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Chevron Environmental Management Company

First Semi-Annual 2011 Groundwater Monitoring Report

Former Chevron Facility 306443
Gate 28, West Ramp, Fairbanks International Airport
Fairbanks, Alaska
ADEC File # 100.26.040

September 7, 2011

ARCADIS

FOR

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First Semi-Annual 2011 Groundwater Monitoring Report

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ADEC File No. 100.26.040

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Chevron Environmental Management Company

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Appendices

1. Introduction

On behalf of Chevron Environmental Management Company (Chevron), ARCADIS US, Inc. (ARCADIS), has prepared this report to document the first semi-annual 2011 groundwater sampling event for former Chevron facility 306443 (the site) located at Gate 28, West Ramp at Fairbanks International Airport in Fairbanks, Alaska. The site location and surrounding area are shown on **Figure 1**. The site features are shown on **Figure 2**. This report summarizes the groundwater sampling events conducted by ARCADIS on June 9-10, 2011. Work was conducted under the direction of a "qualified person" as defined in 18 Alaska Administrative Code (AAC) 75.990 (100), and 18 AAC 78.995 (118).

2. Groundwater Monitoring Methods

2.1. Groundwater Gauging Methods

On June 9, 2011, nineteen site monitoring wells, GEI-1 through GEI-9, MW-1 through MW-8, MW-10, and recovery well RW-1, were gauged with an oil/water interface probe to determine depth to water, and to ascertain if light non-aqueous phase liquid [LNAPL] was present. Monitoring well MW-9 could not be gauged due to an obstruction at 4.45 feet. LNAPL was detected in monitoring wells GEI-7 and GEI-9 during gauging activities on June 9, 2011. Thicknesses in these wells ranged from 0.19 feet (GEI-9) to 0.29 (GEI-7) feet. New survey data from September 2010 was used for calculating the groundwater elevation. Groundwater gauging data is presented in **Table 1**.

Non-disposable groundwater monitoring equipment was decontaminated prior to and after each use, with a detergent solution and rinsed in potable water. Field data sheets are included in **Appendix A.**

2.2. Groundwater Elevation and Flow Direction

Depths to groundwater during the June 2011 event ranged from 8.98 feet below top of casing (btoc) in monitoring well MW-2 to 10.45 feet btoc in monitoring well MW-8. Groundwater elevations ranged from 422.76 feet above sea level (asl) in monitoring wells RW-1, to 423.39 feet asl in monitoring wells GEI-4. Due to the presence of LNAPL, groundwater elevations recorded in monitoring wells GEI-7 and GEI-9 were corrected using the following formula:

Corrected Groundwater Elevation =

(Top of Casing – Depth to Water) + (LNAPL Thickness x Specific Gravity of LNAPL (0.82))

Based on the water levels measured during the June 2011 sampling event, the groundwater elevation gradient is extremely flat. The general flow at the site is to the west (summarized in **Table 1** and shown on **Figure 3**).

2.3. LNAPL Recovery

LNAPL was gauged in wells GEI-7 and GEI -9 at a thicknesses of 0.29 feet (ft) and 0.19 ft. Trace LNAPL was observed in wells GEI-1, GEI-3, GEI-5 and MW-8 uses a disposable bailer. Approximately 1.5 liters of LNAPL was recovered from well GEI-7 using a peristaltic pump on June 16, 2011. LNAPL in well GEI-9 was not able to be recovered.

3. Groundwater Monitoring Results

3.1. Groundwater Sampling Methods

The first semi-annual 2011 groundwater monitoring event was conducted on June 10, 2011. Groundwater samples were collected using no purge sampling procedures in accordance with the ADEC field sampling procedures. A Teflon® bailer was used to collect the samples. Groundwater samples were labeled, stored in a cooler packed with ice and submitted to Lancaster Laboratories (Lancaster) in Lancaster, Pennsylvania, under proper chain-of-custody procedures. Groundwater samples from monitoring wells GEI-2, GEI-4, GEI-6, GEI-8, MW-1 through MW-7, MW-10, and RW-1 were submitted to the analytical laboratory for the following analyses:

- Gasoline range organics (GRO) by Alaska method AK101
- Diesel range organics (DRO) by Alaska method AK102
- Residual range organics (RRO) by Alaska method AK103
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX), by EPA method 8021B

Duplicate groundwater samples BD-1 (MW-3) and BD-2 (MW-1) were collected and submitted blind to the laboratory for GRO and BTEX analysis. Groundwater samples were not collected from monitoring wells GEI-7 and GEI-9 due to the presence of measurable LNAPL. Monitoring wells GEI-1, GEI-3, GEI-5, and MW-8, were not sampled due to the presence of LNAPL globules seen in the bailer.

3.2. Groundwater Analytical Results

Groundwater samples collected during the first semi-annual event in June 2011 contained a concentration of GRO greater than the ADEC groundwater cleanup level (GCL) (2,200 micrograms per liter [µg/L]) in monitoring wells GEI-4 (3,900 µg/L), MW-5 (3,800 µg/L), and RW-1 (3,500 µg/L).

Groundwater samples contained concentrations of DRO greater than the ADEC GCL (1,500 µg/L) in monitoring wells GEI-2 (6,100 µg/L), GEI-4 (270,000 µg/L), GEI-6 (170,000 µg/L), GEI-8 (26,000 µg/L), MW-1 (210,000 µg/L), MW-3 (21,000 µg/L), MW-5 (63,000 µg/L), and RW-1 (140,000 µg/L).

Groundwater samples collected from monitoring wells MW-6 and MW-7 exceeded the RRO ADEC groundwater cleanup level (GCL) of 1,100 micrograms per liter (µg/L) with concentrations of 1,600 µg/L and 2,000 µg/L, respectively.

The sample from monitoring well MW-1 exceeded the Benzene ADEC groundwater cleanup level (GCL) of 5 micrograms per liter (µg/L) with concentration of 29 µg/L.

Analytical results obtained from the first semi-annual 2011 groundwater monitoring event are summarized in **Table 2** and are shown on **Figure 4**.

4. Laboratory Data Quality Assurance Summary

As required by ADEC (Technical Memorandum 06-002, dated August 20, 2008), ARCADIS completed a laboratory data review checklist for the Lancaster report during the first semi-annual 2011 reporting period. The laboratory report is included as **Appendix B** and the data review checklist is included as **Appendix C**. The following quality assurance (QA) summary describes six parameters, related to the quality and usability of the data presented in this report.

4.1. Precision

The data met precision objectives for laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) relative percent differences (RPDs) with the exception of the RPD for BD-2 (MW-3) being out of specification for GRO.

4.2. Accuracy

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

4.3. Representativeness

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

4.4. Comparability

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

4.5. Completeness

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

4.6. Sensitivity

The sensitivity of the analyses was adequate for the samples as the detection limits were less than the ADEC GCLs for compounds analyzed with the exception of:

> The RRO PQL for groundwater samples GEI-4, GEI-6, GEI-8, MW-1, MW-3, MW-5, and RW-1.

The BTEX surrogate Trifluorotoluene-P was outside of specification for the groundwater sample analyzed from GEI-6 and MW-5. The TPH-DRO / RRO surrogate Orthoterphenyl was outside of specification for the ground water samples analyzed from MW-3, MW-1, GEI-6, RW-1, GEI-8, and GEI-4. The TPH-DRO / RRO surrogate n-Triacontane-d62 was outside of specification for the groundwater samples analyzed from RW-1 and GEI-4.

5. Conclusions

The groundwater elevation data collected during June 2011 indicate groundwater flow direction and gradient are generally consistent with historical data. The

analytical results of the June 2011 groundwater sampling events showed an increase in DRO and GRO concentrations in monitoring wells GEI-2, GEI-4, GEI-6, GEI-8, MW-1, MW-3, MW-5, and RW-1. The cause of the increase is unknown at this time. Further evaluation will be completed following the second semi-annual event.

ARCADIS will continue to sample the site on a semi-annual basis. LNAPL recovery will continue on a semi-annual basis. The second semi-annual 2011 groundwater sampling event will be conducted in August/September 2011. If you have any questions or would like to discuss this further, please contact Greg Montgomery at 206.726.4742.

6. References

ADEC, May, 2010. *Draft Field Sampling Guidance*. Division of Spill Prevention and Response Contaminated Sites Program.

ADEC Technical Memorandum, March, 2009. *Environmental Laboratory Data and Quality Assurance Requirements*. ADEC, Division of Spill Prevention and Response Contaminated Sites Program.

ARCADIS. *Bailer-Grab Groundwater Sampling*. March 10. 2009.

Table 1
Groundwater Elevation Data
Former Chevron Facility 306443
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
		10/15/07	10.35	9.94	0.41	89.86
		11/19/07	10.91	10.78	0.13	89.07
		03/29/08	Well buried under snow/ice			
		06/25/08	9.35	--	--	90.52
		07/14/08	8.22	--	--	91.65
		08/06/08	5.83	--	--	94.04
		09/10/08	8.22	8.20	0.02	91.67
		11/24/08	9.88	--	--	89.99
		12/18/08	10.06	--	--	89.81
		01/27/09	10.73	10.70	0.03	89.16
		02/20/09	11.18	10.98	0.20	88.85
		04/21/09	Well buried under snow/ice			
		10/06/09	10.35	10.33	0.02	89.54
		03/18/10	11.96	11.22	0.74	88.52
		04/20/10	Unable to remove sock- frozen			
		05/26/10	11.71	11	0.71	88.74
		06/18/10	9.42	9.41	0.01	90.46
		07/23/10	7.20	--	--	88.41
		08/16/10	7.21	--	--	92.66
	[1] 432.17	09/23/10	8.29	8.25	0.04	423.91
		10/25/10	10.67	--	--	421.46
		11/16/10	11.46	--	--	420.78
		12/14/10	Well not measured			
		01/05/11	Well not measured			
		02/08/11	10.71	--	--	425.98
		03/23/11	11.39	--	--	420.78
		04/13/11	11.27	10.84	0.43	421.25
		06/09/11	**9.40**	--	--	**422.77**

Table 1
Groundwater Elevation Data
Former Chevron Facility 306443
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-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
		03/29/08	10.22	--	--	89.57
		09/10/08	8.18	--	--	91.61
		04/21/09	Well under water			
		10/06/09	Well Dry			
		06/18/10	9.43	9.42	0.01	90.37
		07/23/10	7.29	--	--	92.50
		08/16/10	7.21	--	--	92.58
	[1] 432.15	09/23/10	8.25	--	--	423.90
		10/25/10	Well not measured			
		11/16/10	Well not measured			
		12/14/10	Well not measured			
		01/05/11	Well not measured			
		02/08/11	Well not measured			
		03/23/11	Well not measured			
		04/13/11	Well not measured			
		06/09/11	**9.39**	--	--	**422.76**
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
		03/29/08	10.15	--	--	89.58
		09/10/08	8.08	--	--	91.65
		04/21/09	11.11	10.89	0.22	88.80
		10/06/09	10.22	10.20	0.02	89.53
		03/18/10	11.41	10.90	0.51	88.74
		04/20/10	10.96	10.90	0.06	88.82
		05/26/10	11.42	10.90	0.52	88.74
		06/18/10	9.37	9.36	0.01	90.37
		07/23/10	7.11	--	--	92.62
		08/16/10	7.10	--	--	92.63
	[1] 432.07	09/23/10	8.16	--	--	423.91
		10/25/10	10.55	10.51	0.04	421.55
		11/16/10	11.41	11.18	0.23	420.85
		12/14/10	Well not measured			
		01/05/11	10.32	--	--	421.75
		02/08/11	10.67	--	--	421.40
		03/23/11	11.39	--	--	420.68
		04/13/11	10.90	10.87	0.03	421.19
		06/09/11	**9.35**	**--**	**--**	**422.72**

Table 1
Groundwater Elevation Data
Former Chevron Facility 306443
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-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
		03/29/08	10.08	--	--	89.58
		09/10/08	8.03	--	--	91.63
		04/21/09	10.65	--	--	89.01
		10/06/09	10.14	--	--	89.52
		06/18/10	9.24	--	--	90.42
		07/23/10	6.95	--	--	92.71
		08/16/10	7.00	6.97	0.03	92.68
	[1] 431.97	09/23/10	8.10	8.05	0.05	423.91
		10/25/10	Well not measured			
		11/16/10	Well not measured			
		12/14/10	Well not measured			
		01/05/11	Well not measured			
		02/08/11	Well not measured			
		03/23/11	Well not measured			
		04/13/11	Well not measured			
		06/09/11	**9.19**	--	--	**422.78**
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
		03/29/08	10.67	10.45	0.22	89.39
		09/10/08	8.71	8.37	0.34	91.45
		11/24/08	10.08	--	--	89.80
		12/18/08	10.29	--	--	89.59
		01/27/09	11.26	10.94	0.32	88.88
		02/20/09	11.65	11.21	0.44	88.59
		04/21/09	11.44	11.02	0.42	88.78
		10/06/09	10.65	10.53	0.12	89.33
		03/18/10	11.61	11.6	0.01	88.28
		04/20/10	12.45	11.5	0.95	88.21
		05/26/10	11.69	11.31	0.38	88.50
		06/18/10	9.73	9.72	0.01	90.16
		07/23/10	7.76	--	--	92.12
		08/16/10	7.98	7.34	0.64	92.42
	[1] 432.43	09/23/10	9.51	8.45	1.06	423.79
		10/25/10	10.88	--	--	421.55
		11/16/10	11.71	11.68	0.03	420.74
		12/14/10	Well not measured			
		01/05/11	10.86	--	--	421.57
		02/08/11	10.99	--	--	421.44
		03/23/11	11.24	11.23	0.01	421.20
		04/13/11	11.51	11.18	0.33	421.19
		06/09/11	**9.69**	--	--	**422.74**

