chips	2-6
SAND PACK:	Colorado Silica Sand No. 10/20	6-23
WELL SCREEN:	15', 2" PVC screen, 0.010" slots	8-23
TOTAL DEPTH DRILLED:		23

DEPTH	SAMPLE INTERVAL	PID READING (PPM)	U.S.C.S. CLASS	LITHOLOGY	DESCRIPTION
0					Boring was manually cleared by Alaska Pipeliners from 0 to 8 feet below ground surface (bgs).
-10	9 to 11	0	SM		SILTY SAND: gray to brown; silty sand with little gravel; medium dense (SPT, N blows/ft: 6,6,2,3); moist.
-15	14 to16	0	SM		SILTY SAND: gray to brown; silty sands, fines with some gravels; loose (SPT, N blows/ft: 3,3,2,3); moist.
-20	21 to 23	5.1	SM		SILTY SAND: gray; silty sands with some gravel; loose; moist to wet.



BORING / WELL COMPLETION LOG

WELL NO. MW-10

ARCADIS
2300 Eastlake Avenue East, Suite 200, Seattle, WA 98102 Tel: 206.325.5254 Fax: 206.325.8218

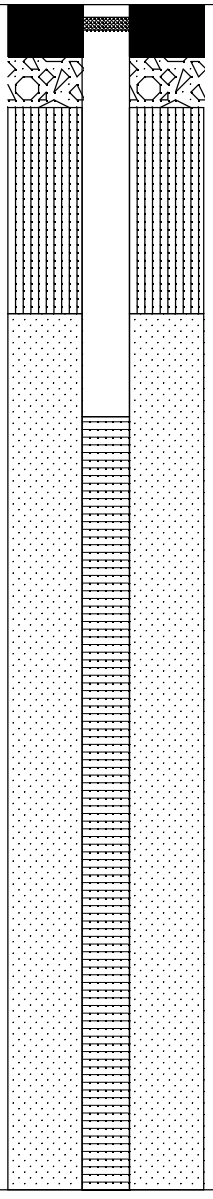
PROJECT NUMBER: B0045501.0000
PROJECT NAME: Former Chevron No. 92114
SITE LOCATION: 3245 College Road, Fairbanks, Alaska
LOGGED BY: Jason Luckett
DRILLING CO: Discovery Drilling
DRILLER: Dick Banzhap
DRILLING METHOD: Hollow Stem Auger
DATE BEGUN: 7/24/07
DATE COMPLETED: 7/24/07
TOP OF PVC CASING ELEVATION (TOC): Not measured.
DEPTH TO WATER BELOW TOC / (DATE):13.05 ft (8/2/07)

WELL COMPLETION DETAILS

	TYPES	DEPTH (FT BGS)
WELL CASING:	2" Schedule 40 PVC	0-8
SURFACE CASING GROUT TYPE:	Native Fill	0-2
SEAL TYPE:	Bentonite chips	2-6
SAND PACK:	Colorado Silica Sand No. 10/20	6-23
WELL SCREEN:	15', 2" PVC screen, 0.010" slots	8-23
TOTAL DEPTH DRILLED:		23

DEPTH	SAMPLE INTERVAL	PID READING (PPM)	U.S.C.S. CLASS	LITHOLOGY	DESCRIPTION
0					Boring was manually cleared by Alaska Pipeliners from 0 to 8 feet below ground surface (bgs).
-10	9.5 to 11.5	0	SM		SILTY SAND: light brown to gray; silty sand with some gravel; loose (SPT, N blows/ft: 2,1,1,2); moist.
-15	14.5 to 16.5	127	SM		SILTY SAND: light gray to light brown; silty sands with some gravel, few cobbles; loose (SPT, N blows/ft: 3,2,2,3); moist to wet.
-20	19.5 to 21.5	1.2	SM		SILTY SAND: silty sands with some gravel and a few cobbles; loose (SPT, N blows/ft: 1,1,2,1); moist to wet.

WELL INSTALLATION



BORING LOG

BORING NO. SB-1

ARCADIS
2300 Eastlake Avenue East, Suite 200, Seattle, WA 98006 Tel: 206.325.5254 Fax: 206.325.8218

PROJECT NUMBER:	B0045501.0000	DRILLING METHOD:	Hollow Stem Auger
PROJECT NAME:	Former Chevron No. 92114	SAMPLING METHOD:	Modified Split Spoon Sampler
SITE LOCATION:	3245 College Road, Fairbanks, Alaska	BORING DIAMETER:	8.25 inches
LOGGED BY:	Jason Luckett	TOTAL DEPTH BGS:	15
DRILLING COMPANY:	Discovery Drilling	DRILLER: Dick Banzhap	DATE BEGUN: 7/25/07 DATE COMPLETED: 7/25/07

DEPTH	SAMPLE INTERVAL	SPT, N (BLOWS/FT)	PID READING (PPM)	U.S.C.S. CLASS	LITHOLOGY	DESCRIPTION
0						Boring was manually cleared by Alaska Pipeliners from 0 to 8 feet below ground surface (bgs).
-5						
-10	9 to 11	4,2,3,1	56.7	SP		POORLY GRADED SAND : light brown to grayish brown; fine sand, little silt; loose; moist.
	11 to 13	2,2,2,1	100.1	SP		POORLY GRADED SAND : grayish brown; fine sand, little gravel; loose; moist.
	13 to 15	NM	657.3	SP		POORLY GRADED SAND : grayish brown; fine sand with some gravel; loose; moist to wet.
-15						

BORING LOG

BORING NO. SB-2

ARCADIS
2300 Eastlake Avenue East, Suite 200, Seattle, WA 98006 Tel: 206.325.5254 Fax: 206.325.8218

PROJECT NUMBER:	B0045501.0000	DRILLING METHOD:	Hollow Stem Auger
PROJECT NAME:	Former Chevron No. 92114	SAMPLING METHOD:	Modified Split Spoon Sampler
SITE LOCATION:	3245 College Road, Fairbanks, Alaska	BORING DIAMETER:	8.25 inches
LOGGED BY:	Jason Luckett	TOTAL DEPTH BGS:	15
DRILLING COMPANY:	Discovery Drilling	DRILLER: Dick Banzhap	DATE BEGUN: 7/25/07 DATE COMPLETED: 7/25/07

DEPTH	SAMPLE INTERVAL	SPT, N (BLOWS/FT)	PID READING (PPM)	U.S.C.S. CLASS	LITHOLOGY	DESCRIPTION
0						Boring was manually by Alaska Pipeliners from 0 to 8 feet below ground surface (bgs).
-5						
-10	9 to 11	7,6,5,3	0	SP		POORLY GRADED SAND: grayish brown; fine sands with some gravel; loose; moist.
	11 to 13	NM	1.3	SP		POORLY GRADED SAND WITH GRAVEL: grayish brown; fine sand with gravel; loose; moist to wet.
	13 to 15	3,4,3,4	1,478	SP		POORLY GRADED SAND WITH GRAVEL: grayish brown; fine sand with gravel; loose; moist.
-15						

BORING LOG

BORING NO. SB-3

ARCADIS
2300 Eastlake Avenue East, Suite 200, Seattle, WA 98006 Tel: 206.325.5254 Fax: 206.325.8218

PROJECT NUMBER:	B0045501.0000	DRILLING METHOD:	Hollow Stem Auger
PROJECT NAME:	Former Chevron No. 92114	SAMPLING METHOD:	Modified Split Spoon Sampler
SITE LOCATION:	3245 College Road, Fairbanks, Alaska	BORING DIAMETER:	8.25 inches
LOGGED BY:	Jason Luckett	TOTAL DEPTH BGS:	15
DRILLING COMPANY:	Discovery Drilling	DRILLER: Dick Banzhap	DATE BEGUN: 7/25/07 DATE COMPLETED: 7/25/07

DEPTH	SAMPLE INTERVAL	SPT, N (BLOWS/FT)	PID READING (PPM)	U.S.C.S. CLASS	LITHOLOGY	DESCRIPTION
0						Boring was manually cleared by Alaska Pipeliners from 0 to 8 feet below ground surface (bgs).
-5						
-10	9 to 11	3,3,4,3	0	SM		SILTY SAND: light brownish gray; silty sands (fine grained sand); loose; moist.
	11 to 13	NM	0	SP		POORLY GRADED SAND WITH GRAVEL: brownish gray; fine grained sand with little silt; loose; moist.
	13 to 15	NM	0.9	SP		POORLY GRADED SAND WITH GRAVEL: grayish brown; fine grained sand with some gravel; loose; moist.
-15						

BORING LOG

BORING NO. SB-4

ARCADIS
2300 Eastlake Avenue East, Suite 200, Seattle, WA 98006 Tel: 206.325.5254 Fax: 206.325.8218

PROJECT NUMBER:	B0045501.0000	DRILLING METHOD:	Hollow Stem Auger
PROJECT NAME:	Former Chevron No. 92114	SAMPLING METHOD:	Modified Split Spoon Sampler
SITE LOCATION:	3245 College Road, Fairbanks, Alaska	BORING DIAMETER:	8.25 inches
LOGGED BY:	Jason Luckett	TOTAL DEPTH BGS:	15
DRILLING COMPANY:	Discovery Drilling	DRILLER: Dick Banzhap	DATE BEGUN: 7/25/07 DATE COMPLETED: 7/25/07

DEPTH	SAMPLE INTERVAL	SPT, N (BLOWS/FT)	PID READING (PPM)	U.S.C.S. CLASS	LITHOLOGY	DESCRIPTION
0						Boring was manually cleared by Alaska Pipeliners from 0 to 8 feet below ground surface (bgs).
-10	9 to 11	2,2,2,3	0	SP		POORLY GRADED SAND: grayish brown; fine sand with some gravel; loose; moist.
	11 to 13	2,2,3,2	5.0	SP		POORLY GRADED SAND: grayish brown; fine sand loose; moist.
	13 to 15	4,2,3,1	1.2	SP		POORLY GRADED SAND: grayish brown; fine sand with some gravel; loose; moist.
-15						

ARCADIS BBLES

Appendix B

Soil Laboratory Reports & ADEC Data Review Checklists

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

ANALYTICAL RESULTS

Prepared for:

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

925-842-8582

Prepared by:

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

SAMPLE GROUP

The sample group for this submittal is 1049347. Samples arrived at the laboratory on Sunday, July 29, 2007. The PO# for this group is 0015014445 and the release number is HARTUNG-FRERICH.

Client Description	Lancaster Labs Number
SB 2 11'-13' Grab Soil Sample	5116707
SB 3 11'-13' Grab Soil Sample	5116708
SB 4 13'-15' Grab Soil Sample	5116709
SB 1 9'-11' Grab Soil Sample	5116710
SB 3 13'-15' Grab Soil Sample	5116711
SB 2 9'-11' Grab Soil Sample	5116712
SB 1 11'-13' Grab Soil Sample	5116713
SB 4 11'-13' Grab Soil Sample	5116714

METHODOLOGY

The specific methodologies used in obtaining the enclosed analytical results are indicated on the laboratory chronicles.

