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

Subject:

**Second Semi-Annual 2007 Groundwater Monitoring Report
Chevron 306443 (Former Unocal Bulk Plant 0207)
Gate 28, West Ramp, Fairbanks International Airport
Fairbanks, Alaska
ADEC File No. 100.26.040
Reckey: 1992310003501**

Environmental

Date:
January 4, 2008

Dear Mr. Frechione:

Contact:
Rebecca Andresen

On behalf of Chevron Environmental Management Company (Chevron), ARCADIS U.S., Inc. (ARCADIS BBL, formerly known as Blasland, Bouck, & Lee, Inc.) is submitting the enclosed groundwater monitoring report for former Unocal Bulk Plant 0207 (the site) located at Gate 28, West Ramp at the Fairbanks International Airport in Fairbanks, Alaska (**Figure 1**). This report summarizes the second semi-annual 2007 groundwater sampling event conducted at the site by OASIS Environmental, Inc (OASIS). This work was conducted under the direction of a "qualified person" [18 AAC 75.990(100), and 18 AAC 78.995(118)].

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Our ref:
B0045507

Site Description

The site is a former Unocal Fuel Distribution Facility (Unocal #0207, Chevron #306443), located at Fairbanks International Airport (FIA), Gate 28, West Ramp, Fairbanks, Alaska. The former Unocal lease included Parcel A and Parcel B of FIA Block 1, Lot 8, located at 5245 Airport Road. The site is currently owned by the Alaska Department of Transportation and Public Facilities (ADOT&PF) which is leasing Block 1, Lot 8 to Frontier Flying. Frontier Flying has been leasing Lot 8 since April 2003; previously Frontier Flying subleased Lot 8 from Falcon Properties. Nearby properties include the ADOT&PF airport maintenance and Alaska Rescue Fire Fighting (ARFF) facility across Brumbaugh Avenue to the northeast, and Northern Air Cargo (NAC) adjacent to the southwest.

Unocal formerly subleased a portion (Parcels A and B) of Lot 8 from Trans-Arctic Airlines and operated a fuel distribution facility that provided aviation gasoline and Jet-A fuel to airplanes at FIA. Parcel A was a rectangular piece of land, 100 feet in length and 50 feet in width, running northwest to southeast approximately 20 feet inside the northeastern lot boundary. Parcel B was a circular parcel of land adjacent to the southeasterly property line of Lot 8 and having a diameter of 200 feet (**Figure 2**). The former Unocal lease portion is presently being used only for periodic vehicle storage, with the exception of the northwest corner of Parcel A. Frontier maintains a 12,000-gallon Jet-A fuel aboveground storage tank (AST) within the asphalt cutout near the northwest corner of Parcel A. It is unclear if the AST is within the limits of former Parcel A; however, the AST is on the gravel that was exposed during the removal of Unocal's fuel distribution system.

In October 1991, Dames & Moore observed and monitored the removal of four 10,000-gallon underground storage tanks (USTs), two pump islands and associated piping, as reported in "Site Assessment Report for Underground Storage Tank Closure, CEM Leasing, Inc., Fairbanks, Alaska," dated December 17, 1991. The USTs were seated in sandy gravel, covered with 3 feet of silty sand, and capped with asphalt/concrete. Excavation and removal of the underground piping included two 5-foot deep-by-4-foot-wide trenches.

The UST excavation was approximately 65 feet by 40 feet and averaged 10 feet in depth. The four USTs were "free of dents and holes and appeared to be in good condition," according to Dames & Moore. Groundwater was encountered in the excavation; no free product was observed. Concentrations of diesel-range organics (DRO), and benzene, toluene, ethylbenzene and total xylenes (BTEX) and gasoline-range organics (GRO) for several samples were greater than the Alaska Department of Environmental Conservation (ADEC) cleanup levels. Approximately 1,200 cubic yards of soil were excavated during UST and pipeline removal. The soil suspected of containing hydrocarbons greater than cleanup levels was placed back into the excavations. A layer of visqueen was placed over the impacted soil, and clean imported fill was used to restore the excavation area to original grade. GeoEngineers installed nine groundwater monitoring wells in September 2003: GEI-1 through GEI-9.

Groundwater Monitoring

The second semi-annual groundwater sampling event was conducted on September 29, 2007, and included monitoring wells GEI-1 through GEI-9. Monitoring wells GEI-

1, GEI-5 and GEI-6 contained light, non-aqueous phase liquid (LNAPL), and therefore only depth to water and depth to LNAPL were measured; these monitoring wells were not sampled. Groundwater samples were collected from monitoring wells GEI-2, GEI-3, GEI-4, GEI-7, GEI-8 and GEI-9 and were submitted to Lancaster Laboratories, an Alaska-certified laboratory, for analysis of GRO by Alaska Method AK 101, DRO by Alaska Method 102, residual-range organic (RRO) compounds by Alaska Method 103 and BTEX by US EPA Method 8021B. The groundwater samples from monitoring wells GEI-7 and GEI-9 were also analyzed for volatile organic compounds (VOCs) by US EPA Method 8260, and lead by US EPA Method 200.8. Field work was conducted by OASIS. Proper chain-of-custody procedures were followed throughout sample collection and delivery to the laboratory. The field data sheets are included as **Appendix A**.

Groundwater Flow

Depth to groundwater ranged from 8.44 ft below top of casing (btoc) in monitoring well GEI-4 to 9.22 ft btoc in monitoring well GEI-5. Measurable (LNAPL) was observed in monitoring wells GEI-1, GEI-5 and GEI-6 at thicknesses of 0.06 ft, 0.50 ft and 0.29 ft, respectively, during the September 2007 sampling event. Groundwater elevations were corrected for the presence of LNAPL as appropriate, and ranged from 90.85 ft (GEI-7) to 91.32 ft (GEI-1). The groundwater flow direction was generally to the west. Groundwater elevations and approximate contours based on the September 2007 gauging are included in **Table 1** and **Figure 2**.

Groundwater Analytical Results

Groundwater samples collected during the September 2007 groundwater monitoring event from monitoring wells GEI-3, GEI-4, GEI-7, GEI-8 and GEI-9 exceeded one or more applicable ADEC GCLs (**Table 2** and **Figure 3**). The groundwater sample from monitoring well GEI-2 did not exceed applicable ADEC GCLs; however, the sample from monitoring well GEI-2 was not analyzed for DRO or RRO due to sample bottles broken during shipment to the laboratory.

RRO was not detected in the groundwater samples; however, the detection limits for most of the samples were greater than the applicable GCL of 1,100 micrograms per liter ($\mu\text{g/L}$) (**Table 2**). The detection limits were raised due to the dilution required for the high concentrations of DRO. The September 2007 DRO concentrations in samples many of the monitoring wells were greater than previous events. Generally, the detection limits for previous events have been less than the GCL. Historically,

RRO has been either non-detect or detected at concentrations less than the ADEC GCL.

Samples from wells GEI-3, GEI-4, GEI-7, GEI-8 and GEI-9 exceeded the ADEC GCL for DRO with concentrations ranging from 4,400 µg/L (GEI-8) to 680,000 µg/L (GEI-9). Samples from wells GEI-4, GEI-7 (parent sample only), and GEI-9 exceeded the ADEC GCL for GRO (1,300 µg/L) with concentrations ranging from 1,400 µg/L (GEI-4) to 1,800 µg/L (GEI-9). Samples collected from wells GEI-4 and GEI-9 exceeded the ADEC GCL for benzene (5 µg/L) with concentrations ranging from 10 µg/L (GEI-9) to 20 µg/L (GEI-4). Benzene was not detected in the samples from wells GEI-3 and GEI-7; however, the detection limit was equal to the GCL.

Concentrations of lead in the samples from wells GEI-7 and GEI-9 exceeded the applicable GCL of 15 µg/L. Several VOCs were detected in the samples from wells GEI-7 and GEI-9; however, none of the detected concentrations exceeded applicable ADEC GCLs with the exception of BTEX compounds (**Table 3**).

Laboratory Data Review Summary

As required by ADEC (Technical Memorandum 06-002, dated October 9, 2006), ARCADIS BBL completed one laboratory data review checklist for the Lancaster laboratory report (groundwater) from the second semi-annual groundwater monitoring event. The laboratory report and the data review checklist are included as **Appendix B**. The enclosed CD contains a PDF of the report, the electronic data deliverable (EDD) and the supplemental data package.

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), matrix spike percent recovery, and laboratory control sample duplicate (LCSD) relative percent differences (RPD), the Lancaster data meet precision objectives with exception of the LCS percent recovery for trichlorofluoromethane. A groundwater field duplicate sample was collected from well GEI-7 and did not meet the RPD limits for GRO and DRO.
2. Accuracy - The Lancaster data meet accuracy objectives as indicated by the laboratory quality control samples, which were within method/laboratory limits. However, there were several matrix spike percent recoveries

outside of the specification for the 8260 analytes. A trip blank was also collected during groundwater monitoring; the trip blank 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 100% completeness. However, due to broken sample bottles, RRO and DRO were not analyzed for the samples collected from monitoring well GEI-2 this event.
6. Sensitivity - The sensitivity of the analyses was not adequate for all of the analytes, as most of the detection limits were raised due to dilution. Many of the samples had detectable concentrations of these analytes. However, the RRO and benzene detection limits were greater than ADEC GCLs in several samples with non-detectable concentrations.

Conclusions and Recommendations

LNAPL was detected in three monitoring wells, GEI-1, GEI-5, and GEI-6, during the second semi-annual 2007 groundwater monitoring event. LNAPL has been detected in these three wells at least once previously and has also been observed in monitoring well GEI-3 on occasion. The LNAPL was previously identified as a lighter-weight diesel product (i.e. kerosene or jet fuel). DRO is the primary contaminant of concern at the site.

Concentrations of DRO, GRO, benzene, and lead exceeded the ADEC GCL in groundwater samples collected during the second semi-annual 2007 event. Dissolved phase concentrations of hydrocarbons fluctuate and do not show a clear trend with exception of DRO concentrations, which were greater during this event than previous sampling events.

RRO does not appear to be a contaminant of concern at the site, as it has not been detected in site monitoring wells at concentrations exceeding the applicable ADEC standards. The current monitoring program also includes the full list of VOCs (EPA

Method 8260); however, with exception of BTEX compounds, none of the VOCs have been detected at concentrations greater than the cleanup level. Accordingly, ARCADIS BBL recommends eliminating the following analyses from the groundwater monitoring program:

- RRO by AK Method 103
- VOCs by EPA Method 8260 (Analysis of BTEX by EPA Method 8021 will continue.)

The next sampling event is scheduled for spring 2007. If you have any questions or would like to discuss this further, please contact Rebecca Andresen of ARCADIS BBL at 206.726.4717.

Sincerely,

ARCADIS U.S., Inc.



Barbara Orchard
Project Engineer in Training



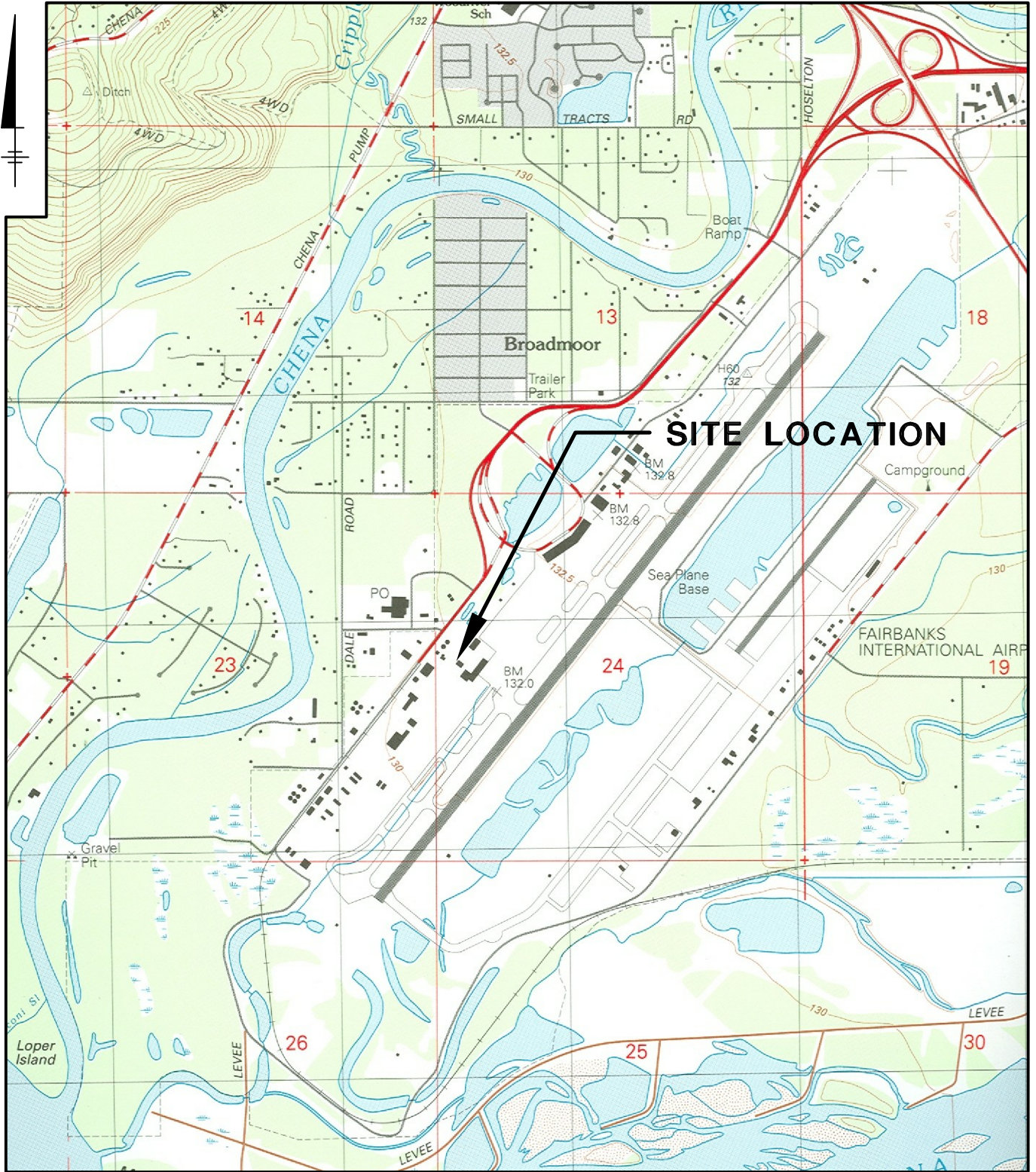
Rebecca K. Andresen, P.G.
Senior Geologist I

Copies:

Stacie Frerichs, Chevron EMC, San Ramon, California
Alan Braley, Fairbanks International Airport, Alaska

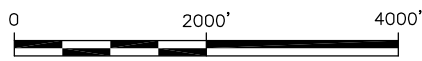
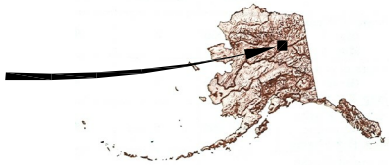
Figures

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SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE: FAIRBANKS (D-2) SW, AK., 1992, FAIRBANKS NORTH STAR BOROUGH, SECTION: 24, TOWNSHIP: 1S, RANGE: 2W

SITE LOCATION



APPROXIMATE GRAPHIC SCALE

CHEVRON #306443 (FORMER UNOCAL BULK PLANT)
GATE 28, WEST RAMP, FAIRBANKS AIRPORT, FAIRBANKS, AK.
GROUNDWATER MONITORING REPORT