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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-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
		10/15/07	10.70	10.26	0.44	89.61
		11/19/07	11.04	10.71	0.33	89.18
		03/29/08	10.61	10.60	0.01	89.35
		06/25/08	9.58	--	--	90.37
		07/14/08	8.51	--	--	91.44
		08/06/08	6.44	6.08	0.36	93.81
		09/10/08	9.25	8.41	0.84	91.39
		11/24/08	10.30	10.22	0.08	89.72
		12/18/08	10.52	10.38	0.14	89.54
		01/27/09	11.10	10.96	0.14	88.96
		02/20/09	11.10	--	--	88.85
		04/21/09	Well blocked at 11.5' below TOC			
		10/06/09	10.85	10.68	0.17	89.24
		03/18/10	Unable to locate			
		04/20/10	Well Dry			
		05/26/10	Well blocked at 11.05' below TOC			
		06/18/10	9.80	--	--	90.15
		07/23/10	7.70	7.61	0.09	92.32
		08/16/10	8.20	7.41	0.79	92.40
	[1] 432.49	09/23/10	9.31	8.52	0.79	423.83
		10/25/10	Well blocked at 11.1' below TOC			
		11/16/10	Well blocked at 11.06' below TOC			
		12/14/10	Well not measured			
		01/05/11	Well blocked at 11.12' below TOC			
		02/08/11	Well blocked at 11.10' below TOC			
		03/23/11	Well blocked at 11.06' below TOC			
		04/13/11	Well blocked at 11.10' below TOC			
		06/09/11	**9.80**	--	--	**422.69**
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
		03/29/08	10.28	10.26	0.02	89.18
		09/10/08	8.21	--	--	91.23
		04/21/09	10.90	10.86	0.04	88.57
		10/06/09	10.36	10.34	0.02	89.10
		03/18/10	Unable to locate			
		04/20/10	12.31	11.22	1.09	88.02
		05/26/10	11.41	11.08	0.33	88.30
		06/18/10	9.48	9.47	0.01	89.97
		07/23/10	7.25	--	--	92.19
		08/16/10	7.21	--	--	92.23
	[1] 432.14	09/23/10	8.30	--	--	423.84
		10/25/10	10.76	--	--	421.38
		11/16/10	11.26	--	--	420.88
		12/14/10	10.38	--	--	421.76
		01/05/11	10.36	--	--	421.78
		02/08/11	11.23	10.69	0.54	421.35
		03/23/11	11.45	10.97	0.48	421.08
		04/13/11	11.43	10.95	0.48	421.10
		06/09/11	**9.71**	**9.42**	**0.29**	**422.67**

Table 1
Groundwater Elevation Data
Former Chevron Facility 306443
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-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
		03/29/08	10.77	--	--	89.24
		09/10/08	8.72	8.70	0.02	91.31
		11/24/08	10.36	--	--	89.65
		12/18/08	10.55	--	--	89.46
		01/27/09	11.24	--	--	88.77
		02/20/09	11.55	--	--	88.46
		04/21/09	11.50	--	--	88.51
		10/06/09	10.82	--	--	89.19
		03/18/10	11.79	--	--	88.22
		04/20/10	11.87	--	--	88.14
		05/26/10	11.63	--	--	88.38
		06/18/10	9.96	--	--	90.05
		07/23/10	6.79	--	--	93.22
		08/16/10	7.71	--	--	92.30
	[1] 432.68	09/23/10	8.80	--	--	423.88
		10/25/10	Well not measured			
		11/16/10	Well not measured			
		12/14/10	Well not measured			
		01/05/11	Well not measured			
		02/08/11	Well not measured			
		03/23/11	Well not measured			
		04/13/11	Well not measured			
		06/09/11	**9.97**	--	--	**422.71**
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
		03/29/08	10.73	10.65	0.08	89.36
		09/10/08	8.63	--	--	91.39
		04/21/09	Well buried under snow/ice			
		10/06/09	10.90	10.87	0.03	89.14
		03/18/10	Well obstructed by snow/ice			
		04/20/10	12.11	11.9	0.21	88.08
		05/26/10	11.81	11.71	0.1	88.29
		07/23/10	7.82	--	--	92.20
		08/16/10	7.84	7.81	0.03	92.20
	[1] 432.81	09/23/10	9.00	8.87	0.13	423.92
		10/25/10	Well not measured			
		11/16/10	Well not measured			
		12/14/10	Well not measured			
		01/05/11	Well not measured			
		02/08/11	Well not measured			
		03/23/11	Well not measured			
		04/13/11	Well not measured			
		06/09/11	**10.27**	**10.08**	**0.19**	**422.70**

Table 1
Groundwater Elevation Data
Former Chevron Facility 306443
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)
MW-1	432.51	09/10/08	8.65	--	--	423.86
		04/21/09	11.26	--	--	421.25
		10/06/09	10.75	--	--	421.76
		06/18/10	9.85	9.79	0.06	422.71
		07/23/10	7.54	--	--	424.97
		08/16/10	7.56	--	--	424.95
	[1] 432.5	09/23/10	8.68	--	--	423.82
		10/25/10	11.05	--	--	421.45
		11/16/10	11.82	--	--	420.68
		12/14/10	10.83	--	--	421.67
		01/05/11	10.82	--	--	421.68
		02/08/11	11.15	--	--	421.35
		03/23/11	11.40	10.92	0.48	421.49
		04/13/11	11.37	11.36	0.01	421.14
		06/09/11	**9.84**	**--**	**--**	**422.66**
MW-2	431.79	09/10/08	7.75	--	--	424.04
		04/21/09	Well under water			
		10/06/09	9.89	--	--	421.90
		06/18/10	9.02	--	--	422.77
		07/23/10	6.80	--	--	424.99
		08/16/10	6.71	--	--	425.08
	[1] 431.77	09/23/10	7.82	--	--	423.95
		10/25/10	Well not measured			
		11/16/10	Well not measured			
		12/14/10	Well not measured			
		01/05/11	Well not measured			
		02/08/10	Well not measured			
		03/23/11	Well not measured			
		04/13/11	Well not measured			
		06/09/11	**8.98**	**--**	**--**	**422.79**
MW-3	432.89	09/10/08	9.00	--	--	423.89
		04/21/09	11.69	--	--	421.20
		10/06/09	10.15	--	--	422.74
		06/18/10	10.22	--	--	422.67
		07/23/10	7.91	--	--	424.98
		08/16/10	7.96	--	--	424.93
	[1] 432.9	09/23/10	9.08	--	--	423.82
		10/25/10	Well not measured			
		11/16/10	Well not measured			
		12/14/10	Well not measured			
		01/05/11	Well not measured			
		02/08/11	Well not measured			
		03/23/11	Well not measured			
		04/13/11	Well not measured			
		06/09/11	**10.21**	**--**	**--**	**422.69**
MW-4	432.29	09/10/08	8.26	--	--	424.03
		04/21/09	Well buried under snow/ice			
		10/06/09	10.57	--	--	421.72
		06/18/10	9.49	--	--	422.80
		07/23/10	7.24	--	--	425.05
		08/16/10	7.26	--	--	425.03
	[1] 432.31	09/23/10	8.33	--	--	423.98
		10/25/10	Well not measured			
		11/16/10	Well not measured			
		12/14/10	Well not measured			
		01/05/11	Well not measured			
		02/08/11	Well not measured			
		03/23/11	Well not measured			
		04/13/11	Well not measured			
		06/09/11	**9.53**	**--**	**--**	**422.78**

Table 1
Groundwater Elevation Data
Former Chevron Facility 306443
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)
MW-5	432.76	09/10/08	8.81	--	--	423.95
		04/21/09	11.51	--	--	421.25
		10/06/09	11.03	--	--	421.73
		06/18/10	10.10	--	--	422.66
		07/23/10	Well not measured			
		08/16/10	7.88	--	--	424.88
	[1] 432.85	09/23/10	8.98	--	--	423.87
		10/25/10	Well not measured			
		11/16/10	Well not measured			
		12/14/10	Well not measured			
		01/05/11	Well not measured			
		02/08/11	Well not measured			
		03/22/11	Well not measured			
		04/13/11	Well not measured			
		06/09/11	**10.16**	--	--	**422.69**
MW-6	432.58	09/20/10	8.45	--	--	424.13
		09/23/10	8.70	--	--	423.88
		10/25/10	10.11	--	--	422.47
		11/16/10	11.87	--	--	420.71
		12/14/10	Well not measured			
		01/05/11	Well not measured- unable to locate			
		02/08/11	Well not measured- unable to locate			
		03/23/11	Well not measured- unable to locate			
		04/13/11	Well not measured- unable to locate			
		06/09/11	**9.84**			**422.74**
MW-7	432.78	09/20/10	8.68	--	--	424.10
		09/23/10	8.93	--	--	423.85
		10/25/10	11.30	--	--	421.48
		11/16/10	12.08	--	--	420.70
		12/14/10	Well not measured- unable to locate			
		01/05/11	Well not measured- unable to locate			
		02/08/11	Well not measured- unable to locate			
		03/22/11	Well not measured- unable to locate			
		04/13/11	11.68	--	--	**421.10**
		06/09/11	**10.13**			**422.65**
MW-8	433.11	09/20/10	8.30	--	--	424.81
		09/23/10	9.32	--	--	423.79
		10/25/10	11.80	--	--	421.31
		11/16/10	12.32	--	--	420.79
		12/14/10	11.36	--	--	421.75
		01/05/11	11.39	--	--	421.72
		02/08/11	11.70	--	--	421.41
		03/23/11	12.63	11.95	0.68	420.48
		04/13/11	12.59	11.94	0.65	420.52
		06/09/11	**10.45**			**422.66**

Table 1
Groundwater Elevation Data
Former Chevron Facility 306443
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)
MW-9	432.39	09/20/10	8.30	--	--	424.09
		09/23/10	8.60	--	--	423.79
		10/25/10	10.95	--	--	421.44
		11/16/10	11.74	--	--	420.65
		12/14/10	Well not measured- unable to locate			
		01/05/11	Well blocked at 0.8' below grade surface			
		02/08/11	Well blocked at 0.8' below grade surface			
		03/23/11	Well blocked at 0.8' below grade surface			
		04/13/11	Well blocked at 0.8' below grade surface			
		06/09/11	**Obstructed @ 4.45'**			
MW-10	432.75	09/20/10	8.58	--	--	424.17
		09/23/10	8.92	--	--	423.83
		10/25/10	10.20	--	--	422.55
		11/16/10	11.99	--	--	420.76
		12/14/10	Well not measured			
		01/05/11	11.00	--	--	421.75
		02/08/11	11.37	--	--	421.38
		03/23/11	11.62	--	--	421.13
		04/13/11	11.90	--	--	420.85
		06/09/11	**10.06**			**422.69**
RW-1	432.30	09/10/08	8.30	--	--	424.00
		04/21/09	Well obstructed by snow/ice			
		10/06/09	10.45	--	--	421.85
		06/18/10	9.54	--	--	423.21
		08/16/10	7.31	--	--	424.99
		09/23/10	8.39	--	--	423.91
		10/25/10	Well not measured			
		11/16/10	Well not measured			
		12/14/10	Well not measured			
		1/5/11	Well not measured			
		2/8/11	Well not measured			
		3/23/11	Well not measured			
		4/13/11	Well not measured			
		06/09/11	**9.54**	--	--	**422.76**

Notes:
LNAPL = Light non-aqeous 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.
TOC = Top of casing.
"--" = Not applicable.
[1] = Updated survey data

Table 2
Groundwater Analytical Data
Former Chevron Facility 306443
Gate 28, West Ramp, Fairbanks International Airport
Fairbanks, Alaska

Monitoring Well	Date Sampled	GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	Lead	EDB
	GCL:	***2,200***	***1,500***	***1,100***	***5***	***1,000***	***700***	***10,000***	***15***	***0.05***
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								
	03/29/08	Well buried by snow/ice								
	09/10/08	LNAPL Present - Well not sampled								
	04/22/09	Well buried under snow/ice								
	10/06/09	LNAPL Present - Well not sampled								
	06/18/10	LNAPL Present - Well not sampled								
	06/10/11	**LNAPL Globules 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	<0.500	<0.500	<1.50	--	--
	04/03/07	Well dry - Not sampled								
	09/29/07	30	--	--	<1.00	<1.00	<1.00	<2.00	--	--
	03/29/08	<50.0	--[3]	--[3]	<0.500	<0.500	<0.500	<1.00	--	--
	09/10/08	52[4]	5,300[5]	<743	0.225	<0.500	1.16	<1.00	<1.00	--
	04/22/09	Well under water								
	10/06/09	Well dry - Not sampled								
	06/18/10	LNAPL Present - Well not sampled								
	06/10/11	**13**	**6,100**	**930**	**<0.5**	**<0.5**	**<0.5**	**<1.00**	**--**	**--**
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	<0.600	<0.500	7.7	25.0	--	--
	04/03/07	LNAPL Present - Well not sampled								
	09/29/07	700	65,000	<2,100	<5.00	<5.00	<5.00	<20	--	--
	03/29/08	492	47,100[2]	863	<0.500	<0.500	5.01	16.0	--	--
	09/10/08	374[4]	22,400[6]	<3,750	<1.00	<2.50	7.06	13.7	<1.00	--
	04/22/09	LNAPL Present - Well not sampled								
	10/06/09	LNAPL Present - Well not sampled								
	06/18/10	LNAPL Present - Well not sampled								
	06/10/11	**LNAPL Globules Present - Well not sampled**								
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	<1.00	9	8.0	--	--
	09/29/07	1,400	43,000	<2,000	20	1.00	20	40	--	--
	03/29/08	255[1]	11,300[2]	<735	2.17	<0.500	4.16	9.20	--	--
	09/10/08	889[4]	32,300[5]	<3,750	53.2	2.42	37.9	71.0	<1.00	--
	04/22/09	229[1]	2,840[5]	<721	2.90	<0.500	4.50	7.64	<1.00[7]	<0.01
	10/06/09	305	5,820	787	15.7	<1.00	17.3	33.77	<1.00	<0.0100
	06/18/10	Well Not Sampled								
	06/10/11	**3,900**	**270,000**	**<14,000**	**<2.5**	**<10**	**<2.5**	**8.2**		
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								
	03/29/08	68.1	1,860[2]	<708	<0.500	<0.500	<0.500	1.78		--
	09/10/08	LNAPL Present - Well not sampled								
	04/22/09	LNAPL Present - Well not sampled								
	10/06/09	LNAPL Present - Well not sampled								
	06/18/10	LNAPL Present - Well not sampled								
	06/10/11	**LNAPL Globules Present - Well not sampled**								