ELECTRONIC COPY TO	Blasland, Bouck & Lee	Attn: Rebecca Andresen
ELECTRONIC COPY TO	Arcadis BBL	Attn: Vanessa Varbel
1 COPY TO	Data Package Group	

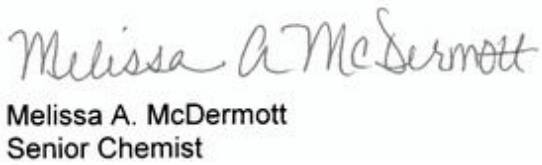
Lancaster Laboratories

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

Analysis Report

Questions? Contact your Client Services Representative
Rebecca J Shettel at (717) 656-2300

Respectfully Submitted,



Melissa A. McDermott
Senior Chemist

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

Lancaster Laboratories Sample No. SW 5116707

SB 2 11'-13' Grab Soil Sample
Facility #92114
3245 College Rd. - Fairbanks, AK
Collected:07/25/2007 12:00 by JL

Account Number: 11964

Submitted: 07/29/2007 10:00
Reported: 08/14/2007 at 09:23
Discard: 09/14/2007

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SB2-B SDG#: ALK48-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
01742	TPH-DRO (AK) in soil	n.a.	8.2	4.4	mg/kg	1
00111	Moisture	n.a.	9.2	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.					
01451	Alaska AK101 GRO (soils)					
01452	Alaska AK101 GRO (soils)	n.a.	1.6	0.5	mg/kg	24.4
05878	BTEX					
02174	Benzene	71-43-2	N.D.	0.006	mg/kg	24.4
02177	Toluene	108-88-3	0.02	0.006	mg/kg	24.4
02178	Ethylbenzene	100-41-4	N.D.	0.006	mg/kg	24.4
02182	Total Xylenes	1330-20-7	0.04	0.02	mg/kg	24.4

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 Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01742	TPH-DRO (AK) in soil	AK 102/AK 103 04/08/02	1	08/03/2007 20:21	Heather E Williams	1
00111	Moisture	SM20 2540 G	2	08/03/2007 17:02	Scott W Freisher	1
01451	Alaska AK101 GRO (soils)	AK 101	1	08/02/2007 00:03	Linda C Pape	24.4
05878	BTEX	SW-846 8021B	1	08/02/2007 00:03	Linda C Pape	24.4
04833	Extraction / Fuel TPH (Soils)	AK 102/AK 103 04/08/02	1	08/02/2007 06:30	Jason A Heisey	1
06119	GC - Field Preserved (AK-101)	AK 101	1	07/25/2007 12:00	Client Supplied	1

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

Lancaster Laboratories Sample No. SW 5116708

SB 3 11'-13' Grab Soil Sample
Facility #92114
3245 College Rd. - Fairbanks, AK
Collected:07/25/2007 13:30 by JL

Account Number: 11964

Submitted: 07/29/2007 10:00
Reported: 08/14/2007 at 09:23
Discard: 09/14/2007

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SB3-A SDG#: ALK48-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
01742	TPH-DRO (AK) in soil	n.a.	N.D.	4.2	mg/kg	1
00111	Moisture	n.a.	5.6	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.					
01451	Alaska AK101 GRO (soils)					
01452	Alaska AK101 GRO (soils)	n.a.	N.D.	0.6	mg/kg	30.64
05878	BTEX					
02174	Benzene	71-43-2	N.D.	0.006	mg/kg	30.64
02177	Toluene	108-88-3	0.02	0.006	mg/kg	30.64
02178	Ethylbenzene	100-41-4	N.D.	0.006	mg/kg	30.64
02182	Total Xylenes	1330-20-7	0.05	0.02	mg/kg	30.64

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 Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01742	TPH-DRO (AK) in soil	AK 102/AK 103 04/08/02	1	08/03/2007 20:45	Heather E Williams	1
00111	Moisture	SM20 2540 G	1	08/02/2007 16:46	Scott W Freisher	1
01451	Alaska AK101 GRO (soils)	AK 101	1	08/02/2007 00:43	Linda C Pape	30.64
05878	BTEX	SW-846 8021B	1	08/02/2007 00:43	Linda C Pape	30.64
04833	Extraction / Fuel TPH (Soils)	AK 102/AK 103 04/08/02	1	08/02/2007 06:30	Jason A Heisey	1
06119	GC - Field Preserved (AK-101)	AK 101	1	07/25/2007 13:30	Client Supplied	1

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

Lancaster Laboratories Sample No. SW 5116709

SB 4 13'-15' Grab Soil Sample
Facility #92114
3245 College Rd. - Fairbanks, AK
Collected:07/25/2007 14:00 by JL

Account Number: 11964

Submitted: 07/29/2007 10:00
Reported: 08/14/2007 at 09:24
Discard: 09/14/2007

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SB4-B SDG#: ALK48-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
01742	TPH-DRO (AK) in soil	n.a.	28.	4.3	mg/kg	1
00111	Moisture	n.a.	7.1	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.					
01451	Alaska AK101 GRO (soils)					
01452	Alaska AK101 GRO (soils)	n.a.	2.9	0.5	mg/kg	24.71
05878	BTEX					
02174	Benzene	71-43-2	N.D.	0.005	mg/kg	24.71
02177	Toluene	108-88-3	0.02	0.005	mg/kg	24.71
02178	Ethylbenzene	100-41-4	0.007	0.005	mg/kg	24.71
02182	Total Xylenes	1330-20-7	0.09	0.02	mg/kg	24.71

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 Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01742	TPH-DRO (AK) in soil	AK 102/AK 103 04/08/02	1	08/03/2007 23:33	Heather E Williams	1
00111	Moisture	SM20 2540 G	1	08/02/2007 16:46	Scott W Freisher	1
01451	Alaska AK101 GRO (soils)	AK 101	1	08/02/2007 23:46	Linda C Pape	24.71
05878	BTEX	SW-846 8021B	1	08/02/2007 23:46	Linda C Pape	24.71
04833	Extraction / Fuel TPH (Soils)	AK 102/AK 103 04/08/02	1	08/02/2007 06:30	Jason A Heisey	1
06119	GC - Field Preserved (AK-101)	AK 101	1	07/25/2007 14:00	Client Supplied	1

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

Lancaster Laboratories Sample No. SW 5116710

SB 1 9'-11' Grab Soil Sample
Facility #92114
3245 College Rd. - Fairbanks, AK
Collected:07/25/2007 11:00 by JL

Account Number: 11964

Submitted: 07/29/2007 10:00
Reported: 08/14/2007 at 09:24
Discard: 09/14/2007

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SB1-A SDG#: ALK48-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
01742	TPH-DRO (AK) in soil	n.a.	590.	87.	mg/kg	20
00111	Moisture	n.a.	7.8	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.					
01451	Alaska AK101 GRO (soils)					
01452	Alaska AK101 GRO (soils)	n.a.	24.	15.	mg/kg	28.17
05878	BTEX					
02174	Benzene	71-43-2	N.D.	0.2	mg/kg	28.17
02177	Toluene	108-88-3	N.D.	0.2	mg/kg	28.17
02178	Ethylbenzene	100-41-4	N.D.	0.2	mg/kg	28.17
02182	Total Xylenes	1330-20-7	N.D.	0.7	mg/kg	28.17
	Due to the presence of interferents near their retention time, normal reporting limits were not attained for ethylbenzene and total xylenes. The presence or concentration of these compounds cannot be determined below the reporting limits due to the presence of these interferents.					

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 Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01742	TPH-DRO (AK) in soil	AK 102/AK 103 04/08/02	1	08/07/2007 07:12	Heather E Williams	20
00111	Moisture	SM20 2540 G	1	08/02/2007 16:46	Scott W Freisher	1
01451	Alaska AK101 GRO (soils)	AK 101	1	08/02/2007 16:05	Linda C Pape	28.17
05878	BTEX	SW-846 8021B	1	08/02/2007 16:05	Linda C Pape	28.17
04833	Extraction / Fuel TPH (Soils)	AK 102/AK 103 04/08/02	1	08/02/2007 06:30	Jason A Heisey	1
06119	GC - Field Preserved (AK-101)	AK 101	1	07/25/2007 11:00	Client Supplied	1

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

Lancaster Laboratories Sample No. SW 5116710

SB 1 9'-11' Grab Soil Sample
Facility #92114
3245 College Rd. - Fairbanks, AK
Collected:07/25/2007 11:00 by JL

Account Number: 11964

Submitted: 07/29/2007 10:00
Reported: 08/14/2007 at 09:24
Discard: 09/14/2007

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SB1-A SDG#: ALK48-04

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

Lancaster Laboratories Sample No. SW 5116711

SB 3 13'-15' Grab Soil Sample
Facility #92114
3245 College Rd. - Fairbanks, AK
Collected:07/25/2007 13:30 by JL

Account Number: 11964

Submitted: 07/29/2007 10:00
Reported: 08/14/2007 at 09:24
Discard: 09/14/2007

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SB3-B SDG#: ALK48-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
01742	TPH-DRO (AK) in soil	n.a.	8.4	4.6	mg/kg	1
00111	Moisture	n.a.	13.1	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.					
01451	Alaska AK101 GRO (soils)					
01452	Alaska AK101 GRO (soils)	n.a.	N.D.	0.5	mg/kg	22.42
05878	BTEX					
02174	Benzene	71-43-2	N.D.	0.005	mg/kg	22.42
02177	Toluene	108-88-3	0.02	0.005	mg/kg	22.42
02178	Ethylbenzene	100-41-4	N.D.	0.005	mg/kg	22.42
02182	Total Xylenes	1330-20-7	0.04	0.01	mg/kg	22.42

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 Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01742	TPH-DRO (AK) in soil	AK 102/AK 103 04/08/02	1	08/03/2007 21:09	Heather E Williams	1
00111	Moisture	SM20 2540 G	1	08/02/2007 16:46	Scott W Freisher	1
01451	Alaska AK101 GRO (soils)	AK 101	1	08/02/2007 18:07	Linda C Pape	22.42
05878	BTEX	SW-846 8021B	1	08/02/2007 18:07	Linda C Pape	22.42
04833	Extraction / Fuel TPH (Soils)	AK 102/AK 103 04/08/02	1	08/02/2007 06:30	Jason A Heisey	1
06119	GC - Field Preserved (AK-101)	AK 101	1	07/25/2007 13:30	Client Supplied	1

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

Lancaster Laboratories Sample No. SW 5116712

SB 2 9'-11' Grab Soil Sample
Facility #92114
3245 College Rd. - Fairbanks, AK
Collected:07/25/2007 12:00 by JL

Account Number: 11964

Submitted: 07/29/2007 10:00
Reported: 08/14/2007 at 09:24
Discard: 09/14/2007

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SB2-A SDG#: ALK48-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
01742	TPH-DRO (AK) in soil	n.a.	N.D.	4.3	mg/kg	1
00111	Moisture	n.a.	7.8	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.					
01451	Alaska AK101 GRO (soils)					
01452	Alaska AK101 GRO (soils)	n.a.	0.5	0.4	mg/kg	18.28
05878	BTEX					
02174	Benzene	71-43-2	N.D.	0.004	mg/kg	18.28
02177	Toluene	108-88-3	0.02	0.004	mg/kg	18.28
02178	Ethylbenzene	100-41-4	N.D.	0.004	mg/kg	18.28
02182	Total Xylenes	1330-20-7	0.07	0.01	mg/kg	18.28

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 Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01742	TPH-DRO (AK) in soil	AK 102/AK 103 04/08/02	1	08/03/2007 21:33	Heather E Williams	1
00111	Moisture	SM20 2540 G	1	08/02/2007 16:46	Scott W Freisher	1
01451	Alaska AK101 GRO (soils)	AK 101	1	08/02/2007 18:48	Linda C Pape	18.28
05878	BTEX	SW-846 8021B	1	08/02/2007 18:48	Linda C Pape	18.28
04833	Extraction / Fuel TPH (Soils)	AK 102/AK 103 04/08/02	1	08/02/2007 06:30	Jason A Heisey	1
06119	GC - Field Preserved (AK-101)	AK 101	1	07/25/2007 12:00	Client Supplied	1

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

Lancaster Laboratories Sample No. SW 5116713

SB 1 11'-13' Grab Soil Sample
Facility #92114
3245 College Rd. - Fairbanks, AK
Collected:07/25/2007 11:00 by JL

Account Number: 11964

Submitted: 07/29/2007 10:00
Reported: 08/14/2007 at 09:24
Discard: 09/14/2007

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SB1-B SDG#: ALK48-07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
01742	TPH-DRO (AK) in soil	n.a.	5.1	4.4	mg/kg	1
00111	Moisture	n.a.	9.5	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.					
01451	Alaska AK101 GRO (soils)					
01452	Alaska AK101 GRO (soils)	n.a.	6.3	0.7	mg/kg	32.5
05878	BTEX					
02174	Benzene	71-43-2	N.D.	0.008	mg/kg	32.5
02177	Toluene	108-88-3	0.02	0.008	mg/kg	32.5
02178	Ethylbenzene	100-41-4	N.D.	0.06	mg/kg	32.5
02182	Total Xylenes	1330-20-7	N.D.	0.1	mg/kg	32.5
	Due to the presence of interferents near their retention time, normal reporting limits were not attained for ethylbenzene and total xylenes. The presence or concentration of these compounds cannot be determined below the reporting limits due to the presence of these interferents.					