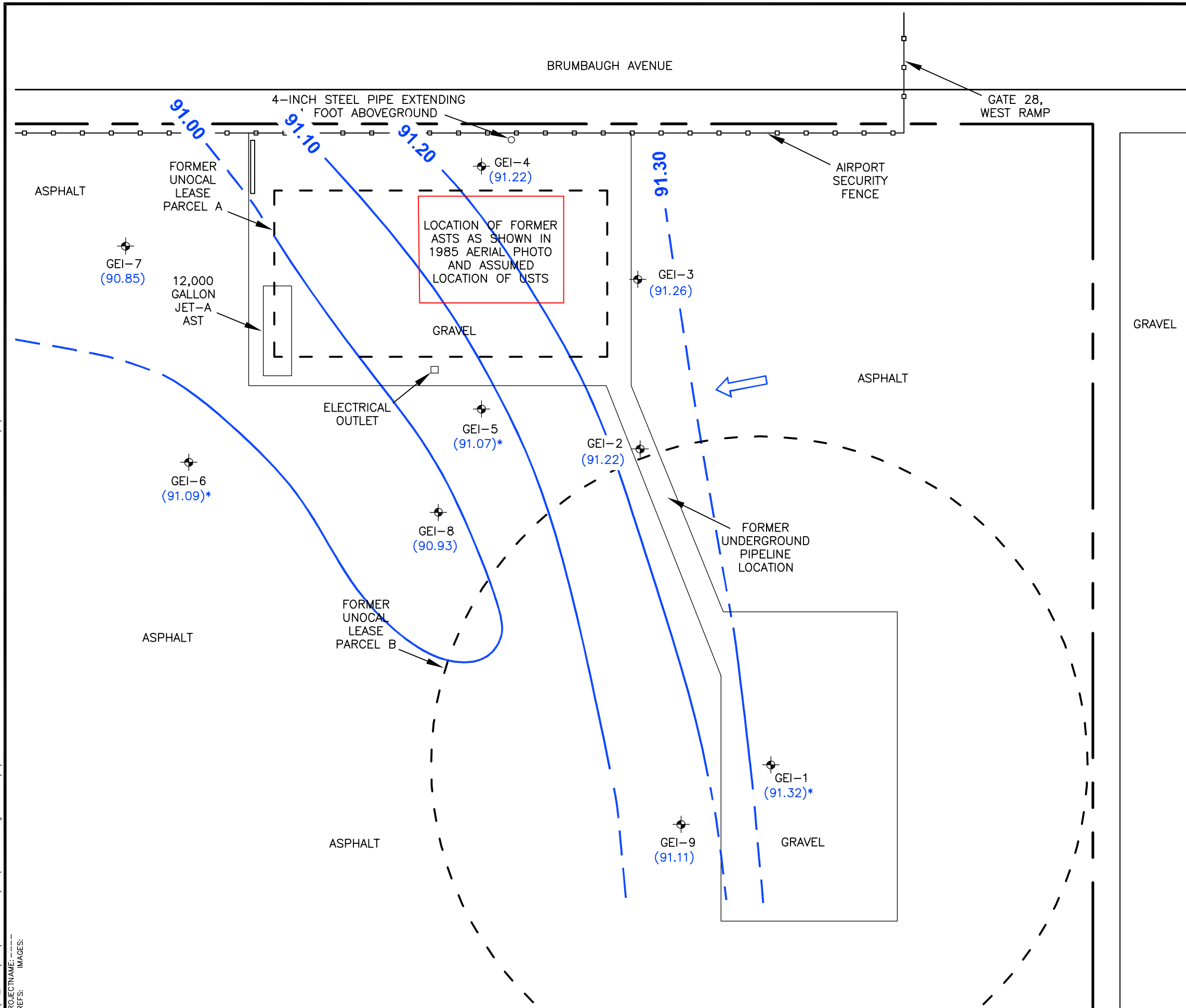
SITE LOCATION MAP



FIGURE

1

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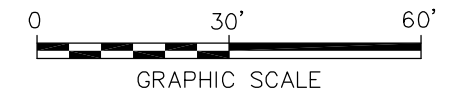


LEGEND

- MONITORING WELL
- (88.57) GROUNDWATER ELEVATIONS
- WATER-TABLE ELEVATION CONTOUR
DASHED WHERE INFERRED
CONTOUR INTERVAL = 0.10 FEET
- APPARENT DIRECTION OF GROUNDWATER FLOW
- * GROUNDWATER ELEVATION CORRECTED FOR LIGHT NON-AQUEOUS PHASE LIQUID

Notes:
 The locations of all features shown are approximate.
 Elevations are relative to an arbitrary temporary benchmark.

SOURCE: BASE MAP PROVIDED BY GEOENGINEERS.
 MAP DATE 5/15/05, FULL SCALE.



CHEVRON #306443 (FORMER UNOCAL BULK PLANT)
 GATE 28, WEST RAMP, FAIRBANKS AIRPORT, FAIRBANKS, AK.
GROUNDWATER MONITORING REPORT

GROUNDWATER ELEVATION MAP
SEPTEMBER 29, 2007



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GEI-7				
DATE	4/19/06	9/21/06	4/3/07	9/29/07
B	37.9	1.2	50/40	<5/<5
T	4.11	<0.5	4/4	<5/<5
E	77.8	14	90/90	<10/<10
X	103	15	200/200	<20/<20
GRO	934	470	2,200/2,200	1,500/900
DRO	25,200	4,100	12,000/12,000	130,000/92,000

GEI-4				
DATE	4/19/06	9/21/06	4/3/07	9/29/07
B	7.58	24.0	5.0	20
T	<0.500	0.5	<1.0	1
E	21.8	25	9	20
X	27.9	43	8	40
GRO	879	630	300	1,400
DRO	17,800	12,000	2,000	43,000

GEI-3				
DATE	4/19/06	9/21/06	4/3/07	9/29/07
B	LNAPL	<0.6	LNAPL	<5
T	LNAPL	<0.5	LNAPL	<5
E	LNAPL	7.7	LNAPL	<5
X	LNAPL	25.0	LNAPL	<20
GRO	LNAPL	500	LNAPL	700
DRO	LNAPL	29,000	LNAPL	65,000

GEI-5				
DATE	4/19/06	9/21/06	4/3/07	9/29/07
B	LNAPL	LNAPL	LNAPL	LNAPL
T	LNAPL	LNAPL	LNAPL	LNAPL
E	LNAPL	LNAPL	LNAPL	LNAPL
X	LNAPL	LNAPL	LNAPL	LNAPL
GRO	LNAPL	LNAPL	LNAPL	LNAPL
DRO	LNAPL	LNAPL	LNAPL	LNAPL

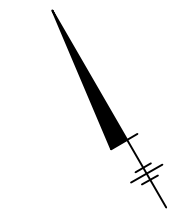
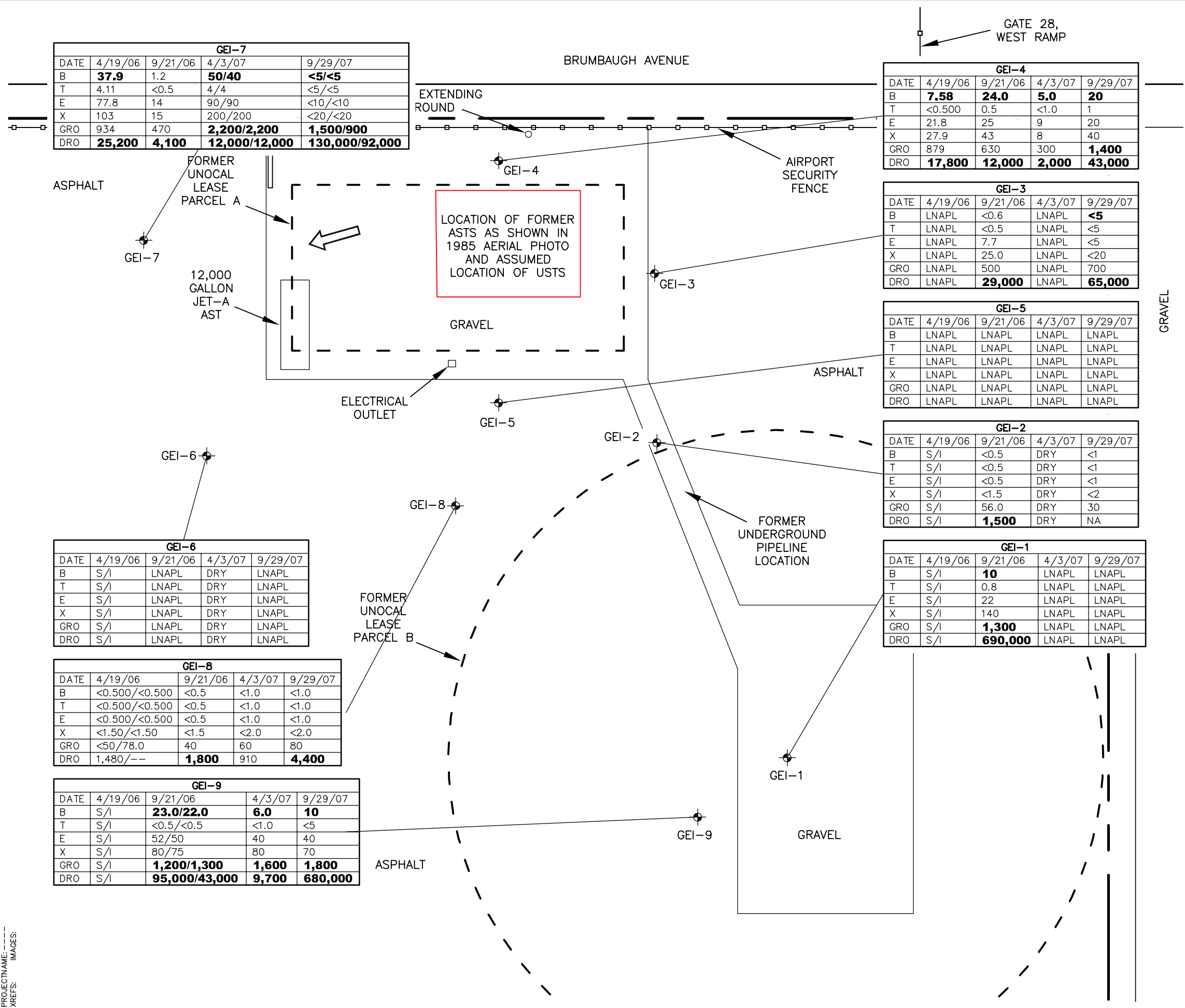
GEI-2				
DATE	4/19/06	9/21/06	4/3/07	9/29/07
B	S/I	<0.5	DRY	<1
T	S/I	<0.5	DRY	<1
E	S/I	<0.5	DRY	<1
X	S/I	<1.5	DRY	<2
GRO	S/I	56.0	DRY	30
DRO	S/I	1,500	DRY	NA

GEI-1				
DATE	4/19/06	9/21/06	4/3/07	9/29/07
B	S/I	10	LNAPL	LNAPL
T	S/I	0.8	LNAPL	LNAPL
E	S/I	22	LNAPL	LNAPL
X	S/I	140	LNAPL	LNAPL
GRO	S/I	1,300	LNAPL	LNAPL
DRO	S/I	690,000	LNAPL	LNAPL

GEI-6				
DATE	4/19/06	9/21/06	4/3/07	9/29/07
B	S/I	LNAPL	DRY	LNAPL
T	S/I	LNAPL	DRY	LNAPL
E	S/I	LNAPL	DRY	LNAPL
X	S/I	LNAPL	DRY	LNAPL
GRO	S/I	LNAPL	DRY	LNAPL
DRO	S/I	LNAPL	DRY	LNAPL

GEI-8				
DATE	4/19/06	9/21/06	4/3/07	9/29/07
B	<0.500/<0.500	<0.5	<1.0	<1.0
T	<0.500/<0.500	<0.5	<1.0	<1.0
E	<0.500/<0.500	<0.5	<1.0	<1.0
X	<1.50/<1.50	<1.5	<2.0	<2.0
GRO	<50/78.0	40	60	80
DRO	1,480/--	1,800	910	4,400

GEI-9				
DATE	4/19/06	9/21/06	4/3/07	9/29/07
B	S/I	23.0/22.0	6.0	10
T	S/I	<0.5/<0.5	<1.0	<5
E	S/I	52/50	40	40
X	S/I	80/75	80	70
GRO	S/I	1,200/1,300	1,600	1,800
DRO	S/I	95,000/43,000	9,700	680,000



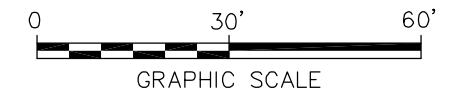
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MONITORING WELL

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

RESULTS REPORTED IN MICROGRAMS PER LITER (µg/L)
 S/I = SNOW/ICE
 25/30 = DUPLICATE SAMPLE
 -- = DUPLICATE NOT SAMPLED
 LNAPL = LIGHT NON-AQUEOUS PHASE LIQUID
 BOLD CELL = EXCEEDS GCL

Notes:
 The locations of all features shown are approximate.
 SOURCE: BASE MAP PROVIDED BY GEOENGINEERS.
 MAP DATE 5/15/05, FULL SCALE.



CHEVRON #306443 (FORMER UNOCAL BULK PLANT)
 GATE 28, WEST RAMP, FAIRBANKS AIRPORT, FAIRBANKS, AK.
GROUNDWATER MONITORING REPORT

GROUNDWATER ANALYTICAL MAP
SEPTEMBER 29, 2007

ARCADIS BBL
 infrastructure, environment, facilities

FIGURE
3

Tables

Table 1

Groundwater Elevation Data
 Former Chevron 306443 (Unocal 0207)
 Gate 28, West Ramp
 Fairbanks International Airport
 Fairbanks, Alaska

Monitoring Well	Top of Casing Elevation (feet)	Date	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet)
GEI-1	99.87	09/04/03	6.32	--	--	93.55
		04/24/04		Well buried under snow/ice		
		09/16/04	8.56	--	--	91.31
		04/21/05		Well buried under snow/ice		
		09/30/05	8.17	--	--	91.70
		04/19/06		Well buried under snow/ice		
		09/21/06	9.04	--	--	90.83
		04/03/07	11.35	11.08	0.27	88.74
		09/29/07	8.60	8.54	0.06	91.32
GEI-2	99.79	09/04/03	6.19	--	--	93.60
		04/24/04		Well buried under snow/ice		
		09/16/04	8.47	--	--	91.32
		04/21/05		Well buried under snow/ice		
		09/30/05	7.76	--	--	92.03
		04/19/06		Well buried under snow/ice		
		09/21/06	9.01	--	--	90.78
		04/03/07		Well Dry		
		09/29/07	8.57	--	--	91.22
GEI-3	99.73	09/04/03	6.14	--	--	93.59
		04/24/04	9.49	--	--	90.24
		09/16/04	8.38	--	--	91.35
		04/21/05	9.84	--	--	89.89
		09/30/05	7.67	--	--	92.06
		04/19/06	11.28	10.75	0.53	88.88
		09/21/06	8.91	--	--	90.82
		04/03/07	10.80	10.78	0.02	88.95
		09/29/07	8.47	--	--	91.26
GEI-4	99.66	09/04/03	6.12	--	--	93.54
		04/24/04	9.52	--	--	90.14
		09/16/04	8.41	--	--	91.25
		04/21/05	9.83	--	--	89.83
		09/30/05	7.69	--	--	91.97
		04/19/06	10.90	--	--	88.76
		09/21/06	8.91	--	--	90.75
		04/03/07	10.98	--	--	88.68
		09/29/07	8.44	--	--	91.22

Table 1

Groundwater Elevation Data
 Former Chevron 306443 (Unocal 0207)
 Gate 28, West Ramp
 Fairbanks International Airport
 Fairbanks, Alaska

Monitoring Well	Top of Casing Elevation (feet)	Date	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet)
GEI-5	99.88	09/04/03	8.28	5.97	2.31	93.49
		04/24/04	10.11	9.71	0.40	90.09
		09/16/04	10.40	8.21	2.19	91.28
		04/21/05	10.49	10.06	0.43	89.74
		09/30/05	7.95	--	--	91.97
		04/19/06	11.75	11.01	0.74	88.74
		09/21/06	10.09	9.01	1.08	90.68
		04/03/07	11.70	11.23	0.47	88.57
		09/29/07	9.22	8.72	0.50	91.07
GEI-6	99.95	09/04/03	6.47	--	--	93.48
		04/24/04	9.95	--	--	90.00
		09/16/04	8.83	--	--	91.12
		04/21/05	10.28	--	--	89.67
		09/30/05	8.24	--	--	91.71
		04/19/06		Well buried under snow/ice		
		09/21/06	9.30	9.30	<0.1	90.65
		04/03/07		Well Dry		
		09/29/07	9.10	8.81	0.29	91.09
GEI-7	99.44	09/04/03	5.92	--	--	93.52
		04/24/04	9.49	--	--	89.95
		09/16/04	8.36	--	--	91.08
		04/21/05	9.95	--	--	89.49
		09/30/05	7.74	--	--	91.70
		04/19/06	11.04	--	--	88.40
		09/21/06	9.06	--	--	90.38
		04/03/07	11.21	--	--	88.23
		09/29/07	8.59	--	--	90.85
GEI-8	100.01	09/04/03	6.48	--	--	93.53
		04/24/04	9.94	--	--	90.07
		09/16/04	8.84	--	--	91.17
		04/21/05	10.31	--	--	89.70
		09/30/05	8.18	--	--	91.83
		04/19/06	11.47	--	--	88.54
		09/21/06	9.48	--	--	90.53
		04/03/07	11.63	--	--	88.38
		09/29/07	9.08	--	--	90.93

Table 1

Groundwater Elevation Data
 Former Chevron 306443 (Unocal 0207)
 Gate 28, West Ramp
 Fairbanks International Airport
 Fairbanks, Alaska

Monitoring Well	Top of Casing Elevation (feet)	Date	Depth to Water (top of casing) (feet)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Groundwater Elevation (feet)
GEI-9	100.02	09/04/03	6.42	--	--	93.60
		04/24/04	9.82	--	--	90.20
		09/16/04	8.21	--	--	91.81
		04/21/05	Well buried under snow/ice			
		09/30/05	8.14	--	--	91.88
		04/19/06	Well buried under snow/ice			
		09/21/06	9.31	--	--	90.71
		04/03/07	11.39	--	--	88.63
		09/29/07	8.91	--	--	91.11

Notes:
 LNAPL = Light non-aqueous phase liquid
 Groundwater elevations were corrected due to the presence of LNAPL in well. Specific gravity of 0.82 was used for the LNAPL (Jet-A Fuel).
 Bold text indicates most recent sampling event.
 "--" = not applicable.