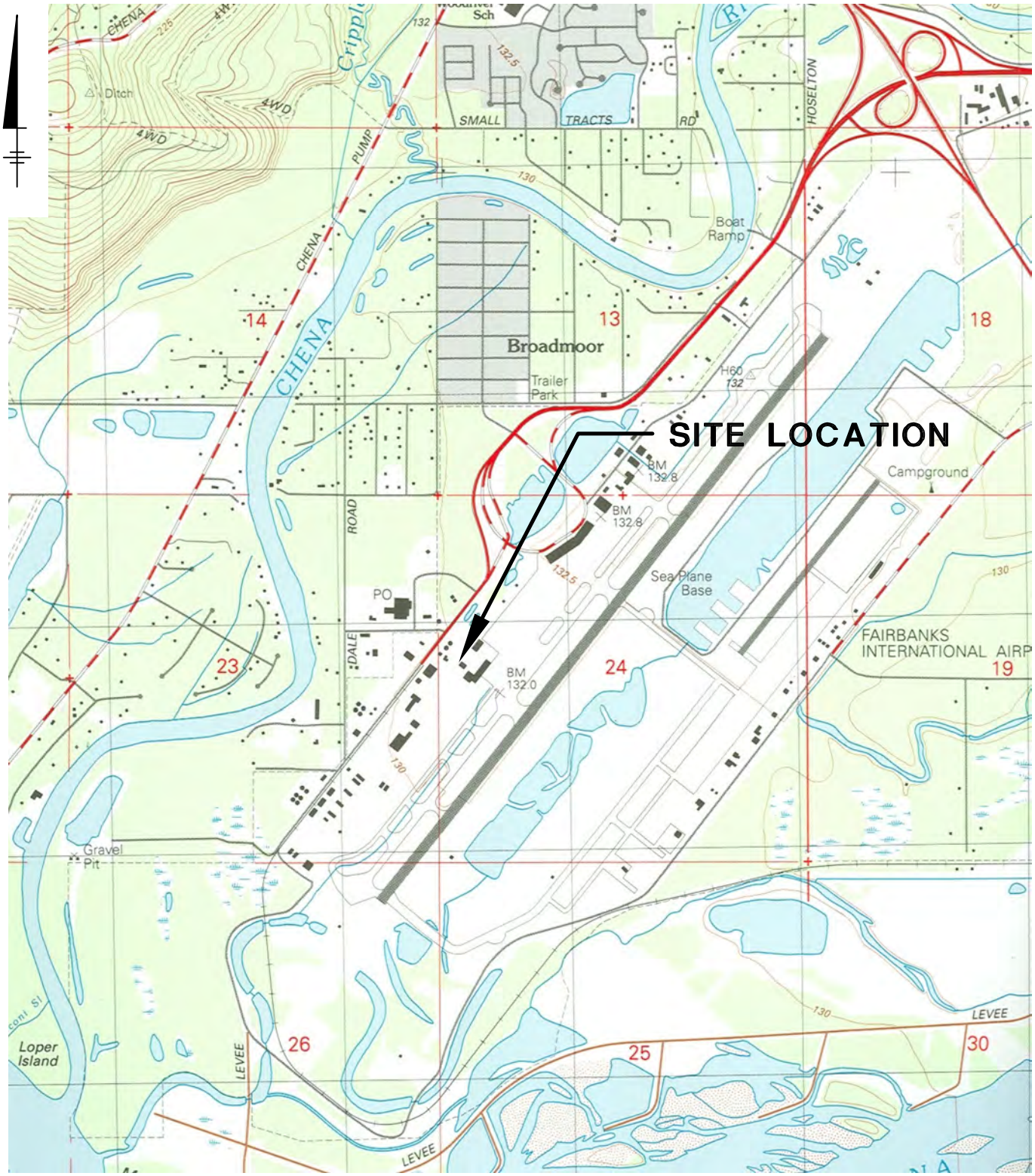
Table 2
Groundwater Analytical Data
Former Chevron Facility 306443
Gate 28, West Ramp, Fairbanks International Airport
Fairbanks, Alaska

Monitoring Well	Date Sampled	GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	Lead	EDB
	GCL:	***2,200***	***1,500***	***1,100***	***5***	***1,000***	***700***	***10,000***	***15***	***0.05***
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								
	03/29/08	1.170 [1]	334.000 [2]	904	8.41	<2.50	33.8	128	58.8	--
	09/10/08	LNAPL Present - Well not sampled								
	04/22/09	Well blocked at 11.5' below TOC								
	10/06/09	LNAPL Present - Well not sampled								
	06/18/10	LNAPL Present - Well not sampled								
	06/10/11	**1,300**	**170,000**	**<8,400**	**2.9**	**<0.5**	**19**	**61**		
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	--	--
	03/29/08	1,630 [1]	44,200	1,320	31.1	<5.00	90.5	147	--	--
	03/29/08 [D]	1,630	51,400	1,470	26.8	<5.00	85.2	131	--	--
	09/10/08	352 [4]	15.200 [5]	<833	<1.00	<2.50	10.7	8.02	<1.00	--
	04/22/09	LNAPL Present - Well not sampled								
	10/06/09	LNAPL Present - Well not sampled								
	06/18/10	LNAPL Present - Well not sampled								
	06/10/11	**LNAPL Present - Well not sampled**								
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	--	--
	03/29/08	62.0 [1]	2,830 [2]	<758	<0.500	<0.500	<0.500	1.94	--	--
	09/10/08	LNAPL Present - Well not sampled								
	04/22/09	66.6 [1]	1,810 [9]	818 [9]	<0.200	<0.500	<0.500	<1.00	<1.00 [7]	<0.01
	10/06/09	50.9	942	<391	<0.200	<1.00	<1.00	<3.00	<1.00	<0.0100
	10/06/09	50.9	942	<391	<0.200	<1.00	<1.00	<3.00	<1.00	<0.0100
	06/18/10	Obstruction - Well not sampled								
	06/10/11	**1,300**	**26,000**	**<3,400**	**<2.5**	**<2.5**	**<2.5**	**<7.5**	--	--
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	6.0	<1.0	40	80	0.62	--
	09/29/07	1,800	680,000	<20,000	10.0	<5.00	40	70	29.8	--
	03/29/08	1.690 [1]	111.000 [2]	839	7.23	<5.00	25.1	85.5	89.4	--
	09/10/08	1.510 [4]	118.000 [6]	<8,330	9.04	<5.00	29.3	63.1	<1.00	--
	9/10/08 [D]	1.150 [4]	191.000 [5]	<7,500	9.18	<5.00	25.0	56.1	<1.00	--
	04/22/09	Well buried under snow/ice								
	10/06/09	LNAPL Present - Well not sampled								
	06/18/10	Well not sampled								
	06/10/11	**LNAPL Present - Well not sampled**								
MW-1	09/10/08	2.000 [4]	10.900 [5]	<743	27.4	<0.500	99.8	163	<1.00	--
	04/22/09	2.260 [1]	20.700 [5]	1.190 [8]	42.2	0.566	84.3	236	<1.00 [7]	<0.01
	10/07/09	1,040	8,070	642	25.4	<10.0	81.8	171.9	<1.00	<0.0100
	06/18/10	LNAPL Present - Well not sampled								
	06/10/11	**1,200**	**210,000**	**<8,500**	**29**	**<2.5**	**56**	**160**	**--**	**--**
Duplicate	**06/10/11**	**1,200**	**--**	**--**	**25**	**<0.5**	**54**	**160**	**--**	**--**

Table 2
Groundwater Analytical Data
Former Chevron Facility 306443
Gate 28, West Ramp, Fairbanks International Airport
Fairbanks, Alaska

Monitoring Well	Date Sampled	GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Total Xylenes	Lead	EDB
GCL:		***2,200***	***1,500***	***1,100***	***5***	***1,000***	***700***	***10,000***	***15***	***0.05***
MW-2	09/10/08	<50.0	208 [6]	<743	<0.20	<0.500	<0.50	<1.00	<1.00	--
	04/22/09	Well buried under snow/ice								
	10/06/09	<50.0	<410	<410	<0.200	<1.00	<1.00	<3.00	<1.00	<0.0100
	06/18/10	11	530	290	<0.5	<0.5	<0.5	<1.5	<.05	--
	06/10/11	**<10**	**85**	**200**	**<0.5**	**<0.5**	**<0.5**	**<1.5**	--	--
MW-3	09/10/08	144 [4]	2,800 [5]	<743	0.263	<0.500	0.687	1.56	<1.00	--
	04/22/09	96.4 [1]	1,600 [5]	<728	0.210	<0.500	1.09	1.81	<1.00 [7]	<0.01
	10/07/09	205	1,350	<391	<0.400	<2.00	10.5	10.02	<1.00	<0.0100
	06/18/10	220	17,000	< 3.4	<0.5	<2	<0.5	< 5	<0.05	--
Duplicate	06/18/10	64	17,000	<3.5	<0.5	<0.5	<0.5	<1.5	--	--
	06/10/11	**<50**	**21,000**	**<1,700**	**<2.5**	**<2.5**	**<2.5**	**<7.5**	**--**	**--**
Duplicate	**06/10/11**	**460**	**--**	**--**	**<0.5**	**<0.5**	**0.6**	**3.3**	**--**	**--**
MW-4	09/10/08	<50.0	150 [6]	<743	<0.20	<0.500	<0.50	<1.00	<1.00	--
	04/22/09	Well buried under snow/ice								
	10/06/09	<50.0	<391	<391	<0.200	<1.00	<1.00	<3.00	<1.00	<0.0100
	10/06/09 [D]	<50.0	<403	<403	<0.200	<1.00	<1.00	<3.00	<1.00	<0.0100
	06/18/10	LNAPL Present - Well not sampled								
	06/10/11	**<10**	**<50**	**<71**	**<0.5**	**<0.5**	**<0.5**	**<1.5**	**--**	**--**
MW-5	09/10/08	89.1 [4]	2,240 [5]	<743	0.378	<0.500	2.42	3.28	<1.00	--
	04/22/09	254 [1]	4,230 [5]	<728	0.590	<0.500	6.95	5.14	<1.00 [7]	<0.01
	04/2209 [D]	248 [1]	4,150 [5]	<721	0.593	<0.500	6.82	4.90	<1.00 [7]	<0.01
	10/07/09	<50.0	1,040	<391	<0.200	<1.00	1.35	<3.00	<1.00	<0.0100
	06/18/10	540	1,500	<1.7	<0.5	<.5	2	<5	--	--
	06/10/11	**3,800**	**63,000**	**<6,900**	**<0.5**	**<0.5**	**5.2**	**23**	--	--
MW-6	**06/10/11**	**86**	**730**	**1,600**	**<0.5**	**<0.5**	**0.6**	**<5**	--	--
MW-7	**06/10/11**	**<10**	**650**	**2,000**	**<0.5**	**<0.5**	**<0.5**	**<1.5**	--	--
MW-8	**06/10/11**	**LNAPL Globules Present - Well not sampled**								
MW-9	**06/10/11**	**Obstruction - Well not sampled**								
MW-10	**06/10/11**	**<10**	**700**	**480**	**<0.5**	**<0.5**	**<0.5**	**<1.5**	--	--
RW-1	10/06/09	172	4,260	512	<0.200	<1.00	1.04	2.25	<1.00	<0.0100
	06/18/10	260	1,500	80	<0.5	<2.00	0.7	8.6	--	--
	06/10/11	**3,500**	**140,000**	**<6,800**	**<2.5**	**<10**	**4**	**39**	**--**	**--**

Notes:
All results are reported in micrograms per liter (ug/l).
GCL = ADEC 18 AAC 75 Groundwater Cleanup Level.
[D] - duplicate of preceding sample.
-- = sample was not analyzed for this compound.
< = result did not exceed indicated method reporting limit; an elevated reporting limit indicates sample was diluted.
Highlighted cell= exceeds GCL.
Bold Type indicates most recent sampling event.
[1] Detected hydrocarbons in the gasoline range appear to be due to overlap of diesel range hydrocarbons.
[2] Hydrocarbon pattern most closely resembles kerosene.
[3] Insufficient water to collect sample.
[4] Does not match typical pattern.
[5] Detected hydrocarbons in the diesel range do not have a distinct diesel pattern and may be due to heavily weathered diesel.
[6] The chromatographic pattern is not consistent with diesel fuel.
[7] Sample filtered in lab.
[8] The heavy oil range organics present are due to hydrocarbons eluting primarily in the diesel range.
[9] Hydrocarbon pattern most closely resembles a blend of Weathered Diesel and Transformer Oil.



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

0 2000' 4000'

APPROXIMATE GRAPHIC SCALE

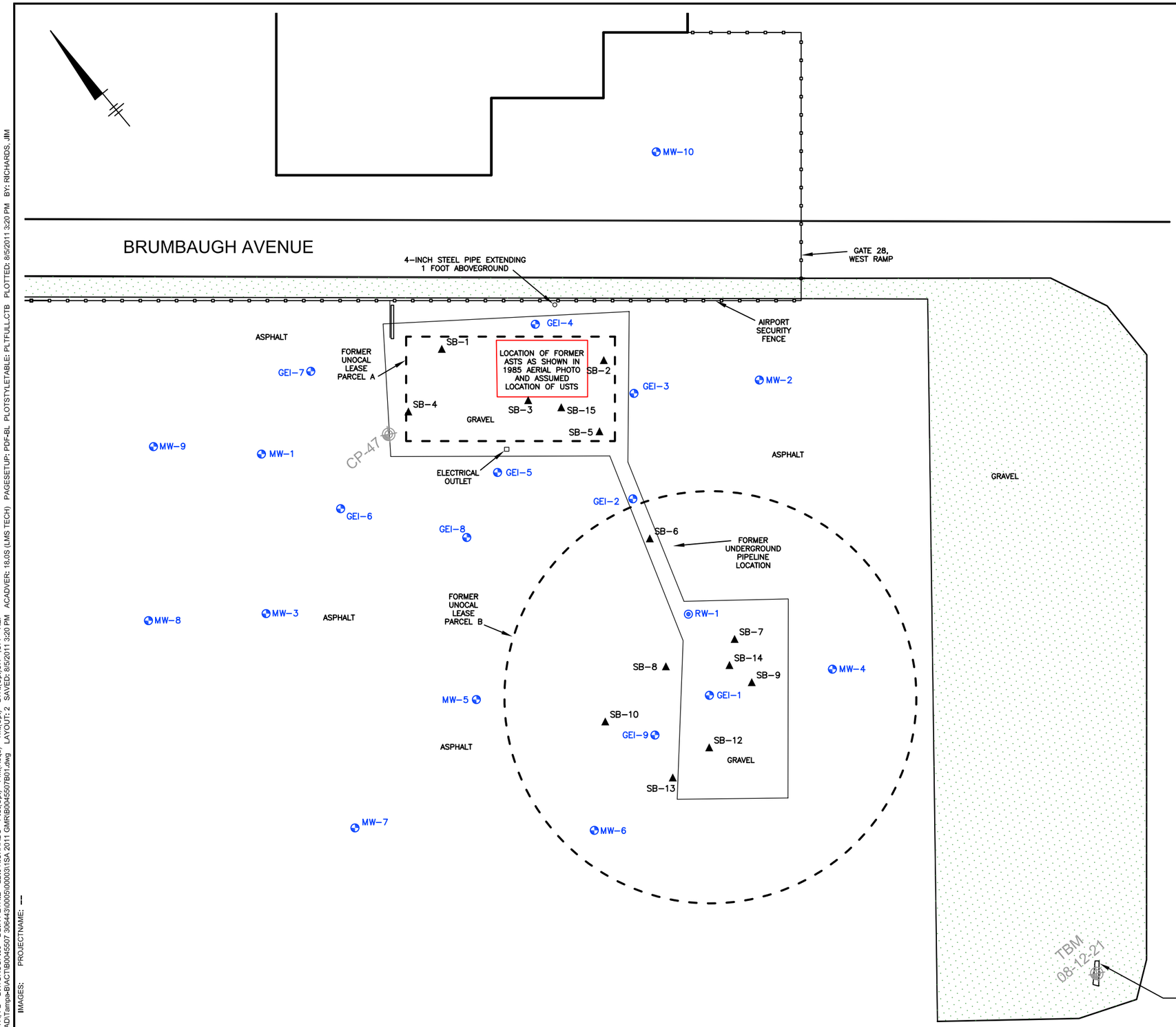
CHEVRON #306443 (FORMER UNOCAL BULK PLANT)
GATE 28, WEST RAMP, FAIRBANKS AIRPORT, FAIRBANKS, AK.
FIRST SEMI-ANNUAL 2011 GROUNDWATER MONITORING REPORT