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 Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01742	TPH-DRO (AK) in soil	AK 102/AK 103 04/08/02	1	08/03/2007 21:57	Heather E Williams	1
00111	Moisture	SM20 2540 G	1	08/02/2007 16:46	Scott W Freisher	1
01451	Alaska AK101 GRO (soils)	AK 101	1	08/02/2007 19:28	Linda C Pape	32.5
05878	BTEX	SW-846 8021B	1	08/02/2007 19:28	Linda C Pape	32.5
04833	Extraction / Fuel TPH (Soils)	AK 102/AK 103 04/08/02	1	08/02/2007 06:30	Jason A Heisey	1
06119	GC - Field Preserved (AK-101)	AK 101	1	07/25/2007 11:00	Client Supplied	1

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

Lancaster Laboratories Sample No. SW 5116713

SB 1 11'-13' Grab Soil Sample
Facility #92114
3245 College Rd. - Fairbanks, AK
Collected:07/25/2007 11:00 by JL

Account Number: 11964

Submitted: 07/29/2007 10:00
Reported: 08/14/2007 at 09:24
Discard: 09/14/2007

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SB1-B SDG#: ALK48-07

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

Lancaster Laboratories Sample No. SW 5116714

SB 4 11'-13' Grab Soil Sample
Facility #92114
3245 College Rd. - Fairbanks, AK
Collected:07/25/2007 14:00 by JL

Account Number: 11964

Submitted: 07/29/2007 10:00
Reported: 08/14/2007 at 09:24
Discard: 09/14/2007

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

SB4-A SDG#: ALK48-08

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
01742	TPH-DRO (AK) in soil	n.a.	55.	4.2	mg/kg	1
00111	Moisture	n.a.	5.4	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.					
01451	Alaska AK101 GRO (soils)					
01452	Alaska AK101 GRO (soils)	n.a.	1.	0.7	mg/kg	31.68
05878	BTEX					
02174	Benzene	71-43-2	N.D.	0.006	mg/kg	31.68
02177	Toluene	108-88-3	0.03	0.006	mg/kg	31.68
02178	Ethylbenzene	100-41-4	0.006	0.006	mg/kg	31.68
02182	Total Xylenes	1330-20-7	0.1	0.02	mg/kg	31.68

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 Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01742	TPH-DRO (AK) in soil	AK 102/AK 103 04/08/02	1	08/03/2007 22:21	Heather E Williams	1
00111	Moisture	SM20 2540 G	1	08/02/2007 16:46	Scott W Freisher	1
01451	Alaska AK101 GRO (soils)	AK 101	1	08/02/2007 20:22	Linda C Pape	31.68
05878	BTEX	SW-846 8021B	1	08/02/2007 20:22	Linda C Pape	31.68
04833	Extraction / Fuel TPH (Soils)	AK 102/AK 103 04/08/02	1	08/02/2007 06:30	Jason A Heisey	1
06119	GC - Field Preserved (AK-101)	AK 101	1	07/25/2007 14:00	Client Supplied	1

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

Quality Control Summary

Client Name: Chevron Group Number: 1049347
Reported: 08/14/07 at 09:24 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: 072130026A	Sample number(s): 5116707-5116714							
TPH-DRO (AK) in soil	N.D.	4.0	mg/kg	86	90	75-125	5	50
Batch number: 07213A02A	Sample number(s): 5116707-5116708,5116710							
Alaska AK101 GRO (soils)	N.D.	0.5	mg/kg	91	93	60-120	0	20
Benzene	N.D.	0.005	mg/kg	100	105	76-118	4	30
Toluene	N.D.	0.005	mg/kg	94	97	72-115	3	30
Ethylbenzene	N.D.	0.005	mg/kg	99	103	77-115	3	30
Total Xylenes	N.D.	0.02	mg/kg	101	104	78-115	3	30
Batch number: 07213A02B	Sample number(s): 5116709,5116711-5116714							
Alaska AK101 GRO (soils)	N.D.	0.5	mg/kg	91	93	60-120	0	20
Benzene	N.D.	0.005	mg/kg	100	105	76-118	4	30
Toluene	N.D.	0.005	mg/kg	94	97	72-115	3	30
Ethylbenzene	N.D.	0.005	mg/kg	99	103	77-115	3	30
Total Xylenes	N.D.	0.02	mg/kg	101	104	78-115	3	30
Batch number: 07214820002B	Sample number(s): 5116708-5116714							
Moisture				100		99-101		
Batch number: 07215820001A	Sample number(s): 5116707							
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: 072130026A	Sample number(s): 5116707-5116714 UNSPK: P116414								
TPH-DRO (AK) in soil	(2)	(2)	60-140	6	50				
Batch number: 07214820002B	Sample number(s): 5116708-5116714 BKG: P116707								
Moisture						7.9	16.7	71*	15
Batch number: 07215820001A	Sample number(s): 5116707 BKG: 5116707								
Moisture						9.2	10.1	9	15

Surrogate Quality Control

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Quality Control Summary

Client Name: Chevron Group Number: 1049347
Reported: 08/14/07 at 09:24 AM

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 (AK) in soil
Batch number: 072130026A

	Orthoterphenyl
5116707	97
5116708	97
5116709	88
5116710	97
5116711	113
5116712	99
5116713	99
5116714	94
Blank	98
LCS	102
LCSD	109
MS	82
MSD	82
Limits:	50-150

Analysis Name: Alaska AK101 GRO (soils)
Batch number: 07213A02A

	Trifluorotoluene-F	Trifluorotoluene-P
5116707	86	103
5116708	91	113
5116710	103	100
Blank	96	98
LCS	105	96
LCSD	102	94
Limits:	60-120	55-124

Analysis Name: Alaska AK101 GRO (soils)
Batch number: 07213A02B

	Trifluorotoluene-F	Trifluorotoluene-P
5116709	86	86
5116711	81	87
5116712	86	92
5116713	90	98
5116714	89	98
Blank	102	101
LCS	105	96
LCSD	102	94
Limits:	60-120	55-124

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Chevron Generic Analysis Request/Chain of Custody

Lancaster Laboratories — Where quality is a science.

Group # 1049347

Acct. #: 11964 — For Lancaster Laboratories use only — Sample #: 511707-15 — SCR#: 009576 / 46190

Facility #: 92114, 306456

Site Address: 3245 College Road, 328.5 Illinois St.

Chevron PM: Stacie Freriehs — Lead Consultant: ~~Rebecca Andresen ARSL~~

Consultant/Office: Seattle, WA

Consultant Prj. Mgr.: Rebecca Andresen

Consultant Phone #: 206 295 3273 — Fax #:

Sampler: Jason Leavitt, Jocelyn Hastain

Service Order #: 00150144445 — ☐ Non SAR:

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Water (☐ Potable ☐ NPDES)	Matrix: Oil ☐ Air ☐	Total Number of Containers	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 + GRO	Alk DRO	Alk DRO + RRO
SB 2 11'-13'	7/25/07	1200	✓		✓			2									1	-	
SB 3 11'-13'	7/25/07	1330	✓		✓			2									1	-	
SB 4 13'-15'	7/25/07	1400	✓		✓			2									1	-	
SB 1 9'-11'	7/25/07	1100	✓		✓			2									1	-	
SB 3 13'-15'	7/25/07	1330	✓		✓			2									1	-	
SB 2 9'-11'	7/25/07	1200	✓		✓			2									1	-	
SB 1 11'-13'	7/25/07	1100	✓		✓			2									1	-	
SB 4 11'-13'	7/25/07	1400	✓		✓			2									1	-	
MW 13 9.5'-11.5'	7/26/07	1030	✓		✓			2									1	1	
MW 13 14.5'-16.5'	7/26/07	1030	✓		✓			2									1	1	

92114

306456

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

NWRTB
030645600-ARL

92114 - College Road

306456 - Former Unocal

BTEX 8021
GRO AK101
per RA
RJS 7/31/07

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
Relinquished by: K. Hunt	7/24/07	0710
Relinquished by:		
Relinquished by:		
Relinquished by Commercial Carrier: UPS FedEx Other		
Temperature Upon Receipt 3.6 C°		

	Date	Time
Received by:		
Received by:		
Received by:		
Received by:	7/24/07	1000
Custody Seals Intact? Yes No		

Lancaster Laboratories, Inc., 2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 (717) 656-2300
Copies: White and yellow should accompany samples to Lancaster Laboratories. The pink copy should be retained by the client.

3566 Rev. 1/31/02

Lancaster Laboratories
Explanation of Symbols and Abbreviations

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

N.D.	none detected	**BMQL**	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	**MPN**	Most Probable Number
IU	International Units	**CP Units**	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	**NTU**	nephelometric turbidity units
C	degrees Celsius	**F**	degrees Fahrenheit
Cal	(diet) calories	**lb.**	pound(s)
meq	milliequivalents	**kg**	kilogram(s)
g	gram(s)	**mg**	milligram(s)
ug	microgram(s)	**l**	liter(s)
ml	milliliter(s)	**ul**	microliter(s)
m3	cubic meter(s)	**fib >5 um/ml**	fibers greater than 5 microns in length per ml

< 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

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.

U.S. EPA 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 quatitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
J	Estimated value
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 amount 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 for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

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.

WARRANTY AND LIMITS OF LIABILITY – In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL LANCASTER LABORATORIES BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF LANCASTER LABORATORIES AND (B) WHETHER LANCASTER LABORATORIES HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Lancaster Laboratories which includes any conditions that vary from the Standard Terms and Conditions of Lancaster Laboratories and we hereby object to any conflicting terms contained in any acceptance or order submitted by client.

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

ANALYTICAL RESULTS

Prepared for:

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

925-842-8582

Prepared by:

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

SAMPLE GROUP

The sample group for this submittal is 1048664. Samples arrived at the laboratory on Thursday, July 26, 2007. The PO# for this group is 0015014445 and the release number is HARTUNG-FRERICH.

Client Description	Lancaster Labs Number
MW_1R_15'-17' Grab Soil Sample	5112356
MW_1R_10'-12' Grab Soil Sample	5112357
MW_8_14'-16' Grab Soil Sample	5112358
MW_8_21'-23' Grab Soil Sample	5112359
MW_9_19'-21' Grab Soil Sample	5112360
MW_10_14.5'-16.5' Grab Soil Sample	5112361
MW_10_19.5'-21.5' Grab Soil Sample	5112362
MW_4R_14'-16' Grab Soil Sample	5112363
MW_4R_19'-21' Grab Soil Sample	5112364
Trip_Blank Water Sample	5112365

METHODOLOGY

The specific methodologies used in obtaining the enclosed analytical results are indicated on the laboratory chronicles.