Table 2

Summary of Groundwater Analytical Data
 Petroleum Hydrocarbons and Lead
 Former Chevron 306443 (Unocal 0207)
 Gate 28, West Ramp
 Fairbanks International Airport
 Fairbanks, Alaska

Monitoring Well	Date Sampled	GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	Lead
GCL:		1,300	1,500	1,100	5	1,000	700	10,000	15
GEI-1	04/24/04	Well buried by snow/ice							
	09/16/04	1,760	151,000	--	7.05	1.83	47.9	251	--
	09/16/04 ^D	--	--	--	5.40	2.02	42.2	233	--
	04/21/05	Well buried by snow/ice							
	09/30/05	2,270	327,000	<3,970	5.52	0.945	36.6	208	--
	04/19/06	Well buried by snow/ice							
	09/21/06	1,300	690,000	<9,800	10.0	0.8	22	140	--
	04/03/07	LNAPL Present - Well not sampled							
09/29/07	LNAPL Present - Well not sampled								
GEI-2	04/24/04	Well buried by snow/ice							
	09/16/04	76.6	1,430	--	2.53	0.547	<0.500	1.81	--
	04/21/05	Well buried by snow/ice							
	09/30/05	65.6	885	<391	<0.500	<0.500	<0.500	<1.50	--
	04/19/06	Well buried by snow/ice							
	09/21/06	56.0	1,500	430	<0.5	<0.5	<0.5	<1.5	--
	04/03/07	Well dry - Not sampled							
09/29/07	30	--	--	<1	<1	<1	<2	--	
GEI-3	04/24/04	1,330	21,000	--	<5.00	<5.00	13.9	59.8	--
	09/16/04	310	18,300	--	1.26	<0.500	8.27	14.9	--
	04/21/05	464	22,900	--	<0.500	<0.500	6.24	14.6	--
	09/30/05	450	33,300	625	<0.500	<0.500	3.45	10.6	--
	04/19/06	LNAPL Present - Well not sampled							
	09/21/06	500	29,000	<480	<0.6	<0.5	7.7	25.0	--
	04/03/07	LNAPL Present - Well not sampled							
	09/29/07	700	65,000	<2,100	<5	<5	<5	<20	--
GEI-4	04/24/04	1,270	43,600	--	<5.00	<5.00	14.6	57.2	--
	09/16/04	638	36,200	--	15.0	0.675	21.8	35.7	--
	04/21/05	570	37,500	--	35.4	1.27	17.7	40.1	--
	09/30/05	1,030	122,000	<4,100	7.47	4.88	25.1	58.7	--
	04/19/06	879	17,800	<391	7.58	<0.500	21.8	27.9	<1.00
	09/21/06	630	12,000	<480	24.0	0.5	25	43	--
	04/03/07	300	2,000	<40	5.0	<1.0	9	8	--
	09/29/07	1,400	43,000	<2,000	20	1	20	40	--
	GEI-5	04/24/04	LNAPL Present - Well not sampled						
09/16/04		LNAPL Present - Well not sampled							
04/21/05		LNAPL Present - Well not sampled							
09/30/05		2,530	671,000	<8,700	12.4	<0.500	107	326	--
04/19/06		LNAPL Present - Well not sampled							
09/21/06		LNAPL Present - Well not sampled							
04/03/07		LNAPL Present - Well not sampled							
09/29/07		LNAPL Present - Well not sampled							

Table 2

Summary of Groundwater Analytical Data
 Petroleum Hydrocarbons and Lead
 Former Chevron 306443 (Unocal 0207)
 Gate 28, West Ramp
 Fairbanks International Airport
 Fairbanks, Alaska

Monitoring Well	Date Sampled	GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	Lead
GCL:		1,300	1,500	1,100	5	1,000	700	10,000	15
GEI-6	04/24/04	2,930	168,000	--	8.17	<5.00	59.6	145	--
	09/16/04	1,880	39,600	--	7.80	1.57	23.8	75.0	--
	04/21/05	1,290	25,300	--	15.7	<0.500	57.1	134	--
	09/30/05	2,220	120,000	<4,770	14.8	<0.500	20.8	107	--
	04/19/06	Well buried by snow/ice							
	09/21/06	LNAPL Present - Well not sampled							
	04/03/07	Well Dry - Not sampled							
	09/29/07	LNAPL Present - Well not sampled							
GEI-7	04/24/04	2,440	43,200	--	6.97	<5.00	7.58	20.0	--
	09/16/04	363	5,660	--	<0.500	1.34	8.89	14.2	--
	04/21/05	1,080	13,600	--	32.6	2.52	64.6	92.0	--
	09/30/05	226	6,700	<397	<0.500	<0.500	3.68	4.72	--
	04/19/06	934	25,200	<856	37.9	4.11	77.8	103	<1.00
	09/21/06	470	4,100	<98	1.2	<0.5	14	15	--
	04/03/07	2,200	12,000	<980	50	4	90	200	--
	04/03/07 ^D	2,200	12,000	<980	40	4	90	200	--
	09/29/07	1,500	130,000	<2,000	<5	<5	<10	<20	27.9
	09/29/07^D	900	92,000	<2,000	<5	<5	<10	<20	--
GEI-8	04/24/04	<500	7,390	--	<5.00	<5.00	11.7	30.4	--
	09/16/04	82	8,690	--	<0.500	<0.500	0.520	1.12	--
	04/21/05	54.3	1,460	--	<0.500	<0.500	<0.500	<1.50	--
	04/21/05 ^D	<50	--	--	<0.500	<0.500	<0.500	<1.50	--
	09/30/05	<50	4,970	<397	<0.500	<0.500	<0.500	<1.50	--
	04/19/06	<50	1,480	<400	<0.500	<0.500	<0.500	<1.50	--
	04/19/06 ^D	78.0	--	--	<0.500	<0.500	<0.500	<1.50	<1.00
	09/21/06	40.0	1,800	<160	<0.5	<0.5	<0.5	<1.5	--
	04/03/07	60	910	360	<1.0	<1.0	<1.0	<2.0	--
	09/29/07	80	4,400	<200	<1.0	<1.0	<1.0	<2.0	--
GEI-9	04/24/04	8,370	33,700	--	9.53	<5.00	113	321	--
	09/16/04	1,350	77,400	--	17.3	<0.500	58.3	57.5	--
	04/21/05	Well buried by snow/ice							
	09/30/05	838	50,900	<443	16.2	<0.500	55.4	82.3	--
	04/19/06	Well buried by snow/ice							
	09/21/06	1,200	95,000	<1,900	23.0	<0.5	52	80	36.5
	09/21/06 ^D	1,300	43,000	<980	22.0	<0.5	50	75	--
	04/03/07	1,600	9,700	<400	6	<1.0	40	80	0.62
09/29/07	1,800	680,000	<20,000	10	<5	40	70	29.8	

Table 2

Summary of Groundwater Analytical Data
 Petroleum Hydrocarbons and Lead
 Former Chevron 306443 (Unocal 0207)
 Gate 28, West Ramp
 Fairbanks International Airport
 Fairbanks, Alaska

Monitoring Well	Date Sampled	GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	Lead
GCL:		1,300	1,500	1,100	5	1,000	700	10,000	15
Trip Blank	09/21/06	<10	--	--	<0.5	<0.5	<0.5	<1.5	--
	04/03/07	<10	--	--	<0.5	<0.5	<0.5	<0.5	--
	09/29/07	<10	--	--	<1	<1	<1	<2	--
<p><u>Notes:</u> All results are reported in micrograms per liter (ug/l) GCL = ADEC 18 AAC 75 Groundwater Cleanup Level ^D - duplicate of preceding sample Highlighted cell= exceeds GCL Bold Type indicates most recent sampling event. -- = sample was not analyzed for this compound <25 = result did not exceed indicated method reporting limit; an elevated reporting limit indicates sample was diluted</p>									

Table 3

Summary of Groundwater Analytical Data
 Volatile Organic Compounds
 Former Chevron 306443 (Unocal 0207)
 Gate 28, West Ramp
 Fairbanks International Airport
 Fairbanks, Alaska

EPA Method:		8011						8260B										8021B	
Well	Sample Date	1,2-dibromoethane	1,2-dibromoethane	1,1-dichloroethane	1,3,5-Trimethylbenzene	1,1,1-trichloroethane	1,2,4-Trimethylbenzene	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	p-Isopropyltoluene	Isopropylbenzene	n-Propylbenzene	tetrachloroethene	1,2-dichloroethane	trichloroethene	naphthalene	methyl tertiary butyl ether	methyl tertiary butyl ether
GCL:		0.05	0.05	3,650	1,850	200	1,850	NL	NL	NL	NL	3,650	NL	5	5	5	700	NL	NL
GEI-7	09/29/07	--	<0.5	<1	62	<0.8	170	28	27	2	22	22	41	<0.8	<0.5	<1	150	<0.5	--
GEI-9	09/21/06	<0.0098	<0.5	<1	120	<0.8	540	36	17	1	17	25	59	<0.8	<0.5	<1	--	<0.5	<2.5
	04/03/07	--	<0.5	<1	100	<0.8	340	35	23	2	20	30	65	<0.8	<0.5	<1	--	<0.5	--
	09/29/07	--	<0.5	<1	120	<0.8	630	31	16	1	18	21	47	<0.8	<0.5	<1	100	<0.5	--
Trip Blank	04/03/07	--	<0.5	<1	<1	<0.8	<1	<1	<1	<1	<1	<1	<1	<0.8	<0.5	<1	--	<0.5	--
	09/29/07	--	<0.5	<1	<1	<0.8	<1	<1	<1	<1	<1	<1	<1	<0.8	<0.5	<1	<1	<0.5	--

Notes:
 All results are reported in micrograms per liter (ug/l)
 GCL = ADEC 18 AAC 75 Groundwater Cleanup Level
 NL = No GCL available
 -- = not analyzed for this compound or data is not available
 <25 = result did not exceed indicated method reporting limit; an elevated reporting limit indicates sample was diluted

Appendix A

Sampling Datasheets

GROUNDWATER SAMPLE DATA SHEET

Project Number: _____ Sample Location (ie. MW-1): GEI-1
 Project Name: FIA West Ramp/Gate 28 Sample ID (ie. MW-1-W-yymmdd): N/A
 Client: ARCADIS Date Sample Collected: N/A
 Sampler: Julie Ahern Time sampled: N/A

Well Information

Groundwater: X Casing Diameter (in): 2 a) Well Depth (ft): 12.05
 b) Water Depth (ft): 8.60
 Other: SPH detected at 8.54 ft BTOC; no sample taken c) Water Column (ft): 3.45
 d) Calc. Purge Vol. (gal): 0.6

Calculating Purge Volume

Well Casing Diameter	Multiply c) by:
2	0.16
4	0.65
6	1.47

Sand Pack Diameter	Multiply c) by:
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity

Example 1- purging only well casing volume
 2-inch casing and 6-foot water column
 One Purge Volume= 0.16 X 6 = 0.96 gallons water

Example 2- purging well casing and sand pack volume
 2-inch casing, 8-inch sand pack, and 6-foot water column
 One Purge Volume= (0.16 X 6) + (0.71 X 6) = 5.22 gallons water

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (F)	Color	Turbidity	Redox	Dissolved O ₂	Other

Total Volume Purged (Gallons): _____ Free Product (y/n): Yes

Odor: Petroleum Hydrocarbon-Like Odor Sheen (y/n): _____

Purge Method (disposable bailer, teflon bailer, submersible pump, etc.)

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.)

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)

Good

Remarks (well recovery, unusual conditions/observations):

Duplicate Sample ID: None Collected Analyses Requested: _____
 Split Sample ID: None Collected _____

Signed: Julie Ahern Date: 10/10/2007

Signed/reviewer: _____ Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: _____ Sample Location (ie. MW-1): GEI-2
 Project Name: FIA West Ramp/Gate 28 Sample ID (ie. MW-1-W-yymmdd): GEI-2-W-070929
 Client: ARCADIS Date Sample Collected: 9/29/2007
 Sampler: Julie Ahern Time sampled: 1640

Well Information

Groundwater: X Casing Diameter (in): 2 a) Well Depth (ft): 10.56
 b) Water Depth (ft): 8.57
 Other: _____ c) Water Column (ft): 1.99
 d) Calc. Purge Vol. (gal): 0.3

Calculating Purge Volume

Well Casing Diameter	Multiply c) by:
2	0.16
4	0.65
6	1.47

Sand Pack Diameter	Multiply c) by:
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity

Example 1- purging only well casing volume
 2-inch casing and 6-foot water column
 One Purge Volume= 0.16 X 6 = 0.96 gallons water

Example 2- purging well casing and sand pack volume
 2-inch casing, 8-inch sand pack, and 6-foot water column
 One Purge Volume= (0.16 X 6) + (0.71 X 6) = 5.22 gallons water

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (F)	Color	Turbidity	Redox	Dissolved O ₂	Other
1624	0.3	6.84	0.712	9.5	gray-brwn	346	Not Measured		It sheen
1628	0.6	6.70	0.640	9.3	gray-brwn	500	Measured	Not Measured	sandy
1630	1	6.61	0.615	9.1	gray-brwn	530			strong odor

Total Volume Purged (Gallons): 1 Free Product (y/n): No
 Odor: Petroleum Hydrocarbon-Like Odor Sheen (y/n): Yes

Purge Method (disposable bailer, **teflon bailer**, submersible pump, etc.)

Sample Method (disposable bailer, **teflon bailer**, submersible pump, etc.)

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)
 Good

Remarks (well recovery, unusual conditions/observations):
 Good recovery

Duplicate Sample ID: None Collected Analyses Requested: GRO/DRO/RRO by AK101/102/103
 Split Sample ID: None Collected BTEX by 8021B

Signed: Julie Ahern Date: 10/10/2007
 Signed/reviewer: _____ Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: _____ Sample Location (ie. MW-1): GEI-3
 Project Name: FIA West Ramp/Gate 28 Sample ID (ie. MW-1-W-yymmdd): GEI-3-W-070929
 Client: ARCADIS Date Sample Collected: 9/29/2007
 Sampler: Julie Ahern Time sampled: 1710

Well Information

Groundwater: X Casing Diameter (in): 2 a) Well Depth (ft): 11.32
 b) Water Depth (ft): 8.47
 Other: _____ c) Water Column (ft): 2.85
 d) Calc. Purge Vol. (gal): 0.5

Calculating Purge Volume

Well Casing Diameter	Multiply c) by:
2	0.16
4	0.65
6	1.47

Sand Pack Diameter	Multiply c) by:
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity

Example 1- purging only well casing volume
 2-inch casing and 6-foot water column
 One Purge Volume= 0.16 X 6 = 0.96 gallons water

Example 2- purging well casing and sand pack volume
 2-inch casing, 8-inch sand pack, and 6-foot water column
 One Purge Volume= (0.16 X 6) + (0.71 X 6) = 5.22 gallons water

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (F)	Color	Turbidity	Redox	Dissolved O ₂	Other
1658	0.7	6.63	1.30	8.6	light gray	358	Not Measured		very sandy
1702	1.1	6.60	1.32	8.4	gray	882	Measured	Not Measured	strong odor
1704	1.5	6.61	1.32	8.4	dark gray	540			heavy sheen

Total Volume Purged (Gallons): 1.5 Free Product (y/n): No
 Odor: Petroleum Hydrocarbon-Like Odor Sheen (y/n): Yes

Purge Method (disposable bailer, **teflon bailer**, submersible pump, etc.)

Sample Method (disposable bailer, **teflon bailer**, submersible pump, etc.)