SITE LOCATION MAP

ARCADIS

FIGURE 1

CITY:TMAPA,FL DIV/GROUP:85 DB:JAR LD:(Opt) PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF*
G:\ENVCAD\Tampa-BVACT\B0045507\306443\0005\0000310SA 2011 GMR\B0045507N01.dwg LAYOUT: 1SAVED: 8/5/2011 3:17 PM ACADVER: 18.0S (LMS TECH) PAGESETUP: PDF-APPLOTSTYLETABLE: PLTFULL.CTB PLOTTED: 8/5/2011 3:18 PM BY: RICHARDS, JIM
XREFS: IMAGES: ALASKA.jpg FAIRBANKS-SW.jpg PROJECTNAME: ---



LEGEND

- SURVEY CONTROL POINT
- MONITORING WELL
- RECOVERY WELL
- SOIL BORING

Notes:

1. Basis of horizontal control NAD83 position (EPOCH 2003) and vertical control (NAVD88) was an Opus solution from NGS stations "SUAF Surveyorsexch UAF CORS APR", "FAIR GILMORE CREEK OBS CORS ARP", GRNX AKDA AS204 CORS ARP", "CENA CENTRAL ALSAKA CORS ARP", "AB39 FORTYUKON AK2008 CORS ARP", "AB37 PAXON2 AS2004 CORS ARP" to establish the position and elevation oc CP-47.
2. The geodetic position of CP-47 was determined to have a Latitude fo 64°48'45.32158"N and a Longitude of 147°52'32.92546"W. The Alaska State Plane coordinates (ASP) Zone 3 NAD 83 in feet for CP-47 are:
   N=3955792.291
   E=1348117.704
   Elev.=432.502 (NAVD88)
3. SB-14 and SB-15 were not surveyed.

0 50' 100'

GRAPHIC SCALE

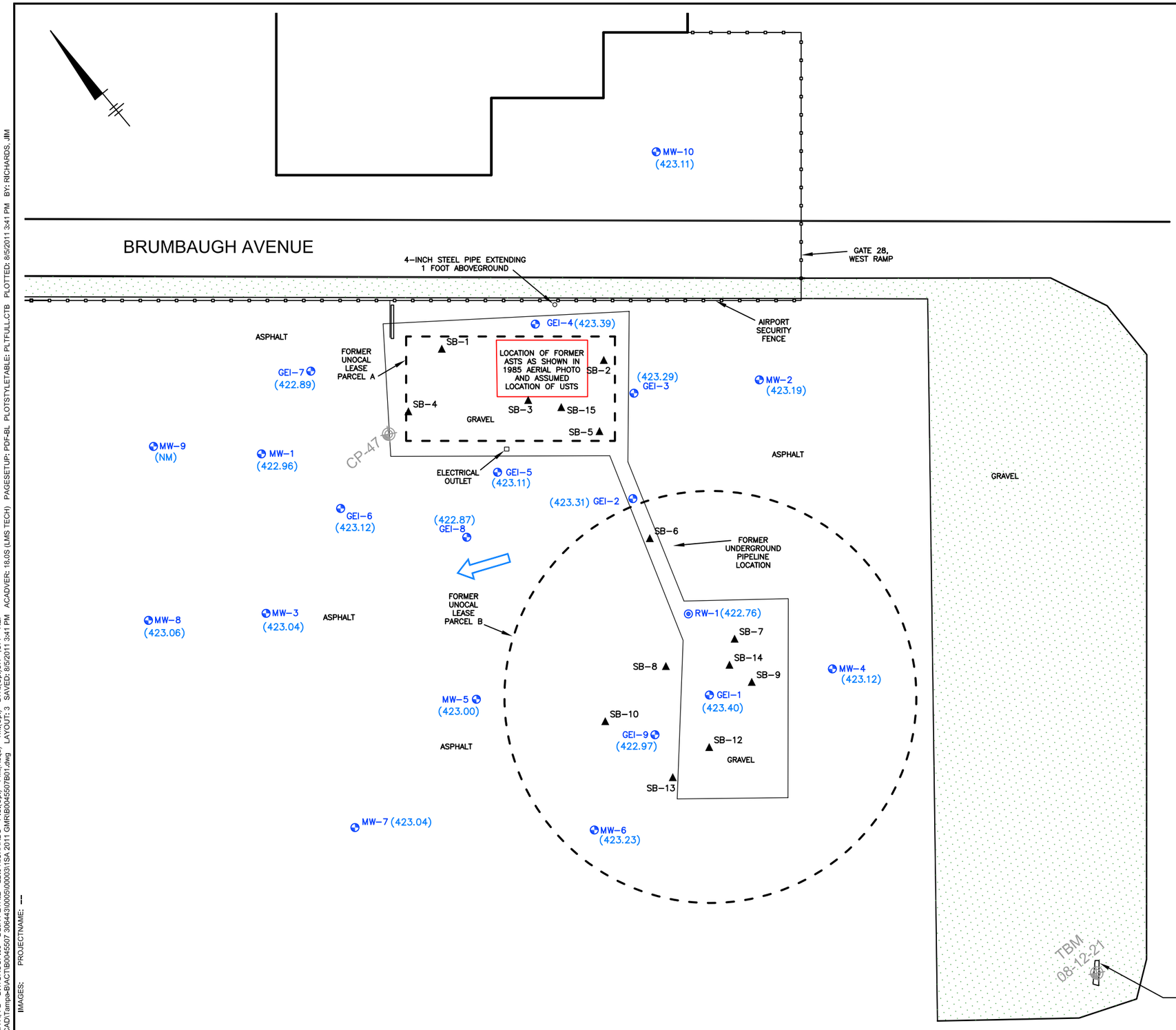
SOURCE: Base map provided by GEOENGINEERS. Map date 5/15/05, full scale. Base map updated with survey information by "McLane Consulting, Inc.", Date 8/31/08 and 10/28/10.

CHEVRON #306443 (FORMER UNOCAL BULK PLANT)
GATE 28, WEST RAMP, FAIRBANKS AIRPORT, FAIRBANKS, AK.
FIRST SEMI-ANNUAL 2011 GROUNDWATER MONITORING REPORT

SITE MAP

ARCADIS

FIGURE
2



LEGEND

- SURVEY CONTROL POINT
- MONITORING WELL
- RECOVERY WELL
- SOIL BORING
- (423.31) POTENTIOMETRIC SURFACE ELEVATION (FT)
- APPARENT DIRECTION OF GROUNDWATER FLOW

Notes:

1. Basis of horizontal control NAD83 position (EPOCH 2003) and vertical control (NAVD88) was an Opus solution from NGS stations "SUAF Surveyorsexch UAF CORS APR", "FAIR GILMORE CREEK OBS CORS ARP", GRNX AKDA AS204 CORS ARP", "CENA CENTRAL ALSAKA CORS ARP", "AB39 FORTYUKON AK2008 CORS ARP", "AB37 PAXON2 AS2004 CORS ARP" to establish the position and elevation oc CP-47.
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0 50' 100'
GRAPHIC SCALE

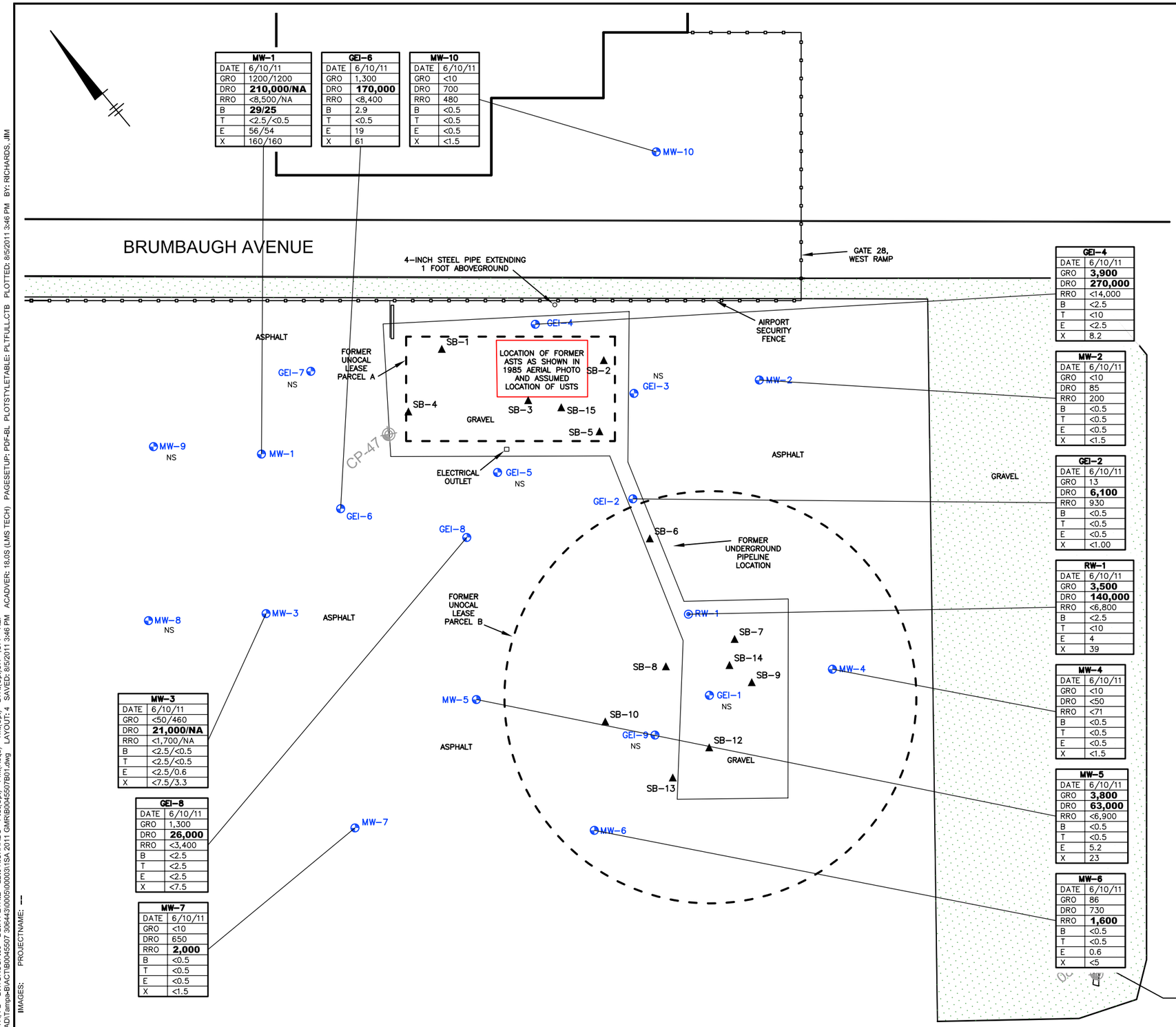
SOURCE: Base map provided by GEOENGINEERS. Map date 5/15/05, full scale. Base map updated with survey information by "McLane Consulting, Inc.", Date 8/31/08 and 10/28/10.

CHEVRON #306443 (FORMER UNOCAL BULK PLANT)
GATE 28, WEST RAMP, FAIRBANKS AIRPORT, FAIRBANKS, AK.
FIRST SEMI-ANNUAL 2011 GROUNDWATER MONITORING REPORT

GROUNDWATER ELEVATION CONTOUR MAP

ARCADIS

FIGURE 3



MW-1	
DATE	6/10/11
GRO	1200/1200
DRO	**210,000/NA**
RRO	<8,500/NA
B	**29/25**
T	<2.5/<0.5
E	56/54
X	160/160

GEI-6	
DATE	6/10/11
GRO	1,300
DRO	**170,000**
RRO	<8,400
B	2.9
T	<0.5
E	19
X	61

MW-10	
DATE	6/10/11
GRO	<10
DRO	700
RRO	480
B	<0.5
T	<0.5
E	<0.5
X	<1.5

GEI-4	
DATE	6/10/11
GRO	**3,900**
DRO	**270,000**
RRO	<14,000
B	<2.5
T	<10
E	<2.5
X	8.2

MW-2	
DATE	6/10/11
GRO	<10
DRO	85
RRO	200
B	<0.5
T	<0.5
E	<0.5
X	<1.5

GEI-2	
DATE	6/10/11
GRO	13
DRO	**6,100**
RRO	930
B	<0.5
T	<0.5
E	<0.5
X	<1.00

RW-1	
DATE	6/10/11
GRO	**3,500**
DRO	**140,000**
RRO	<6,800
B	<2.5
T	<10
E	4
X	39

MW-4	
DATE	6/10/11
GRO	<10
DRO	<50
RRO	<71
B	<0.5
T	<0.5
E	<0.5
X	<1.5

MW-5	
DATE	6/10/11
GRO	**3,800**
DRO	**63,000**
RRO	<6,900
B	<0.5
T	<0.5
E	5.2
X	23

MW-6	
DATE	6/10/11
GRO	86
DRO	730
RRO	**1,600**
B	<0.5
T	<0.5
E	0.6
X	<5

MW-3	
DATE	6/10/11
GRO	<50/460
DRO	**21,000/NA**
RRO	<1,700/NA
B	<2.5/<0.5
T	<2.5/<0.5
E	<2.5/0.6
X	<7.5/3.3

GEI-8	
DATE	6/10/11
GRO	1,300
DRO	**26,000**
RRO	<3,400
B	<2.5
T	<2.5
E	<2.5
X	<7.5

MW-7	
DATE	6/10/11
GRO	<10
DRO	650
RRO	**2,000**
B	<0.5
T	<0.5
E	<0.5
X	<1.5

LEGEND

- SURVEY CONTROL POINT
- MONITORING WELL
- RECOVERY WELL
- SOIL BORING

Sample Location	
Date	Sample Date
GRO	Gasoline Range Organics
DRO	Diesel Range Organics
RRO	Residual Range Organics
B	Benzene
T	Toluene
E	Ethylbenzene
X	Total Xylenes