ELECTRONIC COPY TO	Blasland, Bouck & Lee	Attn: Rebecca Andresen
ELECTRONIC COPY TO	Arcadis BBL	Attn: Vanessa Varbel
1 COPY TO	Data Package Group	

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

Questions? Contact your Client Services Representative
Rebecca J Shettel at (717) 656-2300

Respectfully Submitted,

Melissa A. McDermott
Senior Chemist

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

Lancaster Laboratories Sample No. SW 5112356

MW_1R_15'-17' Grab Soil Sample
Facility# 92114
3245 College Road - Fairbanks, AK
Collected:07/23/2007 13:45 by JL

Account Number: 11964

Submitted: 07/26/2007 09:50
Reported: 08/07/2007 at 15:31
Discard: 09/07/2007

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

CF115 SDG#: ALK41-01

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
01742	TPH-DRO (AK) in soil	n.a.	68.	4.9	mg/kg	1
00111	Moisture	n.a.	18.4	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.					
01451	Alaska AK101 GRO (soils)					
01452	Alaska AK101 GRO (soils)	n.a.	160.	4.6	mg/kg	186.12
05878	BTEX					
02174	Benzene	71-43-2	0.09	0.05	mg/kg	186.12
02177	Toluene	108-88-3	0.3	0.05	mg/kg	186.12
02178	Ethylbenzene	100-41-4	1.8	0.05	mg/kg	186.12
02182	Total Xylenes	1330-20-7	11.	0.1	mg/kg	186.12

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 Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01742	TPH-DRO (AK) in soil	AK 102/AK 103 04/08/02	1	07/31/2007 19:26	Heather E Williams	1
00111	Moisture	SM20 2540 G	1	07/27/2007 15:41	Scott W Freisher	1
01451	Alaska AK101 GRO (soils)	AK 101	1	07/28/2007 12:27	Linda C Pape	186.12
05878	BTEX	SW-846 8021B	1	07/28/2007 12:27	Linda C Pape	186.12
04833	Extraction / Fuel TPH (Soils)	AK 102/AK 103 04/08/02	1	07/31/2007 06:00	Jason A Heisey	1
06119	GC - Field Preserved (AK-101)	AK 101	1	07/23/2007 13:45	Client Supplied	1

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

Lancaster Laboratories Sample No. SW 5112357

MW_1R_10'-12' Grab Soil Sample
Facility# 92114
3245 College Road - Fairbanks, AK
Collected:07/23/2007 13:45 by JL

Account Number: 11964

Submitted: 07/26/2007 09:50
Reported: 08/07/2007 at 15:31
Discard: 09/07/2007

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

CF110 SDG#: ALK41-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
01742	TPH-DRO (AK) in soil	n.a.	6.9	4.3	mg/kg	1
00111	Moisture	n.a.	7.4	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.					
01451	Alaska AK101 GRO (soils)					
01452	Alaska AK101 GRO (soils)	n.a.	0.8	0.6	mg/kg	27.84
05878	BTEX					
02174	Benzene	71-43-2	N.D.	0.006	mg/kg	27.84
02177	Toluene	108-88-3	0.01	0.006	mg/kg	27.84
02178	Ethylbenzene	100-41-4	0.02	0.006	mg/kg	27.84
02182	Total Xylenes	1330-20-7	0.1	0.02	mg/kg	27.84

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 Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01742	TPH-DRO (AK) in soil	AK 102/AK 103 04/08/02	1	07/31/2007 20:15	Heather E Williams	1
00111	Moisture	SM20 2540 G	1	07/27/2007 15:41	Scott W Freisher	1
01451	Alaska AK101 GRO (soils)	AK 101	1	07/28/2007 09:41	Linda C Pape	27.84
05878	BTEX	SW-846 8021B	1	07/28/2007 09:41	Linda C Pape	27.84
04833	Extraction / Fuel TPH (Soils)	AK 102/AK 103 04/08/02	1	07/31/2007 06:00	Jason A Heisey	1
06119	GC - Field Preserved (AK-101)	AK 101	1	07/23/2007 13:45	Client Supplied	1

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

Lancaster Laboratories Sample No. SW 5112358

MW_8_14'-16' Grab Soil Sample
Facility# 92114
3245 College Road - Fairbanks, AK
Collected:07/24/2007 08:30 by JL

Account Number: 11964

Submitted: 07/26/2007 09:50
Reported: 08/07/2007 at 15:31
Discard: 09/07/2007

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

CF814 SDG#: ALK41-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
01742	TPH-DRO (AK) in soil	n.a.	N.D.	4.4	mg/kg	1
00111	Moisture	n.a.	9.2	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.					
01451	Alaska AK101 GRO (soils)					
01452	Alaska AK101 GRO (soils)	n.a.	N.D.	0.6	mg/kg	27.85
05878	BTEX					
02174	Benzene	71-43-2	N.D.	0.007	mg/kg	27.85
02177	Toluene	108-88-3	N.D.	0.007	mg/kg	27.85
02178	Ethylbenzene	100-41-4	N.D.	0.007	mg/kg	27.85
02182	Total Xylenes	1330-20-7	0.04	0.02	mg/kg	27.85

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 Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01742	TPH-DRO (AK) in soil	AK 102/AK 103 04/08/02	1	07/31/2007 16:38	Heather E Williams	1
00111	Moisture	SM20 2540 G	1	07/27/2007 15:41	Scott W Freisher	1
01451	Alaska AK101 GRO (soils)	AK 101	1	07/27/2007 21:25	Linda C Pape	27.85
05878	BTEX	SW-846 8021B	1	07/27/2007 21:25	Linda C Pape	27.85
04833	Extraction / Fuel TPH (Soils)	AK 102/AK 103 04/08/02	1	07/31/2007 06:00	Jason A Heisey	1
06119	GC - Field Preserved (AK-101)	AK 101	1	07/24/2007 08:30	Client Supplied	1

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

Lancaster Laboratories Sample No. SW 5112359

MW_8_21'-23' Grab Soil Sample
Facility# 92114
3245 College Road - Fairbanks, AK
Collected:07/24/2007 08:30 by JL

Account Number: 11964

Submitted: 07/26/2007 09:50
Reported: 08/07/2007 at 15:31
Discard: 09/07/2007

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

CF821 SDG#: ALK41-04

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
01742	TPH-DRO (AK) in soil	n.a.	N.D.	4.8	mg/kg	1
00111	Moisture	n.a.	16.7	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.					
01451	Alaska AK101 GRO (soils)					
01452	Alaska AK101 GRO (soils)	n.a.	0.6	0.5	mg/kg	20.76
05878	BTEX					
02174	Benzene	71-43-2	0.04	0.005	mg/kg	20.76
02177	Toluene	108-88-3	N.D.	0.005	mg/kg	20.76
02178	Ethylbenzene	100-41-4	0.03	0.005	mg/kg	20.76
02182	Total Xylenes	1330-20-7	0.07	0.01	mg/kg	20.76

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 Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01742	TPH-DRO (AK) in soil	AK 102/AK 103 04/08/02	1	07/31/2007 15:49	Heather E Williams	1
00111	Moisture	SM20 2540 G	1	07/27/2007 15:41	Scott W Freisher	1
01451	Alaska AK101 GRO (soils)	AK 101	1	07/27/2007 22:06	Linda C Pape	20.76
05878	BTEX	SW-846 8021B	1	07/27/2007 22:06	Linda C Pape	20.76
04833	Extraction / Fuel TPH (Soils)	AK 102/AK 103 04/08/02	1	07/31/2007 06:00	Jason A Heisey	1
06119	GC - Field Preserved (AK-101)	AK 101	1	07/24/2007 08:30	Client Supplied	1

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

Lancaster Laboratories Sample No. SW 5112360

MW_9_19'-21' Grab Soil Sample
Facility# 92114
3245 College Road - Fairbanks, AK
Collected:07/24/2007 09:00 by JL

Account Number: 11964

Submitted: 07/26/2007 09:50
Reported: 08/07/2007 at 15:31
Discard: 09/07/2007

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

CF919 SDG#: ALK41-05

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
01742	TPH-DRO (AK) in soil	n.a.	N.D.	5.0	mg/kg	1
00111	Moisture	n.a.	20.6	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.					
01451	Alaska AK101 GRO (soils)					
01452	Alaska AK101 GRO (soils)	n.a.	0.5	0.5	mg/kg	21.04
05878	BTEX					
02174	Benzene	71-43-2	0.03	0.005	mg/kg	21.04
02177	Toluene	108-88-3	0.01	0.005	mg/kg	21.04
02178	Ethylbenzene	100-41-4	0.03	0.005	mg/kg	21.04
02182	Total Xylenes	1330-20-7	0.08	0.02	mg/kg	21.04

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 Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01742	TPH-DRO (AK) in soil	AK 102/AK 103 04/08/02	1	07/31/2007 15:01	Heather E Williams	1
00111	Moisture	SM20 2540 G	1	07/27/2007 15:41	Scott W Freisher	1
01451	Alaska AK101 GRO (soils)	AK 101	1	07/27/2007 22:48	Linda C Pape	21.04
05878	BTEX	SW-846 8021B	1	07/27/2007 22:48	Linda C Pape	21.04
04833	Extraction / Fuel TPH (Soils)	AK 102/AK 103 04/08/02	1	07/31/2007 06:00	Jason A Heisey	1
06119	GC - Field Preserved (AK-101)	AK 101	1	07/24/2007 09:00	Client Supplied	1

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

Lancaster Laboratories Sample No. SW 5112361

MW_10_14.5'-16.5' Grab Soil Sample
Facility# 92114
3245 College Road - Fairbanks, AK
Collected:07/24/2007 14:00 by JL

Account Number: 11964

Submitted: 07/26/2007 09:50
Reported: 08/07/2007 at 15:31
Discard: 09/07/2007

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

C1014 SDG#: ALK41-06

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
01742	TPH-DRO (AK) in soil	n.a.	480.	110.	mg/kg	20
00111	Moisture	n.a.	26.8	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.					
01451	Alaska AK101 GRO (soils)					
01452	Alaska AK101 GRO (soils)	n.a.	140.	3.1	mg/kg	114.1
05878	BTEX					
02174	Benzene	71-43-2	0.2	0.03	mg/kg	114.1
02177	Toluene	108-88-3	0.2	0.03	mg/kg	114.1
02178	Ethylbenzene	100-41-4	0.5	0.03	mg/kg	114.1
02182	Total Xylenes	1330-20-7	1.	0.09	mg/kg	114.1

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 Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01742	TPH-DRO (AK) in soil	AK 102/AK 103 04/08/02	1	08/01/2007 15:21	Heather E Williams	20
00111	Moisture	SM20 2540 G	1	07/27/2007 15:41	Scott W Freisher	1
01451	Alaska AK101 GRO (soils)	AK 101	1	07/28/2007 13:08	Linda C Pape	114.1
05878	BTEX	SW-846 8021B	1	07/28/2007 13:08	Linda C Pape	114.1
04833	Extraction / Fuel TPH (Soils)	AK 102/AK 103 04/08/02	1	07/31/2007 06:00	Jason A Heisey	1
06119	GC - Field Preserved (AK-101)	AK 101	1	07/24/2007 14:00	Client Supplied	1

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

Lancaster Laboratories Sample No. SW 5112362

MW_10_19.5'-21.5' Grab Soil Sample
Facility# 92114
3245 College Road - Fairbanks, AK
Collected:07/24/2007 14:30 by JL

Account Number: 11964

Submitted: 07/26/2007 09:50
Reported: 08/07/2007 at 15:31
Discard: 09/07/2007

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

C1019 SDG#: ALK41-07

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
01742	TPH-DRO (AK) in soil	n.a.	N.D.	4.8	mg/kg	1
00111	Moisture	n.a.	15.9	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.					
01451	Alaska AK101 GRO (soils)					
01452	Alaska AK101 GRO (soils)	n.a.	N.D.	0.5	mg/kg	21.78
05878	BTEX					
02174	Benzene	71-43-2	N.D.	0.005	mg/kg	21.78
02177	Toluene	108-88-3	N.D.	0.005	mg/kg	21.78
02178	Ethylbenzene	100-41-4	N.D.	0.005	mg/kg	21.78
02182	Total Xylenes	1330-20-7	N.D.	0.02	mg/kg	21.78