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)
 Good

Remarks (well recovery, unusual conditions/observations):
 Good recovery. Observed oil droplets forming on water surface in one VOA vial while sampling.

Duplicate Sample ID: None Collected Analyses Requested: GRO/DRO/RRO by AK101/102/103
 Split Sample ID: None Collected BTEX by 8021B

Signed: Julie Ahern Date: 10/10/2007
 Signed/reviewer: _____ Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: _____ Sample Location (ie. MW-1): GEI-4
 Project Name: FIA West Ramp/Gate 28 Sample ID (ie. MW-1-W-yymmdd): GEI-4-W-070929
 Client: ARCADIS Date Sample Collected: 9/29/2007
 Sampler: Julie Ahern Time sampled: 1245

Well Information

Groundwater: X Casing Diameter (in): 2 a) Well Depth (ft): 12.65
 b) Water Depth (ft): 8.44
 Other: _____ c) Water Column (ft): 8.29
 d) Calc. Purge Vol. (gal): 1.3
 *Possibly ice, as installation depth was 19.45

Calculating Purge Volume

Well Casing Diameter	Multiply c) by:
2	0.16
4	0.65
6	1.47

Sand Pack Diameter	Multiply c) by:
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity

Example 1- purging only well casing volume
 2-inch casing and 6-foot water column
 One Purge Volume= 0.16 X 6 = 0.96 gallons water

Example 2- purging well casing and sand pack volume
 2-inch casing, 8-inch sand pack, and 6-foot water column
 One Purge Volume= (0.16 X 6) + (0.71 X 6) = 5.22 gallons water

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (F)	Color	Turbidity	Redox	Dissolved O ₂	Other
1233	0.75	6.35	1.39	7.5	light gray	348	Not Measured		mod sheen
1237	1.5	6.45	1.37	7.2	light gray	347	Not Measured	Not Measured	strong odor
1240	2	6.47	1.38	7.0	light gray	444			black sand

Total Volume Purged (Gallons): 2 Free Product (y/n): No
 Odor: Petroleum Hydrocarbon-Like Odor Sheen (y/n): Yes

Purge Method (disposable bailer, **teflon bailer**, submersible pump, etc.)

Sample Method (disposable bailer, **teflon bailer**, submersible pump, etc.)

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)
Good

Remarks (well recovery, unusual conditions/observations):
Good recovery

Duplicate Sample ID: <u>None Collected</u>	Analyses Requested: <u>GRO/DRO/RRO by AK101/102/103</u> <u>BTEX by 8021B</u>
Split Sample ID: <u>None Collected</u>	

Signed: Julie Ahern Date: 10/10/2007

Signed/reviewer: _____ Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: _____ Sample Location (ie. MW-1): GEI-5
 Project Name: FIA West Ramp/Gate 28 Sample ID (ie. MW-1-W-yymmdd): N/A
 Client: ARCADIS Date Sample Collected: N/A
 Sampler: Julie Ahern Time sampled: N/A

Well Information

Groundwater: X Casing Diameter (in): 2 a) Well Depth (ft): 11.95
 b) Water Depth (ft): 9.22
 Other: SPH detected at 8.72 ft BTOC; no sample taken c) Water Column (ft): 2.73
 d) Calc. Purge Vol. (gal): 0.4

Calculating Purge Volume

Well Casing Diameter	Multiply c) by:
2	0.16
4	0.65
6	1.47

Sand Pack Diameter	Multiply c) by:
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity

Example 1- purging only well casing volume
 2-inch casing and 6-foot water column
 One Purge Volume= 0.16 X 6 = 0.96 gallons water

Example 2- purging well casing and sand pack volume
 2-inch casing, 8-inch sand pack, and 6-foot water column
 One Purge Volume= (0.16 X 6) + (0.71 X 6) = 5.22 gallons water

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (F)	Color	Turbidity	Redox	Dissolved O ₂	Other

Total Volume Purged (Gallons): _____ Free Product (y/n): Yes

Odor: Petroleum Hydrocarbon-Like Odor Sheen (y/n): _____

Purge Method (disposable bailer, teflon bailer, submersible pump, etc.)

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.)

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)

Good

Remarks (well recovery, unusual conditions/observations):

Duplicate Sample ID: None Collected Analyses Requested: _____
 Split Sample ID: None Collected _____

Signed: Julie Ahern Date: 10/10/2007

Signed/reviewer: _____ Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: _____ Sample Location (ie. MW-1): GEI-6
 Project Name: FIA West Ramp/Gate 28 Sample ID (ie. MW-1-W-yymmdd): N/A
 Client: ARCADIS Date Sample Collected: N/A
 Sampler: Julie Ahern Time sampled: N/A

Well Information

Groundwater: X Casing Diameter (in): 2 a) Well Depth (ft): 11.04
 b) Water Depth (ft): 9.1
 Other: SPH detected at 8.81 ft BTOC; no sample taken c) Water Column (ft): 1.94
 d) Calc. Purge Vol. (gal): 0.3

Calculating Purge Volume

Well Casing Diameter	Multiply c) by:
2	0.16
4	0.64
6	1.47

Sand Pack Diameter	Multiply c) by:
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity

Example 1- purging only well casing volume
 2-inch casing and 6-foot water column
 One Purge Volume= 0.16 X 6 = 0.96 gallons water

Example 2- purging well casing and sand pack volume
 2-inch casing, 8-inch sand pack, and 6-foot water column
 One Purge Volume= (0.16 X 6) + (0.71 X 6) = 5.22 gallons water

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (F)	Color	Turbidity	Redox	Dissolved O ₂	Other

Total Volume Purged (Gallons): _____ Free Product (y/n): Yes

Odor: Petroleum Hydrocarbon-Like Odor Sheen (y/n): _____

Purge Method (disposable bailer, teflon bailer, submersible pump, etc.)

Sample Method (disposable bailer, teflon bailer, submersible pump, etc.)

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)

Good

Remarks (well recovery, unusual conditions/observations):

Duplicate Sample ID: None Collected Analyses Requested: _____
 Split Sample ID: None Collected _____

Signed: Julie Ahern Date: 10/10/2007

Signed/reviewer: _____ Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: _____ Sample Location (ie. MW-1): GEI-7
 Project Name: FIA West Ramp/Gate 28 Sample ID (ie. MW-1-W-yymmdd): GEI-7-W-070929
 Client: ARCADIS Date Sample Collected: 9/29/2007
 Sampler: Julie Ahern Time sampled: 1545

Well Information

Groundwater: X Casing Diameter (in): 2 a) Well Depth (ft): 13.09
 b) Water Depth (ft): 8.59
 Other: _____ c) Water Column (ft): 4.5
 d) Calc. Purge Vol. (gal): 0.7

Calculating Purge Volume

Well Casing Diameter	Multiply c) by:
2	0.16
4	0.65
6	1.47

Sand Pack Diameter	Multiply c) by:
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity

Example 1- purging only well casing volume
 2-inch casing and 6-foot water column
 One Purge Volume= 0.16 X 6 = 0.96 gallons water

Example 2- purging well casing and sand pack volume
 2-inch casing, 8-inch sand pack, and 6-foot water column
 One Purge Volume= (0.16 X 6) + (0.71 X 6) = 5.22 gallons water

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (F)	Color	Turbidity	Redox	Dissolved O ₂	Other
1530	0.75	6.84	1.27	6.9	gray	851	Not Measured	Not Measured	very strong odor
1534	1.5	6.64	1.29	6.3	gray	999			heavy sheen
1538	2.25	6.64	1.30	6.1	gray	999			very sandy

Total Volume Purged (Gallons): 2.25 Free Product (y/n): No
 Odor: Petroleum Hydrocarbon-Like Odor Sheen (y/n): Yes

Purge Method (disposable bailer, **teflon bailer**, submersible pump, etc.)

Sample Method (disposable bailer, **teflon bailer**, submersible pump, etc.)

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)
 Good

Remarks (well recovery, unusual conditions/observations):
 Good recovery. Observed oil droplets forming on water surface in a few VOA vials while sampling.

Duplicate Sample ID: GEI-7-WD-070929 @ 1605 Analyses Requested: GRO/DRO/RRO by AK101/102/103
(GRO, DRO, RRO, and BTEX only) BTEX by 8021B; VOCs by 8260B
 Split Sample ID: None Collected Lead by 200.8

Signed: Julie Ahern Date: 10/10/2007
 Signed/reviewer: _____ Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: _____ Sample Location (ie. MW-1): GEI-8
 Project Name: FIA West Ramp/Gate 28 Sample ID (ie. MW-1-W-yymmdd): GEI-1-W-070929
 Client: ARCADIS Date Sample Collected: 9/29/2007
 Sampler: Julie Ahern Time sampled: 1745

Well Information

Groundwater: X Casing Diameter (in): 2 a) Well Depth (ft): 12.88
 b) Water Depth (ft): 9.08
 Other: _____ c) Water Column (ft): 3.8
 d) Calc. Purge Vol. (gal): 0.6

Calculating Purge Volume

Well Casing Diameter	Multiply c) by:
2	0.16
4	0.65
6	1.47

Sand Pack Diameter	Multiply c) by:
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity

Example 1- purging only well casing volume
 2-inch casing and 6-foot water column
 One Purge Volume= 0.16 X 6 = 0.96 gallons water

Example 2- purging well casing and sand pack volume
 2-inch casing, 8-inch sand pack, and 6-foot water column
 One Purge Volume= (0.16 X 6) + (0.71 X 6) = 5.22 gallons water

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (F)	Color	Turbidity	Redox	Dissolved O ₂	Other
1735	0.75	6.70	1.04	5.8	light gray	478	Not Measured	Not Measured	mod sheen
1738	1.5	6.66	1.04	5.4	light gray	683	Measured	Measured	mod odor
1740	2	6.68	1.04	5.4	light gray	783			sandy

Total Volume Purged (Gallons): 2 Free Product (y/n): No
 Odor: Petroleum Hydrocarbon-Like Odor Sheen (y/n): Yes

Purge Method (disposable bailer, **teflon bailer**, submersible pump, etc.)

Sample Method (disposable bailer, **teflon bailer**, submersible pump, etc.)

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)
 Good

Remarks (well recovery, unusual conditions/observations):
 Good recovery

Duplicate Sample ID: None Collected Analyses Requested: GRO/DRO/RRO by AK101/102/103
 Split Sample ID: None Collected BTEX by 8021B

Signed: Julie Ahern Date: 10/10/2007
 Signed/reviewer: _____ Date: _____

GROUNDWATER SAMPLE DATA SHEET

Project Number: _____ Sample Location (ie. MW-1): GEI-9
 Project Name: FIA West Ramp/Gate 28 Sample ID (ie. MW-1-W-yymmdd): GEI-1-W-070929
 Client: ARCADIS Date Sample Collected: 9/29/2007
 Sampler: Julie Ahern Time sampled: 1820

Well Information

Groundwater: X Casing Diameter (in): 2 a) Well Depth (ft): 12.80
 b) Water Depth (ft): 8.91
 Other: _____ c) Water Column (ft): 3.89
 d) Calc. Purge Vol. (gal): 0.6

Calculating Purge Volume

Well Casing Diameter	Multiply c) by:
2	0.16
4	0.65
6	1.47

Sand Pack Diameter	Multiply c) by:
8	0.71
10	1
12	1.28

Note: assuming sand pack has 29% porosity

Example 1- purging only well casing volume
 2-inch casing and 6-foot water column
 One Purge Volume= 0.16 X 6 = 0.96 gallons water

Example 2- purging well casing and sand pack volume
 2-inch casing, 8-inch sand pack, and 6-foot water column
 One Purge Volume= (0.16 X 6) + (0.71 X 6) = 5.22 gallons water

FIELD MEASUREMENTS

Time	Volume (gallons)	pH	Conductivity (mS)	Temperature (F)	Color	Turbidity	Redox	Dissolved O ₂	Other
1807	0.7	6.76	0.93	6.5	light gray	581	Not Measured		heavy sheen
1810	1.45	6.70	0.91	6.2	gray	999	Measured	Not Measured	sandy
1814	2	6.67	0.91	6.1	gray	999			very strong odor

Total Volume Purged (Gallons): 2 Free Product (y/n): No
 Odor: Petroleum Hydrocarbon-Like Odor Sheen (y/n): Yes

Purge Method (disposable bailer, **teflon bailer**, submersible pump, etc.)

Sample Method (disposable bailer, **teflon bailer**, submersible pump, etc.)

Well Integrity (condition of casing, flush mount sealing properly, cement seal intact, etc.)
 Good

Remarks (well recovery, unusual conditions/observations):
 Good recovery. Observed oil droplets forming on water surface in all VOA vials while sampling.

Duplicate Sample ID:	<u>None Collected</u>	Analyses Requested:	<u>GRO/DRO/RRO by AK101/102/103</u>
Split Sample ID:	<u>None Collected</u>		<u>BTEX by 8021B</u>
			<u>Lead by 200.8</u>
			<u>VOCs by 8260B</u>

Signed: Julie Ahern Date: 10/10/2007

Signed/reviewer: _____ Date: _____

Appendix B

Laboratory Report and Data
Checklist

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 1058958. Samples arrived at the laboratory on Tuesday, October 02, 2007. The PO# for this group is 0015014445 and the release number is HARTUNG-FRERICH.

Client Description**Lancaster Labs Number**

GEI-4-W-070929 Grab Water Sample	5173533
GEI-7-W-070929 Grab Water Sample	5173534
GEI-7-WD-070929 Grab Water Sample	5173535
GEI-2-W-070929 Grab Water Sample	5173536
GEI-3-W-070929 Grab Water Sample	5173537
GEI-8-W-070929 Grab Water Sample	5173538
GEI-9-W-070929 Grab Water Sample	5173539
QA-T-070929 Water Sample	5173540

METHODOLOGY

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

ELECTRONIC COPY TO	Oasis Environmental, Inc.	Attn: Julie Ahern
ELECTRONIC COPY TO	Blasland, Bouck & Lee	Attn: Rebecca Andresen
ELECTRONIC COPY TO	Arcadis BBL	Attn: Vanessa Varbel
1 COPY TO	Data Package Group	

Questions? Contact your Client Services Representative
Angela M Miller at (717) 656-2300

Respectfully Submitted,



Christine Dulaney
Senior Specialist



Analysis Report

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Page 1 of 1

Lancaster Laboratories Sample No. WW 5173533

GEI-4-W-070929 Grab Water Sample
 Facility# 306443 Former Unocal 0207
 FIA Gate 28/West Ramp - Fairbanks, AK
 Collected: 09/29/2007 12:45 by JA

Account Number: 11964

Submitted: 10/02/2007 09:10
 Reported: 11/06/2007 at 09:31
 Discard: 12/07/2007

Chevron
 6001 Bollinger Canyon Rd L4310
 San Ramon CA 94583

GEI-4 SDG#: LKA04-01
 I 5E w

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.	1.4	0.01	mg/l	1
01588	BTEX					
01591	Benzene	71-43-2	0.02	0.001	mg/l	1
01592	Toluene	108-88-3	0.001	0.001	mg/l	1
01593	Ethylbenzene	100-41-4	0.02	0.001	mg/l	1
01723	Total xylenes	1330-20-7	0.04	0.002	mg/l	1
02923	TPH-DRO/RRO (AK) water					
02943	C10-<C25 DRO	n.a.	43.	2.0	mg/l	100
02946	C25-C36 RRO	n.a.	N.D.	2.0	mg/l	100

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		Analyst	Dilution Factor
			Trial#	Date and Time		
01440	Alaska AK101 GRO (waters)	AK 101	1	10/04/2007 19:48	K. Robert Caulfeild-James	1
01588	BTEX	SW-846 8021B	1	10/04/2007 19:48	K. Robert Caulfeild-James	1
02923	TPH-DRO/RRO (AK) water	AK 102/103 4/08/02 modified	1	10/10/2007 19:21	Heather E Williams	100
01146	GC VOA Water Prep	SW-846 5030B	1	10/04/2007 19:48	K. Robert Caulfeild-James	1
02135	Extraction - DRO Water Special	AK 102/AK 103 04/08/02	1	10/07/2007 09:15	Kelli M Knapp	1

Lancaster Laboratories Sample No. WW 5173534
GEI-7-W-070929 Grab Water Sample
Facility# 306443 Former Unocal 0207
FIA Gate 28/West Ramp - Fairbanks, AK
 Collected: 09/29/2007 15:45 by JA