RESULTS REPORTED IN MICROGRAMS PER LITER (µg/L)

BOLD = EXCEEDS GROUNDWATER CLEANUP LEVEL (GCL)

56/54 = DUPLICATE SAMPLE COLLECTED

<0.5 = RESULT IS BELOW LABORATORY DETECTION LIMIT

NS = NOT SAMPLED

Notes:

1. Basis of horizontal control NAD83 position (EPOCH 2003) and vertical control (NAVD88) was an Opus solution from NGS stations "SUAF Surveyorsexch UAF CORS APR", "FAIR GILMORE CREEK OBS CORS ARP", GRNX AKDA AS204 CORS ARP", "CENA CENTRAL ALSAKA CORS ARP", "AB39 FORTYUKON AK2008 CORS ARP", "AB37 PAXON2 AS2004 CORS ARP" to establish the position and elevation oc CP-47.
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0 50' 100'

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CHEVRON #306443 (FORMER UNOCAL BULK PLANT)
GATE 28, WEST RAMP, FAIRBANKS AIRPORT, FAIRBANKS, AK.
FIRST SEMI-ANNUAL 2011 GROUNDWATER MONITORING REPORT

GROUNDWATER ANALYTICAL SUMMARY MAP 0 JUNE 10, 2011

ARCADIS

FIGURE 4

ARCADIS

Appendix A

Field Data Sheets

Location Gate 28 West Ramp, FIA Date 6/9/11

Project / Client FIA / Chevron #306443

15A11 GWM

Weather : Overcast, 55°F

Activity : Monitoring well Gauging

Personnel : D. Beaudoin, M. MacDaniel

14:35 Arrive on Site, Complete Permits to work and conduct H+S meeting. Haz IDs: slips, trips, falls, airplane traffic. Discuss proper PPE and delineation. Keep light weight materials secured in cab.

14:47 Obtained temporary ramp permit and entered air field

14:55 Began well gauging

Well ID	PID	DTP	DTW	Comments
MW-7	0.0	—	10.13	
MW-10	1.8	—	10.06	
MW-9	—	OBSTRUCTED		@ 445'
MW-1	91.2	—	9.84	
~~GEI-6~~	~~0.0~~	—	~~9.84~~	
GEI 3	106	—	9.35	
MW-6	0.0	—	9.84	
GEI-1	335	—	9.40	

Location Gate 28 West Ramp FIA Date 6/9/11

Project / Client FIA / Chevron 306443

15A11 GWM

Well ID	PID	DTP	DTW	Comments
GEI 5	219	—	9.69	
GEI 7	87.0	9.42	9.71	
MW-~~GEI~~ 8	32.1	—	10.45	
GEI 2	6.0	—	9.39	
GEI 4	68.8	—	9.19	Needs Lock
GEI 8	0.0	—	9.97	Needs new lock ~~Key~~ well not flush
GEI 9	298	10.08	10.27	
~~GEI~~MW 2	0.0	—	8.88	
MW 3	83.2	—	10.21	
MW 4	1.2	—	9.53	
MW 5	0.4	—	10.16	
GEI 6	67.8	—	9.80	
RW-1	272	—	9.54	

Complete Gauging @ 17:30

17:35 Mobilize to Hot 1

18:00 Complete vehicle decon.

Location Gate 28 West Ramp, FIA Date 6/10/11

Project / Client FIA / Chevron 306443

1SA11 GWM

Weather : Sunny, 65°

Activity : Monthly monitoring well Sampling

Personnel D Beaudoin, M. MacDaniel

9:20 Arrive on site, complete permit to work, Haz IDs. Discuss PPE and air plane traffic.

Review LPSA, Stop work Authority, OE Tents, and JLA.

M. MacDaniel Complete HASP Test and signed HASP

MW-9 flushmount & well cap replaced.

Truck setup for GW Sampling

Begin GW Sampling @ 11:15

12:00 Mobilize to FIA to meet GCI for optic cable line locate.

Location Gate 28 West Ramp FIA Date 6/10/11

Project / Client FIA Unocal 306443 / Chevron

date – 6/10/11 GW Sampling 1SA11

Well ID	Sample time
MW-8	Not sampled - Globules
MW-7	11:20
BD-1	11:20 from MW-3
MW-1	11:30
BD-2	11:30 from MW-1
GEI-6	~~11:40~~ 12:00 DGB
MW-5	14:25 Sheen observed
MW-6	14:35
MW-7	14:45
MW-4	15:15
GEI-1	Not Sampled → Globules
RW-1	15:35
GEI-2	15:50
GEI-8	16:10 - Sheen observed
GEI-5	16:20 → Not Sampled → Globules
GEI-4	16:25 → sheen observed
GEI-3	~~16:40~~ Not Sampled – LNAPL Globules
MW-10	17:00
MW-2	16:45

Location Gate 28 W. Ramp FIA Date 6-10-11

Project / Client FIA Unocal / Chevron 306443

12:45 Complete GCI line locate @ FIA Texaco.

~~12~~:45 Mobilize to Hotel - eat lunch Pressure meter in - drop off full coolers - FIA Unocal Samples

13:30 Mobilize to College to discuss wire (electrical Hazard Concern) w/ Pita Falatal owner - all ok there.

13:45 Mobilize to FIA Texaco to meet ~~ACS~~ ACS for line locate

14:00 Mobilize to FIA Unocal to Continue Sampling.

~~WELL ID~~	~~Sample Time~~
~~MW-5~~	~~14:25 → sheen observed~~
~~MW-6~~	~~14:35~~

on previous page

17:15 Complete GW/M mob to Hotel

Location Gate 28 W. Ramp FIA Date 6-11-11

Project / Client FIA Unocal 306443 / Chevron

11:50 Arrive on site

Weather: 65° F partly cloudy
Personell: Dave Beaudin, Mike MacDonald
Activity: Flush mount well cover replacement MW-9, MW-8

11:50 Caught PTW, Review OE, Hazard, JLA

12:00 Begin Replacement of well Covers - Poured Concrete pads around flush mount pro cos.

14:00 Secure site & Mobilize to FIA Texaco to Gauge wells

DGB

ARCADIS

Appendix B

Laboratory Analytical Reports

Lancaster Laboratories

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

Analysis Report

ANALYTICAL RESULTS

Prepared by:

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

Prepared for:

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

June 22, 2011

Project: 306443

Submittal Date: 06/14/2011
Group Number: 1251361
SDG: LST12
PO Number: 0015074818
Release Number: CARRIER
State of Sample Origin: AK

Client Sample Description	Lancaster Labs (LLI) #
MW-3 Grab Water Sample	6314992
MW-1 Grab Water Sample	6314993
MW-1_SG Grab Water Sample	6314994
GEI-6 Grab Water Sample	6314995
MW-5 Grab Water Sample	6314996
MW-5_SG Grab Water Sample	6314997
MW-6 Grab Water Sample	6314998
MW-7 Grab Water Sample	6314999
MW-4 Grab Water Sample	6315000
RW-1 Grab Water Sample	6315001
RW-1_SG Grab Water Sample	6315002
GEI-2 Grab Water Sample	6315003
GEI-2_SG Grab Water Sample	6315004
GEI-8 Grab Water Sample	6315005
GEI-4 Grab Water Sample	6315006
MW-2 Grab Water Sample	6315007
MW-10 Grab Water Sample	6315008
BD-1 Grab Water Sample	6315009
BD-2 Grab Water Sample	6315010

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

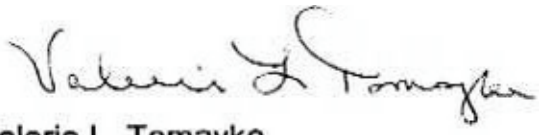
ELECTRONIC Arcadis Attn: David Beaudoin

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

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

Questions? Contact your Client Services Representative
Elizabeth A Leonhardt at (510) 232-8894

Respectfully Submitted,



Valerie L. Tomayko
Group Leader

Lancaster Laboratories

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

Analysis Report

Sample Description: MW-3 Grab Water Sample
Facility# 306443
Gate 28, West Ramp FIA - Fairbanks, AK

LLI Sample # WW 6314992
LLI Group # 1251361
Account # 11964

Project Name: 306443

Collected: 06/10/2011 11:20 by DB

Submitted: 06/14/2011 10:05
Reported: 06/22/2011 16:02

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

FIA03 SDG#: LST12-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles	**AK 101**		**mg/l**	**mg/l**	
01440	TPH-GRO AK water C6-C10	n.a.	N.D.	0.050	5
	Reporting limits were raised due to interference from the sample matrix.				
GC Volatiles	**SW-846 8021B**		**mg/l**	**mg/l**	
02102	Benzene	71-43-2	N.D.	0.0025	5
02102	Ethylbenzene	100-41-4	N.D.	0.0025	5
02102	Toluene	108-88-3	N.D.	0.0025	5
02102	Total Xylenes	1330-20-7	N.D.	0.0075	5
	Reporting limits were raised due to interference from the sample matrix.				
GC Extractable TPH	**AK 102/103 4/08/02 modified**		**mg/l**	**mg/l**	
02923	C10-<C25 DRO	n.a.	21	1.2	25
02923	C25-C36 RRO	n.a.	N.D.	1.7	25

General Sample Comments

State of Alaska Lab Certification No. UST-061
Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01440	TPH-GRO AK water C6-C10	AK 101	1	11167A53B	06/18/2011 11:40	Carrie E Miller	5
02102	Method 8021 Water Master	SW-846 8021B	1	11167A53B	06/18/2011 11:40	Carrie E Miller	5
01146	GC VOA Water Prep	SW-846 5030B	1	11167A53B	06/18/2011 11:40	Carrie E Miller	5
02923	TPH-DRO/RRO (AK) water	AK 102/103 4/08/02 modified	1	111670018A	06/18/2011 17:31	Heather E Williams	25
11185	AK DRO/ORO Waters Extraction	AK 102/AK 103 04/08/02	1	111670018A	06/17/2011 09:00	Kathryn I DeHaven	1

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Analysis Report

Sample Description: MW-1 Grab Water Sample
Facility# 306443
Gate 28, West Ramp FIA - Fairbanks, AK

LLI Sample # WW 6314993
LLI Group # 1251361
Account # 11964

Project Name: 306443

Collected: 06/10/2011 11:30 by DB

Submitted: 06/14/2011 10:05
Reported: 06/22/2011 16:02

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

FIA01 SDG#: LST12-02

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles	**AK 101**		**mg/l**	**mg/l**	
01440	TPH-GRO AK water C6-C10	n.a.	1.2	0.050	5
GC Volatiles	**SW-846 8021B**		**mg/l**	**mg/l**	
02102	Benzene	71-43-2	0.029	0.0025	5
02102	Ethylbenzene	100-41-4	0.056	0.0025	5
02102	Toluene	108-88-3	N.D.	0.0025	5
02102	Total Xylenes	1330-20-7	0.16	0.0075	5
	Reporting limits were raised due to interference from the sample matrix.				
GC Extractable TPH	**AK 102/103 4/08/02 modified**		**mg/l**	**mg/l**	
02923	C10-<C25 DRO	n.a.	210	6.1	125
02923	C25-C36 RRO	n.a.	N.D.	8.5	125

General Sample Comments

State of Alaska Lab Certification No. UST-061
Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01440	TPH-GRO AK water C6-C10	AK 101	1	11167A53A	06/17/2011 19:25	Carrie E Miller	5
02102	Method 8021 Water Master	SW-846 8021B	1	11167A53A	06/17/2011 19:25	Carrie E Miller	5
01146	GC VOA Water Prep	SW-846 5030B	1	11167A53A	06/17/2011 19:25	Carrie E Miller	5
02923	TPH-DRO/RRO (AK) water	AK 102/103 4/08/02 modified	1	111670018A	06/18/2011 17:59	Heather E Williams	125
11185	AK DRO/ORO Waters Extraction	AK 102/AK 103 04/08/02	1	111670018A	06/17/2011 09:00	Kathryn I DeHaven	1

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Analysis Report

Sample Description: MW-1_SG Grab Water Sample
Facility# 306443
Gate 28, West Ramp FIA - Fairbanks, AK

LLI Sample # WW 6314994
LLI Group # 1251361
Account # 11964

Project Name: 306443

Collected: 06/10/2011 11:30 by DB

Submitted: 06/14/2011 10:05
Reported: 06/22/2011 16:02

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

FIAS1 SDG#: LST12-03

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Extractable TPH w/Si Gel	**AK 102/AK 103 04/08/02**		**mg/l**	**mg/l**	
02244	TPH-DRO AK C10-C25 w/Si Gel	n.a.	330	6.0	125
	The reverse surrogate, capric acid, was present at 0%.				