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 Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01742	TPH-DRO (AK) in soil	AK 102/AK 103 04/08/02	1	07/31/2007 16:13	Heather E Williams	1
00111	Moisture	SM20 2540 G	1	07/27/2007 15:41	Scott W Freisher	1
01451	Alaska AK101 GRO (soils)	AK 101	1	07/28/2007 10:25	Linda C Pape	21.78
05878	BTEX	SW-846 8021B	1	07/28/2007 10:25	Linda C Pape	21.78
04833	Extraction / Fuel TPH (Soils)	AK 102/AK 103 04/08/02	1	07/31/2007 06:00	Jason A Heisey	1
06119	GC - Field Preserved (AK-101)	AK 101	1	07/24/2007 14:30	Client Supplied	1

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

Lancaster Laboratories Sample No. SW 5112363

MW_4R_14'-16' Grab Soil Sample
Facility# 92114
3245 College Road - Fairbanks, AK
Collected:07/25/2007 08:00 by JL

Account Number: 11964

Submitted: 07/26/2007 09:50
Reported: 08/07/2007 at 15:31
Discard: 09/07/2007

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

CF414 SDG#: ALK41-08

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
01742	TPH-DRO (AK) in soil	n.a.	23.	5.1	mg/kg	1
00111	Moisture	n.a.	21.1	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.					
01451	Alaska AK101 GRO (soils)					
01452	Alaska AK101 GRO (soils)	n.a.	340.	12.	mg/kg	477.25
05878	BTEX					
02174	Benzene	71-43-2	0.2	0.1	mg/kg	477.25
02177	Toluene	108-88-3	1.6	0.1	mg/kg	477.25
02178	Ethylbenzene	100-41-4	1.7	0.1	mg/kg	477.25
02182	Total Xylenes	1330-20-7	53.	0.4	mg/kg	477.25

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 Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01742	TPH-DRO (AK) in soil	AK 102/AK 103 04/08/02	1	07/31/2007 17:02	Heather E Williams	1
00111	Moisture	SM20 2540 G	1	07/27/2007 15:41	Scott W Freisher	1
01451	Alaska AK101 GRO (soils)	AK 101	1	07/30/2007 09:45	Linda C Pape	477.25
05878	BTEX	SW-846 8021B	1	07/30/2007 09:45	Linda C Pape	477.25
04833	Extraction / Fuel TPH (Soils)	AK 102/AK 103 04/08/02	1	07/31/2007 06:00	Jason A Heisey	1
06119	GC - Field Preserved (AK-101)	AK 101	1	07/25/2007 08:00	Client Supplied	1

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

Lancaster Laboratories Sample No. SW 5112364

MW_4R_19'-21' Grab Soil Sample
Facility# 92114
3245 College Road - Fairbanks, AK
Collected:07/25/2007 08:30 by JL

Account Number: 11964

Submitted: 07/26/2007 09:50
Reported: 08/07/2007 at 15:31
Discard: 09/07/2007

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

CF419 SDG#: ALK41-09

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit	Units	Dilution Factor
01742	TPH-DRO (AK) in soil	n.a.	7.0	5.2	mg/kg	1
00111	Moisture	n.a.	22.8	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.					
01451	Alaska AK101 GRO (soils)					
01452	Alaska AK101 GRO (soils)	n.a.	10.	2.4	mg/kg	90.84
05878	BTEX					
02174	Benzene	71-43-2	0.06	0.02	mg/kg	90.84
02177	Toluene	108-88-3	0.06	0.02	mg/kg	90.84
02178	Ethylbenzene	100-41-4	0.07	0.02	mg/kg	90.84
02182	Total Xylenes	1330-20-7	1.9	0.07	mg/kg	90.84

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 Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01742	TPH-DRO (AK) in soil	AK 102/AK 103 04/08/02	1	07/31/2007 15:25	Heather E Williams	1
00111	Moisture	SM20 2540 G	1	07/27/2007 15:41	Scott W Freisher	1
01451	Alaska AK101 GRO (soils)	AK 101	1	07/28/2007 11:46	Linda C Pape	90.84
05878	BTEX	SW-846 8021B	1	07/28/2007 11:46	Linda C Pape	90.84
04833	Extraction / Fuel TPH (Soils)	AK 102/AK 103 04/08/02	1	07/31/2007 06:00	Jason A Heisey	1
06119	GC - Field Preserved (AK-101)	AK 101	1	07/25/2007 08:30	Client Supplied	1

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

Lancaster Laboratories Sample No. WW 5112365

Trip_Blank Water Sample
Facility# 92114
3245 College Road - Fairbanks, AK
Collected:07/23/2007

Account Number: 11964

Submitted: 07/26/2007 09:50
Reported: 08/07/2007 at 15:31
Discard: 09/07/2007

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

CFTRB SDG#: ALK41-10TB*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01440	Alaska AK101 GRO (waters)					
01442	Alaska AK101 GRO (waters)	n.a.	N.D.	0.01	mg/l	1
01588	BTEX					
01591	Benzene	71-43-2	N.D.	0.001	mg/l	1
01592	Toluene	108-88-3	N.D.	0.001	mg/l	1
01593	Ethylbenzene	100-41-4	N.D.	0.001	mg/l	1
01723	Total xylenes	1330-20-7	N.D.	0.002	mg/l	1

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 Chronicle

CAT No.	Analysis Name	Method	Analysis Trial#	Analysis Date and Time	Analyst	Dilution Factor
01440	Alaska AK101 GRO (waters)	AK 101	1	07/31/2007 14:48	Martha L Seidel	1
01588	BTEX	SW-846 8021B	1	07/31/2007 14:48	Martha L Seidel	1
01146	GC VOA Water Prep	SW-846 5030B	1	07/31/2007 14:48	Martha L Seidel	1

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

Quality Control Summary

Client Name: Chevron Group Number: 1048664
Reported: 08/07/07 at 03:31 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: 07208820005A	Sample number(s): 5112356-5112360							
Moisture				100		99-101		
Batch number: 07208820005B	Sample number(s): 5112361-5112364							
Moisture				100		99-101		
Batch number: 07208A02A	Sample number(s): 5112356-5112362,5112364							
Alaska AK101 GRO (soils)	N.D.	0.5	mg/kg	95	98	60-120	0	20
Benzene	N.D.	0.005	mg/kg	89	98	76-118	9	30
Toluene	N.D.	0.005	mg/kg	83	91	72-115	9	30
Ethylbenzene	N.D.	0.005	mg/kg	88	96	77-115	9	30
Total Xylenes	N.D.	0.02	mg/kg	89	98	78-115	9	30
Batch number: 07208A02B	Sample number(s): 5112363							
Alaska AK101 GRO (soils)	N.D.	0.5	mg/kg	95	98	60-120	0	20
Benzene	N.D.	0.005	mg/kg	89	98	76-118	9	30
Toluene	N.D.	0.005	mg/kg	83	91	72-115	9	30
Ethylbenzene	N.D.	0.005	mg/kg	88	96	77-115	9	30
Total Xylenes	N.D.	0.02	mg/kg	89	98	78-115	9	30
Batch number: 072110022A	Sample number(s): 5112356-5112364							
TPH-DRO (AK) in soil	N.D.	4.0	mg/kg	85	78	75-125	8	50
Batch number: 07212A53A	Sample number(s): 5112365							
Alaska AK101 GRO (waters)	N.D.	0.01	mg/l	85	85	60-120	0	20
Benzene	N.D.	0.001	mg/l	110	109	86-119	0	30
Toluene	N.D.	0.001	mg/l	113	111	82-119	1	30
Ethylbenzene	N.D.	0.001	mg/l	114	113	81-119	1	30
Total xylenes	N.D.	0.002	mg/l	116	114	82-120	1	30

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: 07208820005A	Sample number(s): 5112356-5112360					BKG: P111873			
Moisture						9.1	8.8	3	15
Batch number: 07208820005B	Sample number(s): 5112361-5112364					BKG: 5112363			
Moisture						21.1	19.4	9	15
Batch number: 072110022A	Sample number(s): 5112356-5112364					UNSPK: 5112363			
TPH-DRO (AK) in soil	165*	116	60-140	25	50				

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Quality Control Summary

Client Name: Chevron Group Number: 1048664
Reported: 08/07/07 at 03:31 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

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: Alaska AK101 GRO (soils)
Batch number: 07208A02A

	Trifluorotoluene-F	Trifluorotoluene-P
5112356	103	42*
5112357	90	93
5112358	81	87
5112359	80	83
5112360	74	80
5112361	77	44*
5112362	79	83
5112364	23*	20*
Blank	91	95
LCS	102	96
LCSD	102	95
Limits:	60-120	55-124

Analysis Name: Alaska AK101 GRO (soils)
Batch number: 07208A02B

	Trifluorotoluene-F	Trifluorotoluene-P
5112363	54*	23*
Blank	95	96
LCS	102	96
LCSD	102	95
Limits:	60-120	55-124

Analysis Name: TPH-DRO (AK) in soil
Batch number: 072110022A

	Orthoterphenyl
5112356	101
5112357	96
5112358	99
5112359	95
5112360	95
5112361	142
5112362	98
5112363	106
5112364	100
Blank	96
LCS	101

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Quality Control Summary

Client Name: Chevron Group Number: 1048664
Reported: 08/07/07 at 03:31 PM

Surrogate Quality Control

LCSD	98
MS	110
MSD	106
Limits:	50-150

Analysis Name: Alaska AK101 GRO (waters)
Batch number: 07212A53A

	Trifluorotoluene-F	Trifluorotoluene-P
5112365	86	89
Blank	86	89
LCS	90	91
LCSD	91	90
Limits:	60-120	69-129

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background 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 #: 5112356-65 SCR#: 009553 46187

G# 1048064

Facility #: 92114
Site Address: 3245 College Road, Fairbanks AK
Chevron PM: Stacie Farmer Lead Consultant:
Consultant/Office: Arcadis / Seattle, WA
Consultant Prj. Mgr.: Rebecca Andresen
Consultant Phone #: 206 295 3273 Fax #: 206 325 5218
Sampler: Jason Luckett
Service Order #: 0015014445 ☐ Non SAR:

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Water	Oil ☐ Air ☐	Total Number of Containers	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 + GRO	DRO
MW 1R 15'-17'	7/23/07	1345	✓		✓												1	1
MW 1R 10'-12'	7/23/07	1345	✓		✓												1	1
MW 8 14'-16'	7/24/07	0830	✓		✓												1	1
MW 8 21'-23'	7/24/07	0830	✓		✓												1	1
MW 9 19'-21'	7/24/07	0900	✓		✓												1	1
MW 10 14.5'-16.5'	7/24/07	1400	✓		✓												1	1
MW 10 19.5'-21.5'	7/24/07	1430	✓		✓												1	1
MW 4R 14'-16'	7/25/07	0800	✓		✓												1	1
MW 4R 19'-21'	7/25/07	0830	✓		✓												1	1

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

NWRTB
0092114-0-AIL

Turnaround Time Requested (TAT) (please circle)
STD. TAT~10days 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:	7/2007	0730	Received by:		
Relinquished by:			Received by:		
Relinquished by:			Received by:		
Relinquished by Commercial Carrier: UPS (FedEx) Other			Received by: Kathy Birkley	7-26-07	0950
Temperature Upon Receipt 2.5 C°			Custody Seals Intact? (Yes) No		

Lancaster Laboratories
Explanation of Symbols and Abbreviations

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

N.D.	none detected	**BMQL**	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	**MPN**	Most Probable Number
IU	International Units	**CP Units**	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	**NTU**	nephelometric turbidity units
C	degrees Celsius	**F**	degrees Fahrenheit
Cal	(diet) calories	**lb.**	pound(s)
meq	milliequivalents	**kg**	kilogram(s)
g	gram(s)	**mg**	milligram(s)
ug	microgram(s)	**l**	liter(s)
ml	milliliter(s)	**ul**	microliter(s)
m3	cubic meter(s)	**fib >5 um/ml**	fibers greater than 5 microns in length per ml

< 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

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.