Account Number: 11964

 Submitted: 10/02/2007 09:10
 Reported: 11/06/2007 at 09:31
 Discard: 12/07/2007

 Chevron
 6001 Bollinger Canyon Rd L4310
 San Ramon CA 94583

 GEI-7 SDG#: LKA04-02
 I 5E w

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Dilution Factor
				Method Detection Limit	Units	
06035	Lead	7439-92-1	0.0279	0.000047	mg/l	1
01440	Alaska AK101 GRO (waters)					
01442	Alaska AK101 GRO (waters)	n.a.	1.5	0.05	mg/l	5
01588	BTEX					
01591	Benzene	71-43-2	N.D.	0.005	mg/l	5
01592	Toluene	108-88-3	N.D.	0.005	mg/l	5
01593	Ethylbenzene	100-41-4	0.01	0.005	mg/l	5
01723	Total xylenes	1330-20-7	0.02	0.01	mg/l	5
	Due to the nature of the sample matrix, normal reporting limits were not attained.					
02923	TPH-DRO/RRO (AK) water					
02943	C10-<C25 DRO	n.a.	130.	2.0	mg/l	100
02946	C25-C36 RRO	n.a.	N.D.	2.0	mg/l	100
05382	EPA SW846/8260 (water)					
05384	Dichlorodifluoromethane	75-71-8	0.006	0.002	mg/l	1
05385	Chloromethane	74-87-3	N.D.	0.001	mg/l	1
05386	Vinyl Chloride	75-01-4	N.D.	0.001	mg/l	1
05387	Bromomethane	74-83-9	N.D.	0.001	mg/l	1
05388	Chloroethane	75-00-3	N.D.	0.001	mg/l	1
05389	Trichlorofluoromethane	75-69-4	N.D.	0.002	mg/l	1
05390	1,1-Dichloroethene	75-35-4	N.D.	0.0008	mg/l	1
05391	Methylene Chloride	75-09-2	N.D.	0.002	mg/l	1
05392	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0008	mg/l	1
05393	1,1-Dichloroethane	75-34-3	N.D.	0.001	mg/l	1
05394	2,2-Dichloropropane	594-20-7	N.D.	0.001	mg/l	1
05395	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0008	mg/l	1
05396	Chloroform	67-66-3	N.D.	0.0008	mg/l	1
05397	Bromochloromethane	74-97-5	N.D.	0.001	mg/l	1
05398	1,1,1-Trichloroethane	71-55-6	N.D.	0.0008	mg/l	1
05399	Carbon Tetrachloride	56-23-5	N.D.	0.001	mg/l	1
05400	1,1-Dichloropropene	563-58-6	N.D.	0.001	mg/l	1
05401	Benzene	71-43-2	0.0007	0.0005	mg/l	1
05402	1,2-Dichloroethane	107-06-2	N.D.	0.0005	mg/l	1

Lancaster Laboratories Sample No. WW 5173534

GEI-7-W-070929 Grab Water Sample
 Facility# 306443 Former Unocal 0207
 FIA Gate 28/West Ramp - Fairbanks, AK
 Collected: 09/29/2007 15:45 by JA

Account Number: 11964

Submitted: 10/02/2007 09:10
 Reported: 11/06/2007 at 09:31
 Discard: 12/07/2007

Chevron
 6001 Bollinger Canyon Rd L4310
 San Ramon CA 94583

GEI-7 SDG#: LKA04-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Dilution Factor
				Method Detection Limit	Units	
05403	Trichloroethene	79-01-6	N.D.	0.001	mg/l	1
05404	1,2-Dichloropropane	78-87-5	N.D.	0.001	mg/l	1
05405	Dibromomethane	74-95-3	N.D.	0.001	mg/l	1
05406	Bromodichloromethane	75-27-4	N.D.	0.001	mg/l	1
05407	Toluene	108-88-3	N.D.	0.0005	mg/l	1
05408	1,1,2-Trichloroethane	79-00-5	N.D.	0.0008	mg/l	1
05409	Tetrachloroethene	127-18-4	N.D.	0.0008	mg/l	1
05410	1,3-Dichloropropane	142-28-9	N.D.	0.001	mg/l	1
05411	Dibromochloromethane	124-48-1	N.D.	0.001	mg/l	1
05412	1,2-Dibromoethane	106-93-4	N.D.	0.0005	mg/l	1
05413	Chlorobenzene	108-90-7	N.D.	0.0008	mg/l	1
05414	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.001	mg/l	1
05415	Ethylbenzene	100-41-4	0.015	0.0005	mg/l	1
05416	m+p-Xylene	1330-20-7	0.014	0.0005	mg/l	1
05417	o-Xylene	95-47-6	0.002	0.0005	mg/l	1
05418	Styrene	100-42-5	N.D.	0.001	mg/l	1
05419	Bromoform	75-25-2	N.D.	0.001	mg/l	1
05420	Isopropylbenzene	98-82-8	0.022	0.001	mg/l	1
05421	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.001	mg/l	1
05422	Bromobenzene	108-86-1	N.D.	0.001	mg/l	1
05423	1,2,3-Trichloropropane	96-18-4	N.D.	0.001	mg/l	1
05424	n-Propylbenzene	103-65-1	0.041	0.001	mg/l	1
05425	2-Chlorotoluene	95-49-8	N.D.	0.001	mg/l	1
05426	1,3,5-Trimethylbenzene	108-67-8	0.062	0.001	mg/l	1
05427	4-Chlorotoluene	106-43-4	N.D.	0.001	mg/l	1
05428	tert-Butylbenzene	98-06-6	0.002	0.001	mg/l	1
05429	1,2,4-Trimethylbenzene	95-63-6	0.17	0.001	mg/l	1
05430	sec-Butylbenzene	135-98-8	0.027	0.001	mg/l	1
05431	p-Isopropyltoluene	99-87-6	0.022	0.001	mg/l	1
05432	1,3-Dichlorobenzene	541-73-1	N.D.	0.001	mg/l	1
05433	1,4-Dichlorobenzene	106-46-7	N.D.	0.001	mg/l	1
05434	n-Butylbenzene	104-51-8	0.028	0.001	mg/l	1
05435	1,2-Dichlorobenzene	95-50-1	N.D.	0.001	mg/l	1
05436	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.002	mg/l	1
05437	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.001	mg/l	1
05438	Hexachlorobutadiene	87-68-3	N.D.	0.002	mg/l	1
05439	Naphthalene	91-20-3	0.15	0.001	mg/l	1
05440	1,2,3-Trichlorobenzene	87-61-6	N.D.	0.001	mg/l	1
08202	EPA SW 846/8260 - Water					
01587	Ethanol	64-17-5	N.D.	0.050	mg/l	1

Lancaster Laboratories Sample No. WW 5173534
GEI-7-W-070929 Grab Water Sample
Facility# 306443 Former Unocal 0207
FIA Gate 28/West Ramp - Fairbanks, AK
 Collected: 09/29/2007 15:45 by JA

Account Number: 11964

 Submitted: 10/02/2007 09:10
 Reported: 11/06/2007 at 09:31
 Discard: 12/07/2007

 Chevron
 6001 Bollinger Canyon Rd L4310
 San Ramon CA 94583

GEI-7 SDG#: LKA04-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Dilution Factor
				Method	Units	
02010	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	mg/l	1
02011	di-Isopropyl ether	108-20-3	N.D.	0.0005	mg/l	1
02013	Ethyl t-butyl ether	637-92-3	N.D.	0.0005	mg/l	1
02014	t-Amyl methyl ether	994-05-8	N.D.	0.0005	mg/l	1
02015	t-Butyl alcohol	75-65-0	N.D.	0.005	mg/l	1
06302	Acetone	67-64-1	N.D.	0.006	mg/l	1
06303	Carbon Disulfide	75-15-0	N.D.	0.001	mg/l	1
06305	2-Butanone	78-93-3	N.D.	0.003	mg/l	1
06306	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.001	mg/l	1
06307	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.001	mg/l	1
06308	4-Methyl-2-pentanone	108-10-1	N.D.	0.003	mg/l	1
06309	2-Hexanone	591-78-6	N.D.	0.003	mg/l	1
07583	2-Chloroethyl Vinyl Ether	110-75-8	N.D.	0.002	mg/l	1
	2-Chloroethyl vinyl ether is an acid labile compound and may not be recovered in an acid preserved sample.					
08203	Freon 113	76-13-1	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		Analyst	Dilution Factor
				Date and Time			
06035	Lead	EPA 200.8	1	10/14/2007 16:20		David K Beck	1
01440	Alaska AK101 GRO (waters)	AK 101	1	10/04/2007 20:51		K. Robert Caulfeild-James	5
01588	BTEX	SW-846 8021B	1	10/04/2007 20:51		K. Robert Caulfeild-James	5
02923	TPH-DRO/RRO (AK) water	AK 102/103 4/08/02 modified	1	10/10/2007 19:45		Heather E Williams	100
05382	EPA SW846/8260 (water)	SW-846 8260B	1	10/12/2007 04:35		Stephanie A Selis	1
08202	EPA SW 846/8260 - Water	SW-846 8260B	1	10/12/2007 04:35		Stephanie A Selis	1
01146	GC VOA Water Prep	SW-846 5030B	1	10/04/2007 20:51		K. Robert Caulfeild-James	5
01163	GC/MS VOA Water Prep	SW-846 5030B	1	10/12/2007 04:35		Stephanie A Selis	1
02135	Extraction - DRO Water Special	AK 102/AK 103 04/08/02	1	10/07/2007 09:15		Kelli M Knapp	1
07050	ICP/MS EPA-600 Digest	EPA 200.8	1	10/07/2007 18:10		James L Mertz	1

Lancaster Laboratories Sample No. WW 5173534

GEI-7-W-070929 Grab Water Sample
Facility# 306443 Former Unocal 0207
FIA Gate 28/West Ramp - Fairbanks, AK
Collected: 09/29/2007 15:45 by JA

Account Number: 11964

Submitted: 10/02/2007 09:10
Reported: 11/06/2007 at 09:31
Discard: 12/07/2007

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

GEI-7 SDG#: LKA04-02



Analysis Report

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

Lancaster Laboratories Sample No. WW 5173535

GEI-7-WD-070929 Grab Water Sample
 Facility# 306443 Former Unocal 0207
 FIA Gate 28/West Ramp - Fairbanks, AK
 Collected: 09/29/2007 16:05 by JA

Account Number: 11964

Submitted: 10/02/2007 09:10
 Reported: 11/06/2007 at 09:31
 Discard: 12/07/2007

Chevron
 6001 Bollinger Canyon Rd L4310
 San Ramon CA 94583

GEI7D SDG#: LKA04-03FD
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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.	0.9	0.05	mg/l	5
01588	BTEX					
01591	Benzene	71-43-2	N.D.	0.005	mg/l	5
01592	Toluene	108-88-3	N.D.	0.005	mg/l	5
01593	Ethylbenzene	100-41-4	0.01	0.005	mg/l	5
01723	Total xylenes	1330-20-7	0.02	0.01	mg/l	5
	Due to the nature of the sample matrix, normal reporting limits were not attained.					
02923	TPH-DRO/RRO (AK) water					
02943	C10-<C25 DRO	n.a.	92.	2.0	mg/l	100
02946	C25-C36 RRO	n.a.	N.D.	2.0	mg/l	100

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
01440	Alaska AK101 GRO (waters)	AK 101	1	10/04/2007 21:12	K. Robert Caulfeild-James	5
01588	BTEX	SW-846 8021B	1	10/04/2007 21:12	K. Robert Caulfeild-James	5
02923	TPH-DRO/RRO (AK) water	AK 102/103 4/08/02 modified	1	10/10/2007 20:10	Heather E Williams	100
01146	GC VOA Water Prep	SW-846 5030B	1	10/04/2007 21:12	K. Robert Caulfeild-James	5
02135	Extraction - DRO Water Special	AK 102/AK 103 04/08/02	1	10/07/2007 09:15	Kelli M Knapp	1



Analysis Report

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

Page 1 of 1

Lancaster Laboratories Sample No. WW 5173536

GEI-2-W-070929 Grab Water Sample
 Facility# 306443 Former Unocal 0207
 FIA Gate 28/West Ramp - Fairbanks, AK
 Collected: 09/29/2007 16:40 by JA

Account Number: 11964

Submitted: 10/02/2007 09:10
 Reported: 11/06/2007 at 09:31
 Discard: 12/07/2007

Chevron
 6001 Bollinger Canyon Rd L4310
 San Ramon CA 94583

GEI-2 SDG#: LKA04-04
 I 5E w

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.	0.03	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
01440	Alaska AK101 GRO (waters)	AK 101	1	10/04/2007 22:39	K. Robert Caulfeild-James	1
01588	BTEX	SW-846 8021B	1	10/04/2007 20:09	K. Robert Caulfeild-James	1
01146	GC VOA Water Prep	SW-846 5030B	1	10/04/2007 22:39	K. Robert Caulfeild-James	1



Analysis Report

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

Lancaster Laboratories Sample No. WW 5173537

GEI-3-W-070929 Grab Water Sample
Facility# 306443 Former Unocal 0207
FIA Gate 28/West Ramp - Fairbanks, AK
Collected: 09/29/2007 17:10 by JA

Account Number: 11964

Submitted: 10/02/2007 09:10
Reported: 11/06/2007 at 09:31
Discard: 12/07/2007

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

GEI-3 SDG#: LKA04-05
I 5E w

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.	0.7	0.05	mg/l	5
01588	BTEX					
01591	Benzene	71-43-2	N.D.	0.005	mg/l	5
01592	Toluene	108-88-3	N.D.	0.005	mg/l	5
01593	Ethylbenzene	100-41-4	N.D.	0.005	mg/l	5
01723	Total xylenes	1330-20-7	0.02	0.01	mg/l	5
The reporting limits were raised because sample dilution was necessary to bring the internal standard peak height within QC limits.						
02923	TPH-DRO/RRO (AK) water					
02943	C10-<C25 DRO	n.a.	65.	2.1	mg/l	100
02946	C25-C36 RRO	n.a.	N.D.	2.1	mg/l	100

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
01440	Alaska AK101 GRO (waters)	AK 101	1	10/04/2007 23:00	K. Robert Caulfeild-James	5
01588	BTEX	SW-846 8021B	1	10/04/2007 23:00	K. Robert Caulfeild-James	5
02923	TPH-DRO/RRO (AK) water	AK 102/103 4/08/02 modified	1	10/10/2007 20:34	Heather E Williams	100
01146	GC VOA Water Prep	SW-846 5030B	1	10/04/2007 23:00	K. Robert Caulfeild-James	5
02135	Extraction - DRO Water Special	AK 102/AK 103 04/08/02	1	10/07/2007 09:15	Kelli M Knapp	1



Analysis Report

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Page 1 of 1

Lancaster Laboratories Sample No. WW 5173538

GEI-8-W-070929 Grab Water Sample
 Facility# 306443 Former Unocal 0207
 FIA Gate 28/West Ramp - Fairbanks, AK
 Collected: 09/29/2007 17:45 by JA

Account Number: 11964

Submitted: 10/02/2007 09:10
 Reported: 11/06/2007 at 09:31
 Discard: 12/07/2007

Chevron
 6001 Bollinger Canyon Rd L4310
 San Ramon CA 94583

GEI-8 SDG#: LKA04-06
 I 5E w

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.	0.08	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
02923	TPH-DRO/RRO (AK) water					
02943	C10-<C25 DRO	n.a.	4.4	0.20	mg/l	10
02946	C25-C36 RRO	n.a.	N.D.	0.20	mg/l	10

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
01440	Alaska AK101 GRO (waters)	AK 101	1	10/04/2007 18:45	K. Robert Caulfeild-James	1
01588	BTEX	SW-846 8021B	1	10/04/2007 18:45	K. Robert Caulfeild-James	1
02923	TPH-DRO/RRO (AK) water	AK 102/103 4/08/02 modified	1	10/10/2007 20:58	Heather E Williams	10
01146	GC VOA Water Prep	SW-846 5030B	1	10/04/2007 18:45	K. Robert Caulfeild-James	1
02135	Extraction - DRO Water Special	AK 102/AK 103 04/08/02	1	10/07/2007 09:15	Kelli M Knapp	1

Lancaster Laboratories Sample No. WW 5173539
GEI-9-W-070929 Grab Water Sample
Facility# 306443 Former Unocal 0207
FIA Gate 28/West Ramp - Fairbanks, AK
 Collected: 09/29/2007 18:20 by JA