General Sample Comments

State of Alaska Lab Certification No. UST-061

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02244	TPH-DRO AK C10-C25 w/Si Gel	AK 102/AK 103 04/08/02	1	111670027A	06/21/2011 19:03	Heather E Williams	125
11242	AK DRO Ext (W) w/SG	AK 102/AK 103 04/08/02	1	111670027A	06/18/2011 06:55	JoElla L Rice	1

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Analysis Report

Sample Description: GEI-6 Grab Water Sample
Facility# 306443
Gate 28, West Ramp FIA - Fairbanks, AK

LLI Sample # WW 6314995
LLI Group # 1251361
Account # 11964

Project Name: 306443

Collected: 06/10/2011 12:00 by DB

Submitted: 06/14/2011 10:05
Reported: 06/22/2011 16:02

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

FIAG6 SDG#: LST12-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles	**AK 101**		**mg/l**	**mg/l**	
01440	TPH-GRO AK water C6-C10	n.a.	1.3	0.010	1
GC Volatiles	**SW-846 8021B**		**mg/l**	**mg/l**	
02102	Benzene	71-43-2	0.0029	0.0005	1
02102	Ethylbenzene	100-41-4	0.019	0.0005	1
02102	Toluene	108-88-3	N.D.	0.0005	1
02102	Total Xylenes	1330-20-7	0.061	0.0015	1
GC Extractable TPH	**AK 102/103 4/08/02 modified**		**mg/l**	**mg/l**	
02923	C10-<C25 DRO	n.a.	170	6.0	125
02923	C25-C36 RRO	n.a.	N.D.	8.4	125

General Sample Comments

State of Alaska Lab Certification No. UST-061
Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01440	TPH-GRO AK water C6-C10	AK 101	1	11171D53A	06/21/2011 16:15	Marie D John	1
02102	Method 8021 Water Master	SW-846 8021B	1	11171D53A	06/21/2011 16:15	Marie D John	1
01146	GC VOA Water Prep	SW-846 5030B	1	11171D53A	06/21/2011 16:15	Marie D John	1
02923	TPH-DRO/RRO (AK) water	AK 102/103 4/08/02 modified	1	111670018A	06/18/2011 18:26	Heather E Williams	125
11185	AK DRO/ORO Waters Extraction	AK 102/AK 103 04/08/02	1	111670018A	06/17/2011 09:00	Kathryn I DeHaven	1

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Analysis Report

Sample Description: MW-5 Grab Water Sample
Facility# 306443
Gate 28, West Ramp FIA - Fairbanks, AK

LLI Sample # WW 6314996
LLI Group # 1251361
Account # 11964

Project Name: 306443

Collected: 06/10/2011 14:25 by DB

Submitted: 06/14/2011 10:05
Reported: 06/22/2011 16:02

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

FIA05 SDG#: LST12-05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles	**AK 101**		**mg/l**	**mg/l**	
01440	TPH-GRO AK water C6-C10	n.a.	3.8	0.010	1
GC Volatiles	**SW-846 8021B**		**mg/l**	**mg/l**	
02102	Benzene	71-43-2	N.D.	0.0005	1
02102	Ethylbenzene	100-41-4	0.0052	0.0005	1
02102	Toluene	108-88-3	N.D.	0.0005	1
02102	Total Xylenes	1330-20-7	0.023	0.0015	1
GC Extractable TPH	**AK 102/103 4/08/02 modified**		**mg/l**	**mg/l**	
02923	C10-<C25 DRO	n.a.	63	4.9	100
02923	C25-C36 RRO	n.a.	N.D.	6.9	100

General Sample Comments

State of Alaska Lab Certification No. UST-061
Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01440	TPH-GRO AK water C6-C10	AK 101	1	11171D53A	06/21/2011 16:42	Marie D John	1
02102	Method 8021 Water Master	SW-846 8021B	1	11171D53A	06/21/2011 16:42	Marie D John	1
01146	GC VOA Water Prep	SW-846 5030B	1	11171D53A	06/21/2011 16:42	Marie D John	1
02923	TPH-DRO/RRO (AK) water	AK 102/103 4/08/02 modified	1	111670018A	06/18/2011 18:53	Heather E Williams	100
11185	AK DRO/ORO Waters Extraction	AK 102/AK 103 04/08/02	1	111670018A	06/17/2011 09:00	Kathryn I DeHaven	1

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Analysis Report

Sample Description: MW-5_SG Grab Water Sample
Facility# 306443
Gate 28, West Ramp FIA - Fairbanks, AK

LLI Sample # WW 6314997
LLI Group # 1251361
Account # 11964

Project Name: 306443

Collected: 06/10/2011 14:25 by DB

Submitted: 06/14/2011 10:05
Reported: 06/22/2011 16:02

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

FIAS5 SDG#: LST12-06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Extractable TPH w/Si Gel	**AK 102/AK 103 04/08/02**		**mg/l**	**mg/l**	
02244	TPH-DRO AK C10-C25 w/Si Gel	n.a.	75	6.1	125
	The reverse surrogate, capric acid, was present at 0%.				

General Sample Comments

State of Alaska Lab Certification No. UST-061

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02244	TPH-DRO AK C10-C25 w/Si Gel	AK 102/AK 103 04/08/02	1	111670027A	06/21/2011 19:27	Heather E Williams	125
11242	AK DRO Ext (W) w/SG	AK 102/AK 103 04/08/02	1	111670027A	06/18/2011 06:55	JoElla L Rice	1

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Analysis Report

Sample Description: MW-6 Grab Water Sample
Facility# 306443
Gate 28, West Ramp FIA - Fairbanks, AK

LLI Sample # WW 6314998
LLI Group # 1251361
Account # 11964

Project Name: 306443

Collected: 06/10/2011 14:35 by DB

Submitted: 06/14/2011 10:05
Reported: 06/22/2011 16:02

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

FIA06 SDG#: LST12-07

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles	**AK 101**		**mg/l**	**mg/l**	
01440	TPH-GRO AK water C6-C10	n.a.	0.086	0.010	1
GC Volatiles	**SW-846 8021B**		**mg/l**	**mg/l**	
02102	Benzene	71-43-2	N.D.	0.0005	1
02102	Ethylbenzene	100-41-4	0.0006	0.0005	1
02102	Toluene	108-88-3	N.D.	0.0005	1
02102	Total Xylenes	1330-20-7	N.D.	0.0050	1
	Reporting limits were raised due to interference from the sample matrix.				
GC Extractable TPH	**AK 102/103 4/08/02 modified**		**mg/l**	**mg/l**	
02923	C10-<C25 DRO	n.a.	0.73	0.049	1
02923	C25-C36 RRO	n.a.	1.6	0.069	1

General Sample Comments

State of Alaska Lab Certification No. UST-061
Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01440	TPH-GRO AK water C6-C10	AK 101	1	11168A53A	06/18/2011 17:07	Laura M Krieger	1
02102	Method 8021 Water Master	SW-846 8021B	1	11168A53A	06/18/2011 17:07	Laura M Krieger	1
01146	GC VOA Water Prep	SW-846 5030B	1	11168A53A	06/18/2011 17:07	Laura M Krieger	1
02923	TPH-DRO/RRO (AK) water	AK 102/103 4/08/02 modified	1	111670018A	06/18/2011 01:31	Heather E Williams	1
11185	AK DRO/ORO Waters Extraction	AK 102/AK 103 04/08/02	1	111670018A	06/17/2011 09:00	Kathryn I DeHaven	1

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Analysis Report

Sample Description: MW-7 Grab Water Sample
Facility# 306443
Gate 28, West Ramp FIA - Fairbanks, AK

LLI Sample # WW 6314999
LLI Group # 1251361
Account # 11964

Project Name: 306443

Collected: 06/10/2011 14:45 by DB

Submitted: 06/14/2011 10:05
Reported: 06/22/2011 16:02

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

FIA07 SDG#: LST12-08

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles	**AK 101**		**mg/l**	**mg/l**	
01440	TPH-GRO AK water C6-C10	n.a.	N.D.	0.010	1
GC Volatiles	**SW-846 8021B**		**mg/l**	**mg/l**	
02102	Benzene	71-43-2	N.D.	0.0005	1
02102	Ethylbenzene	100-41-4	N.D.	0.0005	1
02102	Toluene	108-88-3	N.D.	0.0005	1
02102	Total Xylenes	1330-20-7	N.D.	0.0015	1
GC Extractable TPH	**AK 102/103 4/08/02 modified**		**mg/l**	**mg/l**	
02923	C10-<C25 DRO	n.a.	0.65	0.049	1
02923	C25-C36 RRO	n.a.	2.0	0.068	1

General Sample Comments

State of Alaska Lab Certification No. UST-061
Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01440	TPH-GRO AK water C6-C10	AK 101	1	11168A53A	06/18/2011 17:34	Laura M Krieger	1
02102	Method 8021 Water Master	SW-846 8021B	1	11168A53A	06/18/2011 17:34	Laura M Krieger	1
01146	GC VOA Water Prep	SW-846 5030B	1	11168A53A	06/18/2011 17:34	Laura M Krieger	1
02923	TPH-DRO/RRO (AK) water	AK 102/103 4/08/02 modified	1	111670018A	06/18/2011 03:20	Heather E Williams	1
11185	AK DRO/ORO Waters Extraction	AK 102/AK 103 04/08/02	1	111670018A	06/17/2011 09:00	Kathryn I DeHaven	1

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Analysis Report

Sample Description: MW-4 Grab Water Sample
Facility# 306443
Gate 28, West Ramp FIA - Fairbanks, AK

LLI Sample # WW 6315000
LLI Group # 1251361
Account # 11964

Project Name: 306443

Collected: 06/10/2011 15:15 by DB

Submitted: 06/14/2011 10:05
Reported: 06/22/2011 16:02

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

FIA04 SDG#: LST12-09

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles	**AK 101**		**mg/l**	**mg/l**	
01440	TPH-GRO AK water C6-C10	n.a.	N.D.	0.010	1
GC Volatiles	**SW-846 8021B**		**mg/l**	**mg/l**	
02102	Benzene	71-43-2	N.D.	0.0005	1
02102	Ethylbenzene	100-41-4	N.D.	0.0005	1
02102	Toluene	108-88-3	N.D.	0.0005	1
02102	Total Xylenes	1330-20-7	N.D.	0.0015	1
GC Extractable TPH	**AK 102/103 4/08/02 modified**		**mg/l**	**mg/l**	
02923	C10-<C25 DRO	n.a.	N.D.	0.050	1
02923	C25-C36 RRO	n.a.	N.D.	0.071	1

General Sample Comments

State of Alaska Lab Certification No. UST-061
Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01440	TPH-GRO AK water C6-C10	AK 101	1	11168A53A	06/18/2011 21:36	Laura M Krieger	1
02102	Method 8021 Water Master	SW-846 8021B	1	11168A53A	06/18/2011 21:36	Laura M Krieger	1
01146	GC VOA Water Prep	SW-846 5030B	1	11168A53A	06/18/2011 21:36	Laura M Krieger	1
02923	TPH-DRO/RRO (AK) water	AK 102/103 4/08/02 modified	1	111670018A	06/17/2011 21:53	Heather E Williams	1
11185	AK DRO/ORO Waters Extraction	AK 102/AK 103 04/08/02	1	111670018A	06/17/2011 09:00	Kathryn I DeHaven	1

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Analysis Report

Sample Description: RW-1 Grab Water Sample
Facility# 306443
Gate 28, West Ramp FIA - Fairbanks, AK

LLI Sample # WW 6315001
LLI Group # 1251361
Account # 11964

Project Name: 306443

Collected: 06/10/2011 15:35 by DB

Submitted: 06/14/2011 10:05
Reported: 06/22/2011 16:02

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

FIAR1 SDG#: LST12-10

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles	**AK 101**		**mg/l**	**mg/l**	
01440	TPH-GRO AK water C6-C10	n.a.	3.5	0.050	5
GC Volatiles	**SW-846 8021B**		**mg/l**	**mg/l**	
02102	Benzene	71-43-2	N.D.	0.0025	5
02102	Ethylbenzene	100-41-4	0.0040	0.0025	5
02102	Toluene	108-88-3	N.D.	0.010	5
02102	Total Xylenes	1330-20-7	0.039	0.0075	5
	Reporting limits were raised due to interference from the sample matrix.				
GC Extractable TPH	**AK 102/103 4/08/02 modified**		**mg/l**	**mg/l**	
02923	C10-<C25 DRO	n.a.	140	4.8	100
02923	C25-C36 RRO	n.a.	N.D.	6.8	100

General Sample Comments

State of Alaska Lab Certification No. UST-061
Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01440	TPH-GRO AK water C6-C10	AK 101	1	11168A53A	06/18/2011 22:56	Laura M Krieger	5
02102	Method 8021 Water Master	SW-846 8021B	1	11168A53A	06/18/2011 22:56	Laura M Krieger	5
01146	GC VOA Water Prep	SW-846 5030B	1	11168A53A	06/18/2011 22:56	Laura M Krieger	5
02923	TPH-DRO/RRO (AK) water	AK 102/103 4/08/02 modified	1	111670018A	06/18/2011 19:20	Heather E Williams	100
11185	AK DRO/ORO Waters Extraction	AK 102/AK 103 04/08/02	1	111670018A	06/17/2011 09:00	Kathryn I DeHaven	1

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Analysis Report

Sample Description: RW-1_SG Grab Water Sample
Facility# 306443
Gate 28, West Ramp FIA - Fairbanks, AK

LLI Sample # WW 6315002
LLI Group # 1251361
Account # 11964

Project Name: 306443

Collected: 06/10/2011 15:35 by DB

Submitted: 06/14/2011 10:05
Reported: 06/22/2011 16:02

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

FISR1 SDG#: LST12-11

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Extractable TPH w/Si Gel	**AK 102/AK 103 04/08/02**		**mg/l**	**mg/l**	
02244	TPH-DRO AK C10-C25 w/Si Gel	n.a.	330	6.1	125
	The reverse surrogate, capric acid, was present at 0%.				

General Sample Comments

State of Alaska Lab Certification No. UST-061

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Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02244	TPH-DRO AK C10-C25 w/Si Gel	AK 102/AK 103 04/08/02	1	111670027A	06/21/2011 19:51	Heather E Williams	125
11242	AK DRO Ext (W) w/SG	AK 102/AK 103 04/08/02	1	111670027A	06/18/2011 06:55	JoElla L Rice	1

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Analysis Report

Sample Description: GEI-2 Grab Water Sample
Facility# 306443
Gate 28, West Ramp FIA - Fairbanks, AK

LLI Sample # WW 6315003
LLI Group # 1251361
Account # 11964

Project Name: 306443

Collected: 06/10/2011 15:50 by DB

Submitted: 06/14/2011 10:05
Reported: 06/22/2011 16:02

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

FIAG2 SDG#: LST12-12

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles	**AK 101**		**mg/l**	**mg/l**	
01440	TPH-GRO AK water C6-C10	n.a.	0.013	0.010	1
GC Volatiles	**SW-846 8021B**		**mg/l**	**mg/l**	
02102	Benzene	71-43-2	N.D.	0.0005	1
02102	Ethylbenzene	100-41-4	N.D.	0.0005	1
02102	Toluene	108-88-3	N.D.	0.0005	1
02102	Total Xylenes	1330-20-7	N.D.	0.0015	1
GC Extractable TPH	**AK 102/103 4/08/02 modified**		**mg/l**	**mg/l**	
02923	C10-<C25 DRO	n.a.	6.1	0.48	10
02923	C25-C36 RRO	n.a.	0.93	0.67	10

General Sample Comments

State of Alaska Lab Certification No. UST-061
Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01440	TPH-GRO AK water C6-C10	AK 101	1	11168A53A	06/18/2011 20:42	Laura M Krieger	1
02102	Method 8021 Water Master	SW-846 8021B	1	11168A53A	06/18/2011 20:42	Laura M Krieger	1
01146	GC VOA Water Prep	SW-846 5030B	1	11168A53A	06/18/2011 20:42	Laura M Krieger	1
02923	TPH-DRO/RRO (AK) water	AK 102/103 4/08/02 modified	1	111670018A	06/18/2011 19:47	Heather E Williams	10
11185	AK DRO/ORO Waters Extraction	AK 102/AK 103 04/08/02	1	111670018A	06/17/2011 09:00	Kathryn I DeHaven	1

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Analysis Report

Sample Description: GEI-2_SG Grab Water Sample
Facility# 306443
Gate 28, West Ramp FIA - Fairbanks, AK

LLI Sample # WW 6315004
LLI Group # 1251361
Account # 11964

Project Name: 306443

Collected: 06/10/2011 15:50 by DB

Submitted: 06/14/2011 10:05
Reported: 06/22/2011 16:02

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

FISG2 SDG#: LST12-13

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Extractable TPH w/Si Gel	**AK 102/AK 103 04/08/02**		**mg/l**	**mg/l**	
02244	TPH-DRO AK C10-C25 w/Si Gel	n.a.	0.12	0.049	1
	The reverse surrogate, capric acid, was present at 0%.				