U.S. EPA 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 quatitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
J	Estimated value
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 amount 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 for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

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.

WARRANTY AND LIMITS OF LIABILITY – In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL LANCASTER LABORATORIES BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF LANCASTER LABORATORIES AND (B) WHETHER LANCASTER LABORATORIES HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Lancaster Laboratories which includes any conditions that vary from the Standard Terms and Conditions of Lancaster Laboratories and we hereby object to any conflicting terms contained in any acceptance or order submitted by client.

Laboratory Data Review Checklist

Completed by: Vanessa Varbel

Title: Project Engineer in Training Date: Nov 15, 2007

CS Report Name: 2007 Site Assessment Report Date: Aug 14, 2007

Consultant Firm: ARCADIS BBLES

Laboratory Name: Lancaster Laboratories Laboratory Report Number: 1049347

ADEC File Number: 100.26.139 ADEC RecKey Number: 1992310013301

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:

N/A

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:

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:

N/A

d. If there were any discrepancies, were they documented? - For example, incorrect sample containers/ preservation, sample temperature ouside of acceptance range, insufficient or missing samples, etc.?

( ) Yes ( ) No Comments:

N/A

e. Data quality or usability affected? Explain.

Comments:

N/A

4. Case Narrative

a. Present and understandable?

(•) Yes ( ) No Comments:

IN LAB NOTES

b. Discrepancies, errors or QC failures identified by the lab?

(•) Yes ( ) No Comments:

SB-1 (9'-11'): normal reporting limits not attained for ethylbenzene and total xylenes, MDL below ADEC Soil Cleanup Levels

c. Were all corrective actions documented?

(•) Yes ( ) No Comments:

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

Comments:

Effect on quality/usability unknown

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

(•) Yes ( ) No Comments:

b. All applicable holding times met?

(●) Yes ( ) No Comments:

c. All soils reported on a dry weight basis?

(●) Yes ( ) No Comments:

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?

( ) Yes (●) No Comments:

SB-1 (9'-11'): benzene MDL>Soil Cleanup Level

e. Data quality or usability affected? Explain.

Comments:

Unknown

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:

N/A

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

( ) Yes ( ) No Comments:

N/A

v. Data quality or usability affected? Explain.

Comments:

N/A

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics - One LCS/LCSD reported per matrix, analysis and 20 samples?

(•) Yes ( ) No Comments:

ii. Metals/Inorganics - One LCS and one sample duplicate reported per matrix, analysis and 20 samples?

( ) Yes ( ) No 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 Comments:

iv. Precision - All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

(•) Yes ( ) No Comments:

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

Comments:

N/A

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

( ) Yes ( ) No Comments:

N/A

vii. Data quality or usability affected? Explain.

Comments:

Effect on Quality/Usability 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:

N/A

iv. Data quality or usability affected? Explain.

Comments:

N/A

d. Trip Blank - Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and cooler?

( ) Yes (•) No Comments:

ii. All results less than PQL?

( ) Yes ( ) No Comments:

N/A

iii. If above PQL, what samples are affected?

Comments:

N/A

iv. Data quality or usability affected? Explain.

Comments:

N/A

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

( ) Yes (•) No Comments:

ii. Submitted blind to lab?

( ) Yes ( ) No Comments:

N/A

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

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

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

○ Yes ○ No Comments:

N/A

iv. Data quality or usability affected? Explain.

○ Yes ○ No Comments:

N/A

f. Decontamination or Equipment Blank (if applicable)

○ Yes ○ No ◉ Not Applicable

i. All results less than PQL?

○ Yes ○ No Comments:

N/A

ii. If above PQL, what samples are affected?

Comments:

N/A

iii. Data quality or usability affected? Explain.

Comments:

N/A

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

a. Defined and appropriate?

○ Yes ○ No Comments:

N/A

Reset Form

Laboratory Data Review Checklist

Completed by: Vanessa Varbel

Title: Project Engineer in Training Date: Nov 15, 2007

CS Report Name: 2007 Site Assessment Report Date: Aug 7, 2007

Consultant Firm: ARCADIS BBLES

Laboratory Name: Lancaster Laboratories Laboratory Report Number: 1048664

ADEC File Number: 100.26.139 ADEC RecKey Number: 1992310013301

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:

N/A

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:

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:

N/A

d. If there were any discrepancies, were they documented? - For example, incorrect sample containers/ preservation, sample temperature ouside of acceptance range, insufficient or missing samples, etc.?

( ) Yes ( ) No Comments:

N/A

e. Data quality or usability affected? Explain.

Comments:

N/A

4. Case Narrative

a. Present and understandable?

(•) Yes ( ) No Comments:

IN LAB NOTES

b. Discrepancies, errors or QC failures identified by the lab?

( ) Yes (•) No Comments:

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:

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?

( ) Yes (●) No Comments:

MW-1R [15'-17'] (benzene); MW-10 [14.5'-16.5'] (benzene); MW-4R [14'-16'] (benzene); MW-4R [19'-21'] (benzene)

e. Data quality or usability affected? Explain.

Comments:

Effect on data quality or usability unknown.

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:

N/A

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

( ) Yes ( ) No Comments:

N/A

v. Data quality or usability affected? Explain.

Comments:

N/A

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics - One LCS/LCSD reported per matrix, analysis and 20 samples?

(•) Yes ( ) No Comments:

ii. Metals/Inorganics - One LCS and one sample duplicate reported per matrix, analysis and 20 samples?

(•) Yes ( ) No 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 Comments:

iv. Precision - All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

(•) Yes ( ) No Comments:

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

Comments:

N/A

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

( ) Yes ( ) No Comments:

N/A

vii. Data quality or usability affected? Explain.

Comments:

N/A

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:

TFTF; TFTP

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

◉ Yes ○ No Comments:

iv. Data quality or usability affected? Explain.

Comments:

Effect on quality/usability 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 cooler?

◉ Yes ○ No Comments:

ii. All results less than PQL?

◉ Yes ○ No Comments:

iii. If above PQL, what samples are affected?

Comments:

N/A

iv. Data quality or usability affected? Explain.

Comments:

N/A

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

○ Yes ◉ No Comments:

ii. Submitted blind to lab?

○ Yes ○ No Comments:

N/A

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

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

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

○ Yes ○ No Comments:

N/A

iv. Data quality or usability affected? Explain.

○ Yes ○ No Comments:

N/A

f. Decontamination or Equipment Blank (if applicable)

○ Yes ○ No ◉ Not Applicable

i. All results less than PQL?

○ Yes ○ No Comments:

N/A

ii. If above PQL, what samples are affected?

Comments:

N/A

iii. Data quality or usability affected? Explain.

Comments:

N/A

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

a. Defined and appropriate?

○ Yes ○ No Comments:

N/A

Reset Form

ARCADIS BBLES

Appendix C

Groundwater Laboratory Report &
ADEC Data Review Checklist

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

ANALYTICAL RESULTS

Prepared for:

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

925-842-8582

Prepared by:

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

SAMPLE GROUP

The sample group for this submittal is 1051047. Samples arrived at the laboratory on Saturday, August 04, 2007. The PO# for this group is 0015014445 and the release number is HARTUNG-FRERICH.

Client Description	Lancaster Labs Number
MW-8 Grab Water Sample	5125649
MW-9 Grab Water Sample	5125650
MW-4R Grab Water Sample	5125651
MW-1R Grab Water Sample	5125652
MW-10 Grab Water Sample	5125653
Purge_Water-College_Rd Composite Water Sample	5125654
QA Water Sample	5125655

METHODOLOGY

The specific methodologies used in obtaining the enclosed analytical results are indicated on the laboratory chronicles.

ELECTRONIC COPY TO	Blasland, Bouck & Lee	Attn: Rebecca Andresen
ELECTRONIC COPY TO	Arcadis BBL	Attn: Vanessa Varbel
1 COPY TO	Data Package Group	

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

Questions? Contact your Client Services Representative
Rebecca J Shettel at (717) 656-2300

Respectfully Submitted,

Valerie L. Tomayko
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

Lancaster Laboratories Sample No. WW 5125649

MW-8 Grab Water Sample
Facility# 92114
3245 College Rd. - Fairbanks, AK
Collected:08/02/2007 10:00 by JL

Account Number: 11964

Submitted: 08/04/2007 10:30
Reported: 08/17/2007 at 10:40
Discard: 09/17/2007

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

FAMW8 SDG#: ALK64-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01741	TPH-DRO (AK) in water	n.a.	0.25	0.023	mg/l	1
01440	Alaska AK101 GRO (waters)					
01442	Alaska AK101 GRO (waters)	n.a.	0.4	0.01	mg/l	1
01588	BTEX					
01591	Benzene	71-43-2	0.04	0.001	mg/l	1
01592	Toluene	108-88-3	N.D.	0.001	mg/l	1
01593	Ethylbenzene	100-41-4	0.02	0.001	mg/l	1
01723	Total xylenes	1330-20-7	0.01	0.002	mg/l	1

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 Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01741	TPH-DRO (AK) in water	AK 102/AK 103 04/08/02	1	08/15/2007 08:38	Heather E Williams	1
01440	Alaska AK101 GRO (waters)	AK 101	1	08/14/2007 02:58	Martha L Seidel	1
01588	BTEX	SW-846 8021B	1	08/14/2007 02:58	Martha L Seidel	1
01146	GC VOA Water Prep	SW-846 5030B	1	08/14/2007 02:58	Martha L Seidel	1
02135	Extraction - DRO Water Special	AK 102/AK 103 04/08/02	2	08/13/2007 19:30	Mitchell B Crawford	1

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

Lancaster Laboratories Sample No. WW 5125650

MW-9 Grab Water Sample
Facility# 92114
3245 College Rd. - Fairbanks, AK
Collected:08/02/2007 10:15 by JL

Account Number: 11964

Submitted: 08/04/2007 10:30
Reported: 08/17/2007 at 10:40
Discard: 09/17/2007

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

FAMW9 SDG#: ALK64-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01741	TPH-DRO (AK) in water	n.a.	0.62	0.022	mg/l	1
01440	Alaska AK101 GRO (waters)					
01442	Alaska AK101 GRO (waters)	n.a.	2.2	0.05	mg/l	5
01588	BTEX					
01591	Benzene	71-43-2	0.3	0.005	mg/l	5
01592	Toluene	108-88-3	0.02	0.005	mg/l	5
01593	Ethylbenzene	100-41-4	0.1	0.005	mg/l	5
01723	Total xylenes	1330-20-7	0.3	0.01	mg/l	5

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 Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01741	TPH-DRO (AK) in water	AK 102/AK 103 04/08/02	1	08/15/2007 10:15	Heather E Williams	1
01440	Alaska AK101 GRO (waters)	AK 101	1	08/14/2007 19:07	Martha L Seidel	5
01588	BTEX	SW-846 8021B	1	08/14/2007 19:07	Martha L Seidel	5
01146	GC VOA Water Prep	SW-846 5030B	1	08/14/2007 19:07	Martha L Seidel	5
02135	Extraction - DRO Water Special	AK 102/AK 103 04/08/02	2	08/13/2007 19:30	Mitchell B Crawford	1

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

Lancaster Laboratories Sample No. WW 5125651

MW-4R Grab Water Sample
Facility# 92114
3245 College Rd. - Fairbanks, AK
Collected:08/02/2007 10:30 by JL