Account Number: 11964

 Submitted: 10/02/2007 09:10
 Reported: 11/06/2007 at 09:31
 Discard: 12/07/2007

 Chevron
 6001 Bollinger Canyon Rd L4310
 San Ramon CA 94583

 GEI-9 SDG#: LKA04-07
 I 5E w

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Units	Dilution Factor
				Method	Detection Limit		
06035	Lead	7439-92-1	0.0298		0.000047	mg/l	1
01440	Alaska AK101 GRO (waters)						
01442	Alaska AK101 GRO (waters)	n.a.	1.8		0.05	mg/l	5
01588	BTEX						
01591	Benzene	71-43-2	0.01		0.005	mg/l	5
01592	Toluene	108-88-3	N.D.		0.005	mg/l	5
01593	Ethylbenzene	100-41-4	0.04		0.005	mg/l	5
01723	Total xylenes	1330-20-7	0.07		0.01	mg/l	5
	Due to the nature of the sample matrix, normal reporting limits were not attained.						
02923	TPH-DRO/RRO (AK) water						
02943	C10-<C25 DRO	n.a.	680.		20.	mg/l	500
02946	C25-C36 RRO	n.a.	N.D.		20.	mg/l	500
	Due to the nature of the sample extract matrix, the extract could only be concentrated to a final volume of 2 ml instead of the usual volume of 1 ml. The reporting limits were raised accordingly.						
05382	EPA SW846/8260 (water)						
05384	Dichlorodifluoromethane	75-71-8	N.D.		0.002	mg/l	1
05385	Chloromethane	74-87-3	N.D.		0.001	mg/l	1
05386	Vinyl Chloride	75-01-4	N.D.		0.001	mg/l	1
05387	Bromomethane	74-83-9	N.D.		0.001	mg/l	1
05388	Chloroethane	75-00-3	N.D.		0.001	mg/l	1
05389	Trichlorofluoromethane	75-69-4	N.D.		0.002	mg/l	1
05390	1,1-Dichloroethene	75-35-4	N.D.		0.0008	mg/l	1
05391	Methylene Chloride	75-09-2	N.D.		0.002	mg/l	1
05392	trans-1,2-Dichloroethene	156-60-5	N.D.		0.0008	mg/l	1
05393	1,1-Dichloroethane	75-34-3	N.D.		0.001	mg/l	1
05394	2,2-Dichloropropane	594-20-7	N.D.		0.001	mg/l	1
05395	cis-1,2-Dichloroethene	156-59-2	N.D.		0.0008	mg/l	1
05396	Chloroform	67-66-3	N.D.		0.0008	mg/l	1
05397	Bromochloromethane	74-97-5	N.D.		0.001	mg/l	1
05398	1,1,1-Trichloroethane	71-55-6	N.D.		0.0008	mg/l	1
05399	Carbon Tetrachloride	56-23-5	N.D.		0.001	mg/l	1

Lancaster Laboratories Sample No. WW 5173539

GEI-9-W-070929 Grab Water Sample
 Facility# 306443 Former Unocal 0207
 FIA Gate 28/West Ramp - Fairbanks, AK
 Collected: 09/29/2007 18:20 by JA

Account Number: 11964

Submitted: 10/02/2007 09:10
 Reported: 11/06/2007 at 09:31
 Discard: 12/07/2007

Chevron
 6001 Bollinger Canyon Rd L4310
 San Ramon CA 94583

GEI-9 SDG#: LKA04-07

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Dilution Factor
				Method Detection Limit	Units	
05400	1,1-Dichloropropene	563-58-6	N.D.	0.001	mg/l	1
05401	Benzene	71-43-2	0.012	0.0005	mg/l	1
05402	1,2-Dichloroethane	107-06-2	N.D.	0.0005	mg/l	1
05403	Trichloroethene	79-01-6	N.D.	0.001	mg/l	1
05404	1,2-Dichloropropane	78-87-5	N.D.	0.001	mg/l	1
05405	Dibromomethane	74-95-3	N.D.	0.001	mg/l	1
05406	Bromodichloromethane	75-27-4	N.D.	0.001	mg/l	1
05407	Toluene	108-88-3	N.D.	0.0005	mg/l	1
05408	1,1,2-Trichloroethane	79-00-5	N.D.	0.0008	mg/l	1
05409	Tetrachloroethene	127-18-4	N.D.	0.0008	mg/l	1
05410	1,3-Dichloropropane	142-28-9	N.D.	0.001	mg/l	1
05411	Dibromochloromethane	124-48-1	N.D.	0.001	mg/l	1
05412	1,2-Dibromoethane	106-93-4	N.D.	0.0005	mg/l	1
05413	Chlorobenzene	108-90-7	N.D.	0.0008	mg/l	1
05414	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.001	mg/l	1
05415	Ethylbenzene	100-41-4	0.042	0.0005	mg/l	1
05416	m+p-Xylene	1330-20-7	0.063	0.0005	mg/l	1
05417	o-Xylene	95-47-6	0.018	0.0005	mg/l	1
05418	Styrene	100-42-5	N.D.	0.001	mg/l	1
05419	Bromoform	75-25-2	N.D.	0.001	mg/l	1
05420	Isopropylbenzene	98-82-8	0.021	0.001	mg/l	1
05421	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.001	mg/l	1
05422	Bromobenzene	108-86-1	N.D.	0.001	mg/l	1
05423	1,2,3-Trichloropropane	96-18-4	N.D.	0.001	mg/l	1
05424	n-Propylbenzene	103-65-1	0.047	0.001	mg/l	1
05425	2-Chlorotoluene	95-49-8	N.D.	0.001	mg/l	1
05426	1,3,5-Trimethylbenzene	108-67-8	0.12	0.001	mg/l	1
05427	4-Chlorotoluene	106-43-4	N.D.	0.001	mg/l	1
05428	tert-Butylbenzene	98-06-6	0.001	0.001	mg/l	1
05429	1,2,4-Trimethylbenzene	95-63-6	0.63	0.005	mg/l	5
05430	sec-Butylbenzene	135-98-8	0.016	0.001	mg/l	1
05431	p-Isopropyltoluene	99-87-6	0.018	0.001	mg/l	1
05432	1,3-Dichlorobenzene	541-73-1	N.D.	0.001	mg/l	1
05433	1,4-Dichlorobenzene	106-46-7	N.D.	0.001	mg/l	1
05434	n-Butylbenzene	104-51-8	0.031	0.001	mg/l	1
05435	1,2-Dichlorobenzene	95-50-1	N.D.	0.001	mg/l	1
05436	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.002	mg/l	1
05437	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.001	mg/l	1
05438	Hexachlorobutadiene	87-68-3	N.D.	0.002	mg/l	1
05439	Naphthalene	91-20-3	0.10	0.001	mg/l	1
05440	1,2,3-Trichlorobenzene	87-61-6	N.D.	0.001	mg/l	1

Lancaster Laboratories Sample No. WW 5173539
GEI-9-W-070929 Grab Water Sample
Facility# 306443 Former Unocal 0207
FIA Gate 28/West Ramp - Fairbanks, AK
 Collected: 09/29/2007 18:20 by JA

Account Number: 11964

 Submitted: 10/02/2007 09:10
 Reported: 11/06/2007 at 09:31
 Discard: 12/07/2007

 Chevron
 6001 Bollinger Canyon Rd L4310
 San Ramon CA 94583

GEI-9 SDG#: LKA04-07

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Dilution Factor
				Method	Units	
08202	EPA SW 846/8260 - Water			Detection Limit		
01587	Ethanol	64-17-5	N.D.	0.050	mg/l	1
02010	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	mg/l	1
02011	di-Isopropyl ether	108-20-3	N.D.	0.0005	mg/l	1
02013	Ethyl t-butyl ether	637-92-3	N.D.	0.0005	mg/l	1
02014	t-Amyl methyl ether	994-05-8	N.D.	0.0005	mg/l	1
02015	t-Butyl alcohol	75-65-0	N.D.	0.005	mg/l	1
06302	Acetone	67-64-1	N.D.	0.006	mg/l	1
06303	Carbon Disulfide	75-15-0	N.D.	0.001	mg/l	1
06305	2-Butanone	78-93-3	N.D.	0.003	mg/l	1
06306	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.001	mg/l	1
06307	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.001	mg/l	1
06308	4-Methyl-2-pentanone	108-10-1	N.D.	0.003	mg/l	1
06309	2-Hexanone	591-78-6	N.D.	0.003	mg/l	1
07583	2-Chloroethyl Vinyl Ether	110-75-8	N.D.	0.002	mg/l	1
	2-Chloroethyl vinyl ether is an acid labile compound and may not be recovered in an acid preserved sample.					
08203	Freon 113	76-13-1	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		Analyst	Dilution Factor
				Date and Time			
06035	Lead	EPA 200.8	1	10/14/2007 16:23		David K Beck	1
01440	Alaska AK101 GRO (waters)	AK 101	1	10/04/2007 21:33		K. Robert Caulfeild-James	5
01588	BTEX	SW-846 8021B	1	10/04/2007 21:33		K. Robert Caulfeild-James	5
02923	TPH-DRO/RRO (AK) water	AK 102/103 4/08/02 modified	1	10/10/2007 21:22		Heather E Williams	500
05382	EPA SW846/8260 (water)	SW-846 8260B	1	10/12/2007 04:58		Stephanie A Selis	1
05382	EPA SW846/8260 (water)	SW-846 8260B	1	10/12/2007 05:22		Stephanie A Selis	5
08202	EPA SW 846/8260 - Water	SW-846 8260B	1	10/12/2007 04:58		Stephanie A Selis	1
01146	GC VOA Water Prep	SW-846 5030B	1	10/04/2007 21:33		K. Robert Caulfeild-James	5

Lancaster Laboratories Sample No. WW 5173539

GEI-9-W-070929 Grab Water Sample
Facility# 306443 Former Unocal 0207
FIA Gate 28/West Ramp - Fairbanks, AK
Collected: 09/29/2007 18:20 by JA

Account Number: 11964

Submitted: 10/02/2007 09:10
Reported: 11/06/2007 at 09:31
Discard: 12/07/2007

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

GEI-9	SDG#: LKA04-07						
01163	GC/MS VOA Water Prep	SW-846 5030B	1	10/12/2007 04:58	Stephanie A Selis	1	
01163	GC/MS VOA Water Prep	SW-846 5030B	2	10/12/2007 05:22	Stephanie A Selis	5	
02135	Extraction - DRO Water Special	AK 102/AK 103 04/08/02	1	10/07/2007 09:15	Kelli M Knapp	1	
07050	ICP/MS EPA-600 Digest	EPA 200.8	1	10/07/2007 18:10	James L Mertz	1	

Lancaster Laboratories Sample No. WW 5173540
QA-T-070929 Water Sample
Facility# 306443 Former Unocal 0207
FIA Gate 28/West Ramp - Fairbanks, AK
 Collected:09/29/2007 08:00

Account Number: 11964

 Submitted: 10/02/2007 09:10
 Reported: 11/06/2007 at 09:31
 Discard: 12/07/2007

 Chevron
 6001 Bollinger Canyon Rd L4310
 San Ramon CA 94583

 GEI-T SDG#: LKA04-08TB*
 I 5E w

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Dilution Factor
				Method	Detection Limit	
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
05382	EPA SW846/8260 (water)					
05384	Dichlorodifluoromethane	75-71-8	N.D.	0.002	mg/l	1
05385	Chloromethane	74-87-3	N.D.	0.001	mg/l	1
05386	Vinyl Chloride	75-01-4	N.D.	0.001	mg/l	1
05387	Bromomethane	74-83-9	N.D.	0.001	mg/l	1
05388	Chloroethane	75-00-3	N.D.	0.001	mg/l	1
05389	Trichlorofluoromethane	75-69-4	N.D.	0.002	mg/l	1
05390	1,1-Dichloroethene	75-35-4	N.D.	0.0008	mg/l	1
05391	Methylene Chloride	75-09-2	N.D.	0.002	mg/l	1
05392	trans-1,2-Dichloroethene	156-60-5	N.D.	0.0008	mg/l	1
05393	1,1-Dichloroethane	75-34-3	N.D.	0.001	mg/l	1
05394	2,2-Dichloropropane	594-20-7	N.D.	0.001	mg/l	1
05395	cis-1,2-Dichloroethene	156-59-2	N.D.	0.0008	mg/l	1
05396	Chloroform	67-66-3	N.D.	0.0008	mg/l	1
05397	Bromochloromethane	74-97-5	N.D.	0.001	mg/l	1
05398	1,1,1-Trichloroethane	71-55-6	N.D.	0.0008	mg/l	1
05399	Carbon Tetrachloride	56-23-5	N.D.	0.001	mg/l	1
05400	1,1-Dichloropropene	563-58-6	N.D.	0.001	mg/l	1
05401	Benzene	71-43-2	N.D.	0.0005	mg/l	1
05402	1,2-Dichloroethane	107-06-2	N.D.	0.0005	mg/l	1
05403	Trichloroethene	79-01-6	N.D.	0.001	mg/l	1
05404	1,2-Dichloropropane	78-87-5	N.D.	0.001	mg/l	1
05405	Dibromomethane	74-95-3	N.D.	0.001	mg/l	1
05406	Bromodichloromethane	75-27-4	N.D.	0.001	mg/l	1
05407	Toluene	108-88-3	N.D.	0.0005	mg/l	1
05408	1,1,2-Trichloroethane	79-00-5	N.D.	0.0008	mg/l	1
05409	Tetrachloroethene	127-18-4	N.D.	0.0008	mg/l	1
05410	1,3-Dichloropropane	142-28-9	N.D.	0.001	mg/l	1

Lancaster Laboratories Sample No. WW 5173540
QA-T-070929 Water Sample
Facility# 306443 Former Unocal 0207
FIA Gate 28/West Ramp - Fairbanks, AK
 Collected: 09/29/2007 08:00

Account Number: 11964

 Submitted: 10/02/2007 09:10
 Reported: 11/06/2007 at 09:31
 Discard: 12/07/2007

 Chevron
 6001 Bollinger Canyon Rd L4310
 San Ramon CA 94583

GEI-T SDG#: LKA04-08TB*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Dilution Factor
				Method Detection Limit	Units	
05411	Dibromochloromethane	124-48-1	N.D.	0.001	mg/l	1
05412	1,2-Dibromoethane	106-93-4	N.D.	0.0005	mg/l	1
05413	Chlorobenzene	108-90-7	N.D.	0.0008	mg/l	1
05414	1,1,1,2-Tetrachloroethane	630-20-6	N.D.	0.001	mg/l	1
05415	Ethylbenzene	100-41-4	N.D.	0.0005	mg/l	1
05416	m+p-Xylene	1330-20-7	N.D.	0.0005	mg/l	1
05417	o-Xylene	95-47-6	N.D.	0.0005	mg/l	1
05418	Styrene	100-42-5	N.D.	0.001	mg/l	1
05419	Bromoform	75-25-2	N.D.	0.001	mg/l	1
05420	Isopropylbenzene	98-82-8	N.D.	0.001	mg/l	1
05421	1,1,2,2-Tetrachloroethane	79-34-5	N.D.	0.001	mg/l	1
05422	Bromobenzene	108-86-1	N.D.	0.001	mg/l	1
05423	1,2,3-Trichloropropane	96-18-4	N.D.	0.001	mg/l	1
05424	n-Propylbenzene	103-65-1	N.D.	0.001	mg/l	1
05425	2-Chlorotoluene	95-49-8	N.D.	0.001	mg/l	1
05426	1,3,5-Trimethylbenzene	108-67-8	N.D.	0.001	mg/l	1
05427	4-Chlorotoluene	106-43-4	N.D.	0.001	mg/l	1
05428	tert-Butylbenzene	98-06-6	N.D.	0.001	mg/l	1
05429	1,2,4-Trimethylbenzene	95-63-6	N.D.	0.001	mg/l	1
05430	sec-Butylbenzene	135-98-8	N.D.	0.001	mg/l	1
05431	p-Isopropyltoluene	99-87-6	N.D.	0.001	mg/l	1
05432	1,3-Dichlorobenzene	541-73-1	N.D.	0.001	mg/l	1
05433	1,4-Dichlorobenzene	106-46-7	N.D.	0.001	mg/l	1
05434	n-Butylbenzene	104-51-8	N.D.	0.001	mg/l	1
05435	1,2-Dichlorobenzene	95-50-1	N.D.	0.001	mg/l	1
05436	1,2-Dibromo-3-chloropropane	96-12-8	N.D.	0.002	mg/l	1
05437	1,2,4-Trichlorobenzene	120-82-1	N.D.	0.001	mg/l	1
05438	Hexachlorobutadiene	87-68-3	N.D.	0.002	mg/l	1
05439	Naphthalene	91-20-3	N.D.	0.001	mg/l	1
05440	1,2,3-Trichlorobenzene	87-61-6	N.D.	0.001	mg/l	1
08202	EPA SW 846/8260 - Water					
01587	Ethanol	64-17-5	N.D.	0.050	mg/l	1
02010	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.0005	mg/l	1
02011	di-Isopropyl ether	108-20-3	N.D.	0.0005	mg/l	1
02013	Ethyl t-butyl ether	637-92-3	N.D.	0.0005	mg/l	1
02014	t-Amyl methyl ether	994-05-8	N.D.	0.0005	mg/l	1
02015	t-Butyl alcohol	75-65-0	N.D.	0.005	mg/l	1
06302	Acetone	67-64-1	N.D.	0.006	mg/l	1
06303	Carbon Disulfide	75-15-0	N.D.	0.001	mg/l	1
06305	2-Butanone	78-93-3	N.D.	0.003	mg/l	1