General Sample Comments

State of Alaska Lab Certification No. UST-061

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
02244	TPH-DRO AK C10-C25 w/Si Gel	AK 102/AK 103 04/08/02	1	111670027A	06/21/2011 18:38	Heather E Williams	1
11242	AK DRO Ext (W) w/SG	AK 102/AK 103 04/08/02	1	111670027A	06/18/2011 06:55	JoElla L Rice	1

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Analysis Report

Sample Description: GEI-8 Grab Water Sample
Facility# 306443
Gate 28, West Ramp FIA - Fairbanks, AK

LLI Sample # WW 6315005
LLI Group # 1251361
Account # 11964

Project Name: 306443

Collected: 06/10/2011 16:10 by DB

Submitted: 06/14/2011 10:05
Reported: 06/22/2011 16:02

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

FIAG8 SDG#: LST12-14

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles	**AK 101**		**mg/l**	**mg/l**	
01440	TPH-GRO AK water C6-C10	n.a.	1.3	0.050	5
GC Volatiles	**SW-846 8021B**		**mg/l**	**mg/l**	
02102	Benzene	71-43-2	N.D.	0.0025	5
02102	Ethylbenzene	100-41-4	N.D.	0.0025	5
02102	Toluene	108-88-3	N.D.	0.0025	5
02102	Total Xylenes	1330-20-7	N.D.	0.0075	5
	Reporting limits were raised due to interference from the sample matrix.				
GC Extractable TPH	**AK 102/103 4/08/02 modified**		**mg/l**	**mg/l**	
02923	C10-<C25 DRO	n.a.	26	2.4	50
02923	C25-C36 RRO	n.a.	N.D.	3.4	50

General Sample Comments

State of Alaska Lab Certification No. UST-061
Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01440	TPH-GRO AK water C6-C10	AK 101	1	11168A53A	06/18/2011 23:23	Laura M Krieger	5
02102	Method 8021 Water Master	SW-846 8021B	1	11168A53A	06/18/2011 23:23	Laura M Krieger	5
01146	GC VOA Water Prep	SW-846 5030B	1	11168A53A	06/18/2011 23:23	Laura M Krieger	5
02923	TPH-DRO/RRO (AK) water	AK 102/103 4/08/02 modified	1	111670018A	06/18/2011 20:15	Heather E Williams	50
11185	AK DRO/ORO Waters Extraction	AK 102/AK 103 04/08/02	1	111670018A	06/17/2011 09:00	Kathryn I DeHaven	1

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Analysis Report

Sample Description: GEI-4 Grab Water Sample
Facility# 306443
Gate 28, West Ramp FIA - Fairbanks, AK

LLI Sample # WW 6315006
LLI Group # 1251361
Account # 11964

Project Name: 306443

Collected: 06/10/2011 16:25 by DB

Submitted: 06/14/2011 10:05
Reported: 06/22/2011 16:02

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

FIAG4 SDG#: LST12-15

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles	**AK 101**		**mg/l**	**mg/l**	
01440	TPH-GRO AK water C6-C10	n.a.	3.9	0.010	1
GC Volatiles	**SW-846 8021B**		**mg/l**	**mg/l**	
02102	Benzene	71-43-2	N.D.	0.0025	5
02102	Ethylbenzene	100-41-4	N.D.	0.0025	5
02102	Toluene	108-88-3	N.D.	0.010	5
02102	Total Xylenes	1330-20-7	0.0082	0.0075	5
	Reporting limits were raised due to interference from the sample matrix.				
GC Extractable TPH	**AK 102/103 4/08/02 modified**		**mg/l**	**mg/l**	
02923	C10-<C25 DRO	n.a.	270	9.7	200
02923	C25-C36 RRO	n.a.	N.D.	14	200

General Sample Comments

State of Alaska Lab Certification No. UST-061
Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01440	TPH-GRO AK water C6-C10	AK 101	1	11171D53A	06/21/2011 17:09	Marie D John	1
02102	Method 8021 Water Master	SW-846 8021B	1	11168A53A	06/18/2011 23:50	Laura M Krieger	5
01146	GC VOA Water Prep	SW-846 5030B	1	11168A53A	06/18/2011 23:50	Laura M Krieger	5
01146	GC VOA Water Prep	SW-846 5030B	2	11171D53A	06/21/2011 17:09	Marie D John	1
02923	TPH-DRO/RRO (AK) water	AK 102/103 4/08/02 modified	1	111670018A	06/20/2011 16:08	Heather E Williams	200
11185	AK DRO/ORO Waters Extraction	AK 102/AK 103 04/08/02	1	111670018A	06/17/2011 09:00	Kathryn I DeHaven	1

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Analysis Report

Sample Description: MW-2 Grab Water Sample
Facility# 306443
Gate 28, West Ramp FIA - Fairbanks, AK

LLI Sample # WW 6315007
LLI Group # 1251361
Account # 11964

Project Name: 306443

Collected: 06/10/2011 16:45 by DB

Submitted: 06/14/2011 10:05
Reported: 06/22/2011 16:02

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

FIA02 SDG#: LST12-16

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles	**AK 101**		**mg/l**	**mg/l**	
01440	TPH-GRO AK water C6-C10	n.a.	N.D.	0.010	1
GC Volatiles	**SW-846 8021B**		**mg/l**	**mg/l**	
02102	Benzene	71-43-2	N.D.	0.0005	1
02102	Ethylbenzene	100-41-4	N.D.	0.0005	1
02102	Toluene	108-88-3	N.D.	0.0005	1
02102	Total Xylenes	1330-20-7	N.D.	0.0015	1
GC Extractable TPH	**AK 102/103 4/08/02 modified**		**mg/l**	**mg/l**	
02923	C10-<C25 DRO	n.a.	0.085	0.049	1
02923	C25-C36 RRO	n.a.	0.20	0.068	1

General Sample Comments

State of Alaska Lab Certification No. UST-061
Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01440	TPH-GRO AK water C6-C10	AK 101	1	11168A53A	06/18/2011 18:01	Laura M Krieger	1
02102	Method 8021 Water Master	SW-846 8021B	1	11168A53A	06/18/2011 18:01	Laura M Krieger	1
01146	GC VOA Water Prep	SW-846 5030B	1	11168A53A	06/18/2011 18:01	Laura M Krieger	1
02923	TPH-DRO/RRO (AK) water	AK 102/103 4/08/02 modified	1	111670018A	06/17/2011 22:47	Heather E Williams	1
11185	AK DRO/ORO Waters Extraction	AK 102/AK 103 04/08/02	1	111670018A	06/17/2011 09:00	Kathryn I DeHaven	1

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Analysis Report

Sample Description: MW-10 Grab Water Sample
Facility# 306443
Gate 28, West Ramp FIA - Fairbanks, AK

LLI Sample # WW 6315008
LLI Group # 1251361
Account # 11964

Project Name: 306443

Collected: 06/10/2011 17:00 by DB

Submitted: 06/14/2011 10:05
Reported: 06/22/2011 16:02

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

FIA10 SDG#: LST12-17

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles	**AK 101**		**mg/l**	**mg/l**	
01440	TPH-GRO AK water C6-C10	n.a.	N.D.	0.010	1
GC Volatiles	**SW-846 8021B**		**mg/l**	**mg/l**	
02102	Benzene	71-43-2	N.D.	0.0005	1
02102	Ethylbenzene	100-41-4	N.D.	0.0005	1
02102	Toluene	108-88-3	N.D.	0.0005	1
02102	Total Xylenes	1330-20-7	N.D.	0.0015	1
GC Extractable TPH	**AK 102/103 4/08/02 modified**		**mg/l**	**mg/l**	
02923	C10-<C25 DRO	n.a.	0.70	0.049	1
02923	C25-C36 RRO	n.a.	0.48	0.068	1

General Sample Comments

State of Alaska Lab Certification No. UST-061
Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01440	TPH-GRO AK water C6-C10	AK 101	1	11168A53A	06/18/2011 18:28	Laura M Krieger	1
02102	Method 8021 Water Master	SW-846 8021B	1	11168A53A	06/18/2011 18:28	Laura M Krieger	1
01146	GC VOA Water Prep	SW-846 5030B	1	11168A53A	06/18/2011 18:28	Laura M Krieger	1
02923	TPH-DRO/RRO (AK) water	AK 102/103 4/08/02 modified	1	111670018A	06/17/2011 23:15	Heather E Williams	1
11185	AK DRO/ORO Waters Extraction	AK 102/AK 103 04/08/02	1	111670018A	06/17/2011 09:00	Kathryn I DeHaven	1

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Analysis Report

Sample Description: BD-1 Grab Water Sample
Facility# 306443
Gate 28, West Ramp FIA - Fairbanks, AK

LLI Sample # WW 6315009
LLI Group # 1251361
Account # 11964

Project Name: 306443

Collected: 06/10/2011 by DB

Submitted: 06/14/2011 10:05
Reported: 06/22/2011 16:02

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

FIAD1 SDG#: LST12-18FD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles	**AK 101**		**mg/l**	**mg/l**	
01440	TPH-GRO AK water C6-C10	n.a.	0.46	0.010	1
GC Volatiles	**SW-846 8021B**		**mg/l**	**mg/l**	
02102	Benzene	71-43-2	N.D.	0.0005	1
02102	Ethylbenzene	100-41-4	0.0006	0.0005	1
02102	Toluene	108-88-3	N.D.	0.0005	1
02102	Total Xylenes	1330-20-7	0.0033	0.0015	1

General Sample Comments

State of Alaska Lab Certification No. UST-061
Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01440	TPH-GRO AK water C6-C10	AK 101	1	11168A53B	06/20/2011 11:28	Laura M Krieger	1
02102	Method 8021 Water Master	SW-846 8021B	1	11168A53B	06/20/2011 11:28	Laura M Krieger	1
01146	GC VOA Water Prep	SW-846 5030B	1	11168A53B	06/20/2011 11:28	Laura M Krieger	1

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Analysis Report

Sample Description: BD-2 Grab Water Sample
Facility# 306443
Gate 28, West Ramp FIA - Fairbanks, AK

LLI Sample # WW 6315010
LLI Group # 1251361
Account # 11964

Project Name: 306443

Collected: 06/10/2011 by DB

Submitted: 06/14/2011 10:05
Reported: 06/22/2011 16:02

Chevron
6001 Bollinger Canyon Rd L4310
San Ramon CA 94583

FIAD2 SDG#: LST12-19FD*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC Volatiles	**AK 101**		**mg/l**	**mg/l**	
01440	TPH-GRO AK water C6-C10	n.a.	1.2	0.10	10
GC Volatiles	**SW-846 8021B**		**mg/l**	**mg/l**	
02102	Benzene	71-43-2	0.025	0.0050	10
02102	Ethylbenzene	100-41-4	0.054	0.0050	10
02102	Toluene	108-88-3	N.D.	0.0050	10
02102	Total Xylenes	1330-20-7	0.16	0.015	10

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

General Sample Comments

State of Alaska Lab Certification No. UST-061
Trip blank vials were not received by the laboratory for this sample group.

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
01440	TPH-GRO AK water C6-C10	AK 101	1	11168A53A	06/19/2011 00:44	Laura M Krieger	10
02102	Method 8021 Water Master	SW-846 8021B	1	11168A53A	06/19/2011 00:44	Laura M Krieger	10
01146	GC VOA Water Prep	SW-846 5030B	1	11168A53A	06/19/2011 00:44	Laura M Krieger	10

Quality Control Summary

Client Name: Chevron Group Number: 1251361
Reported: 06/22/11 at 04:02 PM

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

Laboratory Compliance Quality Control

Analysis Name	Blank Result	Blank MDL	Report Units	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 11167A53A	Sample number(s): 6314993							
Benzene	N.D.	0.0002	mg/l	105	105	80-120	0	30
Ethylbenzene	N.D.	0.0002	mg/l	105	105	80-120	0	30
Toluene	N.D.	0.0002	mg/l	105	105	80-120	0	30
TPH-GRO AK water C6-C10	N.D.	0.010	mg/l	100	100	60-120	0	20
Total Xylenes	N.D.	0.0006	mg/l	107	107	80-120	0	30
Batch number: 11167A53B	Sample number(s): 6314992							
Benzene	N.D.	0.0002	mg/l	105	105	80-120	0	30
Ethylbenzene	N.D.	0.0002	mg/l	105	105	80-120	0	30
Toluene	N.D.	0.0002	mg/l	105	105	80-120	0	30
TPH-GRO AK water C6-C10	N.D.	0.010	mg/l	100	100	60-120	0	20
Total Xylenes	N.D.	0.0006	mg/l	107	107	80-120	0	30
Batch number: 11168A53A	Sample number(s): 6314998-6315001,6315003,6315005-6315008,6315010							
Benzene	N.D.	0.0002	mg/l	100	105	80-120	5	30
Ethylbenzene	N.D.	0.0002	mg/l	100	100	80-120	0	30
Toluene	N.D.	0.0002	mg/l	100	105	80-120	5	30
TPH-GRO AK water C6-C10	N.D.	0.010	mg/l	100	100	60-120	0	20
Total Xylenes	N.D.	0.0006	mg/l	102	105	80-120	3	30
Batch number: 11168A53B	Sample number(s): 6315009							
Benzene	N.D.	0.0002	mg/l	100	105	80-120	5	30
Ethylbenzene	N.D.	0.0002	mg/l	100	100	80-120	0	30
Toluene	N.D.	0.0002	mg/l	100	105	80-120	5	30
TPH-GRO AK water C6-C10	N.D.	0.010	mg/l	100	100	60-120	0	20
Total Xylenes	N.D.	0.0006	mg/l	102	105	80-120	3	30
Batch number: 11171D53A	Sample number(s): 6314995-6314996,6315006							
Benzene	N.D.	0.0002	mg/l	105	105	80-120	0	30
Ethylbenzene	N.D.	0.0002	mg/l	105	100	80-120	5	30
Toluene	N.D.	0.0002	mg/l	105	105	80-120	0	30
TPH-GRO AK water C6-C10	N.D.	0.010	mg/l	100	100	60-120	0	20
Total Xylenes	N.D.	0.0006	mg/l	105	103	80-120	2	30
Batch number: 111670018A	Sample number(s): 6314992-6314993,6314995-6314996,6314998-6315001,6315003,6315005-6315008							
C10-<C25 DRO	N.D.	0.050	mg/l	99	97	75-125	1	20
C25-C36 RRO	N.D.	0.070	mg/l	117	108	60-120	7	20
Batch number: 111670027A	Sample number(s): 6314994,6314997,6315002,6315004							
TPH-DRO AK C10-C25 w/Si Gel	N.D.	0.050	mg/l	105	110	75-125	5	20