Account Number: 11964

Submitted: 08/04/2007 10:30
Reported: 08/17/2007 at 10:40
Discard: 09/17/2007

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

FMW4R SDG#: ALK64-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01741	TPH-DRO (AK) in water	n.a.	0.43	0.023	mg/l	1
01440	Alaska AK101 GRO (waters)					
01442	Alaska AK101 GRO (waters)	n.a.	0.6	0.01	mg/l	1
01588	BTEX					
01591	Benzene	71-43-2	0.05	0.001	mg/l	1
01592	Toluene	108-88-3	0.001	0.001	mg/l	1
01593	Ethylbenzene	100-41-4	0.04	0.001	mg/l	1
01723	Total xylenes	1330-20-7	0.08	0.002	mg/l	1

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 Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01741	TPH-DRO (AK) in water	AK 102/AK 103 04/08/02	1	08/15/2007 11:03	Heather E Williams	1
01440	Alaska AK101 GRO (waters)	AK 101	1	08/14/2007 03:20	Martha L Seidel	1
01588	BTEX	SW-846 8021B	1	08/14/2007 03:20	Martha L Seidel	1
01146	GC VOA Water Prep	SW-846 5030B	1	08/14/2007 03:20	Martha L Seidel	1
02135	Extraction - DRO Water Special	AK 102/AK 103 04/08/02	2	08/13/2007 19:30	Mitchell B Crawford	1

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

Lancaster Laboratories Sample No. WW 5125652

MW-1R Grab Water Sample
Facility# 92114
3245 College Rd. - Fairbanks, AK
Collected:08/02/2007 10:45 by JL

Account Number: 11964

Submitted: 08/04/2007 10:30
Reported: 08/17/2007 at 10:40
Discard: 09/17/2007

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

FMW1R SDG#: ALK64-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01741	TPH-DRO (AK) in water	n.a.	5.9	0.23	mg/l	10
01440	Alaska AK101 GRO (waters)					
01442	Alaska AK101 GRO (waters)	n.a.	35.	0.3	mg/l	25
01588	BTEX					
01591	Benzene	71-43-2	0.8	0.03	mg/l	25
01592	Toluene	108-88-3	3.6	0.03	mg/l	25
01593	Ethylbenzene	100-41-4	1.2	0.03	mg/l	25
01723	Total xylenes	1330-20-7	5.2	0.05	mg/l	25

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 Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01741	TPH-DRO (AK) in water	AK 102/AK 103 04/08/02	1	08/15/2007 21:36	Heather E Williams	10
01440	Alaska AK101 GRO (waters)	AK 101	1	08/14/2007 19:28	Martha L Seidel	25
01588	BTEX	SW-846 8021B	1	08/14/2007 19:28	Martha L Seidel	25
01146	GC VOA Water Prep	SW-846 5030B	1	08/14/2007 19:28	Martha L Seidel	25
02135	Extraction - DRO Water Special	AK 102/AK 103 04/08/02	2	08/13/2007 19:30	Mitchell B Crawford	1

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

Lancaster Laboratories Sample No. WW 5125653

MW-10 Grab Water Sample
Facility# 92114
3245 College Rd. - Fairbanks, AK
Collected:08/02/2007 11:00 by JL

Account Number: 11964

Submitted: 08/04/2007 10:30
Reported: 08/17/2007 at 10:40
Discard: 09/17/2007

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

FMW10 SDG#: ALK64-05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01741	TPH-DRO (AK) in water	n.a.	0.97	0.022	mg/l	1
01440	Alaska AK101 GRO (waters)					
01442	Alaska AK101 GRO (waters)	n.a.	0.1	0.01	mg/l	1
01588	BTEX					
01591	Benzene	71-43-2	N.D.	0.001	mg/l	1
01592	Toluene	108-88-3	N.D.	0.001	mg/l	1
01593	Ethylbenzene	100-41-4	N.D.	0.001	mg/l	1
01723	Total xylenes	1330-20-7	N.D.	0.002	mg/l	1

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 Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
01741	TPH-DRO (AK) in water	AK 102/AK 103 04/08/02	1	08/15/2007 09:02	Heather E Williams	1
01440	Alaska AK101 GRO (waters)	AK 101	1	08/14/2007 03:42	Martha L Seidel	1
01588	BTEX	SW-846 8021B	1	08/14/2007 03:42	Martha L Seidel	1
01146	GC VOA Water Prep	SW-846 5030B	1	08/14/2007 03:42	Martha L Seidel	1
02135	Extraction - DRO Water Special	AK 102/AK 103 04/08/02	2	08/13/2007 19:30	Mitchell B Crawford	1

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

Lancaster Laboratories Sample No. WW 5125654

Purge_Water-College_Rd Composite Water Sample
Facility# 92114
3245 College Rd. - Fairbanks, AK
Collected:08/02/2007 12:00 by JL

Account Number: 11964

Submitted: 08/04/2007 10:30
Reported: 08/17/2007 at 10:40
Discard: 09/17/2007

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

FAPW- SDG#: ALK64-06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
00430	Flash Point for Liquids	n.a.	No Flash Observed		Degrees F	1
	No flash observed below 165F.					
	Test flame extinguished at 145F.					
	Flash point was determined using Pensky Martens closed cup apparatus.					
08079	HEM (oil & grease)	n.a.	3.4	1.4	mg/l	1
01588	BTEX					
01591	Benzene	71-43-2	0.3	0.005	mg/l	5
01592	Toluene	108-88-3	1.0	0.005	mg/l	5
01593	Ethylbenzene	100-41-4	0.4	0.005	mg/l	5
01723	Total xylenes	1330-20-7	1.7	0.01	mg/l	5

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 Chronicle

CAT No.	Analysis Name	Method	Trial#	Analysis Date and Time	Analyst	Dilution Factor
00430	Flash Point for Liquids	ASTM D93-90	1	08/14/2007 20:00	Geraldine C Smith	1
08079	HEM (oil & grease)	EPA 1664A	1	08/14/2007 06:18	Valerie J Trout	1
01588	BTEX	SW-846 8021B	1	08/14/2007 19:49	Martha L Seidel	5
01146	GC VOA Water Prep	SW-846 5030B	1	08/14/2007 19:49	Martha L Seidel	5

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

Lancaster Laboratories Sample No. WW 5125655

QA Water Sample
Facility# 92114
3245 College Rd. - Fairbanks, AK
Collected:08/02/2007

Account Number: 11964

Submitted: 08/04/2007 10:30
Reported: 08/17/2007 at 10:40
Discard: 09/17/2007

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

FATB- SDG#: ALK64-07TB*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Units	Dilution Factor
01440	Alaska AK101 GRO (waters)					
01442	Alaska AK101 GRO (waters)	n.a.	N.D.	0.01	mg/l	1
01588	BTEX					
01591	Benzene	71-43-2	N.D.	0.001	mg/l	1
01592	Toluene	108-88-3	N.D.	0.001	mg/l	1
01593	Ethylbenzene	100-41-4	N.D.	0.001	mg/l	1
01723	Total xylenes	1330-20-7	N.D.	0.002	mg/l	1

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 Chronicle

CAT No.	Analysis Name	Method	Analysis Trial#	Analysis Date and Time	Analyst	Dilution Factor
01440	Alaska AK101 GRO (waters)	AK 101	1	08/14/2007 01:52	Martha L Seidel	1
01588	BTEX	SW-846 8021B	1	08/14/2007 01:52	Martha L Seidel	1
01146	GC VOA Water Prep	SW-846 5030B	1	08/14/2007 01:52	Martha L Seidel	1

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

Quality Control Summary

Client Name: Chevron Group Number: 1051047
Reported: 08/17/07 at 10:40 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: 072250012A	Sample number(s): 5125649-5125653							
TPH-DRO (AK) in water	N.D.	0.024	mg/l	84	81	75-125	3	20
Batch number: 07225B53A	Sample number(s): 5125649,5125651,5125653,5125655							
Alaska AK101 GRO (waters)	N.D.	0.01	mg/l	60	62	60-120	2	20
Benzene	N.D.	0.001	mg/l	106	108	86-119	1	30
Toluene	N.D.	0.001	mg/l	110	111	82-119	1	30
Ethylbenzene	N.D.	0.001	mg/l	110	112	81-119	1	30
Total xylenes	N.D.	0.002	mg/l	113	114	82-120	1	30
Batch number: 07226043001A	Sample number(s): 5125654							
Flash Point for Liquids				102	99	97-103	2	4
Batch number: 07226807901A	Sample number(s): 5125654							
HEM (oil & grease)	2.2	1.4	mg/l	91	89	78-114	2	20
Batch number: 07226A54A	Sample number(s): 5125650,5125652,5125654							
Alaska AK101 GRO (waters)	N.D.	0.01	mg/l	95	96	60-120	1	20
Benzene	N.D.	0.001	mg/l	98	95	86-119	3	30
Toluene	N.D.	0.001	mg/l	101	98	82-119	3	30
Ethylbenzene	N.D.	0.001	mg/l	105	102	81-119	3	30
Total xylenes	N.D.	0.002	mg/l	107	104	82-120	3	30

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: 07226A54A	Sample number(s): 5125650,5125652,5125654 UNSPK: P125383, P125385								
Alaska AK101 GRO (waters)	98		60-120						
Benzene	110		78-131						
Toluene	110		78-129						
Ethylbenzene	111		75-133						
Total xylenes	110		84-131						

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.

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Quality Control Summary

Client Name: Chevron Group Number: 1051047
Reported: 08/17/07 at 10:40 AM

Surrogate Quality Control

Analysis Name: TPH-DRO (AK) in water
Batch number: 072250012A

	Orthoterphenyl
5125649	102
5125650	102
5125651	103
5125652	91
5125653	103
Blank	100
LCS	106
LCSD	99
Limits:	50-150

Analysis Name: Alaska AK101 GRO (waters)
Batch number: 07225B53A

	Trifluorotoluene-F	Trifluorotoluene-P
5125649	78	93
5125651	77	94
5125653	82	88
5125655	83	90
Blank	85	90
LCS	87	91
LCSD	86	90
Limits:	60-120	69-129

Analysis Name: Alaska AK101 GRO (waters)
Batch number: 07226A54A

	Trifluorotoluene-F	Trifluorotoluene-P
5125650	78	95
5125652	85	93
5125654		94
Blank	89	92
LCS	98	92
LCSD	97	91
MS	93	91
Limits:	60-120	69-129

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The background result was more than four times the spike added.

Chevron Generic Analysis Request/Chain of Custody

009008

Lancaster Laboratories
Where quality is a science.

For Lancaster Laboratories use only
Acct. #: 11964 Sample #: 5125649-55 SCR#:

1051047

Facility #: Former Chevron #92114 Former Chevron #309152
Site Address: 3245 College Rd / 6223 Old Airport Rd
Chevron PM: Stacy Freiwirth Lead Consultant: Arcadis
Consultant/Office: Arcadis BBL
Consultant Prj. Mgr.: Rebecca Andrews
Consultant Phone #: 206 325 5254 Fax #:
Sampler: Jason Luckett
Service Order #: ☐ Non SAR:

Sample Identification	Date Collected	Time Collected	Grab	Composite	Matrix: Soil	Matrix: Water	Matrix: Oil ☐ Air ☐	Total Number of Containers	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 GRO	BTEX	Oil + Grease	Flashpoint
MW-8	8/2/07	1000	X			X		2									X			
MW-9		1015	X			X		2									X			
MW-4R		1030	X			X		2									X			
MW-1R		1045	X			X		2									X			
MW-10		1100	X			X		2									X			
MW-1		1800	X			X		2									X			
MW-2		1820	X			X		2									X			
MW-4		1840	X			X		2									X			
MW-3		1900	X			X		2									X			
MW-5		1920	X			X		2									X			
purge water - College Rd		1200		X		X		5										X	X	X
purge water - Sample Site		1830		X		X		5										X	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

Sample MW-3 & MW-4
Sample site - sheen, odor
high PID
NWRTB
0092114-0-AIL
0309152-0-AIL

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:	8/3/07	0800	Received by:		
Relinquished by:			Received by:		
Relinquished by:			Received by:		
Relinquished by Commercial Carrier: UPS FedEx Other			Received by:	8/4/07	10:30

Temperature Upon Receipt 4.5 °C
Custody Seals Intact? Yes No

Chevron Generic Analysis Request/Chain of Custody

009009

Lancaster Laboratories
Where quality is a science.