Lancaster Laboratories Sample No. WW 5173540

QA-T-070929 Water Sample
 Facility# 306443 Former Unocal 0207
 FIA Gate 28/West Ramp - Fairbanks, AK
 Collected: 09/29/2007 08:00

Account Number: 11964

Submitted: 10/02/2007 09:10
 Reported: 11/06/2007 at 09:31
 Discard: 12/07/2007

Chevron
 6001 Bollinger Canyon Rd L4310
 San Ramon CA 94583

GEI-T SDG#: LKA04-08TB*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received		Units	Dilution Factor
				Method	Detection Limit		
06306	trans-1,3-Dichloropropene	10061-02-6	N.D.	0.001		mg/l	1
06307	cis-1,3-Dichloropropene	10061-01-5	N.D.	0.001		mg/l	1
06308	4-Methyl-2-pentanone	108-10-1	N.D.	0.003		mg/l	1
06309	2-Hexanone	591-78-6	N.D.	0.003		mg/l	1
07583	2-Chloroethyl Vinyl Ether	110-75-8	N.D.	0.002		mg/l	1
	2-Chloroethyl vinyl ether is an acid labile compound and may not be recovered in an acid preserved sample.						
08203	Freon 113	76-13-1	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		Analyst	Dilution Factor
			Trial#	Date and Time		
01440	Alaska AK101 GRO (waters)	AK 101	1	10/04/2007 18:24	K. Robert Caulfeild-James	1
01588	BTEX	SW-846 8021B	1	10/04/2007 18:24	K. Robert Caulfeild-James	1
05382	EPA SW846/8260 (water)	SW-846 8260B	1	10/11/2007 22:21	Chelsea B Eastep	1
08202	EPA SW 846/8260 - Water	SW-846 8260B	1	10/11/2007 22:21	Chelsea B Eastep	1
01146	GC VOA Water Prep	SW-846 5030B	1	10/04/2007 18:24	K. Robert Caulfeild-James	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	10/11/2007 22:21	Chelsea B Eastep	1

Quality Control Summary

 Client Name: Chevron
 Reported: 11/06/07 at 09:31 AM

Group Number: 1058958

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

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Batch number: 07276A54B	Sample number(s): 5173533-5173540							
Alaska AK101 GRO (waters)	N.D.	0.01	mg/l	81	77	60-120	5	20
Benzene	N.D.	0.001	mg/l	93	108	86-119	15	30
Toluene	N.D.	0.001	mg/l	99	114	82-119	15	30
Ethylbenzene	N.D.	0.001	mg/l	95	110	81-119	15	30
Total xylenes	N.D.	0.002	mg/l	96	111	82-120	14	30
Batch number: 072787050005A	Sample number(s): 5173534,5173539							
Lead	N.D.	0.00004	mg/l	98		85-115		
		7						
Batch number: 072790010A	Sample number(s): 5173533-5173535,5173537-5173539							
C10-<C25 DRO	N.D.	0.020	mg/l	116	116	75-125	0	20
C25-C36 RRO	N.D.	0.020	mg/l	117	117	60-120	0	20
Batch number: W072842AA	Sample number(s): 5173540							
Ethanol	N.D.	0.050	mg/l	87		31-166		
Methyl Tertiary Butyl Ether	N.D.	0.0005	mg/l	105		73-119		
di-Isopropyl ether	N.D.	0.0005	mg/l	88		70-123		
Ethyl t-butyl ether	N.D.	0.0005	mg/l	96		74-120		
t-Amyl methyl ether	N.D.	0.0005	mg/l	96		79-113		
t-Butyl alcohol	N.D.	0.005	mg/l	96		74-117		
Dichlorodifluoromethane	N.D.	0.002	mg/l	122		33-125		
Chloromethane	N.D.	0.001	mg/l	104		47-122		
Vinyl Chloride	N.D.	0.001	mg/l	97		54-123		
Bromomethane	N.D.	0.001	mg/l	105		49-117		
Chloroethane	N.D.	0.001	mg/l	94		54-117		
Trichlorofluoromethane	N.D.	0.002	mg/l	135*		59-128		
1,1-Dichloroethene	N.D.	0.0008	mg/l	113		76-122		
Methylene Chloride	N.D.	0.002	mg/l	86		85-120		
trans-1,2-Dichloroethene	N.D.	0.0008	mg/l	97		83-117		
1,1-Dichloroethane	N.D.	0.001	mg/l	101		83-127		
2,2-Dichloropropane	N.D.	0.001	mg/l	113		74-130		
cis-1,2-Dichloroethene	N.D.	0.0008	mg/l	92		84-117		
Chloroform	N.D.	0.0008	mg/l	115		77-125		
Bromochloromethane	N.D.	0.001	mg/l	105		83-121		
1,1,1-Trichloroethane	N.D.	0.0008	mg/l	121		83-127		
Carbon Tetrachloride	N.D.	0.001	mg/l	120		77-130		
1,1-Dichloropropene	N.D.	0.001	mg/l	98		84-116		
Benzene	N.D.	0.0005	mg/l	91		78-119		
1,2-Dichloroethane	N.D.	0.0005	mg/l	130		69-135		
Trichloroethene	N.D.	0.001	mg/l	103		87-117		
1,2-Dichloropropane	N.D.	0.001	mg/l	87		80-117		
Dibromomethane	N.D.	0.001	mg/l	103		87-117		
Bromodichloromethane	N.D.	0.001	mg/l	109		83-121		
Toluene	N.D.	0.0005	mg/l	95		85-115		
1,1,2-Trichloroethane	N.D.	0.0008	mg/l	93		86-113		

*- Outside of specification

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

Quality Control Summary

Client Name: Chevron

Group Number: 1058958

Reported: 11/06/07 at 09:31 AM

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
Tetrachloroethene	N.D.	0.0008	mg/l	98		76-118		
1,3-Dichloropropane	N.D.	0.001	mg/l	95		84-119		
Dibromochloromethane	N.D.	0.001	mg/l	106		78-119		
1,2-Dibromoethane	N.D.	0.0005	mg/l	98		81-114		
Chlorobenzene	N.D.	0.0008	mg/l	97		85-115		
1,1,1,2-Tetrachloroethane	N.D.	0.001	mg/l	99		83-114		
Ethylbenzene	N.D.	0.0005	mg/l	95		82-119		
m+p-Xylene	N.D.	0.0005	mg/l	93		83-113		
o-Xylene	N.D.	0.0005	mg/l	95		83-113		
Styrene	N.D.	0.001	mg/l	92		82-111		
Bromoform	N.D.	0.001	mg/l	92		69-118		
Isopropylbenzene	N.D.	0.001	mg/l	95		80-113		
1,1,2,2-Tetrachloroethane	N.D.	0.001	mg/l	87		72-119		
Bromobenzene	N.D.	0.001	mg/l	89		82-110		
1,2,3-Trichloropropane	N.D.	0.001	mg/l	105		78-117		
n-Propylbenzene	N.D.	0.001	mg/l	98		78-119		
2-Chlorotoluene	N.D.	0.001	mg/l	98		78-115		
1,3,5-Trimethylbenzene	N.D.	0.001	mg/l	99		78-116		
4-Chlorotoluene	N.D.	0.001	mg/l	89		80-112		
tert-Butylbenzene	N.D.	0.001	mg/l	98		74-114		
1,2,4-Trimethylbenzene	N.D.	0.001	mg/l	98		78-117		
sec-Butylbenzene	N.D.	0.001	mg/l	98		72-120		
p-Isopropyltoluene	N.D.	0.001	mg/l	103		72-118		
1,3-Dichlorobenzene	N.D.	0.001	mg/l	92		81-114		
1,4-Dichlorobenzene	N.D.	0.001	mg/l	93		84-116		
n-Butylbenzene	N.D.	0.001	mg/l	103		75-120		
1,2-Dichlorobenzene	N.D.	0.001	mg/l	94		81-112		
1,2-Dibromo-3-chloropropane	N.D.	0.002	mg/l	101		62-128		
1,2,4-Trichlorobenzene	N.D.	0.001	mg/l	92		65-114		
Hexachlorobutadiene	N.D.	0.002	mg/l	88		62-119		
Naphthalene	N.D.	0.001	mg/l	93		61-116		
1,2,3-Trichlorobenzene	N.D.	0.001	mg/l	95		67-114		
Acetone	N.D.	0.006	mg/l	133		40-200		
Carbon Disulfide	N.D.	0.001	mg/l	87		69-119		
2-Butanone	N.D.	0.003	mg/l	103		52-163		
trans-1,3-Dichloropropene	N.D.	0.001	mg/l	101		79-114		
cis-1,3-Dichloropropene	N.D.	0.001	mg/l	92		78-114		
4-Methyl-2-pentanone	N.D.	0.003	mg/l	92		70-130		
2-Hexanone	N.D.	0.003	mg/l	100		61-140		
2-Chloroethyl Vinyl Ether	N.D.	0.002	mg/l	85		66-125		
Freon 113	N.D.	0.002	mg/l	98		66-125		
Batch number: W072842AB	Sample number(s):	5173534,5173539						
Ethanol	N.D.	0.050	mg/l	87		31-166		
Methyl Tertiary Butyl Ether	N.D.	0.0005	mg/l	105		73-119		
di-Isopropyl ether	N.D.	0.0005	mg/l	88		70-123		
Ethyl t-butyl ether	N.D.	0.0005	mg/l	96		74-120		
t-Amyl methyl ether	N.D.	0.0005	mg/l	96		79-113		
t-Butyl alcohol	N.D.	0.005	mg/l	96		74-117		
Dichlorodifluoromethane	N.D.	0.002	mg/l	122		33-125		
Chloromethane	N.D.	0.001	mg/l	104		47-122		
Vinyl Chloride	N.D.	0.001	mg/l	97		54-123		
Bromomethane	N.D.	0.001	mg/l	105		49-117		
Chloroethane	N.D.	0.001	mg/l	94		54-117		
Trichlorofluoromethane	N.D.	0.002	mg/l	135*		59-128		

*- Outside of specification

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

Quality Control Summary

Client Name: Chevron

Group Number: 1058958

Reported: 11/06/07 at 09:31 AM

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
1,1-Dichloroethene	N.D.	0.0008	mg/l	113		76-122		
Methylene Chloride	N.D.	0.002	mg/l	86		85-120		
trans-1,2-Dichloroethene	N.D.	0.0008	mg/l	97		83-117		
1,1-Dichloroethane	N.D.	0.001	mg/l	101		83-127		
2,2-Dichloropropane	N.D.	0.001	mg/l	113		74-130		
cis-1,2-Dichloroethene	N.D.	0.0008	mg/l	92		84-117		
Chloroform	N.D.	0.0008	mg/l	115		77-125		
Bromochloromethane	N.D.	0.001	mg/l	105		83-121		
1,1,1-Trichloroethane	N.D.	0.0008	mg/l	121		83-127		
Carbon Tetrachloride	N.D.	0.001	mg/l	120		77-130		
1,1-Dichloropropene	N.D.	0.001	mg/l	98		84-116		
Benzene	N.D.	0.0005	mg/l	91		78-119		
1,2-Dichloroethane	N.D.	0.0005	mg/l	130		69-135		
Trichloroethene	N.D.	0.001	mg/l	103		87-117		
1,2-Dichloropropane	N.D.	0.001	mg/l	87		80-117		
Dibromomethane	N.D.	0.001	mg/l	103		87-117		
Bromodichloromethane	N.D.	0.001	mg/l	109		83-121		
Toluene	N.D.	0.0005	mg/l	95		85-115		
1,1,2-Trichloroethane	N.D.	0.0008	mg/l	93		86-113		
Tetrachloroethene	N.D.	0.0008	mg/l	98		76-118		
1,3-Dichloropropane	N.D.	0.001	mg/l	95		84-119		
Dibromochloromethane	N.D.	0.001	mg/l	106		78-119		
1,2-Dibromoethane	N.D.	0.0005	mg/l	98		81-114		
Chlorobenzene	N.D.	0.0008	mg/l	97		85-115		
1,1,1,2-Tetrachloroethane	N.D.	0.001	mg/l	99		83-114		
Ethylbenzene	N.D.	0.0005	mg/l	95		82-119		
m+p-Xylene	N.D.	0.0005	mg/l	93		83-113		
o-Xylene	N.D.	0.0005	mg/l	95		83-113		
Styrene	N.D.	0.001	mg/l	92		82-111		
Bromoform	N.D.	0.001	mg/l	92		69-118		
Isopropylbenzene	N.D.	0.001	mg/l	95		80-113		
1,1,2,2-Tetrachloroethane	N.D.	0.001	mg/l	87		72-119		
Bromobenzene	N.D.	0.001	mg/l	89		82-110		
1,2,3-Trichloropropane	N.D.	0.001	mg/l	105		78-117		
n-Propylbenzene	N.D.	0.001	mg/l	98		78-119		
2-Chlorotoluene	N.D.	0.001	mg/l	98		78-115		
1,3,5-Trimethylbenzene	N.D.	0.001	mg/l	99		78-116		
4-Chlorotoluene	N.D.	0.001	mg/l	89		80-112		
tert-Butylbenzene	N.D.	0.001	mg/l	98		74-114		
1,2,4-Trimethylbenzene	N.D.	0.001	mg/l	98		78-117		
sec-Butylbenzene	N.D.	0.001	mg/l	98		72-120		
p-Isopropyltoluene	N.D.	0.001	mg/l	103		72-118		
1,3-Dichlorobenzene	N.D.	0.001	mg/l	92		81-114		
1,4-Dichlorobenzene	N.D.	0.001	mg/l	93		84-116		
n-Butylbenzene	N.D.	0.001	mg/l	103		75-120		
1,2-Dichlorobenzene	N.D.	0.001	mg/l	94		81-112		
1,2-Dibromo-3-chloropropane	N.D.	0.002	mg/l	101		62-128		
1,2,4-Trichlorobenzene	N.D.	0.001	mg/l	92		65-114		
Hexachlorobutadiene	N.D.	0.002	mg/l	88		62-119		
Naphthalene	N.D.	0.001	mg/l	93		61-116		
1,2,3-Trichlorobenzene	N.D.	0.001	mg/l	95		67-114		
Acetone	N.D.	0.006	mg/l	133		40-200		
Carbon Disulfide	N.D.	0.001	mg/l	87		69-119		
2-Butanone	N.D.	0.003	mg/l	103		52-163		
trans-1,3-Dichloropropene	N.D.	0.001	mg/l	101		79-114		

*- Outside of specification

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

Quality Control Summary

Client Name: Chevron

Group Number: 1058958

Reported: 11/06/07 at 09:31 AM

Laboratory Compliance Quality Control

<u>Analysis Name</u>	<u>Blank Result</u>	<u>Blank MDL</u>	<u>Report Units</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>LCS/LCSD Limits</u>	<u>RPD</u>	<u>RPD Max</u>
cis-1,3-Dichloropropene	N.D.	0.001	mg/l	92		78-114		
4-Methyl-2-pentanone	N.D.	0.003	mg/l	92		70-130		
2-Hexanone	N.D.	0.003	mg/l	100		61-140		
2-Chloroethyl Vinyl Ether	N.D.	0.002	mg/l	85		66-125		
Freon 113	N.D.	0.002	mg/l	98		66-125		