*- 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: 1251361
Reported: 06/22/11 at 04:02 PM

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: Method 8021 Water Master
Batch number: 11167A53A

	Trifluorotoluene-F	Trifluorotoluene-P
6314993	68	66
Blank	66	66
LCS	85	66
LCSD	84	65
Limits:	60-120	58-146

Analysis Name: Method 8021 Water Master
Batch number: 11167A53B

	Trifluorotoluene-F	Trifluorotoluene-P
6314992	75	67
Blank	76	68
LCS	85	66
LCSD	84	65
Limits:	60-120	58-146

Analysis Name: Method 8021 Water Master
Batch number: 11168A53A

	Trifluorotoluene-F	Trifluorotoluene-P
6314998	71	65
6314999	66	66
6315000	69	66
6315001	66	60
6315003	66	66
6315005	66	64
6315006		63
6315007	67	66
6315008	66	67
6315010	64	65
Blank	70	66
LCS	86	66
LCSD	85	66
Limits:	60-120	58-146

Analysis Name: Method 8021 Water Master
Batch number: 11168A53B

	Trifluorotoluene-F	Trifluorotoluene-P
6315009	68	63
Blank	77	68
LCS	86	66
LCSD	85	66

*- 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: 1251361
Reported: 06/22/11 at 04:02 PM

Surrogate Quality Control

Limits: 60-120 58-146

Analysis Name: Method 8021 Water Master
Batch number: 11171D53A

	Trifluorotoluene-F	Trifluorotoluene-P
6314995	67	48*
6314996	70	48*
6315006	67	
Blank	67	66
LCS	84	66
LCSD	83	66
Limits:	60-120	58-146

Analysis Name: TPH-DRO/RRO (AK) water
Batch number: 111670018A

	Orthoterphenyl	n-Triacontane-d62
6314992	160*	89
6314993	343*	74
6314995	422*	62
6314996	350*	83
6314998	101	72
6314999	86	67
6315000	97	72
6315001	345*	48*
6315003	128	78
6315005	202*	76
6315006	43*	258*
6315007	86	66
6315008	94	68
Blank	100	63
LCS	94	68
LCSD	90	68
Limits:	50-150	50-150

Analysis Name: TPH-DRO AK C10-C25 w/Si Gel
Batch number: 111670027A

	Orthoterphenyl
6314994	173*
6314997	89
6315002	279*
6315004	99
Blank	95
LCS	99
LCSD	105
Limits:	50-150

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

Chevron Generic Analysis Request/Chain of Custody

Lancaster Laboratories
Where quality is a science.

017687

For Lancaster Laboratories use only
Acct. #: 11964 Sample #: 6314992-5010 SCR#:

C# 1251361

Facility #: 306443
Site Address: Gate 28, West Ramp Fairbanks, AK
Chevron PM: Dan Carrier Lead Consultant: ARCADIS
Consultant/Office: 2300 Eastlake Ave E, Seattle, WA 98104
Consultant Prj. Mgr.: Greg Montgomery
Consultant Phone #: 231-883-8889 Fax #: 206-325-8218
Sampler: David Beaudoin
Service Order #: NWRTB-0030443-4-166 ☐ Non SAR:

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

Analyses Requested: BTEX + MTBE 8021 ☐ 8260 ☐ Naphth ☐; 8260 full scan; Oxygenates; TPH G; TPH D ☐ Extended Rng. ☐ Silica Gel Cleanup; Lead Total ☐ Diss. ☐ Method; VPH/EPH; NWTPH H HCID ☐ quantification; AK 101 8021B; AK 102 AK 103; AK 103 ~~AK 103~~ SG C10

Preservation Codes: AK 101 — H; AK 102 — H; AK 103 — H

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water	Oil / Air	Total Number of Containers	AK 101 8021B	AK 102 AK 103	AK 103 SG C10
MW-3	6/10/11	11:20	X			X		5	X	X	
MW-1	↓	11:30	↓			↓		6	X	X	X
GEI-6	↓	12:00	↓			↓		5	X	X	
MW-5	↓	14:25	↓			↓		6	X	X	X
MW-6	↓	14:35	↓			↓		5	X	X	
MW-7	↓	14:45	↓			↓		5	X	X	
MW-4	↓	15:15	↓			↓		5	X	X	
RW-1	↓	15:35	↓			↓		6	X	X	X
GEI-2	↓	15:50	↓			↓		6	X	X	X
GEI-8	↓	16:10	↓			↓		5	X	X	
GEI-4	6/10/11	16:25	X			X		5	X	X	

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

☐ J value reporting needed
☐ Must meet lowest detection limits possible for 8260 compounds

8021 MTBE Confirmation
☐ Confirm MTBE + Naphthalene
☐ Confirm highest hit by 8260
☐ Confirm all hits by 8260
☐ Run ____ oxy's on highest hit
☐ Run ____ oxy's on all hits

Comments / Remarks

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

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

Relinquished by	Date	Time	Received by	Date	Time
Michael MacDaniel	6/10/11	17:20	[signature] Kefton ARCADIS Inc.	6/10/11	17:30
[signature]	6/13/11	10:00	FedEx		

Relinquished by Commercial Carrier: UPS FedEx Other ____
Received by: [signature] Date: 6/14/11 Time: 1005

Temperature Upon Receipt ____ C° 0.8°–1.9°
Custody Seals Intact? (Yes) No

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

3566 Rev. 1/31/02

Chevron Generic Analysis Request/Chain of Custody

017686

Lancaster Laboratories
Where quality is a science.

For Lancaster Laboratories use only
Acct. #: 11964 Sample #: 6314992-5010 SCR#:

G# 1251361

Facility #: 306443
Site Address: Gate 28, West Ramp Fairbanks, AK
Chevron PM: Dan Carrier Lead Consultant: ARCADIS
Consultant/Office: 2300 Eastlake Ave E, Seattle, WA 98104
Consultant Prj. Mgr.: Greg Montgomery
Consultant Phone #: 231-883-8889 Fax #: 206-325-8218
Sampler: David Beaudoin
Service Order #: NWRTB-00306443-1-65 ☐ Non SAR:

Analyses Requested / **Preservation Codes**

Sample Identification	Date Collected	Time Collected	Grab	Composite	Soil	Water (☐ Potable ☐ NPDES)	Oil ☐	Air ☐	Total Number of Containers	BTEX + MTBE 8021 ☐ 8260 ☐ Naphth ☐	8260 full scan	Oxygenates	TPH G	TPH D ☐ Extended Rng. ☐ Silica Gel Cleanup	Lead Total ☐ Diss. ☐ Method	VPH/EPH	NWTPH H HCID ☐ quantification	AK 101, 8021B (H)	AK 102, AK 103 (H)		
MW-2	6/10/11	16:45	X			X			5									X	X		
MW-10	↑	17:00	X			X			5									X	X		
BD-1	↓	—	X			X			3									X			
BD-2	6/10/11	—	X			X			3									X			

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

☐ J value reporting needed
☐ Must meet lowest detection limits possible for 8260 compounds

8021 MTBE Confirmation
☐ Confirm MTBE + Naphthalene
☐ Confirm highest hit by 8260
☐ Confirm all hits by 8260
☐ Run ____ oxy's on highest hit
☐ Run ____ oxy's on all hits

Comments / Remarks

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

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

Relinquished by:	Date	Time	Received by:	Date	Time
Michael MacDaniel	6/10/11	17:30	[signature] Kept on ice ARCADIS	6/10/11	17:30
[signature]	6/13/11	10:00	FedEX		
Relinquished by Commercial Carrier: UPS FedEx Other ____			[signature]	6/14/11	1005
Temperature Upon Receipt ____ C° 0.8 - 1.9 C°			Custody Seals Intact? (Yes) No		

Explanation of Symbols and Abbreviations

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

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

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

> greater than

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

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

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

Inorganic Qualifiers

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

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

ARCADIS

Appendix C

ADEC Data Review Checklists

Laboratory Data Review Checklist

Completed by: Michael MacDaniel

Title: Field Technician Date: August 1, 2011

CS Report Name: First Semi-Annual 2011 Groundwater Monitoring Report Report Date: June 22, 2011

Consultant Firm: ARCADIS

Laboratory Name: Lancaster Laboratories Laboratory Report Number: 1251361

ADEC File Number: 100.26.040 ADEC RecKey Number:

1. Laboratory
   a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?
      □Yes □ No □NA (Please explain.) Comments:

      Yes

   b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?
      □Yes □ No □NA (Please explain.) Comments:

      N/A

2. Chain of Custody (COC)
   a. COC information completed, signed, and dated (including released/received by)?
      □Yes □ No □NA (Please explain.) Comments:

      Yes

   b. Correct analyses requested?
      □Yes □ No □NA (Please explain.) Comments:

      Yes

3. Laboratory Sample Receipt Documentation
   a. Sample/cooler temperature documented and within range at receipt (4° ± 2° C)?
      □Yes □ No □NA (Please explain.) Comments:

      No – samples received within the temperature range of 0.8 – 1.9° C

   b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?
      □Yes □ No □NA (Please explain.) Comments:

      Yes

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?
□Yes □ No □NA (Please explain.) Comments:

NA – No discrepancies noted

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?
□Yes □ No □NA (Please explain.) Comments:

NA – No discrepancies noted

e. Data quality or usability affected? (Please explain.)
Comments:

Data quality or usability does not appear to be affected.

4. Case Narrative
   a. Present and understandable?
   □Yes □ No □NA (Please explain.) Comments:

Yes

   b. Discrepancies, errors or QC failures identified by the lab?
   □Yes □ No □NA (Please explain.) Comments:

Yes

   c. Were all corrective actions documented?
   □Yes □ No □NA (Please explain.) Comments:

NA

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

Data quality or usability does not appear to be affected.

5. Samples Results
   a. Correct analyses performed/reported as requested on COC?
   □Yes □ No □NA (Please explain.) Comments:

Yes

   b. All applicable holding times met?
   □Yes □ No □NA (Please explain.) Comments:

Yes

c. All soils reported on a dry weight basis?
□Yes □ No □NA (Please explain.) Comments:

N/A

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?
□Yes □ No □NA (Please explain.) Comments:

The PQL for RRO exceeded the cleanup level in groundwater samples GEI-4, GEI-6, GEI-8, MW-1, MW-3, MW-5, and RW-1.

e. Data quality or usability affected?
Comments:

Data usability may be affected as RRO was not detected above the elevated PQL for these samples.

6. QC Samples
a. Method Blank
i. One method blank reported per matrix, analysis and 20 samples?
□Yes □ No □NA (Please explain.) Comments:

Yes

ii. All method blank results less than PQL?
□Yes □ No □NA (Please explain.) Comments:

Yes

iii. If above PQL, what samples are affected?
Comments:

N/A

iv. Do the affected sample(s) have data flags and if so, are the data flags clearly defined?
□Yes □ No □NA (Please explain.) Comments:

N/A

v. Data quality or usability affected? (Please explain.)
Comments:

Data quality or usability does not appear to be affected.

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

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)
□Yes □ No □NA (Please explain.) Comments:

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

□Yes □ No □NA (Please explain.) Comments:

NA

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

□Yes □ No □NA (Please explain.) Comments:

Yes

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

□Yes □ No □NA (Please explain.) Comments:

Yes

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

Comments:

N/A

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

□Yes □ No □NA (Please explain.) Comments:

N/A

vii. Data quality or usability affected? (Use comment box to explain.)

Comments:

N/A

c. Surrogates – Organics Only

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

□Yes □ No □NA (Please explain.) Comments:

Yes

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

No. The BTEX surrogate Trifluorotoluene-P was outside specification for the groundwater sample analyzed from GEI-6 and MW-5. The TPH-DRO / RRO surrogate Orthoterphenyl was outside of specification for the ground water samples analyzed from MW-3, MW-1, GEI-6, RW-1, GEI-8, and GEI-4. The TPH-DRO / RRO surrogate n-Triacontane-d62 was outside of specification for the groundwater samples analyzed from RW-1, and GEI-4.

□Yes □ No □NA (Please explain.) Comments:

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

□Yes □ No □NA (Please explain.) Comments:

Yes

iv. Data quality or usability affected? (Use the comment box to explain.)

Comments:

Data quality or usability not expected to be affected.

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

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (If not, enter explanation below.)

□Yes □ No □NA (Please explain.) Comments:

No

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

□Yes □ No □NA (Please explain.) Comments:

Yes

iii. All results less than PQL?

□Yes □ No □NA (Please explain.) Comments:

N/A

iv. If above PQL, what samples are affected?

Comments:

N/A

v. Data quality or usability affected? (Please explain.)

Comments:

N/A

e. Field Duplicate

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

□Yes □ No □NA (Please explain.) Comments:

Yes

ii. Submitted blind to lab?

□Yes □ No □NA (Please explain.) Comments:

Yes

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

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

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

□Yes □ No □NA (Please explain.) Comments:

No – It is likely that the RPD is outside of specification for MW-3.

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

Data quality or usability does not appear to be affected.

f. Decontamination or Equipment Blank (If not used explain why).

□Yes □ No □NA (Please explain.) Comments:

N/A. Equipment blank not collected due to the sampling method used in groundwater collection.

i. All results less than PQL?

□Yes □ No □NA (Please explain.) Comments:

N/A

ii. If above PQL, what samples are affected?

Comments:

N/A

iii. Data quality or usability affected? (Please explain.)

Comments:

N/A

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

a. Defined and appropriate?

□Yes □ No □NA (Please explain.) Comments:

N/A