For Lancaster Laboratories use only
Acct. #: 11964 Sample #: 5125649-55 SCR#:

1051047

Facility #: College Rd # 92114
Site Address: 3245 College Rd
Chevron PM: Stacy Frerichs Lead Consultant:
Consultant/Office: Arcadis BBL
Consultant Prj. Mgr.: Rebecca Anderson
Consultant Phone #: 206 325 5254 Fax #:
Sampler: Jason Luckett
Service Order #: ☐ Non SAR:

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Oil ☐ Air ☐	Total Number of Containers	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	DRO (AK 102)			
MW-8	8/2/07	1000	X			X		2									X			
MW-9	↓	1015	X			X		2									X			
MW-4R		1030	X			X		2									X			
MW-1R		1045	X			X		2									X			
MW-10	↓	1100	X			X		2									X			

Matrix: Potable ☐ NPDES ☐

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

NWRTB: 009214-0-AIL

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:	8/3/07	0700	Received by:		
Relinquished by:			Received by:		
Relinquished by:			Received by:		
Relinquished by Commercial Carrier: UPS FedEx Other			Received by: Katie Hartlove	8/4/07	10:30
Temperature Upon Receipt 4.6 °C			Custody Seals Intact? Yes No		

Lancaster Laboratories
Explanation of Symbols and Abbreviations

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

N.D.	none detected	**BMQL**	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	**MPN**	Most Probable Number
IU	International Units	**CP Units**	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	**NTU**	nephelometric turbidity units
C	degrees Celsius	**F**	degrees Fahrenheit
Cal	(diet) calories	**lb.**	pound(s)
meq	milliequivalents	**kg**	kilogram(s)
g	gram(s)	**mg**	milligram(s)
ug	microgram(s)	**l**	liter(s)
ml	milliliter(s)	**ul**	microliter(s)
m3	cubic meter(s)	**fib >5 um/ml**	fibers greater than 5 microns in length per ml

< 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

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.

U.S. EPA 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 quatitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
J	Estimated value
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 amount 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 for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

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.

WARRANTY AND LIMITS OF LIABILITY – In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL LANCASTER LABORATORIES BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF LANCASTER LABORATORIES AND (B) WHETHER LANCASTER LABORATORIES HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Lancaster Laboratories which includes any conditions that vary from the Standard Terms and Conditions of Lancaster Laboratories and we hereby object to any conflicting terms contained in any acceptance or order submitted by client.

Laboratory Data Review Checklist

Completed by: Michael Strickler

Title: Scientist Date: Dec 4, 2007

CS Report Name: 2007 Site Assessment Report Date: Dec 4, 2007

Consultant Firm: ARCADIS BBLES

Laboratory Name: Lancaster Laboratories Laboratory Report Number: 1051047

ADEC File Number: 100.26.139 ADEC RecKey Number: 1992310013301

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:

N/A

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:

4.5 and 4.6 Degrees Celsius

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:

N/A

d. If there were any discrepancies, were they documented? - For example, incorrect sample containers/ preservation, sample temperature ouside of acceptance range, insufficient or missing samples, etc.?

( ) Yes ( ) No Comments:

N/A

e. Data quality or usability affected? Explain.

Comments:

N/A

4. Case Narrative

a. Present and understandable?

(●) Yes ( ) No Comments:

b. Discrepancies, errors or QC failures identified by the lab?

( ) Yes (●) No Comments:

No discrepancies, errors or QC failures identified.

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:

N/A

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?

(•) Yes ( ) No Comments:

e. Data quality or usability affected? Explain.

Comments:

N/A

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:

N/A

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

( ) Yes ( ) No Comments:

N/A

v. Data quality or usability affected? Explain.

Comments:

N/A

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics - One LCS/LCSD reported per matrix, analysis and 20 samples?

(•) Yes ( ) No Comments:

ii. Metals/Inorganics - One LCS and one sample duplicate reported per matrix, analysis and 20 samples?

( ) Yes ( ) No 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 Comments:

iv. Precision - All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

(•) Yes ( ) No Comments:

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

Comments:

N/A

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

( ) Yes ( ) No Comments:

N/A

vii. Data quality or usability affected? Explain.

Comments:

N/A

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:

N/A

iv. Data quality or usability affected? Explain.

Comments:

N/A

d. Trip Blank - Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and cooler?

(•) Yes ( ) No Comments:

ii. All results less than PQL?

(•) Yes ( ) No Comments:

iii. If above PQL, what samples are affected?

Comments:

N/A

iv. Data quality or usability affected? Explain.

Comments:

N/A

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

( ) Yes (•) No Comments:

ii. Submitted blind to lab?

( ) Yes ( ) No Comments:

N/A

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

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

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

○ Yes ○ No Comments:

N/A

iv. Data quality or usability affected? Explain.

○ Yes ○ No Comments:

N/A

f. Decontamination or Equipment Blank (if applicable)

○ Yes ○ No ◉ Not Applicable

i. All results less than PQL?

○ Yes ○ No Comments:

N/A

ii. If above PQL, what samples are affected?

Comments:

N/A

iii. Data quality or usability affected? Explain.

Comments:

N/A

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

a. Defined and appropriate?

○ Yes ○ No Comments:

N/A

Reset Form

Appendix D

CSM Scoping Form & Graph

Human Health Conceptual Site Model
Scoping Form

Site Name: Former Chevron 92114, 3245 College Road

File Number: Reckey: 1992310013301

Completed by: Vanessa Varbel

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, a CSM graphic and text must be submitted with the site characterization work plan.

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
- ☑ Groundwater
- ☐ Surface water
- ☐ 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

Is soil contaminated anywhere between 0 and 15 feet bgs? ☑

Do people use the site or is there a chance they will use the site in the future? ☑

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

2 Dermal Absorption of Contaminants from Soil

Is soil contaminated anywhere between 0 and 15 feet bgs? ☑

Do people use the site or is there a chance they will use the site in the future? ☑

Can the soil contaminants permeate the skin? (Contaminants listed below, or within the groups listed below, should be evaluated for dermal absorption). ☑

Arsenic	Lindane
Cadmium	PAHs
Chlordane	Pentachlorophenol
2,4-dichlorophenoxyacetic acid	PCBs
Dioxins	SVOCs
DDT	

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

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 ADEC has determined the groundwater is not a currently or reasonably expected future source of drinking water according to 18 AAC 75.350.* ☑

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

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: _____

3 Ingestion of Wild Foods

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

Do the site contaminants have the potential to bioaccumulate (*see* Appendix A)? ☐

Are site contaminants located where they would have the potential to be taken up into biota? (i.e. the top 6 feet of soil, in groundwater that **could be** connected to surface water, etc.) ☐

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

c) Inhalation

1 Inhalation of Outdoor Air

Is soil contaminated anywhere between 0 and 15 feet bgs? ☑

Do people use the site or is there a chance they will use the site in the future? ☑

Are the contaminants in soil volatile (*See Appendix B*)? ☑

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

2 Inhalation of Indoor Air

Are occupied buildings on the site or reasonably expected to be placed on the site in an area that could be affected by contaminant vapors? (i.e., within 100 feet, horizontally or vertically, of the contaminated soil or groundwater, <u>or</u> subject to "preferential pathways" that promote easy airflow, like utility conduits or rock fractures) ☑

Are volatile compounds present in soil or groundwater (*See Appendix C*)? ☑

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

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

Exposure from this pathway may need to be assessed only in cases where DEC water-quality or drinking-water standards are not being applied as cleanup levels. Examples of conditions that may warrant further investigation include:

- Climate permits recreational use of waters for swimming,
- Climate permits exposure to groundwater during activities, such as construction, without protective clothing, or
- Groundwater or surface water is used for household purposes.

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

Comments:

Not Applicable (NA)

Inhalation of Volatile Compounds in Household Water

Exposure from this pathway may need to be assessed only in cases where DEC water-quality or drinking-water standards are not being applied as cleanup levels. Examples of conditions that may warrant further investigation include:

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

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

Comments:

NA

Inhalation of Fugitive Dust

Generally DEC soil ingestion cleanup levels in Table B1 of 18 AAC 75 are protective of this pathway, although this is not true in the case of chromium. Examples of conditions that may warrant further investigation include:

- 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. This size can be inhaled and would be of concern for determining if this pathway is complete.

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 recreational or some types of subsistence activities. People then incidentally **ingest** sediment from normal hand-to-mouth activities. In addition, **dermal absorption of contaminants** may be of concern if people come in contact with sediment and the contaminants are able to permeate the skin (see dermal exposure to soil section). This type of exposure is rare but it should be investigated if:

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

ADEC soil ingestion cleanup levels are protective of direct contact with sediment. If they are determined to be over-protective for sediment exposure at a particular site, other screening levels could be adopted or developed.

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

Comments:

NA

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

HUMAN HEALTH CONCEPTUAL SITE MODEL

Site: Former Chevron 92114
3245 College Rd
Fairbanks, Alaska

Completed By: Vanessa Varbel

Date Completed: November 15, 2007

Follow the directions below. Do not consider engineering or 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. Briefly list other mechanisms or reference the report for details.

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

(4)
Check exposure pathways that are complete or need further evaluation. The pathways identified must agree with Sections 2 and 3 of the CSM Scoping Form.

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

Media	Transport Mechanisms	Exposure Media	Exposure Pathways	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	F	C/F	C/F	F			
	☑ Migration or leaching to subsurface — *check soil*		☑ Dermal Absorption of Contaminants from Soil	F	C/F	C/F	F			
	☑ Migration or leaching to groundwater — *check groundwater*									
	☑ Volatilization — *check air*									
	☐ Runoff or erosion — *check surface water*									
	☐ Uptake by plants or animals — *check biota*									
	☐ Other (*list*): Former Chevron 92114, 3245 College Road									
☑ Subsurface Soil (2-15 ft bgs)	☑ Direct release to subsurface soil — *check soil*	☑ groundwater	☑ Ingestion of Groundwater	F	F	F	F			
	☑ *Migration to groundwater* — *check groundwater*		☑ Dermal Absorption of Contaminants in Groundwater	F	F	F	F			
	☑ *Volatilization* — *check air*		☑ Inhalation of Volatile Compounds in Tap Water							
	☐ *Other (list):* Reckey: 1992310013301									
☑ Ground-water	☑ Direct release to groundwater — *check groundwater*	☑ air	☑ Inhalation of Outdoor Air	F	C/F	C/F	F			
	☐ *Volatilization* — *check air*		☐ Inhalation of Indoor Air	F	C/F	C/F	F			
	☐ *Flow to surface water body* — *check surface water*		☐ Inhalation of Fugitive Dust							
	☐ *Flow to sediment* — *check sediment*									
	☑ *Uptake by plants or animals* — *check biota*									
	☑ *Other (list):* Vanessa Varbel									
☐ Surface Water	☐ Direct release to surface water — *check surface water*	☑ surface water	☑ Ingestion of Surface Water							
	☐ *Volatilization* — *check air*		☐ Dermal Absorption of Contaminants in Surface Water							
	☑ *Sedimentation* — *check sediment*		☐ Inhalation of Volatile Compounds in Tap Water							
	☑ *Uptake by plants or animals* — *check biota*									
	☐ *Other (list):*									
☑ Sediment	☑ Direct release to sediment — *check sediment*	☐ sediment	☑ Direct Contact with Sediment							
	☑ *Resuspension, runoff, or erosion* — *check surface water*									
	☑ *Uptake by plants or animals* — *check biota*	☑ biota	☐ Ingestion of Wild Foods							
	☐ *Other (list):*									

Revised 3/21/06