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

<u>Analysis Name</u>	<u>MS %REC</u>	<u>MSD %REC</u>	<u>MS/MSD Limits</u>	<u>RPD</u>	<u>RPD MAX</u>	<u>BKG Conc</u>	<u>DUP Conc</u>	<u>DUP RPD</u>	<u>Dup RPD Max</u>
Batch number: 07276A54B	Sample number(s): 5173533-5173540 UNSPK: P171772, 5173538								
Alaska AK101 GRO (waters)	71		60-120						
Benzene	106		78-131						
Toluene	113		78-129						
Ethylbenzene	110		75-133						
Total xylenes	108		84-131						
Batch number: 072787050005A	Sample number(s): 5173534,5173539 UNSPK: P176780 BKG: P176780								
Lead	104		75-125			0.00039	0.00043	12 (1)	20
Batch number: W072842AA	Sample number(s): 5173540 UNSPK: P171575								
Ethanol	105	91	32-164	15	30				
Methyl Tertiary Butyl Ether	114	111	69-127	3	30				
di-Isopropyl ether	101	97	68-129	3	30				
Ethyl t-butyl ether	108	105	78-119	3	30				
t-Amyl methyl ether	107	104	72-125	3	30				
t-Butyl alcohol	122*	117	70-121	4	30				
Dichlorodifluoromethane	193*	191*	41-149	1	30				
Chloromethane	128	122	47-133	5	30				
Vinyl Chloride	121	124	55-130	3	30				
Bromomethane	117	112	52-129	4	30				
Chloroethane	120	112	57-130	7	30				
Trichlorofluoromethane	173*	172*	67-150	1	30				
1,1-Dichloroethene	138	136	87-145	2	30				
Methylene Chloride	107	107	79-133	0	30				
trans-1,2-Dichloroethene	123	115	82-133	7	30				
1,1-Dichloroethane	119	117	85-135	2	30				
2,2-Dichloropropane	138	135	79-146	2	30				
cis-1,2-Dichloroethene	105	109	83-126	4	30				
Chloroform	132	128	83-139	3	30				
Bromochloromethane	115	116	82-129	1	30				
1,1,1-Trichloroethane	147*	143*	81-142	3	30				
Carbon Tetrachloride	147	147	82-149	0	30				
1,1-Dichloropropene	121	118	86-134	3	30				
Benzene	111	107	83-128	4	30				
1,2-Dichloroethane	140	136	70-143	3	30				
Trichloroethene	123	120	83-136	3	30				
1,2-Dichloropropane	108	103	83-129	5	30				
Dibromomethane	123	111	82-128	10	30				
Bromodichloromethane	132	124	80-137	6	30				

*- Outside of specification

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

Quality Control Summary

 Client Name: Chevron
 Reported: 11/06/07 at 09:31 AM

Group Number: 1058958

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

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
Toluene	110	109	83-127	1	30				
1,1,2-Trichloroethane	106	101	77-125	5	30				
Tetrachloroethene	120	116	78-133	3	30				
1,3-Dichloropropane	105	103	82-121	2	30				
Dibromochloromethane	117	117	82-119	0	30				
1,2-Dibromoethane	108	105	78-120	2	30				
Chlorobenzene	106	107	83-120	1	30				
1,1,1,2-Tetrachloroethane	113	112	83-119	1	30				
Ethylbenzene	110	110	82-129	0	30				
m+p-Xylene	108	108	82-130	0	30				
o-Xylene	112	105	82-130	6	30				
Styrene	105	102	69-131	4	30				
Bromoform	102	104	64-119	1	30				
Isopropylbenzene	114	113	81-130	1	30				
1,1,2,2-Tetrachloroethane	97	94	73-121	3	30				
Bromobenzene	102	106	83-121	4	30				
1,2,3-Trichloropropane	109	105	73-125	4	30				
n-Propylbenzene	117	117	74-138	0	30				
2-Chlorotoluene	105	111	78-121	5	30				
1,3,5-Trimethylbenzene	112	115	77-124	2	30				
4-Chlorotoluene	109	108	81-123	1	30				
tert-Butylbenzene	113	115	76-128	2	30				
1,2,4-Trimethylbenzene	115	116	80-125	1	30				
sec-Butylbenzene	119	119	73-137	0	30				
p-Isopropyltoluene	122	122	72-128	0	30				
1,3-Dichlorobenzene	103	104	79-123	1	30				
1,4-Dichlorobenzene	107	105	81-122	2	30				
n-Butylbenzene	122	122	73-134	0	30				
1,2-Dichlorobenzene	105	104	82-117	1	30				
1,2-Dibromo-3-chloropropane	111	111	52-137	0	30				
1,2,4-Trichlorobenzene	102	102	60-121	0	30				
Hexachlorobutadiene	106	109	51-135	2	30				
Naphthalene	97	98	57-125	1	30				
1,2,3-Trichlorobenzene	115	112	65-127	3	30				
Acetone	112	114	48-143	2	30				
Carbon Disulfide	109	111	74-135	2	30				
2-Butanone	93	89	57-137	4	30				
trans-1,3-Dichloropropene	112	113	77-123	1	30				
cis-1,3-Dichloropropene	101	103	80-126	2	30				
4-Methyl-2-pentanone	95	94	68-133	1	30				
2-Hexanone	96	95	60-135	1	30				
2-Chloroethyl Vinyl Ether	0*	0*	1-156	0	30				
Freon 113	132	127	78-146	4	30				

Batch number: W072842AB	Sample number(s): 5173534, 5173539	UNSPK: P171575			
Ethanol	105	91	32-164	15	30
Methyl Tertiary Butyl Ether	114	111	69-127	3	30
di-Isopropyl ether	101	97	68-129	3	30
Ethyl t-butyl ether	108	105	78-119	3	30
t-Amyl methyl ether	107	104	72-125	3	30
t-Butyl alcohol	122*	117	70-121	4	30
Dichlorodifluoromethane	193*	191*	41-149	1	30
Chloromethane	128	122	47-133	5	30

*- Outside of specification

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

Quality Control Summary

 Client Name: Chevron
 Reported: 11/06/07 at 09:31 AM

Group Number: 1058958

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

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
Vinyl Chloride	121	124	55-130	3	30				
Bromomethane	117	112	52-129	4	30				
Chloroethane	120	112	57-130	7	30				
Trichlorofluoromethane	173*	172*	67-150	1	30				
1,1-Dichloroethene	138	136	87-145	2	30				
Methylene Chloride	107	107	79-133	0	30				
trans-1,2-Dichloroethene	123	115	82-133	7	30				
1,1-Dichloroethane	119	117	85-135	2	30				
2,2-Dichloropropane	138	135	79-146	2	30				
cis-1,2-Dichloroethene	105	109	83-126	4	30				
Chloroform	132	128	83-139	3	30				
Bromochloromethane	115	116	82-129	1	30				
1,1,1-Trichloroethane	147*	143*	81-142	3	30				
Carbon Tetrachloride	147	147	82-149	0	30				
1,1-Dichloropropene	121	118	86-134	3	30				
Benzene	111	107	83-128	4	30				
1,2-Dichloroethane	140	136	70-143	3	30				
Trichloroethene	123	120	83-136	3	30				
1,2-Dichloropropane	108	103	83-129	5	30				
Dibromomethane	123	111	82-128	10	30				
Bromodichloromethane	132	124	80-137	6	30				
Toluene	110	109	83-127	1	30				
1,1,2-Trichloroethane	106	101	77-125	5	30				
Tetrachloroethene	120	116	78-133	3	30				
1,3-Dichloropropane	105	103	82-121	2	30				
Dibromochloromethane	117	117	82-119	0	30				
1,2-Dibromoethane	108	105	78-120	2	30				
Chlorobenzene	106	107	83-120	1	30				
1,1,1,2-Tetrachloroethane	113	112	83-119	1	30				
Ethylbenzene	110	110	82-129	0	30				
m+p-Xylene	108	108	82-130	0	30				
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Styrene	105	102	69-131	4	30				
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Isopropylbenzene	114	113	81-130	1	30				
1,1,2,2-Tetrachloroethane	97	94	73-121	3	30				
Bromobenzene	102	106	83-121	4	30				
1,2,3-Trichloropropane	109	105	73-125	4	30				
n-Propylbenzene	117	117	74-138	0	30				
2-Chlorotoluene	105	111	78-121	5	30				
1,3,5-Trimethylbenzene	112	115	77-124	2	30				
4-Chlorotoluene	109	108	81-123	1	30				
tert-Butylbenzene	113	115	76-128	2	30				
1,2,4-Trimethylbenzene	115	116	80-125	1	30				
sec-Butylbenzene	119	119	73-137	0	30				
p-Isopropyltoluene	122	122	72-128	0	30				
1,3-Dichlorobenzene	103	104	79-123	1	30				
1,4-Dichlorobenzene	107	105	81-122	2	30				
n-Butylbenzene	122	122	73-134	0	30				
1,2-Dichlorobenzene	105	104	82-117	1	30				
1,2-Dibromo-3-chloropropane	111	111	52-137	0	30				
1,2,4-Trichlorobenzene	102	102	60-121	0	30				
Hexachlorobutadiene	106	109	51-135	2	30				

*- Outside of specification

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

Quality Control Summary

 Client Name: Chevron
 Reported: 11/06/07 at 09:31 AM

Group Number: 1058958

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

<u>Analysis Name</u>	<u>MS</u> <u>%REC</u>	<u>MSD</u> <u>%REC</u>	<u>MS/MSD</u> <u>Limits</u>	<u>RPD</u> <u>RPD</u>	<u>RPD</u> <u>MAX</u>	<u>BKG</u> <u>Conc</u>	<u>DUP</u> <u>Conc</u>	<u>DUP</u> <u>RPD</u>	<u>Dup RPD</u> <u>Max</u>
Naphthalene	97	98	57-125	1	30				
1,2,3-Trichlorobenzene	115	112	65-127	3	30				
Acetone	112	114	48-143	2	30				
Carbon Disulfide	109	111	74-135	2	30				
2-Butanone	93	89	57-137	4	30				
trans-1,3-Dichloropropene	112	113	77-123	1	30				
cis-1,3-Dichloropropene	101	103	80-126	2	30				
4-Methyl-2-pentanone	95	94	68-133	1	30				
2-Hexanone	96	95	60-135	1	30				
2-Chloroethyl Vinyl Ether	0*	0*	1-156	0	30				
Freon 113	132	127	78-146	4	30				

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 (waters)
 Batch number: 07276A54B

	Trifluorotoluene-F	Trifluorotoluene-P
5173533	88	86
5173534	83	92
5173535	83	93
5173536	83	96
5173537	79	93
5173538	77	95
5173539	82	94
5173540	89	96
Blank	89	95
LCS	95	96
LCSD	94	97
MS	84	95
<hr/>		
Limits:	60-120	69-129

 Analysis Name: TPH-DRO/RRO (AK) water
 Batch number: 072790010A

	Orthoterphenyl	n-Triacontane-d62
5173533	106	121
5173534	83	86
5173535	79	82
5173537	71	96
5173538	127	112
5173539	75	109
Blank	118	119
LCS	92	108
LCSD	94	110

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
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Quality Control Summary

Client Name: Chevron
Reported: 11/06/07 at 09:31 AM

Group Number: 1058958

Surrogate Quality Control

Limits: 50-150 50-150

Analysis Name: EPA SW846/8260 (water)

Batch number: W072842AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
5173540	106	91	96	95
Blank	105	87	96	93
LCS	104	93	100	103
MS	104	96	96	98
MSD	103	84	96	98

Limits: 80-116 77-113 80-113 78-113

Analysis Name: EPA SW846/8260 (water)

Batch number: W072842AB

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
5173534	98	86	96	96
5173539	97	91	96	99
Blank	99	89	97	91
LCS	104	93	100	103
MS	104	96	96	98
MSD	103	84	96	98

Limits: 80-116 77-113 80-113 78-113

*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
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Chevron Generic Analysis Request/Chain of Custody



Page 1 of 1

009255
SCR#: 48102

For Lancaster Laboratories use only

Acct. #: 11964 Sample #: 5173533-40

1058958

Facility #: <u>Former Unocal 0207 OML per RA AM</u> Site Address: <u>FI A Gate 28 / West Ramp, Fairbanks, AK</u> Chevron PM: <u>S. Hartung-Frenchs</u> Lead Consultant: <u>ARCADIS</u> Consultant/Office: <u>Seattle, WA</u> Consultant Prj. Mgr.: <u>Rebecca Andresen</u> Consultant Phone #: <u>(206) 325-5254</u> Fax #: <u>(206) 325-8218</u> Sampler: <u>Julie Ahern, OASIS Environmental</u> Service Order #: _____ <input type="checkbox"/> Non SAR: _____				Matrix <input type="checkbox"/> Potable <input type="checkbox"/> NPDES <input type="checkbox"/> Soil <input type="checkbox"/> Water <input type="checkbox"/> Oil <input type="checkbox"/> Air		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="10">Analyses Requested</th> </tr> <tr> <th colspan="10">Preservation Codes</th> </tr> <tr> <td>H</td><td>H</td><td></td><td></td><td></td><td></td><td></td><td></td><td>H</td><td>H</td><td>N</td><td>H</td> </tr> <tr> <td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td> </tr> <tr> <td>BTEX</td><td>8021</td><td>8260</td><td>Naphth</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>8260 full scan</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>Oxygenates</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>Flash Point</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>TPH D</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>Extended Rng.</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>Silica Gel Cleanup</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>Lead Total</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>Diss.</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>Method</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>VP/IEPH</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>NWTPH HClD</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>quantification</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>GRO/BTEX (AK101/8021B)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>PRO/RO (AK102/AK103)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>Lead (200.8)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>Oil & Grease (1664A)</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>										Analyses Requested										Preservation Codes										H	H							H	H	N	H	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	BTEX	8021	8260	Naphth									8260 full scan												Oxygenates												Flash Point												TPH D												Extended Rng.												Silica Gel Cleanup												Lead Total												Diss.												Method												VP/IEPH												NWTPH HClD												quantification												GRO/BTEX (AK101/8021B)												PRO/RO (AK102/AK103)												Lead (200.8)												Oil & Grease (1664A)																																																																
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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 <u>limit of quantitation</u> , 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 quantitated 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:

Title: Date:

CS Report Name: Report Date:

Consultant Firm:

Laboratory Name: Laboratory Report Number:

ADEC File Number: ADEC RecKey Number:

1. Laboratory

a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?

Yes No

Comments:

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

Yes No

Comments:

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 ($4^{\circ} \pm 2^{\circ} \text{C}$)?

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:

Both of the amber sample bottles for GEI-2 were broken and one of the GEI-7 ambers was broken upon receipt. Missing one vial for the wastewater sample.

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

Yes No Comments:

e. Data quality or usability affected? Explain.

Comments:

DRO and RRO for well GEI-2 could not be analyzed.

4. Case Narrative

a. Present and understandable?

Yes No Comments:

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

Yes No Comments:

c. Were all corrective actions documented?

Yes No Comments:

NA

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

Comments:

NA

5. Samples Results

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

Yes No Comments:

b. All applicable holding times met?

Yes No

Comments:

c. All soils reported on a dry weight basis?

Yes No

Comments:

NA

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

Yes No

Comments:

Most of the detection limits were raised due to dilution. All of the RRO results were non-detect with the detection limit greater than the ADEC limit (except GEI-8). Benzene detection limit for GEI-7 (both samples) and GEI-3 was equal to the GCL. Other detection limits may be greater than the GCL, but the compound was detected, so there is no effect on the data.

e. Data quality or usability affected? Explain.

Comments:

RRO data cannot be used to determine if RRO was less than GCL; however, RRO has not been detected above GCLs previously. Cannot determine if benzene concentrations met GCLs in GEI-7/GEI-3.

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

Yes No

Comments:

ii. All method blank results less than PQL?

Yes No

Comments:

iii. If above PQL, what samples are affected?

Comments:

NA

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

Yes No

Comments:

NA

v. Data quality or usability affected? Explain.

Comments:

NA

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

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

Yes No Comments:

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

Yes No Comments:

iii. Accuracy - All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

Yes No Comments:

All are within limits, except for Trichlorofluoromethane which had a LCS % recovery greater than the limit.

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:

NA

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

Yes No Comments:

vii. Data quality or usability affected? Explain.

Comments:

NO.

c. Surrogates - Organics Only

i. Are surrogate recoveries reported for organic analyses - field, QC and laboratory samples?

Yes No Comments:

ii. Accuracy - All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

Yes No

Comments:

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

Yes No

Comments:

NA

iv. Data quality or usability affected? Explain.

Comments:

NA

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:

NA

iv. Data quality or usability affected? Explain.

Comments:

NA

e. Field Duplicate

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

Yes No

Comments:

1 duplicate was submitted

ii. Submitted blind to lab?

Yes No

Comments:

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

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

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

Yes No

Comments:

The RPD for GRO was 50 %, and the RPD for DRO was 34 %.

iv. Data quality or usability affected? Explain.

Yes No

Comments:

The data quality or usability is not significantly affected.

f. Decontamination or Equipment Blank (if applicable)

Yes No Not Applicable

i. All results less than PQL?

Yes No

Comments:

ii. If above PQL, what samples are affected?

Comments:

NA

iii. Data quality or usability affected? Explain.

Comments:

NA

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

a. Defined and appropriate?

Yes No

Comments:

Reset Form